NOTES FROM THE FIELD

PN-ABP-698

COMMUNICATION FOR CHILD SURVIVAL

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Notes from the Field in Communication for Child Survival

edited by

Renata E. Seidel

April 1993
Washington, D.C.

Communication and Marketing for Child Survival, HEALTHCOM
a project conducted by the
ACADEMY FOR EDUCATIONAL DEVELOPMENT
with
Annenberg School for Communication, University of Pennsylvania
Applied Communication Technology
Birch & Davis International, The Futures Group,
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Foreword

Child morbidity and mortality rates reflect more than just the state of medical understanding; more than the buying power of local currency; and more than the stability of governments or the extent of local infrastructures. The health of an individual child is a mirror of the society itself, and a mirror of forces which act upon that society.

In the last 15 to 20 years, the public health community has come to understand far better one dimension of the process by which the health of those at risk can be influenced. Simply put, this dimension is the client's perspective. We are used to listening to the medical specialists—to the economists—to the international funders. But we are not used to listening to mothers. Systematic research into the benefits and barriers to health practices among specific groups can shed profound light on the necessary roads to change.

The U.S. Agency for International Development has been proud to take a leadership role in supporting the testing and refinement of a client-oriented approach to health promotion. In particular, the use of communication and social marketing strategies to bring about improvements in child survival practices among large populations has produced significant results and advanced our understanding of how individuals and communities can be empowered to save lives.

This new orientation to the problems of childhood disease and death is not a luxury. We have seen over and over that availability of appropriate medical technologies does not guarantee their use. Information does not guarantee action. Communication and social marketing focus on comprehensive program changes that lead to new behaviors—among parents, health service providers, and policy makers.

This volume reflects the experiences of three successive projects in over thirty countries. These projects have been unique in testing the application of communication and social marketing strategies to the challenges of child survival. We hope that our colleagues throughout the world will find that the practical lessons reported in these studies will be of use in their own searches to improve the health of children.

Bob Wrin
Acting Director
Office of Health
Bureau for Research and Development
U.S. Agency for International Development

USAID

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HEALTHCOM is a project designed to help developing countries and USAID missions increase the effectiveness of their health and child survival programs through improved communication and social marketing activities. It is part of the Agency's overall strategy to reduce infant morbidity and mortality and works with A.I.D. projects such as PRITECH, Nutrition Communication, MotherCare, REACH, WASH, and the Quality Assurance Project, and bilateral programs. HEALTHCOM coordinates its efforts with international agencies such as the World Health Organization and UNICEF. The project gratefully acknowledges the collaboration of its partners.

The Agency for International Development has funded activities supporting communication and social marketing for child survival via three worldwide contracts carried out by the Academy. The earliest of these—the Mass Media and Health Practices Project (MMHP)—was initiated in 1978. During the last 15 years the Academy has joined with several subcontractors in carrying out these activities. They include Applied Communication Technology; the Center for International, Health, and Development Communication of the Annenberg School for Communication, University of Pennsylvania; Porter/Novelli; PATH/PIACT; Birch and Davis International, Inc.; The Johns Hopkins University; and The Futures Group. These organizations have contributed special expertise to the application and evaluation of the HEALTHCOM methodology throughout the world.

The Academy would like to express its appreciation to many people who have contributed to the development of the HEALTHCOM methodology. First among these are the staffs of the ministries, USAID missions, and public and private organizations which the project has been privileged to serve. The work described here is the result of their dedication in addressing the challenges of child survival.

Numerous individuals within A.I.D. deserve special recognition. Chief among these are the projects' cognizant technical officers over the years: Robert Clay, Holly Fluty, and Connie Carrino (Office of Health); and Anthony Meyer (Office of Education). Anthony Meyer largely initiated A.I.D.'s commitment to health communication more than 15 years ago and Robert Clay has been a solid supporter and guide for that involvement over the years. Anne Tinker, Ann van Dusen, and Clifford Block also deserve special thanks. A number of the project's key technical advisers have given valuable assistance: Robert Hornik, Dennis R. Foote, Elizabeth Mills Booth, Mary Debus, John Elder, Alan Andreasen, Paul Touchette, Robert Northrup and Robert Black.

The authors are indebted to two Academy staff members who led these projects in the years when the practice of health communication was evolving into a state-of-the-art discipline. William A. Smith has been a tireless advocate for the development of social marketing and behavior change strategies to tackle the problems of child survival, AIDS prevention, drug abuse prevention, and protection of the environment. Mark R. Rasmuson has been a committed and articulate spokesperson for the complex issues confronting the project while acting as HEALTHCOM director in Washington, D.C., and as a resident adviser in Africa and Asia.

The authors also gratefully acknowledge the contributions of the HEALTHCOM and MMHP field advisers: Burkina Faso—Wilma Meeus; Ecuador—Reynaldo Pareja and Eduardo Contreras-Budge; The Gambia—Mark R. Rasmuson; Guatemala—José Romero; Haiti—Robert de Wolfe; Honduras—Patricio Barriga, Elizabeth Mills Booth, José Ignacio Mata, Reynaldo Pareja, and Oscar Vigano; Indonesia—John Davies, Benson Hausman, Terry Louis, Tjep Marku, Thomas Reis, Mark R. Rasmuson, and Terrence Whitson; Jordan—Mounah Geha and Anne Roberts; Lesotho—Edward F. Douglass; Malawi—Deborah Helitzer-Allen; Mali—Soulimane Baro; Mexico—Jorge Eduardo Ferrer and Martha Lopez de Montero; Nigeria—Anthony Agboola; Papua New Guinea—Andrew Piller; Paraguay—José María Espínola; Philippines—José Rafael Hernandez; Republic of Yemen—Baher Abaza and Syed Jahanger Haider; Senegal—Nora de Guzman; Swaziland—Dale Huntington; Zaire—Joan Schubert.

This volume is dedicated to the memory of Terry Louis (1934-1990), HEALTHCOM resident adviser in West Java, Indonesia.

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Introduction

THE POWER TO CHOOSE

This collection was written by and for those committed to improving the health of children in the developing world. The authors—ministry of health personnel, communication specialists, university researchers, staff of private voluntary organizations, marketing professionals, trainers, and artists—have been part of a worldwide project to apply communication and social marketing strategies to support child survival. These writers offer their experiences in hope of providing practical insights to others.

Not all of these field notes describe success stories. Many reveal the magnitude of economic, political, social, and structural obstacles to bringing about changes in health practices or services. However, all of them demonstrate the contribution that a systematic focus on the client can make in designing strategies that will make a difference.

The anecdotes, or mini-case studies, in this volume illustrate different aspects of a methodology for influencing the actions of those who are closest to the child: the parents, the family, and the community. Underlying this methodology is the assumption that changes in well chosen and well understood behaviors can lead to improvements in morbidity and mortality. Individual actions, especially by those who have little power over their environment and little status in their society, cannot produce miracles. But individual choices determine the effectiveness of every potential resource. Where services are stretched thinnest and products are most scarce—or where life is otherwise most threatened—every decision multiplies in value. The power to choose wisely can change statistics.

These field notes illustrate a methodology for influencing the actions of those who are closest to the child: the parents, the family, and the community.

BEYOND SUPPLY AND DEMAND

Approximately 14 million children in developing countries die each year, the majority from conditions that can be prevented or treated through available means.[1] Chief among the dangers are dehydration due to diarrheal disease, respiratory infections, and diseases that can be prevented by immunization. A child's chances of surviving are compromised from the start by poor nutrition, poor water and sanitation, inadequate protection by breastfeeding in the first vulnerable months, and the hazards of being born too close in time to other siblings.

An option becomes a solution only when it is understood, valued, and demanded, by those at risk.

Provision of services and materials is essential: clean water, family planning services, vaccines, oral rehydration salts, latrines, appropriate drugs, and trained health providers. But **supply** alone is not sufficient. An option becomes a solution only when it is understood, valued, and **demanded,** by those at risk. These field notes address both sides of the supply and demand equation.

Communication and social marketing are concerned with the mechanisms of decision making. Social marketing emphasizes that every act is based upon an **exchange—a perceived cost** or collection of costs for an **anticipated**

benefit. In order to communicate with people about any given exchange, research into what a community values, what it needs, what it knows, and what it wants, is fundamental. A program that communicates with people about their health-related decisions must be prepared to address costs and benefits in terms that have meaning to that specific group. And it must be able to reach and motivate that group in powerful and sustained ways.

Details of this approach are described in other documents. In particular, this volume is a companion to the manual, *Communication for Child Survival.*[2] The methodology uses the theories and tools of several disciplines: social marketing, anthropology, communication research, behavior analysis, community participation and social mobilization, and instructional design. However, the steps are basic:

Assess the problem, the populations' present practices, knowledge, and attitudes toward the problem, and the health technologies and delivery mechanisms available to them;

Plan a communication program that brings carefully phased messages and support to a specific audience segment through channels that have appropriate reach, frequency, and cultural impact;

Develop and pretest materials and tactics for appropriate channels, whether face-to-face, community, print, or mass media;

Deliver materials, messages, and support needed to complement service delivery timing;

Monitor and alter strategies, messages, materials, and communication channels as needed to meet evolving audience needs.

These field notes illustrate the above methodological steps through the experiences of practitioners in a variety of countries facing varying conditions. However, the authors did not use some theoretical rubric as their point of inspiration. Rather, each selected that activity or strategy from his or her own program that might offer lessons to others in the field. Some field notes apply a microscope to small but critical program elements. Others describe the rationales of particular interventions and their ingredients. All demonstrate the flexibility and responsiveness to changing conditions that underlie any behavior change program.

Every stage of a systematic health communication program uses research with the selected audience as the basis for designing strategies, messages, and materials.

Beyond Communication

The principle goal of social marketing is to increase consumer adoption of helpful products, services, or practices. However, communities, rather than simply consumers, are the subjects of these anecdotes. A successful program will fortify traditional market research with anthropological and participatory approaches that build on local beliefs and patterns of influence. It will learn what motivates relevant groups and study how to improve their interactions with one another.

Communities, rather than simply consumers, are the subjects of these field notes.

In addition, any activity that addresses the costs and benefits of specific health practices will shed a revealing light on products and providers. A communication program is well positioned to speak for the client when changes are considered on the supply side of the equation. Thus, many of these field notes describe efforts to improve oral rehydration products; to expand a delivery system to rural outlets or a distribution system to private producers; to encourage the creation of a new cadre of health volunteer; or even to promote the review of basic health policies.

Management of such a program is a feat of coordinating—and often training—quite different interest groups.

Few health program managers are familiar with the steps of systematic health communication and few governmental or voluntary organizations have staff with the required skills. Different environments require different points of entry and management approaches. And if a program is to survive over the long term, the considerable persuasive tools of social marketing must be aimed at bureaucracies—as well as beneficiaries—to demonstrate that the "product" can produce results.

If a program is to survive over the long term, the tools of social marketing must be aimed at bureaucracies as well as beneficiaries.

The six parts of *Notes from the Field in Communication for Child Survival* reflect this broad range of concerns:

Research: The Foundation of Decisions

Strategies for Behavior Change

Designing and Testing Effective Materials

Principles and Tools for Training

New Policies, New Products, New Markets

Management for the Long Term.

The last two sections highlight the challenges of integrating communication and social marketing programs into a country's overall child survival efforts.

Experimentation and Experience

The methodology illustrated in this volume has evolved over a period of more than 15 years through activities supported by the U.S. Agency for International Development. The initial project, Mass Media and Health Practices (MMHP), was conducted by the Academy for Educational Development from 1978 to 1985. Programs in seven countries emphasized promotion of oral rehydration therapy (ORT) to fight diarrheal dehydration. During this trial and development period, Stanford University conducted independent evaluations of program results in Honduras and The Gambia.

In 1985, A.I.D. expanded the project under the name HEALTHCOM (or Communication for Child Survival). Resident advisers assisted ministries of health for periods of two or more years in 15 countries in Africa, Asia, Latin America and the Caribbean, and the Middle East, carrying out interventions on a range of child survival issues. Two subcontractors, Applied Communication Technology and the Annenberg School for Communication at the University of Pennsylvania, completed extensive evaluations of program effects on the behaviors of caretakers and health workers. Their analyses are summarized in several of these field notes and are available in detail from those organizations or from the Academy.[3]

The current HEALTHCOM II Project (1990 to 1994) has gone beyond earlier trial and demonstration

A CASE IN POINT

But Will it Make a Difference?

The primary goal of A.I.D.'s communication for child survival programs has been to assist ministries of health and local organizations in conducting interventions that achieve measurable changes in health-related practices. The methodology has produced significant results:

- A 1989 nationwide intervention in the **Philippines** increased measles coverage for 9- to 23-month olds from 54 to 68 percent. Complete immunization coverage for 9- to 11-month olds increased from 33 to more than 56 percent.
- After a nationwide breastfeeding intervention in **Jordan** (1989-1990), initiation of breastfeeding within six hours after birth increased from 43 to 69 percent for mothers who delivered in public hospitals and from 42 to 67 percent among those who delivered at home.
- The PREMI program in **Ecuador** raised card-verified complete immunization rates for 18-month olds from 25 to 55 percent after two years. The percent of children under one who were completely immunized rose from 15 to 35 percent.
- By 1990, following a three-year communication intervention, the percent of diarrhea cases in **Lesotho** treated at home rose from 48 to 72 percent. Of cases brought to the health center, the number given oral rehydration therapy rose from 32 to 64 percent.
- After 18 months of communication activities in Central Java, **Indonesia**, consumption of vitamin A capsules among eligible children increased from 24 to 41 percent in precincts with a health post.
- A pilot communication project in **Honduras** beginning in 1981 introduced a new oral rehydration product. By 1983, 62 percent of targeted mothers said they had used it. By 1987, nationwide awareness increased to 99 percent and 85 percent of mothers reported having tried the product.

The project's earliest focus was promotion of oral rehydration therapy. Areas of emphasis have since been expanded to a multitude of child survival challenges.

stages. Long-term programs are concerned with sustaining health practices and institutionalizing health communication capacities within local institutions. Interventions may include:

- Diarrheal disease control
- Immunizations
- Child nutrition (breastfeeding, vitamin A)
- Maternal health and birth spacing
- Control of acute respiratory infections
- Malaria and other vector-borne disease control
- Water and sanitation.

HEALTHCOM is also working with partner projects to combat emergency disease threats, especially cholera and measles. Short-term assistance emphasizes curriculum development with regional institutions, research on health practice challenges in urban slums, promotion of health financing options, and studies of communication program impact and costs.

However, the primary goal of A.I.D.'s communication and marketing for child survival programs has remained that of assisting ministries of health and local organizations to conduct interventions that achieve measurable changes in health-related practices. Most important, the goal of these programs has been to share the theory and skills of a systematic communication methodology with developing country institutions. *Notes from the Field in Communication for Child Survival* is a small part of that effort.

NOTES

1. See *The State of the World's Children* (Oxford and New York: Oxford University Press for United Nations Children's Fund, 1991).

2. *Communication for Child Survival* (Washington, D.C., 1988), the HEALTHCOM methodology manual, is available from the Academy in English, French, Spanish, and Bahasa Indonesia. See also "Selected HEALTHCOM Project References" at the end of this volume for other documents on these projects.

3. For information on the longitudinal studies in Honduras and The Gambia, contact the Academy or Applied Communication Technology (ACT), 1010 Doyle Street, Suite 17, Menlo Park, C.A. 94015. For information about evaluations in other countries, contact the Academy or the Center for International, Health, and Development Communication (CIHDC), Annenberg School for Communication, University of Pennsylvania, 3620 Walnut Street, Philadelphia, PA 19104-6220.

Part A

Research: The Foundation of Decisions

(Developmental research with rural mothers in Yemen)

Every stage of a health communication program uses research as the basis for making decisions. Epidemiological, anthropological, and behavioral information helps define health objectives. Social marketing provides a framework for investigating the costs and benefits of new behaviors to specific populations. Research into clients' knowledge, attitudes, needs, and current practices guides the development of communication strategies. A combination of qualitative and quantitative methods reveals target group perspectives in depth and provides a baseline for measuring change. As the intervention proceeds, selected program indicators should be monitored so that approaches can be refined. A final evaluation sheds light on what worked, to what extent, and why—or why not. This "summative" research in turn provides the basis for developing future strategies.

Research: The Foundation of Decisions

1 Understanding the Diarrhea Problem in the Philippines: Research as a Basis for Message Design
Susan Zimicki

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3 Developing a Questionnaire for an Acute Respiratory Infection Pilot Study
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4 Adapting the Tools to the Field: Training in the Use of Focus Groups
Jeanne Moulton
Anne H. Roberts

5 Reporting Research Results as Information Exchange: A View from Niger State, Nigeria
P. Stanley Yoder

Understanding the Diarrhea Problem in the Philippines:

Research as a Basis for Message Design

Susan Zimicki

INTRODUCTION

Reliable information about the current beliefs, attitudes, and practices of an audience most at risk is crucial as the basis of any health communication program. Information about product accessibility and practices of health care providers is important as well, so that messages designed to **create demand** reflect the realities of **service delivery**. The special challenges of the Philippines pilot communication project for diarrheal disease control made the depth of these different research needs particularly apparent.

The overall objective of the diarrhea control program in the Philippines is to increase use of rehydration fluids to help prevent dehydration. As part of this program, the Department of Health (DOH) conducted a pilot project from May 1988 through May 1989 that had slightly different goals for each of two large-scale "test markets." The dual approach was part of an investigation by the DOH to base communication efforts on the variable state of ORS delivery systems in the country.

The map on the following page shows the geographic challenges faced by the Philippines primary health care system. The total population of about 60 million people is distributed across 7,000 islands.

The pilot communication strategy focused on three regions representing important aspects of the nation's diversity. Health Regions 6 (Western Visayas) and 7 (Central Visayas), are both located in heavily populated areas. Government service delivery networks are fairly strong and the DOH has conducted training for health workers in diarrheal disease control measures. In the first "test market," the DOH proposed promoting home fluids for the onset of diarrhea. Mothers having access to ORS would be encouraged to give it to prevent dehydration, with serious cases to be referred to the health center. Oresol, the WHO formula ORS product, can be obtained free from government clinics and hospitals; program planners also anticipated that Oresol would become available at commercial outlets during the test market.

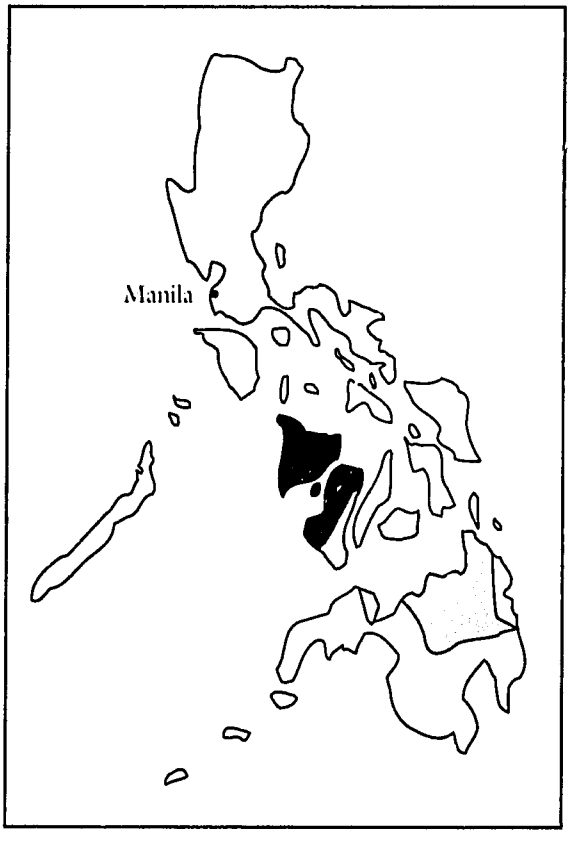
In contrast, Region 10 (northern Mindanao) is geographically distant from the center and government services have traditionally been inadequate. The population is largely Muslim and the culture is distinct from that of the rest of the country. The area has also been marked by political instability for many years. Health delivery systems are weak and access to ORS limited.

In this second "test market," the DOH proposed that the pilot promote use of home-prepared fluids for treatment starting at the onset of diarrhea. Mothers would be encouraged to prepare a common, easy-to-make rice-based fluid called *am*.[1] *Am* was determined by the DOH, in consultation with the World Health Organization, to be an adequate rehydrator. Again, serious cases were to be taken to a health center for appropriate treatment, including administration of Oresol.

The HEALTHCOM Project assisted the DOH in carrying out both quantitative and qualitative studies as a foundation for the pilot CDD program.[2] This field note focuses on one element of the quantitative research—a household survey carried out in the three test regions. Other quantitative elements included a survey of physicians' knowledge and practices, an Oresol market supply study, and collation of data available from DOH informa-

FIGURE 1-1

Philippine CDD Test Market Regions



Health Region 6 } *(First Test Market)*
Health Region 7
Health Region 10 } *(Second Test Market)*

tion systems and other ongoing studies.[3] The quantitative research served two purposes: it provided an empirical base for making decisions about program messages and strategies, and it provided a baseline for measuring the effects of the subsequent communication intervention. The pages that follow discuss in particular the way in which quantitative data about an audience can influence the design of communication messages.

RESEARCH STRATEGY

The information gathered in the developmental stage of a communication program answers important questions such as:

- Who in the total population should be selected as the primary audience?
- What do people currently know, believe, and do about the selected health problem among their children?
- What aspects of the service delivery system(s) influence caretakers' practices and how?
- What behaviors should be advocated based on analysis of answers to the above questions?
- What are the possible social, economic, or cultural constraints to changing behavior?
- What communication channels are most appropriate to reach the audience?

A large household survey conducted in September and October of 1987 was a primary vehicle for collecting this information. HEALTHCOM's subcontractor, the Annenberg School for Communication at the University of Pennsylvania, participated with Consumer Pulse, a Philippines market research firm, in developing and analyzing a knowledge, attitudes, and practices (KAP) survey of mothers in Regions 6, 7, and 10. The survey investigated the prevalence of diarrhea in children, current knowledge and beliefs about diarrhea and dehydration, treatment of diarrhea cases, and use of the mass media and other information sources.

The audience KAP survey was designed to provide information about poorer urban and rural households in each of the three regions in which pilot programs were planned. Four hundred interviews were carried out in each region, for a total sample of 1,200 women. Within regions, two provinces were sampled, then two cities (urban) and two municipalities (rural) in each. Ten neighborhoods were chosen from each city and municipality; in each neighborhood a cluster of 20 household interviews were completed. Households eligible for interview were those judged by the interviewers to belong to the poorest socioeconomic classes, designated D and E, with at least one child five years old or younger.

IS THERE AN IMPORTANT SUBPOPULATION?

The first issue investigated was the prevalence of diarrhea in the sampled households.[4] Overall, 31 percent of households reported a recent case of diarrhea, either on the day of the survey or during the month prior to the survey.[5] Among the 1,200 respondents, 7 percent reported that at least one of their children five years old or younger had diarrhea on the day of the survey. An additional 25 percent reported cases in the past month. Only 8 percent of the respondents said that their children five years old and younger had never had diarrhea. There was no consistent difference between rural and urban areas.

Next, characteristics of the households reporting recent cases of diarrhea were examined. The survey showed that households with more children were more likely to have experienced diarrhea: in households with

one child (less than six years old) about 23 percent of the children had an episode of diarrhea in the month before the survey. In households with two children less than six, 35 percent reported that at least one child had an episode; and in households with three or more children, 45 percent reported that at least one child had an episode. In addition, families without running water and those of lower socioeconomic status were more likely to report having had diarrhea in the household. This suggested that specific audiences for the campaign would be mothers with more children and mothers with fewer facilities, lower incomes, and less education.

WHAT DO MOTHERS RECOGNIZE, AND HOW?

Information about how people recognize diarrhea and how they assess its severity was also important to message design. Most episodes of diarrhea are mild and many children with diarrhea do not lose enough fluid to make it advisable that they be given ORS. Because ORS packets are neither free nor available in infinite supply, it was useful to know if mothers recognized any cues that would indicate when ORS should be used at home or when a child should be brought to the health center for treatment. To examine this, the survey asked mothers how they could tell if a child had diarrhea, how they could tell if the diarrhea was getting worse, and how they could tell if the case of diarrhea was very serious.

Overall, in response to the question, "How can you tell if a child has diarrhea?" the sign most frequently mentioned (by about 75 percent of respondents) was loose, watery stools. The next most common signs were more frequent or irregular bowel movements and some kind of abdominal pain—stomachache, cramps, or gas pains—followed by the child's becoming weak or tired, having sunken eyes, and losing appetite.

When the pattern of responses to the question, "How can you tell if a child's diarrhea is getting worse?" was examined, weakness, sunken eyes, and loss of appetite were relatively more important and loose stools, frequent stools, and stomach pain were less important than for the previous question. Weakness and loss of appetite were even more important as responses to the question, "What are the signs that a case of diarrhea is very serious?" Thus, in mothers' minds, weakness, sunken eyes, and loss of appetite seemed to be cues indicating the seriousness of the diarrhea. However, weakness was by far the most important indication of severity. Although mothers did not volunteer the concept of dehydration *per se*, they did report signs that are biomedically associated with dehydration.

In mothers' minds, weakness, sunken eyes, and loss of appetite seemed to be cues indicating the seriousness of the diarrhea.

Another way to examine the relationship between severity and cues recognized by mothers was to compare a respondent's report of how sick her child was with the symptoms she said the child had during the episode. Ideally, in order to inform people about when to use ORS, it would be helpful to have a sign that was recognized in **most or all** severe episodes and that was associated **only** with severe episodes. Unfortunately, there was no such perfect sign. The signs that were reported most frequently for severe episodes (loose and frequent stools) were also reported most frequently for mild episodes.

However, the three signs that were associated with severity (weakness, sunken eyes, and loss of appetite) were each reported about twice as frequently for children who were perceived as "a little sick" as they were for children perceived as "not sick at all." Of these three, weakness showed the greatest contrast for children perceived as "very sick." It was reported about five times more for this group than for children who were not sick at all. Sunken eyes and loss of appetite were each reported three times more frequently for severe than for mild episodes. (See table 1-1.)

"Weakness/tiredness" was therefore a sign that appeared to have important implications for a communication program as a cue for treatment. It was mentioned as a

TABLE 1-1

Percent of episodes associated with various symptoms: Report of how sick the child was

	Not sick	A little	Very
Loose stools	75.0	68.3	69.2
Frequency	39.6	32.2	38.5
Stomach pain	14.6	19.5	15.4
Weakness	6.9	14.6	34.6
Sunken eyes	5.6	10.2	15.4
Loss of appetite	2.8	5.3	7.7
Number of episodes	144	205	26

Source: CIHDC and Consumer Pulse

sign of diarrhea by about 17 percent of respondents, as a sign of worsening diarrhea by 45 percent, as a sign of serious diarrhea by 64 percent, and as a consequence of prolonged diarrhea by 61 percent. It was better correlated with perceived severity of last case than any other commonly mentioned sign. Moreover, as "weakness" in the sense of "lassitude" is a sign of dehydration and seemed to be recognized at an early stage by Filipino mothers, it could be used by communication planners as a cue that mothers should seek special care for a child.

WHAT DO MOTHERS CURRENTLY DO?

Overall, mothers did **something** for about 80 percent of all recent episodes, with 76 percent of diarrhea cases receiving some treatment at home (about 45 percent **only** at home) and 35 percent receiving treatment or advice outside the home. Mothers who did treat a case were likely to provide more than one treatment.

What are the Cues for Treatment?

The survey examined the signs that were more likely to be associated with a mother's getting her child treated. It related a mother's reported signs and her perceived severity of a case to whether she did anything and also whether she treated at home and/or sought outside help for the child. The survey also related signs of perceived severity to proportion of cases for which something was done at home and for which outside advice was sought. The results are presented in table 1-2.

The presence of any sign of severity increased the probability of treatment over the average, but the strongest cues were loss of appetite and the child having stopped playing; all children reported as having either sign received some kind of treatment. There were no unequivocal cues for treatment outside the home; however, outside advice or treatment was more likely to have been sought for those children with any of the signs associated with severity.

TABLE 1-2

Relationship between treatment sought and reported signs of illness during the most recent episode

	N with sign	Percent of cases	Percent with sign for whom something was done		
			Treated	At home	Outside
Volunteered:					
Loose stools	266	70.9	80.5	76.7	33.5
Frequent stools	133	35.5	82.7	78.9	35.3
Pain	65	17.3	83.1	81.5	27.7
Weakness	49	13.1	87.8	85.7	46.9
Sunken eyes	33	8.8	97.0	87.9	57.6
Loss of appetite	17	4.5	100.0	100.0	58.8
Asked specifically:					
Vomit	55	14.7	92.7	85.5	47.3
Blood in stool	32	8.5	87.5	81.3	46.9
Fever	137	36.5	88.3	85.4	47.4
Perceived severity:					
A little sick	205	54.7	82.0	80.0	38.5
Very sick	26	6.9	92.3	88.5	73.1
Played less	129	34.4	86.8	84.5	43.4
Stopped playing	27	7.2	100.0	96.3	66.7
Totals	375	100.0	79.5	76.0	34.9

Source: CHDC and Consumer Pulse

Similar data showed symptoms that act as cues for particular kinds of treatment—both positive and negative—in the home. Fifty-nine percent of respondents reported giving extra fluid to the child and 26 percent reported giving special food. On the negative side, 7 percent of respondents reported giving the child a purgative, and 30 percent of the respondents who were breastfeeding a child reported that they stopped doing so during the diarrhea episode. However, no symptom was very strongly associated with any of these kinds of treatment. The information about breastfeeding, and the relatively large number of women who were stopping this important behavior when their children were ill, was another important discovery for the communication program.

What Home Treatments Were Used?

All those who reported ever having a case of diarrhea among children in the household were asked if they had ever heard of Oresol, the oral rehydration solution used in health centers. Overall, 79 percent claimed that they had heard of Oresol, with slightly higher proportions in Region 6 and in rural Region 10 reporting knowledge than in Region 7 and urban Region 10. Those who claimed hearing of it were asked if they or anyone else had given it to the child during the most recent episode. In the three regions, an average of only 18.5 percent spontaneously said they had used Oresol and 24.5 said they had used it when asked directly.

Respondents who had heard of Oresol but had not used it during the most recent episode were asked why they had not. (Respondents could give more than one reason.) The most common response was that there was no supply available (38 percent). This was clearly an area for improvement during the pilot projects. The second category of response reflected failure of a provider to recommend Oresol or to a respondent's lack of knowledge about how to prepare it (23 percent). These responses reflected a need for better education of both mothers and health providers. The third common category of response was essentially that there was no need for Oresol because the diarrhea was mild (19 percent) or because it was cured by other home remedies or medicines (19 percent). An additional reason for non-use was that the child did not like the taste.

How Did Mothers Feed Their Sick Children?

More than half of the respondents (59 percent) reported giving extra fluid to children with diarrhea and about a quarter gave special food. These responses were encouraging. The most commonly given fluid was water, either plain (47 percent) or boiled (6 percent) followed by tea (21 percent), herbal decoctions (21 percent), and soft drinks (19 percent). Rice water (6 percent) and Pedialyte (5 percent) were also mentioned.

Interviews with 1,200 mothers included detailed questions about how they treated recent cases of childhood diarrhea.

Special foods given were primarily *lugao*, or rice porridge (63 percent), fruit (23 percent), soda crackers (19 percent), eggs (14 percent), and broiled fish (14 percent). It is interesting that 15 percent of respondents said they avoided giving fruit (unfortunately we don't have details about the kinds of fruit that are given and avoided). However, the foods that the greatest proportions of respondents reported avoiding were milk (22 percent), oily foods (20 percent), and rice (11 percent). About one-third said they did not avoid any particular type of food.

The tendency to continue giving liquids and foods during diarrhea (although not breast milk) and also to give certain special or extra fluids/foods served as a valuable base for the communication program in the Philippines, in contrast to the situation in many countries where mothers are more inclined to withhold necessary liquids/foods. (Research in addition to this survey was conducted on "special foods" in Region 10 to determine what recipe(s) should be promoted as a home available rehydration product.[6])

Where Did Mothers Go For Treatment and What Treatment or Advice Did They Get?

Although about 45 percent of episodes were treated only at home, mothers consulted with people outside the home for the remainder of cases, particularly for those perceived as serious. Thus it was important to understand the kinds of treatment recommended or provided by different sources so that a realistic decision could be made about the need to educate providers.

Those mothers who reported going outside the home to get advice or obtain treatment for the most recent

episode of a child's diarrhea were asked to list up to three places they went and to tell up to three things that each source recommended they do or use. (See table 1-3.) While most only sought advice from one source, 22 percent of those who went some place outside the home reported going to two sources and 3 percent reported going to three. The most commonly reported source was the private medical sector (40 percent of contacts), followed by health center personnel (20 percent), government hospitals (12 percent), friends, neighbors, and relatives (12 percent), and traditional healers (9 percent). Barangay health workers accounted for only 5 percent of all contacts, and pharmacies for 3 percent.

An examination of the advice/treatment received from each source revealed the disturbing fact that about one-third of all contacts with government hospitals, the private medical sector, or people in the community, and one-fifth of all contacts with a health center involved a recommendation for antibiotics. In addition, about one-third of health center, government hospital, and private sector visits, and about one-fourth of community contacts involved a recommendation for antidiarrheals or similar drugs.

Oresol was recommended in more than 40 percent of the contacts with health centers and about 20 percent of those with government hospitals; other rehydration solutions were recommended about 20 percent of the time by government hospitals and the private sector. Overuse of antidiarrheals and antibiotics would thus be a challenge in the communication strategy and had important implications for health provider training as well.

Which Health Care Providers are Good Sources of Information?

Information about who a mother consulted about the last case of diarrhea in the household was used with caution to predict the efficiency of any particular kind of health care provider in disseminating new information about diarrhea treatment. Information about the sources people had "ever contacted" was used to determine if frequency of contact with some sources was so low that they would not be worth focusing upon as educators of mothers.

Respondents were asked if they had **ever** received advice or help from specific sources: private hospitals or clinics, health workers, traditional healers, and pharmacies. Overall, more had gone to private clinics or hospitals (65 percent) than to any other source, with health workers (52 percent) the next most important source and traditional healers (28 percent) and pharmacies (16 percent) less important.

This pattern was strongest in urban areas, where from 64 to 75 percent of the respondents reported having visited private clinics or hospitals, and 25 to 49 percent reported contact with health workers regarding diarrhea. In rural areas, having ever visited a health worker was reported more frequently—and private clinics or hospitals less frequently—than in urban areas, although contact with each type of source was reported by at least 50 percent of respondents.

Some of the differences observed for contact with health workers probably reflected a lack of health work-

Table 1-3

Type of advice/treatment received from each type of source (most recent episode)

	Friends/ relatives	Traditional healers	Health center	Govt. hospital	Private sector
Antibiotics	33.8	3.3	18.1	31.4	38.5
Antidiarrheals	25.0	3.3	36.2	29.1	38.5
Liquids	6.3	3.3	4.3	2.3	6.8
Herbal preparations	32.5	53.3	6.5	1.2	.7
Oresol	6.3	0.0	42.0	18.6	5.8
Other ORS	2.5	6.7	4.3	20.9	18.0
Other specific remedies	20.0	36.7	8.0	8.1	14.7
Don't know	0.0	0.0	8.7	14.0	11.5
N of contacts	80	60	138	86	278
% of contacts	11.5	8.6	19.8	12.4	39.9

NOTE: An additional 5% contacted Barangay health workers and 3% contacted pharmacies.

Source: CIHDC and Consumer Pulse

TABLE 1-4

Media use by region

	Average	Region—Urban 6	Region—Urban 7	Region—Urban 10	Region—Rural 6	Region—Rural 7	Region—Rural 10
Own TV	16.5	34.0	26.5	19.0	8.5	9.0	2.0
Watch TV							
In past week	32.2	59.0	55.0	32.5	20.5	16.5	9.5
Not at all	54.8	31.5	25.0	53.5	68.5	68.0	82.0
Own radio	53.0	59.0	68.5	56.0	51.5	39.5	43.5
Listen to radio							
In past week	67.9	73.0	84.5	65.5	62.0	68.0	54.5
Not at all	25.0	24.5	11.0	22.0	31.5	27.5	33.5
Read paper							
Nearly every day	7.5	24.4	33.3	27.8	3.5	.5	2.5
< Once/month	72.6	60.0	48.5	68.0	80.0	90.0	89.0
Read comics							
Nearly every day	12.5	22.0	9.5	11.5	20.0	4.0	8.0
< Once/month	65.8	51.5	62.5	63.5	58.0	80.5	78.5
Read magazines							
Once/wk or more	10.0	14.5	10.5	19.0	7.5	2.5	6.0
< Once/month	77.2	69.5	62.5	69.0	84.0	90.5	88.0

Source: CIHDC and Consumer Pulse

ers—or at least of active health workers—in urban areas. In response to the question, "Do you have any health workers in your community?" 38 percent of the respondents in urban areas of Region 6 and 18 percent of those in rural areas said "no," in contrast to 12 percent in urban Region 10 and less than five percent in both urban and rural areas of Region 7 and rural Region 10.

It was clear that the private medical sector was a significant source of information about diarrhea treatment. In urban areas people were about two to three times as likely to go to a source in the private sector as to a health center. This would be an important secondary group to reach. The pattern in rural areas was less clear.

The fact that so many cases were treated only at home (no doubt due to the large proportion of mild episodes among recent cases) also meant that prevention messages telling mothers how to treat a case so that it not become serious would have to reach mothers directly, rather than through service providers.

WHAT MASS MEDIA WOULD REACH MOTHERS?

Mass media could provide important channels for reaching mothers who might not have frequent contact with health centers or who might not be receiving sufficient, accurate information from their health providers.

Respondents' access to media is summarized in table 1-4. More than two-thirds of the total mothers surveyed listened to the radio at least once a week. Percents were lower for rural areas, but even among mothers from rural areas in Region 10, 55 percent reported listening in the last week. Radio was therefore clearly the best means of reaching the audience.

Television, which probably reached slightly more than half the audience in urban areas of Regions 6 and 7 and about a third of the audience in urban Region 10, would clearly be a secondary medium. It would not be a useful

medium in the rural areas where from 69 to 82 percent of mothers said they never watched. The low proportions of mothers who read newspapers, comics, or magazines even once a month suggested that print media would not be good channels.

Summary Implications for Message Strategies

Based on the results of this research, some recommendations could be made about how to reach mothers, what messages to use in promoting awareness of dehydration, ancillary audiences, and factors besides rehydration fluids that would be important in diarrhea control.

First, it was clear that the primary audience was families with more children, less money, and less education. Regardless of geographic region, children in such families were more likely to have suffered from diarrhea within the past month.

It was critical that mothers be informed directly about appropriate rehydration practices. Respondents sought advice outside the home for only 35 percent of cases occurring in the past month. Even for children who were perceived as very sick, outside advice was sought for only 73 percent of cases. It was clear, therefore, that mothers needed to understand the symptoms of a serious episode and know what action to take.

Similarly, planners could not rely upon service providers as the only means of educating mothers about appropriate treatment of diarrhea. Mass media would be useful in reaching them directly. Radio would be the best medium for reaching this audience, while TV could be a secondary channel.

As a product, Oresol had high recognition among mothers in all of the regions surveyed. However, use was quite low in all areas. The research indicated that this was probably due to a combination of factors: lack of availability and lack of knowledge among both health providers and mothers. Promotion efforts would have to be combined with improved access to Oresol and training of several groups.

When mothers sought advice, they were more likely to go to private physicians, clinics, and hospitals than to government health centers or hospitals. Unfortunately, the private sources were much less likely to provide Oresol than to prescribe antidiarrheals and antibiotics. Thus serious consideration needed to be given to involving the private medical sector in the diarrhea campaigns. Both public and private health care providers needed to be reached with better information about rehydration and the dangers of prescribing antidiarrheals or overprescribing antibiotics.

Pharmacies were not a significant source of treatment or advice about diarrhea; thus while they can eventually be important as distribution points, at the time of the test market they would not be promising places for women to learn about Oresol.

Communication messages needed to emphasize concepts and symptoms that mothers already recognized. Dehydration *per se* was not an important concept to mothers. Messages pertaining to dehydration therefore would have to be linked with signs that mothers viewed as indications of severe diarrhea. "Weakness," in particular, would be a good cue for treatment. Behavioral signs—weakness, loss of appetite, and playing less or not at all—were more commonly reported by mothers and more sensitive indicators of severity than the classic physical signs of dehydration. In response to a question about signs of serious diarrhea, "sunken eyes" (mentioned by only 27 percent) was the only classic physical sign mentioned by more than 5 percent of respondents. An additional problem was that this sign tends to appear late in the course of dehydration when the condition may be difficult to reverse without large amounts of ORS. An advantage of using weakness as an indicator would be that it appears relatively early and mothers get immediate results when they use Oresol.

Both public and private health care providers needed to be targeted with better information.

In addition to emphasizing rehydration, an important focus for the program would be continuing breastfeeding during diarrhea. About 30 percent of the respondents who were breastfeeding their children reported stopping feeding during the diarrhea episode. Although more than half of the respondents already gave more fluids to a sick child, the importance of extra liquids and continued feeding would need to be emphasized in both test markets.

Conclusion

The household survey thus provided insights into both the challenges faced by a CDD communication program in the two test market areas and important clues to mothers' current practices and keys to influencing positive behaviors. It also highlighted the need for improvements in the product and service delivery systems.

A communication program cannot influence all of these systems. It can, however, provide crucial data to CDD program managers about how communication and education plans can and should be integrated with prod-

uct and service delivery. Improved ORS distribution, training of health workers, and programs for new audiences—such as the private medical sector—can be the unexpected outcome of research among the target audience, if the results of this research are taken seriously.

NOTES

1. *Am* is a traditional weaning food and may also be given to sick children. It is made by adding about a cup of extra water when boiling everyday rice and consists of the excess water left when done. In some regions mothers prepare *am* with salt and in others with sugar.

2. For a discussion of the qualitative research conducted regarding CDD in the Philippines and for more information about the development of the CDD communication messages and intervention, see also Field Note No. 7, "From Idea to Mass Media."

3. The Annenberg School for Communication carried out the household survey in collaboration with Consumer Pulse, a Philippines market research firm. For further information contact the CIHDC, Annenberg School for Communication, University of Pennsylvania, 3620 Walnut Street, Philadelphia, PA 19104. IMS Pacific, Limited, a worldwide pharmaceutical audit service with an office in the Philippines, conducted the physicians' survey and the market survey.

4. The Tagalog word *pagtatae* is a general term for loose bowel movement and is equivalent to the English "diarrhea." In some cultures "diarrhea" can be represented by several terms, complicating communication messages. See also Field Note No. 2, "Ethnomedical Research for Developmental Purposes."

5. The questions asked in the survey were about the most recent case of diarrhea in any child from birth to five years of age. If two children in a household had diarrhea simultaneously, the questions were asked about the younger of the two. Analysis was limited to recent episodes of diarrhea because the data indicated fairly strong recall bias associated with time since an episode.

6. Kabalikat ng Pamilyang Pilipino carried out research to determine what home fluids and foods mothers use to treat diarrhea.

(1989) Susan Zimicki is with the CIHDC, Annenberg School for Communication, University of Pennsylvania. *The research in the Philippines would not have been possible without the support of officials at the Philippine Department of Health, in particular, Undersecretary Mario Taguiwalo and Ms. Mayette Bernaje, officer in charge of PIHES; and Dr. Kenneth Farr and Dr. Dodong Capul of USAID/Manila. Darrah Estrada of Consumer Pulse ably managed the survey, coding, and data entry with the assistance of the Consumer Pulse staff. Helpful comments were offered by Dr. Robert Hornik of Annenberg and Dr. Sergio Piesche of WHO. Editorial assistance was offered by Dr. Judith McDivitt and Ms. Lorraine Ritacco, both of Annenberg.*

2

Ethnomedical Research for Developmental Purposes:

Examples from Nigeria and Zaire

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INTRODUCTION

Researchers who administer surveys about health often ask questions of people whose understandings of disease differ from those of biomedicine. The symptoms they notice and the illnesses they recognize are classified in ways particular to their own society and in terms unique to their language. When a researcher asks about a disease (measles, pneumonia, malaria) identified in biomedicine, the way questions are heard may not be the way they were intended. Whether the purpose of research is to measure morbidity or to find out how a target audience prevents or treats a particular disease (as the basis for health promotion messages, for example) the way in which questions are phrased will greatly affect the reliability of results.

Anthropologists and public health specialists now understand that nearly every ethnic group has its own system, or taxonomy, for classifying illnesses. A system of illnesses, diagnoses, possible causes and treatments, provides the basis of what a group "knows" about disease. This kind of knowledge has become a separate area of study in anthropology known as ethnomedicine, or the study of ethnomedical systems. Ethnomedical research examines the ways different groups identify and categorize illnesses, the treatment therapies they select, and the rules they follow for evaluating efficacy.

If ethnomedical studies are to be useful to public health projects, research methods must require short amounts of time and still provide valid information. This field note discusses how anthropological approaches were used to improve research into audience knowledge, attitudes, and practices as a basis for designing health communication programs in Nigeria and Zaire.[1] The method required only four to six weeks of work by one person for each study.

Nearly every ethnic group has its own system, or taxonomy, for classifying illnesses.

The Annenberg School for Communication at the University of Pennsylvania was responsible for conducting baseline and summative evaluations of HEALTHCOM activities in major sites and the baseline results frequently served as formative data for program design.[2] The main elements of the evaluations depended on quantitative analysis of data obtained from large sample surveys through closed-ended questionnaires. However, in some sites, Annenberg first conducted qualitative research about local knowledge of illnesses so that questionnaires were pertinent to local concepts and practices. In Nigeria and

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Ethnographic information was helpful in designing the questionnaire for a large quantitative survey in Zaire.

Zaire, ethnomedical studies revealed concepts and terms crucial to the design of effective messages regarding the prevention and treatment of diarrheal disease.

Research Methods

In health communication programs—particularly those in developing countries—speed and cost of research are always issues. Several recent guides provide simple and systematic directions for choosing field research sites, eliciting illness taxonomies, and collecting data on symptoms, causes, and treatments of illness.[3] The strategy used in Nigeria and Zaire differed from these other rapid assessment techniques in the narrowness of its focus, in its emphasis upon symptoms, in the organization of interviewing, and in the method of data analysis.[4]

The following principles guided the collection and analysis of data:

- interview small groups of individuals at a time;
- follow a progression of questions—going from the general to the specific;
- select certain illnesses for more detailed questioning on symptoms, causes, and treatments;
- organize data on the illnesses of greatest interest into analytic tables;
- compare the responses of different groups to each illness;
- write an interpretation of the results estimating the degree to which specific knowledge about the illnesses is shared.

For the HEALTHCOM projects, Annenberg used a model involving open-ended interviews with a number of small groups. The groups were relatively homogeneous with regard to age, gender, social status, and of course language. Because the Nigeria and Zaire studies addressed childhood illnesses, interviews were restricted to women, except for a few groups conducted for public relations purposes.

Asking questions of three or four people simultaneously guaranteed discussion among all the participants. An interview of approximately 45 minutes was sufficient to obtain a solid amount of information. In this way, one researcher could interview four or five groups every day, and up to 40 groups (possibly from several villages) in ten days.

The questions asked followed a progression at two levels: within each group discussion, and across the overall period of research. Within each group session, the interviewer began with general questions about childhood illnesses and then moved to detailed questions about selected illnesses, according to symptoms of greatest relevance. Because the HEALTHCOM research focused on diarrheal disorders, key symptoms were loose and frequent stools along with weakness and a sunken fontanelle (dehydration).

Once a short list of five or six relevant illnesses became clear, the pattern of questioning within groups focused on that list. Interviews in the first few days mainly aimed at establishing a complete list of illnesses that might be pertinent to the study. Later interviews spent more time gathering details about the symptoms, causes, and treatments of selected illnesses.

The interviewer wrote down all responses and observations in order to gain a record of each participant's knowledge. He did not attempt to find a consensus or even a majority "opinion," but rather to establish the range of knowledge within groups so their responses could be compared later with those of other groups.

To analyze the data, responses were presented in tables with three parallel columns for symptoms, causes, and treatments of priority illnesses. Each page provided the responses of from five to eight groups regarding one illness. (The appendices include examples.) An individual row recorded the responses of a single group. A vertical reading provided a measure of the consistency (or variability) from one group to the next regarding the symptoms, causes, or treatments of a particular illness.

Ethnomedical Research in Nigeria

The HEALTHCOM program was first established in Nigeria in 1986 to provide technical assistance for strengthening both federal and state health communication capabilities.[5] Initial emphasis was placed on preventing dehydration through oral rehydration therapy (ORT) and increasing participation in vaccination programs. Niger State was designated as the initial site for HEALTHCOM activities at the state level.

With a population of just less then 2.5 million people scattered over a large area, Niger State is one of the most

sparsely populated states in Nigeria. Except for the fishermen along the Niger river, the people cultivate crops and raise cattle for their livelihood. Three main languages are spoken: Hausa, Nupe, and Gwari Hausa is the language of the urban centers and of trade as well as the native language of many people of the north. Nupe, on the other hand, is spoken in the Local Government Areas (LGAs) across the entire southern half of the state. Finally, Gwari is spoken mainly in the eastern part of the state.

An environment that is so diverse presented special problems for survey research and for the development of health education messages. Given the linguistic and cultural diversity in Niger State, what terms should researchers use in formulating questions for a survey on diarrheal disease? What terms should be used by health educators in communication messages? Researchers needed to know whether the different groups diagnose childhood illnesses in significantly different ways. They needed to know the relevant terms to include in questionnaires as well as the range of knowledge about oral rehydration therapy.

From July to September, 1987, ethnomedical research was conducted in Niger State by Dr. Adewale Oke, a medical anthropologist from the University of Ibadan. Dr. Oke worked with the Annenberg team in interviewing for one week and then took over the entire process of interviewing, data collection, and data analysis. With the help of an interpreter, he spent six weeks interviewing villagers about their knowledge and practices related to childhood diseases. Dr. Oke visited 10 to 14 villages for each language. He interviewed in the LGA of Gbako (for Nupe) and Chanchaga (for Hausa and Gwari). In Gbako, villages were selected from each of the five districts of the LGA. In Chanchaga, the villages selected included several near main roads and near health facilities and others far from roads and facilities.

Doing the Research

Dr. Oke visited one village each day, meeting first with the village chief or political head to explain the goals of the visit and request permission to talk to people from that village. Once permission was granted and the curious satisfied, he began the interview process with a group of men for the sake of public relations. He explained that although both men and women know a great deal about illnesses in general, one expects women to know more about childhood illnesses and thus he wanted to speak to more women than men. This explanation made sense to everyone. Village leaders almost always granted permission for the interviews, and men were pleased to form the first group.

In a given interview, a group might come up with a list of 15 illnesses that often affect children. About five of these typically appeared to be related to diarrheal disorders or dehydration. Dr. Oke next asked about the symptoms of those illnesses, the possible causes, and the options for treatment. After a week, it was no longer necessary to ask every group for lists of common illnesses because the lists had become repetitious. However, at least one group in every village was asked that general question.

The final report presented data in three forms: lists of names of childhood illnesses (with glosses in English if appropriate); tables giving the symptoms, causes, and options for treatment of selected illnesses; and summary statements about knowledge of ORT. The tables contained the heart of the investigation. Each relevant illness was presented in several pages. Each row of a table represented the characteristics of that illness as given by a single group of interviewees. By reading a column vertically, one could find out if the characteristics (symptoms, causes, or treatments) ascribed by several groups were consistent or not.

The report also included summary statements about what the interviewers said reflecting their knowledge and use of sugar-salt-solution (SSS). These statements were grouped by village so levels of knowledge and use could be compared by geographic area. It was evident, for instance, that Gwari-speaking villages located near a clinic had a far higher level of knowledge about both sugar-salt-solution and vaccinations than did more remote villages.

Selected Research Results

Interviews in Nupe-speaking villages revealed that *foro* is a common illness among young children and is very easily recognized. Dr. Oke obtained descriptions of the symptoms of *foro* more than 30 times. Analysis of the symptoms allowed him to gloss the term as "general diarrhea."[6] Most groups stated that they treat it by boiling herbal mixtures in water and giving these to the child to drink. If the illness persists, mothers take the child to the clinic. Another common treatment is to buy tonic or pills and mix this with porridge for the child.

Nupe speakers also recognize a separate illness called *nakannayan* (or *edigbon*, a dialectical variation). It is characterized by sunken eyes, weakness, pale skin, sunken fontanelle, and loss of weight. The illness often follows *foro*. People sometimes use herbal mixtures but more often go to the clinic for treatment. Some groups mentioned that children may die from the illness. Western medicine would gloss *nakannayan* as dehydration. A third illness (*atun*) would be glossed as dysentery, and is also considered serious.

Interviews in Hausa-speaking villages presented a somewhat different picture. Once again, separate terms could be glossed as general diarrhea (*zawo*) and dysentery (*atini*). The appendix provides an abbreviated table of the symptoms, causes, and treatments mentioned by several groups of women reporting on *zawo*. *Zawo* is common, easily recognized, and treated with herbal mixtures, tonic and pills, or with other medicines at a clinic. However, interviewees in Hausa villages, in contrast to Nupe speakers,

did not discuss any illness with symptoms resembling dehydration.

It is possible, of course, that a term exists in Hausa but was somehow missed during the research; however, given the way questions were asked and the number of groups involved, that seemed unlikely.

Interviewees in Hausa villages, in contrast to Nupe speakers, did not discuss any illness with symptoms resembling dehydration.

Because health communication messages must be built upon the terms people know and the concepts of illness familiar to them, these differences between the Nupe and Hausa communities had serious implications for a diarrheal disease program.[7] Given the absence of a term suggesting symptoms of dehydration in Hausa, the message strategy would have to be different for speakers of that language.[8]

ETHNOMEDICAL RESEARCH IN ZAIRE

In Zaire, ethnomedical research focused on a single geographic area and a single language—Swahili. The HEALTHCOM project in that country was located in the Shaba region and the capital (Lubumbashi) was one of the pilot areas for initial activities.[9] Once again, diarrheal disease control and immunization were the main health targets, and qualitative research provided a basis for the design of quantitative surveys.

Ethnomedical data on diarrheal diseases revealed significant information for program planning and helped in the design of specific messages.

Mr. Bihini Yanka, a Zairian anthropologist from the University of Lubumbashi, conducted the study in Swahili in November and December of 1988. One week was spent in training on the methodology and practice interviewing before the field work began. Over the next two weeks, Mr. Yanka interviewed 35 groups of women in three zones of Lubumbashi.

As in the Nigeria study, Mr. Yanka first gathered a list of illnesses mothers associated with loose or frequent stools or symptoms of dehydration. In subsequent days he gathered detailed information on their symptoms, treatments, and possible causes.

Selected Research Results

Women interviewed in Lubumbashi identified a large number of childhood illnesses, with six characterized by loose and frequent stools. These illnesses were chosen for detailed questioning. The illness lexemes in Swahili are *maladi ya kuhara*, (or simply *kuhara*), *lukunga, kilonda ntumbo, kasumbi, buse, and kantembele.* The completed tables for the six diseases revealed great consistency in the symptoms, causes, and treatments assigned to each illness, as well as important distinctions from one illness to the next—indicating that mothers see these as different diseases.[10]

The results suggest that, from a biomedical point of view, *maladi ya kuhara* could be considered simple diarrhea. Symptoms attributed to *lukunga* are similar to those of diarrhea with dehydration. The appendix shows examples of the symptoms, causes, and treatments mentioned by several groups of women reporting on *maladi ya kuhara* and *lukunga.*

Western medicine would classify the symptoms of *kilonda ntumbo* as dysentery. There are no Western equivalents for *kasumbi*, however, which is diarrhea with a diaper rash, or *buse*, which is diarrhea in a child who is nursing and whose mother is pregnant. Finally, *kantembele* could be glossed as measles (which is often accompanied by loose stools).

A consistent pattern emerged regarding possible treatments for these illnesses, and these were often linked to one or two characteristic symptoms. For example, treatments most often given for *kuhara* were liquids such as rice water, sugar-salt-solution, carrot juice, or a tea made from guava leaves. Both rice water and SSS are treatments promoted for common diarrhea by the health services.

The fact that loose stools were seen as a symptom of *lukunga*, but not as a distinguishing cause, was reason for particular concern. Mothers did not view *lukunga* as a "type" of diarrhea, and the treatments they suggested were dramatically different from those for *kuhara*, for example. For the most part mothers attempted to treat one of the classic biomedical symptoms of dehydration—the sunken fontanelle. Almost all groups interviewed described a traditional remedy made of palm oil, locally made salt, and ashes (of banana leaves, vegetable roots, or the head of a catfish) that one rubs on the sunken fontanelle or palate. Among the 29 groups interviewed about *lukunga*, only one failed to mention this treatment and only four mentioned SSS or other rehydrators as a possible treatment. This discovery of *lukunga* as a distinct disease, requiring distinctly different treatment by mothers, was of special importance to the communication program.

Using the Ethnographic Data

The ethnographic information provided a foundation for the large-scale sample survey conducted in March

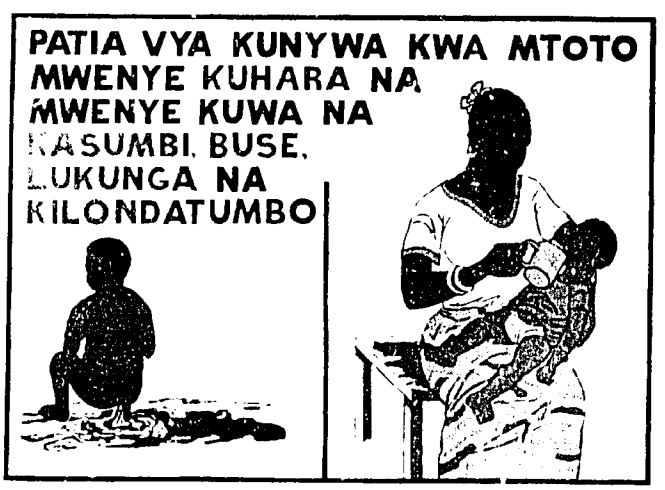
1989. A total of 1,125 mothers of children under three answered questions about recent cases of diarrhea-related episodes in their children and the treatments given. Without naming particular symptoms, the interviewers asked each mother if any of her children had been ill that day (or recently) with one of the six diseases identified in the ethnographic study. Next the mother was asked to describe the symptoms of the illness.

A follow-up survey with the same questionnaire was conducted in Lubumbashi in October of 1990. Data from these surveys answered questions about the prevalence of the six illnesses and provided further information on the consistency of symptoms associated with each.

In both surveys, the team found that about 90 percent of reported episodes were identified by mothers as *maladi ya kuhara*, *kilonda utumbo*, or *lukunga*. The ethnomedical study showed that these three illnesses were the most serious of the six mothers associated with diarrhea as well.

Thus, a prevalence survey in Swahili that had asked only about a supposed biomedical equivalent to "diarrhea" (*maladi ya kuhara*) would have missed important information. It would have missed one half of the illnesses related to diarrhea. Similarly, messages designed to promote positive health practices regarding diarrheal disease would have been dangerously ineffective if they did not mention specific locally recognized diseases—especially *lukunga*, or dehydration.

The team then examined the symptoms of the three most serious illnesses once more by looking at information mothers provided about cases within the last two weeks. Mothers described the main symptoms of *kuhara* as frequent and liquid stools. *Kilonda utumbo* was associated with frequent stools and mucus, thus confirming the ethnomedical study's gloss of dysentery. Mothers associated *lukunga* with a clacking of the tongue (indicating extreme thirst) and frequent stools. Once again, these are symptoms indicative of dehydration.



Communication messages used the range of terms for both "diarrhea" and "dehydration" identified by mothers themselves.

Messages highlighted treatment of serious cases by mentioning several specific types of "diarrhea" requiring emergency action.

The team also looked at information mothers provided in these two surveys on the treatments they gave children suffering from the different types of diarrhea. Approximately 50 percent of children with *kuhara* received some form of oral rehydration. However, only about 13 percent of children diagnosed as having *lukunga* received rehydration. We would have hoped for the opposite to be true. *Lukunga*, or dehydration, is a life-threatening condition and deserves immediate administration of ORT and treatment at a clinic.

Messages in Swahili to mothers caring for children with diarrheal disorders thus needed to mention specific illnesses in order to have a positive influence on treatment choices.

The communication program subsequently used the ethnographic information about the six primary illnesses as the basis for its print and face-to-face activities. Posters reminded mothers to "Give the child who has *kuhara* or is weak from *kasumbi*, *buse*, *lukunga*, and *kilondatumbo* lots to drink" and "take him to the clinic." Training of

health workers also emphasized the different illnesses and the importance of reminding mothers to give extra liquids and seek treatment at the clinic for children who were dangerously ill, for example with *lukunga*.[11]

CONCLUSION

Program planners in the field of health should always assume that a target audience has its own systems for defining and categorizing illnesses, and these may not correspond to the conventional biomedical ones. Cultural conceptions of illness and local terminology should be addressed as part of any research strategy.

This field note has described a method for data collection and analysis of local knowledge about illness designed to provide information to public health projects. The research strategy could be used for exploring any domain of ethnomedical knowledge. Four main points emerged from the studies conducted in Nigeria and Zaire.

First, data about local knowledge of illness can be collected and analyzed without spending long periods of time or large amounts of money on research. Second, data collected can identify illnesses of particular interest in a local language and can provide a measure of the degree to which the illnesses are **distinct** from one another. Third, a comparison of symptoms and suggested treatments for specific illnesses can show **which symptoms** are given most attention in treatment choice. An understanding of the logic of treatment choice should be the basis for the development of educational messages.

An understanding of the logic of treatment choice should be the basis for the development of educational messages.

Fourth, **the link between illnesses** (or the lack of such a link) can be investigated. The existence of such a link between diarrhea and dehydration has been shown to be particularly important. In contexts where people already see a connection between diarrhea and dehydration, a health education campaign can build on that relationship in its promotion of ORT. Where that relationship is not recognized, establishing the connection should be one of the priorities of an ORT program.

Understanding specific symptoms or locally defined illnesses requires more qualitative research than most developing country health programs are accustomed to carry out. Even a rapid ethnographic study, such as those described here, requires time (up to six weeks), money, and personnel. HEALTHCOM's experiences in Nigeria and Zaire, however, demonstrate how crucial such investigation is to the reliability of morbidity or health behavior surveys, as well as to the validity of communication program design.

NOTES

1. See also Field Note No. 21, "Field Perspectives on Implementation of an ARI Communication Pilot Program in Honduras," and Field Note No. 3, "Developing a Questionnaire for an Acute Respiratory Infection Pilot Study," for discussions of how a local taxonomy of respiratory infections was used as the basis for program design.

2. For further information about the summative evaluations contact CIHDC, Annenberg School for Communication, University of Pennsylvania, 3620 Walnut Street, Philadelphia, PA 19104.

3. Useful guides on rapid assessment include "Rapid Ethnographic Assessment: Applications in a Diarrhea Management Program," by Margaret Bentley, G.H. Pelto, and W.L. Straus, in *Social Science and Medicine* 27(1): 107-116 (1988); and "Rapid Assessment Procedures for Nutrition and Primary Health Care," by Susan Scrimshaw and Elena Hurtado (Los Angeles: UCLA Latin America Center Publications and Tokyo: United Nations University, 1987).

4. This strategy for ethnomedical research was developed by Yoder in 1985 in Mauritania for a primary health care project needing data about the knowledge in three language groups about childhood illnesses.

5. HEALTHCOM/Nigeria was part of the USAID-sponsored Nigeria Child Survival Program. Other major participants in the program included the Combatting Childhood Communicable Disease (CCCD) Project, A.I.D.'s Technologies for Primary Health Care Project (PRITECH), and UNICEF.

6. If ethnographic research is used as a basis for designing a morbidity survey, rules must be written to translate the illnesses and the groups of symptoms into biomedical diagnoses. The rules must be systematic and explicit and must state how each illness and each symptom recorded in the survey will be interpreted. This process is roughly the same as the writing of "decision rules" being developed for mortality surveys that rely on verbal autopsies.

7. See also Field Note No. 7, "From Idea to Mass Media," for a discussion of how a program in the Philippines attempted to create an awareness of the concept of dehydration when no popular term existed for it.

8. HEALTHCOM activities in Nigeria subsequently focused largely on promotion of immunization because government policy regarding diarrheal disease control was in a state of flux (particularly about the use of sugar-salt-

solution). The results of the ethnomedical research therefore unfortunately did not feed into the design of messages or materials while the project was active.

9. In Zaire, HEALTHCOM worked with the National Medical and Health Bureau of the Ministry of Health (FONAMES). Principal collaborators included A.I.D.'s Basic Rural Health Project (SANRU), PEV/CCCD, the School of Public Health, Kinshasa, the University of Lubumbashi, UNICEF, and Rotary International.

10. For detailed discussions of the Zaire ethnomedical research and the methodology described here, see also "Etude ethnomédicale des maladies diarrhéiques à Lubumbashi, Zaire," by P. Stanley Yoder and Bihini Yanka, in *Santé Culture Health* 8 (1): 77-107 (1991); and "Cultural Conceptions of Illness and the Measurement of Changes in Morbidity," by P. Stanley Yoder, in *The Health Transition: Methods and Measures*, ed. John Cleland and Allan G. Hill (Canberra: Australian National University Printing Service, 1991).

11. Availability of ORS packets (or even ingredients such as salt, sugar, and rice) was limited and unreliable in Zaire at the time of the project. For this reason, messages did not stress use of a particular product or home-mixed drink, but rather encouraged the mother simply to give "lots to drink" and to bring the sick child to the clinic for treatment.

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SAMPLE ETHNOGRAPHIC TABLE FROM NIGERIA
Insights from Hausa Speakers

The analytic table below shows the diagnosis of what could be called "ordinary diarrhea" for Hausa speakers in Niger State. A horizontal reading shows the responses by individual groups to questions about the symptoms, causes, and treatments for the condition known as *zawo*. A vertical reading shows the degree to which different groups were in agreement about these factors.

ZAWO

GROUP	SYMPTOMS	CAUSES	TREATMENTS
Group 1	Stomach trouble; watery stool.	Allah.	ORT, as taught at Zungeru Health Centre. It works.
Group 2	Abdominal pain; frequent stool.	When you eat different types of food together.	Herbal treatment of *bose* and tuna leaves—boil and give the child to drink; if it does not work, go to the hospital.
Group 3	Pain in the stomach; weakness of the body; constant stool.	Do not know.	Mix *guava* and *dorowa* leaves, boil and drink; also drugs from hawkers.
Group 4	Pain in the stomach; watery stool.	Allah.	We buy drugs from hawkers.
Group 5	Hotness of the body; pain in the stomach; frequent watery stool.	Contaminated food.	Get the bark of *kirini*, *erowa*, and *kede* tree—boil and let the child drink it.
Group 6	Pain in the stomach; noisy stomach: weakness of the body; watery, frequent stool.	Do not know.	We go to the hospital at Suleja for injection, tables, and syrup.
Group 7	Pain in the stomach and noisy; watery stool; vomiting.	Excessive eating of sweet things.	Get *beljia* bark and *gabaruwa*, add potash, boil and drink.
Group 8	Stomach pain; hotness of stomach and noisy; weakness of body; watery stool; pain in the waist.	Allah.	If herbal treatment does not stop it we go to the general hospital at Minna.
Group 9	Stomach pain, vomiting; watery stool; weakness of the body.	Allah is the cause.	We get *beljia* and *samia*, soak in cold water, and give to drink. We also get tablets from chemist.
Group 10	Hotness of the body, stomach and back pain; weakness of the body; watery stool.	Contaminated food; excessive eating.	Get guava leaf, *beljia* leaf, and *tawasa* leaf—add together, boil, and give to drink.

SAMPLE ETHNOGRAPHIC TABLES FROM ZAIRE
Insights from Swahili Speakers

The following tables show the symptoms, causes, and treatments of *maladi ya kuhara* and *lukunga*, as described by Swahili-speaking women in Zaire.* The first condition could be glossed in western biomedical terms as "simple diarrhea" and the second as "dehydration." A horizontal reading shows the responses by individual groups. A vertical reading shows the degree to which different groups were in agreement about symptoms, causes, and treatments.

MALADI YA KUHARA

GROUP	SYMPTOMS	CAUSES	TREATMENTS
Group 1	Frequent stools; vomiting; fever; no appetite; loss of water; crying; rash on buttocks.	Teething; poorly prepared bottle; intestinal worms; loose stools from walking; eating dirt (ground); *lukunga*.	SSS; rice water; carrot juice; guava juice
Group 2	Frequent stools; watery stools; general weakness; intense thirst.	Bad food; teething; intestinal worms; bottle feeding; eating dirt (ground).	Go to health center; SSS and ORS; terramycine; rice water; carrot juice.
Group 3	Very frequent stools; no appetite; listlessness; crying; thirst.	Nonboiled water; bad food; poorly prepared milk; eating many different kinds of food; intestinal worms.	Rice water; SSS.
Group 4	Very frequent stools; listlessness; loss of appetite; getting thin.	Bad food; poorly prepared milk; dirty water; *samaki ya duoza*; germs.	Rice water; SSS; carrot juice.
Group 5	Very frequent stools; tiredness; intense thirst; fever; watery stools.	Teething; intestinal worms; germs; bottle feeding; mother's negligence or worries.	Rice water; guava juice; carrot juice.
Group 6	Frequent stools; dehydration; swollen eyes; intense thirst; weakness; loss of appetite.	Teething; walking; mother's pregnancy; dirty water, intestinal worms; poorly prepared food.	SSS; rice water; worm medicine.
Group 7	Frequent stools; watery stools; general weakness; loss of appetite; intense thirst.	Dirty water; intestinal worms; poorly prepared food; poorly prepared milk.	SSS; rice water; carrot juice; worm medicine; ORS.
Group 8	Listlessness; watery stools; high fever with a cough.	Poorly prepared porridge; spoiled food; food poorly prepared; intestinal worms; teething; worrying.	SSS; while clay (kaolin); manioc flour in water; boil guava leaves in water with a little salt; vitamins.

*These tables appeared previously in "Etude ethnomédicale des maladies diarrhéiques à Lubumbashi, Zaire," by P. Stanley Yoder and Bihini Yanka, in *Santé Culture Health* 8 (1): 77-107 (1991), and are reprinted here with permission from the publisher.

LUKUNGA			
GROUP	**SYMPTOMS**	**CAUSES**	**TREATMENTS**
Group 1	Very frequent stools; clacking of the tongue; vomiting; sunken fontanelle; spots/bumps on palate.	If a mother eats fish called *kabambale* or *mulonge*, she may give birth to a child with *lukunga*.	Any plant picked up at a crossroads can be burned and mixed with palm oil and local salt and applied to palate.
Group 2	Frequent stools; clacking of the tongue; split in the palate; sunken fontanelle; green stools	A child can be born with it; bottle feeding a child	Apply to palate a mixture of palm oil and local salt; burn the head of *mulonge* fish and mix with palm oil and local salt to apply to palate; apply a mixture of burned banana bark, palm oil, and local salt to palate.
Group 3	Clacking of the tongue; intense thirst; sunken fontanelle; spots/bumps on palate.	Sorcery	Burn some trash from the market, mix with palm oil and local salt to apply to palate.
Group 4	Watery stools; sunken fontanelle; sunken palate; spots/ bumps on palate; clacking of the tongue.	Some children are born with it.	Apply a mixture of burned banana bark, palm oil, and local salt to palate; apply to palate a mixture of Vicks and local salt.
Group 5	Clacking of the tongue; vomiting; watery stools; no fever; child cannot nurse; sunken fontanelle; split in palate.	Poor bottle feeding— a hard nipple will irritate the palate.	Apply to palate and to fontanelle a mixture of Vicks and local salt; apply to palate and to fontanelle with local salt and palm oil; or use the bark of sugar cane and the head of the *kabambale* fish instead of eggplant.
Group 6	Clacking of the tongue; split palate; sunken fontanelle; a line on the forehead; watery stools; a dry mouth.	Heat from the sun; not enough water in the body.	Burn some trash from the market, mix with palm oil and local salt to apply to palate.
Group 7	Clacking of the tongue; watery stools; sunken fontanelle; split palate; spots/bumps on the palate; vomiting.	Loss of water in the body.	Apply to palate and fontanelle a mixture of palm oil and local salt; apply a mixture of burned banana bark, palm oil, and local salt to palate and to fontanelle; apply to palate a mixture of Vicks and local salt.

3

Developing a Questionnaire for an Acute Respiratory Infection Pilot Study

Carol Baume

THE CHALLENGE OF ARI

Acute respiratory infection (ARI)[1] is a major cause of infant and early childhood mortality in the Third World. ARI presents special challenges to both health educators and communicators. Prevention is difficult, diagnosis is complex, and treatment requires contact with the health system. Onset of severe illness can be sudden and symptoms (such as rapid breathing and chest indrawing) are not easy for parents to recognize or educators to teach. For all of these reasons, protocols for ARI in the Third World have developed more slowly than for diarrheal dehydration, vaccine-preventable diseases, and less dangerous illnesses.[2]

The HEALTHCOM Project has assisted in investigating the current terms, diagnoses, and treatment patterns of parents with children having ARI. In Honduras, the project designed a pilot study to test strategies in anticipation of a nationwide intervention. As part of this effort, Applied Communication Technology (ACT)[3] worked with the Honduran Ministry of Public Health and AED project staff to develop a baseline questionnaire to measure ARI knowledge and treatment patterns among mothers before the pilot. During June and July of 1987, the questionnaire was administered to approximately 700 caretakers of children under five years of age in six sites in rural Honduras. This field note describes some of the measurement problems encountered in attempting to develop a valid survey instrument for this complex subject.

Mothers can easily identify the symptoms of a cold or flu, but serious respiratory infections such as pneumonia can be more difficult to recognize.

BACKGROUND FOR THE INVESTIGATION

As a starting point for developing the baseline instrument, ACT staff spoke with Dr. Antonio Pio, Chief Medical Officer of the World Health Organization's (WHO) Respiratory Infections Unit in Geneva, and with Dr. Fabio Luelmo of the WHO regional office in Washington to discuss the etiology and treatment of ARI and the experience of health education efforts to date. We collected and reviewed WHO and PAHO documents on ARI. Most of the informational materials on ARI addressed the medical aspects of the disease or pertained to health education directed at health providers. Very little information on home care educational efforts was available, and it appears that the Honduras ARI pilot intervention was one of the first of its kind in terms of scope of objectives and depth of planning.

ARI encompasses viral and bacterial infections of the ear, nose, throat, and lung which have a short onset. Examples are influenza, tonsillitis, and pneumonia. Such

illnesses are differentiated from respiratory ailments such as tuberculosis that are chronic in nature and that develop and persist over a long period of time. (Occasionally, however, tuberculosis in very young children can be acute, with dangerous symptoms appearing rather rapidly.) Pneumonia is the ARI illness of primary concern, since it carries the most serious consequences. Pneumonia is also prevalent in developed countries but the mortality rate is dramatically lower. (According to the Pan American Health Organization, a Third World child with ARI is 30 to 70 times more likely to die from the illness than a child from a developed country. Low birthweight and malnourished infants are most at risk.)

A Third World child with ARI is 30 to 70 times more likely to die from the illness.

Less serious respiratory ailments such as colds and coughs may be included as campaign targets since they often become de facto precursors of pneumonia. The Honduran pilot study was predicated on the premise that many cases of pneumonia could be avoided if colds and flu were given proper management in the home. Correct home care entails continuation of breastfeeding and feeding, increasing liquid intake, and, if necessary, keeping the child's nose clean. The latter is particularly important for a breastfeeding infant who would have difficulty breathing while nursing.

In preparation for the Honduran campaign the Ministry/AED group carried out a developmental investigation comprised of ethnographic research, focus groups, a survey of mothers, and interviews with health care workers. The results of these studies were used to define project objectives and guide decisions in the planning process. The qualitative research provided valuable information on symptomatology, selection of terminology, and behaviors and helped guide the development of the ARI instrument.[4]

Designing a Useful Instrument

ACT staff drafted a questionnaire designed to elicit information in several areas: prevalence of symptoms, knowledge of proper treatment, actual home treatment practices, recognition of signs indicating that a child needs to be taken for professional help, and information relating to communication exposure and impact. Development of a reliable instrument, however, proved particularly challenging. A number of problems inherent in the nature of respiratory infections and their treatment make it difficult to define the illness and measure its treatment. Basic information on prevalence, duration, seriousness of illness, and treatment is even more complex to gather for ARI than, for example, diarrheal disease.

Five problems in developing ARI instruments are noted here, along with suggestions for addressing them.

Challenge No. 1

"Acute respiratory infection" is not a concept familiar to the lay person. In attempting to obtain information on ARI prevalence or treatment, an interviewer cannot ask about acute respiratory illness *per se*,[5] for it is unlikely that an individual outside the health profession will know what the term means. Questions must refer to specific symptoms or use terminology that the respondent is sure to comprehend, often making for cumbersome usage: "If a breastfeeding child gets a cough and a stuffy nose, should a mother continue to breastfeed or stop breastfeeding?" Or: "If a child under five years of age becomes fatigued, is breathing rapidly, and has an indrawn chest...." In diarrheal disease surveys, on the other hand, the term "diarrhea" (or at least several terms for several varieties of diarrhea) can usually be used directly, since respondents generally have a common understanding of the condition.[6]

Challenge No. 2

Respiratory illness is not a single disease with a defining symptom but is rather a range of ailments that exhibit a wide variety of symptoms. Respiratory illness is associated among Honduran mothers with some 15 possible symptoms. These include:

Spanish	English
nariz tapada	stuffy/blocked nose
moquera	runny nose
mocos ralos	runny nose (more watery)
tos	cough
molesto/decaído	"bothered"/fatigued
calentura	mild temperature
fiebre	high temperature
dolor de oído	earache
supuración de oído	ear discharge
ronchas	rash
dolor de garganta	sore throat
estornudos	sneezing
dificultad de respiración	difficult breathing
respiración rápida	rapid breathing
hervor de pecho	noisy breathing
hundimiento de las costillas	chest indrawing

In the context of an instrument designed primarily to elicit information on knowledge, behavior, and campaign exposure, asking a respondent about each possible symp-

tom on the list in order to obtain prevalence data would be tedious and time consuming—especially since an interviewer must go through the list for each young child.[7] Even a small increment in survey administration time can translate into high costs when the sample size is large. Given limited interview time and respondent attention span, a decision must be made as to which of the indicators should be retained and which should be dropped.

Selection of appropriate symptoms depends upon the purpose of the instrument. Our survey was designed to measure campaign impact; therefore, after consultation with health education planners in Honduras, we selected ten indicators that would be mentioned in intervention messages and that represented a range of seriousness of illness. For example, campaign messages about mild cases of ARI were based on the symptoms of *tos, moquera,* and *molesto/llorón/decaído* (cough, runny nose, and fatigue). Pneumonia was identified as the presence of *respiración rápida, cansancio,* or *hundimiento de las costillas* (rapid breathing, fatigue, or chest indrawing). We therefore included all of these symptoms in our questionnaire. We wanted to know if the campaign would increase mothers' treatment of these particular symptoms. We also included *calentura* and *fiebre* (mild and high fever) since pretesting showed that mothers consider fever a prime trigger that professional attention is needed. (Another indicator included was *dolor de oído* (earache) since it is sometimes linked to ARI.)

Again, one can compare this process of obtaining ARI prevalence data with the analogous procedure for diarrhea prevalence. A survey on diarrheal disease can often gather such data by simply asking, "Has this child had diarrhea in the past (period of time)?" In some cultures, the question needs to be refined to specify a certain type or types of condition(s). However, even though diarrhea can vary considerably in its severity, etiology, and medical implications, cultures generally recognize the problem of frequent and loose stools. While it is a rather straightforward matter to ask a mother if her child has experienced this problem in the past two weeks, it is a much more complex matter to find out whether her child has had any respiratory illness in a given period.

Most KAP (knowledge-attitudes-practice) questionnaires tie the questions in the "practice" section to a specific case recent enough for the respondent to recall with acceptable reliability. In diarrheal disease surveys, the interviewer can follow up a mother's report of a case of infant diarrhea occurring within, for example, the past two weeks with a series of questions about how she treated that particular diarrheal episode. Because a child is ill with ARI only when a group of symptoms appears, the researcher must define specifically what set of indicators should be followed by behavioral questions. For example, a runny nose is extremely common among Third World children, and, as an isolated symptom is rarely considered grounds for special attention. It would not be appropriate to take the time to ask treatment questions for such cases. We instructed our interviewers to administer the set of treatment questions only if two or more of the mild-moderate symptoms occurred in the past two weeks or if any one of the symptoms that the campaign was defining as indicative of pneumonia was present

Challenge No. 3

Spanish has many terms for ARI symptoms and illnesses, but there is little consensus in Honduras on their definitions. For example, an early review of the data showed that *moquera* means simply "runny nose" to some mothers, while others take it to mean a particular type of runny nose that requires treatment. Another common term, *gripe*, which is probably best translated as "flu," also means different things to different mothers.

Our approach was first to ask (for every child) whether each of the selected symptoms was present and then to ask the mother what she called the group of symptoms that child exhibited. For example, a respondent might say that her child had a runny nose and fever. The interviewer would then say, "What is this illness called that Carlos had?" In this way a mother herself would name the illness and then describe what she did in response to it—rather than our asking if Carlos had flu and assuming that her idea of flu was the same as ours. Consequently, we can analyze how caretakers define a particular illness, the degree of consensus on what constitutes a given illness, and what particular symptoms trigger what kinds of treatments.

A mother herself would name the illness and then describe what she did in response to it.

Challenge No. 4

Since ARI illnesses are comprised of a set of symptoms, it is difficult to obtain information about when the illness began. For example, a child may have had a runny nose for several days and then have developed a cough and eventually a fever. To ask how long each separate symptom was present is another time-consuming task and probably does not produce very reliable responses. The problem arises as to whether the duration question should refer to the period when **most** symptoms were present, or **all**, or only the **most serious**. We decided to base the question on the mother's perception of when her

child became ill. Therefore, after asking the mother the name of the illness her child had, the interviewer would ask, "And how many days did Carlos have (name of illness)?" Thus, in relating duration to treatments and decisions to seek help, we had a measure based on the caregiver's judgment of when accumulated symptoms became an actual illness.

Challenge No. 5

No unique home treatment for ARI exists. No home treatment for ARI exists that is analogous, for example, to oral rehydration solution for diarrhea; the pilot strategy for handling mild to moderate illness at home consisted of continuing routine behaviors such as the giving of foods and liquids rather than the administration of a special treatment *per se*. This means that if one simply asks a mother how she treated a given case of ARI, she may not mention that she fed her child. Therefore, follow-up questions about feeding and administration of liquids have to be asked specifically. However, feeding is not as definitively measurable a behavior as the administration of oral rehydration solution can be. A mother can give an unambiguous answer to the question of whether she administered ORS or not during an episode of diarrhea (although the amount may vary, and this is of course a major problem). But there is a range and variety of behavior between a "yes" and a "no" answer to the question of whether a mother fed her child who was ill with flu.

We decided to ask the respondent to indicate a relative amount of food and liquid intake during illness. For example, "While Carlos had (name of illness), did he eat more, less, or the same amount of foods as usual? A subsequent question was necessary to find out whether the quantity was determined by the child, or the caregiver, or a health provider. It might be, for example, that the mother offered food but the child refused it, or that a child wanted to eat but the mother was advised to withhold food.

As HEALTHCOM gains more experience with ARI, researchers will undoubtedly be able to refine instruments in response to these and other thorny issues. Meanwhile, our experience suggests that program planners and evaluators should be careful to allow adequate time for preliminary instrument development and field testing of ARI instruments.

NOTES

1. The term "acute respiratory infection," or ARI, includes both upper (URI) and lower (LRI) tract infections. Acute lower respiratory infection (ALRI) includes pneumonia, bronchiolitis, croup, and bronchitis. Because these last (in particular pneumonia) account for the majority of deaths, ALRI is often addressed specifically. For an excellent series of discussions on this subject, see *ALRI and Child Survival in Developing Countries*, proceedings of a workshop sponsored by the Agency for International Development (Baltimore, MD: The Johns Hopkins University School of Hygiene and Public Health, 1989). For a discussion of changes in terminology and recommendations for management of pneumonia, see "Acute Respiratory Infections in Children: Case Management in Small Hospitals in Developing Countries: A Manual for Doctors and other Senior Health Workers" (Geneva: the World Health Organization, 1990).

2. See also Field Note No. 21, "Field Perspectives on Implementation of an ARI Communication Pilot Program in Honduras," for a discussion of how a communication program can assist in preliminary investigations regarding child survival technologies and policies that are still evolving and for the policy context of this pilot study in particular.

3. Applied Communication Technology (ACT) is subcontractor to the HEALTHCOM Project, carrying out evaluation studies in Honduras and The Gambia. For further information about these evaluations contact Applied Communication Technology, 1010 Doyle Street, Suite 16, Menlo Park, CA 94015. Questions regarding ARI were also added to a yearly nationwide epidemiological survey conducted by the Ministry of Health.

4. See Field Note No. 21 for a detailed discussion of the ethnographic research.

5. After ARI prevalence, knowledge, and treatment questions, the ACT survey did use the term "respiratory illness" in the question, "*Ha oído hablar de infecciones respiratorias?*" ("Have you ever heard of respiratory illness?") The purpose of this question was to obtain a baseline measure of awareness of this term itself, to be compared with post-intervention levels of awareness.

6. Although ARI is more difficult to discuss with caretakers than diarrhea, even "diarrhea" can represent a group of quite differently perceived conditions in some cultures. See also Field Note No. 2, "Ethnographic Research for Developmental Purposes."

7. Of course, questionnaires designed for other purposes may necessitate asking about the full range of symptoms. For example, a medical intake interview would require precise information on symptomatology in order to make treatment decisions.

(1989) Carol Baume was with Applied Communication Technology and is now with A.I.D.'s Wellstart Project. *The author acknowledges the assistance of Bonnie Bradford in developing the ARI questionnaire and wishes to thank the staff of the Health Education Unit of the Honduras Ministry of Health for their contributions to this document. In particular, the author acknowledges the assistance of Dr. Ana Lucia de Aguilar, Nora de Noren, Lic. Bernardo Martínez, and Lic. Hector Espinal.*

Adapting the Tools to the Field:

Training in the Use of Focus Groups

Jeanne Moulton
Anne H. Roberts

THE NEED FOR QUALITATIVE RESEARCH

The HEALTHCOM Project in Jordan was unusual both in the nature of its institutional linkages and in its child survival interventions. The project was implemented by the Noor Al Hussein Foundation, a private voluntary organization sponsored by Her Majesty the Queen. The Jordanian Ministry of Health, the United Nations Relief and Works Agency (UNRWA), Save the Children, Catholic Relief Services, and local universities worked closely with the project. Primary interventions included effective breastfeeding and child spacing for the health of both the mother and the child.[1]

Both subjects are complex: changes in breastfeeding behavior require reassurance and specific skills as well as new knowledge and beliefs. The concept of child spacing has strong political and religious overtones in the country, in addition to the usual emotional and personal sensitivities.

The HEALTHCOM methodology has been particularly useful in this environment. Its approach relies on accurate and sensitive audience research for setting priorities, developing strategies and messages, and designing interventions.

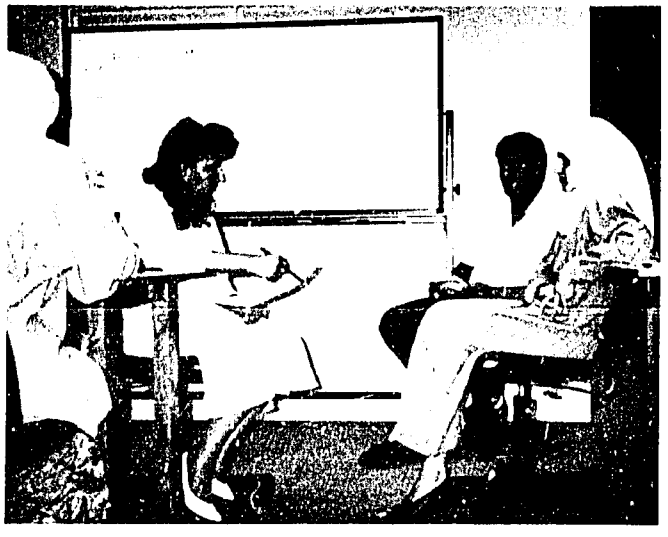
However, in Jordan we encountered a challenge common to many programs, that is, adapting relatively sophisticated research tools so that they can be used responsibly by health and social workers who have no experience with qualitative research techniques or the purposes of formative research. Financial constraints made it impossible, even during the period of funding by A.I.D., to contract research to the private sector. If the program is to be sustained in future months and years, it will need reliable and affordable research resources.

INITIAL AUDIENCE RESEARCH

Our formative, or background research on mothers' and health workers' knowledge, attitudes, and practices regarding the target health behaviors included both quantitative and qualitative studies. For the qualitative studies we relied primarily on focus groups with caretakers of children under five.

A focus group is a carefully planned discussion held in a permissive, nonthreatening environment that is designed to provide in-depth information about how a certain group of people perceive a certain area of interest. Focus group members are led to interact with each other so that they respond to opposing ideas and comments and reveal many facets of a given issue. A focus group is considered a

Focus group members are led to interact with each other so that they respond to opposing ideas.



Several interviewers were selected because of their previous involvement in the quantitative survey.

qualitative rather than quantitative research method because the information gives decision makers valuable insights into the target audiences' perspectives without providing statistical data.

FIRST EFFORTS—QUESTIONABLE QUALITY

We turned to our collaborative agencies to help us set up focus groups and to provide health educators who would assist in moderating the groups. These initial groups were designed to collect information about breastfeeding and child spacing practices and thinking. The health workers were at a definite advantage because they knew both the subject content and the community and had experience interacting with our target audiences. On the other hand, this group had little background in group dynamics, psychology, or in other related and useful fields.

We also recruited interviewers who had been trained and supervised by the Annenberg School for Communication during HEALTHCOM's quantitative baseline study. We chose those who had shown the best rapport with the target audiences and the best grasp of the project purposes. However, many of the skills in which they had been trained (e.g., always to ask questions in the same way, to direct the interview carefully, and so forth) are in fact antithetical to the process of conducting effective focus groups. An experienced focus group leader is nonjudgmental and facilitates wide-ranging discussion on the chosen topics.

In later stages of the project we again turned to focus groups for help in developing a series of messages on breastfeeding and child spacing for broadcast on radio and television. Focus groups with Jordanian parents helped test the effectiveness of messages in various stages of their development (primarily by inviting their responses to proposed tapes and storyboards). One set of focus groups helped evaluate the television spots on breastfeeding. A second set helped evaluate the radio spots.

In preparation for this pretesting research, we conducted training sessions for new focus group moderators. Because of limited resources and a chronic lack of time, our plan called for several short (half-day) orientation sessions, then close monitoring and discussion after each field experience, with follow-up group sessions to share problems and propose and test solutions. Some of the trainees had had previous training in focus group moderation in other projects, and we relied on them to help us model desired behavior.

The training produced mixed results. The logistics of conducting the groups improved noticeably over the first few days. Such arrangements can be crucial—such as choosing a quiet site, assembling the right numbers of the right people **without their children**, using the tapes and storyboards in a clear way, and recording the sessions. In addition, the entire system showed marked improvement during the second pretesting cycle, which concentrated on radio spots. However, some problems remained. These were due primarily to lack of supervision in the field and the skills levels of those previously trained. Improving the facilitation and reporting skills of the group leaders was extremely difficult.

The problems we observed in the field are probably common among trainees who have little experience conducting qualitative research. The moderators often found it hard to resist teaching the discussants—when their job really was to learn from them. They often found it difficult to phrase questions in a way that did not imply correct or expected responses. In general they had trouble eliciting the depth of sincere responses we needed. (See box.)

The moderators often found it hard to resist teaching the discussants—when their job really was to learn from them.

In addition, several purely attitudinal problems undermined our ability to convey the importance or the complexity of focus groups to our trainees. A great deal of training in quantitative data collection had left this group with the conviction that qualitative methods are inherently inferior and/or so unscientific that maintaining standards

A CASE IN POINT

WHEN THE "CORRECT" ANSWER ISN'T GOOD ENOUGH

The point of a focus group is to elicit sincere responses from the discussants—not correct ones. The unconscious inclination of a facilitator to lead a group in some preconceived direction can be difficult to overcome. In Jordan, the most challenging habits belonged to health educators or researchers familiar with quantitative studies. Major "bad habits" included:

- **Teaching or correcting participants**—Many facilitators were professionals accustomed to a teaching role. They had trouble restraining themselves (when faced with an "uninformed" audience) from seizing the opportunity to inform.
- **Judging responses**—Many facilitators found it difficult not to make judgmental comments such as "good answer," or "we don't usually use that term."
- **Nervousness that results in being very directive of the process.**
- **Conducting a group interview rather than encouraging interaction**—This would happen easily if a facilitator went around the circle giving each participant permission to speak. The participants then waited to be called on and spoke to the facilitator rather than to each other.
- **Lack of objectivity about the product**—Many facilitators instinctively sought to confirm the materials being pretested, rather than look for problems or areas for refinement.
- **Leading the group or putting words in their mouths**—For example, a facilitator might say, "Does the phrase 'increased suckling' mean nursing more often or nursing longer each time?"
- **Lack of creativity in probing for greater richness of data.**
- **Asking directly for what they want to hear**—For example, a facilitator might say, "Are these women like those you know?" or "Does child spacing mean tranquility to you?"
- **Asking "yes or no" questions.**
- **Asking "why?"**
- **Difficulty in excluding authority figures that wished to take part in groups**—Quite often a local leader (physician, nurse, notable from a community) would want to be included in the focus group and the facilitator was uneasy in trying to prevent this.
- **Failure to show appreciation for participants' time and effort.**

In addition to teaching participants the purpose of focus groups and the basic elements of this form of qualitative research, the training program needed to confront all of these "bad habits." Role-playing and practice in the field were the most successful tactics used by the trainers.

is not important. Among some project members there persisted the conviction that experts should really be guiding decisions, rather than members of the target audience. These attitudes stemmed in part from a failure to understand that the purpose of the intervention was behavioral change and that such change requires understanding and motivating the target audience.

PLANNING QUALITY TRAINING

To meet this challenging array of needs, we planned a major training effort before embarking on the next series of pretests for the final materials. We engaged two Arabic-speaking trainers with extensive experience in participatory training as well as in public health communication. A U.S. consultant from Applied Communication Technology provided specific focus group expertise and a commitment to the participatory approach. With the assistance of the HEALTHCOM resident adviser in Jordan, the group became a team of four.

The Noor Al Hussein Foundation invited 16 representatives from the public health and communication organizations working with us to participate in the training. These included the Ministry of Health, UNICEF, UNRWA, Save the Children, Catholic Relief Services, and USAID. The trainees included four health educators, two physicians, three midwives, four social researchers, two nurses, and a project administrator.

Because many of the participants from these organizations anticipated designing audience research to meet their own needs as well as for the immediate needs of our project, the training included skills in focus group planning and writing a focus group guide, as well as in facilitation and reporting.

The training program ran for four days. The trainers met in intensive planning sessions during the three days prior to the program. We chose a participatory training

model that we know can create long-term as well as immediate changes in attitudes, assumptions, and skills.

All of the training was conducted in Arabic. We took several measures to accommodate the language difference between the trainers and the consultant, who had responsibility for planning and materials development. The consultant provided training notes on each module of the topics to be covered and these were translated into Arabic in advance for the trainers. We participated in daily strategy sessions to discuss in depth the content and goals.

Establishing Objectives and Format

The first step in planning the training sessions was to establish objectives in relation to our participants' assessed needs. We divided these objectives into three categories:

SKILLS

Participants will be able to conduct a focus group—

- introduce the purpose of the group, explain procedures, establish ground rules;
- set the appropriate tone to discuss sensitive topics;
- lead the participants in introducing themselves and providing the personal information desired (if any);
- move from general to specific topics;
- cover the topics in the topic guide;
- bring the group to a comfortable close.

Use effective moderating skills—

- remain neutral, nonjudgmental;
- demonstrate authority, provide discipline;
- promote "give and take" exploration of the topics;
- use appropriate body language;
- use appropriate language and dress.

Handle difficulties caused by group dynamics or obstructive behavior—

- calm down dominating personalities;
- encourage participants who are reluctant to speak;
- intervene when the group becomes too loud or too quiet.

Report findings—

- make complete notes on responses to each topic;
- note points that were universally agreed upon and points that revealed disagreement;
- refrain from entering one's own opinion on the topic or unwittingly interpreting findings.

Focus group specialist Mr. Abderrezak Thraya came from Tunis to conduct the joint training with a consultant from Applied Communication Technology, in California.

KNOWLEDGE

Participants will demonstrate an understanding of—

- why we use focus groups;
- what guidelines to use in composing focus groups;
- how to arrange logistics;
- how to recruit participants.

ATTITUDES

Participants will demonstrate an awareness of—

- the value of feedback from the target audience on concepts and messages;
- the preferability of qualitative to quantitative research in certain situations;
- the preferability of focus groups to either in-depth interviews or participant observation when it is useful to stimulate thinking and expressions of attitudes and motives;
- confidence in his/her ability to conduct focus groups.

These objectives governed the content and the format of our focus group training modules. We divided the four days into seven two-and-a-half-hour training sessions to meet our particular needs.

Our major subjects included:

- **What is a focus group and why use one?**
- **Getting the focus group started**
- **Developing the topic guide**
- **Group moderating techniques**
- **Planning and logistics**
- **Handling difficulties in the group**
- **Reporting findings.**

Our schedule also included brief sessions for participants to share their expectations of the training, for daily evaluations, and for administering pre- and post-tests.

PARTICIPATORY LEARNING

For each training objective we structured a learning experience that involved the trainees' active participation. Each module included a brief presentation to the whole group with the help of flipcharts and overheads. Exercises included role-playing and simulation games to teach specific skills. For most of the exercises the large group was broken into two small groups, with a trainer assisting each. We used dyads to teach listening skills and triads to teach topic guide development. We then met again in the large group to review what had been learned and to answer questions. The trainees spent well over half of their time practicing the skills, gaining confidence and adapting the material to their own styles and needs in a supportive environment.

Making the Most of Materials

We prepared materials after agreeing upon objectives and format of the training program.[2] These materials consisted mostly of summaries of the important points of each training module. They were brief since they were intended as a support for group discussions and exercises. Learning arose primarily from the participants' experiences in the training sessions, rather than their digestion of written materials. A selection of these summaries appears in the appendix to this field note.[3]

Adapting the Methods to the Reality

In the course of training we needed to adapt our approach continually to the needs of the participants. We knew that some compromises in purity of method would have to be accepted in order to meet the participants half way. We knew that the trainees did not have the backgrounds that would enable them to make full use of the method immediately and that they would require much supervised experience to gain the desired facility.

One of our greatest challenges was to decide what kinds of adjustments could be made in participants' initial efforts that would not compromise the validity of techniques and research results.

Most of our trainees were educators, not researchers. A few were not up to the task of preparing a topic guide or keeping up with a challenging group of participants Professional focus group leaders need to have well-developed conceptual skills, are able to deal quickly with complex contingencies, and respond effectively to a wide range of direct and not-so-obvious challenges to their role and intent. Some of the trainees found it difficult to create topic guides and pose questions that would elicit the information they were seeking without pointedly asking for that information.

We used several approaches to close the skills gap. We worked on some relatively simple methods of developing a topic guide and demonstrated how probing questions would bring forth the information they were seeking. Ultimately, we also agreed among ourselves that a satisfactory compromise was to allow them to ask discussants direct questions **at the end of the focus group session** to cover information they felt had not been brought out during the discussion. In this way, they were not anxious about missing anything so were more likely to facilitate a proper focus group environment.

We also discussed the special problems faced by health educators who have a strong motivation to teach their audience. Finally, we agreed that if discussants showed misunderstanding or lack of information about important health topics, the moderator could speak to them privately after the group discussion to provide the information that he or she felt they needed to have. This helped lower the trainees' anxieties on this score. Another option we had used prior to the training was a very structured and detailed focus group guide resulting in something approaching a group interview rather than a focus group. This had the advantage of allowing a number of people to respond to the material at once and provided some useful discussion.

REMAINING ISSUES

During the planning and training sessions we wrestled with a number of issues that may be pertinent to others planning a similar activity. In some cases, we learned how future training could be conducted more effectively; in others we merely identified problems that can only be met through compromise.

How much time should be devoted to training? We were scheduled for a total of 24 hours of training. Both trainees and trainers felt that an extra six-hour day, bringing the total to five days, would have been helpful.

Should the trainees get some "field" practice? We planned to reconvene the training group once the trainees had been able to conduct an actual focus group. (Some, but not all, had led focus groups prior to this training.)

This would have allowed trainees to reflect on their experiences and to get assistance in overcoming specific dilemmas. It would also have allowed us to monitor the results of adjustments we had made in training, as described in the section above. Unfortunately, plans to include newly trained participants in the next round of pretesting were sacrificed to logistic demands. The follow-up meetings were held but were of greatest value to those who had actually been able to moderate or observe groups during the interim. This follow-up device has excellent potential to evaluate and strengthen new skills.

How can trainees be taught to interpret the data they collect?[4] This challenge has two parts: helping trainees develop the necessary **analytical** skills and helping them maintain the appropriate level of **objectivity**. For those involved in collecting qualitative data **on their own project**, the task of remaining objective, rather than seeking reinforcement for preconceptions, can be difficult. We were working with trainees who would be conducting focus groups for projects in which they served primarily as educators.

During the early planning sessions we decided to concentrate on helping the trainees conduct the focus groups and **record** the information. They would not be asked to **interpret** the findings. This allowed us to focus on the importance of objectivity. We gave one session on preparing a report for decision makers (who would then interpret the data).

Commercial marketers generally frown on this approach. They believe it is important to have the same individual conduct the group, record the results, and interpret them, to prevent misinterpretation. However, given the constraints of our trainees' backgrounds, we believed the project would be better served with a report containing a thorough account of what was said in the focus group (backed up by an audio tape) than with a preliminary interpretation of the results.

Evaluation and Reflection

The trainees' enthusiasm and interest were high throughout the program. Of the 16 participants, only one missed a day (because of a child's illness). At the close of each day, the trainees evaluated the day's activities. Satisfaction in four categories relevant to program goals ranged from 80 to over 90 percent.

The trainers also carefully evaluated progress among the participants. We observed the participants practice each stage in the moderating process:

- developing a topic guide to meet the needs of the project decision makers;
- setting up and organizing a group;
- warming up;
- handling problems in the group;
- moving to conclusion;
- reporting the findings.

One of our goals was to identify which individuals could be relied upon in the future to carry out quality focus groups for the project. Approximately one-third of the participants were prepared to conduct focus groups with little or no supervision. Approximately one-sixth had serious difficulties with some aspect of the training. Most participants fell somewhere in the middle—they had the necessary capabilities but would need further follow-up and supervision. We were not surprised by these results. Past experience has shown that conducting focus groups requires some social as well as analytical skills that come more naturally to some people than others. Many types of qualitative research are as much art as skill, and it is important to recognize that some trainees will not acquire adequate fluency.

Many types of qualitative research are as much art as skill, and it is important to recognize that some trainees will not acquire adequate fluency in them.

Certain skills proved more difficult for the group than others. Perhaps the most challenging task for these participants was learning to write a focus group guide or report adequately on their findings. We also found that many of the trainees needed help learning to work in small groups or in using instruction sheets to accomplish a task. The evaluation showed that participants still tended to believe the moderator should be "directive" in managing the discussion and our observation showed that, indeed, many displayed an excessive amount of control. This particular problem deserves careful follow-up.

Observation and written evaluations showed participants were strongest in organizing and setting up groups, choosing appropriate members, understanding the roles of formative research and pretesting in the communication process, and describing appropriate reasons to use focus groups. Although this degree of understanding is not sufficient for actually carrying out research, it is an essential level of awareness for those who can influence how much and how qualitative research is carried out in a given project. Many of the agencies who sent participants did sub-

sequently set up groups for our project and came to appreciate reliance on audience research.

Those participants who had the opportunity to apply their skills soon afterwards made steady observable improvement. Several are now being used by local and international advertising and marketing firms who have described their grasp of moderation skills and concepts as outstanding.

CONCLUSION

The adaptations we made in this focus group training activity seemed to have created a workable compromise between skills available and the requirements of the methodology. Our approach permitted us to retain a sophisticated model—based on strong interaction with the target audience and careful probing—that provides an accurate and powerful research tool. We also knew that we could not accomplish everything in these four days. We chose to concentrate on those skills we believed were within the grasp of the trainees. In doing so we also recognized the importance of follow-up training, supervision, and appropriate delegation of responsibilities in conducting future research activities in order to make the best use of these trainees' skills.

NOTES

1. For details about the Jordan intervention, see Field Note No. 6, "Breastfeeding Practices in Jordan."

2. To prepare the materials we relied heavily on two sources: *Handbook for Excellence in Focus Group Research*, by Mary Debus (HEALTHCOM Project, 1988) and "Focus Groups: When and How to Use Them: A Practical Guide," by Prudence Breitrose (*How-to Guides on Community Health Promotion* series; Stanford Center for Research in Disease Prevention, Stanford University School of Medicine, 1982).

3. These materials are also available in Arabic from the HEALTHCOM Project.

4. See also the HEALTHCOM field note entitled "Training Ecuadoran Health Communication Professionals in the Use of Qualitative Research Techniques," by Robert J. Gould (unpublished). The task of training others to interpret qualitative data is particularly challenging. In most of the environments in which HEALTHCOM works, this subject is best dealt with singly and in a focused way, rather than in combination with skills training in data collection or recording.

(1990) Jeanne Moulton was with Applied Communication Technology and is currently an independent consultant. Anne Hammons Roberts was resident adviser for HEALTHCOM/Jordan and is now with HEALTHCOM/Washington. *The authors wish to thank the team of trainers who assisted in carrying out the activities described in this field note: Walid Al Khatiib, of the Institute for Science and Technology in Amman, and Abderrezak Thraya, of the RONCO Consulting office in Tunis. Thanks are also due to Abeer Hamdan of the Noor Al Hussein Foundation for her energetic logistical support.*

MINI-GUIDE FOR THE FOCUS GROUP MODERATOR

FOCUS GROUPS: A DEFINITION

A focus group is a carefully planned discussion designed to provide information about how certain people perceive a specific area of interest. It is held in a permissive, nonthreatening environment. Focus group members are led to interact with each other

- so that they influence one another;
- and respond to ideas and comments in the discussion.

When is a Focus Group Used?

A focus group is used to observe the perceptions, behaviors, attitudes, and language of people as they are influenced by each other in a social setting. Focus group interviews can be used in situations where time and cost are important considerations. They are used to:

- discover what people do or think about a certain topic;
- generate ideas about services or products;
- pretest message components;
- pretest communication materials or package designs;
- identify problems.

How is a Focus Group Conducted?

- A focus group is formed of six to ten people (from a relatively homogeneous group) who don't know each other.
- Information is solicited through pre-planned, open-ended questions in a comfortable environment.
- Notes are taken on information obtained relevant to the area of interest and written up for decision makers to interpret.

DEVELOPING A TOPIC GUIDE

Begin the guide by asking yourself:

- Who will use the information?
- For what purpose?
- What information is needed for decision making?

Make sure to discover all aspects of the decision makers' concerns. Write a list of relevant information points and show this to the decision makers for their concurrence.

The goal of a topic guide is to make sure that all the needed information is solicited in a manner that probes underlying motives, opinions, feelings, attitudes, and values.

The focus group topic guide is built around questions that will be posed to the group to stimulate participants' thinking.

Develop the areas of questions for the topic guide by:

- brainstorming a list of questions relevant to the topic;
- selecting those that will help lead to the topic.

Then, order the questions from general to increasingly specific. Check your list of information points to make sure that your topic guide questions are likely to cover the information you are seeking.

PLANNING AND ARRANGING LOGISTICS

The focus group participants are representative of the target audience. Consider such characteristics (variables) as:

- age and gender,
- income level,
- educational level,
- social class,
- profession,
- lifestyle,
- family characteristics,
- level of expertise in the topic area,
- geographic region.

If there is a variation among any of these characteristics in your target audience, try to include participants with the whole range of characteristics so that you will hear representatives of different points of view.

How Many People, How Many Groups?

Each group has six to ten participants depending on the purpose of the focus group, whether you want to probe very deeply (in which case you want fewer group members), and what your logistical constraints allow.

Each group must be homogeneous so that participants are talking to their peers and feel comfortable disclosing information about themselves. Determine how many homogeneous groups compose your target audience. Does it include men and women? Married women with children and younger women not yet married? People from the cities and from rural areas?

Conduct as many groups as necessary to be able to recognize that very little new information is coming forth; this may be as few as two or as many as three or four of each homogeneous group.

How Long Do the Groups Run?

Each group runs between 45 and 90 minutes, depending on:

- The purpose of the group, how extensive the information you want is, and how deeply you want to probe;
- How interested and talkative the members are;
- What your logistical constraints allow, including how difficult it is to ask participants to stay for more than 45 minutes.

What is the Ideal Setting?

The ideal setting for a focus group is:

- private,
- nonthreatening,
- comfortable,
- free from distractions,
- convenient for the participants,
- amenable to tape-recording.

If possible, the setting allows observers to be present without disrupting the group.

Variations in the setting will depend on logistical constraints as well as the purpose of the group. If the topic is personal, it may best be handled in a home or other social environment. If it is professional, it may best be handled in an office or institutional environment.

How are Participants Seated?

Participants should be seated in a semi-circle. This allows the moderator to make eye contact easily with everyone and participants to make eye contact easily with each other. It prevents any participants from being seated next to the moderator—where eye contact is more difficult and where a higher status may be projected.

One or Two Moderators?

One moderator, with careful planning and preparation, can handle all the tasks. In any case, one moderator should pose questions and discuss the topic with the group.

A second person, if available, can help the moderator to:

- fend off distractions,
- operate the tape-recorder,
- listen and observe body language,
- contribute to the report on findings.

If you are conducting a series of focus groups, it would probably help to have an assistant for the first few groups until your job becomes routine.

Recruiting Participants

Enlist the help of colleagues and others who know the target audience to select representative participants.

- Personalize the invitation.
- Make the experience sound interesting, worthwhile, and enjoyable.
- Remind invitees within 24 hours of the meeting time.
- Help them get transportation, if necessary.
- Offer additional incentives, if possible, such as a meal or refreshments, health promotion products, or money.

Remember, the attention you pay to planning will influence the results of your focus group efforts. Allow yourself plenty of time to set up the groups, and enlist as much help as you can in doing so.

Getting the Focus Group Started

Create a warm, nonthreatening atmosphere in which participants are at ease and feel free to disclose their thoughts and feelings, even on sensitive subjects.

Physical Preparations

- Arrange chairs in a semi-circle, with yours facing the others.
- Have a tape-recorder ready to go at the press of the button.

- Try to prevent disturbances. Have an assistant take care of restless children away from the group. Have the doors protected from intruders.
- Discourage unwanted participants or observers.

Moderator's Behavior

- Be relaxed, friendly, and casual, as if you are a hostess or host.
- Smile.
- Instigate small talk as you help participants get seated.
- Answer individual questions to relieve any anxieties.
- Avoid discussion of the topic until you are ready to address it.

Opening Remarks

- Welcome participants and thank them for coming.
- Introduce yourself (your name and your organization).
- Tell group members you have invited them because you want their opinions on this particular topic.
- Explain that you are tape-recording the session so you can listen again to recall all their comments.
- Make sure the tape-recorder is on!

Explain the Ground Rules

Most participants will not be familiar with the open atmosphere of a focus group. Encourage them to:

- Speak one at a time, loudly enough to be heard on the tape-recorder;
- Give their honest thoughts and feelings because even negative comments will be helpful—there are no right or wrong answers.

Explain to them that:

- Their opinions will not affect your feelings;
- They may be assured of complete confidentiality;
- The session will last about one hour.

Introductions

Ask each participant to tell her or his name and something about himself or herself (such as the names, ages, and sexes of their children). Be careful not to ask questions that would reveal status differences among members or create any other kind of discomfort.

Introductions serve several purposes. They "break the ice" and get everyone to speak. They increase group members' level of comfort with you and each other. They reveal information about the participants that may be relevant to the topic. In addition, they give the moderator a chance to assure everyone speaks loudly enough for the tape-recording.

Focus Group Moderating Techniques

A skillful moderator collects information about the true issues related to the topic area and also observes participants' language and emotions. A few simple techniques can help.

- Present the topic, concept, or product in a neutral way. Don't reveal your own opinion of its worth or importance.
- Display authority in your role as a moderator; show that you know how to moderate the group.
- Don't display authority in regard to the topic. Your expertise can intimidate participants.
- Encourage participants to explore more deeply their thoughts and feelings by using the five-second pause, using probing questions, using mirroring and repeating phrases.
- On the other hand, don't encourage the direction or content of responses by nodding your head, scowling, etc., or by using short judgmental responses such as "right," "good," or "no."
- Be aware of body language—your own (such as head-nodding, frowning, eye contact) and theirs (such as signs of alertness, confusion, anger, approval).
- **Listen** with sincerity and interest.
- Close the session without interrupting an active flow of discussion.
- Thank group members for attending and participating.

Probing Questions

A probing question is one that encourages the respondent to clarify her or his answer, giving more details about thoughts or feelings. Probing questions often push the group's discussion to a deeper level.

A probing question begins with **what** or **how**. Questions that begin with **do you** or **are you** call for an answer of **yes** or **no** and do not lead anywhere. Questions that begin with **why** tend to put the respondent on the defensive. It is better to phrase a why question, such as "Why do you like it?" with **what**, such as "What are your reasons for liking it?" or "What about it do you like?" For example:

Participant: *It is good.*
Moderator: *What about it is good?*

Participant: *I like it.*
Moderator: *What about it do you like?*

Participant: *I like the color.*
Moderator: *What about the color do you like?*

Participant: *It will be useful.*
Moderator: *In what way will it be useful?*

Participant: *It works.*
Moderator: *How can you tell that it works?*

Moderator:

- What do you think of...?
- How do you feel about...?
- Where do you learn about...?
- What do you like best about...?
- Can you tell me more about...?
- What do you mean by that?
- What makes you feel that way?
- Can you think of an example of that?
- I'm not sure I understand what you mean by...
- What does the message say for you?
- What does it say to you personally?
- What were you thinking as you heard it?
- What stood out in your mind?
- You mentioned something about...

Handling Difficulties with the Group

If the group becomes too boisterous and out of control:

- Remind them of the first ground rule—one person speaks at a time.
- Restate the question at hand and ask them to address only that question.

If the group becomes dull and unresponsive, ask yourself:

- Are the issues perceived as irrelevant to their interests?
- Is the group so large that it inhibits spontaneous comments?
- Is the pace too rapid or too slow?
- Have you emphasized how important everyone's comments are?

Try the following:

- Take a break and talk with individual participants.
- Ask direct questions that require short answers of everyone.
- Get up and move around.

Reporting Your Findings

Your responsibility is to **describe** what was said in the focus group. In most cases the decision maker will **interpret** the meaning of what was said. In your report, include the following:

- responses to the questions in the topic guide;
- descriptive phrases or words used by participants;
- themes expressed by the majority of participants;
- themes expressed by the minority of individuals;
- enthusiasm or lack of enthusiasm among participants about each theme;
- characteristics of participants;
- characteristics of those participants who presented minority viewpoints.

A simple procedure is to begin immediately after the group session by writing down impressions you want to remember. Then listen one or more times to the tape and make notes, including particularly interesting words and phrases verbatim. Then group the comments in accordance with questions in the topic guide. Lastly, summarize themes or trends.

Whatever your preferred method of report writing, take care to include all relevant information, whether or not you agree with it, and refrain from including your own opinion on the topic or letting your opinion color what you say about others.

5

Reporting Research Results as Information Exchange:

A View from Niger State, Nigeria

P. Stanley Yoder

INTRODUCTION

The HEALTHCOM Project was established in Nigeria in 1987 to provide technical assistance to the Health Education Unit (HEU) of the Federal Ministry of Health to strengthen both federal and state communication capabilities in diffusing messages regarding child health issues. As part of these activities, HEALTHCOM collaborated with the Federal Ministry of Health (FMOH), the Federal Radio Corporation of Nigeria, UNICEF, and the CCCD (Combatting Communicable Childhood Diseases) Project to organize a two-part training workshop on health communication in Niger State for three weeks in July, 1988. A major goal of this workshop was to demonstrate how research results can be used for planning health education activities and for formulating communication strategies.

Although such a goal might seem like simple common sense to many public health specialists, the empirical basis of health communication is not immediately apparent to many decision makers—whether in developed or developing countries. Directors and administrators working in primary health care departments do not often see a need for research. They have had little or no experience in considering information about the population of their catchment area. Using the research process to develop objectives and plans for their programs may seem elusive, costly, and even threatening—something they know little about.

One of the workshop objectives was to show managers and administrators just how information derived from research could be useful to them. However, we wanted to make the exercise as interactive as possible. This field note describes the strategy used to make the workshop experience into an exchange of information about the population of Niger State, with the participants talking about their knowledge of the population and the resource persons about theirs. It also describes the format chosen: a process of having people talk about what they know of their own districts with regard to ORT and vaccinations; of having people consider the implications of research data in light of their own ideas; and having people make choices about priorities for an EPI program.

Using research to develop objectives and plans may seem elusive, costly, and even threatening.

The workshop was held in Niger State for "Zone C" states: Kwara, Niger, Kaduna, Katsina, Sokoto, and Abuja. Niger State was chosen as the venue because it had been a focus for both the HEALTHCOM and the CCCD projects and because data from recent research activities were available. Each of the states was invited to send one health educator, one radio producer, and one program manager. Also, one health representative from each of the ten Local Government Areas (LGAs), or districts, from Niger State was invited to participate during the first week. Many spe-

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One unique aspect of the workshop was that it brought health educators (left) together with media professionals to discuss common objectives.

cial guests from the Niger State Government attended the opening ceremonies. They included the Commissioner for Information, the Commissioner for Education, and members of the Niger State Community Health Mobilizing Committee. The presence of these high-level officials increased the status of the workshop in the eyes of both participants and the general public.

This field note discusses the activities of the first week of the workshop which focused on health education management and supervision and was held in Minna, the capital of Niger State. The second two weeks focused on mass media and communication planning and production and was held in Minna and Kaduna. The workshop planners thought that having health educators, managers, and radio personnel work together would provide the foundation for better cooperation in planning and producing radio messages about health. More than 40 people attended.

The workshop began with discussions of the overall results of a HEALTHCOM survey and a CCCD health facilities survey in Niger State so participants would have the experience of considering the implications of that data when designing a communication plan. These presentations as well as the rest of the week's discussion were organized by technical consultants from the HEALTHCOM evaluation subcontractor (the Annenberg School for Communication),[1] and the CCCD Project,[2] which had collaborated with the Ministry of Health in carrying out most of the formative research.

Participants were divided into two groups for the first week. In one group were all the participants from Niger State, including the managers of the health programs in each LGA, several members of the Health Education Unit in Minna, and the chief health educators from four surrounding states. Most of the discussions presented in this field note occurred within this first group. The radio producers and managers made up the other group.

The Workshop Setting

In planning the discussions we wanted a format that would permit an exchange of information not only among the participants themselves, but also between participants and resource persons. We wanted to know what image the participants had of their own health services and of community knowledge of ORT and EPI so that we could present the research data in meaningful terms. By comparing what was taken as common knowledge with the results of research, we thought we would learn from one another. We had three days to discuss findings obtained from the following research activities:

- a study of health facilities by a team from the CCCD Project;[3]
- a community survey of knowledge and use of sugar-salt-solution (SSS) and vaccinations, conducted by an evaluation team from the Annenberg School for Communication and personnel from the HEU;[4]
- an ethnomedical study of local knowledge of vaccinations, diarrhea and dehydration, and the use of SSS, by consultants from Annenberg and the University of Ibadan.[5]

Our goals presented us with several problems. How could we discuss results of research about vaccinations and SSS with people who had little experience with surveys? Who had little or no experience collecting information about health care delivery? Who had never collected information about the communities they serve? Who had never been given data for use in planning activities?

We wanted to introduce them to the idea of being skeptical, of looking for evidence behind conclusions presented.

We began our discussion of each domain by focusing on the participants' beliefs and experience regarding levels of community knowledge. We wanted people to have the experience of trying to explain the origins of their beliefs about the population. That is, we wanted to introduce them to the idea of being skeptical, of looking for evidence behind conclusions presented, and to provide them with a little practice in considering data and drawing conclusions.

The sessions were planned with three types of interactions in mind. First, we wanted the participants to discuss what they knew about women's knowledge and practices related to SSS and vaccinations in their own districts.

Second, we wanted to present a few basic research results in a way that would give each of them the chance to consider the implications of the data. And third, we wanted the group to make judgments about what would be the best communication strategy for vaccination promotion in Niger State in light of these discussions.

Workshop Sessions and Themes

The sessions were arranged in two parts around a single theme. The first part of each session (45 minutes) was used for presentations about levels of knowledge and use of SSS and vaccinations and of the research results, and the second session (also 45 minutes) for smaller group discussions. We held two sessions in the morning and one in the afternoon. In addition, we had one session (30 minutes) of summing up in the morning and another in the afternoon. This gave each small group a chance to report on its responses to the questions assigned for discussion.

The topics discussed during the sessions on diarrhea and SSS included mothers' knowledge of SSS, their use of SSS for diarrhea, and knowledge of correct preparation. The major topics relating to vaccination included the number of mothers who had heard of vaccinations, the number who knew the purpose of vaccinations, the number who knew at what age the first vaccination should be given, and the number who knew how many visits were required for complete immunization.

Discussing the Control of Diarrhea

A description of the participants' ideas about knowledge and use of SSS in their LGAs will illustrate how this information exchange worked.[6] We discussed the differences to be expected in mothers' answers to questions about whether they had ever heard of SSS, about whether they knew how to mix SSS, and about whether they had used SSS at least once. All but one participant believed that everyone, or nearly everyone, in their respective areas had already heard of SSS. However, we explained that our survey found that 64 percent of women in Niger State had heard of SSS and 46 percent said they knew how to mix it.

Participants then divided into three groups and discussed how people hear about SSS. We also asked that they come up with an estimate of how many women in their areas had already used SSS at least once. Participants' figures ranged from 33 to 90 percent, with most people saying from 70 to 80 percent in their local area. In short, most people thought the large majority of women have used SSS. Almost everyone thought that people hear about SSS only in clinics.

A CASE IN POINT

When the Facts Can't Speak for Themselves

One of the challenging aspects of the HEALTHCOM methodology is its foundation upon the consumer's perspective. Particularly in a developing country environment, this principle can be difficult to follow.

- Health policies are promulgated at the national level, but communication approaches must be based on the perspectives, preferences, and current practices of communities. These may vary greatly from region to region.
- The consumer's perspective cannot simply be determined by policy makers: it must be discovered through research. The results of this research must then guide strategy development. This approach may seem time-consuming or even threatening to non-researchers.
- Many developing countries have not systematically collected information about child survival practices and beliefs among their target audiences (primarily mothers). They have little experience doing the work or trusting the results.
- Often, when data about health practices are gathered, there is little understanding about how this information can be put to use as a basis for making decisions and setting objectives. This may be partly due to a habit of viewing data as dangerous. "Measurements" can be used to reveal "failures."

In fact, research should rather be viewed as an objective vehicle for consensus building and mutual problem solving. One of the difficult tasks of the HEALTHCOM Project has been to provide decision makers with this experience.

We then presented data from the community survey showing that only 40 percent of women have used SSS at least once. We discussed this result and reflected on why so many participants had given high figures. It was difficult for people to explain the basis for their impressions. There was some evidence that the level of knowledge of SSS and its use by LGA (district) varies widely. Thus for one or two LGA managers, an estimate of 70 percent SSS trial among local women was not far off. Most of the participants, however, had a greatly inflated view of the percentage of people in Niger State who had ever prepared SSS.

We also discussed the terms used for diarrheal disorders and for dehydration in the three main languages of the state: Hausa, Nupe, and Gwari. Participants readily

recognized the terms as the ones people use to refer to various types of illness in each of the languages. None of the participants, however, thought that knowing these terms was relevant to their task of discussing diarrheal disorders with mothers. They understood the fact that each language group had a slightly different way of recognizing and classifying the symptoms of diarrhea. Our suggestion that this information could be used to plan better educational messages was a new idea to them.

They understood the fact that each language group had a slightly different way of recognizing and classifying the symptoms of diarrhea.

As best we could, we also talked about contexts in which a group of people recognize the signs of dehydration and label it as an illness, and contexts in which people do not recognize signs of dehydration as an illness. The two contexts present rather different problems for health education related to oral rehydration. Where dehydration is already recognized, an ORT program has a logical point for beginning. Where the concept is not known, the program must decide whether to try to teach it or not as part of health education about diarrhea and ORT.[7]

Discussing Immunization

The sessions on mothers' knowledge about vaccinations showed that data can be used to change people's ideas about their own situation and that a group can then decide on specific priorities based on these research results. Because reliable population figures are not available in Nigeria and the system of reporting vaccinations is not precise, the FMOH currently does not have the capacity to calculate coverage rates. Thus it is not surprising that the participants did not have clear ideas about what immunization rates to expect in their areas.

Several people from Minna expressed surprise that total coverage rates in the state for children 12 to 23 months old were from 30 to 35 percent and that coverage rates were higher in areas served by clinics than in those served by mobile teams. We spent one session having participants explain why they thought coverage rates were low (or high) in their districts and why overall coverage for Niger State was so much higher in areas served by clinics as opposed to mobile teams. The single factor most often cited as a barrier to higher vaccination rates in areas served by mobile teams was road conditions. Sand, floods, mud, and long distances make the task of reaching the population very difficult. One or two LGAs support their mobile teams by providing petrol for trips to announce the upcoming immunization visit and for the visit itself, while the rest of the LGAs do not.

In other sessions we talked about message design. We began with a group discussion of how to study knowledge about vaccinations, noting that this research included examining mothers' knowledge about the EPI diseases, the logistics of getting vaccinated (when, where, how often, the cost), and the purpose of vaccination. If we expect women to bring their children for vaccinations, what is it they must know? We wrote out a list of more than a dozen elements the group thought constituted important information about vaccinations. We then explained the kinds of questions used in the community survey that provided measures of these elements for Niger State.

For the practical application of what we had learned, we divided the group into three teams, asking that each team discuss the three questions below and report back to the full group:

- In your district, **what do women currently know** about vaccinations?
- In your district, **what are women told** at health centers or clinics about vaccinations?
- **What must women know** so they are likely to bring their children to a clinic or health center for vaccinations?

All three teams reported that women know where to get vaccinations, know the vaccination schedule, and know the names of the EPI diseases. Two of the three teams were certain that most women know the purpose of vaccinations. All three teams reported that at health centers women are told about the immunization schedule and when to return, as well as about possible side effects of the vaccinations. Two teams said the purpose of immunization was explained as well.

The three teams varied greatly in their conclusions about what women **must** know so they are more likely to bring children to health centers for vaccination. One team decided that women must know:

- the purpose of immunization;
- where to get the vaccinations;
- the cost of the service (i.e., that it is free).

The second team decided that women must know:

- the importance of completing the doses;
- the exact time interval between vaccinations;
- the management of side effects.

The third team decided that women must know:

- the names of diseases and the associated dangers;
- the fact that vaccination can prevent these diseases;

- the age limit (i.e., that children should be vaccinated before they are two years old);
- side effects and how to respond to them.

In their previous discussions, participants had indicated they thought mothers know most of the elements listed above.

Once each group had given its report, our discussions focused on what the data showed about women's knowledge about the EPI diseases, the vaccination schedule, the purpose and the cost of vaccinations.

The survey results had shown that almost all women already knew where vaccinations could be obtained. However, the survey also showed that 15 percent of women had never heard of vaccinations and that only 34 percent knew that vaccination prevents disease. Clearly there was room for improvement here. We found that 27 percent of mothers interviewed said that the first vaccination should be given at birth or within ten days. No questions were asked about costs.

Participants recognized that most women do know about measles and some know about whooping cough, but they could not say what women know about the other EPI diseases.

They also recognized that while some women know when to come for vaccinations, the majority do not. We agreed that many women have learned why children should be immunized yet many also get their children immunized without knowing why it beneficial.

Finally, participants engaged in a long discussion about the cost of services. Some insisted that women know vaccinations are free. Others said that women do not consider vaccinations "free" because they have to pay for the health card and any medication they may be asked to buy to treat side effects. The FMOH officially states that vaccinations are free. Eventually we agreed that while no fees are charged for vaccinations as such, many people believe vaccinations are not free because of the associated costs at the health centers. Therefore, the FMOH should not assume that cost is not a factor but rather develop a way to address this concern.

We discussed the elements people **must** know to be likely to bring their children in to be immunized. After extended debate, the group chose the following critical elements:

- where to go for vaccinations;
- the cost of vaccinations;
- the purpose of vaccinations;
- the right ages for vaccinations.

By identifying certain elements as most crucial, we were not saying that others (disease names, side effects, etc.) were unimportant. Rather, given the current knowledge about vaccinations and the present system of service delivery, it would be best to begin an EPI communication effort by choosing a few items for general diffusion. That choice, however, could only be made because information about current levels of knowledge was available.

Outcome of the Discussions

On the final afternoon the group discussed what kind of strategy might be used to develop a communication plan for immunization in Niger State in view of the research results. The participants used their new understanding of the data to suggest the following outline.

Overall Goal: to increase immunization coverage.

Objectives:

- increase the number of people coming to clinics for immunization;
- reduce the rate of defaulting;
- improve communication between mothers and health workers.

Strategy:

- reorient (train) health workers;
- conduct an inventory of where village health workers and village health committees are already established;
- improve relations between health and radio personnel;
- supply research materials on EPI, ORT, family planning, and nutrition to radio personnel;
- prepare a series of radio programs and a health magazine, under the direction of one person designated to address health issues;
- enlist the support of women's associations in meeting the goals of EPI and have the LGA managers teach the leaders about those goals;
- arrange brief seminars for traditional and religious leaders to discuss the situation in their territories regarding EPI and suggest ways to improve coverage.

The rest of the workshop (two weeks) was devoted to choosing specific radio messages and actually producing them. The messages were then pretested in Kaduna in the Hausa language.

Comments

This exercise gave us the chance to hear about local conditions from local professionals and in return, to offer data on their situation. The workshop was especially valuable because of this two-way exchange of information and ideas. Both the research participants on the one hand, and the Niger State personnel on the other, had important things say to one another about SSS and vaccinations.

While the outcome of our discussions about immunization seems clear and sensible and the recommendations may prove useful to the FMOH, the experience participants had in discussing their impressions and comparing these with research results may in the long run be the most important "outcome" of the workshop. The participants shared in the process of considering the implications of research results for their own programs. They took part in a debate to select items of highest priority from a long list of facts related to the EPI program. They benefited from practice in presenting their own opinions, justifying their own choices, and then deciding together what makes the most sense.

Development projects often provide training and workshops for health personnel to upgrade individual skills or revise a strategy of service delivery. The goal of a typical session is the production of a document—implementation plan, set of ORS priorities, plans for radio programs, etc.—that will structure and guide communication and/or service activities for some time. These documents can serve as useful reminders about policy. Whether the documents actually affect performance depends on their relevance to the everyday work situation.

The only way to assure that a workshop and its product are relevant is to begin with what participants already know and recognize as important, and to focus mainly on the process of interaction rather than simply on the product. What matters most is to find ways to engage participants' thinking. If participation is genuine, then the program has a chance of success. If the only result is a written product and the participants have been involved in little else, then chances are nothing of long-term benefit has been accomplished.

If people are to plan health programs from information, they must first be given the chance to think about data and consider various priorities. They must have practice in making judgments about their programs. This workshop provided that opportunity to the personnel of Niger State.

NOTES

1. The Annenberg School for Communication is a subcontractor to the HEALTHCOM Project, carrying out evaluation research activities. For further information contact the Center for International, Health, and Development Communication, Annenberg School for Communication, University of Pennsylvania, 3620 Walnut Street, Philadelphia, PA 19104.

2. The Combatting Childhood Communicable Diseases Project (CCCD) was part of the Child Survival Initiative funded by USAID in 14 African countries and is administered by the IHPO branch of the Centers for Disease Control, Atlanta, Georgia. The project began providing technical assistance to Nigeria in 1984 and focused on improvements in immunization coverage, diarrheal disease control, and prevention/control of malaria.

3. The results of the health facilities study are presented in "Health Facilities Needs Assessment Study" by A. Voigt, M. Toole, and D. Puckett (1988), available from the CCCD Project at the Centers for Disease Control, Atlanta, Georgia.

4. The results of the community survey are presented in the HEALTHCOM field note, "Immunization Coverage in Niger State," by Judith A. McDivitt, P. Stanley Yoder, and Christopher P. Koepke (1988, unpublished).

5. See also Field Note No. 2, "Ethnomedical Research for Developmental Purposes," for a discussion of ethnomedical research on diarrhea and dehydration and implications for health communication programs.

6. HEALTHCOM activities in Nigeria subsequently focused largely on promotion of immunization because government policy regarding diarrheal disease control was in a state of flux (particularly about the use of sugar-salt-solution).

7. Annenberg/HEALTHCOM research has shown that an understanding of dehydration by a population is an important factor in the success of an oral rehydration therapy program. See also Field Note No. 7, "From Idea to Mass Media," for a discussion of how a project in the Philippines attempted to teach the idea of dehydration as the basis for a CDD program, in a context where people had no specific word for the condition.

(1988) P. Stanley Yoder is with the CIHDC, Annenberg School for Communication, University of Pennsylvania. *The author wishes to acknowledge the contribution of Annie Voigt of the A.I.D. CCCD Project, who cooperated in designing and presenting the workshop activities described in this field note.*

Part B

Strategies For Behavior Change

(Community support for immunization in Kenya)

Health communication is more than media and messages. It is a two-way process of listening to the client and designing strategies to motivate change among those at risk. Selection of appropriate communication channels—print, broadcast, interpersonal, and traditional media—and the creation of effective materials is part of the process. The first step is segmentation of audiences according to need and readiness for change as well as other factors. A phased plan speaks directly to the barriers faced by a given population and reinforces the benefits of a new practice. The challenge is to coordinate messages and activities for different audiences so that policymakers, health workers, local leaders, and trusted networks all influence a change in community norms. An effective plan synchronizes demand creation with efforts to improve service delivery, requiring cooperation among diverse parts of the health bureaucracy.

Strategies For Behavior Change

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7 From Idea to Mass Media: Teaching Mothers the Concept of Dehydration
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8 The Use of Integrated Media for Vitamin A Capsule Social Marketing Activities in Central Java, Indonesia
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9 Launching a Social Marketing Project for Immunization in Metro Manila
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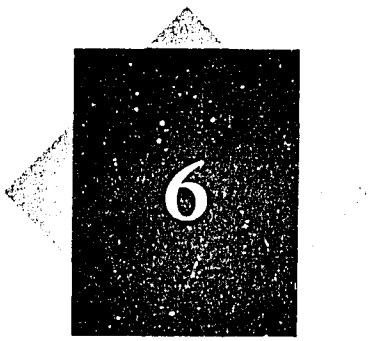
José Rafael S. Hernandez
Renata Seidel
Carmencita N. Reodica



Breastfeeding Practices in Jordan:

Designing Effective Messages

Anne H. Roberts
Renata Seidel

THE CULTURAL CONTEXT

Jordan, site of HEALTHCOM's first project in the Arab world, provides an interesting combination of a traditional, religious society in a relatively developed country. Jordan has high income and educational levels, a relatively effective social services infrastructure, and low infant mortality rate (42 per 1000 live births in 1989).[1] In spite of the increasingly "modern" life-style of much of the population, cultural sensitivities and traditions remain strong. A heavy emphasis on family values and roles and relatively conservative social views are supported by both religion (Islam and Christianity) and the political structure.

What happens in Jordan with regard to various child and family health issues may therefore supply useful insights for other developing areas as they go through similar transitions.

A.I.D.'s Communication for Child Survival, or HEALTHCOM Project, was initiated in Jordan in mid-1987. The Noor Al Hussein Foundation, founded by Her Majesty the Queen, implemented the two-year program in collaboration with the Academy for Educational Development and a number of cooperating organizations: the Ministry of Health, the United Nations Relief and Works Agency (UNRWA), Save the Children, Catholic Relief Services, and several local universities.

The project focused on interventions in two areas heavily influenced by family traditions and by political, religious, and personal sensitivities: effective breastfeeding and child spacing. Both interventions were to be presented under the umbrella theme, "For the health of the mother and the child."

PROMOTING "WHAT COMES NATURALLY"

The original focus of the Jordan project was to be child spacing, with a lesser emphasis on breastfeeding. Jordan has one of the shortest intervals between births in the world despite high education and economic levels—factors usually associated with longer birth intervals. It was felt that lengthening the average interval between births would provide substantial improvement in child and maternal health. Breastfeeding was seen as a natural form of child spacing that might be more acceptable to the traditional society and more accessible to women beyond the reach of contraceptive services. The consensus was that breastfeeding was popular and widely practiced but that the duration was growing shorter. It was felt that the problem was minor and would be addressed relatively easily by promoting the benefits of extended breastfeeding.

Upon closer study, however, we found the breastfeeding situation more complex than expected. Harmful practices had crept into the behavior of mothers and recommendations of health care workers. The same practices that help mothers breastfeed successfully—early initiation, frequent, exclusive, and on-demand feeding—provide very reliable protection against pregnancy for the first six months. The newly emerging pattern of late initiation and early supplementation provides neither the contraceptive benefits women traditionally expected nor the protection from infection needed by the child. Jordan's

unexpectedly short birth interval was in part related, we believed, to these changes in breastfeeding practices.

We therefore decided to include in our breastfeeding promotion information and encouragement needed for those behaviors that would help mothers succeed at breastfeeding. This meant understanding a number of interrelated behaviors within a sensitive cultural and communal context. As the complexity and importance of the issue became clear, breastfeeding became the principal intervention for the project.

This field note presents a summary of our breastfeeding communication program in Jordan, beginning with background research and ending with issues to be considered in the future. We followed a systematic model in planning and conducting the project: 1) formative research; 2) audience segmentation; 3) message planning; 4) consensus building in the medical community; 5) materials design and pretesting; 5) media launch; and 6) program monitoring.

Less Than Perfect Practices

Because breastfeeding involves a complicated set of skills and behaviors and because a mother's choice and even ability to breastfeed can be profoundly affected by social and cultural factors, we conducted extensive research with our target audiences before planning any aspect of our intervention.

We began with a review of local literature. Among the most important studies that had already been conducted were the Jordan Child Health Study of 1987 (Ministry of Social Development) and the Jordan Fertility and Family Health Survey of 1983 (Department of Statistics and the U.S. Centers for Disease Control), two large-scale national studies. We also looked at data from Arab World Fertility Studies ranging from 1976 to 1981 and a Higher Institute of Nursing Hospital Survey in 1989.

Generally positive attitudes in Jordan towards breastfeeding overlay a serious deficiency in skills and knowledge.

The available research quickly convinced us that generally positive attitudes in Jordan towards breastfeeding overlay a serious deficiency in skills and knowledge. Although the evidence suggested most children were in fact breastfed at some time, many practices made it difficult for the mother to continue breastfeeding as long as she would like. Moreover, correct community knowledge (among family, friends, and health care providers) that can support new mothers or those facing new problems, was also lacking.

The studies revealed several serious problems: the practice of giving supplements before initiating breastfeeding, a shortened period of exclusive breastfeeding, low frequency of feeding, and sudden weaning. The data showed that 73 percent of mothers were giving supplements before initiating breastfeeding. In rural areas 55 percent, and in urban areas 48 percent of mothers waited to initiate breastfeeding until the second day; 18 percent waited from two to seven days. Glucose water was given most often (65 percent) as a supplement, but various teas, coffee, ground almond and sugar, and castor oil were also mentioned.

Most mothers (92.8 percent) were aware of a special value in the first milk, or colostrum, despite their practices of delayed feeding and prelacteal supplements. The small urban/rural variation indicated that traditional midwives as well as hospitals were supporting prelacteal feeds. These practices have been shown to interfere with a child's receiving the special benefits of colostrum and with establishing breastfeeding properly.

Data from Arab countries comparing the average duration of exclusive breastfeeding showed a range of from 6.7 months in Sudan to 10.6 in Egypt. However, the average in Jordan was only 3 months, with almost half of children receiving supplements by the third month. Of those introducing milk substitutes, 88 percent used a bottle—a practice that undermines the acceptability of the breast to the child, and because of the difficulty in cleaning, has been shown to increase the incidence of illness. The most common reasons given for introducing supplements were lack of milk or weakness of milk and/or mother. These conditions may have been the result of poor breastfeeding practices, although it is also possible that "lack of milk" was a socially acceptable camouflage for other reasons including commitment costs of time and energy.

While 6 to 12 feedings a day is now thought necessary for breastfeeding to provide contraceptive protection to the mother, the studies showed that in Jordan the average was only 7.8 times per day in the first three months, and fewer after that. One study suggested that low frequency could be related to the early supplementation practices. With supplementation dulling the child's hunger, suckling can become less intense as well as less frequent.

Most respondents said that they did not wean a child suddenly. However, the methods they reported using (such as sending the child away, using unpleasant substances on the breast, or shaming the child) seemed in fact to be techniques for abrupt weaning.

Thus, although there has been a perception that breastfeeding is common in Jordan, actual behaviors have in fact endangered the critical child health benefits of

breastfeeding. Moreover, breastfeeding has long been relied upon in Jordan for child spacing and as traditionally practiced probably did provide greater protection. The prevailing practices could not have been better designed to undermine contraceptive protection, leaving women vulnerable to short interval pregnancies in a society where other options are neither easily available nor acceptable.

Behavior as a Reflection of Beliefs, Values, and Influences

The literature review convinced us of the need to gain a better understanding of what Jordanian mothers believed and felt about breastfeeding as well as how those around them—primarily health care workers—influenced their practices. We planned a formative research program that consisted of both quantitative and qualitative studies, including:

- Interviews with key informants with experience working with mothers on breastfeeding or child feeding issues. In particular, we tried to find projects that take a client-centered or community development approach.
- Individual interviews with 144 mothers, fathers, in-laws, community leaders, and health providers to explore the beliefs and values that surround breastfeeding and determine what information and influence mothers were receiving from others.
- Four focus groups with six to ten mothers each and 20 individual interviews with mothers to learn about their beliefs and practices with respect to breastfeeding. This research focused on inconsistencies and constraints identified in earlier research.
- A survey of 930 urban and rural women (each with a child under two years old) to study knowledge, attitudes, and practices related to breastfeeding and child spacing, sources of information on these subjects, media use, and demographic characteristics. The study also included 33 in-depth interviews with mothers.

The quantitative survey was conducted by the Annenberg School for Communication, University of Pennsylvania (HEALTHCOM subcontractor),[2] with assistance from Yarmouk University and the Jordanian Department of Statistics. Although the survey was designed chiefly as a baseline against which to measure eventual program effects, some results were available immediately and we were able to use the information for formative purposes.

A Positive Foundation

The baseline study confirmed the common perception that "women in Jordan breastfeed their children." A majority of women surveyed (91 percent) breastfed their children at some time. This practice is supported by broad positive views in the society about breastfeeding. All of the health care workers and mothers we interviewed in the qualitative studies asserted the importance of breastfeeding and breast milk. Moreover, society and religion extol the breastfeeding mother. Women want to breastfeed their children and associate the practice with feelings of tenderness and creation of a lifetime bond.

Society and religion extol the breastfeeding mother.

We found some evidence that early supplementation of breast milk was more likely among urban, better educated, and wealthier women. We speculated that these mothers may experience social pressures to be "modern" and to use supplements such as formula. In fact, our survey found that less than ten percent of women were working, so pressures of employment were not likely to be the reason. We did find strong links among most mothers between their levels of knowledge about breastfeeding and their actual practices. We also found evidence that negative practices were associated with the influence of health care providers and certain locations in which mothers gave birth. These links provided clear directions for our message strategies.

Obstacles to Early Initiation

The Annenberg baseline study confirmed the results of other surveys showing a pattern of delayed breastfeeding initiation. Among our sample, only 68 percent of women reported beginning breastfeeding on the day of the child's birth and only 38 percent within the first six hours.

We discovered considerable confusion about colostrum. According to results of our focus groups, many women and health care providers understood the importance of colostrum, *laban ilaba*, in providing the child with nutrition and protection against disease. (The term is familiar for other reasons too, because the first milk of a goat or cow is reputed to produce the best cheese.) However, many women also believed that this milk does not arrive or let down for several days. When mothers were asked when they gave the colostrum, some said after two days. Hospital staff stated that immediate breastfeeding helps to contract the uterus and encourages bonding but also said that glucose is given in the first days because there is no milk.

Mothers and some health care providers stated that glucose or other fluids are needed to "cleanse the infants' intestines and bowels," and some believed that glucose is needed to provide nutrition until the mother has the

"good milk.." Mothers reported hearing this from a variety of sources—older women, traditional midwives, and in some cases health care professionals.

Women who were familiar with the concept and value of colostrum spoke of their knowledge with pride as something they received from "older women," from "family heritage," or from a mother-in-law who had "ten successors." Some said simply, "We Arabs know." This knowledge seemed traditional rather than modern, contradicting the prevailing view that use of prelacteal feeds and delayed initiation are old village customs.

Although most of the women in our survey said a baby should begin breastfeeding within the first 24 hours of birth, some of the same women did not follow this rule. Some mothers who did not initiate early said they knew the importance of doing so but that they were "tired" or "feeling poorly" after delivery, and another caretaker (midwife, mother-in-law, physician, nurse) took the infant and gave it glucose, etc., until the mother was rested. Women who knew that nursing helps them recover at birth knew this from their own experience, not because it was general knowledge or because they had been told. Informants with field experience told us that many nurses, midwives, and traditional birth attendants (TBAs) did not accept or know of this benefit of early initiation.

We found evidence that hospital practices and health provider attitudes may be significant constraints on a mother's behaviors. A 1989 survey of six larger capital hospitals showed that all gave glucose, often even after the mother had started nursing. Only one hospital permitted nursing in the delivery room.

We found evidence that hospital practices and health provider attitudes may be significant constraints on a mother's behaviors.

Other practices that can interfere with the mother's ability to initiate early, including routinely giving enemas, withholding food and liquids from mothers, and using intravenous therapy, were common to almost all hospitals and in most cases were obligatory.

In the baseline study, location of a child's birth was associated with delayed initiation of breastfeeding: 83 percent of those who gave birth in a private hospital initiated seven or more hours after the birth; 57 percent of those who gave birth in a public hospital did so. However, evidence was strong that traditional midwives and family members were equally committed to prelacteal feeds.

Reasons for Early Supplementation

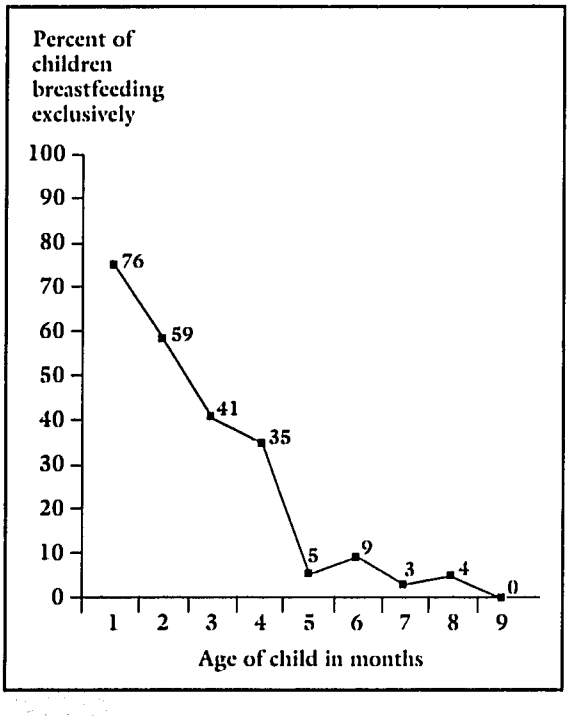
The baseline study showed that a majority of children who were breastfed at the time of the survey had received some kind of supplements before four months of age. Figure 6-1 shows the precipitous drop in exclusive breastfeeding among Jordanian children in their first months of life.

In our qualitative studies, mothers said they supplemented their breast milk in early months because they "did not have enough milk" or the baby "was not growing bigger." Size and growth of child and strength (of milk, mother, or child) were mentioned frequently. In addition, interviews with mothers indicated that they were heavily affected by the opinions of others (family members, friends, and health care providers) about when to begin supplementing breast milk.

Our studies with health care providers revealed that if a mother felt her milk was not enough, they would recommend she give supplements. Many health providers believed that a child needs water in addition to breast milk and needs vitamin C in the second month or iron in the first three months.

FIGURE 6-1

Percent of ever-breastfed babies in Jordan reported breastfeeding exclusively at different ages (1988)



(N = 910)

Source: CIHDC

The baseline survey showed a clear connection between knowledge about the correct time to begin supplementation and correct practice. This connection was not clear for women of high socioeconomic status, however. We were therefore confident that an intervention to increase knowledge about supplementation would have an effect upon behavior but perhaps only among certain groups of women.

Difficulties in Increasing Milk

Dr. Derek and Professor Patrice Jelliffe, international specialists in infant nutrition, have identified two principle determinants in unintended weaning.[3] These are a lack of rest and relaxation for the mother and a failure to understand the principles of demand and supply in breastfeeding. Jordanian women of all areas and backgrounds seemed unfamiliar with the idea that an infant's increasing need is the result of his or her growth rather than a failure/lessening of the mother's milk. They were also uncertain of ways to increase their milk.

Health care providers do not routinely counsel mothers on their potential for increasing milk or in techniques for doing so and are often unaware that this is possible. The combination of poor techniques and poor advice undermines mothers' efforts.

When women in the baseline study were asked whether there was anything they could do to increase their milk, 14 percent said there was nothing they could do. Of those who thought something could be done, only seven percent mentioned breastfeeding more often. However, in focus groups, mothers who had breastfed exclusively for four to six months knew that increased feeding and food, liquids, and rest for themselves were essential to increasing milk. They stated that, "When you give one portion to your child, another comes to take its place." Mothers who supplemented early did not make this connection.

We initially speculated that two other factors might be responsible for a mother's milk drying up and leading her to supplement breast milk: 1) she might not know that a child should be breastfed on demand rather than according to a schedule; and 2) she might not know that breastfeeding should be continued when a child has diarrhea or other illnesses. However, the baseline study showed that neither of these areas were problems.

Mothers in focus groups were well aware of the emotional benefits of breastfeeding, saying it establishes a "bond that lasts forever." However, the same women who valued the closeness of breastfeeding explained that they supplemented because their milk was inadequate. Increasing milk flow through increased and intensified suckling requires confidence in the outcome. Many mothers in Jordan have had the experience of milk failure, so they need both information and assurances to counter these experiences.

Identifying Audiences and Strategies

The mother's environment during the early months of her child's life is one of complex influences. During what is a vulnerable time for her, she may receive advice from a physician, a nurse, a midwife or other health care provider, from female relatives (especially her mother and mother-in-law), from her friends and neighbors. She is affected by the views and needs of her husband and other children. To reach the mother effectively, she must be addressed within the context of this community.

Because the mother is particularly reliant upon the advice of health care providers—and because our research showed that this advice was not always accurate or supportive—we also planned special activities to increase awareness among the medical community.

Selecting Target Messages

Based on our findings we selected five important behaviors that Jordanian mothers did not adequately understand and that health care providers seemed not to support. Our basic messages were to:

- Take advantage of colostrum by initiating breastfeeding in the first hours after an infant's birth.
- Avoid all liquids other than breast milk—including glucose, water, and teas—in the period immediately after birth.
- Increase milk by breastfeeding whenever the infant is hungry rather than on schedule and by assuring adequate food and liquid for the mother.
- Delay all supplements including milk products and juices during the first four months of the infant's life.
- Use correct weaning practices, including gradual weaning and appropriate introduction of complementary foods, and delay complete weaning for as long as possible (up to two years).

In addition, we developed a comprehensive list of ten points covering a more complete range of breastfeeding skills/behaviors. (See box.) These "ten golden rules of breastfeeding" served as a foundation for discussions with the medical community and the press.

Seminar for the Medical Community

Although it was not part of our mandate to provide training or information to the medical community nor did we have funds for these activities, we knew that health worker support would be vital to the success of our intervention with mothers. We therefore decided to carry out one important event to increase interest and consensus at

A CASE IN POINT

JORDAN'S TEN GOLDEN RULES OF BREASTFEEDING

1. Begin breastfeeding immediately after the child's birth. The yellow milk present at birth is the colostrum, which contains special nutrition for your child. This first milk is like a vaccination; it provides immunization against disease and is the best way to cleanse the baby's stomach. Giving this milk immediately at birth also helps to relieve the mother and help her recover after delivery. The earlier you begin to breastfeed, the easier it will be for you to breastfeed well later. Starting to breastfeed at birth has also been shown to create a special closeness between mother and child.

2. Feed the baby often during the first days and weeks after birth. Starting breastfeeding by feeding the baby every one-and-a-half to three hours will help your milk to flow and help prevent many problems such as engorgement or sore, cracked, or infected nipples.

3. Increase your milk when the baby needs more by increasing the number of times you breastfeed and the amount of time you let the baby nurse each time. Every two or three weeks during the first months, your child will start to need more milk because he is growing. This is a good sign and means he or she is growing well, but it may make you feel you no longer have enough milk. If you let the baby suckle more often, your body will know it is time to produce more milk. If you nurse until the baby is content every one or two hours for one or two days, your milk will increase to meet his needs. You must be confident that this will happen. The next time he needs more milk you only have to increase the amount of suckling again. Each time you do this it becomes easier.

4. Avoid bottles or other supplementary foods until your child is four months old. A child cannot really digest solid foods until he or she is four months or older. Giving these foods or bottles with liquids will only make him less hungry when he sucks from your breast and make it harder for you to increase your milk. No other food is as good for him as breast milk during this time. Babies who are fed only on breast milk for four months will be healthier and grow better than those who are given other milks or foods.

5. Use both breasts each time you feed your child and continue to feed him or her at night as long as possible. You can produce more milk and avoid problems such as engorgement and breast infections if you let the baby empty each breast each time he feeds and if you let him breastfeed at night if he is hungry.

6. You will breastfeed better if you are not too tired and if you are peaceful when you breastfeed. Try not to become too exhausted especially during the first 40 days when you are still getting started at breastfeeding and recovering from the delivery. Our culture wisely makes this a special time for rest and caring for your child. When you breastfeed find a quiet place or lie down with the baby so you both can be relaxed and enjoy the special closeness of breastfeeding.

7. Avoid rushed or "snack" feeds. If you breastfeed in a hurry you will leave your baby hungry. He will not have a chance to empty your breasts to keep your milk production coming, and he will still be hungry. Breastfeeding takes time and patience each time.

8. You need extra good food and liquids to breastfeed well. Drink about twice as much liquid as you usually do and eat one and a half times the amount you did before you were pregnant. Choose nutritious foods and liquids. For example, drink juice or water rather than tea or soft drinks.

9. Wean gradually and late. When you start to give complementary foods after four months, always breastfeed first. You are adding these foods to breast milk, not substituting them for it. Breast milk is still the best food for your child, even though he or she needs extra food now. Gradually add more food until the child is easily able to give up breastfeeding. Abrupt weaning can cause illness and emotional problems for your child and should be avoided whenever possible.

10. Feed your baby when he or she is hungry rather than on a schedule. Nature has the best system for breastfeeding babies. God gave the mother feelings to know when her child is hungry. This is the only schedule you need to worry about.

the policy level. This was a two-day National Seminar on Breastfeeding for Health Care Professionals, developed with the support of A.I.D.'s Nutrition Communication Project. The extensive research conducted in planning our project proved interesting to two leading international infant nutrition specialists (Dr. Derek and Professor Patrice Jelliffe) who agreed to lead the seminar. Her Majesty Queen Noor, founder and patron of the HEALTHCOM Project's collaborating organization, attended and sponsored the national breastfeeding seminar. These dignitaries gave the event enormous prestige, and we were able to attract 130 high-level health care pro-

fessionals and influential community, religious, and media professionals.

We positioned the conference as a discussion of cutting-edge research on breastfeeding in Jordan. We knew that one of our tasks was to elevate breastfeeding in the minds of our audience to an intervention deserving the attention of the medical profession. We also wanted to motivate them to take an active role in counseling. Up until now, there has been little role in Jordan for the physician in preventive medicine or patient education. Health care providers often held the belief that successful breastfeeding comes naturally to women and counseling is therefore unnecessary.

HEALTHCOM's list of basic messages became the focal point of discussion. At the end of the seminar, the group adopted the proposed messages in the form of National Recommendations for Breastfeeding Policies. That provided our efforts with a valuable stamp of scientific and political validity.

Formation of a Technical Committee

We opened the planning of the Seminar to local pediatric and obstetric organizations as well as the Ministry of Health through formation of a technical advisory committee. The committee developed the agenda, participant list, speakers, and the final recommendations. This group included representatives of the Medical and Public Health Schools, Schools of Communication, directors of the Ministry of Health's Departments of MCH, Primary Health Services, and Health Education, the head of pediatrics at the largest public hospital, instructors from the Higher Institute of Nurse Training, and medical association members.

Later, we continued to work with this ad hoc committee in order to involve policy and decision makers in our process as well as provide technical input into our messages. They reviewed our communication strategy and television and radio messages. We were able to share studies on international standards, to enlist their support of our messages, and avoid controversy over what were often relatively new (to this audience) approaches to breastfeeding practice.

Dissemination to Opinion Leaders

We were concerned that our messages be received in a positive atmosphere by the general public. Before launching the campaign, the Foundation held a press briefing for heads of family and health programming at local radio and television stations, for press and print media, and for political and religious community leaders.

Press packets included information on the relationship of breastfeeding to infant health, the "new" science of breastfeeding, and the breastfeeding problems we had discovered during our research. Recipients of our packets subsequently prepared a number of special articles for print and broadcast. The producer of the popular national TV health program adopted our ten golden rules as his norm and insisted that all participants discussing breastfeeding follow these guidelines.

Mothers and Media Messages

Our developmental research included an investigation into media prevalence in our target audiences. In the Annenberg baseline survey, we learned that 93 percent of households studied owned televisions and 86 percent had radios. These media were therefore obvious choices for reaching mothers. The Ministry of Health also agreed to revise the breastfeeding materials displayed in health centers. Their new graphics will advocate delaying supplementation until a child is four months old (rather than the currently recommended two months). The graphic will be printed on a large clinic-size poster and on a flyer for mothers to take home. Information will include expected weight gain and development stages of the child, as well as monthly feeding recommendations.

The Ministry of Health also agreed to revise the breastfeeding materials displayed in health centers.

Face-to-face counseling for mothers, improvement in health worker training, and community support for breastfeeding are also vital components of a successful breastfeeding program. Because of HEALTHCOM's limited resources and short duration (16 months), we were unable to focus on health worker training. However, the project consistently sought collaboration with other agencies involved in training and face-to-face counseling.

Creating as a Group

Because the HEALTHCOM staff was small and because we wanted to follow approaches that could be sustained after project end, we relied on a creative team to help with message development. Team members were identified during an early Message Development Workshop.[4] Representatives of all organizations working in health and private communications were invited, and those who showed the most enthusiasm and talent for our approach were enlisted for subsequent activities. Attendees included staff of the production company eventually selected for our campaign.

The process of designing actual messages began with discussions among some of our collaborating organizations. In particular, we met with UNRWA nutrition counselors working with low income women, with nutrition staff of Save the Children, and staff of the Higher Institute for Nurse Training. At that time, the Institute was in the process of reviewing breastfeeding practices as part of their midwife training curriculum.

Emphasis on Broadcast

Our creative team met to plan the basic broadcast design—number of spots and distribution of themes, sequencing of messages, length of spots, and integration of media.

For our broadcast strategy we decided on a two-pronged approach: 1) television spots that were appealing and motivational and that covered the essential messages and clear benefits of the suggested practices; 2) radio messages with the greater detail needed by mothers to carry out the new behaviors successfully. Radio spots would also address prevention and management of common problems such as the question of breastfeeding during illness of the mother or child, engorgement, sore nipples, etc.

We decided that the radio and television campaign would cover an initial three-month period, with two television and three radio spots each day. The spots were designed in chronological order—that is, beginning with birth through the fourth month, but with several summative spots reviewing all of the main messages.

After monitoring audience exposure, comprehension, and acceptance of the messages, we planned to air a second series of messages including new ones to clarify information as necessary. This wave was to cover approximately six additional weeks.

Tone, Mood, and Information

Because our focus groups confirmed that Jordanians generally value breastfeeding and the bond it creates, we aimed beyond a mere awareness campaign at a vigorous presentation of information and correct practices. It was our sense that women wanted to breastfeed, were eager to do it better, and were hungry for information that would help them if the "price" were not too high. We planned messages that were as detailed as possible given the media we had chosen.

We knew that some of our recommendations would seem difficult and potentially challenging to mothers. We therefore selected credible sources for our messages and created environments that suggested community support—both familial and religious. In addition, we knew from our research that the best tone for our messages would be one reflecting the emotional bond created by breastfeeding.

Our aesthetic approach was heavily determined by the sensitivities of our audience. Whereas our words could be explicit, our images were subtle. We portrayed a range of women breastfeeding—rural, urban, modern, wealthy, conservative, poor. However, all of them were presented with absolute modesty. The power of our messages was often conveyed through the expression on a child or a mother's face, or the small gestures which convey the bond between mother and child. Although our mothers were often actresses, the infants were always their own.

Although several spots used professional actresses, the babies were their own and the shots were always modest.

Our aesthetic approach was heavily determined by the sensitivities of our audience.

Learning by Doing

The team agreed on the tone, appeals, and recommended actions for the messages. The production team then wrote scripts, which were reviewed and revised. Tapes were made of the scripts for pretesting, and each was revised several times as a result of the pretests.

Television storyboards proved difficult. The original drafts were too elaborate for easy revision and were soon left hopelessly behind by the revised scripts. Rather than having new frame-by-frame storyboards done, we had the artist produce drawings of women from various ethnic and income groups, with different clothes, room interiors, and relationships to their infants. One complication was that the artist was under subcontract to the production team and required money up front, while the production team was more willing to wait for delayed payment through our project mechanisms.

Our audience preferred dramas to other formats, but competent actors in Jordan are few, busy, and costly. We therefore planned only one drama and otherwise used a series of stills with voice-over or "women in the street" interviews.

We had other problems with the script writers and producers. They wanted to show only the most opulent interiors and clothing and the most Western life-styles because this is what they felt sold other products (chocolates, perfumes, etc.) Generating vocabularies and images that were consistent with our research findings was not easy.

To improve the skills of local writers, we organized a Scriptwriters Workshop for 21 scriptwriters and producers from radio and television, health educators from the MOH, and various PVOs, UNRWA, and UNFPA.[5] The hands-on practical session proved an eye-opener in a country where writers and producers are self-taught or learn on the job. Few if any have had any professional training. Scriptwriting is a "gift of God," one prominent media writer had explained, not a skill one can improve. Private sector participation increased in the final days as word spread.

Unfortunately, and for non-program reasons, our production team did not attend the workshop although it had been designed with them in mind.

Pretesting Process

Because our messages were complex and our topic sensitive, pretesting was a crucial step in the design of both television and radio spots. We tested the spots with three audience segments: urban, rural, and refugee women in the south, central, and northern regions. Our participants were women who had at least one child or were expecting their first. We sought women who had breastfed their children as well as those who had not. We hired female discussion leaders from a local university who had assisted in conducting interviews during our baseline survey. It was a great advantage to us that these facilitators were already familiar with the subject of our intervention. In addition, several organizations assisted us in organizing groups to test the messages. The Ministry of Health set up groups in the urban and rural areas and UNRWA organized groups in several refugee camps. Catholic Relief Agency set up groups in rural and Save the Children in urban areas. Pretesting extended over several months and involved approximately 27 groups.

We held initial one-day training sessions for our facilitators and representatives of organizations that set up the groups. Due in large part to their earlier training for quantitative surveys or other work, the facilitators had difficulty managing group dynamics and playing nondirective roles. We monitored them closely and held follow-up discussions after each field visit. We developed a structured, generic focus group guide asking about credibility, clarity, and acceptability of messages and including a special section relevant to each set of draft messages. We discussed anticipated problems or misunderstandings for each of the messages and were able to highlight specific words, phrases, images, etc., that we feared might be difficult to understand or accept. After the first cycle of research, we were able to arrange more comprehensive training in a formal workshop.[6]

We initially conducted three focus groups with each audience segment to pretest the song and the nine messages. Extra groups were scheduled as needed. TV spots were pretested with storyboards and cassettes and final versions with videos. Radio tests used cassettes.

Television Strategy

One central element of our broadcast strategy was a theme song to introduce each television and radio spot. Many busy mothers have the television on without paying much attention and we wanted to create a memorable signature tune that would get their attention. We wanted something upbeat—a good mood setter for behavior change messages. Our song emphasized the range of benefits to a breastfed child and was produced in traditional Arab musical style.

A Mother's Milk is Health, Strength, and Immunity

Mother's milk is the symbol of well being;
Your infant's health is the most beautiful smile;
Mother's milk is health, strength, and immunity.
Let your milk with breastfeeding
Make the child's body grow and give immunity.
Mother's milk is health, strength, and immunity,
health, strength, and immunity.

Pretesting with focus groups showed that women liked the music and the words, which made them feel good about being mothers. They said the song would "bring them from the kitchen" when they heard it, and that their children would learn to sing it. We originally included the phrase, "feed your baby all the time," but this sounded exhausting to the women and our substitute phrase "each hour" suggested "on schedule," so we left out this additional message.

Television Spot No. 1

Our first television spot consisted only of the song accompanied by brief but tender images of women from a variety of backgrounds holding their babies. A few shots show a mother breastfeeding but she is always well covered and only the child's face and the mother's hand, for example, appear on the screen. The spot freezes with the words, "Breastfeeding is best." All succeeding television spots begin with the music of this song and images of infants.

Television Spot No. 2

The second television spot began our chronological presentation of messages. It shows a pregnant woman visiting the health center and talking to her physician (a woman). The physician gives her a pamphlet to read on breastfeeding. A female narrator says:

> *Are you pregnant? Start preparing to breastfeed now. Consult your doctor or the Ministry of Health Center to provide you with the correct information.*

The spot freezes on the woman with her pamphlet and the words, "Breastfeeding is best."

Television Spot No. 3

This spot emphasized care of the mother during and after pregnancy for effective breastfeeding. It shows a woman and her husband sitting at the table with a variety of affordable, nutritious foods. The man offers his wife something special. The young son puts his arm around her. The narrator (a man) says:

> *Taking good care of the pregnant mother, along with good nutrition, is essential for a successful pregnancy. Taking good care of the mother after childbirth provides her the strength she needs to breastfeed her newborn baby. Nutritious food and liquids increase the mother's milk and help her to continue breastfeeding her baby for the longest period possible.*
>
> *The pregnant mother and the breastfeeding mother deserve all the care we can provide them.*

The spot has two target audiences—the mother and those who are closest to her during and after pregnancy. It clearly shows the perspective of the family, especially the male members, and conveys the importance of their role in caring for the mother. However, it also includes the important message, "helping her to continue breastfeeding for the longest period possible."

Discussions about this spot centered on two issues. The first of these was the specific foods we would show. The point was not to suggest special food so much as special attention. Although most Jordanian women know increased nutrition and liquids help, there is a strong feeling that mothers deny themselves in favor of their families. The diet in Jordan is generally excellent and well balanced. We wanted to show nutritious food that people could afford. Although much information provided by local agencies includes Western (and unrealistic for the country) recommendations for meat, milk, and fish protein, we showed women eating popular low-cost proteins such as lentils, beans, and rice. We stressed "nutritious liquids" to contrast with the newly popular carbonated drinks.

Our second issue had to do with the importance of "rest after child birth." Our research had shown that few mothers understood the role of rest in increasing their milk. We had lengthy debates about the amount of work done by women in the home and whether it was possible for them to reduce this load or if a message to do so would merely add to their guilt. The message was finally dropped in favor of the more generic but firm advice to "care" for mothers.

Television Spot No. 4

The next television spot showed a woman who has just delivered her child. A nurse weighs the baby and gives it immediately to the happy mother. The narrator says:

> *Breastfeed your baby colostrum milk during the first hours after child birth. It is nutritious and healthy, cleans your baby's stomach, and gives him immunity. Breastfeed your baby colostrum milk.*

Our message about the importance of eating nutritious foods emphasized the support of male family members.

We showed two spots on the reasons for initiating breastfeeding immediately after delivery.

Our draft script for this spot read, "Breastfeed your baby colostrum milk immediately." Pretesting revealed that mothers did not understand this to mean in the first few hours after birth, so we made it explicit. Pretesting also revealed some confusion about the "yellow milk" that was thought not to be colostrum and about the empty feeling mothers had in their breasts at a child's birth. We decided these two points would be addressed in the radio messages.

Television Spot No. 5

The fifth spot used the same film as the fourth but the message emphasizes benefits to the mother in initiating breastfeeding immediately. We had found that the most common reason for not starting at once was that the mother was "tired." We therefore presented a special message about breastfeeding helping a mother's recovery:

> *Colostrum is the best start for a newborn's life. It increases your milk supply and relaxes you after childbirth.*

The spot, like the previous one, ends with a freeze frame on the woman with her child and the text, "Breastfeed your baby colostrum milk." Initially we thought all of the benefits of colostrum and early initiation could be included in one spot; however, we decided the viewer would focus on just one beneficiary if we did so.

Television Spot No. 6

This spot is one of the central messages of the intervention: "Your milk alone is sufficient for your baby until the end of the fourth month." It opens with a baby lying in a crib. The narrator says:

> *Your baby has not reached the end of his fourth month yet. He needs your breast milk. There is no need for any other food or drink.*

The scene then shifts to a mother in the kitchen stirring something in a little dish. She looks up at the camera and the female narrator says: "Remember, your milk alone is all that your baby will need to grow normally, up until the end of his fourth month." The mother then goes and picks up the child from the crib and begins to breastfeed. The narrator says, "Breastfeed him, breastfeeding is best..."

Pretesting showed that mothers consistently understood our draft phrase "no other food" to mean solids and not formulas, milk products, or juices. However milk and juice supplementation are extremely common and often recommended by health professionals. We therefore changed the phrase to "any other food or drink."

Television Spot No. 7

It was important for us to follow spot number 6 with messages about how a mother could continue to breastfeed her baby as he or she grows and needs more milk. We needed to counter the common idea that a growing infant eventually needs more than the woman can supply. The spot opens with the image of a woman breastfeeding. The narrator (a woman) says: "The more you breastfeed your baby, the more your milk supply will increase." Succeeding images show women consuming nutritious foods and drinks. The narrator says:

> *In order to increase your milk supply, drink more nutritious liquids and eat more healthy foods. Breastfeed your baby more often because increased breastfeeding will increase your milk supply.*

It ends with the images of four women on a split screen, illustrating different ways to increase milk supply. The last message we showed was the one our research indicated women were least aware of: "the more you breastfeed your baby, the more your milk supply will increase."

We needed to counter the common idea that a growing infant eventually needs more milk than the woman can supply.

We initially included a message to "rest after delivery," but pretesting showed that this interfered with another important message, to "begin breastfeeding immediately." Mothers thought the spot meant they should rest two days, two weeks, etc., after childbirth, and let someone else take care of the infant. We therefore deleted the message.

Television Spot No. 8

We decided to create one spot as a review of the different messages and also to emphasize that women of all kinds (whether conservative or modern, wealthy or poor) value breastfeeding and practice it. The spot provides testimonials in colloquial language. Four women say briefly what they value about breastfeeding. The first woman is shown in the olive grove where she is working. The next woman is quite modern, the next two more traditional, and one is a Palestinian refugee. Two of them have their babies on their laps and the camera focuses on their happy faces. The spot ends with a male physician who speaks into the camera and says a woman should breastfeed her child for the longest time possible. We thought the voice of a physician would add credibility to the opinions of the mothers. The camera freezes on the image of a smiling baby, and the narrator says, "Mother's milk is health, nutrition, and immunity."

Television Spot No. 9

Our longest spot was a mini-drama with a woman and her mother. We created it to address women's fears that they cannot satisfy a growing infant's needs with breast milk alone. Our survey had shown that women did not understand how to increase milk or the importance of doing so. We sought a way to reinforce these facts through a voice that is both authoritative and supportive.

The spot opens with a young mother and her baby boy sitting in a living room with the grandmother. The older woman compliments her daughter on the child's health and her breastfeeding him. She also provides encouragement and advice: that her milk will increase the more she breastfeeds, that she should eat right, and that she should breastfeed on demand. (See box.) The mini-drama ends with a freeze of the mother and child and the words, "Breastfeed your baby whenever he demands."

This television spot, like number 3, really has two target audiences—young mothers and the older women who influence them. While we hoped to change practices among the mothers themselves, we also hoped to affect the advice given to them by their support networks. An older woman who has the opportunity to share information and encouragement with a younger one might see herself in this spot and gain confidence in her own views and experience. This spot originally involved three generations (great-grandmother, grandmother, and mother) but pretests showed it was too confusing.

Television Spot No. 10

This short spot focused on the ultimate voice of authority behind the importance of breastfeeding. It used no actors—only the deep, dignified voice of a male narrator. The spot opens with a close-up of the Koran. A man's hand opens the book, and a voice reads the text enjoining a mother to breastfeed her child for a period of two years if she can.

This spot aimed to reach all potential target audiences—including the older community. Specific health messages are ultimately accepted by a group because they are recognized by society at large. We hoped this spot would establish in the minds of many people the legitimacy of breastfeeding as long as possible.

General Lessons Learned

Pretesting helped us refine wording that was confusing to women and helped us determine how to group messages and give them the appropriate weight in relation to one another. It also helped us understand more about what our target audiences considered credible. We discovered when trying to test the acceptability of various stylistic elements (e.g., the interiors of houses or the clothes or makeup of actresses) that our interviewees

A CASE IN POINT

A Television Mini-drama Linking the Generations

One dramatic television spot reinforced the most difficult program message (that a mother can increase the amount of her breast milk as the child grows). It also attempted to engage older, experienced women in supporting young mothers.

Mother: *Ahmad's health is perfect. You see how beneficial it is to breastfeed him.*

Daughter: *But mother, I feel that my milk might not be enough for him.*

Mother: *No...no...Do not worry, your milk will be enough for him. Actually, your milk increases the more you breastfeed him. Listen to your experienced mother. You and your brothers grew on my breast milk alone and you must do the same with Ahmad.*

Daughter: *Mother, how can I increase my milk?*

Mother: *The best thing you did was to breastfeed him as soon as he was born, and now you must continue to breastfeed him and whenever he needs to, because this will increase your milk. And of course when you eat right and drink healthy liquids, this will also help to increase your supply of milk.*

(Child cries, indicating he wants to nurse.)

Go ahead, he looks like he needs to nurse.

Daughter: *Not yet mother, there is still one hour to go before his next feeding.*

Mother: *Breastfeeding is not by the hour, Leila. You should breastfeed him every time he wants to, just as I did with you.*

often ignored these details entirely and were only aware of how the mother and child related to each other. Whenever we gave them choices between different artistic presentations, they always preferred the example in which a mother made eye contact with the child. We therefore gave special attention to the expressions on both actresses' and their infants' faces and went to great lengths to show natural and tender interactions.

We also discovered how potent the voice of a compassionate, experienced woman is to our target group. Our interviewees said an experienced woman would understand the emotions of breastfeeding and not "just the facts" as a doctor would. This response heavily influenced the design of our radio messages.

We discovered how potent the voice of a compassionate, experienced woman is to our target group.

Our pretesting also revealed what the actual limits of television spots might be in conveying detailed information. We learned which messages were too complicated for short spots and which would require in-depth explanation. We learned which messages caused cultural discomfort. The most notable of these was the need for a mother to get sufficient rest in order to increase her supply of milk.

Radio Strategy

We designed our radio messages to achieve two goals: to provide specific instructions to mothers on how to carry out the new behaviors, and to provide advice regarding prevention and management of common problems. We needed to present complex information in an entertaining way. To do this, we made each radio spot a mini-drama.

Responding to our target group's preference for the voice of an experienced older woman, we created the fictional character, Doctora Huda (or "guide" in Arabic). Doctora Huda is an older female physician who has seen many patients and has breastfed her own children. In each spot, a young mother comes to Doctora Huda with a problem or question.

The conversations take place in the clinic, in the hospital at the time of delivery, etc., according to the nature of the mother's problem. The mothers vary from spot to spot—some have a son, some have a daughter. Doctora Huda's tone is always encouraging. The mother comes to her lacking confidence and receives information as well as support. She is assured she will be successful and her child will thrive.

Doctora Huda praises the mother for her good efforts and cites her own experience and that of "all women who have breastfed," as well as her medical knowledge. (Radio scripts are included in the Appendix.) We developed spots on eight different themes:

1. A mother is able to increase the amount of her milk as the child grows by getting enough rest, additional nutrition, and by breastfeeding on demand.
2. A mother should continue to breastfeed even if she or her baby is a little ill (e.g., has diarrhea or a cold). Go to the doctor if you have questions. Children with diarrhea who are breastfed get well faster.
3. Do not wean a child before the end of his or her fourth month. Breastfeed as long as possible, and wean the child gradually. Let him or her take all the breast milk first, then give additional food. Do not use a bottle because it is difficult to keep clean and the child may come to prefer it to the breast, lessening the amount of breast milk a mother produces.
4. When weaning, use a clean cup and spoon for additional meals. Don't use a bottle because it is difficult to keep clean and its pollution can cause diarrhea and other illnesses. Breastfeed as long as possible.
5. To avoid breastfeeding problems, start feeding the baby at birth and feed the infant whenever he or she wants it. Keep your breasts clean and do not pull the baby from the breast before he or she lets go. If you feel your breast begin to harden, give it to the child at once. If the problem does not go away, then go to the doctor.
6. A mother's milk is sufficient for the child in his or her first four months of life. To increase the amount of milk, breastfeed more often.
7. Breastfeeding will not make the mother feel worse at birth, but rather help her regain strength. Breastfeeding immediately after the birth and breastfeeding on demand help the womb return to normal condition and reduce complications of breast congestion.
8. A mother's milk is sufficient for a child until he or she reaches the end of the fourth month. A mother should look after her health and nutrition and let the child breastfeed on demand so that the milk will increase. Go to the clinic regularly to find out if the child is growing normally.

The mini-dramas reinforcing these messages were so successful that the project office began receiving letters and calls for Doctora Huda in the first week of broadcasting. In order to answer these inquiries we ran several special radio talk shows. We also passed some of the questions on to the

director of a long-running weekly television health talk show. The director invited special guests to address the points raised by our radio listeners. He agreed to make sure guests were first briefed on our ten golden rules.

Monitoring Results and Revisions

The first series of broadcasts were monitored by our interviewers to be certain that they appeared at the times and in the order specified. Exposure and recall monitoring began during the second month of broadcast and continued through the month following the campaign. The countrywide interviews, designed and conducted by Foundation staff, revealed that over 90 percent of women of child-bearing age who listened to the radio and television reported hearing breastfeeding messages and an average of 80 to 90 percent of these recalled the content.

In addition, we found good recall of specific messages:

- all mothers recalled correct information on how to increase milk;
- 90 percent recalled the benefits of colostrum (early initiation) for infants;
- 95 percent recalled the importance of caring for breastfeeding and pregnant women;
- 84 percent recalled the importance of continuing breastfeeding during illness of both mother and child;
- 58 percent recalled that prenatal care helps to prepare for breastfeeding.

Scores were lower for correct recall of benefits of early initiation to mother (70 percent), the preferred length of exclusive breastfeeding (77 percent) and the more complex messages, such as good weaning practices (66 percent). Even these results were encouraging, however.

Revised radio and television messages were aired in April 1990 to reinforce understanding and acceptance of these behaviors. The second intervention was designed to further clarify messages that proved especially difficult or confusing in the first wave of broadcasts. These included messages relating "rest" to an increase in the amount of breast milk a mother produces, stressing the benefits to mothers of early initiation, and encouraging prenatal care.

Postscript on Impact

The Foundation conducted a nationwide impact evaluation in September of 1990 with technical assistance from the Annenberg School for Communication to measure attitudinal and behavior changes during the campaign.[8] Exposure to the mass media intervention was high. Of more than 900 mothers interviewed, 94 percent recognized the theme song. Of these, 79 percent could correctly describe the visuals that accompanied it in television spots. Approximately 55 percent of mothers had heard a radio program with Dr. Huda.

The findings revealed substantial positive changes in both knowledge and practices. Mothers' knowledge about the appropriate timing of initiation and the importance of colostrum increased significantly, from 41 to 74 percent. Correct knowledge about the appropriate time to supplement breast milk increased significantly, from 36 to 61 percent; however supplementation behavior did not change.

Initiation of breastfeeding within six hours after birth increased significantly from 43 to 69 percent among mothers who delivered in public hospitals and from 42 to 67 percent among those who delivered at home. Early initiation also improved in private hospitals (from 17 to 24 percent in the first six hours) but neither the starting figure nor the improvement was as promising.

This variation in behavior according to place of birth indicates that mothers are likely heavily influenced by those present at the birth and during the following days and suggests important targets for future interventions.

Issues for the Future

Results of the quantitative survey confirmed the importance of face-to-face counseling for mothers and effective training of health providers. Improved health worker skills and increased community support for breastfeeding are essential components in helping women sustain these practices over the long term.

Other organizations in Jordan will continue to carry out some of these important activities. As a direct outcome of the National Breastfeeding Seminar, for example, the Ministry of Health, the new national hospital corporation, and USAID have been discussing a request to train lactation counselors in each of the MOH clinics and public hospitals. The Ministry has agreed to train 450 health education and nursing staff (providing one for each MCH clinic) and a number of TBAs if initial training can be provided to their decentralized teams of trainers. The MOH would also like technical assistance in preparing print materials for client education.

In addition, HEALTHCOM has reviewed its formative research findings on lactation management with RONCO Consulting Corporation, which has included promotion and management of breastfeeding in the child spacing training currently underway for some 1,200 Ministry health workers.

Save the Children and Catholic Relief Services, both of which have community health education projects in needy urban and rural areas, worked closely with us in developing and supporting our messages. UNFPA's project at the Queen Noor Foundation has developed a series of

video kits for community discussions with women's organizations. The kits include information on nutrition for the breastfeeding mother and other topics that support our messages. The Urban Development Department, which provides low-income housing for urban squatters, is interested in showing these videos to women in their community centers. Both groups have good community contacts and a developmental philosophy that augers well for acceptance of their efforts locally.

Because breastfeeding is a complex behavior that requires information and support at many different points in the process, we expect that interpersonal communication will be needed to confirm and assist in the behavioral changes advocated by the campaign. Consistency of messages from the MOH, the mass media, hospitals, and PVOs will contribute to increasing actual behavioral change. Jordanian women are motivated and quick to adopt behaviors that benefit their children but will need ongoing support in specific behaviors if they are to succeed.

Implications for Institutionalization

A serious limitation for the institutionalization of breastfeeding promotion activities was the independent role of the Foundation, which has no service delivery component. A major strength for continuation of project activities was the collaborative links forged with other compatible or influential organizations who gained familiarity with the communication methodology and who were available for support to the small counterpart staff during the project and for future activities.

In terms of institutionalizing the methodology, the counterpart staff quickly took responsibility beyond the usual for such project activities. They designed and carried out pretests and monitoring of the first phase, revised material for the second phase, and carried out the impact survey. The Foundation staff are now using the health communication approach for an intervention focusing on prevention and care for accidents in the home. Home and street accidents are a major threat for young children in Jordan.

Notes

1. *State of the World's Children*, United Nations Children's Fund (Oxford University Press, 1991).

2. For further information about the quantitative studies, see "The HEALTHCOM Project in Jordan: Final Case Study Evaluation Report," by Judith A. McDivitt and Ayman Abulaban (CIHDC, Annenberg School for Communication, University of Pennsylvania, with the Noor al-Hussein Foundation, March 1991).

3. See also *Human Milk in the Modern World*, by Derek B. Jelliffe, E.F. Patrice Jelliffe, and L. Kersey (Oxford University Press, 1988.)

4. The message design workshop was conducted by Dr. Farag El Kamel (director of the Center for Communications Development in Cairo) and the HEALTHCOM staff. Dr. El Kamel also assisted with the design of broadcast media for the intervention.

5. The scriptwriting workshop was conducted by Esta de Fossard, an independent consultant.

6. See also Field Note No. 4, "Adapting Tools to the Field: Training in the Use of Focus Groups."

7. The male form of the noun for "baby" was used in the television spots as this is the inclusive form. In the radio dramatic spots where a specific baby was referred to we used "female baby" in some episodes and "male baby" in others, to make the point that optimum feeding is for both genders. We considered the possibility of male and female babies being treated differently within the culture. A longitudinal study on breastfeeding at a major hospital in Amman showed no significant differences in feeding patterns or weight gain for male/female infants. These were poor urban rather than poor rural families, but are an increasing majority in Jordan. UNRWA health educators did not think refugee women differentiated in care by gender but did not have data.

8. Postscript regarding the impact evaluation is excerpted from *Results & Realities: A Decade of Experience in Communication for Child Survival*, by Renata Seidel (Academy for Educational Development, 1992) and summarized from the final evaluation report of the Annenberg School for Communication, University of Pennsylvania (see note 2). See also "The Impact of the HEALTHCOM Mass Media Campaign on Timely Initiation of Breastfeeding in Jordan," by Judith A. McDivitt, Susan Zimicki, Robert Hornik, and Ayman Abulaban (accepted for publication by *Studies in Family Planning*).

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SAMPLE RADIO SPOTS—"ASK DOCTORA HUDA"

Whereas television spots were designed to be motivational and covered the essential messages, radio spots included greater detail and addressed management of common breastfeeding problems. In each spot, a new mother receives advice and support from Dr. Huda, an older female physician who breastfed her own children. Several sample spots follow.

Spot 1: Convincing mother she is able to increase the amount of her milk

(At the clinic)

Mother: *Doctor, what shall I do? I feel Khaled is not getting enough of my milk.*

Dr. Huda: *No, no need to worry, believe me. With my experience as a doctor, and as a mother—and that of all mothers who have breastfed before you—I assure you that mother's milk increases the more she breastfeeds her child.*

Mother: *But, Doctor, he demands to feed a lot, and there is only one hour between each feed.*

Dr. Huda: *This is normal because his body is growing and of course he needs more food. If you let him feed each time he wants to, you will have more milk in one or two days.*

Mother: *Well, what else can I do to make sure that my milk is enough for him?*

Dr. Huda: *Very simple. You must try to get enough rest and reasonable nutrition. You must eat one and a half times your usual amount. Take a lot of nutritious liquids. The increase in your child's weight and his normal growth are the greatest proof that your milk is sufficient.*

Announcer: *My dear mother: Breastfeed your child whenever he demands it, because you are able to provide the amount of milk he needs. But you must maintain proper nutrition and rest for yourself, and take nutritious liquids.*

Spot 2: Breastfeeding during illness

(At the clinic)

Mother: *I feel a little tired, Doctor, and I am afraid this might affect my breastfeeding my daughter.*

Dr. Huda: *All you have is a slight cold. You must never stop breastfeeding your child at all.*

Mother: *It's good that I asked you.*

Dr. Huda: *It's good you came to me before you stopped breastfeeding. Every woman who breastfeeds should go to her doctor if she feels unwell and is thinking of stopping breastfeeding.*

Mother: *What should I do if she gets sick?*

Dr. Huda: *This also doesn't mean that you should stop breastfeeding. You must see your doctor who will advise you on what you should do, according to the baby's condition. For example, if she has diarrhea, you must continue breastfeeding. A child who is sick needs nutrition more than ever, and mother's milk is best. Children with diarrhea who breastfeed get well faster.*

Announcer: *Madam, if you feel slightly unwell or if your baby becomes ill, don't rush and stop breastfeeding. We advise you to continue breastfeeding and to see your doctor.*

Spot 3: Weaning (part A)

(At the clinic)

Dr. Huda: *His health is excellent. Is he already three months old?*

Mother: *Yes, Doctor.*

Dr. Huda: *And I hope you are still breastfeeding him?*

Mother: *I do, but I feel I have little milk. I am thinking of weaning him. What do you think?*

Dr. Huda: *No, no. I don't agree with you. Your own milk is the best nutrition for your child. The more you delay weaning him, the better it is for him. And when you do intend to wean him, it must be done gradually because abrupt weaning is bad for the child physically and psychologically.*

Mother: *How do you mean weaning him gradually, Doctor?*

Dr. Huda: *At the end of the fourth month, you must begin to give him food and drink in addition to your milk, while you continue to breastfeed him for the longest possible time.*

Mother: *Well, then when it is time to feed him, which should I give him first, breast milk, or additional food?*

Dr. Huda: *Breastfeed him until he has taken all of your milk first, because your milk is the best nutrition for your baby. Then, give him the additional food you have prepared for him. As I told you, you will then gradually start increasing the amount of food according to what he accepts.*

Mother: *What do you think, shall I give him a bottle?*

Dr. Huda: *No, because it is difficult to keep clean, and its contamination may cause him to become ill. He may then also come to prefer it to your breast, which would make the amount of your milk less. It is best to use a clean cup and spoon while continuing to breastfeed for the longest possible time, and remember that God Almighty said: "Mothers breastfeed their babies for two whole years for those who want to complete it."*

Announcer: *My dear mother: Gradual weaning ensures bodily and spiritual comfort for your child. Begin by gradually giving the child additional meals at the end of the fourth month and continue to breastfeed him for as long as possible.*

Spot 4: Weaning (part B)

Mother: *Doctor, I am now gradually weaning my son, as you told me to. But about additional meals...what do you think of my giving him a bottle?*

Dr. Huda: *No, no, because it is difficult to keep the bottle clean, and its pollution can cause diarrhea and other illnesses. It is better to use a clean cup and spoon for the additional meals and continue to breastfeed him as long as possible.*

Announcer: *In the name of God the Merciful,*
Mothers breastfeed their children.
God the Great has told the truth.

Spot 5: Prevention

(At the clinic)

Dr. Huda: *Thank God your pregnancy is normal. One more week and you will be a mother.*

Mother: *Dr. Huda, this will be my first birth and I wish you would advise me, especially about breastfeeding.*

Dr. Huda: *The most important thing is that you must breastfeed the newborn child immediately after birth. And care for your breasts from the first day. They must always remain dry and clean. You may want to use a special cream to prevent cracking of the nipple. Be careful not to pull the baby from your breasts before he lets go himself.*

Mother: *But they say that sometimes the breast becomes hard and engorged after the birth.*

Dr. Huda: *If you follow my advice this rarely happens, so don't worry at all. To avoid problems, start breastfeeding early and feed him whenever he wants it. If you feel your breast is beginning to harden, give it to the child at once. If the problem is not solved this way, then go to your doctor.*

Announcer: *Madam, caring for your breast from the beginning of pregnancy, and immediate and continuous breastfeeding, is the best way to avoid problems.*

Spot 6: Convincing the mother that her milk is sufficient for the child in his first four months

(At the clinic)

Mother: *I don't know what happened to him, Doctor. I am not satisfied with his weight.*

Dr. Huda: *Let me weigh him and compare it to his age.* (The movement of weighing...baby's voice) *How old is he?*

Mother: *Nearly three months.*

Dr. Huda: *His weight is excellent compared to his age. He is not in need of additional food and drink until he completes his fourth month.*

Mother: *You mean he would not benefit from anything else I give him during the first four months, not even juice?*

Dr. Huda: *Mother's milk is the basic food and is enough for the child's nutrition.*

Mother: *But, Dr. Huda, I wish you would prescribe a milk that would help me.*

Dr. Huda: *But your milk is plenty. At this age the child does not need additional meals.*

Mother: *Are you sure my milk alone is enough?*

Dr. Huda: *Of course I'm sure. Mother's milk alone is enough for her child until the end of the fourth month. And if you would like the amount of your milk to increase, then you can be sure that the more you breastfeed your son, the more milk you will have. It is necessary not to give the child any substitute for mother's milk in the first four months because he cannot digest any food in a normal way—except mother's milk. It has been proven that the health of children who breastfeed from their mothers is better than others and they are less prone to illness.*

Announcer: *My lady mother: Be sure to breastfeed your child and don't give him additional meals until the end of his fourth month, because mother's milk is complete and best.*

Spot 7: The effect of breastfeeding on the child—"first milk"

(At the hospital on the delivery table)

Dr. Huda: *Thank God for your safe delivery. You must now begin to breastfeed him.*

Mother: *Breastfeed him? There is no milk yet in my breast.*

Dr. Huda: (Laughing) *There is first milk, which is the most important for the child.*

Mother: *First milk...*

Dr. Huda: *Yes, first milk, which God Almighty granted to your child to cleanse his stomach and give him immunity against many diseases.*

Mother: *Will the baby accept this milk?*

Dr. Huda: *Of course he will. Come on, put him to your breast and try once, twice. Let him benefit from the first milk.*

Spot 8: The effect of breastfeeding on the mother

Mother: *Doctor, Khaled is breastfeeding a lot and I am afraid of getting tired.*

Dr. Huda: *On the contrary, breastfeeding your baby often helps you regain your health and your strength and your figure.*

Mother: *What do you mean, Doctor?*

Dr. Huda: *Breastfeeding immediately after birth is very beneficial for the mother because it helps the womb return to its normal condition after birth and reduces the complication of breast congestion. Breastfeeding on demand helps the baby to feel secure, and you will feel tenderness. Your milk will increase and your child will get more nutrition and will grow.*

Announcer: *Breastfeeding is better for both mother and child.*

Spot 9: Intensive breastfeeding

(The voice of a newly born baby crying in the background)

Dr. Huda: *God be praised, he is two months old now.*

Mother: *And a few days. That is why I came to you, Dr. Huda, because he demands to feed often, even at night.*

Dr. Huda: *This is normal because his body is developing and growing, and of course he requires more food.*

Mother: *Do you think my milk would be enough for him?*

Dr. Huda: *The milk of every mother who breastfeeds her child is enough until the end of the fourth month. All you have to do is to look after your health and your nutrition. And any time your son wants to breastfeed, let him, because each time you breastfeed him your milk will increase. As long as he is growing normally, then your milk is enough for him.*

Mother: *And how can I be sure he is growing normally?*

Dr. Huda: *You must visit the mother and child clinic regularly to know the weight and height of your child. We can find out if the child is growing normally from the information we record on his health card.*

Announcer: *Madam Mother, breastfeed your child whenever he demands it. The requirement of the child for mother's milk increases as he grows older, and rest assured that the more you breastfeed your child, the more milk you will have.*

From Idea to Mass Media:

Teaching Mothers the Concept of Dehydration

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Is the Consumer Always Right?

In October and November of 1988, one hundred low income Filipino mothers, each of whom had a child under five, were shown a preview of a television commercial about dehydration. After that one-time viewing, twice as many mothers said they would give home fluids to a child suffering from diarrhea as reported they would do so before seeing the commercial. The number who said they would give the child an antidiarrheal dropped from 5.6 to 6 percent.

This animated television spot, along with several radio spots and two posters on the same theme, were the first steps in an ambitious, phased effort to reach a target audience of 6.5 million mothers and educate them about a concept they didn't even have a word for in their own languages. The pilot project in three health regions was itself a large-scale pretest for a proposed intervention to reach every mother in the Philippines.

A captive audience, of course, is always more attentive than a casual listener. And a statement about intended behavior is not the same as actual behavior change (which could only be tested months later when messages were broadcast and complementary activities underway). However, these results were an early indication that the communication strategy was headed in a promising direction.

The strategy, in fact, flew in the face of conventional social marketing wisdom, whose primary rule is "always begin by asking the consumer what he or she wants." These mothers did not want a product that prevented dehydration; they did not know what dehydration was. A concept-setting campaign that literally introduced a new "disease,"[1] thus creating the basis for new consumer demands, was a daring approach.

This field note describes the process through which the first broadcast materials were developed and the reasoning behind the communication strategy. It shows how decisions were linked to careful research on both primary and secondary audiences and provides an overview of subsequent phases in the social marketing program and their cumulative effect on mothers' actual practices.

A Long History

In the Philippines, interest in oral rehydration therapy (ORT) goes back to the 1960s, when cholera patients were experimentally treated with the therapy. Field trials undertaken by the Philippines/WHO International Study Group introduced ORT into the country in 1975. Oresol, a brand of oral rehydration salts (ORS) consistent with the World Health Organization (WHO) formula, has been available in the Philippines since 1977 and is being produced by the Biological Production Service of the Department of Health. However, diarrheal disease is today still one of the leading causes of mortality and morbidity in the country.

The national Program to Control Diarrheal Disease (CDD) aims to increase ORS availability in all health outlets (health centers, drug stores, government and private

hospitals, barangay health stations). While pursuing ways of increasing availability and access, the program is also undertaking a variety of activities to improve awareness, knowledge, and practice of ORT among private and public physicians and health workers. Clinical management training has been conducted for health personnel by the National Rehydration Training and Treatment Center (NRTTC) in Manila and in the Southern Islands Medical Center (SIMC) in Cebu. Supervisory skills training has been undertaken in health Regions 6 and 7.

The World Health Organization has provided technical assistance in developing the curriculum and in conducting these training courses in the public sector. In addition, private sector physicians have been active partners of the CDD program since 1985. Scientific meetings have been held for members of the Philippines Pediatric Society (PPS) in various regional and provincial chapters around the Philippines. A.I.D.'s PRITECH Project (Technologies for Primary Health Care) has assisted the PPS CDD activities.

In mid-1987, the DOH also signed an agreement with the HEALTHCOM Project to work with the department's Public Information Health Education Service (PIHES) in undertaking several activities, including implementation of a social marketing plan for ORT. The HEALTHCOM/PIHES team directed its communication activities primarily at low income mothers. Although the program also attempted to change health workers' and private physicians' prescribing behaviors, it did so only secondarily. Other interventions initiated by the DOH actively addressed these target groups.

Initial investigations for the communication program were conducted in three pilot health areas: Region 6 (western Visayas), Region 7 (in central Visayas), and Region 10 (in the northern area of Mindanao.)

Formulating the Communication Strategy

Baseline research in the three regions revealed that a social marketing program designed to change mothers' treatment of their children's diarrhea would face an uphill battle.[2] A knowledge, attitude, practices study of 1,200 mothers with children under five showed that, although 80 percent of recent diarrhea cases received some kind of treatment, antidiarrheals and antibiotics were by far the most prevalent choices. Although awareness of ORS was high, use for recent cases was low.

Moreover, mothers' actions are heavily influenced by the opinions and prescribing patterns of private physicians, a majority of whom still prescribe antidiarrheals and antibiotics/antifungals for diarrhea and dehydration. About twice as many mothers go to private physicians for treatment and advice regarding diarrhea as go to health centers.

Experience in mass communication has shown that concentrating attention on a single idea is essential to memorability and acceptance by the target audience. The idea, or theme, should address a key issue. HEALTHCOM turned to both quantitative and qualitative studies with low income mothers, as well as studies with physicians, to understand the chief concerns behind mothers' decisions and to design useful messages.[3]

The baseline household survey showed that 93 percent of mothers considered "hardens stools/stops loose bowel movement" the most important factor in selecting a diarrheal treatment for their children, although 40 percent of them knew that "loss of water" should be prevented or treated in diarrhea. The qualitative study revealed that, although mothers knew that "loss of water in the body" occurs with diarrhea, they believed that hardening or stopping loose stools would remedy this. Thus, their primary treatments for diarrhea consisted of stool hardeners such as antidiarrheals, antifungals/antibiotics, herbal decoctions, teas, and soft drinks.

ORS does not harden or stop stools. Therefore mothers did not think ORS had a place in diarrhea management or therapy. This obstacle was complicated by the fact that there is no single word in Tagalog or any local dialects in the target regions for "dehydration."

The communication team decided to attack the above problem head on. Rather than position Oresol as a product that would somehow meet mothers' most compelling concerns, they chose to try to create a new mental niche in the public mind for the concept of dehydration. By revealing a new danger, the team hoped to create a demand for new remedies. However, because of the strength of mothers' focus upon loose stools, the team decided not to direct any effort at undermining that concern.[4] Such an effort would probably be doomed to fail. Rather, they hoped to create a link between the two concerns.

By revealing a new danger, the team hoped to create a demand for new remedies.

Because of the magnitude of the challenge, the project made this educational effort a discrete phase of the communication strategy. This phase was known as Module A. If effective, the phase would teach mothers the need for rehydration *per se*, whether through home liquids or an ORS product. It would create a demand for liquids first and foremost as an immediate response to diarrhea in

order to prevent potentially deadly dehydration. Secondary messages would teach mothers that a child with diarrhea should continually be fed, breastfed, and given more fluids. A subsequent communication effort—to create demand for specific rehydration products (whether Oresol or designated home fluids)—would follow. This phase would be known as Module B. However, the "concept-building" theme would run continuously through the campaign, even after demand creation activities for specific products were begun.

The following pages describe the process through which the strategy and materials for the concept-building effort were developed—the process through which it was hoped an idea could be promoted by the mass media.

Can Mothers Learn the Concept?

Well Advertising, a Manila agency, was contracted to assist in carrying out the communication plan. They began with a search for a new metaphor or graphic representation for the concept of dehydration. The visual would have to be very direct, since mothers had no word for the concept in their own languages. The team also decided that the graphic would have to demonstrate a link between diarrhea and dehydration because mothers are primarily concerned about the former. Furthermore, they wanted to test whether mothers would accept the English word "dehydration."

Well Advertising collected visual images that had been used in the past to convey the idea of the dehydration/rehydration process. Some of the previous metaphors were very abstract. For example, one common graphic showed a plant withering and then being revived when watered. The connection between a plant and a child is not immediately apparent. Certainly the concept of diarrhea and its relation to dehydration could not be shown with a plant. This image might be useful in a population that already understands the idea of dehydration and needs to have it reinforced; however Filipino mothers required something stronger.

The key to this initial cause-and-effect problem lay in a useful fact uncovered by the formative research. Although most mothers were not sensitive to the classic signs of dehydration, they were quite sensitive to certain behavioral signs of a worsening condition. In particular, "weakness" was volunteered as a sign of serious diarrhea by 64 percent of those interviewed.

Artists developed a graphic that they hoped depicted the idea of dehydration as directly as possible by linking it to both loss of water and weakness. The draft consisted of two boards of successive images of a small child. In the first series he is shown becoming dehydrated and in the second being rehydrated. The initial image depicts the child sitting on a chamber pot. His body is transparent and blue water rises to the top of his head. In each succeeding image he is shown weakening dramatically (shriveling and starting to fall over) and the blue water level is shown falling. Finally, the withered child lies on the ground with very little water left in his body. The English word "dehydration" is written over this frame. The next board shows the child's water level rising and he stands up progressively stronger and straighter.

The dehydration/rehydration graphic was tested in three focus groups.[5] A total of 28 mothers from lower socioeconomic groups, each having a child under five, were recruited from six neighboring barrios in Liloan, Cebu. Most of the mothers had only attended grade school. A moderator experienced in facilitating group discussions and fluent in the local language (Cebuano) guided the sessions. She began by asking the mothers to describe what the pictures showed and to explain whether they thought it was a "true story."

The mothers recognized clearly that the child had diarrhea. They interpreted the receptacle in the visual as a chamber pot (or *arinola*.) They understood that the child died because his water supply had vanished. Mothers agreed that the visuals showed a true story. They had either seen or heard of something like this happening. They were also willing to associate the danger with the English word "dehydration." They linked the condition to what they called *nabubsan sa tubig*, which means one has dried up and is weakened. In the second board, mothers interpreted the rising blue shade as water or life-giving fluids. The concept of "rehydration" seemed even more forceful to them than that of dehydration—they understood the child needed fluid.

The focus group sessions also investigated mothers' beliefs about the causes and different types of diarrhea, their practices in terms of managing diarrhea, and their reactions to a number of slogans for a product to rehydrate a child. The discussions reinforced results of previous studies showing a high reliance upon antidiarrheals and other inappropriate treatments.

Using Broadcast to Educate

Having established that mothers could grasp the causal link between diarrhea and dehydration and that they found believable the value of rehydrating a child who has diarrhea, the team then sought the best media for reaching them with concept-building materials. They selected radio as the primary medium for an intervention. Research had shown that radio listenership (in the past week) in the target audience was approximately 68 percent in Regions 6, 7, and 10. Television was chosen as the second medium for emphasis, with approximately 32 percent of the target audience viewing within the past week (somewhat higher in urban areas and lower in rural). The messages of these two media would have to work together to create the

same clear mental niche for dehydration. In addition, the team planned to create various print materials to be displayed at or distributed to mothers through health centers. These materials would complement the face-to-face activities of health personnel.

Developing the Radio Spots

Although it was clear that mothers could understand a pictorial explanation of dehydration, translating this process into a totally auditory medium required great ingenuity. The first step was to develop a script that established a clear link between diarrhea and dehydration. The team decided to create two fictional characters who work together, attacking a vulnerable baby.

The scene opens with the sound of thunder and lightning—suggesting the season in which diarrhea is most prevalent. Two evil voices exclaim gleefully as they spot a baby eating something dirty. They are introduced as Diarrhea—"a pest" and Dehydration—"the traitor." (The Diarrhea character is named in the local language but Dehydration is named only in English.) They enter the baby's body and wreak havoc. Diarrhea says, "I'll start it." Dehydration says, "I'll finish him off." An announcer says that the water level inside the baby is going down due to Dehydration's evil work and explains the effect on the baby's body. Diarrhea is a nuisance but Dehydration can be fatal. Mothers are told to watch out for Dehydration, the accomplice of Diarrhea, because it can kill. They can **prevent** Dehydration by rapidly and continuously giving fluids to a child with diarrhea. The script ends with the baby being given fluids and finally a happy mother with her cooing baby.

The sequence became known as *Kasabwat*, or "Co-conspirator," indicating the sinister relationship between Diarrhea and Dehydration. It was reviewed for technical accuracy by the Control of Diarrheal Disease Division of the DOH and by A.I.D.'s PRITECH Project.

The advertising agency then interviewed a number of professional freelance actors in a search for appropriate voices. Both had to sound menacing, with Dehydration being the meaner of the two. Two male voices were preliminarily selected by HEALTHCOM and PIHES, and the advertising company put together a draft 60-second radio commercial, complete with sound effects.

The team tested the draft commercial with 100 mothers at eight locations in the greater Manila area. They used a central location intercept method. Trained female interviewers stationed themselves at locations likely to be frequented by the target audience, "intercepted" selected mothers, and invited them to participate in the survey. Each mother listened to the draft commercial three times and answered structured questions in one-on-one interviews. One of the most important parts of the interview consisted of what is called a playback session. Mothers volunteered answers to such open-ended questions as:

- Please tell me everything that you remember about the commercial you heard.
- What did the commercial say? What else did it say? Anything else?
- What was the story about?
- What do you think was the main message of the commercial?

Mothers were also asked their opinions on whether the commercial was informative, entertaining, disgusting, and so forth.

The results of both the open-ended and directed questions were encouraging. Sixty-five percent of mothers volunteered that the commercial was about dehydration. (They gave the English word.) Of these, 92 percent were able to explain accurately what the word meant. Another 22 percent said the commercial was about a child's loss of water, but they did not use the English word. A total of 71 percent of mothers volunteered that the commercial was about "rehydration" or about replenishing lost fluids. Details of the recall also showed that the commercial "took the thunder" out of diarrhea—it conveyed that dehydration is the primary threat.

A total of 71 percent of mothers volunteered that the commercial was about "rehydration" or about replenishing lost fluids.

Almost no mothers (1 percent) found the commercial difficult to believe. Most commented favorably on the presentation, which they described as entertaining and unique. Most also said they learned something new and useful and felt the commercial spoke to them personally. A few mothers remarked negatively on the voices of Diarrhea and Dehydration. Some mothers found the characters hard to understand—the conversation seemed either indistinct or hurried. These remarks helped the advertising agency in its revision of the commercial.

Another aspect of the interview process helped predict whether mothers might actually change their **behavior** after listening to this commercial. Each mother was asked to participate in a pre- and post-test in conjunction with listening to the commercial, indicating what remedies she was likely to give a child with diarrhea.

Before exposure to the spot, 52 percent of mothers said their first remedy for a child's diarrhea would be an antidiarrheal or an antibiotic; only 37 mentioned fluids or a commercial ORS product. After exposure, 36 percent

said they would give an antidiarrheal while 57 percent mentioned fluids or ORS as the first remedy for a child with diarrhea. (Other remedies included various solid foods.)

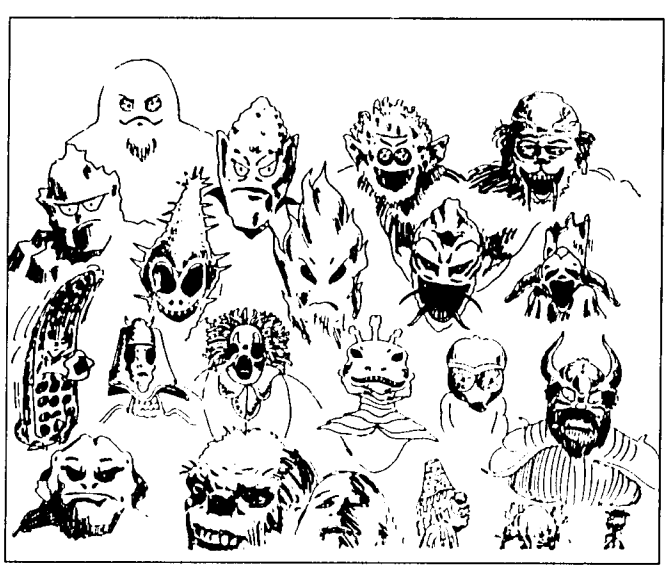
The team also prepared a group of six 15-second "Did you know?" radio spots that explicitly stated the links between diarrhea, weakness, and dehydration and promoted basic rehydration practices. The six spots had the following messages:

- Dehydration, excessive fluid loss in the body, occurs with diarrhea.
- A child with diarrhea can become very weak because he or she is dehydrating, i.e., losing fluids with each bowel movement. Replace lost fluids promptly.
- A weakening child with diarrhea is dehydrating from fluids he or she loses with each bowel movement. Replace lost fluids promptly.
- Continued breastfeeding of an infant with diarrhea helps prevent dehydration.
- During diarrhea, a child must be fed and encouraged to drink more to replace lost nutrients and water.
- Giving a child more fluids such as water, rice water, breast milk, or soup hastens his or her recovery.

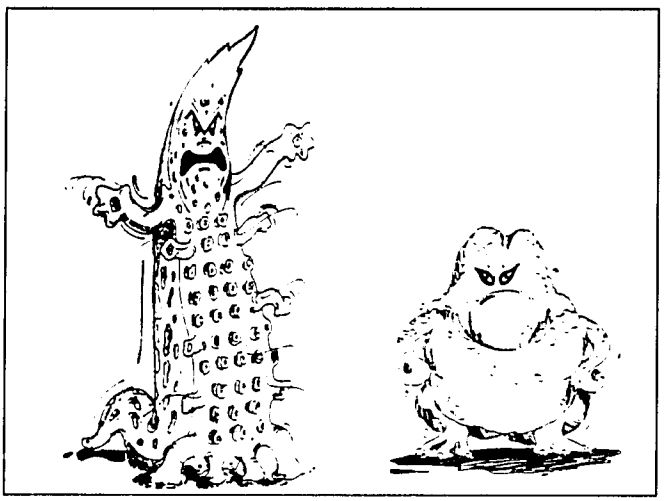
The dramatic radio commercial was created in three languages: Tagalog, Ilonggo, and Cebuano. The shorter spots were created in these languages as well as in English.

Developing the TV Spot

The team decided that the best way to translate the fictional characters, Diarrhea and Dehydration, into the television medium would be through animation. Animation would bring the characters to life and would also help make the somewhat unsavory subject much less offensive.



The character of the fictional "Dehydration" began as a series of ghoulish sketches.



Mothers chose the "winning" characters for Dehydration (left) and Diarrhea.

The first step was to create still graphics of the two characters. A group of three freelance artists produced 20 pairs of appropriately obnoxious types. Three of the Diarrhea characters and three of the Dehydration characters were then chosen for testing with mothers.

An independent research company conducted a "visual look test" with 50 mothers from lower socioeconomic status who had at least one child five years old or younger.[6] Through individual interviews, each mother had an opportunity to view the six characters one at a time and judge them according to specified criteria: the character's "meanness," "uniqueness," and adherence to her own concepts regarding diarrhea and dehydration.

It was important that the selected characters be memorable and distinct from one another, that they both seem dangerous, but that Dehydration seem to be the more threatening of the two. On the other hand, neither character could seem so repulsive that a mother would not want to see it on television.

The team then tested the two winning monsters in a less formal way at a Metro Manila health center with a group of 20 mothers who were seeking treatment for their children with diarrhea. The primary purpose of these interviews was to test whether mothers saw the Dehydration character as meaner and deadlier than the Diarrhea character. This second look-test confirmed the winners as a short, fat, blob-like individual (for Diarrhea) and a tall monster with long tentacles and suction cups at their ends (for Dehydration).

The next step was to adapt the radio script for television and to animate the story. HEALTHCOM/PIHES hired an advertising company and used freelance animators to do this work. Three animators required five weeks to produce the first draft. Although the team used various intermediate stages such as storyboards and slides to

Mothers understood that the little boy became sick because he ate dirty food.

Animation brings the evil Dehydration to life inside his young victim's stomach.

review the commercial's development with DOH staff and the regional health directors of the pilot regions, they did not test the commercial with mothers until it looked like true animation.

The draft commercial was tested by 100 mothers from the target audience through one-on-one interviews at 12 central locations within greater Manila. Each participant was shown the test commercial and asked to "play back" what she remembered. The female interviewers asked open-ended questions similar to those posed in the radio test. Respondents then viewed the commercial a second time and answered directed questions about their comprehension of the commercial, their likes and dislikes, the commercial's believability, uniqueness, and so forth.

Three-quarters of the mothers volunteered that the commercial was about rehydration. Approximately 56 percent volunteered that it was about dehydration. When asked what this term meant, 59 percent of mothers were able to describe it accurately and associated it with the child's weakening.

Mothers were able to understand the story line. They seemed especially interested in the baby's point of view—they gave vivid details about the infant's stomach pain, the dirty food he had eaten off the ground, his having diarrhea, his becoming dehydrated, etc. A large number of mothers noted that the cause of the child's diarrhea was ingestion of dirty food.

Negative feedback had primarily to do with the fast delivery of lines and the fast execution of visuals. In addition, some mothers seemed confused about which character was which. Only a third of them were able to tell consistently which was Diarrhea and which was Dehydration. These results helped the team make refinements in the final commercial. New visuals discriminated more

The wise mother gives her child plenty of liquids and he is quickly revived.

The story ends happily with the now healthy baby in his mother's arms.

graphically between the two characters. The voice of Dehydration was recorded more ominously. The characters' names were written next to them. The pace of the commercial was also slowed.

The most impressive results of the test came from the before and after questions about a mother's intended behavior if her child had diarrhea. As with the radio spot, exposure dramatically increased a mother's inclination to give fluids and decreased her interest in antidiarrheals. Before exposure to the spot, 45 percent of mothers said their first remedy for a child's diarrhea would be an antidiarrheal or an antibiotic; only 37 mentioned fluids or a commercial ORS product. After exposure, 9 percent said they would give an antidiarrheal while 84 percent mentioned fluids or ORS as the first remedy.

These results were even stronger than those associated with the radio spot. Animation evidently helped bring home the messages.

An Integrated Campaign

In addition to broadcast materials, the Module A intervention included two posters for health centers and an orientation for the health workers. The different media were designed to work in tandem so that they reinforced and clarified each other's messages.

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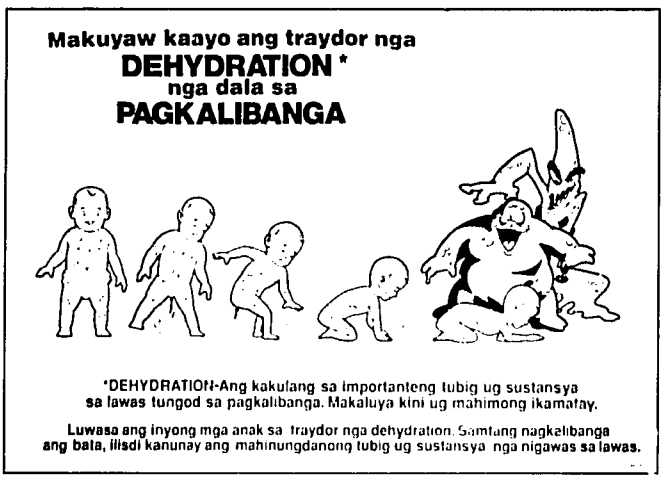
One poster consisted of the dehydration graphic originally developed by Well Advertising, accompanied by the animated television characters. The text gives a straightforward definition of dehydration and tells mothers to replace lost fluids and nutrients when a child has diarrhea. The second poster was designed to teach the signs of dehydration. The striking visual of a dehydrated child illustrates and explains the symptoms. The text defines dehydration and exhorts mothers to replace lost fluids and nutrients. The Dehydration cartoon character appears in the corner like a program logo.

Towards the end of 1988, the project held a series of "sales conferences" for health centers and for provincial/city health officers in the three regions to introduce the Module A campaign and the various materials.[7] The entire multi-media campaign was then launched in September of



One poster used the original dehydration graphic to explain the importance of replacing fluids.

1989 for a period of 12 weeks.[8] Television spots appeared on 12 stations; radio spots were broadcast on 43 radio stations. Print materials were distributed to all health centers in the intervention areas. Twenty newspapers and eight magazines also ran print ads with the dehydration/rehydration graphic.

Pre- and post-campaign measures indicated Module A had provided a good base of concept-setting for the next intervention.[9] When mothers were asked whether they had seen or heard an advertisement about childhood illness during the last three months, at least a third in each region volunteered that they had heard or seen a campaign on diarrhea/dehydration (48 percent of mothers in Region 6, 37 percent in Region 7, and 33 percent in Region 10). Of these, 81 percent volunteered specific messages from the campaign. A total of 51 percent mentioned messages about dehydration.

Overall, mothers' awareness of the English term increased in Region 6 from 46 to 82 percent and in Region 7 from 30 to 64 percent. In Region 10, post-campaign awareness was 78 percent. (No pre-campaign measure was conducted in that region.)

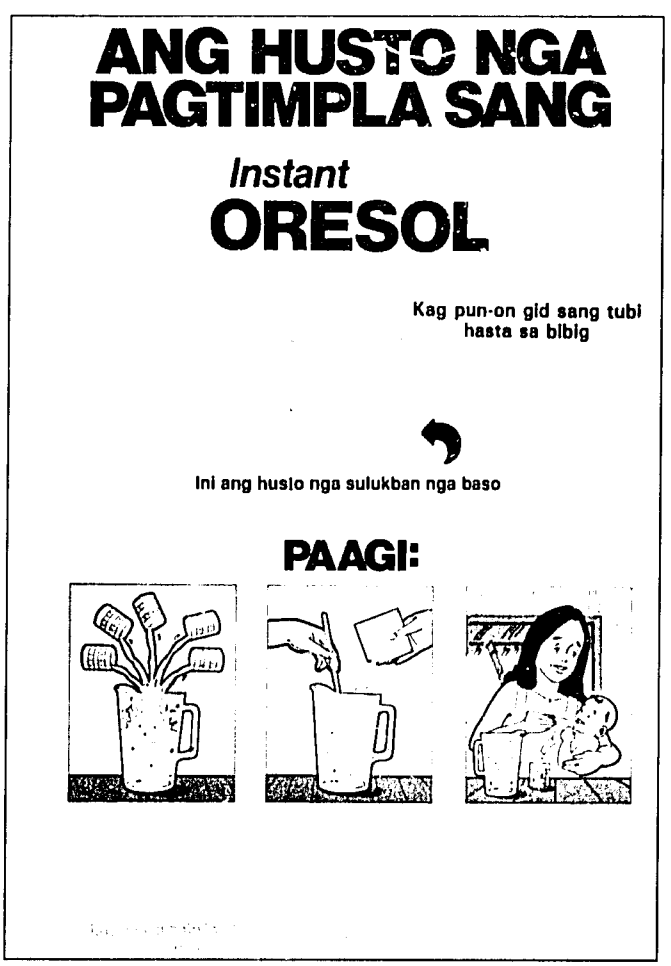
Module B Campaign

In 1990, the Department of Health shifted its focus to promoting specific rehydration products. Module B took the form of a dual test market. In Regions 6 and 7, the project promoted fluids for the onset of diarrhea and Oresol for serious cases (with severe cases being referred to the health center). In Region 10, where access to ORS was limited, the project promoted a rice-based fluid called *am* to prevent dehydration (with serious cases referred to the health center).[10]

Once again, the 12-week intervention included a combination of broadcast and print materials. These included the following:

Regions 6 and 7

- **Television spot (45 seconds)**— A partially animated spot dramatizing the effect of dehydration on children and demonstrating the power of ORS to restore strength and vitality.
- **Television spot (60 seconds)**— A musical commercial (using the popular Limbo Rock) sung by a child and her adult female friend, instructing mothers on how to prepare ORS and demonstrating how to measure a liter of water.
- **Radio spot (60 seconds)**— A slice-of-life commercial in which two mothers gossip over the backyard fence about a neighbor's child who almost died of dehydration but was saved by Oresol.
- **Radio spot (60 seconds)**— A radio version of the television ORS mixing commercial, describing how to prepare Oresol.
- **Poster**— Dramatic photographs of dehydrated children illustrating the different symptoms and promoting use of Oresol.



Another poster gave instructions on how to mix Oresol, featuring an actual-size photo of the appropriate glass for measuring a liter of water.

- **Poster**— "Thank you, Oresol" shows a jubilant baby who has been saved from dehydration by Oresol.
- **Poster**— A calendar of the full year is combined with instructions on how to prepare Oresol. A 200 ml Nescafe glass, chosen as the standard tool for measuring a liter of water, is shown in actual size.
- **Poster**— Twice the size of the other posters, this one illustrates both dehydration and rehydration. It uses both of the original teaching graphics and includes a photograph of Oresol.

Region 10

- **Television spot (60 seconds)**— A mother is distraught over her baby's diarrhea. Her wise elder sister instructs her to prepare and administer *am*.
- **Television spot (15 seconds)**— Animation is used to communicate messages on continued breastfeeding, feeding, and giving more fluids to prevent dehydration.
- **Radio spot (60 seconds)**— An adaptation of the television spot on *am* includes messages on breastfeeding, feeding, and extra liquids.
- **Radio spot (60 seconds)**— A mother talks to her elder sister about a baby who has diarrhea. As the elder sister ticks off the major signs of dehydration, all of which the baby has, the sisters become increasingly alarmed and rush the baby to the nearest health center.
- **Poster**— The original dehydration graphics are combined with text on how to prepare *am* and visuals of a woman nursing her baby, who is weak from diarrhea.

Sales conferences introduced health centers in Region 10 to the campaign and its materials in August of 1990. Module B was launched there in September. Sales conferences were held in Regions 6 and 7 in September of 1990.

Post-campaign measures showed a further jump in knowledge, attitudes, and behavior.

Module B was then launched in October. Post-campaign measures showed a further jump in knowledge, attitudes, and behavior over measurements taken following the concept-setting phase.

In both Regions 6 and 7, 81 percent of mothers recalled a campaign on diarrhea/dehydration. In Region 10, 83 percent of mothers recalled a campaign. Among those who remembered the campaign, between 80 and 90

percent volunteered specific messages about dehydration, home fluids, or Oresol. Furthermore, data showed improvements in actual practices. Of mothers surveyed who had a child under five, Oresol use for the most recent case of diarrhea rose from 19 percent (after Module A) to 38 percent (after Module B) in Region 6 and from 13 to 27 percent in Region 7. Administration of *am* in Region 10 rose from 9 to 29 percent. Mothers also reported increased use of appropriate fluids (such as breast milk, boiled water, milk, and rice water) and decreased use of soft drinks and tea.

Summing Up—and Moving Ahead

The Philippines diarrheal disease strategy was unconventional in several regards. Communication planners took the risky step of focusing on a new "danger" or "disease" instead of the symptoms mothers stated they found most compelling. Mothers learned a name for the concept and learned to identify it as the potentially fatal result of diarrhea. Their preoccupation with loose stools *per se* was not undermined, nor were they actively discouraged from using antidiarrheals. However, the phased campaign gradually brought about an improvement in mothers' awareness of dehydration and improvement in their treatment choices.

A second unconventional strategy—that of promoting distinct oral rehydration remedies in two quite different test market areas—addressed important logistical and service delivery obstacles.

Both of these decisions grew out of the realities of the Philippine environment. Although the program went in directions that might, out of context, seem circuitous, these strategies were based firmly upon the results of research. Mothers were able to appreciate the concept of dehydration because it was linked to symptoms they did understand. Since they were accustomed to trying more than one remedy, they were willing to accept a new product category and a new product even though they continued to believe antidiarrheals were important for severe cases and physicians continued to prescribe these. Although the medical community is clearly an important target for improved diarrheal disease treatment practices, the DOH recognized that influencing them was a long-term challenge and that, in the meantime, the program would gain nothing by asking mothers to ignore the advice of their physicians.

Although the program went in directions that might, out of context, seem circuitous, these strategies were based firmly upon the results of research.

The communication strategy was geared to solving mothers' most pressing needs rather than to creating conflicts—either in messages or between demands and available services. Its success lay in its adherence to certain health communication principles: that concepts and materials must be carefully pretested with target audiences; that messages must be succinct and action oriented, that they must be reasonable within the target environment; that they must be reinforced through different media; and that they must be monitored and sustained over time.

The next phases of the Philippines diarrheal disease intervention—a new nationwide Module A followed by a nationwide Module B—will build upon the pilot results in Regions 6, 7, and 10.[11]

Notes

1. Field Note No. 2, "Ethnomedical Research for Developmental Purposes," describes the more common approach of identifying those symptoms or diseases (according to local taxonomies) mothers recognize and using these as the focus of an intervention.

2. The Annenberg School for Communication, University of Pennsylvania, designed and supervised baseline research for the CDD program in 1987. Field research was conducted by Consumer Pulse, Inc. For further information contact the CIHDC, Annenberg School for Communication, University of Pennsylvania, 3620 Walnut Street, Philadelphia, PA 19104.

3. Trends, Inc., conducted focus groups with mothers. IMS Pacific, Limited, conducted a physician's survey and a market survey.

4. Although the baseline research had identified overuse of antidiarrheal /antibiotics as a major problem, the DOH chose to delay a frontal attack on this issue. Several factors combined to make the obstacle a difficult one: mothers' preoccupation with stopping diarrhea *per se*, their heavy reliance upon private physicians, and physicians' prescribing patterns, which were in turn influenced by the pharmaceutical industry for whom antidiarrheals were a major product category. (The IMS Pacific study showed that of the 4.2 million prescriptions for diarrheal therapy given by private practitioners in 1987, 78 percent were for antidiarrheal drugs and 22 percent were for oral rehydration solutions.) The Department of Health had been working with the medical community through the Philippine Pediatric Society for some years on this problem.

5. Trends, Inc., conducted the concept tests and subsequent materials pretesting and broadcast recall tests.

6. Trends, Inc., conducted the pretests.

7. See also Field Note No. 9, "Launching a Social Marketing Project for Immunization in Metro Manila," for a discussion of sales conferences for health centers.

8. In August of 1988, radio broadcasting only was launched for 13 weeks in the three regions. The television spots and the print materials were finalized during this time. Monitoring results helped revise the 60-second spot and led the team to finalize only five of the original 15-second "Did you know?" radio spots. The spot on breastfeeding was reserved for further discussion with the Maternal and Child Health Services.

9. Consumer Pulse, Inc. conducted the post-campaign survey of Module A in December 1989. Frank Small Associates conducted post-campaign surveys in December 1990 for Module B.

10. Field Note No. 1, "Understanding the Diarrhea Problem in the Philippines," describes the dual test market strategy in more detail.

11. Nationwide Module A was scheduled for 1991 and nationwide Module B for 1992. The USAID Philippines Child Survival Project, which began to assist the CDD program after the end of HEALTHCOM there in September of 1990, is supporting the nationwide activities.

(1990) José Rafael S. Hernandez and Eleanora M. de Guzman were resident advisers for HEALTHCOM/ Philippines. Hernandez is now with the USAID Child Survival Project, Philippines; de Guzman is with HEALTHCOM/Senegal. Cecilia Cabañero-Verzosa and Renata Seidel are with HEALTHCOM/Washington. *The authors would like to thank Mario M. Taguiwalo, undersecretary and chief of staff, Philippines Department of Health, for helping conceptualize the intervention within the DOH operational framework; Manuel M. Dayrit, PIHES chief, for his direction of the CDD campaign; Maria Luz Casimiro, PIHES, for assisting with field activities; and Rosendro Capul, USAID/Manila, for providing PIHES and HEALTHCOM with the support needed to run an integrated campaign through linkages with activities of the Philippine Pediatric Society.*

The Use of Integrated Media for Vitamin A Capsule Social Marketing Activities in Central Java, Indonesia

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Sartono
Sudaryono
Anne Palmer

THE ROLE OF VITAMIN A

Vitamin A deficiency remains a serious child survival challenge for specific geographic pockets in developing regions such as West Africa, Bangladesh, the Philippines, and Indonesia. Each year in Indonesia, for example, approximately 50,000 to 60,000 preschool aged children suffer blinding corneal lesions (xerophthalmia) from this deficiency. The prevalence of milder eye diseases associated with this problem is at least ten times higher.

Vitamin A may also have a much larger role to play in lowering childhood morbidity beyond reducing the prevalence of nutritional blindness. Field trials by Alfred Sommer[1] and his associates have suggested the possibility that sufficient intake of vitamin A can lower diarrhea morbidity rates.

In its fourth five-year plan (1984–1989), the Government of Indonesia (GOI) committed itself to lowering morbidity and mortality of children under five from various causes, including vitamin A deficiency. The Indonesian Department of Health has a national three-pronged strategy to decrease the prevalence of this problem among children between one and five years old. The plan calls for:

- increasing target audience consumption of vitamin A rich foods including dark green leafy vegetables, fruits, and fish;
- distributing megadose (200,000 IU) vitamin A capsules twice annually through village health posts;
- fortifying selected foodstuffs with vitamin A.

The Department of Health is conducting various operations research projects regarding all three aspects of the strategy with the assistance of the World Health Organization, USAID, and other international and local nongovernmental organizations.

VITAMIN A WITHIN THE CHILD SURVIVAL CONTEXT

The Government of Indonesia requested assistance from USAID in carrying out one operations research project aimed at the second prong of this strategy: namely distribution of megadose vitamin A capsules to children on a semiannual basis. The three-year project, known as ROVITA,[2] was initiated in late 1986 in the province of Central Java. One of ROVITA's goals is to apply social marketing techniques to increase the distribution and demand for megadose vitamin A capsules among mothers of children between one and five. The project aims to achieve a coverage of 90 percent of those children in its target areas.

ROVITA also has two objectives related to diarrheal disease: 1) to improve case management of diarrheal disease among children under five years old through oral rehydration therapy and improved supply of oral rehydration salts (ORS), and 2) to measure the change in incidence and severity of diarrhea before and after vitamin A supplementation in a small cohort of children. This joining of themes is reflected in the project's name, ROVITA, which is an acronym for "Rehidrasi Oral" and "Vitamin A." This field note focuses on ROVITA's experiences in promoting vitamin A capsules.

Within the Indonesia Department of Health, ROVITA is a cooperative effort of the Directorates of Diarrheal Disease Control, Family Nutrition Improvement, and the Directorate of Community Health Education. The project office is located in the Department of Health provincial headquarters in Semarang. With the Indonesian Department of Health as implementor, ROVITA draws additionally upon the expertise of its collaborating organizations: Helen Keller International (HKI) as management facilitator and Diponegoro University as coordinator of evaluation activities. In the area of social marketing, ROVITA receives technical assistance from the HEALTHCOM Project.[3]

Social Marketing Goals and the Consumer Focus

Social marketing focuses on the consumers—in this case the child and his or her caretakers—as the measure of whether a product is desirable, appropriate, affordable, and conveniently available. The initial step of social marketing activities is, therefore, usually audience segmentation. Important groups include not only the primary target audience (generally mothers in a child survival effort) but also secondary audiences such as husbands, health care workers, village leaders, community organizations, and religious groups. These people can have a strong influence upon what mothers value, what they know, and what they do. The goals of a communication program are defined in terms of the different target groups.

The ROVITA Project's target areas are the two regencies (or counties), of Demak and Jepara, located approximately one hour and 2.5 hours respectively from the Central Java capital of Semarang. The total population includes about 1.5 million people. Among these are an estimated 230,000 children under the age of five and an estimated 290,000 mothers of child bearing age. The project's primary audience is caretakers (mostly mothers) of children between one and five years of age. Approximately 65 to 80 percent of this audience are from low income groups and live in rural or semi-urban areas. Only about one-third have completed six years of schooling.

The monthly village posyandu is held in a temporary location and provides a range of preventive health services.

The first tier secondary audience—those who deal most directly with mothers—includes *kader*, or community health volunteers (usually local mothers), and district health center staff, or *puskesmas* workers. Kader interact with mothers in two major ways.[4] They are responsible for holding *posyandu*, or temporary village health posts, once each month. Each village has from three to five posyandu. Mothers come to have their babies registered and weighed, to have their children's growth monitored on a monthly basis, to have their children vaccinated, to obtain ORS, and to receive health counseling—including family planning information.

Twice a year (in February and August) kader also distribute free megadose vitamin A capsules to children at the posyandu. In addition, these volunteers are responsible for going out into the community to contact mothers who have not come to the monthly posyandu session. The Department of Health decided to rely upon the kader for distribution of vitamin A because mothers tend to view the posyandu as a place for healthy babies and for prevention and counseling, whereas they view the much more distant district health center, or puskesmas, as a treatment center and generally go there only when their children are sick.

The second tier secondary audience for the vitamin A capsule intervention—those people who may influence mothers—includes husbands and community leaders such as the village chief, village elders, religious leaders, and teachers. The tertiary audience includes local government officials and key decision makers within the Department of Health.

Given these target audiences, the ROVITA Project determined that its social marketing program should concentrate on the following objectives:

- to develop a communication strategy aimed at increasing intake of vitamin A among children one to five;

• to improve kader skills in registering members of the target population;

• to increase kader skills in delivering vitamin A capsules and information to the target group;

• to increase kader skills in recording and reporting vitamin A distribution;

• to strengthen the nutrition education component of posyandu sessions in relation to vitamin A.

The strategy for achieving the first of these goals focused on designing and conducting a series of integrated print and radio communication interventions to reach mothers and those who influence them on a daily basis. The strategy for achieving the remainder of these goals focused on effective face-to-face training of village health volunteers (targeted toward their dual roles as educators and distributors of vitamin A capsules).[5] The overall vitamin A capsule program therefore balanced promotion, or "demand creation" activities, with distribution, or "supply side" activities.

Marketing Research and Message Development

The collaborative nature of the ROVITA Project gave it strong resources to draw on in carrying out both the communication and training aspects of the program. Technical input into message design came from experts in several sections of the Department of Health. The head of the Health Education Section led the mass media communication effort with assistance from the HEALTHCOM resident adviser. The Vitamin A program manager (Nutrition Section) designed the face-to-face training strategy, and the training modules were elaborated with help from the Health Education Section head, HEALTHCOM, and HKI.

This cooperative process began with the formulation of an integrated marketing design. The two major goals of this design were: 1) to develop simple, memorable, and action-oriented messages that would be consistent from medium to medium as well as integrated into the face-to-face training; and 2) to use the results of audience research to select media, develop materials, and distribute (or broadcast) these to the target audience. The development of messages and the selection of media went hand in hand. Market research with the target audiences provided the foundation for both refining messages and planning communication activities.

The ROVITA team began by considering several medical and logistical aspects of the vitamin A capsule intervention as a basis for selecting a broad number of possible communication messages. The most important of these concerned attributes of the product (vitamin A capsules) including the facts that they are free, for children, available twice a year (during February and August), and distributed at the posyandu. Other messages concerned the importance of vitamin A for healthy eyes (the danger of corneal lesions, night blindness, and xerophthalmia) and the reasons for taking capsules twice a year.

In collaboration with a small private Indonesian research firm, the ROVITA team then carried out a series of studies to investigate the target audiences' perspectives, preferences, and practices. The major studies were:

• **a literature review** of available information related to vitamin A deficiency;

• **an ethnographic survey** including in-depth interviews regarding knowledge, attitudes, and practices of mothers (n=64), kader, (n=16), formal and informal village leaders (n=16), retailers (n=8), traditional birth attendants (n=8), and puskesmas physicians and nurses (n=4);

• **audience research** to determine literacy, media usage, radio and television ownership, popular listening hours and stations, and so forth.

These studies revealed interesting information about the target audiences' understanding of the product and the advantages of different communication channels. The team learned that mothers had little awareness of the prevalence of night blindness or the value of vitamin A. Nevertheless, the product held certain inherently desirable qualities for them. A pill *per se* is valued by both mothers and health care providers because it represents a tangible, painless key to good health. Mothers put great faith in pills and are interested in obtaining them for their children. Health care workers therefore find it rewarding to distribute pills. Having something to give away affords the volunteers status. Pill-dispensing held potential as a rallying point for the posyandu.

Although those mothers surveyed had little understanding of the value of vitamin A, they were familiar with the capsule's distinctive look and had a local name for it

In Indonesia, a "pill" per se is valued as a painless key to good health. Vitamin A has the added advantage of coming in an easily recognized shape.

(translating as "fish oil"). Their familiarity with the product therefore had both positive and negative aspects. The product could be easily identified by its large tear drop shape, but one would not want to stress its common name.

Radio appeared to be a promising medium for promoting the product. Local radio stations reach the majority of even the most rural areas in Jepara and Demak. Studies indicated approximately 40 percent of target mothers owned radios and 70 percent listened to the radio. The most popular programs were minidramas and mystery shows. Print materials appeared less promising. Mothers in the target areas do not routinely read newspapers or periodicals.

On the other hand, cloth banners are a very popular mass medium in Central Java. On a given day, five to ten banners may be draped across streets or buildings in a town center advertising commercial products (such as cigarettes and foodstuffs) or events (such as films, sports, or music and drama events). The appearance of a new banner is widely noticed in a village.

Obviously, the same amount of information cannot be conveyed through radio, on a banner, or through personal contact.

Choices of mass media centered on radio as a primary channel to announce and explain the intervention and banners as a supporting medium to be displayed at the posyandu, puskesmas, village halls, and other prominent places. Print materials such as posters were deemed inappropriate for a semiannual promotion since they would be too expensive for one-time use but not durable enough for multiple use. The banners, however, could be made durable enough to be reused and were valued enough by village chiefs that they would be stored during the intervening months and brought out for succeeding interventions.

The choice of media in turn helped influence communication messages. Obviously, the same amount of information cannot be conveyed through radio, on a banner, or through personal contact. What information would bring mothers to the health center? Pretesting of draft materials with the target audience showed which of the numerous communication messages mentioned in the beginning of this section were most essential to the target audience and most appropriate to a radio script, to a banner, and to face-to-face communication.

The Creative Strategy and Materials Development

Research convinced the ROVITA team that communication messages should be targeted to capitalize on the product's inherent advantages and on the simple "where" and "when" of distribution. In-depth interviews revealed that mothers' attitudes towards pills were sufficiently positive that they would seek them out knowing merely that they were free and good for their children's health. Pretesting showed that extensive information about the importance of vitamin A, about night blindness and xerophthalmia, was not appropriate for the radio spots and even less so for banners. However, such information was included in the health volunteers' training so that mothers could learn more about the product when they made contact with the health care system.

The message core, then, consisted of six points:

- **The product is vitamin A capsules;**
- **It is distributed every February and August;**
- **It is available at the posyandu;**
- **It is free;**
- **It is for children between the ages of one and five;**
- **Vitamin A is for healthy eyes.**

Although project leaders were concerned about the negative connotation of the pill's popular name ("fish oil") they decided not to draw attention to the name or to complicate the message. The common name for the capsules was simply never to be used.

The ROVITA vitamin A capsule communication strategy was integrated in two important respects. Messages were to be consistent from medium to medium so that each channel would reinforce the other with essential, action-oriented information, and messages would be timed to reach mothers simultaneously ten days before, and then throughout each intervention month.

Radio Spots and Scripts

The ROVITA team contracted a private sector FM radio station with production capabilities to assist in creating three 60-second radio spots. These spots were targeted at mothers both to inform and create demand. Each consisted of a minidrama followed by the voice of an announcer briefly summarizing the message and concluding with the national health slogan: "Let's go to the posyandu to keep our children really healthy."

The three spots emphasized slightly different core messages. The first was an amusing conversation between a wife and her somewhat cost-conscious husband. She

wants to go to the posyandu to get her child the vitamin A capsule. The foolish husband tries to discourage her because they don't have any money and besides, the child is healthy. The wise mother then informs him of the core messages: that vitamin A capsules are free, that they're also for healthy children, and that they're available every February and August—and now it's August (or February depending on the monthly promotion). The husband of course becomes supportive. The second radio spot features two mothers. The minidrama emphasizes that vitamin A is for healthy children as well as sick children and that someone can always tell you where the posyandu is. The third spot is also a conversation between two women. One woman has just remembered that it's time to take her son for his vitamin A capsule. She runs out with her son to ask a neighbor where the posyandu is. (See box.)

The second and third spots were both designed to help mothers deal with the unavoidable lack of specificity in the message about where to get vitamin A. Since the posyandu is still a relatively new institution, not all mothers could be expected to know where it is. The posyandu is located in a different place in each village, so neither generic radio messages nor banners could give mothers directions to the health post closest to them. "Just ask a neighbor" was therefore an important message in the strategy.

Audience research had revealed mothers' preferences for dramas. And the radio station suggested finishing up each spot with a "voice of authority." Ninety percent of commercials end with an announcer summarizing the message and audiences expect to hear this didactic appeal. Pretesting also helped select the background music. A traditional style known as *dangdut* is popular in the target areas and was used to catch mothers' attention at the minidrama's outset.

As always, a communication program tries to enlist the family and the neighborhood in support of its goals.

The drama format provided an opportunity to convey several non-core messages that the team felt would help mothers act. As always, a communication program tries to enlist the family and the neighborhood in support of its goals. It uses characters and creates an atmosphere with which the target audience can identify. It also looks for potential problems (e.g., that a sick child might not be given a pill) and potential obstacles (e.g., that someone might not know what a posyandu is). Given the nature of the vitamin A product, the team found such social and logistical considerations more important than an elaboration of the technical aspects of vitamin A deficiency.

Each spot was created in both the national language, Bahasa Indonesia, and the local language, Javanese. Budget as well as minimum reach and frequency requirements helped determine six local radio stations that would effectively reach mothers. Each station was contracted to broadcast the six spots ten times a day for 40 days during dramas and mystery shows—the most popular radio programs among mothers. Negotiations with the private radio station helped keep the cost of production down to approximately U.S. $10[illegible] per radio spot. Broadcast costs

A CASE IN POINT

WHEN THE NEIGHBORS KNOW BEST

Since the *posyandu*, or village health post, is a relatively new institution in Central Java, and since generic media could not tell every woman where the *posyandu* in her own village was, radio messages encouraged women to seek this information from neighbors and others.

(Introduction...music)

Wife: *Ooh Pakne. I forgot...it's August, isn't it Pakne?*

Husband: *Yes, right! Go on to the posyandu. Although Parno is healthy, he still needs a vitamin A capsule for his health.*

Wife: *But...I forgot...where is the posyandu again, Pak?*

Husband: *Bune, Bune. If you forget such a simple thing, just go ask the neighbor next door.*

Wife: *Oh...right, come on now Parno, we're going to the posyandu.*

Husband: *Ehhh...Bune! Don't forget, it's free!*

(music)

Announcer: *Right! Get vitamin A capsules (echo) every August and February at the posyandu. Let's go to the posyandu to keep our children really healthy!*

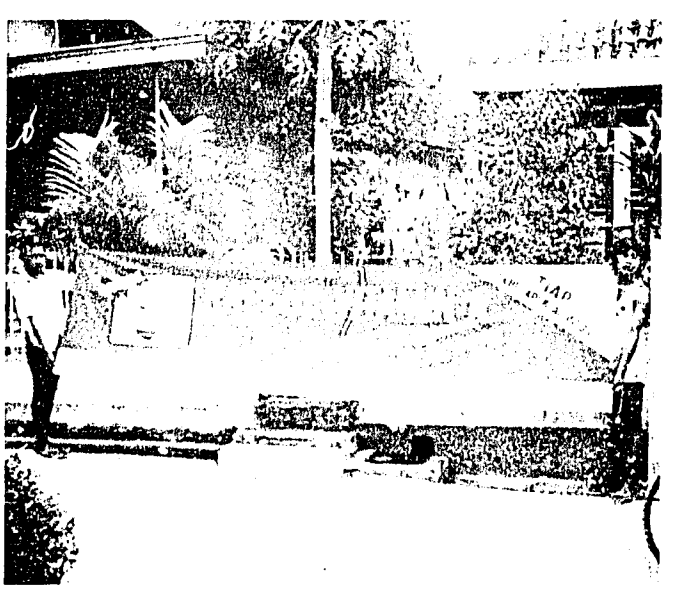
(Smash...fade out music.)

averaged just over U.S. $1 per minute. Radio production and broadcast costs for the first vitamin A monthly promotion thus came to less than U.S. $3,000 for a total of 2,400 one-minute spots.

BANNERS

While radio spots could expand on the campaign messages, banners could convey only the minimum information. They were designed to communicate the basics: the product, the recipient, the timing, the place, and the price. In order to grab the attention of both literate and nonliterate mothers, the banner was highly graphic. One side featured a large bottle of capsules labeled "vitamin A" and surrounded by a few distinctive megadose capsules. "Free" appeared in a prominent red starburst. "Every February and August" appeared on the other side of the banner. Bold yellow letters on a green background read "Vitamin A Capsules—For Your Children. Get them at the Posyandu."

In order to create a banner that could be seen from a distance, the ROVITA team decided on a brightly silk-screened polyester banner four meters long and one meter high. Each one was fitted with grommets at the top and bottom and had wrap-around edges so it could be strung from a rope or hung on two posts. The banner went through numerous pretests with rural mothers. The drawings of the bottle and pills had to be revised several times to make them clearly recognizable to mothers. The colors for different parts of the banner also were of great importance to mothers.



The banner emphasized the distinctive shape of the capsule and the fact that it is free and for children.

The ROVITA Project sent the 450 banners for the first monthly campaign to county health offices for distribution to village chiefs ten days before the first of the month. The head of the Central Java Department of Health sent a cover letter with the banners asking village chiefs to mount them in prominent places by August 1st. Additionally, 40 seven-meter banners were sent to all the puskesmas to be hung at their entrances.

FACE-TO-FACE

Face-to-face communication between heath volunteers and mothers was vital to the intervention. Volunteers played a dual role, first as distributors of the capsules and secondly as educators and promoters of vitamin A. They also had the opportunity to explain the campaign messages in more detail to mothers.

Volunteers played a dual role, first as distributors of the capsules and secondly as educators and promoters of vitamin A.

In preparation for the August intervention, the ROVITA team designed a training program for health volunteers carried out during the months of May and June. The training consisted of two days devoted to proper diarrhea case management and one day devoted to vitamin A. The vitamin A training emphasized the same core messages delivered through the other media. In addition, trainees were encouraged to conduct registration of children and were instructed in the logistical details of distributing the vitamin A capsules. They also received basic information on how to diagnose eye problems.

A tiered system of training had been used successfully in Indonesia for other programs such as family planning and diarrheal disease case management and was also used by ROVITA.[6] The first step consisted of training two groups of 40 puskesmas workers from throughout the project area. The following month, small groups of trained puskesmas staff then trained groups of 20 kader each, reaching a total of 2,200 kader with the vitamin A program. Ultimately, the volunteers were to train mothers informally about vitamin A deficiency. The central training principle was that one learns by doing, and the central method was role-playing. Each trainee played the role of a kader and a mother and had the opportunity to learn from the suggestions of the other trainees.

A manual for kader reinforced their role as distributors of vitamin capsules.

The project team also designed a manual for kader to use with mothers. The manual includes detailed illustrations and was carefully pretested with mothers. Trainees used the manual in their role-playing. Each kader received a certificate upon completion of training.

After the training the volunteers were encouraged to conduct an intensive canvas of their respective areas to register all mothers with children between the ages of one and five in preparation for the next capsule distribution.

Monitoring and Impact Evaluation—a Postscript

Monitoring after the first promotion consisted of a qualitative study of 78 mothers, 33 kader, and 15 puskesmas workers. Questions were simple and focused on whether the audience had heard or seen the messages and whether they had acted on them. In addition, three large-scale quantitative surveys were carried out to measure the impact of the vitamin A promotion activities and to determine, to the extent possible, what worked—and what didn't—and why.[7] The first survey was carried out in October of 1988 and the subsequent surveys one and two years later. The surveys measured vitamin A capsule consumption and other factors in Demak and in a control regency, Rembang.

Despite a modest communication budget, the province made significant progress in expanding coverage. After one year, consumption of capsules by eligible children increased from 24 to 41 percent in precincts with a posyandu. Capsule consumption in villages with a posyandu remained near 40 percent by 1990, although the number of posyandu (and therefore children reached) may have greatly increased during that time. No significant changes in awareness or capsule coverage were recorded in the control area. Awareness of capsules increased from 57 to 69 percent among all mothers within the intervention area, with the largest increases among those living near a health post. Awareness among the latter increased beyond 80 percent during the second year.

Interpersonal channels (volunteers and health care workers) were the most effective means of reaching mothers about vitamin A distribution days. Coverage of eligible children was highest for those living close to a posyandu and for those children who were brought regularly (for immunization or weighing). In 1989, about three quarters of women who attended the health post regularly had heard of the capsules, compared to 35 percent awareness among mothers who never attended. Reliance on the posyandu system limited the project's reach because these volunteer health posts were only active in 50 percent of the precincts in the intervention area and were only open for three to four hours on the designated distribution days.

Exposure to radio and banner messages was significantly related to mothers' awareness of vitamin A capsules. About two-thirds of mothers with high radio exposure had heard of the capsules, compared to only one-third with no radio exposure. Of mothers who had seen a banner, 93 percent said they had heard of the term "vitamin A capsule," compared to 44 percent who had not seen a banner. However, exposure levels to both the radio messages and the banners were disappointing. By 1989, only 21 percent of mothers in the intervention area said they had heard radio messages about vitamin A capsules and only 9 percent had ever seen a banner.

Both media access and logistics limited the reach of messages. Although increased frequency of broadcasts (or careful timing during heavy listening hours) may help reach more mothers, it will likely not help the 45 percent of mothers who said they listened to the radio one day a week or less. Although monitoring indicated that the banners were being displayed in all villages, it also found that many mothers never leave home or go to the village center. Radio messages were designed to encourage mothers to seek help in finding the posyandu, but specific directions ultimately had to come from a face-to-face source. The special role of interpersonal networks was unusual in this campaign, and future interventions will give them greater support. Providing mothers access to current sources of information, as well as adding new sources, will be priorities during the next phase of activities.

Building on the project results and lessons learned, the Indonesia Department of Health is designing a nationwide program, initially targeting the 13 provinces with the highest incidence of vitamin A deficiency. A

greater emphasis will be placed on social mobilization through local leadership structures and the national women's organization, or PKK. Television will also be used in appropriate areas, and radio messages and timing will be refined. Continued expansion of the posyandu system should also contribute to greater coverage rates.

CONCLUSION

The ROVITA Project's experiences promoting vitamin A capsules demonstrated a number of simple but important lessons. First and foremost is that a communication campaign must be based upon careful audience research and materials pretesting. Every product has unique aspects that must be fully investigated from the target audiences' perspectives. Second, if the basic communication program messages are concise, memorable, and action oriented, they can be conveyed through a number of different media. If these media are culturally appropriate, they can effectively reinforce each other even if a single channel has a limited reach; however, no communication program can succeed if the aggregate reach of these media is inadequate. Third, different media can communicate core messages in unique ways. Radio can convey a more complicated message than a banner, and face-to-face communication can convey yet more detailed information. Consistency of message and timing of delivery are at the heart of an integrated social marketing activity.

Lastly, a communication effort can only be as successful as the capacity of the service delivery system to satisfy the created demand. An impact evaluation that identifies who responded and what influenced them to act can provide powerful information not only for the design of subsequent communication activities, but also for consideration by those who can affect the delivery of health services.

NOTES

1. See "Impact of Vitamin A Supplementation on Childhood Mortality: A Randomised Controlled Community Trial," by Alfred Sommer, Ignatius Tarwotjo, Edi Djenaedi, Keith P. West, Jr., et al, in *Lancet* 1: 1169-73 (1986).

2. ROVITA was funded through the A.I.D. FVA/PVC Office (PDC-02840A-00-6131) with support from the HEALTHCOM Project. The ROVITA Project was succeeded by the SOMAVITA Project (Social Marketing for Vitamin A) in 1990 and has been expanded to the national level. HEALTHCOM provides similar assistance to that project.

3. See also the HEALTHCOM Field Note entitled "One Organizational Model for Collaborative Technical Assistance," by Thomas K. Reis, Renata Seidel, Satoto, Benny Kodyat, Soetarto, and Anne Palmer (unpublished).

4. For a description of the kader system see Field Note No. 12, "The Development of Counseling Cards for Community Health Workers."

5. See "An Examination of the Performance and Motivation of Indonesian Village Health Volunteers," by Thomas Reis, John Elder, Satoto, Benny Kodyat, and Anne Palmer, in *International Quarterly of Community Health Education* 11(1): 19–27 (1990-91).

6. See also Field Note No. 16, "Effective Training for Community Health Volunteers."

7. The postscript is summarized from *Results & Realities: A Decade of Experience in Communication for Child Survival*, by Renata Seidel (Academy for Educational Development, 1992) and from "Results from the Evaluation of the HEALTHCOM Project in Central Java, 1988-1989," by Judith A. McDivitt, Jeffrey McDowell, in collaboration with Satoto and Anne Palmer (CIHDC, Annenberg School for Communication, University of Pennsylvania, March 1991). The 1988 and 1989 quantitative surveys were designed by the CIHDC and ROVITA and carried out by Survey Research Indonesia. For further information on these, contact CIHDC, Annenberg School for Communication, University of Pennsylvania, 3620 Walnut Street, Philadelphia, PA 19104. The third survey (1990) was carried out by ROVITA and Survey Research Indonesia. The results are unpublished.

(1989, with postscript added 1992) Thomas Reis was resident adviser for HEALTHCOM/Indonesia and is now with the Kellogg Foundation. Renata Seidel is with HEALTHCOM/Washington. Sartono and Sudaryono are with the Indonesian Department of Health, Central Java. Anne Palmer is with Helen Keller International/Indonesia.

Launching a Social Marketing Project for Immunization in Metro Manila

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Lorna, wife of a construction worker in metro Manila and mother of three children all under six, was busy on Friday morning preparing breakfast for her husband and children. She still had many chores to do—wash her children's clothes and her nine-month old baby's dirty diapers. However, the night before she heard an ad on the radio announcing that on Friday there would be free measles vaccinations at the health centers. She recalled seeing a commercial on her neighbor's TV that showed a mother with a baby in the emergency room of the hospital. The baby had suffered complications from measles. Lorna was convinced that whatever happened, she would take her baby in for a measles vaccination. She was determined to go today. So, she quickly finished preparing breakfast. She would get the baby ready and go to the health center. Today's laundry could wait.

THE SALESFORCE FOR HEALTH

A major aspect of social marketing for child survival programs is the demand creation activity. How is demand created? Through media alone? How important is the person out in the field providing the product or service?

In the commercial world, media advertising can promote almost any product—for example, a line of women's cosmetics. A customer walks into a department store already familiar with a specific cosmetic line because it has been advertised on television, radio, or in women's magazines. At the cosmetics counter she finds a salesperson who has also been trained to make the most of every encounter with a customer—possibly to entice the customer to buy a whole line of cosmetics.

The salesperson knows that she is selling beauty, not just cosmetics. She has thought about what motivates her customer. She knows very well her words and her behavior may be just as powerful an influence upon the sale as any ad might be.

Who are our sales force counterparts in the social marketing of child survival? The sales force includes the health center staff: physicians, nurses, midwives, or health workers who deal directly with mothers and their babies. Like the woman behind the cosmetics counter, the members of this sales force should be trained to make the maximum use of every encounter with their clients. To do this, they must be both fully educated about the product they are promoting (both its benefits and potential costs) and sensitive to the concerns of their clients—chiefly mothers. They must also be motivated and rewarded for filling this role, or their interactions with the clients may be counterproductive.

Background of the Measles Campaign

From February to May of 1988, the HEALTHCOM Project assisted the Philippines Department of Health (DOH) in conducting a pilot immunization campaign in the metro Manila area. The intervention owed much of its success to an informed and supportive "sales force." Immunization, even more than some other child survival interventions, relies heavily on good coordination within the health delivery system—making sure supplies are available, the cold chain is maintained, and proper records are kept. An intensified demand creation activity, such as special radio and television broadcasts or promotions of special vaccination days, puts additional strain on the system. This field note examines how health workers were brought into the Philippines measles effort so that they became the pivotal actors and actresses in the delivery, as well as "selling," of good health to their clients.

Immunization relies heavily on good coordination within the health delivery system.

The Philippines Department of Health decided to conduct a pilot project in the metro Manila area, or the National Capital Region (NCR), as a preliminary to a nationwide intensification in order to test strategies and gain experience from the practical management of mass media and health center activities. The campaign was coordinated by the National Immunization Committee. EPI guidelines were set by the Maternal and Child Health Service of the DOH and communication activities were planned by a team from the HEALTHCOM Project and the Public Information Health Education Service (PIHES) of the DOH.[1]

The campaign focused on measles. Why measles? This disease is not usually thought of as the most deadly for children. The Department of Health aims to raise the full immunization level for six diseases among children under one from 70 percent (in 1988) to 90 percent by 1993. How would a campaign about a single disease fit into this strategy? The DOH chose to focus public attention on measles for several reasons:

- measles had the lowest coverage of all the vaccine-preventable diseases (22.9 percent, based on card-verified data);

Immunization requires reliable products as well as informed and motivated health workers and clients.

- measles is the last vaccination in the immunization series;
- measles is recognized by mothers as a dangerous disease.

As the last vaccination in the series, measles could be used as a "hook" to recapture system dropouts and to give children any other vaccinations they lacked. The full schedule immunizes a child against tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis, and measles. These are given according to the following regimen: a BCG vaccine for newborns, DPT and oral polio vaccine given together at three intervals, and one dose of measles vaccine given with the last of these—ideally between 9 and 12 months of age. A child who is not vaccinated against measles is therefore likely to be missing other vaccinations as well.

Assessment of the Target Group

The primary target group for the campaign was mothers in the lowest socioeconomic classes having children under two years old. Fifty-five percent of this group said they generally used the public health services for their children and 71 percent said they had used the municipal health services at some time. Research previously conducted by the World Health Organization, the Demographic Research and Development Foundation, and data from the metro Manila EPI monitoring system provided some information about vaccination practices among this group.

More detailed information about their attitudes, knowledge, and practices was collected by the Annenberg School for Communication, University of Pennsylvania, through a baseline survey in October of 1987 among 320 low-income mothers in the target region.[2] The survey also studied exposure to different mass media channels. The team conducted interviews and observations of mothers

and health workers at eight health centers in metro Manila to study the health delivery system and the interactions between health workers and clients. This research provided a solid basis on which to set objectives, create messages, select media, and design comprehensive program plans.

COMMUNICATION STRATEGY

The basic strategy of the campaign was simple: to promote a single day of the week for free measles vaccinations. Friday was selected as this special day for the three months of the campaign period. It was also advertised as a day of extended hours: all health centers in the metro Manila area would be open from 8 A.M. to 8 P.M. Although vaccinations at the health centers are always free, they are not in fact always available every day of the week. A reluctance to waste vaccines, for example, can easily lead a health worker to avoid opening a vial containing 10 to 20 doses if it seems many children will not be showing up that day. This results in a "missed opportunity" to vaccinate. (Opportunities are also missed when a child with a slight fever is unnecessarily turned away or a busy health worker fails to note that a child who has come for some other service is in fact behind in vaccinations.)

The basic strategy of the campaign was simple: to promote a single day of the week for free measles vaccinations.

By focusing attention on a specific day of the week, the campaign placed a special burden on the system but also prepared health centers to open new vials and to concentrate resources on additional clients. Although the campaign mentioned only measles, health workers were instructed to watch for children missing other vaccinations as well. Focusing the mother's attention on a specific day would encourage her to think about her child's immunization status and urge her to action.

The chief demand creation activities consisted of broadcast and print materials to inform mothers about the special opportunity on Fridays and the extended hours. This **tactical** information was combined with a **thematic** message about the danger of measles. Research indicated that mothers might not be aware that measles could be life-threatening, leading to pneumonia or meningitis and sometimes death.

PIHES and HEALTHCOM contracted an advertising agency to produce a 60-second TV spot and a 60-second radio spot to dramatize the danger of measles to young children. The spots voiced a simple message: "It only started as measles..." and a simple slogan: "Save baby from measles—immunize him/her." They used a short drama sequence of a child being rushed into the emergency room while her distraught mother watches helplessly. (The child appears later in recovery—the team wanted to scare mothers but not terrify them.) These spots were broadcast Sunday through Wednesday. The agency also produced two 15-second TV spots and a 15-second radio spot to reinforce the times and places of the vaccinations and the target age group (9–12 month olds). The 15-second spots were broadcast every Thursday and Friday. The television spot quoted the secretary of health and the short spots used respected movie celebrities as spokespersons for the campaign. Focus groups with mothers helped select authorities who would be credible to the target audience.

Market research helped assure that television or radio messages would reach 70 percent of the heaviest viewers/listeners twice a week. This broadcast effort alone, however, would have been incomplete. Social marketing emphasizes that there are four elements in a successful intervention—the four P's—product, price, place, and promotion. **Place**, the health center, is really the intersection between the forces of demand and supply in an immunization program. If the health center is not prepared for the customer or motivated to act as a true "sales force," the product may not "sell."

The team therefore created numerous graphic point-of-purchase materials (described below) both to inform and motivate mothers at the health center itself. The campaign also included an entire phase that is familiar to commercial marketers but less familiar to those involved in

A television spot filmed in an emergency room focused on the danger of measles.

social and health programs. This phase is known as the **launch**. The launching of the metro Manila measles campaign tackled some potential problems associated with the place of the campaign and turned health providers into a truly motivated sales force.

WHY CONDUCT A LAUNCH?

Launching is a term distinct from **planning** and **implementation**. Launching, in fact, serves as the connecting link between these two phases. It takes place after the target group has been selected and the messages determined, after the media materials have been produced and are ready to be aired or distributed. It is a collection of well-timed activities that give initial momentum to the campaign and energize everyone involved. The launching phase serves to cement the relationship between the communication and service delivery components of the project.

Although marketing or communication people usually design a launch, the service delivery people play the key roles. They are the frontliners of the campaign activities. The metro Manila measles intensification also enlisted the help of another set of frontliners—the press. The launch therefore included two basic elements: a series of sales conferences and a press conference.

As in many countries, health centers in the Philippines are often looked upon by mothers as **places** with a **high price**. They are frequently overcrowded and the wait can be long. Health workers are usually overworked. Staff are sometimes perceived as irritable and cranky. Supplies are not always sufficient.

This situation could easily have been aggravated by the three-month measles campaign. Health workers were being asked to perform yet more tasks. They would have to fill out weekly forms now (in contrast to their previous monthly forms) indicating how many children were vaccinated. They would be given a variety of promotional materials to distribute. Demand upon their supplies would increase. Moreover health workers throughout the city were asked to work overtime one day a week with no monetary compensation. Many noted that their health centers are located in dangerous areas where street fights or drug abusers create trouble after dark. A number of health workers refused to believe mothers would really come after 5 P.M. Local tradition says that it's dangerous to bring a baby outside after dusk because the evening dew—or *hamog*—can give the child a head cold.

The sales conferences, therefore, were designed not only to mobilize the health workers but to provide an opportunity for them to air difficulties and resolve potential conflicts. And not least important, the conferences were a mechanism for distributing materials, explaining the rationale for the campaign, and providing refresher training in immunization norms.

SELLING THE SALES FORCE FIRST

The DOH/HEALTHCOM team held a total of eight conferences for groups of 50 to 60 people approximately three weeks before the campaign began. Each of metro Manila's 331 health centers sent a physician and a nurse or midwife to participate in the afternoon-long sessions. The local health officer opened each conference, giving the event an air of authority. He explained that the measles campaign was part of a major new effort and that the health workers themselves would be agents of change—the "infantry" of the Department of Health. The first goal of this session was thus to boost the morale of the salespersons who would in turn affect the morale of their clients.

A team including the regional director of health from the National Capital Region and representatives from PIHES/HEALTHCOM and the ad agency that produced the radio and television spots explained the importance of the health worker/sales force in motivating mothers. The participants learned that their health centers would receive materials to help them create a festive and welcome atmosphere. They also learned that their performance would be monitored and that the cities and municipalities showing the highest performance and the highest increase in performance would receive plaques signed by the secretary of health and the NCR regional director. The winners would be featured on television. There were also plans for the secretary of health to visit the high-performing health centers on Fridays, complete with press coverage. Celebration and competition combined to energize the staff.

COOPERATION REQUIRES KNOWLEDGE

Much of each conference was devoted to supplying the staff with essential technical and logistical details about the upcoming campaign. The orientation covered several areas.

Rationale for the Campaign and its Messages

The participants learned that media messages would explicitly direct mothers to the health centers for free measles vaccinations. They learned that health center staff would therefore play two roles: that of **salespersons** for the campaign and also **suppliers** of the service that would be in high demand as a result of the media promotion. They would need to be prepared for this heavy demand upon resources and logistics.

They also learned the reasons that measles had been chosen as a "hook" and that the campaign was expected to increase other vaccinations as well. In this sense, mothers and health workers did not receive the same messages:

health workers knew the campaign had a dual role and needed to be prepared to support this.

Orientation to the Broadcast Promotions

The ad agency presented the three radio spots and the television storyboards to the health workers and explained when these would be broadcast. The agency and PIHES/HEALTHCOM presented the rationale for the campaign slogans: "It only started as measles..." and "Save baby from measles—immunize him/her." Bringing the advertising people to the health workers helped the latter view the campaign as something in which they had ownership, rather than simply as an intrusion by media people into their already overworked lives.

Review of Clinical Guidelines

The NCR regional director distributed a technical handout and clarified the relevant immunization policies. Although this presentation was described as a clinical review, it was the first organized presentation of EPI norms for many of the health workers and was designed to clear up some misunderstandings. Among the most important facts were: that measles vaccines should be given to infants between 9 and 12 months of age; that a child of any age coming to the health center without other vaccinations (such as DPT or polio) should receive these; and that a child should be vaccinated even if he or she had a slight cold, cough, or fever less than 38.5° C.

Physicians and nurses often turned away infants with colds, coughs, or slight fevers.

Previous studies on health center activities showed that some policies were not being followed and that noncompliance was a factor in low immunization coverage. Studies confirmed that physicians and nurses often turned away infants with colds, coughs, or slight fevers. Health center staff explained that if a sick child suffered complications after being vaccinated, this reflected on their own credibility. The conference presenters encouraged staff to conform to the norms and also clarified areas in which flexibility might be good.

Explanation of Special Materials for Health Centers

The participants learned that each health center would receive a collection of special "point-of-purchase"

Large comic-style posters for display in health centers explained the importance of measles vaccinations.

materials to create a welcoming as well as informative environment. These included:

- **Banner**—a blue and white plastic banner to hang over the health center on Fridays, reading:

  Please come in. Free immunization every Friday. DOH/NCR.

- **Pennants**—18 feet of yellow and blue plastic pennants (or *bandaritas*) to hang across the health center on Fridays, with the messages:

  Free measles vaccination.
  Every Friday. In your health center.
  Save baby from measles—immunize him/her.
  8 A.M.–8 P.M. every Friday.

- **T-shirts**—four T-shirts for health center staff to wear on Fridays, reading:

  Save Baby from Measles. Immunize him/her. DOH/NCR Immunization Team.

- **Stickers**—40 yellow and blue bumper stickers to pass out, reading:

  Save Baby from Measles. Immunize him/her. Free, every Friday in your health center.

- **Posters**—two posters to display in the health center (one thematic and one tactical, giving times and places).

- **Comics**—three narrative comic-style posters to display in the health center (with stories designed to counter common myths about measles or vaccinations).

The health workers received an installation guide listing the materials and giving instructions on when and how to display them. Because the campaign was planned on a rush schedule, the print materials could not be handed out at the sales conferences. The team explained that each municipality should send someone on a designated date to pick up the items and distribute them to the health centers. In fact, each group came to collect its items on the designated day, reflecting the value health workers placed upon the materials and their role in the campaign.

Roving Street Health Campaign

The staff were encouraged to set up large colorful umbrellas (also supplied to them) and distribute materials about the campaign at busy areas near the health centers. Some of the print materials, such as the posters, could also be displayed at these points. This activity, although certainly additional work for the health workers, gave them a visible part in the promotional side of the measles intervention and was an effective means of both inviting clients to the health centers and inspiring enthusiasm among the staff.

Monitoring and Feedback Mechanisms

An important third role to be played by the health center staff during the measles campaign was also explained to them at the sales conference. In addition to **promoting** the campaign messages and actually **delivering** the health services, the staff performed an important **monitoring** function in the campaign. This role was described as both a task and an opportunity. The communication team explained a new weekly monitoring and feedback form that had a space for each day of the campaign and a record of how many vaccines of each type were dispensed. A municipal or city health officer would collect the forms each Tuesday. The team explained how to use the forms and emphasized that they were not meant as a device for evaluating workers but rather for gathering feedback on the campaign. The forms contained a space for "comments and suggestions." Thus, if health workers had a problem with vaccine supply or noted that clients in fact were not taking advantage of the extra hours, they would have a

A CASE IN POINT

Is Everyone With You on This?

The importance of monitoring is never so apparent as **after the fact** when something turns out to have failed. The whole purpose of a pilot campaign is really to pretest strategies before expanding to a scale where the risks are even greater. A pilot program, therefore, must not only include mechanisms for obtaining feedback and making midcourse adjustments. It must include an overall evaluation of strengths and weaknesses to help guide future interventions of a similar and possibly grander nature.

The Philippines pilot measles campaign conducted several activities designed to gauge the success of both processes and results. Many of these were set up to feed information quickly back into the system for timely adjustments.

Pretesting of messages and materials is one of the first and most important monitoring steps in a communication program. Each of the metro Manila materials—the radio and television spots, the many graphic items, and the "thematic" message itself, were carefully reviewed and revised with members of the target audience.

Eight sales conferences for the staffs of 331 health centers explained the rationale and details of the campaign but also gave the health professionals a chance to offer their own perspectives. This information helped foreshadow potential problems. Planners explained how health centers could adjust to realities on a case-by-case basis and how they could give feedback to the Ministry during the campaign.

Weekly monitoring forms provided information about numbers of vaccinations given. Equally important, the forms encouraged "comments and suggestions," which allowed managers to respond quickly to immediate needs (e.g., for more syringes or replacement banners) and also supplied them with some valuable field insights into what was working and what wasn't.

Impact data told planners that their strategies had been largely on target. Vaccination rates rose significantly for both measles and other antigens. An analysis, however, also showed that health workers needed more encouragement to follow Ministry norms and not miss opportunities to vaccinate children.

Carefully conducted monitoring reveals more than just degree of failure or success. It shows where and how a program can be improved. Virtually all of the data collected during the metro Manila measles campaign was used to design an effective nationwide intervention.

way of relaying this information to management. Most importantly, the monitoring forms would be a way of documenting the successes of the health workers' efforts.

At each step in the conference the health workers were invited to share their ideas and their concerns. The most common complaint was the extra, uncompensated hours. Health workers were particularly disgruntled over this requirement, since they were not convinced mothers would take advantage of the evening hours. The team dealt with the issue in two ways. They emphasized that the campaign was an experiment and that the situation would be monitored as the weeks went by so that policy could be changed on a center-by-center basis if appropriate. They also suggested that staff talk to their individual superiors about the possibility of taking other time off to compensate for the extra hours. The opportunity to air some of these concerns during the conference and to provide feedback via the weekly monitoring forms made the staff feel their opinions were valued and that they were partners in the campaign effort.

TABLE 9-1

Card-verified immunization coverage pre- and post-intervention (1988)

Antigen	Percentage Coverage January	Percentage Coverage May
BCG	31.4	54.9
DPT1	37.1	57.0
OPV1	36.7	57.0
DPT2	31.0	51.9
OPV2	30.5	51.9
DPT3	26.2	48.9
OPV3	26.2	45.6
Measles	22.9	45.1

Source: CIHDC

THE PRESS CONFERENCE

The day before the media launch, the PIHES/HEALTHCOM team organized one additional pre-campaign "big bang" activity to focus public attention on the project. They invited representatives of the major papers and broadcast media to a one-and-a-half hour press conference presided over by the secretary of health. The secretary placed public health efforts in the context of the recent people's revolution. Explaining that the Philippines is a country characterized by conflict, confrontation, and celebration, he announced that health centers should be places of celebration. This reinforced the atmosphere of festivity and energy promoted among the health workers. The NCR regional director showed the three commercials to the press and both officials fielded questions. The following day, articles about the measles campaign appeared in all the major dailies and on the front pages of several of them.

RESULTS—THE DATA AND THE WORKERS' RESPONSES

The pre- and post-test conducted in January before the campaign and then in May after the campaign indicated the media efforts and the sales conferences were a dramatic success. Card-verified measles immunization rates rose from 42 to 65 percent for 12- to 23-month olds. Complete coverage rates rose substantially. The table shows increases for each antigen during the campaign period.

Other important factors improved as well. Mothers' awareness and knowledge regarding vaccinations increased. Awareness of vaccination as a protection against measles rose from 37 to 74 percent. Awareness of Friday as an immunization day rose to 52 percent. The number of mothers who had visited a health center within the last three months increased from 37 to 51 percent. The number of mothers who could show a vaccination card for their youngest child increased from 40 to 57 percent.

The monitoring forms themselves contributed to the campaign's success. Many health centers used the "comments and suggestions" space to communicate problems. Some noted shortages of syringes and needles. This information was fed back immediately to DOH-NCR, who responded promptly. One health center reported that its banner had been stolen, and it was quickly replaced. Several noted that mothers were not coming in the evening hours. A few health centers volunteered suggestions, such as "the secretary of health should also visit the low-performing health centers to give them a morale booster," or "why don't we give rewards to mothers of fully-immunized children, like T-shirts?" Health workers in one municipality noted that private pediatricians were backbiting the measles project, telling people that the DOH vaccines were not effective because they were locally made. The department was able to reassure health workers.

The systems set up by the campaign as an experiment proved efficient and health centers adopted some of them on a permanent basis. Friday has been maintained as a vaccination day throughout metro Manila. Although the extended late hours have been dropped, health workers have found it convenient to promote a specific day for concentrated activity.

POSTSCRIPT

Based upon the communication strategy used in the metro Manila campaign, the Department of Health planned a nationwide urban intervention that also used measles as a hook to get mothers into the health centers to complete the full immunization series. The nationwide mass media campaign was launched in March of 1990 and continued through September.

An important lesson learned in the metro Manila campaign was that health workers must not only be knowledgeable about the immunization policies of the DOH but must also be prepared to implement them. For example, missed opportunities to vaccinate continued to be a problem during the pilot campaign, partly because health workers were reluctant to give multiple vaccinations during a single visit. Because of this, the nationwide campaign preparations also included a series of sales conferences similar to those of the metro Manila campaign, this time emphasizing the appropriateness of giving all antigens that a child is eligible for in a single visit. The sales conferences were held at the municipal, district, provincial, and regional levels.

The six-month nationwide urban measles intervention produced some dramatic results. Measles coverage of 9- to 23-month olds increased significantly from 54 to 68 percent. Complete immunization coverage for 9- to 11-month olds increased significantly from 33 to more than 56 percent. Timeliness of vaccination coverage also increased sharply during this time. These improvements were not associated with the gender of the child or educational level of the parent.

LESSONS LEARNED

Although it may be difficult to quantify the impact of different media upon a successful campaign, it is clear that multiple channels combined with face-to-face activities reinforce each other. In any child survival intervention, the direct interactions between health workers and mothers and their children affect health practices and attitudes in powerful ways. Informing and involving this "infantry" in efforts to increase demand among a target audience is crucial.

Activities to launch an intervention by bringing this sales force on board contribute substantially to the impact of other promotional activities. The launch is a special phase of marketing and can provide an initial spurt of energy to a campaign and motivate service providers to become enthusiastic partners in it. Although these activities can be seen as good public relations on the one hand, they also bring the service delivery side of the equation into harmony with the demand creation side. The launch can provide a forum for sharing technical information, for fielding questions, resolving conflicts, and for cementing relations among those involved in the intervention.

NOTES

1. For a detailed description of the planning process, the creation of materials, and the methodology employed in the metro Manila campaign, see Managing a Communication Program on Immunization: A Decision-Making Guide, by Cecilia Cabañero-Verzosa, Marietta G. Bernaje, Eleanora M. de Guzman, José Rafael S. Hernandez, Carmencita N. Reodica, and Mario M. Taguiwalo (Washington, D.C.: published jointly by the HEALTHCOM Project and the Department of Health, Republic of the Philippines, December 1989).

2. Results from the before and after surveys conducted for the metro Manila and urban nationwide measles interventions are summarized from "The HEALTHCOM Project in The Philippines: Final Case Study Evaluation Report," by Robert Hornik, Susan Zimicki, and Mary Bessie Lee (CIHDC, Annenberg School for Communication, University of Pennsylvania, March 1991). For further information contact the Annenberg School for Communication, University of Pennsylvania, 3620 Walnut Street, Philadelphia, PA 19104.

(1989, with postscript added 1992) Eleanora M. de Guzman and José Rafael Hernandez were resident advisers with HEALTHCOM/Philippines. De Guzman is currently with HEALTHCOM/Senegal and Hernandez is with the USAID Philippines Child Survival Project. Cecilia Cabañero-Verzosa and Renata Seidel are with HEALTHCOM/Washington. Carmencita N. Reodica is with the Philippines Department of Health. *The authors would like to thank Mario M. Taguiwalo, undersecretary and chief of staff, Philippines Department of Health, for helping conceptualize the intervention within the DOH operational framework; Manuel M. Dayrit, PIHES chief, for overall direction of the measles campaign; and Edna Nito, PIHES liaison with health centers during the campaign.*

Part C

Designing and Testing Effective Materials

(Brochures on childhood respiratory infection, Honduras)

A single intervention may produce posters, radio and television spots, flipcharts, comic books, training guides, mobile films, memory aides, banners, T-shirts, calendars, and bumper stickers. Although these test the creative skills of local artists and communication strategists, no professional opinion can measure their worth. Only the target audience can do this. Ideally, artists work directly with clients to produce materials that are culturally appropriate. Pretesting of materials and tactics with a representative sample of the intended audience is essential to assure that content is communicated accurately and that the tone, appeal, and credibility of messages is accepted.

Designing and Testing Effective Materials

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When a Logo is More Than Just a Logo

Reynaldo Pareja
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Not the Usual Story

"Once Upon a Time..." is an appropriate way to begin a story about how the child survival logo of the Ecuador PREMI program came to life and how its three characters became the actors and actress (and one of them the fictional star) of the communication strategy. The story is an unusual one partly because of the fame its characters achieved and partly because the characters changed midcourse—not generally a good idea for a logo.

PREMI, or the Plan to Reduce Childhood Disease and Mortality (Plan de Reducción de Enfermedad y Muerte Infantil), was Ecuador's first nationwide child survival program. It was created in 1985 by the Government of Ecuador to lower morbidity and mortality among children under five by promoting immunization, diarrheal disease control, growth monitoring, and breastfeeding. PREMI had two basic components. The first aimed at strengthening the Ministry of Health's overall capacity to deliver health services through improved health systems management, logistics, supervision, and training. The second was a public health strategy designed to increase demand for the new services and provide mothers with information on how to care for children in their homes. The Instituto Nacional del Niño y la Familia (INNFA), a nonprofit semi-autonomous government organization, was responsible for this communication component. The HEALTHCOM Project assisted in the INNFA-PREMI activities.

Although other nations had previously carried out mass mobilizations to combat single diseases or promote vaccination, Ecuador was one of the first countries to conduct nationwide mobilizations integrating several child survival themes. PREMI was the world's first effort to combine weighing of infants and distribution of ORS packets with mass vaccinations days (*jornadas*). Delivery of coherent information to mothers required an intensive communication strategy. Innovative educational efforts for parents during the non-campaign periods also combined themes.[1] PREMI's umbrella approach to children's health—versus the usual vertical emphasis on individual diseases or technologies—required unifying communication elements.

At the beginning of the PREMI program, Ecuador had no graphic symbol for the concept of child survival or for its own programmatic effort. The UNICEF logo had been used to some extent and was recognizable to program managers as a symbol of maternal and child health, but it was not familiar to the general public and was not distinctly Ecuadoran. The design of a PREMI logo was important both to strengthen the program's identity at the administrative level and to serve as a unifying informational and promotional hook for audiences targeted by the communication strategy. The logo was merely the first of a long string of creative design efforts to integrate PREMI's many activities.

Creating the First Logo

The project contracted a local advertising agency, McCann-Erickson, to help define the overall communication strategy and to test several logo designs. Since the primary audience for the PREMI effort was mothers and other caretakers of children under five, the process of designing a logo began with focus groups of mothers.

The ad agency presented to the participants several possible design elements. Mothers selected those they thought would be appropriate to the theme of child survival. They chose a plant (representing life), a sun (representing energy and life), and a boy and girl. Artists at the

Artists at first proposed this geometric-style logo for the PREMI program.

agency produced drafts of these different symbols, and, at the women's request, a composite showing a boy and a girl along with a small, healthy plant.

Mothers objected to the rigidity of the first drawing. The figures seemed too geometrical and the children lacking in detail. Whereas the artists had aimed at a simple graphic design, the mothers obviously wanted a literal illustration. The second draft seemed too cartoon-like to them. Finally, a third draft met with their approval.

Mothers also helped select a slogan for the PREMI program. They first suggested words and concepts that they thought should be associated with a health program and project staff combined them in a selection of rhymes. Mothers narrowed these down to two:

En mi casa y en la de toditos, tenemos niños sanitos.

("In my house, yours, and everyone's, we have healthy children.")

and

Pongamos contentos, fuertes y sanos a todos los niños ecuatorianos.

("Let's make Ecuadoran children happy, strong, and healthy.")

Mothers preferred this more literal representation of a robust girl and boy.

The second slogan was finally selected as a logical caption for the logo. The underlying thought was that a healthy child should be easily recognizable through such characteristics as a rosy skin, a happy face, a strong build, and an eager expression. The logo children clearly exhibited these traits.

When is a Change in a Logo Justified?

Ordinarily an effective communication strategy avoids any midprogram change in major messages or symbols. Lack of consistency can confuse the audience and undermine their loyalty to products or services in subtle ways. The PREMI experience, however, provides an interesting exception to this rule.

Ordinarily an effective communication strategy avoids any midprogram change in major messages or symbols.

The initial target of child survival activities was defined as children under five. However, results of the first national health campaign (in October 1985) showed that most children over three years old had completed their vaccination doses, while children under two (and particularly children under one) remained significantly unprotected.[2] The Ministry of Health and the Pan American Health Association (PAHO) recognized the importance of these results and recommended changing the target emphasis to a lower age group.

Prompt vaccinations were not the only goal of this change in focus. Staff of the Nutrition Unit of the Ministry were also interested in lowering the target age because malnutrition is most devastating among those under two and prevention measures must begin early.

This programmatic decision meant that promotional activities had somehow to change the image of the target audience. This was a formidable challenge. Research indicated that mothers were afraid to subject their infants to the trauma of vaccination. Health messages had to counter these fears. Furthermore, the PREMI logo clearly showed children of early school age; this would have to be changed.

Communication planners decided to put the PREMI logo to work on the difficult challenge of changing a target audience midprogram.

The "updated" logo showed big brother and sister striking a protective pose with the new star, Carlitos.

Carlitos is Born

Project staff proposed that the logo children gain a little nine-month-old brother. The Communication Unit of INNFA-PREMI suggested the fellow be bright and spunky, have an innocent and winning smile, a chubby, healthy stomach, an undersized T-shirt (showing his growth), and a diaper and bare feet (showing his youth). They drew a number of sketches and took several to the field for pretesting with mothers.

Mothers recommended a number of changes. The child's eyes and mouth seemed too sad and the color of his skin unhealthy. They thought the T-shirt should cover his belly to avoid the appearance of a distended stomach possibly filled with worms. His lack of shoes suggested poverty to them.

Mothers also discussed names for the child. The Communication Unit had leaned toward *Telmo* but mothers almost unanimously rejected this. They made up their own lists of names, narrowed them down to three favorites, and finally came up with *Carlos* and its diminutive, *Carlitos.* The artists redrew Carlitos together with his brother and sister.

"Ahi Viene Carlitos"

"Here comes Carlitos!" The new logo was very literally born through a campaign to introduce this little brother to the public. The announcement, *Ahi viene Carlitos!* appeared in three major national newspapers over a period of five days. On the last day, the announcement changed to "Here is Carlitos!" Underneath was a picture of Carlitos riding a huge vaccination syringe like a rocket while his brother and sister await his landing. Big brother says "He's so handsome." Big sister says, "And so strong—you can't imagine how heavy he is!" (as she holds him in her arms). This campaign launch was followed immediately by a new comic strip series in several newspapers about Carlitos and his two siblings and their adventures in the land of child survival.

The comic strip was entitled *Carliman y el Hada PREMI,* or "Carliman and the PREMI Fairy." The star is Carliman—his name rhyming with He-Man, who was very popular at that time. Carliman is portrayed as a vulnerable but hardly defenseless little boy. He is wise and often magically strong. Although he is too young to walk or talk, he is full of adventure and always ends up the hero of the day. He is accompanied by Pikiko and Pilucha, his brother and sister who act as his protectors and friends. An ugly goblin tries in devilish ways to trip up Carlitos with his arsenal of diseases. But Hada PREMI, a tiny fairy, represents the forces of good (or rather good health) and helps Carlitos escape from danger.

Brother and sister marvel at the "arrival," comic book fashion, of little Carlitos: "Such a handsome child." "And so healthy—you can't imagine how strong he is!"

The strip proceeds through four science-fiction-like adventures. Carliman's magic suitcase contains three-dimensional glasses that let him and his siblings see germs inside a little boy who needs ORS; magic powder transforms his baby carriage into a miniature spaceship that plunges through a syringe into the human body to fight disease; his fourth-dimensional TV set lets the adventurers wander into a land of giant candy canes and more nutritious foods.

The four-panel comic strip appeared uninterrupted for 125 days in two nationally distributed newspapers, *El Comercio* and *Hoy*. It was also reprinted by one provincial newspaper.

PUTTING CARLITOS TO WORK

Carliman y el Hada PREMI brought Carlitos to life. The public began to empathize with him. Carlitos had a personality—innocent yet clever, vulnerable but confident of his protectors. He gradually became linked in the public's mind with child survival activities. The project staff saw the advantage of putting Carlitos to work and began to use him on virtually all PREMI materials. He had inadvertently become the project's spokesman. And his brother and sister—who had originally represented the target group—became symbols of sibling care and love. In a country where many daughters, in particular, are responsible for the younger children, this "story" was very appealing.

Carlitos had inadvertently become the project's spokesman.

A workbook for elementary school students included the complete series of Carlitos comics, together with games and exercises.

Carliman's Textbook

Children were one logical audience for Carlitos' messages. Once all the comic strips had appeared, they were compiled into a soft-cover book designed to be used as an elementary school text complete with exercises, games, and a pre- and post-test. The book, entitled *Carliman el Campeón de Salud* ("Carliman, the Champion of Health") was divided into four sections which dramatize a range of PREMI messages—the importance of vaccinations, ORS, hygienic habits, growth monitoring, good nutrition, breastfeeding, and the vaccination card. Copies were distributed in a pilot program to 30 primary schools associated with the Fe y Alegria organization (experimental schools). A total of 1,750 third graders and their teachers received copies. The teachers also received an evaluation sheet and a guidebook suggesting how to use the Carliman textbook.

After the pilot study, the Carliman textbook was distributed to 10,000 third grade children in both standard and experimental elementary schools through the Fe y Alegria network and through OTIDES (a coordination and implementation unit created through a bilateral agreement between the Ministries of Health and Education).

Broadcast and Print Materials

Carlitos was equally important as a spokesman to parents. He was the star of several animated television spots promoting different child survival themes and encouraged parents to practice an assortment of helpful behaviors.

Crystal Bell Campaign—This monthly spot reminded mothers to bring their children to the health center on a regular basis for growth monitoring, for vaccinations, to receive ORS packets, etc. Carlitos is featured ringing several crystal bells that are supposed to remind mothers to think about their children's health. He points out the services that a mother can get for her child at the

health center and demonstrates by making the rounds himself (getting a vaccination, sitting on the scale to be weighed, etc.)

"Haga de su niño un campeón"—"Make a Champion of your Child." Carlitos appears as the champion and receives a trophy and a gold star for completing all of his vaccinations. He explains to mothers how they can receive a gold star for their child at the health center. (If a child is fully vaccinated his or her mother will receive a special certificate. If the child is fully vaccinated before the age of one, the certificate will also have a large gold star on it.)

"Mantenga un sobre de Suero Oral en su casa"—Carlitos has a sudden attack of diarrhea. His mother looks for an ORS packet and is unable to find one. The moral: always keep an ORS packet at home because "diarrhea does not announce itself; it just arrives."

What is dehydration? Carlitos is suffering from diarrhea and becomes dehydrated. His eyes become sunken, his skin becomes dried and pinched, and he cries without tears. He loses weight and energy and becomes listless. When his mother gives him ORS solution, he recovers.

The project created dramatic posters to reinforce each of these themes, to be displayed in health centers.

Healthy Child Contests

Carlitos was also the official promoter of a national contest in which mothers could become eligible for a raffle of 180 educational scholarships (primarily to buy books for their school-aged children).

In order to participate, a mother brought her child's growth chart to the health center where a health worker confirmed that the child's vaccinations had been completed and that his or her growth had been registered at least five times on the chart. The card had to show that the child was under one year old.

One poster showed how Carlitos earned the status of "champion" when his mother followed through on the four child health themes.

A vaccination certificate designed with the original logo was updated with a gold star for any mother whose child was fully vaccinated by the age of nine months—like Carlitos.

In addition, the mother had to recite or sing the ORS preparation jingle or the healthy baby song for other mothers at the health center. She then received a prenumbered ticket that allowed her to participate in the educational raffle for her child.

Television, radio, and print materials promoted the contest. In two animated television spots, Carlitos explained to mothers how to fulfill the requirements of participation. The spots were aired on seven national television stations eight times a day for ten days. Three informational radio spots were aired over 225 stations, 15 times a day for ten days.

In addition, the Communication Unit distributed two large, color posters to health centers and other public places where mothers were likely to see them. The posters featured Carlitos and his champion status.

Speaking to the Workers

Carlitos' final role was to thank all of his benefactors. As PREMI reached its administrative end, the Communication Unit designed two "thank you" items to distribute to all those people who had contributed substantially to the success of the three national health campaigns.

One of these was a colorful card showing Carlitos sitting in his director's chair and pointing at pictures of impressive PREMI activities. The card read, "Thanks to you, all of this was possible." The Unit also designed a small pin engraved in color with the PREMI logo. A total of 5,000 thank you cards and 300 pins were given on special occasions to the most valued program contributors. The pins became prized possessions.

Partly because Carlitos seemed to have become a real and endearing child, his "thank you" carried weight even with those who had created him.

CONCLUSION

This field note has described just a few ways in which a successful logo can be used imaginatively. A little artwork—carefully pretested with mothers—can be used to carry important information, to motivate action, and to symbolize the hard work of many people. If the artists had not listened to mothers, moreover, they would have been stuck with a simple geometric logo that would never have leant itself to the fictionalization of its characters and the eventual power of its childlike voice.

This field note also shows that every rule can be broken if it is broken for a good reason and in a careful way. Whereas a program should not usually change important messages or symbols midcourse, this sometimes becomes necessary. Carlitos was introduced in such a way that he did not confuse the audience but rather helped clarify and highlight important health messages. He was able to serve as an integrating force among many media and provided a consistent voice through a number of related interventions. Most importantly, through the imaginative drawings and applications of communication workers, he seemed to become alive and to win a place in the hearts of mothers and children, as well as communication planners and health workers.

NOTES

1. See also Field Note No. 13, "Production of a Child Health Flipchart by and for the Community," and Field Note No. 18, "Long Distance Health Education for Rural Ecuadoran Mothers."

2. PREMI was eventually successful in raising the vaccination rates for this vulnerable population. For further information see "Results from the Evaluation of the PREMI/HEALTHCOM Project in Ecuador: 1985–1988," by Robert Hornik, Eduardo Contreras-Budge, Nina Ferencic, Christopher Koepke, and Nancy Morris (CIHDC, Annenberg School for Communication, University of Pennsylvania, March 1991).

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11

Collecting Information in the Field:

An Experience in Designing Record Forms for Traditional Birth Attendants in Malaŵi

Deborah L. Helitzer-Allen

MALARIA AND THE COMMUNITY

In Malaŵi, approximately 28 percent of all children die before the age of five years. Malaria and associated anemias significantly contribute to the under five mortality and are responsible for 26 percent of all pediatric hospital deaths.[1] It is estimated that incidence of fever/malaria in children under five is 13.5 episodes per year.[2] During 1986, malaria was responsible for a third of all outpatient visits.[3] The economic impact of malaria as well as the human suffering associated with both morbidity and mortality are significant and have made malaria control a high priority within the Ministry of Health.

The Ministry policy recommends that communities should play an increasing role in malaria control through village health committees and volunteer community health providers.[4] In particular, a community health provider would be expected to presumptively diagnose malaria in individuals with fever for which no other cause can be determined, to treat individuals with the correct chloroquine dose for age, to provide chloroquine prophylaxis to pregnant women, and to refer those individuals who do not respond to treatment to a nearby health facility.[5] The community health provider would likewise be expected to work through the village health committee to promote basic preventive measures and vector control activities.

In an attempt to determine which type of individual at the village level could best serve as a provider, the Ministry of Health directed funds and technical assistance from the HEALTHCOM Project in late 1986 to learn about the feasibility, safety, and logistics of training traditional birth attendants (TBAs) to distribute chloroquine.[6] The volunteers were to dispense the anti-malarials to children under five having malaria and to pregnant women for prevention of malaria. Concurrently, educational materials and recording forms were developed for use in training TBAs in correct treatment and prophylaxis practices and in record keeping.

This field note focuses on the development of record-keeping forms for the TBAs. The task proved to be a challenge. The traditional birth attendant in Malaŵi is typically semi- or nonliterate. Yet the information we hoped they could track was complex. The process of developing this form required multiple pretesting exercises and five successive iterations with illustrations and minimal text in

The traditional birth attendant is respected in the community but is often semi-literate, requiring very carefully designed materials.

Chicheŵa and English. However, we eventually came up with a simple and easy-to-use record form that we believe accurately reflected the distribution of chloroquine by each provider to clients they listed.

STUDY DESIGN

Village headmen in 18 villages selected a total of 38 traditional birth attendants to be trained as part of our study. The TBAs were between the ages of 20 and 60; most (although not all) were women. The Health Education Unit of the Ministry of Health specially designed a two-day course for the participants on the treatment and prevention of malaria. The initial training curriculum used both a malaria treatment chart developed by Sterling Products International in conjunction with the Ministry (figure 11-1) and the first iteration of the record-keeping form. Each TBA was provided with chloroquine for distribution during the study.

In Malaŵi, a complete treatment dose of 25 mg. chloroquine phosphate per kilogram of body weight is given over three days. The malaria treatment chart shows the number of 150 mg. base tablets required according to age group (0-12 months, 1-3 years, 4-6 years, 7-11 years, and 12 years and older), as well as the number of tablets required for each of the three treatment days and the total. A significant portion of the training concentrated on how to read the treatment chart and how to fill out the record forms that the team had designed to track distribution. Nevertheless the TBAs were advised to have a literate family member or neighbor assist in completing the record form, if necessary. During simulation exercises, for those TBAs who were not able to write at all, forms were filled in by literate TBAs and course assistants with information provided by the TBAs.

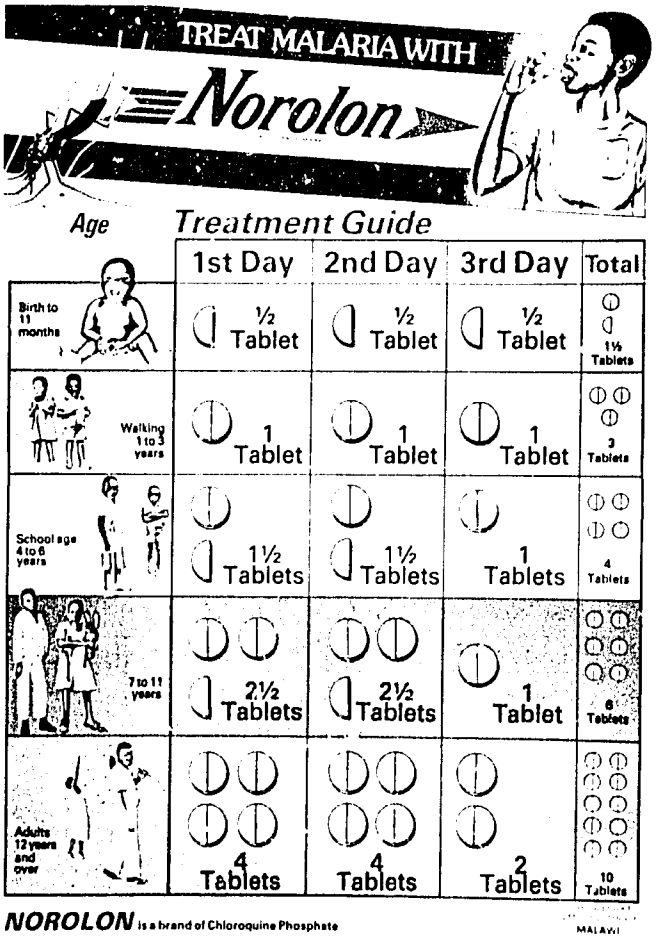


Figure 11-1. Norolon treatment chart.

An initial census conducted before the training program helped planners estimate the total number of patients to be covered by each TBA per month. From these figures and estimates of fever incidence in children under five, we were able to estimate the expected number of patients and therefore the number of both record forms and approximate chloroquine supply required by each TBA.

After the training, a female member of the Health Education Unit or the Salima Agricultural Development District Public Health Unit made a supervisory visit to each TBA once a month. The supervisory visits continued for ten successive months on approximately the same day each month. The TBAs were told when to expect the team and to have their record forms and chloroquine stocks available for inspection. During these visits the team discussed the record forms in detail with each volunteer and asked questions about treatment dosages for different age groups, environmental protection, prophylaxis for pregnant women, and community beliefs and practices about malaria. Each TBA was given a hypothetical patient situation and asked to describe the correct treatment and correct method of recording the treatment information. Literate family members serving as record keepers were also interviewed to determine any problems they had in completing record forms. Finally, remaining chloroquine stocks of each TBA were counted and replenished, the number of tablets used was tabulated, and this number compared to the number accounted for on the record forms.

The supervisory visits continued for ten successive months.

The supervisory visits provided input for successive drafts of the record forms over the ten-month period of the feasibility study. The treatment chart was likewise tested during supervisory visits. By pointing to a randomly selected row and asking the TBA to report the information contained there, the observer could assess the TBA's comprehension and the clarity of the form.

LEMBANI PA FOLOMU IYI, ODWALA MALUNGO ALIYENSE AMENE MWAMUONA

CATCHMENT AREA: ----------
VILLAGE: ----------
NAME OF TBA: ----------
ID OF TBA: ----------

INTERVIEWER ID: ----------
DATE OF SUPERVISORY VISIT: ----------

TSIKU DATE	DZINA LA ODWALA NAME OF PATIENT	ZAKA AGE	WAPAKATI KAPENA AYI? PREGNANT?	MALUNGO? MALARIA?	PROPHYLAXIS OR TREATMENT DOSE (OF PILLS)? MIBULU INGATI?

Figure 11-2. First iteration of the form.

ITERATIONS OF THE RECORD FORM

In designing the record form, we were interested in capturing several types of information about the client and about the actions of the community volunteer. These included:

- date of each visit made by a TBA,
- name of the client,
- age of the client,
- whether the client was pregnant,
- whether the client was suffering from malaria,
- how many tablets the patient received.

We designed the first draft form with one line for each patient visit. (See figure 11-2.) A single form had enough room for four patient visits.

Problems with the Initial Design

During the first supervisory session, 30 of the 38 TBAs were visited and interviewed. A total of 219 forms had been completed, recording information on 780 patients. About one-quarter of the records correctly recorded dose for age. Almost all of the TBAs had treated pregnant women with symptoms of malaria. However, few were providing prophylaxis to pregnant women, and only one of these women received the correct dosage.

Based on the records, 63 percent of the patients had received treatment for less than the total three days required. Fifty-eight percent of the chloroquine distributed to the TBAs was accounted for in the records.

None of the 30 TBAs had their treatment charts prominently displayed. Twenty of them were able to demonstrate how to use the chart to determine treatment when presented with a hypothetical patient. Six stated that they had a problem interpreting the treatment chart. Twenty-seven of the TBAs had relied upon literate family members or neighbors to assist with record keeping. None of those recorders had trouble interpreting the chart.

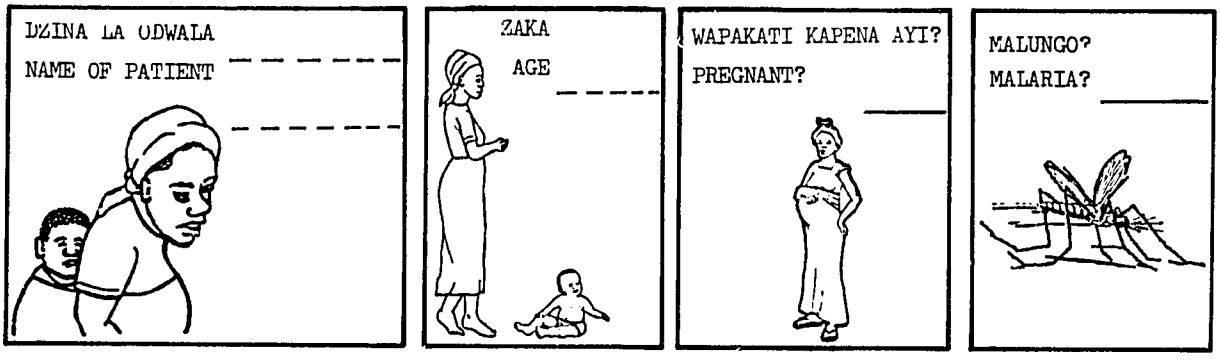
The first supervisory visits revealed several problems with the initial draft record-keeping form. The most important problem was that it was not an effective reminder to the TBA that each patient had to return on three successive days to get her or his full treatment. The volunteers had been instructed during training to give out one day's dosage at a time to each patient. The health workers at the nearby clinics and the training team had reason to believe that a patient would not take the full dose if it was provided all at once but rather would stop as soon as the symptoms disappeared, hoarding the remaining tablets for the next attack.

However, the records showed that few patients received the full dose under this system. Patients were apparently not returning to get their tablets once the symptoms disappeared. One of the problems, we sur-

LEMBANI PA FOLOMU IYI, ODWALA MALUNGO ALIYENSE AMENE MWAMUONA

CATCHMENT AREA: ---------- NAME OF TBA: ---------- INTERVIEWER TO: ----------

VILLAGE: ---------- ID OF TBA: ---------- DATE OF SUPERVISORY VISIT: ----------



	TSIKU DATE	PILLS MIBULU INGATI?	
VISIT 1			
VISIT 2			
VISIT 3			

Figure 11-3. Second iteration of the form.

mised, was that the forms were not assisting TBAs in tracking their patients so follow-up was difficult. The same design feature made the form awkward as a data collection tool. It did not provide an easy way to look at individual patient treatment histories; to gather this information one had to look through pages for a patient's second and third visits—or to discover they never took place.

Second Iteration

We decided that, to be a more effective health education as well as data collection tool, each form should be limited to one patient and include all visits. The new form thus provided a complete treatment history on each page. (See figure 11-3.) An incomplete form meant incomplete treatment—reminding a volunteer that a patient had not yet received the full dosage. While this was a more expensive endeavor (a ream of duplicating paper in Malawi costs the equivalent of U.S. $10.00), we believed it would help improve the performance of the TBAs. Also, since we had found that the treatment chart was never displayed by the TBAs, a copy of the chart was affixed to the folder containing the record forms.

During the next supervisory session, the second iteration of the form was introduced. During the third supervisory visit, 35 TBAs were visited and interviewed. A total of 389 forms had been completed during the month, including information about 1,372 patients. Seventy percent of the records correctly recorded dose for age. While all of the TBAs had treated pregnant women with symptoms of malaria, few had provided prophylaxis to pregnant women. For those 11 pregnant women receiving prophylaxis, only two of these received the correct dosage.

Based on the records, 23 percent of patients had received treatment for less than the total three days required. Forty-one percent of the chloroquine distributed to the TBAs was accounted for in the records.

Ninety percent of the TBAs were able to demonstrate how to use the chart to determine treatment when presented with a hypothetical patient.

A Change in Policy

A month after the second record form had been instituted, it became clear that the TBAs could not significantly influence their patients to return for the second and third

LEMBANI PA FOLOMU IYI, ODWALA MALUNGO ALIYENSE AMENE MWAMUONA

CATCHMENT AREA: ----------
VILLAGE: ----------
NAME OF TBA: ----------
ID OF TBA: ----------

NAME _____ CHONGANI BOKOSI LOYENERA. ✓

Birth to 11 months Ana osaposela miyezi khumi ndi umodzi. _____	PILLS MIBULU INGATI?
Walking 1to3 years Wovenda, osachepera zaka zitatu _____	PILLS MIBULU INGATI?
School age 4 to 6 years Woyamba sukulu azaka zinai mpaka zisanu ndi chimodzi. _____	PILLS MIBULU INGATI?
WAPAKATIKAPENA AYI? PREGNANT? _____	PILLS MIBULU INGATI?
7 to 11 years ziwiri mpaka khumi ndi chimodzi. _____	PILLS MIBULU INGATI?
Adults 12 years & over Zaka khumi ndi ziwiri mpaka kupitilira. _____	PILLS MIBULU INGATI?

Figure 11-4. *Third iteration of the form.*

dosages. This study coincided with the planting season when community members are normally busy in their fields and cannot take time out to perform any unnecessary tasks. Going back to the TBA for more medicine after the symptoms had disappeared was, understandably, one of those time-consuming activities that had little relevance to the now "healthy" patient. The supervisory team was concerned about contributing to chloroquine resistance and soon changed treatment policy so that TBAs began to provide the full course of treatment for each patient at the first visit.

Going back to the TBA for more medicine after the symptoms had disappeared had little relevance to the now "healthy" patient.

While we still believed that compliance would be a problem, we hoped that more people would take the full dose if it were given to them all at once, along with instructions.

The change in policy necessitated a third iteration in the record forms. (See figure 11-4.) Several significant changes were made in this new version. One, of course, was the deletion of the second and third visits. Another set of changes had to do with assessment of a patient's age—necessary for dispensing the correct treatment dosages. We were aware from discussions with TBAs in the first few supervisory visits that they were having trouble guessing the ages of the children they were treating. However, it was not important to get the exact age of the child—only to know the general age group. These age "options" could be easily indicated. The new form therefore emphasized the correspondence between a child's age and the appropriate dose, but did so by age group.

We simplified this identification process for the TBAs by supplying pictures suggesting different age categories. We used the same pictures displayed on the treatment chart developed by Sterling Products International and the Ministry of Health (figure 11-1). The TBA only needed to put a check in the box next to the appropriate

picture. In the next box she was to draw the number of tablets she gave that patient. We hoped that this change would make it easier for the TBA to prescribe the right number of tablets and also to fill out the form more easily on her own.

During the fourth supervisory session, this latest iteration was introduced. During the fifth supervisory session, 34 TBAs were visited and interviewed. A total of 1,689 forms had been completed during the preceding month for as many patients.

The simplified form seemed to work well, and the new form in combination with the new policy for distributing the full course of treatment on the first day helped increase the accuracy of treatment dosage recorded by the TBA and/or her record keeper. This time, 90 percent of the records correctly recorded dose for age.

Again, almost all of the volunteers had treated pregnant women with symptoms of malaria. Information about 33 pregnant women requiring prophylaxis had been recorded; however, only one of these recorded the correct number of tablets. Forty-seven percent of the chloroquine distributed to the TBAs was accounted for in the records.

Ninety percent of the TBAs were able to demonstrate how to use the chart to determine treatment when presented with a hypothetical patient.

Fourth Iteration

Although the TBAs appeared to be using the third version of the form with greater success, they had some complaints. They all said they could not read the ages very well. They also complained of having to write the name of the child "on the baby's head."

Some necessary information had also been omitted: there was no way to distinguish pregnant women with malaria from those requiring prophylaxis. In addition, the form asked for some unnecessary information. The check next to the age group was really redundant and having the names of the village and catchment area on the forms was not essential.

The fourth iteration changed to a lengthwise format to increase the space available for pictures and information. This version was introduced during the sixth supervisory session. During the following supervisory session, 28 TBAs were visited and interviewed. A total of 1,080 forms had been completed during the preceding month. This iteration was almost completely successful. It was easier to read and more of the TBAs were able to fill out the form on their own.

Ninety-three percent of the records correctly recorded dose for age. Information about 47 pregnant women requiring prophylaxis had been recorded; 62 percent of these forms recorded the correct number of tablets. Twenty-nine percent of the chloroquine distributed to the TBAs was accounted for in the records.

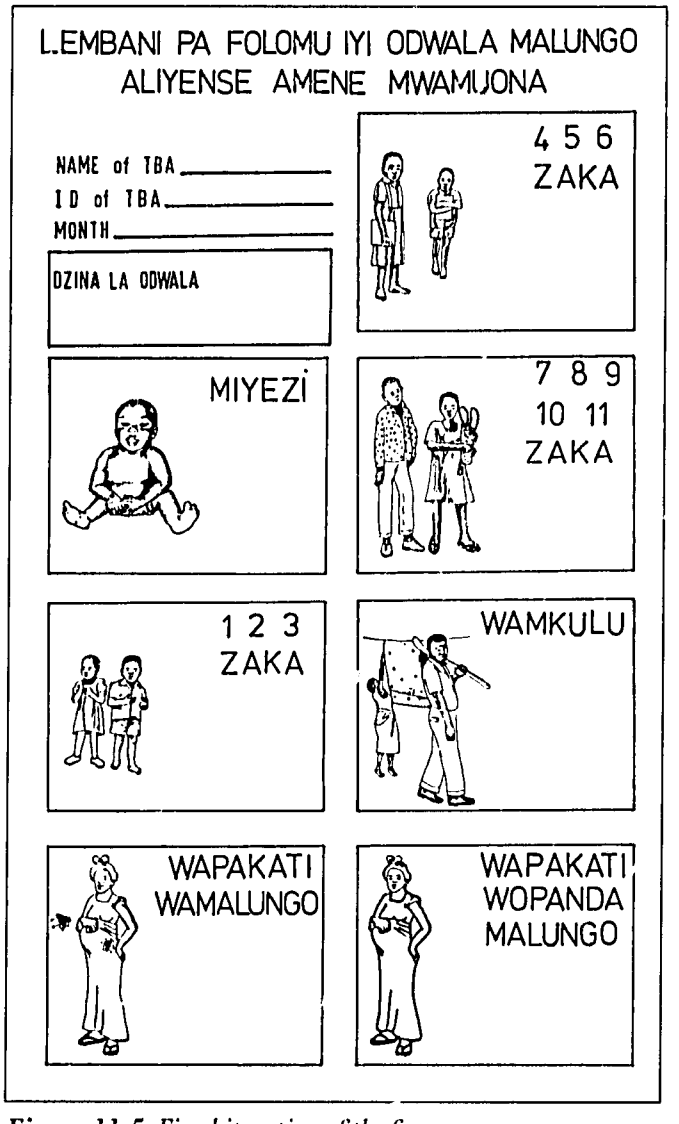


Figure 11-5. Final iteration of the form.

Ninety percent of TBAs were able to demonstrate how to use the chart to determine treatment when presented with a hypothetical patient.

Fifth and Final Iteration

Criticisms of this last record form were minor. The patient's name was the only piece of information requested that was not provided with a box; this inconsistency confused some people. A fifth and final iteration therefore supplied a box. (See figure 11-5.) This final iteration was introduced during the eighth supervisory session. Twenty-eight TBAs were visited and interviewed. A total of 1,126 forms had been completed during the preceding month.

Ninety-five percent of the records correctly recorded dose for age. Information about 51 pregnant women requiring prophylaxis had been recorded; 80 percent of these forms recorded the correct number of tablets. Thirty-eight percent of the chloroquine distributed to the

TBAs was accounted for in the records. All of the TBAs were able to demonstrate how to use this iteration of the chart to determine treatment when presented with a hypothetical patient.

Discussion

The chloroquine distribution record-keeping form was meant to serve as both a health education reminder and a data collection tool. It contained information that reinforced what the TBAs were taught in their training and was designed to collect data that accurately represented what was going on in the field.

In evaluating the success of the final record-keeping form, our first consideration was whether the TBAs had demonstrated they understood the form. In this regard, we were pleased with the data showing that more than 90 percent of patients treated were recorded as having been given correct dosages. However, we also had to ask a number of questions.

For example, did the records truly reflect the dosages that the TBAs were distributing? If the recorder, rather than the TBA herself, had written down the amount, there could easily have been a difference between the amounts. Was the TBA—or recorder—writing down what was actually distributed or did he or she look at the treatment chart and write down the correct dosage for age sometime after the fact? Since most of the TBAs could repeat the correct dose when given a hypothetical patient to treat, we concluded that the information on the record form was closely representative of the TBA-patient interaction.

Monitoring also demonstrated that the form was a simple way to collect information on the numbers of tablets distributed to each patient.

Unfortunately, the form was never able to improve our understanding of exactly how much chloroquine was ingested by the patient population as a whole. Our stock-taking exercise demonstrated that the numbers of tablets recorded as distributed did not match the stocks of the TBAs. Who was getting the chloroquine not recorded but distributed (or at least missing) and in what amounts? Since the chloroquine was being distributed free of charge, there was no pressure on the TBAs to account for every tablet. When counting stock each month, supervisors noted that the chloroquine bottles given to the TBAs were most often empty.

Since the chloroquine was being distributed free of charge, there was no pressure on the TBAs to account for every tablet.

The ten monthly supervisory visits were particularly important in reinforcing TBAs' skills.

Other questions point to imperfect practices within the client population. Analysis in the larger study demonstrated that mothers reported receiving an underdose of chloroquine for their children. This does not necessarily demonstrate that inaccurate dosages were distributed. Malawians are accustomed to stopping treatment when the symptoms disappear.

A change in policy to require a minimum fee for the chloroquine might help in improving the accuracy of the records insofar as the total number of tablets distributed is concerned; however, unless treatment can be provided in a single dose, it will always be difficult to improve compliance and ensure that full dosages are being consumed by the target population.

Conclusion

This experience in training volunteers and in designing materials for them to use in the field revealed the special difficulties of relying upon a group of inexperienced and largely nonliterate people to collect precise information. Our study demonstrated that nonliterate people can be taught to record information in ways that are appropriate to them. The successive testing of different iterations of the form by the target audience was much like pretesting exercises used to design questionnaires. It was crucial to the creation of a tool

appropriate to the TBAs' abilities as well as the needs of the population they were serving. Reinforcement of the volunteers' skills during the observation period was particularly important.

Our new instrument put data in a form that could be used in the supervisory process and in some respects was easy for evaluators to analyze. However, confirmation of the validity of that information was important and was attempted through a combination of methods including in-depth interviews and a running inventory of medical stocks. This analysis revealed potential problems in the behaviors of both volunteers and their clients that must also be addressed.

NOTES

1. *Ministry of Health Inpatient Records* (Lilongwe, Malaŵi, 1986).

2. *Ministry of Health Serosurveys* (Karonga and Salima Districts, Malaŵi, August 1986, December 1986, and April 1987).

3. *Ministry of Health Outpatient Records* (Lilongwe, Malaŵi, 1983 and 1986).

4. *Ministry of Health Five-year Implementation Plan for Malaria 1985-1989* (Lilongwe, Malaŵi).

5. When this field note was originally drafted in 1988, the policy of the Ministry of Health was to distribute chloroquine presumptively to children with fevers and prophylactically to pregnant women. The current policy is to treat fevers presumptively with Fansidar.

6. For further information on this project, see "A Study Examining the Feasibility, Efficacy, and Cost of Chloroquine Distribution by Traditional Birth Attendants," Ministry of Health, (Salima, Malaŵi, 1987); "Explaining Differences Between Qualitative and Quantitative Data: A Study of Chemoprophylaxis During Pregnancy," by Deborah Helitzer-Allen and Carl Kendall, in *Health Education Quarterly* 19(1): 41-54 (Spring 1992); and "Malaria Chemoprophylaxis Compliance in Pregnant Women: A Cost-effectiveness Analysis of Alternative Interventions," by Deborah Helitzer-Allen, Deborah McFarland, and Allen P. Macheso (submitted for publication).

(1988) Deborah Helitzer-Allen was resident adviser for HEALTHCOM in Malaŵi and is presently with The Johns Hopkins University, School of Hygiene and Public Health. *The author would like to thank Julia King and Dannie Grant Phiri for their assistance in collecting, coding, and analyzing the pilot study data, and David Heymann and Rick Steketee for their assistance in the organization and presentation of the data.*

The Development of Counseling Cards for Community Health Workers:

An Aid to Teaching Mothers Proper Diarrheal Case Management in West Java, Indonesia

Omaj M. Sutisnaputra
Nenni Surani Sulaiman
Andajani Woerjandari
Terry Louis
Renata Seidel

THE ROLE OF KADER AT THE VILLAGE LEVEL

Indonesia is fortunate to be able to draw on a long tradition of community participation to provide the basis for a system of volunteer health workers at the village level. Religion is one of the contributing factors to this spirit. The Muslim faith encourages its adherents to help those who are unfortunate and to practice charity—either through financial or other assistance. The national principle of *pancasila* also emphasizes tolerance and respect of other individuals. In addition, the classic hierarchy, known as *bapak*, calls upon citizens to respond to the requests of a leader regardless of whether there exists a strict employer/employee relationship or a promise of remuneration. In recent decades, this spirit has encouraged the birth of numerous charitable and volunteer organizations and has motivated community service by many individuals.

The role of the Indonesian *kader*, or community volunteer, was first applied in modern times to those engaged in development activities such as sanitation or economic or social assistance. In 1971, kader first became associated with public health efforts. These village workers, usually women, provided nutrition education to their neighbors and sometimes were able to offer nutritional supplements to local children. The nutrition kader often came under the umbrella of PKK, or volunteer women's organization (which exists on a national, regional, and even village level) and were usually chosen by the village chief.

Then in 1983, the Department of Health in West Java Province decided to use the kader system as part of its movement to improve the health of its people and reduce infant mortality. The movement stressed primary health care and prevention; it was inaugurated by the governor on National Health Day at a meeting in Pandeglang, one of the lesser developed regencies, and attended by senior health officials from regional health centers all over West Java.

KADER AND THE POSYANDU SYSTEM

In 1984, with the start of the Government of Indonesia's fourth five-year plan, or Repalita IV, the provincial policy of *Gerakan-Hidup-Sehat*, (Movement for Life and Health) expanded to incorporate the national idea of the *posyandu*, or integrated village health post. The posyandu is a monthly event held at

some central location such as the yard of the village chief or neighborhood leader. Its services are prevention oriented and include the registering of new babies, growth monitoring, vaccinations, nutrition education, and health counseling (including advice on family planning and diarrheal case management).[1]

In West Java, as in Indonesia generally, diarrheal dehydration is one of the major killers of children under the age of five. The role of kader in preventing such deaths is therefore a potentially powerful one. Although low-income rural and semi-urban families have access to a *puskesmas*, or health center, where they can take children in emergencies, these centers are often quite a distance away and cannot play the same educational role that a local neighbor can.

West Java has been the center of several major training activities for kader, particularly in the area of diarrheal disease case management.[2] Such training presents some unique challenges. Although kader are generally literate—almost all have had at least six years of school—their educational levels vary and are uniformly lower than those of their paid counterparts at the puskesmas level. They have little experience in training others or in maintaining supplies such as educational material or packages of oral rehydration salts. Moreover, there is a high dropout rate among kader. Discovering ways of motivating continued involvement has been a high priority.[3]

A New Case Management Policy—A New Training Program

In West Java, kader have received diarrheal disease case management training since early 1986. The training system is a tiered one: master trainers conduct programs at the provincial, or *kabupaten* level; subsequently, kabupaten workers train those in the health centers (puskesmas); puskesmas workers then organize training programs for village kader. In late 1987, the Directorate for Control of Diarrheal Disease restated case management policy, prompting a revision of the kader training system. In West Java this new effort has been a collaboration of the CDD Program and the Directorate of Community Health Education (or PKM). In addition, the HEALTHCOM Project's resident adviser has provided assistance in communication planning.

The earlier program relied upon a manual, which kader were to use with mothers to explain proper diarrhea case management, and an instructional poster, which they were to display in their homes.

Monitoring had uncovered major problems with each of these. Many kader found the poster too graphic and distasteful (it featured a photo of a baby with diarrhea) and were unwilling to display it in their homes. They did not find the manual convenient to use, and when asked about it in home interviews were often unable to locate it. The West Java working group decided to design completely new materials for the revised case management policy.

Many kader found the poster too graphic and were unwilling to display it in their homes.

The first challenge was to design instructional materials that kader would find attractive and convenient enough to keep in a prominent place. The team settled on the idea of a calendar—an item that is highly valued in village homes—with a large colorful picture of a mother and child and a detachable pad of months that can be replaced every year. The calendar is actually constructed as a huge envelope with a pocket at the top to contain educational materials.

The second challenge was to design materials that were highly interactive. Kader need a diagnostic device that can assist them very directly in counseling mothers. The new case management policy is fairly elaborate. It defines five different levels of diarrheal disease and designates treatment for each. One aspect of this treatment is the mixing and administration of oral rehydration salts, itself a complicated set of instructions. (The five treatment levels in the CDD case management policy are outlined in the box.)

The team decided to construct materials that would actually guide a conversation between a kader and a mother and lead the kader by steps to a correct treatment recommendation according to the five-level system. The form they chose was a series of cards—one with a flowchart to guide the kader's questioning and several treatment cards. In a given case, the kader would use the flowchart to make a diagnosis and then select the correct card to help explain treatment. These cards could be easily stored in the calendar pocket.

Advantages and Challenges Offered by the Counseling Cards

In addition to being attractive and useful, the proposed counseling cards offered a number of advantages over the previous materials. The cards are:

- **Specific**—Each counseling card is devoted to a type of diarrhea identified in the case management policy.
- **Simple**—Only two cards are needed for counseling a mother: one diagnostic or question-and-answer card plus one treatment card.

- **Broad application**—Provincial trainers, kabupaten trainers, health center workers, and kader coordinators can use the cards during training and when teaching mothers. No additional technical information is needed.
- **Concise**—The mother receives only the information needed. No extra and potentially time-consuming or confounding information is provided.
- **Inexpensive**—Each card is printed on a standard size cardboard (37 by 27 cm.) Individual cards can be replaced if necessary. The collection fits into a calendar display that is also reusable year after year.
- **Variable**—Additional cards can be added at low cost; for example, a card for handwashing, latrine use, clean water, etc.

A CASE IN POINT

DESIGNING A SIMPLE TOOL FOR A COMPLEX SYSTEM

The diarrhea case management policy in Indonesia was a challenge to those wishing to design training materials. The policy outlines five different levels of illness, each of which receives special treatment. Administration of Oralit, itself a complex behavior, is part of this treatment. The five levels are described here:

LEVEL ONE

Symptoms: more than three loose stools daily
Diagnosis: diarrhea without dehydration (*mencret*)
Treatment: extra breast milk
extra home fluids
extra food
Oralit.

LEVEL TWO

Symptoms: loose stools plus lassitude—not wanting to eat or play and wanting to drink often
Diagnosis: diarrhea with mild dehydration (*mencret dan lemas*)
Treatment: extra breast milk
extra home fluids
extra food
Oralit.

LEVEL THREE

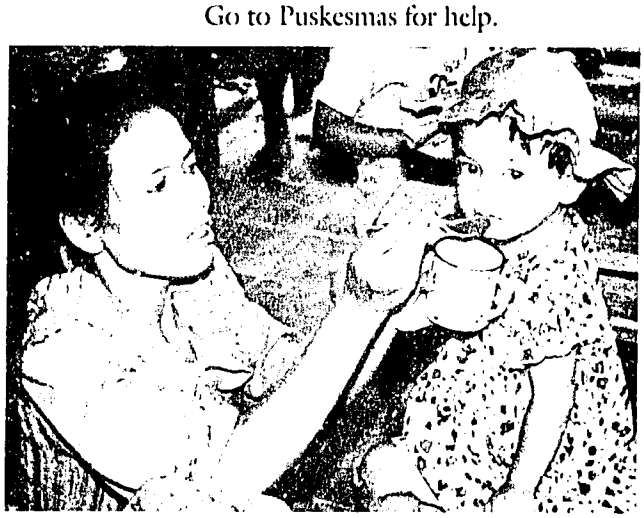
Symptoms: many loose stools plus lassitude and presenting signs of sunken eyes, looseness of skin, dryness and/or blueness of lips, or sunken fontanelle
Diagnosis: diarrhea with moderate or severe dehydration (*muntaber*)
Treatment: extra breast milk
extra home fluids
extra food
Oralit
Go to Puskesmas for help.

LEVEL FOUR

Symptoms: stools with blood
Diagnosis: dysentery
Treatment: extra breast milk
extra home fluids
extra food
Oralit
Go to Puskesmas for help.

LEVEL FIVE

Symptoms: loose stools for more than 14 days
Diagnosis: chronic diarrhea
Treatment: extra breast milk
extra home fluids
extra food
Oralit
Go to Puskesmas for help.



Giving ORS is only one step in treating diarrhea.

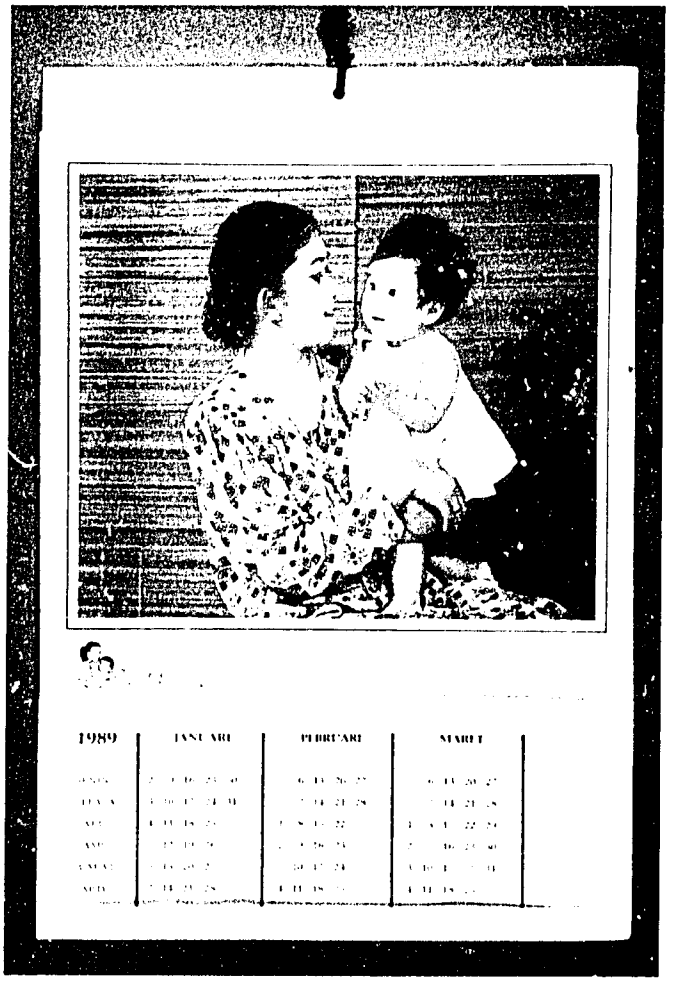
On the other hand, the cards offered some challenges. The chief of these was to construct a flowchart that could be understood and used by people who were not highly educated and had probably never seen such a diagram before. This necessitated a careful, multiple-staged process of pretesting with several groups of kader. It also required the design of a training program that would effectively teach kader to use the new materials.

DEVELOPMENT OF THE CARDS

The team initially considered three groups of draft cards. These received a careful review by the CDD staff and technical revisions were made. The three sets were as follows:

Set A (five cards): one diagnostic card plus four treatment cards, which included Oralit mixing and feeding instructions.

Set B (six cards): One diagnostic card, four treatment cards, plus one card with Oralit mixing and feeding instructions.



The cards were designed to be slipped into the top of an attractive wall calendar.

Set C (three cards): Each card included diagnostic, treatment, and Oralit mixing and feeding instructions. The design provided for the use of two cards based on the age of the child.

These cards were pretested in a village in Subang regency among 15 kader. The pretest began with a mini-training session conducted by master trainers from CDD and PKM. All 15 kader first received basic instructions in the five types of diarrhea, their signs and symptoms, the case management for each of the five types, and how to mix and administer Oralit. They were then divided into three groups: five kader received Set A cards; five kader received Set B; and five kader received Set C. The trainers explained how the cards were to be used. Next, each kader participated in a one-on-one role-playing session with a trainer who acted as a mother. An additional trainer observed the kader's performance with the cards and recorded the results.

Each kader participated in a one-on-one role-playing session with a trainer who acted as a mother.

The test looked at four main actions of the kader. One was how the kader used the diagnostic card for decision making; the second was how the kader moved through the flowchart to select the correct treatment card; the third was how the kader used the treatment card to instruct the mother; and the fourth was how the kader actually demonstrated mixing and administration of Oralit to the mother. The results are shown in table 12-1.

The results were combined with those of in-depth interviews conducted with five of the kader to probe their comprehension and opinions of the cards.

Although the table seems to indicate that Set A was the winner, if not a very impressive one, attributes of all three sets proved interesting. Kader found the diagnostic card in Set A hard to follow because the flowchart spread out like a pyramid from top to bottom. Set B led them from left to right—they found this more familiar, like reading across a page. Set C was found to be "too simple" and lacking in specific instructions for the five types of diarrhea. The next stage, then, combined aspects of sets A, B, and C into a single draft package.

Creating One Composite Draft

The new composite set used the best features of Sets A, B, and C. This set consisted of one diagnostic flowchart

TABLE 12-1

Percent correct usage of test cards

Target Behavior	Type of Card/% Correct		
	Set A	Set B	Set C
Following diagnostic card	42	32	(none)
Selecting correct treatment card	80	60	60
Using treatment card	69	62	31
Describing mixing and feeding of Oralit	65	53	50

(N=5 kader per set)

card and four treatment cards. The diagnostic card was color coded; questions and answers with mothers were provided in two shades of brown, and the five treatment squares were brightly colored to match the related treatment cards.

The flowchart consisted of small boxes with little text and was laid out in a simple left-to-right fashion with the five treatment plans emphasized clearly on the far right. The two most serious forms of diarrhea (chronic and dysentery) followed the quickest "route" on the flowchart and led directly to a single treatment card: ("Give liquids and Oralit and take the child to the puskesmas").

The composite was tested with a new group of 15 kader in the village of Sagalaherang. Ten of these kader had received the 1986 training in diarrhea case management; five of them had not.

An additional ten volunteers from similar socioeconomic and educational backgrounds participated as a comparison group. The women in the comparison group were not kader but had the qualifications to be selected for kader training.

This pretest was somewhat different. The trainers gave the test group instructions in the new diarrhea case management treatment program. Participants were then taught how to use the cards. Two role-playing sessions among just the kader were critiqued by the other kader and by the trainers. They were then asked to use the cards in one-on-one role-playing with trainers who acted as mothers. A supervisor observed and scored each performance on a prepared evaluation form.

The ten comparison participants did not receive any of the above training. They were given the set of cards with no instructions and then participated in the one-on-one role-playing test. The results of the role-playing are shown in table 12-2.

The 15 newly trained kader performed much better than those in the comparison group in all but one category, reflecting the importance of the training process. Interestingly, the five kader who had not received previous training in diarrhea case management performed better than those who had been trained in 1986. This may have reflected some confusion in the latter group in trying to switch to the new treatment norms.

Additional valuable information was gained from the results of in-depth interviews with three kader who did not participate in the field test. The interviewers checked their comprehension of the diagnostic flowchart and looked for specific obstacles in their ability to follow the arrows. This led to some minor changes in the clinical language. Sentences were also shortened. The interviews revealed that larger lettering was necessary in selected lines and darker arrows were preferred. The brown color of the question-and-answer boxes on the flowchart was discovered to be distracting.

An important observation during the field test was that, on the treatment cards, kader ignored any visuals that were separated at all from the text.

TABLE 12-2

Percent correct usage of draft composite cards

Target behavior	Percent correct by group		
	Trained in 1986	Not trained in 1986	Comparison participants
Following the diagnostic card	51	67	39
Selecting correct treatment card	50	60	50
Using the treatment card	72	77	27
Describing mixing and feeding of Oralit	55	72	29
	(N=10)	(N=5)	(N=10)

Final Revisions and Training Methods

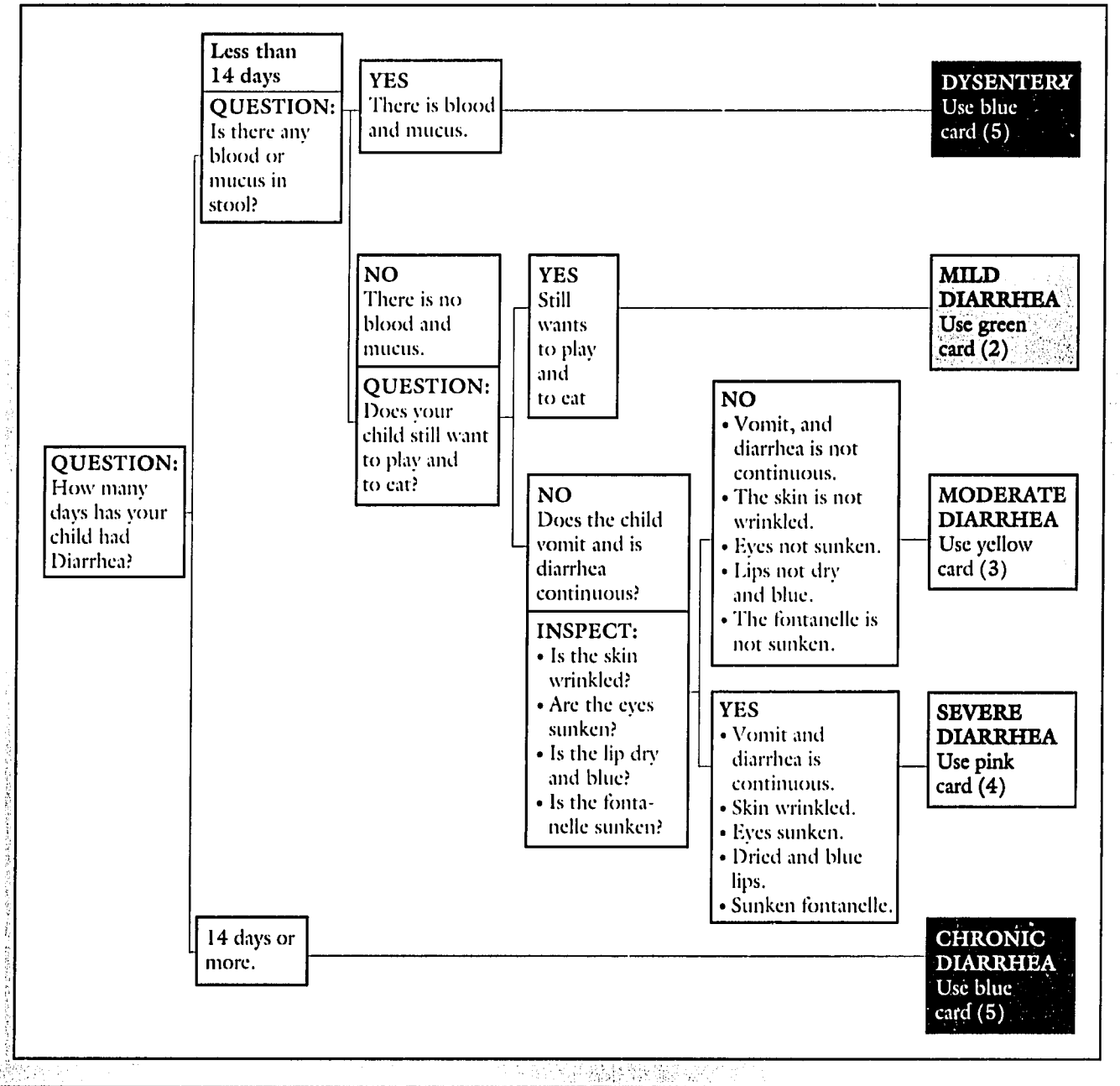
The revised draft included changes based on the observations above. The question-and-answer boxes on the flowchart were changed to two shades of gray. The four treatment cards combined the visuals with concise text. On the back of each were put illustrated instructions on mixing and administration of Oralit.

This set of counseling cards was pretested in two villages, Curugrendeng and Bunihayu, with two batches of 21 kader each on two days using two different teaching methodologies. The primary object of this last test was to refine the training process for teaching kader how to use the cards. In both methods, trainers used a set of posters to explain the new case management policy and to demonstrate the use of the counseling cards.

In the first training method, the trainers began by explaining the signs and symptoms of the five types of diarrhea. They then demonstrated how to use the diagnostic flowchart and explained how to move to the correct treatment card depending on the type of case. The training finished with role-playing. In the second method, the

FIGURE 12-1:

Diagnostic counselling card (translation)



trainers began by demonstrating the use of the diagnostic card and explained the signs and symptoms of the five types of diarrhea as they went along. They repeated the demonstration with the assistance of a trainee who followed the arrows on the flowchart. The training finished with role-playing for each of the five types of cases.

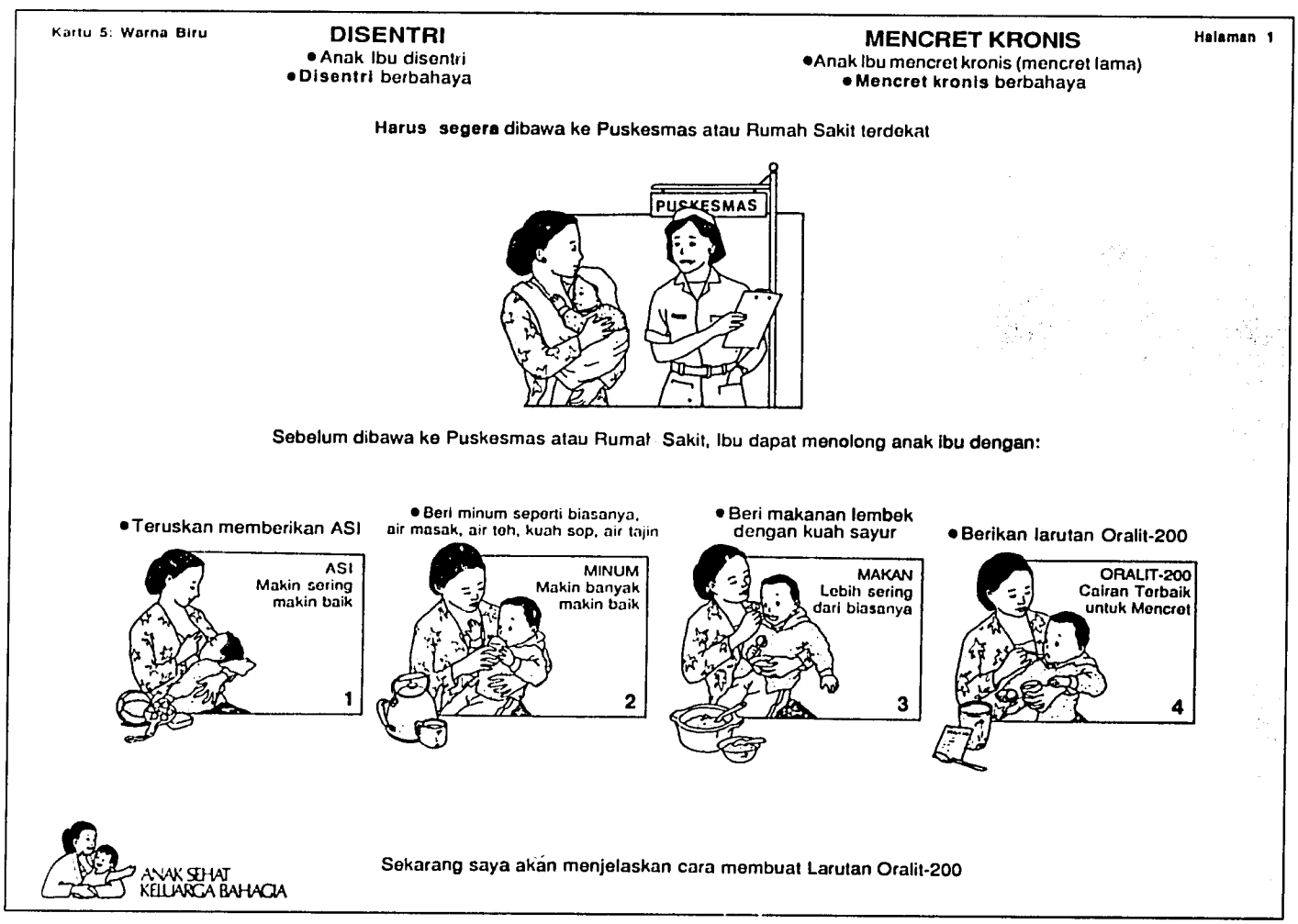
The master trainers who monitored the two methodologies concluded that the first method was better received and more quickly understood. Kader found the second methodology tiresome and dull and the repetitive demonstration process time-consuming. The supervisors also noted that slight corrections in the text of the counseling cards would be helpful. Generally, the cards were considered effective and useful by all of the kader.

THE TIERED TRAINING PROGRAM IS BEGUN

From first draft to the last pretest, the development process for the counseling cards took approximately two-and-a-half months. A total of 24,000 sets of cards were then produced by a local private printing company. Each kader who completed training also received a certificate, an identification sign for her house, and a bag in which to keep supplies including Oralit packets. In addition, the team produced 1,200 sets of training posters and 1,200 sets of training manuals. These latter teaching devices also went through a rigorous design and pretesting process. The manuals provide detailed instructions on how to organize a training session—beginning with ice breakers, how to explain the case management policy, how to explain the cards, how to conduct role-playing, and so forth.

According to the tiered training system used by the West Java Department of Health, the master trainers from CDD and PKM designed an initial field test for the counseling cards at the kabupaten (district), puskesmas (health center), and kader levels. The training for each level was as follows:

Kabupaten level—two days of training for three doctors and nine health assistants. The first day consisted of an overview of proper diarrhea case management, an explanation of how to use the counseling cards, and opportunities to role-play as mothers and kader. On day



Each of the "treatment" cards (37 by 27 cm.) uses drawings to explain how a mother should care for her sick child. The steps for preparing Oralit are illustrated on the reverse. This is the "blue" card for dysentery and chronic diarrhea.

two they were taught how to train others in the techniques with the help of the training manual, and they practiced training.

Puskesmas level—two days of training for 13 health assistants. The two days of training were the same as those given to the kabupaten workers.

Kader level—one day of training for a group of 20 kader. Participants received an overview of proper diarrhea case management, an explanation of how to use the counseling cards, and opportunities to role-play.

Results and a Postscript

The field test was completed and the results used to finalize the training plan for approximately 1,000 health workers and 23,000 kader. Training post-tests and initial evaluation activities carried out a week to a month after training have demonstrated that kader can learn to use the counseling cards effectively.[4]

When placed into role-playing situations for evaluation purposes, kader were able to use the counseling cards with 90 to 95 percent accuracy, making appropriate diagnoses and prescribing proper treatment. Among those kader who had also received case management training in 1986, knowledge levels after the new training rose five to ten percent. Among those who had received no previous training, knowledge levels rose 20 to 30 percent. The card system has also been culturally acceptable to kader and mothers alike, and the kader generally report that they are delighted to have such useful tools and visual aids at hand.

An interesting part of the spot tests following training was a follow-up to see whether kader actually contacted the number of mothers they were assigned to train within their own communities. The counseling card kader provided instruction to all of the mothers they had promised to see. A comparison group of kader (who had not yet been given cards) contacted less than 94 percent of their target group and provided diarrhea counseling to 81 percent of those mothers. The evaluation did not collect data on the reasons the comparison group did not contact all of their mothers. Some staff had earlier hypothesized that the provision of a tool such as the counseling cards might provide kader with increased confidence in their ability to counsel mothers and thus make it more likely that they would carry out their responsibilities.

Validation interviews with mothers have provided even more positive support for the counseling card program. Mothers contacted by kader were asked which of five components of diarrhea management the kader instructed them in and were also asked to mix ORS while the interviewer watched. While there was no significant difference in the number of components mentioned by mothers counseled by the two groups, a substantial difference was noted in ability to mix ORS correctly.

Conclusion

The new counseling cards are a useful, understandable device to aid kader in talking with mothers about children's diarrhea. The importance of developing materials that the users themselves find attractive and convenient was demonstrated during the carefully monitored development stages. The process of developing the new counseling cards and refining the training module was a time-consuming one involving multiple stages of pretesting and revisions. However, the lessons learned through this process were critical in assuring the success of a training program of this magnitude. The results so far have been rewarding.

Notes

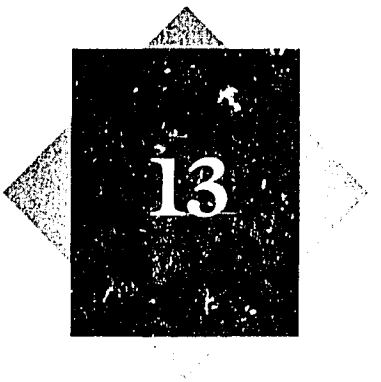
1. In some parts of Indonesia the posyandu system also distributes vitamin A capsules twice a year. See also Field Note No. 8, "The Use of Integrated Media for Vitamin A Capsule Social Marketing Activities in Central Java, Indonesia."

2. For a discussion of the kader training system, see also Field Note No. 16, "Effective Training for Community Health Workers."

3. See also "An Examination of the Performance and Motivation of Indonesian Village Health Volunteers," by Thomas Reis, John Elder, Satoto, Benny Kodyat, and Anne Palmer, in *International Quarterly of Community Health Education* 11(1): 19-27 (1990-91); and "HEALTHCOM/Indonesia: The Use of Radio Spots to Improve Performance and Motivation of Kader," by John Elder, Thomas Reis, Satoto, and Rahardjo Suwandi, in *Hygie* 11(4): 21-25 (December 1992).

4. See also "The Use of Diarrhoeal Management Counselling Cards for Community Health Volunteer Training in Indonesia: the HEALTHCOM Project," by John Elder, Terry Louis, Omaj Sutisnaputra, Neni Surani Sulaeiman, Lisa Ware, Willard Shaw, Carl de Moor, and Judy Graeff, in *Journal of Tropical Medicine and Hygiene* 95: 301-308 (1992) for the description of a behavioral study conducted to examine the differences between two groups of kader (with and without counseling cards) with regard to their counseling of mothers.

(1989, with postscript added 1990) This field note is dedicated to the memory of Terry Louis, HEALTHCOM resident adviser in West Java, Indonesia, from 1987 to 1990 who died in July of 1990. Omaj M. Sutisnaputra, Neuni Surani Sulaiman, and Andajani Wecjandari are with the Department of Health in West Java, Indonesia. Renata Seidel is with HEALTHCOM/Washington. The authors wish to thank Willard Shaw, HEALTHCOM/Washington, for providing information for the postscript.



Production of a Child Health Flipchart, by and for the Community

Reynaldo Pareja
Eduardo Salazar

DEVELOPMENT OR DIVISION?

Development efforts often compartmentalize the world in unnatural ways. If a project's goals are health-related, for example, managers may ignore the implications their activities have in an area such as adult literacy. If the project's goals are focused on agriculture, managers may be unaware of closely related concerns in the area of dietary management of diarrhea. Economic development projects rarely include in their agendas an emphasis on the link between employment and women's breastfeeding practices (or lack of them). Projects are often so specialized that they divide up people's environments and isolate interrelated causal factors in ways that are counterproductive. Similarly, parts of a bureaucracy can easily lose sight of where the interests of one overlap with the concerns of the other.

This field note describes an effort on the part of the Ecuadoran government to bring two frequently separate development areas back together—child health and adult literacy. The natural link between these areas is the family and the community. A loss of focus upon the community is principally responsible for the isolation of one concern from the other in government- and internationally-funded projects. Collaboration between two different governmental organizations in the early 1980s in Ecuador restored an emphasis upon community involvement in both education and health.

The Secretariat for Integrated Rural Development (SEDRI) was born under a governmental decree as part of Ecuador's 1980-1985 National Development Plan, which identified marginal villagers as the priority subjects of rural development. The Ministry of Health, Division of Health Education, worked with SEDRI to produce materials and undertake village education activities, focusing initially on the topic of diarrheal diseases. The HEALTHCOM Project supplied a resident adviser who cooperated with representatives of the Ministries of Education and Agriculture, Department of Cooperatives, and other nongovernmental organizations in implementing the project.

The unique conceptual framework for the program was provided by SEDRI, which holds that:

> *Planning is ineffective when it constitutes a vertical and mechanical process, since achieving objectives requires village organization, training, and participation...*[1]

SEDRI's overall goal is not only to improve the quality of life among village populations but to increase community participation, strengthen social organization, and promote development processes whose direction is set by the villagers themselves.

Program managers are not usually inclined to make clients part of the planning process.

This approach is somewhat antithetical to that typically taken by professionals and organizations concerned with public health. Program managers as well as technical experts are not usually inclined to make clients part of the

A CASE IN POINT

Is Participation a Radical Idea?

The Secretariat for Integrated Rural Development (SEDRI) in Ecuador outlines principles for development that might seem radical to some planners accustomed to a vertical approach to project design. In contrast, SEDRI emphasizes village organization and participation. Its stated objectives are to:

- **create conditions** for sustained improvement in the quality of life and well-being of the rural population, combatting the causes of poverty and seeking its complete eradication;
- **generate conditions** that guarantee the active organization and responsible participation of the rural population in the country's social, political, economic, and cultural life;
- **ensure rational utilization** of productive resources in accordance with their potential as a function of the social needs of the population;
- **emphasize the need** to intervene in the process of controlling basic productive resources and in those mechanisms that allow transfer of the value generated by peasant economies to other social strata;
- **select integrated rural development** (IRD) projects by means of socially directed criteria in which the available resources can be aimed at villagers and low-income sectors in order to strengthen their economic and organizational bases;
- **promote processes** of popular participation in all aspects and activities of a rural development project, from its inception through its negotiation, execution, and evaluation.

SEDRI's concluding point—that the beneficiaries of a project must be involved in every step of its design and realization—is accepted by many development agencies in theory but few in fact.

planning process. Program activities do not usually rely on the continuing interaction, dialogue, and sharing of experiences between officials and beneficiaries.

This experiment was therefore a challenging one. The Program to Control Diarrheal Diseases (CDD), as carried out by the Ministry of Health, sought to work through a methodology consistent with SEDRI's philosophy in developing all the educational material to be used by villagers. One very small piece in this program was the development of a flipchart to be used by health workers with mothers and other family members. Although looked at from one angle this piece had a very specific purpose (to teach mothers how to prevent diarrheal dehydration and how to use oral rehydration salts), its usefulness extended far beyond this.

Geographic Realities

Provincial health offices worked with SEDRI Project Task Units in the provinces of Cotpaxi and Chimborazo (mountain areas), and Manabi (a coastal area). The cantons of Saleedo, Quimiag-Penipe, and Jipijapa, respectively, were the centers of rural development activity in these provinces. Although the three areas have in common a high infant mortality rate and a low literacy rate, they are in many ways worlds apart. The vast geographical differences between the mountain and coastal groups are further reflected in different economic frameworks and hardships, different social structures, different cultural customs and views, and even different ethnic makeups.

The project facilitators began with an attempt to share and understand these realities. In difficult and isolated environments, the immediate necessities of life and long-held, shared perceptions of the world largely determine how people deal with problems—whether economic, agricultural, or health related. It is unproductive for outsiders to attempt to find solutions for such problems without regard for the language and symbols of that environment.

Research can help fill in some of the important details in this frame of reference. The Ministry of Health, through its Office of Priority Programs and the Division of Health Education, conducted basic research in November of 1982 on the cultural patterns, knowledge, attitudes, and behaviors of mothers in treating their children's diarrheal episodes. This research sought to discover the cultural patterns governing diagnosis and treatment. The study also investigated media patterns, including radio listening patterns and ownership and printed media usage. Focus groups with mothers provided the most valuable insights into their beliefs and attitudes regarding the problem of infant diarrhea and gave women a chance to explain what preventive and treatment measures they take when there is no recourse to a health center, a physician, or a nurse.

Research in both mountain and coastal areas identified 12 types of diarrhea according to mothers' definitions.[2] Research also revealed that mothers are familiar with some of the principal signs of dehydration and the circumstances that cause diarrhea (poor hygiene, exposed excrement, etc.) However, the mothers interviewed did not associate physical signs of dehydration with the loss of liquids due to diarrhea. The steps a mother takes in treating diarrhea were identified, from the moment she diagnoses the type of diarrhea her child has, to her choice of popular infusions and commercial nonprescription med-

ications. Likewise, some harmful beliefs and behaviors were identified, such as the practice of withholding breast milk when a child has diarrhea. The widespread belief that diarrhea is "normal" was verified. Mothers are concerned when they see a child with symptoms they perceive as dangerous but are unaware of the need to prevent diarrhea or the possibility of preventing dehydration.

Mothers were generally unfamiliar with how to prepare or properly administer the government ORS product, *Suero Oral*. It was also clear that a high percentage of mothers were unable to measure a liter of water in order to mix ORS correctly and that no one-liter receptacle was common in households.[3]

Project facilitators identified information that would be crucial to these mothers:

- Diarrhea has its origins in dirty environments and in unhygienic conditions, including personal practices.
- These causes can be controlled.
- Diarrhea is dangerous because of the dehydration it causes. This can be avoided and controlled with ORS. ORS (or *Suero Oral*) has specific methods of preparation and administration.
- When a child has diarrhea, an appropriate feeding regimen should be followed.

Research indicated a number of probable useful communication channels among the populations of these different regions. In order to achieve the greatest possible impact, the project proposed a combination of media that would provide consistent messages and would reinforce each other. Proposed channels included radio, print, and face-to-face interaction. Health workers would continue to be important sources of information, diagnosis, and treatment, and the health center would also remain the major source of oral rehydration salts themselves. In addition, community representatives elected by the villagers would serve as local distributors of rehydration salts and would be trained to inform mothers in the basics of diarrheal disease control.

Especially when designing materials for isolated groups who rarely see printed materials, it is crucial to link messages to the details of their lives and surroundings.

These community representatives, primarily mothers, were not professional trainers and had no experience standing before groups or explaining technical information. They could not be expected to perform effectively without both training and useful teaching aids. A flipchart was therefore one of the first pieces of educational materials designed by the Program to Control Diarrheal Diseases. The flipchart was designed to be interactive—providing useful prompts and reminders for the community representative, as well as a focus for group discussion—to be simple to learn to use, easy to carry around, attractive, durable, and produced at a reasonable price.

These community representatives had no experience standing before groups or explaining technical information.

Developing a Design Methodology

The Ministry of Health had previously produced a number of flipcharts. These were conceived and designed by staff to convey technical information. The final users had not participated in their development. On the other hand, SEDRI had experience in the design of educational materials with the full participation of villagers who were to use them, but had never produced anything with such specific health content and with such precise informational objectives.

Experts at the Ministry of Health began by developing several sketches for the flipchart, while communicators at SEDRI suggested working directly with a group of villagers. Discussions finally led to a methodology agreeable to everyone.

A professional artist was contracted who had experience in diagramming and illustrating educational texts. The plan called for him to work directly with local mothers in producing sketches according to several agreed upon subjects.

Most importantly, he would assist in two separate design processes with two different communities and would produce two distinct flipcharts—one for the mountain

regions and one for the coastal areas. The sketches would be pretested with local women who had not been involved in the design process and would also reviewed by technical staff. The general subjects to be covered in the flipchart included:

- environmental sanitation,
- diarrheal dehydration,
- signs of dehydration,
- preparation and administration of ORS,
- rehydration through ORS,
- feeding and breastfeeding the child suffering from diarrhea, personal hygiene,
- checking the healthy child.

The artist was briefed on the technical aspects of the proposed educational material as well as the need for all details to be culturally appropriate and understandable to the target groups.

THE MOUNTAIN FLIPCHART

Salcedo, in Cotpaxi Province, was chosen as the site for designing the mountain flipchart. A total of 34 mothers were recruited in three groups from two sites to participate in the conceptual design process. The recruitment process was a crucial stage. The average village woman is already very busy and is not normally interested in accepting an invitation from a stranger--particularly from a government agency—to attend a meeting whose purpose she cannot understand. She would meet such a request with mistrust and might even slam the door in an inquirer's face.

Usually the only successful way to involve a local population is through a recognized community network—either village leaders or representatives of respected local institutions such as schools, mothers' clubs, and so forth—who are familiar with the participants know how an invitation should be given, and with what explanation. In this case, the project was able to draw on the community resources of the Salcedo Executive Unit.

Local rural development promoters, who help identify needs, coordinate plans and tasks, and teach and train villagers involved in rural development projects, contacted mothers of children under five and invited them to attend introductory meetings.

The first meeting for the "sketching mothers" was both informational and motivational. A facilitator explained that the Ministry was interested in creating important educational materials to be used not only in their own community, but in other communities with populations and problems similar to their own. He explained that their opinions and observations of drawings would be incorporated into the panels of an educational flipchart to help people learn about infant diarrhea and its dangers and prevention. He emphasized that the assistance of each and every one of the participants was essential in order to assure that people similar to them would understand the material.

The facilitator then introduced the artist and initiated the participatory process. For example, as the first step in producing the opening panel, he explained that a child's personal hygiene and the cleanliness of its surroundings can affect the child's health.

The facilitator then asked, "How can our artist show a dirty community? What should appear in the drawing to show that there are sources of infection around that might cause a child to get diarrhea?" The mothers suggested drawing the image of a child about three or four years old playing on the ground. Another mother suggested the child should be eating from a plate on the ground. Another suggested showing a dog licking the child. The artist then sketched these different elements. One mother pointed out that the child should be pantless and that the child drawn was too fat. The artist corrected these elements in another draft. Another mother suggested that the scene should be set on the patio of a hut or house. Others suggested showing a chicken walking about and some flies on the food.

Mothers were initially reluctant to offer ideas. The facilitator helped them along at first, engaging them in discussion about the topics and calling on individual mothers for their opinions. However, as the artist began to draw and the images appeared seemingly magically, the women became engrossed in the process.

Each time someone presented an idea, the facilitator asked the group whether they agreed. Only when a degree of consensus was reached would the artist produce a quick sketch of the suggested elements.

Only when a degree of consensus was reached would the artist produce a quick sketch of the suggested elements.

One of the later panels illustrates how difficult even some of the seemingly simple concepts can be to convey. The facilitator asked the mothers how they would indicate that a good diet is important to a child recovering from diarrhea. They had the artist draw a typical family seated about a table, eating an assortment of healthy foods. He also drew these various foods in an enlarged version in a

A flipchart panel showing a fruitful harvest proved necessary to "set the stage" for one showing a family eating nutritious foods.

box at the top of the panel so they could be easily identified. These foods had been suggested by the CDD technical staff as nutritious.

However, the mothers could not accept this sketch, saying they were not in a position to give the child all the foods that had been drawn.

Finally someone mentioned that these foods could only be given if there had been a good harvest. The artist then drew an additional panel to precede the "meal" sketch, illustrating their beautiful fields with an assortment of good crops, a couple shucking corn, etc.

This panel took on enormous importance for the group, acting as a bridge between an abstract concept (correct feeding) and the reality of their lands, their crops, and their ability and desire to provide nutritious foods.

After a number of panels, the facilitator acquired a sort of sixth sense for determining when participants were finally satisfied with a sketch.

Disapproval was reflected in spontaneous murmurings of dissatisfaction or doubt, head shaking, serious or disinterested expressions, whispering, and general unease. Approval was indicated by smiling, nodding, easy laughter, as well as verbal expressions of agreement. Although the facilitator continuously asked mothers if they approved of an idea or sketch, the pervasive atmosphere was the best indicator of acceptance.

Together, the artist, facilitator, and the group of mothers created a total of 19 panels. The panels were divided into six general categories:

Theme 1

Probable causes of diarrhea (5 panels)

- poor personal hygiene
- poor environmental sanitation
- effect: diarrhea

Theme 2

Solution to these problems (3 panels)

- appropriate hygiene
- boiling of drinking water
- cleaning the environment

Theme 3

Diarrhea and its consequences (2 panels)

- child with diarrhea
- child with dehydration

Theme 4

Oral rehydration therapy (5 panels)

- where to get it? (community distributor)
- what does it look like?
- how is it prepared?
- dosages
- what does ORS do for the child?

Theme 5

Feeding regimen (3 panels)

- breastfeeding
- harvesting food
- eating at the table

Theme 6

Importance of medical checkups (1 panel).

PRETESTING

Although the panels were produced with members of the target audience, this did not assure that other mothers would understand the sketches unprompted. The preliminary flipchart panels were therefore tested with two additional groups of mothers. Effectiveness was measured according to four criteria:

• **comprehensibility**—whether users understood the messages to be conveyed and understood the behaviors that the flipchart recommended;

• **acceptability**—whether the material contained anything that might offend or bother anyone in a given community or that the audience could not accept, or whether there was anything irritating in the message;

• **attractiveness**—whether there was anything in the sketch that succeeded in grabbing and holding the attention of the target audience;

• **relevance**—whether the individual perceived that the material was directed at her particular community.

Standard pretesting procedures were followed. The session began with an informational/motivational session similar to that given to the "creative" group. Then participants were shown the sketches a panel at a time. They were asked what they thought the panels expressed. If the participants understood approximately the same ideas that had been aimed for, they were asked additional questions to measure acceptability and relevance.

For example, they might be asked if anything in the sketch was shocking or distasteful. They might be asked if the behaviors portrayed seemed logical and if they might try these themselves. If, on the other hand, there was no consensus regarding what a drawing meant, the facilitator explained what idea had been aimed at and asked what should be changed in order to convey the message.

The pretest group had trouble with some panels that had seemed satisfactory to the "creative" group. For example, they had difficulty with the dining table panel mentioned earlier that indicated foods to be given to a child recovering from diarrhea.

In particular, they could not make the connection between the enlarged foods at the top of the panel and the meal placed before the family. The foods at the top seemed to be "floating" and implied some semi-magical situation. The artist redrew this panel so that all the food appeared in natural ways on the family's table.

In conducting pretesting, the importance of the less tangible criteria (acceptability and relevance) should not be underestimated. It is not enough that a mother can comprehend a given message. She must somehow make a connection between the picture and her own life. This is especially true when a program encourages behaviors that are quite different from those that have been traditionally or habitually accepted.

Answers to simple questions such as "does this look like your community?" or "does this remind you of your family?" or "is this what a sick child looks like?" can help refine details so that the images are familiar and convincing. Particularly among groups of people who are nonliterate and unfamiliar with graphic representations of abstract concepts, pictures must convey a reality that embraces their daily experiences.

Coastal Contrasts

In the Jipijapa IRD project area, the participatory design process was carried out for the second, coastal area flipchart with a total of 48 mothers in three groups from the communities of Machalilla and America. The same artist followed very much the same procedures in first creating the sketches and later in pretesting and refining the panels.

Many of the striking differences between the two finished products are seemingly superficial. People's homes look different; their clothes are different, especially their hats and their footwear; the colors of the surrounding countryside are different; the houses, furniture, and kitchens are different; and even the features of the people themselves are different. For the target audience, however, some of these seemingly subtle differences *make* the difference. If, for example, a woman from the mountains looks at the panel of a coastal mother giving her child some medicine, she may logically decide the message has nothing to do with her—that this disease only affects coastal children or that the medicine is only available in that other region.

For the target audience, seemingly subtle differences make the difference.

Environmental details were so important in certain panels that the final sketches almost seemed to describe a different story. In fact, because the artist created each panel on the basis of mothers' directions, sometimes the panels *did* tell different stories. (See box.)

Combining Artistry and Science

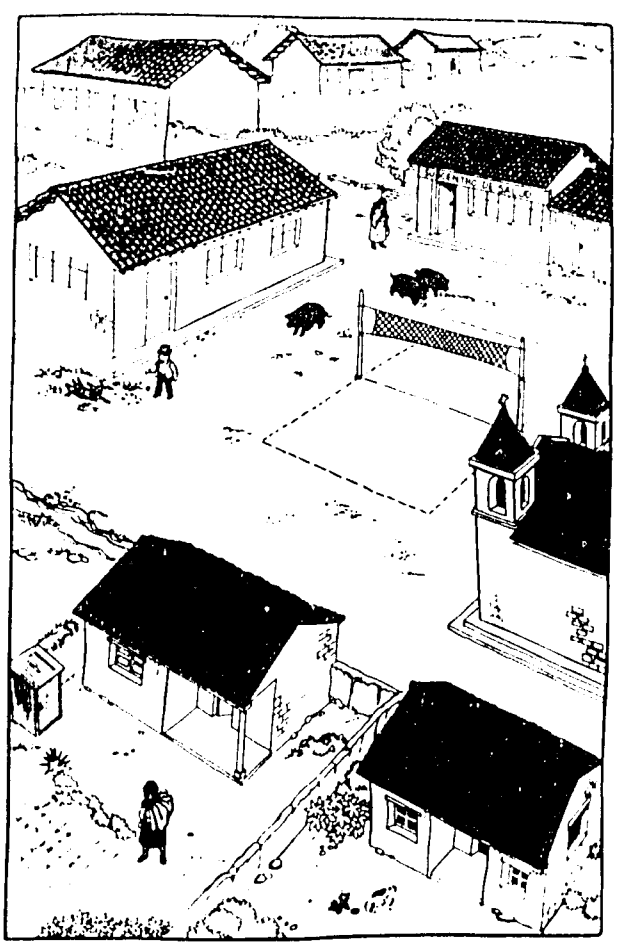
Coordinating the artistic and technical refinement of the panels turned out to be one of the more difficult aspects of the project. The artist had to have a number of special qualities in order to work in a participatory way with two quite different target groups. He needed to be skillful in producing quick, simple sketches; he needed to be able to handle proportions and perspective with ease and to adjust these according to the villagers' perceptions. Objects had to appear on the proper planes, in the proper sizes, and at the proper distances. Representations needed to be quite literal—for example an insect could not be blown up to the size of a monster. Most importantly, the artist needed to be sensitive to the

A CASE IN POINT

Two Worlds, Two Stories

Although the coastal and mountain flipcharts illustrated the same messages, they sometimes told different stories.

For example, the message "unhygienic practices can cause diarrhea," translates into quite different graphics in these two communities. In the mountain version (A), unhygienic conditions are illustrated by an outhouse built too close to a home, a dead dog left to rot in the open, and animals who have access to the house. In the coastal version (B), each "dirty" practice focuses on use of water. A river runs down the middle of the panel—animals wade in it, a mother washes her son in it, another woman washes clothes in it. Nearby, a young girl collects drinking water from an uncovered hole in the ground.



(A) Basic hygiene panel of the "mountain" flipchart.

(B) Basic hygiene panel of the "coastal" flipchart.

villagers' remarks as well as to the needs of the health story line and be willing to sacrifice certain of his own ideas about aesthetics in order to satisfy these other goals.

At the same time, these panels had to convey technical information. They had to convey the signs of dehydration, the proper steps in mixing ORS, and the proper feeding regimen to follow for a child with diarrhea. The artist could not be expected to be a technical expert, and a technical review of his sketches was an important element of the methodology. The signs of dehydration were particularly complex to draw. The artist initially had trouble illustrating a sunken fontanelle (or "sunken crown," as mothers call it), and drew what looked like the beginning of a bald spot. The artist also had some difficulty drawing an infant crying without tears. In the mountain panel, the depiction of a dry mouth is quite good—the child's mouth is open and the corners of his lips turn downward. On the panel for the coastal flipchart, however, the mouth

appears closed and there is no clue that it is dry or that the child has been crying.

A technical expert, and a technical review of the artist's sketches, was an important element of the methodology.

Technical review also caught some errors that were only apparent when the panels were viewed successively as a story line. The child's age, for example, needed to be consistent throughout several related panels, and his state of health needed to be conveyed in a way appropriate to the message on each panel.

In one case, the technical information to be conveyed changed between the creation of the mountain flipchart and the creation of the coastal flipchart. This concerned the proper administration of *Suero Oral*. The artist initially went to great trouble to show how much ORS should be given to a child of varying ages: beginning with two cups for a child of one to three months, and up to seven cups for a child of three to five years. The medical community subsequently decided that two simple criteria were sufficient: a child should receive a cup of ORS whenever he or she has a bowel movement or when he is thirsty and/or accepts the solution.

The complicated administration panel was therefore omitted from the coastal chart. Trainers who used the earlier mountain flipchart were instructed that, when they came to the administration panel, they should explain the more natural indicators of how much to give a sick child.

Production

Flipcharts are traditionally printed on heavy paper or bristol board. They are used in classrooms, training centers, health centers, and are generally not subjected to outdoor use or to frequent transport from place to place. The flipcharts designed in this case, however, were not to be used under ideal conditions. On the contrary, normal conditions would mean a town reached after several hours of walking or riding, a group meeting in the shade of a tree or under an improvised roof, probably a presentation in the open air, and possibly in bad weather. Under these circumstances, a traditional flipchart would soon begin to fall apart. Furthermore, the size and rigid construction of a traditional flipchart makes it cumbersome and heavy.

Aware of these drawbacks, the project staff studied the cost of printing the flipchart on cloth instead of paper or board, in order to make it both flexible and durable. The price difference was considered worth the additional use and longer life that would be assured by printing on cloth. The project solicited bids from three printing companies before drawing up a contract and obtaining a work order from the Ministry of Health. The firm selected was medium-sized, able to handle the quantity of flipcharts needed, but not equipped with industrial equipment that would have increased the speed of production but also raised the price.

The finished flipcharts were silk-screened in four flat colors. Color was used as economically as possible in order to highlight important ideas and to add realism and attractiveness to the panels. The inks were colorfast so that the panels could be washed.

Scrap wood was used to hold the flipcharts together along the top. The printer was asked to leave a space of seven extra centimeters at the top of each panel and to punch three proportionally spaced holes on the upper edge. Then two wooden rulers five centimeters wide were attached with screws and washers. The rulers extended an additional five centimeters beyond the panels on each side, and a strong cord was attached at either end. The flipcharts could then be hung from a tree, nail, etc., and the panels easily flipped over the top. The edges of each panel were also hemmed to prevent unraveling. The entire flipchart could be rolled up around the rulers for easy transportation or storage. Over three years, the project produced a total of 2,500 flipcharts.

Training Community Leaders

Although the flipcharts were kept at local health centers and used in discussions there with mothers, they were designed primarily for remote areas. Every health center in the project regions received up to five flipcharts, depending upon the number of volunteers who had been trained in that area.

The participation of these community health volunteers, selected by the community or the auxiliary nurse at the health center, was central to the educational package designed for the diarrheal disease program. Over a period of two to three days, these oral rehydration community distributors—mostly women—received theoretical and practical training in oral rehydration therapy. They learned how to identify the signs of dehydration and how to teach these signs to mothers; they learned how to prepare and administer ORS; and they learned about the proper feeding of a sick and recovering child. They also learned about other elements of the communication strategy: what radio programs were being aired and when, other messages, how to handle a poster showing the signs of dehydration,

and the proper use of the one-liter plastic measuring bags for ORS. Each woman received a metal sign for her home identifying her as a child survival volunteer. She also received a supply of ORS packets.

The community leaders learned how to use the flipcharts through demonstrations and role-playing exercises. The trainer explained both the logical structure of the flipchart (the causes of diarrhea, its effects and the concept of dehydration, administration of ORS, etc.) as well as the flexibility of discussion possibilities. Several of the sketches are relevant to other health problems in the community, such as lack of environmental sanitation, nutrition, personal hygiene and food preparation, and so forth. In addition, the panels illustrate many aspects of daily life and social interaction, such as the *minga*, a typical Ecuadoran community activity (in this case to clean up the village).

Since the flipchart is mostly without text, it does not dictate fixed themes. The volunteers learned how to use the flipchart to invite participation from the audience. Rather than explain what each panel means, they could *ask* what a panel suggested to the viewers. There are no right or wrong answers, and discussions could be geared toward positive reinforcement of the participants' perceptions and suggestions.

Community leaders also received a guide containing information about the essential aspects of diarrhea and ORS and reminders about how to use the flipchart competently and effectively. The first draft of the guide offered various sample questions and a comic strip to accompany the panels, with suggested story lines. However, preliminary tests of the guide revealed that participants' discussions tended to focus more on the fictional characters than on the community's own perceptions and problems. The trainers also tended to read the guide to participants, thus discouraging spontaneous discussions. The guide was revised so that instructions were more appropriate for a participatory approach.

Other Users

Although the flipcharts were conceived and designed for two very specific population groups and focused largely upon a specific health problem, interest in this educational material extended beyond these boundaries. In fact, interest extended beyond the field of health to that of adult literacy. The most significant additional use of the flipchart has been by the National Literacy Program, intercultural bilingual sector (Quechua-Spanish).

The project assisted in a workshop for 80 community educators from Chimborazo Province to adapt the flipchart to the participatory teaching methods of bilingual literacy workers. Each educator who attended was responsible for approximately 20 to 30 adult learners whose native language is Quechua. This population includes many of Ecuador's poorest people who are plagued by numerous environmental and health deficiencies and who would benefit from many of the messages suggested in the flipchart. According to the method developed, participants were first engaged in a general discussion about a panel from the flipchart and asked to relate it to their experiences. Then the group was asked to come up with a "generator word" in Spanish that seemed to represent the idea this panel suggested to them. The community educator helped the group divide this word into morphemes. The participants were asked to come up with other words which combine these same morphemes and to write out and draw pictures of the words. This methodology stresses the association of new words with concrete experiences and graphic representations.

The Provincial Literacy Office in Chimborazo also worked with the Provincial Health Office to develop two bilingual reading primers based upon the flipcharts and to be used in conjunction with them. They consist of a series of brief thoughts which might be associated with each panel. On one side of the page the ideas are expressed in Quechua; on the other side, they are expressed in Spanish. For example, the first panel is summarized with statements such as, "In our country there are many completely forgotten towns and communities," and "In Ecuador, 27 out of every 100 children die of diarrhea." The Ministry of Health's Division of Education trained provincial educators in technical aspects of the flipchart.

These educators are in turn responsible for training literacy workers who provide instruction at the province's People's Culture Centers. The primers are intended for use by approximately 1,200 literacy workers and their adult students.

Conclusion

The flipchart described in this field note acquired its most valuable characteristics through its creation by a community of real users. The very design process assured that the material illustrated would be culturally appropriate. It also assured that the material would suggest related themes and important aspects of community life. However, the flipchart is essentially an interactive

The flipchart is essentially an interactive educational device.

educational device. It comes to life through the questions and suggestions of the person who shares it with a particular group of individuals. It can be as useful or as useless as that person is able to make it. This field note therefore also demonstrates the importance of training, whenever the quality of communication relies upon face-to-face interaction. It also demonstrates how cooperation between different ministries can multiply the usefulness of a single educational material if it has been carefully produced.

Any person in any given community knows that all of his or her concerns are intertwined. An effective development project, whatever its focus, should be governed by that same broad understanding of the world it aims to benefit.

NOTES

1. Information about SEDRI and its operating philosophy can be found in "Standards, Criteria, and Methodologies for Integrated Rural Development Projects," (SEDRI, Government of Ecuador, 1982).

2. See Field Note No. 2, "Ethnomedical Research for Developmental Purposes," for a discussion of local taxonomies of diarrhea.

3. *Suero Oral* is now distributed with a plastic liter measuring bag with printed administration instructions. For information about the ORS bag and other aspects of the Ecuador Diarrheal Diseases Program, see *Communications and Community Participation in the Control of Diarrheal Diseases in Ecuador*, (Ministry of Public Health and the Office of the Secretary of Integrated Rural Development, Ecuador, 1984).

(1988) Reynaldo Pareja was resident adviser for HEALTHCOM/Ecuador and is now with the collaborative A.I.D./Centers for Disease Control project in Bolivia on AIDS/STD Prevention and Control. Eduardo Salazar was with the Office of the Secretary of Integrated Rural Development and is currently with the Ministry of Health, Ecuador.

Radio Broadcasts on Immunization to Schools in Swaziland

Esta de Fossard

THE CHILD AS TEACHER

The educative influence of parents on children is a well-established fact. The influence of children on their parents is a phenomenon less often explored and far less often utilized. Information carried by children—particularly information backed up by authority—can have a salutary effect on parents and this mode of intervention should not be overlooked when introducing new health behaviors to a community.

In Swaziland, as in many developing countries, the voice of the teacher is considered an indisputable authority and much can be gained by having health messages carried from the school to the home by the students. The major challenges of this type of information dissemination are to ensure the accuracy of the information relayed, to motivate children to carry the information home, and to monitor parents' acceptance of it.

The Swaziland Expanded Programme on Immunization (EPI) set out to meet these challenges by providing a series of eight radio programs designed for children in grades five and six. Since radio is the most pervasive mass medium in Swaziland and since the Swaziland Broadcasting and Information Service already provides regular programming to schools, we thought this might be an effective way of reaching large numbers of children with a standard message at a uniform time and a relatively low cost.[1] We knew a large number of these children would have younger siblings who needed to be vaccinated and we appealed to their concern for these brothers and sisters.[2] Of course our audience would eventually be parents themselves. But our focus was on their immediate families.

We appealed to children's concern for their brothers and sisters.

The programs were broadcast on the English channel of the Swaziland Broadcasting Service. Sixteen schools received the accompanying materials and participated in the pilot program.

The lessons were designed to make the best possible use of the radio medium to assist school children to influence their parents.

A RADIO PRODUCTION PRACTICUM

The planning, creation, and monitoring of the radio programs was itself designed to be a training experience for health, education, and media professionals as part of a course in radio production.[3] The HEALTHCOM Project provided three consultants to help support the project: one to conduct a workshop in planning, radio scriptwriting, and production, one to teach and assist with message testing, and one to teach and assist with summative evaluation.

The radio course included a three-week workshop on scriptwriting about six months before broadcast to bring together those involved in this and possible future health communication activities.

The workshop was attended by about 30 participants including school health nurses, rural health motivators, and officers from the Health Education Unit of the Ministry of Health, together with consultants in educational radio and message testing.

The last portion of the workshop introduced a simple but systematic methodology for pretesting print and radio materials. The materials created during the workshop were then pretested among 185 urban and 109 rural school children to determine whether children found the materials attractive, whether they were appropriate to the social and cultural context, and whether the lessons were understandable. Researchers also observed the level of participation among the students during the radio lessons. Changes in the materials were then made on the basis of this pretesting.

Researchers also observed the level of participation among the students during the radio lessons.

Setting Objectives

In the scriptwriting workshop, our first task was to outline the goals of the radio schools broadcast. We agreed that the purposes of the programs were:

- to teach children to know the "six killer diseases" and how to prevent them;
- to teach children to check if siblings have been immunized;
- to teach children to motivate family members to have baby siblings fully immunized in the first year of life.

We also established measurable objectives of the radio programs as follows:

- Children will be able to **name** the six killer diseases in English and siSwati.
- Children will **know** the consequences of babies not being immunized against these diseases.
- Children will **know** the vaccination ages.
- Children will **recognize** a BCG scar and know where it is; will know the other vaccination sites.
- Children will **know** that vaccinations can produce minor side effects.
- Children will **encourage** family members to take siblings for immunization.
- Children will **know** the importance of the immunization card and encourage family members to take the card to the clinic when they take the baby.

We also planned pre- and post-tests of our audience to determine whether the radio programs reached these objectives.

From Objectives to Products

We recognized at the outset that the large amount of specific information to be imparted required that programs arouse the children's interest and also encourage them to remember quite a few facts. We needed some way of achieving our measurable objectives without overloading students with information or boring them.

We decided to use the interactive radio instruction mode together with a printed workbook that would be given to each student. Giving the children an opportunity to respond during the radio lessons (which is the goal of the interactive approach) would simulate their regular classroom atmosphere and would, we hoped, both entertain and motivate them.

A workbook would increase their involvement, reinforce information, provide a lasting record of the facts for them, and would also provide children with something they could share at home. We believed that giving the children something to show their parents would greatly improve the chance that the EPI messages would also be discussed.

THE CHILD AS AUDIENCE

Designing mass media for children presents some special opportunities but also special problems. The child, first of all, is a demanding listener—just as much or more than an adult. He or she must identify with the situation presented, must be captivated by it but not overwhelmed by elements extraneous to the message, and must find the information presented memorable. Teaching via the radio, moreover, requires an understanding of **how children learn**, just as teaching in a classroom does. (See box.)

As a medium of instruction, radio can lend itself to these principles. However, it can also make special demands upon a learner. Radio, of course, is an electronic medium and in that sense is not personal. It presents inherent barriers for an unsophisticated audience. Radio requires the audience to move into a world where all experience is gained through the ears, and to focus on voices of people who aren't present.

Furthermore, when broadcasts are picked up in schools, the listener has to cope with two environments at once: the customary environment of the classroom with all its attendant distractions, and the imaginary world of the radio. Care must be taken that the medium enhances the message rather than overrides it.

Given these concerns, we made several decisions. We decided to use the interactive learning format to engage children in the learning process as actively as possible. The radio lessons were carefully structured to provide cues and signals for the children's involvement in much the same way that the classroom teacher provides cues and signals

A CASE IN POINT

When Your Audience is a Child

Teaching information via the radio requires an understanding of **how children learn**, just as teaching in a classroom does. A number of principles may prove useful:

- Children learn best when material is presented in small amounts and distributed over a period of time.
- Children's attention spans are short, so they require periods of relaxation even within a 15-minute program. Relaxation times can also be used, however, for learning.
- Children enjoy stories, games, and music.
- Children require immediate reinforcement of correct responses.
- Children learn best when they are actively involved in the learning process, rather than trying to absorb information passively.
- Children learn best when there is a sense of order. They like a degree of routine within a series of lessons so they are not required constantly to adopt a new approach to learning.
- Children enjoy having a product of their learning that they can keep, display, and share with others.

for students throughout a regular lesson. We also agreed that our workbook would be integrated carefully with the radio lessons and would follow the characters and presentations of each episode as closely as possible.

In addition, we made decisions regarding the style of presentation that would be best for our audience. While we did want to use radio's special attributes, we were aware that an overuse of devices such as sound effects, musical bridges, cross fades, and many voices could be more confusing than helpful to these students. We resisted the temptation, therefore, to use production techniques and gimmicks that were unfamiliar to our students and might be distracting to them.

We restricted the use of musical themes to the opening and closing of the program and to the introduction of the story. Unobtrusive music was also used during workbook activities if more than ten seconds of silence was required during which children were to write. Songs (sung by a single voice) introduced activity segments. No sound effects were used in the programs, although we later decided it might have been helpful to use short effects to introduce some segments when children needed time to pick up their pencils and books.

We also restricted the primary fictional characters in our format to two teachers, allowing the burden of instruction to be carried by one teacher (Alfred) throughout, with the second teacher (Lindiwe) reinforcing answers or introducing activity segments. Just as children are accustomed to having one teacher in the classroom, it is easier for radio students if they can rely on one voice to be the main instructor.

We found a third character for storytelling. Uncle Elijah was a man with a deep, powerful voice and a talent for capturing the imagination.

The attributes of a class environment that are usually most conducive to good learning include organization, discipline, clear instruction, and motivation. The attitude and personality of the teacher are also very important factors in learning. We tried to consider all of these factors in our radio course, just as a teacher does in the everyday learning setting.

Creating the Story and the Lesson

The artist for the workbook was brought into the planning session from the outset so that scripts and workbook could progress together. Ideally the artist should contribute to the creation of the text by discussing ideas that lend themselves best to illustration and by creating a dummy of the book into which the lessons can be fit as planning progresses. One of the accomplishments of the Swaziland project was the way in which the artist and the scriptwriters were able to work together to create a cohesive program of audio and print.

One of the accomplishments of the program was the way in which the artist and the script writers worked together.

In planning the format of our immunization lessons we first divided the material into eight programs. Each of these concentrated on one major topic so that children could have a reasonable chance of learning the facts, but each program also reinforced all the major messages of the intervention. The opening and closing songs and the workbook activities helped reinforce these messages as well. Before writing the script for any lesson we began by defining its

A CASE IN POINT

ORGANIZING MESSAGES

The process of writing each radio lesson began with an articulation of its primary subject, its measurable objectives, and its specific content. An outline of these factors was included at the front of each lesson script, as illustrated below.

PROGRAM PLAN FOR LESSON 4

SUBJECT: Immunization Ages

MEASURABLE OBJECTIVES:

Children will:

1. Know the immunization schedule.
2. Know the names of the diseases their siblings are to be immunized against.
3. Pass this information to their families.
4. Remind their family when it is time to take the child to the clinic/hospital.

CONTENT:

1. Immunization is a way of protecting the body against certain diseases.
2. For a child to have a full series of immunization, he/she must be taken to the clinic/hospital at birth, 3 months, 4 months, 5 months, and 9 months.
3. The names of the six diseases babies are immunized against are: tuberculosis, poliomyelitis, diphtheria, whooping cough, tetanus, and measles.
4. Share this information with your family: every child is to be taken to the clinic at birth, 3 months, 4 months, 5 months, and 9 months.
5. Find out how old your brother or sister is and mark the birth down on the calendar in your workbook. Mark the dates 3, 4, 5, and 9 months. Remind your mother when it is time for your brother or sister to go to the clinic/hospital.

primary purpose, setting down measurable objectives, and listing the information we wanted to convey. (See box.)

The interactive method calls for each radio program to be presented in a series of segments that allow a variety of learning modes within each lesson. The total program time of less than 15 minutes was divided into six parts, none of which was longer than three minutes.

In each program children were exposed to the lesson topic in four different ways: skills drills, story, activity, and workbook exercises. The more traditional method of radio programming provides information at the start of the lesson and questions for the students to answer at the end.

Participation is an essential element of any good learning methodology.

Participation is an essential element of any good learning methodology, and radio, like the classroom, can provide opportunities for student involvement if the appropriate methods are used.

The Song

Opening a children's educational program with a song provides not only reinforcement of the main message of the series but also grabs students' attention and provides a little settling time for the class before any instruction takes place.

Although in Swazi schools classes are conducted in English beginning at grade five, many children at this age are not fluent in the language and many of their families understand little or no English. Therefore we wanted to give children the main immunization messages in both languages.

The opening and closing songs of the programs seemed to offer the best opportunity for this. We presented the opening song of each program in English and the closing song in siSwati (the national language).

The song consisted of a chorus naming the six killer diseases and admonished, "Get your children immunized to prevent the six diseases." This was followed by a chorus of humming, over which was recited a verse about the vaccination ages and the theme of the program: "Each and every baby must be fully immunized before he is one year old." Thus, every lesson began and ended with a reminder of the most important elements of the immunization campaign. Children of course were invited to sing along, first in English and then SiSwati.

The Skill Drill

New material was always taught first in a skill drill. Each drill in the eight programs followed the same pattern:

- modeling,
- involvement,
- reinforcement.

First, the two teachers would introduce and model the lesson. For example, the script for the start of one drill segment was as follows.

Alfred: *Children, in the song, you heard the names of six killer diseases that can kill and cripple children. We are going to learn the names of the six killer diseases in English. Listen carefully while I say the names of the six killer diseases for you: tuberculosis, poliomyelitis, diphtheria, whooping cough, tetanus, measles. Listen to them again: tuberculosis, poliomyelitis, diphtheria, whooping cough, tetanus, measles.*

Now children, say the name of each disease after me: Tuberculosis...

(PAUSE: 5 seconds for response from children)

Poliomyelitis...

(PAUSE: 5 seconds for response from children)

[etc.]

The two teachers then modeled the way they wanted the children to respond:

Alfred: *Children, Lindiwe will say the names of the diseases with me. Listen, while Lindiwe says the names with me.*

Both: *Tuberculosis. Poliomyelitis. Diphtheria. Whooping Cough. Tetanus. Measles.*

Alfred: *It's YOUR turn now, children. You say the names of the diseases with me.*

[etc.]

The skill segment of each program lasted about three minutes and gave the children an opportunity to practice with the teacher. The newly learned facts were then reinforced through a story.

The Story

Each story was two and a half minutes long and geared to this age group. The stories were told by Uncle Elijah and introduced by a special musical theme so the children would learn to anticipate him.

During the format planning sessions, the artist suggested that each workbook lesson should contain a full page illustration from the story. This enabled the students to recall the story and its message while they were coloring the picture at home, and perhaps motivated them to tell the story to their parents.

By the end of the story half the program had elapsed (seven and a half minutes). We agreed that the lesson pace should be varied here by an activity break.

The Activities

While each activity was primarily planned to be relaxing and fun, it also served to reinforce the program message.

Sometimes the activity was a game that the students could play while seated at their desks. For example, during the program that taught the parts of the body where vaccinations are given, the children were invited to play a game in which they touched parts of the body as the radio teacher said them: "Mouth, upper arm, lower arm, thigh." Throughout the program and in the game, the sites were always given in the same order so they became a sort of mnemonic chant. The fun of the game was that the teacher said the names faster and faster and the children had to keep up with the increasing speed.

This particular activity illustrates an important principle in instructional programming for children: the repeated presentation of facts in the same sequence to aid learning. Indeed, most people of any age find it easier to learn a string of names, numbers, or facts if they are always presented the same way. The names of the six diseases, like the parts of the body and the vaccination ages, were also presented in a consistent sequence. To prevent this factual recitation from degenerating into rote learning, the information in the drills was presented in other ways in the stories and games.

Activity time could also be used for teaching songs. Many things are more easily committed to memory if they are set to music. During activity time, the children were taught the words of the opening and closing songs for the program and they were taught a little refrain about the ages at which children should be vaccinated:

Immunization ages,

Immunization ages,

Birth and 3, 4, 5, and 9.

A simple but catchy tune made the song fun.

Children also enjoy "join in" games. The radio teacher provided the verse of a poem and the children came in as a chorus at the end of each verse.

This approach was used in the program designed to help children teach their parents the importance of the immunization card. The radio teacher read verses about the importance of the card and at the end of each verse the children joined in with the line, "Always take the card to the clinic when you go."

The activity segment, which lasted three minutes, was followed by the workbook segment. Each program then ended with a short summary and the theme song in siSwati.

A Dual-Purpose Workbook

Workbook activity was incorporated as a segment in each radio program. The workbook also outlined simple activities to be done as homework. Although the radio program segment using the book was only two and a half minutes long, it provided another participatory dimension to the lessons and reinforced messages

in yet another way. The main reason for homework was to encourage children to take the book home and, we hoped, influence their parents to take siblings for vaccinations.

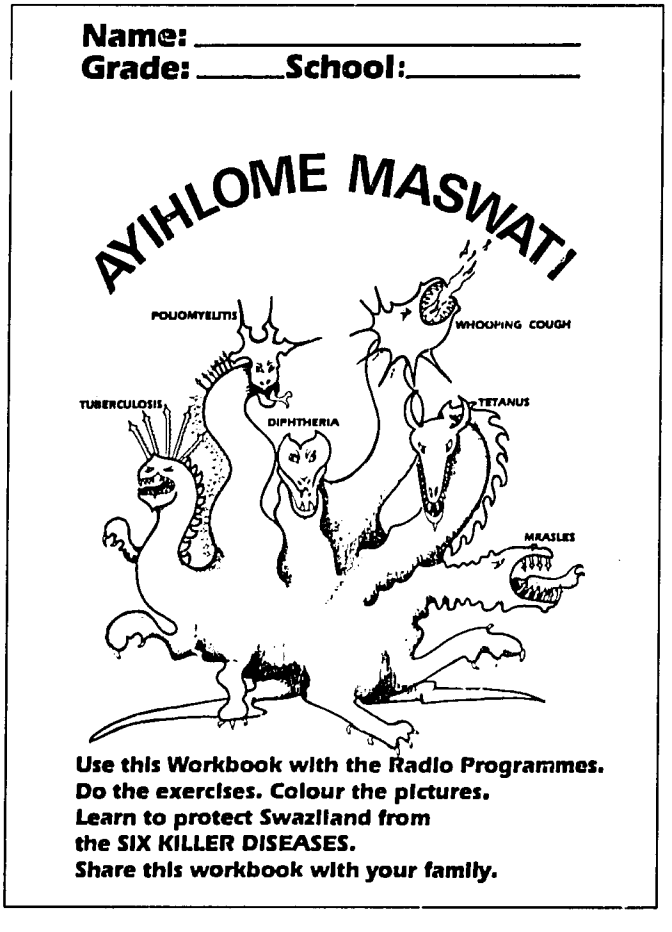
The book was printed in black and white with line drawings, and the radio teachers as well as the classroom teachers encouraged the children to color the pictures.

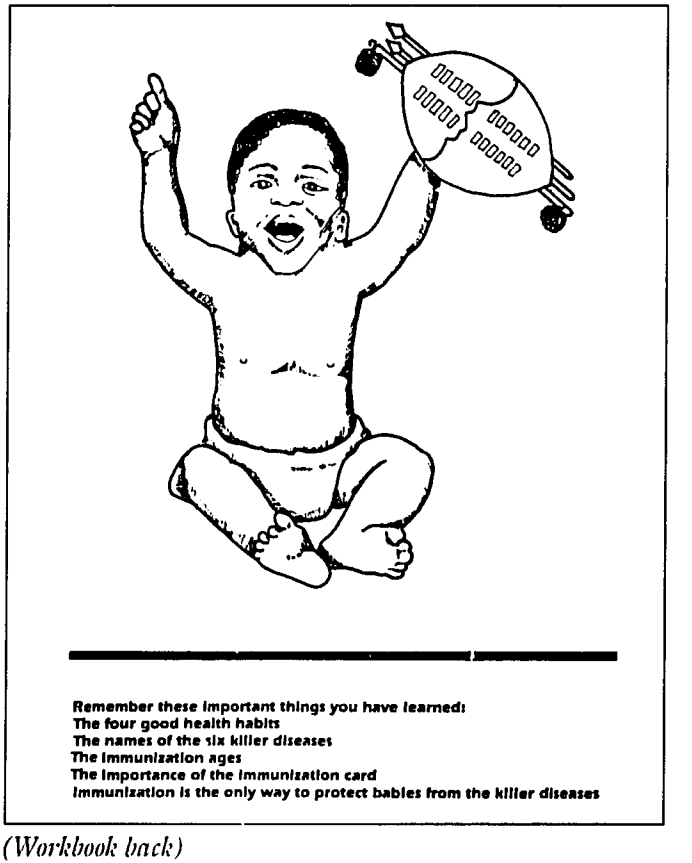
We hoped that families would be proud to keep the colored workbook to share with friends.

This served several purposes. It involved children's imagination more deeply in the program messages, and in a fun way. It encouraged pride of ownership in the book. And since attractive print materials are rare in rural Swazi homes, we hoped that families would be proud to keep the colored workbook to share with friends and extended family members.

The front cover was designed to attract immediate attention, with a full picture of the six-headed monster—the six childhood killer diseases. (Previous research had shown that a battle metaphor would be appropriate in the Swazi environment. The protection of immunization was symbolized through a warrior's shield and spears.) The cover provided a place for the student to write his or her name, class, and school.

(Workbook cover)





(Workbook back)

The inside front cover contained the words of the theme song in both English and siSwati so that children could sing along from the very first day of the programs. The inside back cover of the book showed the picture of a happy baby, which was the symbol for all Swaziland campaigns related to childhood diseases. The baby was also protected by the immunization shield and spears.

The book devoted a double-page spread to each lesson. The left-hand side displayed the activity or simple exercises to be completed during the program, and the homework activity. The right-hand page contained a picture from the story that the children could color, and a brief program summary.

The homework answers were at the bottom of the page in small print and upside down so that, while the answers were not immediately apparent, it was possible for children to check their answers on completion of the work. We agreed that since the workbook was not designed to be a test, it was really not important if the children actually copied the homework answers. There was little need for children to do so, however, since the information required in their homework was very clearly

provided in the double-page spread, either in the first activity or in the program summary. Our goal was for the children to have an enjoyable activity that reinforced the new information, and for them to be proud of the book and share it with family members.

In order to make it possible for schools to produce their own workbooks if the programs are rebroadcast in future years, the book was printed on standard white paper and all illustrations were clear line drawings. The whole booklet could therefore be reproduced easily and inexpensively.

As part of the workshop activities, the workbook was carefully pretested among urban and rural school children of the appropriate ages.

This led to an assortment of mostly minor changes which nevertheless were important in making the material effective and easy to follow. Briefly, some graphic details were changed in the six-headed monster; the page numbers were made more obvious; some of the exercises were shortened so that they could be completed in the time allotted in the radio slots; one exercise that was too difficult was replaced with another; the exercises were labeled in such a way as to contrast with the workbook page numbers; and the homework assignments were located in consistent places in the workbook so they could be found easily and quickly.

Reflecting on Results

The project designed a pre- and post-test to measure the children's learning from the radio programs and to determine whether the school children passed on knowledge to their mothers. The evaluation was carried out in an urban and a rural school that had received the broadcasts and in two similar schools that had not been informed of the radio programs.

The evaluation showed that the programs were highly successful in teaching children the targeted EPI messages.

The programs were highly successful in teaching children the targeted EPI messages.

Before the programs were broadcast, children in both the experimental and control schools scored about 4.5 points of a possible 26 points on a pretest covering the basic EPI facts. When given the same test after broadcast, children in the schools that were exposed to the radio programs increased their scores to about 21 points while the control group scores did not improve.

The evaluators attributed this success to aspects of the planning and testing process, as well as to design features of the programs themselves. These included:

- thorough planning, pretesting with representatives of the target audience, and a joint creative process between the radio writers and the graphic artist;
- using the interactive teaching methodology in the radio programs to ensure student involvement;
- using an attractive black and white, easily reproducible workbook that provided students with more involvement and a product to share with their families;
- sample testing to ensure message integrity before final production.

The evaluation also included interviews with 132 mothers of children in the four experimental and control schools. The results indicated that the program's third objective, to help children become a vehicle for bringing EPI messages home to their families, was not as successfully accomplished.

In general, the evaluation showed few differences between the experimental group mothers whose children had heard the radio programs and the control group mothers whose children had not. The interviews indicated that the clinic is still by far the most significant source of health knowledge for mothers, who reported little or no learning from their children. On the other hand, four months after the broadcasts, approximately 20 percent of experimental mothers remembered seeing the workbook. Among just the rural mothers, this figure was 42 percent. We speculated that the attractive printed material was more novel in the rural areas and hence more likely to be noticed by mothers.

Looking Toward the Future

In reflecting on the schools broadcast program we can make a number of recommendations for other interactive radio projects. Since transfer of knowledge from children to parents was not as effective as desired, we would recommend that a workbook include some activities that more directly involve parents. For example, a workbook might include a replica of the immunization card and children could be asked to get their mothers' help in completing it for a sibling. The cards even could be checked by the teachers and/or the school health nurses and some follow up could be done with those mothers who have not taken their children for vaccinations.

Our experience also points out the importance of involving school personnel more deeply in a broadcast program. A future project might create a campaign targeted to teachers to introduce them to these radio programs, motivate them to use the programs in the classroom, and suggest further activities building on the messages.

On a purely technical level, we found that broadcast reception of the programs was poor in some areas. Clear reception is essential for classroom listening. To solve this problem, cassette tapes might be offered to schools as an alternative or back-up to the broadcasts themselves.

A mass media project geared toward the school system faces a number of obstacles. The biggest constraints on this project were time and lack of trained personnel. Since all the members of the planning team were inexperienced at writing educational radio programs for children (although half of the team had written and produced adult radio programs) and since many of them had no prior experience in this type of intervention, considerable effort was necessary to plan and write the eight radio scripts and prepare the message testing in a three-week workshop.

Once the workshop was over it was also difficult to get the necessary people together to complete the radio recording because of the pressures of their ongoing work. Preparing and administering the pre- and post-test and analyzing the data were also time consuming.

The project was a training experience for those involved in the preparation and presentation of programs and pretests, as well as an educational experience for school children. While it is clear that all participants learned a great deal that can be used in future projects of this type, it is equally clear that ministries wishing to undertake similar interventions must be helped to understand the need for adequate training and time for personnel who contribute to the work.

NOTES

1. See also Field Note 18, "Long Distance Health Education for Rural Ecuadoran Mothers," for a detailed description of a radio course in Ecuador on child health.

2. HEALTHCOM has also appealed to the concern of older children for their younger, more vulnerable siblings as part of a strategy to "Make Measles History" in the Caribbean region. Sample television spots are available from the Academy for Educational Development.

3. The course was part of a diploma program offered by the A.I.D. Development Communication Project and San Diego State University. The immunization schools broadcast activity was assisted by the HEALTHCOM Project and the A.I.D. Combatting Communicable Childhood Diseases (CCCD) Project, which funded the radio programs and production of the workbook.

(1988) Esta de Fossard collaborated with the HEALTHCOM Project while she was with the Development Communication Component Swazi Manpower Development Project (A.I.D.). She is currently an independent consultant. *Important contributors to the Swaziland Schools Broadcast included Cecilia Cabañero-Verzosa (HEALTHCOM/Washington), who taught and assisted in message testing, Vicki Freimuth (University of Maryland, College Park), who conducted the evaluation, Beatrice Miller, graphic artist, and Mabongo Bongani and his fellow students in the radio course, without whom these programs would never have been created and broadcast.*

Part D

Principles and Tools for Training

(Training trainers in use of kader counseling cards, Indonesia)

The behavioral emphasis and tools offered by communication specialists can contribute to training programs for health workers, their supervisors, and members of the community committed to better health. In particular, a communication program can help focus on the teaching of skills rather than just information, on sustaining interest in new practices, and improving interactions among those who can help each other. It can create materials to guide those who talk directly to mothers. And it can assure that the messages reaching parents from different sources are consistent and reinforce each other. Lastly, a communication program can help test training strategies and materials and devise mechanisms for monitoring their success.

Principles and Tools for Training

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One Step at a Time:

An Approach to Improving Public Health Education in Nigeria

Galen R. Lehman
E. Scott Geller

INTRODUCTION

In Nigeria, the HEALTHCOM Project supported the goals of A.I.D.'s Combatting Communicable Childhood Diseases (CCCD) Project to improve the management and technical skills of Nigerian health staff at the local, state, and federal levels. HEALTHCOM collaborated with people in several Nigerian agencies—including the Ministry of Health and public health clinics and colleagues in numerous development-related projects and organizations—to strengthen communication capacities at these different levels.

One aspect of work in the area of childhood immunizations has been the development of print materials for health workers and the design of training workshops for more effective face-to-face interactions with mothers. As part of this effort, the project carried out a behavioral study to understand how health education is conducted in the clinic environment and to help plan and evaluate the success of these new print and interpersonal strategies in improving communication.

WHY USE BEHAVIOR ANALYSIS?

Behavior analysis focuses on socially significant behaviors that are observable and measurable and attempts to identify the variables that affect those behaviors. Thus, an evaluation of public health education that includes a behavioral approach holds some promise for improving the interactions among mothers and clinic workers and for increasing the effectiveness of health communication.

Behavioral studies generally look very closely at particular behaviors **as they occur within their actual environments**. The field of behavior analysis has developed a number of ways of measuring specific behaviors and changes in those behaviors over time. One common design for a behavioral study is to:

- **identify** and define observable target behaviors;
- **obtain reliable measures** of the frequency of the target behaviors prior to introducing an intervention;
- **design practical interventions** that have the potential to change the target behaviors;
- **measure the change in behavior** during a period of intervention;
- see if the behavior change is **maintained** after the intervention is withdrawn.

This field note briefly describes the cooperative effort among many individuals, including behavioral psychologists and public health educators in Nigerian health clinics, who used the strategies of behavior analysis to develop and implement educational interventions. Behavioral consultants assisted the Health Education Unit of the Niger State Ministry of Health in conducting a small clinic-based study to observe the education provided to mothers by health workers regarding childhood immunization. The overall aim of the study, which took place from August 1987 to May 1988, was to determine ways specific behaviors related to health education and to the interaction between health educator and mother could be improved and to design an intervention addressing these practices.

The investigators chose two clinics for study. One clinic was located in an urban setting servicing the city of Minna (population 96,000) and the other clinic was in the rural town of Kuta (population 35,000), 55 km. from Minna. The goals of the study were to:

- **compare** the standard immunization education of clients (mostly mothers) at a rural and an urban health clinic in Niger State;
- **compare** the sender information (that is, the health educators' teaching) with the receiver information (that is, the clients' learning) in order to determine what information is **transmitted**;
- **define specific strategies** for improving clinic education about immunization;
- **design a program** including educational materials, demonstrations, and teacher-learner interactions for improving education about immunization at rural and urban clinics;
- **study the results** of the program.
- **explore techniques for motivating trainers** to reach more mothers, especially through outreach (traveling to villages);
- **explore techniques for motivating mothers** to immunize their children and to encourage other parents to do so;
- **explore** a variety of **motivational interventions** for improving training and learning behaviors, including **feedback** strategies to motivate trainers and **incentives** (and goal setting) to motivate outreach.

Background Observations

Background planning and work on the evaluation of the educational component of immunization programs in public health clinics of Niger State began with field trips by two behavior analysis consultants in April and July of 1987. We met with staff members of the Federal Ministry of Health and local health clinics and discussed their current health education practices. We also visited clinic sites in urban and rural settings where field research could be conducted and observed health educators giving talks to groups of mothers who brought their children to the clinics for vaccinations. These discussions and observations provided the basis for designing our study.

At the typical clinic, health education is carried out at scheduled times and in large groups. Although individual mothers arrive at the clinic with their children at varying times and might be seen by health workers at any time during the morning, they are required to attend the daily "talk" at a specified time. At both Minna and Kuta, the talk was highly didactic, covered a large number of subjects, and did not vary from session to session. (See box.)

A CASE IN POINT

The "Waiting Game" in a Health Clinic

The health clinic experience for mothers in the pilot regions in Niger State was typical of that experienced by mothers in many developing countries. In terms of health education, major features of the system were:

- **Large groups**—As many as 100 or more mothers each with one or more children came to the clinics on days designated for vaccinations.
- **A long waiting time**—Some mothers were at the clinic by 7:30 A.M. and most were not able to leave before 11:00 or later.
- **A standard sequence of activities for all clinic attendees**—Mothers were first registered in large groups. Next, all babies were weighed and their growth monitored and charted. Third, children received their vaccinations. Then a standard health talk was given to the whole group. Last, vaccination cards were returned to the mothers and they were free to leave the clinic.
- **Lecture method used for health talks**—The health talks were one-way communications from a health worker with minimal involvement from an audience of 50 to 125 mothers with their children. Occasionally the groups would receive a demonstration (for example, how to mix the ORS solution) or invited to sing a song related to EPI or ORT.
- **Much information covered in the health talk**—A single health talk usually included information about several of the following topics: EPI, ORT, growth monitoring, nutrition, family planning, and hygiene.
- **Same information presented to all mothers**—No differentiation was made based on what a mother already knew about the health topics or how many times a mother had heard the same health talk.
- **Very few visual materials used in presentations**—The only visual aids in the clinics were a few posters hung where most mothers could not see them.
- **Lack of assessment**—No systematic effort was made to assess what mothers were learning from the health talks.

Although the system served some important purposes, it was characterized by a lack of interaction between clients and health educators. The behavioral intervention described here was designed to address this problem.

Although this structured, group-oriented approach to health education can be viewed in negative terms, the system actually served a number of important purposes. It allowed a clinic to deal with a very large number of women and children in an orderly fashion. It allowed the relatively small number of health workers to treat children's individual problems, to keep efficient records of their health status, and to present health information on a variety of subjects to all clients. Because mothers in this culture were familiar with the didactic training approach, they were willing to sit through a long lecture without complaint and join in group songs with enthusiasm.

We suspected, however, that the lack of interaction between clients and health educators undermined mothers' attention and also their learning of the material presented. Because the system had no way of assessing what mothers might be absorbing, health workers themselves could not judge to what extent their messages were getting across. In addition to our attempts to observe health education as it actually takes place in the clinics, therefore, we wanted to find out about the parents' perspective on this process. We accompanied a team of researchers including an anthropologist to several remote villages and interviewed mothers about their knowledge of childhood diseases, their preferred methods of treatment for the diseases, and whether they had ever taken their children to a health clinic.

These interviews revealed interesting information both about what mothers were learning and what they were not learning from the clinic experience. The interviews suggested that the average mother who had taken her child to a clinic did not remember important immunization-related facts typically given in a health talk. Most mothers did not know the purpose of the vaccinations, the types of diseases prevented by the vaccinations, how many vaccinations were required to complete the sequence, or when they should take their child for the next vaccination in the sequence. However, many mothers could recall with great accuracy where on the child's body different vaccinations had been given (that is, forearm, thigh, upper arm, or drop in mouth). They were able to indicate this by pointing to certain locations on the body. When children had received several vaccinations, some mothers were able to point to the different body locations for each.

Many mothers could recall with great accuracy where on the child's body different vaccinations had been given.

The fact that mothers commonly remember the sites of their children's vaccinations served as a useful link to other program messages.

The body locations for the vaccinations are memorable to mothers for obvious reasons. In most clinics, a mother holds her own child while the vaccination is given. She naturally focuses upon the child's fear and reaction to the vaccination. If the injection is in the thigh, the mother may need to move the child's diaper or clothes. Later, the site may become swollen, there may be a discharge, or the child may rub the area and complain. These events may easily become long-term reminders of the body locations for vaccinations.

Designing an Intervention

We wanted to design an intervention that would take into account both the strengths and the weaknesses of the current health education approach and increase mothers' learning of essential EPI facts, leading to increased vaccination coverage. Our discussions with the health clinic staff regarding potential strategies yielded a number of creative ideas. A review of past applications of behavior analysis to problems in teaching and learning also helped us determine what procedures or strategies might be most relevant to teaching EPI in the clinic setting.

Some of the ideas were derived from the work of Fred S. Keller, a psychologist who developed a special approach toward education called the "personalized system of instruction."[1] Keller's approach recognizes that every learner is an individual with a different set of experiences and skills that can influence the learning process. In this sys-

tem of instruction, complex material is divided into small units that can be easily managed. The learner masters each unit and receives feedback before proceeding to the next lesson.

When designing our education interventions for the Nigerian health clinics we considered the following basic principles of the personalized system of instruction:

ONE	Break the large amount of material into small "chunks" that can be learned sequentially.
TWO	Begin by teaching something that is simple yet important.
THREE	Encourage learners to become actively involved in the education process rather than allowing them to remain passive recipients of information.
FOUR	Make the presentation of information as visual as possible.
FIVE	Assess whether the learner has mastered the first small chunk of information before going on to the next step.
SIX	Use rewards or praise to motivate learning rather than punishment or penalties for failure.
SEVEN	Provide feedback to the learner about individual progress toward specific goals.
EIGHT	Find ways for learners who have mastered the information to **help other learners.**
NINE	Use results from an objective evaluation of the educational methods as feedback or guidelines for improving subsequent procedures.

We described these principles as a "one-step-at-a-time" approach to teaching and used these as the basis of our educational intervention. Our strategy consisted of two basic parts: the design of several interactive visual aids that would support the "one-step-at-a-time" teaching principles, and training workshops for health educators in the two clinics to introduce the new materials and the new educational approach.

We hoped to improve the content of the health talks, the degree of involvement of the mothers during health talks, and mothers' knowledge of immunization after the health talks. We therefore designed a study to measure to what extent these goals were achieved by the intervention.

The study was divided into four stages: 1) baseline measurements; 2) measurements of any changes in the clinics after the training workshops; 3) measurements of any additional changes after introduction of educational materials in the clinics; and 4) measurements of any changes after educational materials were temporarily removed.

Materials Development

The materials design team included local artists, MOH officials, and consultants from the HEALTHCOM subcontractor, the Program for Appropriate Technologies in Health (PATH). The team decided to create three printed aids:

- a large (41.5 by 64 cm.) 13-page **flipchart** ("Facts About EPI for Families") with pictures to illustrate the information;
- **a user's guide** that explains how to use the flipchart in a health talk following the "one step at a time" method; and
- **a brochure** with sequential illustrations that can be given to mothers as a reminder of what they have learned from the health talk.

The content of our primary teaching device, the flipchart, was guided by critical immunization messages outlined by the Federal Government of Nigeria and UNICEF. As a means for communicating those messages, however, we relied heavily upon keys to learning that the mothers found most logical—the body locations for the different vaccinations. The plan for the flipchart followed as closely as possible the principles of "one step at a time."

The information about EPI is divided into small pieces. Each panel consists of one or more large drawings to illustrate that chunk of information. For example, the panels show: 1) pictures illustrating the six diseases prevented by vaccinations; 2) pictures of a child receiving the different vaccinations at different ages to show how many visits are needed to complete the sequence (five); 3) illustrations of possible side effects of vaccinations; and 4) the treatment of different side effects. The flipchart ends with several panels of drawings for use as a review or assessment of how much the mothers have understood.

The flipchart ideas were developed over a four-month period through the cooperation of many persons from a variety of agencies and with continuous testing among members of the target audience. It was particularly important that mothers identify with familiar cultural details in the illustrations so they would believe the messages applied to their own situations. In addition, the overall design and the individual pictures had to be clear to nonliterate people. The age of a child, for example, needed to be con-

The overall design and the individual pictures had to be clear to nonliterate people.

veyed through distinct characteristics (such as a bandage on an umbilical wound) and the passage of time needed to be conveyed through culturally appropriate symbols (such as a series of moons to indicate the passing of months).

The initial design process coincided with a two-week materials development workshop conducted by PATH at the University of Lagos for ten representatives from the Federal Ministry of Health and from each of five state health departments. The workshop gave both health educators and artists an opportunity to study principles of design for nonliterate audiences and the methodology for health education materials development—including message refinement, pretesting, and revision.

Participants also worked on sketches for the flipchart as part of the workshop exercises. Nigerian artists who had attended the workshop produced draft panels for the prototype flipchart.

These drawings were pretested with three groups of five mothers each in a town clinic in Minna and with a group of 12 health workers in a rural community outside of Minna. This led to a series of revisions, primarily to help illustrate more clearly the different diseases and to convey the ages of a child receiving different vaccinations. The mothers also assisted in refining many other details such as how children are usually held, bathed, and in showing the side effects children experience most often from vaccinations.

On the back of each flipchart panel is a brief text in large print to aid the health worker as he or she displays that drawing to the audience. The back of the first panel includes general information for use in giving the EPI health talk. It suggests the objectives of the flipchart are to:

Inform parents about immunization and the need to complete the series of five visits to fully protect a child, and

Motivate parents to bring their children for immunization.

It also includes simple suggestions about how to use the flipchart:

1) *Stand so that everyone in the room can see the picture. Face the audience.*

2) *If the group is large, move around the room with the flipchart so that everyone can see the picture.*

3) *Use the information on the back of each picture to begin conversation about the picture on the next page.*

4) *Answer any questions the group has.*

5) *After the health talk, give each parent a handout on when they need to return and what to do in case of side effects.*

The text on the back of each panel indicates not only the facts to be conveyed by the illustration(s), but ways to initiate discussion. In other words, it leads health educators to an understanding of how the flipchart can be used as an **interactive** tool. The back of the six "disease" drawings, for example, displays the following suggestion:

Diseases Prevented by Each Immunization or Clinic Visit:

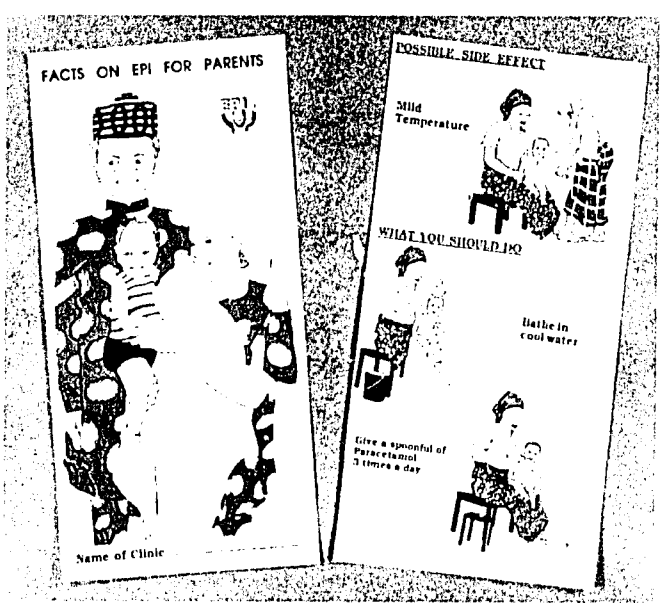
Ask mothers to describe (based on personal experience) the diseases pictured. (For example, do mothers know anyone in the community with polio or TB?)

The user's guide follows very much the same format as the flipchart. Alternating pages in the book exactly parallel the panels of the flipchart. The facing pages provide basic information on the content of each illustration, together with more detailed suggestions for interactions with mothers than are supplied on the flipchart panels.

The drawings used in the flipchart also appear in the six-panel brochure given to mothers as they leave the clinic. The brochure uses pictures to convey the essential EPI messages, including the immunization schedule and possible side effects and treatments. The text consists of very simple headings. Health workers pointed out that traditional beliefs indicate pregnant mothers should not look at anything unpleasant, so the illustrations of the six deadly diseases are not included in the brochure. This handout, like the heavy paper flipchart, consists of simple brown and white line drawings with a little color for emphasis.

Data Collection

Simultaneous with designing the materials we planned our four waves of data collection. The baseline data were collected over three weeks beginning in August of 1987 and ending a month before our training workshops took place. We conducted the study with the help of three Nigerian research assistants, instructors at the College of



One "piece" of information illustrated in the flipchart and the brochure was treatment of vaccination side effects.

Education in Minna, whom we trained to make and record careful observations of specific clinic activities. However, we did not explain to our data collectors any of our experimental hypotheses. After several visits to the clinics at Minna and Kuta, the procedures for observing health talks and interviewing mothers were sufficiently refined to obtain reliable baseline data.

The three researchers visited both clinics each week and directly observed health talks using a checklist to record the topics and information included in the clinic health talks. They also recorded the number of times mothers became actively involved or responded in some manner during the health talks. (For purposes of observation we categorized five different kinds of "involvement behavior" including singing, clapping, questioning, answering, and showing.) The occurrence of specific behaviors during consecutive five-minute intervals was recorded.

After each health talk, the research assistants also conducted individual interviews with ten mothers selected at random from the audience to assess what they had learned from the talk. Questions concerned the number of clinic visits required for a complete immunization series, the general purpose of immunization, and the diseases prevented by vaccinations given at different body locations. Each interview was based on a 25-item questionnaire that a research assistant discussed with the mother in her preferred language (Hausa, Gwari, or Nupe) with the help of a translator if necessary. (The researchers spoke both English and Hausa and were familiar with other local languages.) Each interview took approximately ten minutes. As an incentive, a participating mother received a plastic 3 ml. spoon supplied by UNICEF for mixing oral rehydration solution. During the baseline period the research team recorded information from 16 health talks (eight at each clinic) and interviewed 201 mothers.

Training Workshops

Our next step was to design a three-hour workshop for the entire staff of each intervention clinic. The primary goals of the workshops were to present "one step at a time" as an innovative approach to public health education, to obtain feedback from the health workers about the techniques, and to discuss ways these new methods could be implemented in the clinics.

Another important goal was to introduce the health workers to the draft educational materials and solicit suggestions for further improving them. We wanted to offer the new ideas and materials in a positive atmosphere, and we wanted the health workers to feel integral to their adoption in the clinic. At the same time, we wanted them to understand the need for new approaches. We therefore planned to include in our workshop an explanation of the general results of our first round of data collection—i.e., the baseline observations of health talks in their own clinics. Our purpose and tone was to use these data to explain the scientific basis of the new educational approaches, rather than to criticize current practices.

Nineteen participants attended the HEALTHCOM workshop at the MCH clinic in Minna. This included all of the clinic staff plus several officials from the Niger State Ministry of Health. The workshop in Kuta was attended by 25 health workers including a few officials from the Local Government Area. Both workshops were divided into four major sections. The first section was an introduction to issues in health education with an emphasis on various realities of the clinic setting—who the target audience is, what the environmental difficulties are (e.g., large groups, many distractions), what degree of feedback with participants is possible, and what amount of learning and sharing of information can be expected. This section of the workshop provided an opportunity for much interaction with the participants, who could offer examples from their own experience.

This overview discussion of clinic activities led logically into Part 2 of the workshop: a discussion of actual observations in the Niger State clinics. One of the behavior consultants reviewed the three kinds of information collected in the baseline survey. He pointed out what kinds of educational messages were being conveyed well by the health workers and what kinds of messages were being conveyed less well. The group received praise for those areas in which they were reaching mothers, as evidenced through the actual data. The consultant also explained a table showing percentages of mothers listening or participating during the health talks. The overall theme of this portion of the workshop was the importance of providing feedback to mothers during the learning process.

The overall theme was the importance of providing feedback to mothers during the learning process.

Part 3 of the workshop introduced the innovative training approach of "one step at a time." Using the analogy of a child who must learn to walk by taking small steps and receiving constant encouragement, the trainer explained how important information about immunization can be broken down into small pieces. Again, an overriding theme of this session was the need to engage mothers actively in learning. We encouraged health educators to ask many questions while presenting information. If a mother answers correctly, she should be praised

(Nigerians typically clap hands as a sign of approval). Answering questions keeps the learners actively involved and provides valuable feedback to the teacher.

Part 4 of the workshop introduced the new educational materials and demonstrated, through example and through role-playing, how the flipchart could be used to put "one step at a time" into practice. During this session the participants were also asked for their reaction to the illustrations. During the role-playing sessions we asked them to find participatory approaches using the information mothers felt comfortable with—the body sites for the vaccinations. For example, mothers might be asked to point to locations on their bodies for the five vaccination sites: first, BCG on the forearm; second, DPT on the thigh and polio drops in the mouth. This same action is then repeated for the third and fourth visits. The fifth visit requires only the measles vaccination in the upper arm. We challenged the health workers to incorporate these movements into the EPI song that they already sing.

The workshops themselves were conducted according to the features of "one step at a time," as outlined above. In other words, we divided the sessions into small parts, started with something easy, got the participants actively involved, and assessed the participants' understanding of each component by giving short quizzes. Then we gave immediate feedback based on their mastery of the learning objectives. Thus, the training experience became a demonstration of how this educational approach can be used. We believed that the health workers would learn more by experiencing the "one step at a time" method than by simply being told about it. At the end of the workshop we conducted a graduation ceremony and gave participants graduation certificates.

Measuring Results

Immediately after conducting the two health education workshops in Minna and Kuta the research assistants collected their second wave of data. They observed a total of ten health talks (four at Minna and six at Kuta) and interviewed 103 mothers.

Artists also made further changes in the flipchart illustrations as a result of recommendations by the workshop participants. In November, the revised flipcharts were delivered to the clinics for use during the EPI health talks. Each clinic received one draft flipchart. The research assistants then spent an additional 17 days collecting data—observing a total of 11 health talks (five at Minna and six at Kuta) and interviewing 99 mothers. The flipcharts were used in each of the observed health talks during this period.

The flipcharts were removed from the clinics at the end of the month for further refinements and final production. The research assistants then collected their last waves of data (in January and April of 1988). They observed a total of 11 health talks (six at Minna and five at Kuta) and conducted 174 interviews.

We can divide the results of our study into three categories:

- what health workers presented during the health talks;
- how much mothers were involved in the talks;
- what mothers learned.

The observations at the clinics and the data collected showed that after the workshops, and more so after introduction of the flipcharts, the health workers' coverage of critical information increased, the mothers' participation in the talks increased, and finally their overall knowledge of immunization increased significantly.[2] Moreover, we found that the content of health talks and the information learned by mothers dropped slightly after removal of the flipcharts but remained higher than during the baseline period. This indicated some residual effect of the intervention upon health worker/mother interaction but also demonstrated the need for a teaching aid and for continuing reinforcement of the new behaviors.

We found little difference between the results at the two clinics and can make generalizations between sites. The most dramatic effect of the intervention upon health workers' presentations was on their discussions of the occurrence and treatment of side effects. Information presented rose dramatically from the baseline period to the flipchart phase and continued to increase after removal of the flipcharts. (This subject is particularly important in Nigeria; a recent survey showed that 20 percent of African mothers reported that a child had had a reaction to a vaccination. Misunderstandings regarding such reactions could have a dangerous effect on a community's willingness to immunize its children.)

Discussions about where and when to get vaccinations also rose continuously throughout the intervention but fell off slightly after removal of the flipcharts. Discussions about the names of the diseases prevented by immunization rose only slightly after the workshops but rose significantly with introduction of the flipcharts and then dropped precipitously afterwards.

We did not record specific types of "involvement behavior" by mothers during the baseline phase because the only observed interaction occurred when mothers sang the standard EPI song at the end of the health talk. However, the overall level of involvement during the EPI portion of the talks rose dramatically with the workshop, remained high throughout the flipchart phase, and dropped by about 50 percent after removal of the flipcharts. Interestingly, both "active" and "responsive" kinds of behaviors by mothers were more common during the EPI portions of the talks than during the ORT portions, which we had not addressed. This remained true even after removal of the flipcharts. The fact is noteworthy because the ORT

presentations include demonstrations of mixing and are by nature somewhat interactive.

According to the results of the individual interviews, mothers' overall knowledge of immunization-related information rose consistently from stage to stage throughout the intervention and fell off slightly after the flipcharts were removed. Mothers' knowledge of which diseases are prevented through immunization and the number of vaccinations required increased from the baseline, to the workshop, to the flipchart phases. This was not true for their knowledge about the purpose of immunization. We speculated that this may have been a result of the greater time spent in the health talks on vaccination side effects and treatments—a subject our workshop and flipchart both treated in some depth.

Reflections and Next Steps

We can certainly view the results of this intervention as a success in the short term. The combination of new materials and new opportunities for training improved the health workers' interactions with mothers and increased mothers' knowledge about immunization. We also saw, however, that these benefits started to drop off soon after removal of the flipchart. To be effective over the long term, educational strategies must become self-sustaining and old habits need to be replaced with new ones.

In retrospect we can see that not all of the nine features of the "one step at a time" approach to public health education were fully implemented by the clinics in this study. The first six features were addressed to a certain extent by the way in which the flipcharts were designed to be used. The brochures provided a way for mothers to share what they had learned with others (feature 8 of the principles). So far there has been no assessment of whether the brochures are actually used in this way or how accurately the information is transmitted beyond the clinic.

The two features of "one step at a time" that seemed least well implemented were the ones involving feedback (features 7 and 9 of the principles). The idea of using performance feedback to guide future behavior appeared novel to the health workers when it was explained during the workshops. We suggested that if a mother masters part of the material on the flipchart during one clinic visit, there might be some way to indicate such mastery on her child's vaccination card. This information could then be used to tailor health education presentations to different groups. The clinics have not yet developed a method of recording progress and providing feedback to mothers. The difficulty may be that such an approach would require a degree of individualization that the clinics are not prepared to handle at this point. Using results from an evaluation of educational methods as feedback to revise educational procedures (feature 9) is another step in the one-step-at-a-time model that is currently beyond the resources of the average clinic.

The workshops in Minna and Kuta were only the first in a series of training experiences planned for the Zone C states (all in northern Nigeria). They served as an opportunity to test and refine materials and to evaluate the probable success of a new training approach. Several months later these pilot workshops were followed by a number of workshops for supervisors and health workers. The first of these was held for 40 medical officers and health education supervisors in Niger State and six neighboring states. This training-of trainers (TOT) workshop took place over one week and focused on the development of action plans for extensive immunization education efforts in the participants' states. The one-step-at-a-time methodology, together with the finished flipcharts, users' guides, and brochures for mothers, were introduced to these high-level participants. Afterwards, the newly trained health education supervisors held a series of smaller workshops in their Local Government Areas to disseminate the new materials and training approach to the clinic level.

Whereas it would have been difficult to observe systematically the effect of these many local workshops, our study gave us a basis upon which to predict the effectiveness of the new training. It gave the designers a chance to test their materials in a natural clinic setting, and it gave communication planners insights into the longer-term challenges of encouraging feedback and outreach in the health education process.

We may be tempted to wish that the whole public health education system could be influenced positively and all the features of "one step at a time" be implemented at once. But then, that would not be in keeping with the "one step at a time" philosophy. We should be satisfied if certain aspects of the methodology were adopted on the first try, and then accept the challenge of helping to implement the next step toward optimal health education in the clinics. Certainly, we must attempt to practice what we preach!

Notes

1. See Learning: Reinforcement Theory, by Fred S. Keller (New York: Random House, 1954).

2. Data are available in the HEALTHCOM health practice study, "Immunization Education in Nigeria: Evaluation and Improvement of a Clinic Program," by Judith Graeff, Clarence Hall, E. Scott Geller, Galen Lehman, and Thomas Schmid (unpublished).

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Effective Training for Community Health Workers:

Diarrhea Case Management in Rural Indonesia

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WHEN HEALTH WORKERS ARE SCARCE

Approximately 85 to 90 percent of Indonesia's estimated population of 180 million live in rural villages. Assuring that basic primary health care is available to those people is one of the health system's greatest challenges. The numbers of trained, paid, full-time health professionals are not in themselves adequate for this task. For example, of the approximately 20,000 licensed physicians in Indonesia, 30 percent work in Jakarta.[1] Perhaps another 30 percent work in other large urban centers, leaving only 8,000 to serve the rural population. This is an average of only one physician for approximately 20,000 people.

A typical ratio of health center workers for the rural areas in Indonesia is only one professional for every 10,000 people.

One of the ways the government addresses this problem is through the efforts of voluntary community health workers, known as *kader*. These volunteers, primarily women and usually mothers, provide basic health care in their own neighborhoods as part of the national primary health care policy.

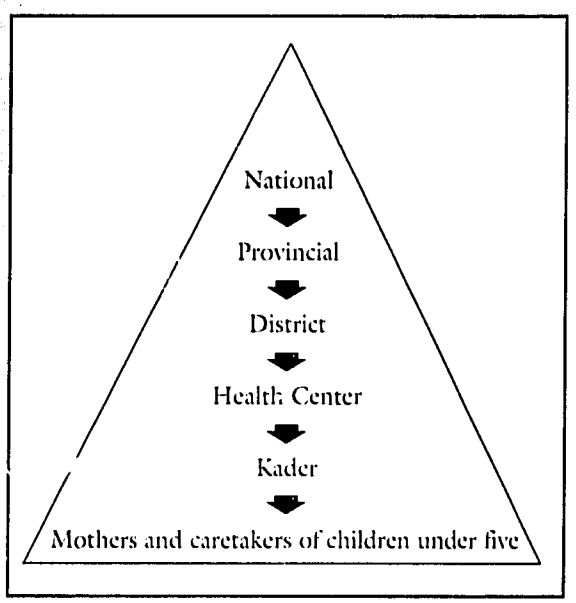
Conducting training for kader is a priority of the national Health Department. Under the five-year plan for 1984 to 1989 the government's goal was to train 753,000 new kader and retrain the 925,000 existing kader for health and family planning activities.[2] The most common form of training is multipurpose, covering five interventions: diarrheal disease control, nutrition, immunization, maternal care, and family planning.[3] Training requires both extensive logistical arrangements and careful design so that training techniques, teaching materials, and content are appropriate to the trainees. As a group, kader are literate but generally have only a few years of primary education.

Training design usually begins at the national level in Jakarta. Officers of the Health Department travel to the provinces to assist the training process according to a pyramidal system. After officers at one level are trained, they become trainers for the next level of the hierarchy. (See figure 16-1.) To reach beyond the system of paid government workers, each health center asks the village chiefs or other officials in the surrounding areas to select several volunteers to be trained as health kader. This is the foundation of the pyramid—potentially the largest group

Kader are the foundation of the pyramid—potentially the largest group of health promoters.

FIGURE 16-1

Pyramidal system of diarrhea case management training



of health promoters, the last to be trained, and the closest to the target audience.

Multipurpose health kader training usually requires one week or more. After being trained, a volunteer is expected to provide services and health education in her own home to local mothers, during visits to mothers, at local meetings, and at a neighborhood integrated health post, or *posyandu*. Each post is meant to serve approximately 120 households. Two or three trained kader, sometimes assisted by a visitor from the nearest health center, are encouraged to set up and operate the integrated health post one morning every month in a neighborhood hall or private home. During the morning, kader register pregnant women and children under five years of age, weigh the babies and young children, offer advice to mothers whose children show inadequate weight gain, and provide education on topics such as case management of diarrhea. These posts are set up monthly in an estimated 90,000 to 100,000 of Indonesia's 400,000 villages.

KADER AND DIARRHEAL DISEASE MANAGEMENT

This field note focuses on the ability of kader to improve the health status of children in just one area—the control of diarrheal disease and dehydration (CDD). Diarrheal disease is a leading cause of death among children under five years of age in Indonesia. Extrapolation from survey data indicate that more than 240,000 of the expected 1,200,000 deaths among children in this group in 1987 resulted from dehydration associated with diarrhea.[4] Improvements in product availability (oral rehydration salts) and in both preventive and treatment measures could help many more Indonesian children survive.

The Health Department intends to lower the incidence and severity of dehydration by improving the availability of ORS (through both public and commercial channels) and increasing the prevalence of correct case management at all levels, including in the home. As part of this effort, trained kader are expected to act as a major communication channel to mothers, particularly in providing counseling about prevention of dehydration and replacement of lost fluids. They are expected to meet mothers in their own homes and at the local posyandu, and to have supplies available of the government ORS product, Oralit-200.

The Indonesian Subdirectorate for Diarrhea Control has been concerned with reducing morbidity and mortality in this area for over a decade and has established a national case management policy especially for community-level, nonprofessionals such as mothers, volunteers, retailers, and traditional healers. The policy emphasizes use of home fluids, continued breastfeeding, and increased feeding, and discriminates among three types of diarrhea that are recognized by Indonesian women and can be treated in the home: simple diarrhea (called "beginning diarrhea"), diarrhea "with weakness," and diarrhea with vomiting. All of these should be initially treated in the home with ORS. Cases of chronic diarrhea or dysentery should be taken immediately to a health center.

QUESTIONS ABOUT KADER

While the role of health kader in extending primary health care services has become an institution in Indonesia during the past decade, this group's effectiveness as health educators has been questioned. It is assumed that the volunteers make home visits to mothers of young children, although this has not been adequately observed or measured. By far the greatest portion of costs associated with operating the integrated health posts is for training kader.[5] Much of the training is aimed at replacing kader who have become inactive; the first-year dropout rate for trained volunteers is reportedly about 50 percent. Furthermore, several studies have suggested that kader have not really accomplished program goals related to growth monitoring, ORT, or health education.[6]

Effectiveness of kader ability to counsel neighborhood mothers is probably related to several factors including the trainee selection process, the quality of training, the willingness and ability of kader to teach their neighbors, social and economic differences between kader and their neighbors, motivation to continue in the role, competing

demands upon the volunteers' time, and mothers' familiarity with and willingness to seek out kader. Most studies of kader have suggested that training was probably inadequate and should be improved. However, there has been little assessment of the training process itself.

There has been little assessment of the kader training process itself.

In 1986 the Health Department's Center for Community Health Education (PKM) embarked on an intensification of kader training specifically related to CDD. These activities provided an opportunity to conduct pilot studies and simulations of the pyramidal training system and to re-examine materials and training techniques. This intensification allowed planners to monitor the effectiveness of kader counseling mothers in proper diarrhea case management and to assess strategies and areas of need. Assistance in these activities was provided by the USAID mission in Jakarta, projects funded by the mission (including HEALTHCOM and PRITECH), UNICEF, WHO, and local pharmaceutical firms.

West Java Intensification

West Java Province was selected for intensification of training related to CDD. West Java is a priority province partly because of its higher than average infant mortality (130 per 1,000 live births compared with less than 100 for the nation as a whole).

Planners chose Garut Regency as the initial site for intensification and evaluation over a period of six months.

Typically, each health center is responsible for 8 to 12 villages.

Garut Regency is culturally quite typical of West Java, with a population that is predominantly rural, Muslim, and employed in agriculture. About 1,600,000 people live in Garut, including an estimated 240,000 children under five. The rural population is served by 32 health centers staffed by approximately 170 professional workers. Typically, each health center is responsible for 8 to 12 villages. Many villagers therefore live a long distance from the health center.

The volunteer posyandu system helps fill the gap left by overburdened health centers such as this one, responsible for up to 12 villages.

The Garut intensification was designed to improve CDD education at all levels including hospitals, health centers, posyandu, and in the home. Training was combined with mass media.

Radio was expected to play a role in support of kader. Two radio stations in Garut broadcast short spots six to eight times daily from August to December of 1986. One spot promoted the idea of giving more food and drink when diarrhea began; the second promoted food and drink plus Oralit-200 for children who were showing signs of weakness or dehydration.

Training followed the usual five-tier hierarchical plan: provincial-level trainers trained about 40 district-level administrators and physicians who then trained 150 professionals from the health centers. The allied health workers then asked the chiefs of each of Garut's 404 villages to select eight people to be trained as kader. They trained over 3,200 kader in 120 groups of about 25 to 30 each. It was expected that the trained volunteers, and to a lesser extent health center workers, would train the largest tier, namely mothers.

Training at each level took place over two days. Format was a combination of lecture, role-playing, and simulation game (a board game for small groups aimed at reinforcing correct treatment of three types of diarrhea). Content focused on diagnosis and treatment of the different types of diarrhea.

Emphasis during role-plays was on demonstrating how to mix a packet of Oralit and telling mothers when and how to give the solution to a child. Each kader trainee received an ORT manual, posters, an identification sign for her house, some flyers to give to mothers, a badge, a training certificate, and a supply of Oralit-200 packets to give to neighborhood mothers.

TABLE 16-1

Numbers of respondents in KAP surveys, Garut Regency, 1986 & 1987

Type of Respondent	(N) 1986	(N) 1987
Mothers/caretakers	255	377
Volunteer kader	10	71
Health center workers	32	29

Note 1: SRI planned to include 32 kader in the 1986 baseline sample, but only ten suitable kader could be identified and interviewed. The small number precluded making valid inferences about changes in their knowledge over time.

Note 2: Some health workers may have been included in both the before and after surveys because all health centers in Garut were included in the sampling frame on both occasions. However, each mother and kader were probably included once because different primary sampling units were used in 1986 and 1987.

Source: CIHDC and Survey Research Indonesia

RESULTS IN GARUT

In June 1986 immediately prior to the onset of kader training, an independent Indonesian research company (Survey Research Indonesia, or SRI) and CIHDC, Annenberg School for Communication, University of Pennsylvania, conducted a baseline study of health center workers, kader, and mothers.[7] In February 1987 an after-survey provided information about the impact of training in Garut on the participants' knowledge, attitudes, and practices (KAP) related to CDD. Numbers surveyed are shown in table 16-1. Results from this survey showed mixed success in the training effort:

Use of kader as sources of information increased a little—Mothers were asked to name their sources of information about diarrheal disease control. (Categories of answers were not mutually exclusive.) The percentage of mothers reporting kader as a source of information increased from 2 to 8 percent. Mothers reported an increase in only one other source—neighbors, friends, and relatives—from 19 to 33 percent. However, planners believe that some of these neighbors and friends may in fact have been kader.

Use of kader as sources of treatment increased a little—Mothers were asked to name their source(s) of treatment for the last episode of a child's diarrhea. There was a small but statistically significant increase in the proportion who reported using kader: from 0 to 4 percent. Again, some of the additional slight increase in the use of friends, neighbors, and relatives may actually be attributable to an increase in the use of kader.

Mothers' knowledge was much lower than kaders' and health workers—In looking at only knowledge levels among the three groups at the time of the after-survey, the drop in knowledge from one tier to the next is precipitous. On a ten-point scale measuring knowledge about key elements of treatment, health center workers received 6.7 correct, kader 4.1 correct, and mothers 2.4. Table 16-2 shows the numbers and nature of correct responses among these groups.

Training designers studied the Garut experience for insights into both its apparent levels of success and its lack of impact upon the ultimate target audience—mothers. One explanation for the low levels of kader use reported by mothers may have been their poor awareness of the term kader or the group of volunteers. When asked during the after-survey, only about 33 percent of mothers claimed to have heard of such a group and of those, only 40 percent knew the meaning of the word. There was some evidence that mothers were using kader without realizing it. This was obviously an important weakness which needed to be rectified.

Monitoring of the kader training sessions themselves revealed some important areas for improvement:

- Substantial proportions (about 40 percent) of kader trainees attended for only one day.
- Most trainers used lecturing as their main training technique.
- The main emphasis during the role-playing was on mixing of Oralit. Almost no emphasis was given to other important points such as the dangers of diarrhea.
- Not all trainees participated in role-playing; often, only one or two pairs played a demonstration role before the group moved to the next unit.
- Sometimes an untrained health worker was sent from the health center to a village to train kader. Several trainers at lower levels had not been trained themselves.
- Physicians did not take an active role in training.
- Many trainers did not have adequate supplies of training materials.

The often high quality of training evidenced among provincial-level trainers did not trickle down to the village level. While provincial-level trainers knew and used several powerful training techniques, kader trainees were usually lectured for several hours with little opportunity for demonstration or role-playing.

This dilution of quality as training progressed down the pyramidal system was one of the major problems to be addressed in future training designs.

TECHNIQUES FOR IMPROVEMENT

Planners devised a new approach to CDD training aimed to resolve some of the problems faced in Garut. Designing the new system took place in six stages:

- specifying a clear purpose;
- deciding upon educational principles and techniques to be used;
- developing training materials for the system;
- carrying out a trial of the system;
- evaluating the new system;
- making revisions of the new system for submission to the ORT working group for West Java.

The purpose of training was reformulated to emphasize the actual counseling relationship between kader and mothers. Beginning at the top of the hierarchy, trainees would act out important elements of this counseling activity. They would then teach the next tier of trainees exactly what they had learned and in the same manner they had learned it. Training designers derived new educational principles and training techniques from this basic overriding purpose. These principles were as follows:

Teach as we have been taught—The new system focused on training the ultimate target audience and was highly interactive. Thus even the training of trainers concentrated on how to train mothers—rather than on how to train the tier immediately below. For example, every trainee at every level was asked to play the role of a kader and of a village mother several times in order to learn variations on appropriate counseling. Even the medical administrators and health center physicians were asked to answer simple questions in simple ways when they played roles.

Understand the goals of the training—Planners incorporated the salesman's adage, "Tell them what you're going to tell them, then tell them, then tell them what you've told them." The new design began with an overview for trainees about the content and purpose of their training and ended with a review at the end of the day.

Learn from a credible source—Physicians were included as trainers at every level. This was to provide a source of authoritative information and give the training credibility.

Discriminate between correct and incorrect behavior—The discrimination game provided a friendly atmosphere in which to identify incorrect as well as correct practices. After each new behavior was introduced and imitated by the trainees through role-playing, the trainers

TABLE 16-2

Correct case management knowledge after field activities in Garut

Question asked	Percent correct		
	Health workers	Kader	Caretakers
For beginning diarrhea—			
Give extra fluids	85.7	47.7	9.3
Continue feeding	85.7	38.5	3.7
For diarrhea plus weakness—			
Give extra fluids	66.7	18.5	3.7
Continue feeding	52.4	20.0	3.2
Give Oralit	76.2	60.0	22.0
For diarrhea with vomiting—			
Give extra fluids	52.4	16.9	1.3
Continue feeding	33.3	7.7	0.3
Give Oralit	85.7	52.3	32.1
Refer case to hospital	71.4	90.8	82.5
	N = 29	N = 71	N = 377

Note: Multiple answers were allowed for multiple choice questions.

Source: CIHDC and Survey Research Indonesia

The revised training system emphasized the actual counseling relationship between kader and mother.

acted out the same roles but purposefully made mistakes. Trainees were encouraged to shout out "wrong!" when the trainer made a mistake. Each brief discrimination game was a lively opportunity to see, hear, and ensure correct behavior. It also increased trainees' self-confidence and reduced passive acceptance of information.

Participate frequently—Trainees at every level were asked to read aloud parts of the training materials, offer examples of home fluids and foods readily available in their own neighborhoods, act out different roles, participate in the discrimination game, etc. At the end of the day, trainees discussed the next steps together.

Use several senses—Each trainee read out loud and was encouraged to speak out as well as listen, write, and role-play. This helped reinforce facts in different ways and maintained interest and variety of experience throughout the day.

Imitate correct behavior—Active role-playing among small groups was encouraged. There were two important roles—that of the trainer kader and that of the mother—in addition to that of an observer who analyzed and evaluated the role-playing. The group therefore split up frequently into sets of three and took turns playing different roles.

Master one correct behavior before attempting another—After completing each unit, trainees had a short break before beginning the next unit. This would help them organize what they learned and master steps in a logical sequence.

Measure progress—Trainees took a pretest and post-test. They were encouraged to compare their own before-and-after answers and to keep the papers as a record of their learning. This helped them measure progress and assess weaknesses privately and without embarrassment.

Continue to practice—Trainers at every level gave homework to the trainees at the end of the day. This technique aimed at reinforcing content and techniques and building confidence.

SIMULATION IN SUBANG

Planners wanted to test the feasibility of conducting training in only one day and measure the potential effectiveness of the new training approach. A one-day training course had several advantages. It would solve the problem of trainee dropouts. It would cost less. It could fit as a neat unit into the multipurpose kader training system which requires several days, or could be used by itself for intensification of CDD activities, as in Garut.

Subang District was selected as a pilot site for the new training system because it was judged to be socially and economically similar to Garut District but far enough away to be unaffected by the ongoing intensification activities in Garut.

Planners designed the new system around three units reflecting the types of diarrhea that can be treated in the home, as established by the national norms. Most of the content consisted of microlessons, or brief role-playing scripts. These were outlined in a trainer's manual, together with other materials designed to be read to the trainees. Other training aids included:

Most of the content consisted of microlessons, or brief role-playing scripts.

- pretest and post-test quizzes for each trainee;
- a copy of a draft kader manual for each trainee to use during the training session and to keep;
- a large-scale drawing of each page of the draft kader manual for use as a flipchart;
- dolls for use during role-playing;
- ORS packets;
- *bilimbing* glasses (common tea glasses) and spoons for ORS mixing;
- kader training certificates.

Training designers attempted to simulate the usual pyramidal process in a small pretest of the new training system. Trainers from the West Java Provincial Health Office traveled to Subang in early 1987 where they trained five officers, most of whom were physicians, from the District Health Office. The newly trained officers then used the next day to practice and plan logistics before

training the next level. They then traveled to a health center in rural Subang, accompanied by the provincial trainers who would monitor the next session. At the health center, the district trainers trained three allied health workers. The health center physician did not attend the training because he said he was needed for other duties.

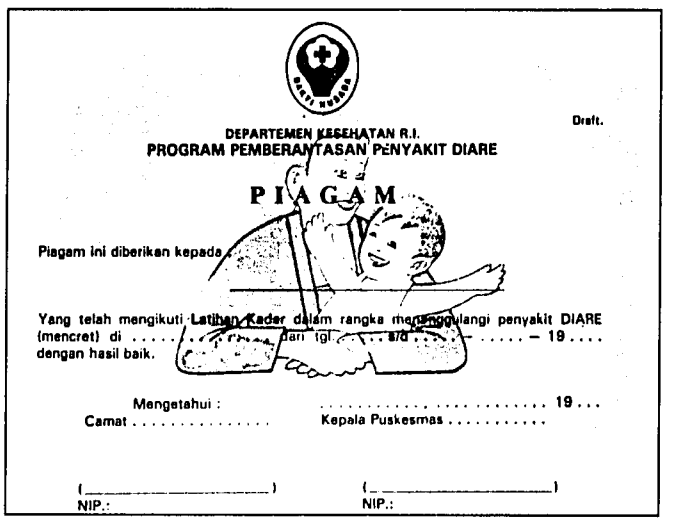
The next day, the allied health workers practiced and planned their training session. They also requested that the chief of a local village (population about 3,000) ask 20 to 25 women to attend a one-day kader training session. A total of 22 potential new kader came to this training session, which took place in an unused school room. Allied health workers began the session without the health center physician, who reported being too busy to attend. However, he was persuaded to join later in the morning after being asked a technical question. He soon took an active role.

The six-hour day was divided as follows:

Session	Minutes
Registration	
Pretest	30
Opening speeches	30
Making acquaintance	30
Introducing the kader book	45
(Break)	10
Home management of beginning diarrhea	45
(Break)	10
Home management of diarrhea plus weakness	60
(break)	10
Home management of diarrhea plus vomiting	30
(lunch)	30
Post-test	15
Planning community education	15

Each of the major units consisted of a brief lecture and discussion, with the help of the kader manual and the flipchart as aids, and role-playing. The three trainers first demonstrated through a prepared three-minute script showing interaction between a kader and a mother who has a child afflicted with the appropriate type of diarrhea. Two trainees were then invited to repeat the role-playing exercise for the group. Then everyone split into groups of three to practice. Role-playing was followed by the discrimination game. The trainers repeated the role-playing exercise for the group but threw in mistakes that others were challenged to catch.

The pre- and post-test included short multiple choice questions about the dangers, signs, and treatment of the three types of diarrhea, plus proper mixing and administration of Oralit. After taking the post-test, the trainees broke up into groups with others from their own neighborhoods. They discussed how they would reach out in their communities to mothers (a minimum of five each in the next week) and teach them correct case management. This was followed by a discussion of the post-test. Trainees were invited to keep their quiz papers as a record of the learning process. Tabulations were also kept by the trainers as part of the monitoring report. Finally, the newly trained kader received their training certificates.


DEPARTEMEN KESEHATAN R.I.
PROGRAM PEMBERANTASAN PENYAKIT DIARE

Draft.

PIAGAM

Piagam ini diberikan kepada

Yang telah mengikuti Latihan Kader dalam rangka menanggulangi penyakit DIARE (mencret) di ..... dari tgl. ..... s/d ..... – ..... – 19 .... dengan hasil baik.

Mengetahui : ..... 19 ...
Camat ..... Kepala Puskesmas .....

( ) ( )
NIP.: NIP.:

Each trained kader received a graduation certificate. This was the first such recognition many had ever received.

Reflections on the Subang Pretest

Three sources of information provided a basis upon which to evaluate the new system: observation/monitoring of the training process, the results of the pre- and post-tests, and the results of a small survey conducted by SRI among the intervention group and a comparison population.

Observation/monitoring answered one of the most important questions about the new training design: whether trainers and trainees (especially those highly placed) would be willing to role-play the parts of village volunteers and mothers. In the Subang trial, observers noted high levels of motivation among most trainers and trainees. Physicians and health department administrators generally appeared shy to participate in role-playing but expressed enthusiasm once they became involved. The physician at the health center level, however, resisted being trained with his nonphysician colleagues. In the kader-level training, the physician had to be drawn into the activities with some delicacy. He eventually was willing to participate in an ad hoc manner, acting as a sort of consultant to the allied health workers in technical matters.

Results of the pre- and post-tests showed that kader knowledge was substantially higher at the end of a single

TABLE 16-3

Correct case management knowledge of mothers after Subang simulation

Question asked	Percent correct	
	Mothers contacted by kader	Comparison group mothers
Correct treatment for beginning diarrhea—		
Extra liquids	60	8
Continue giving food	42	10
Continue breast milk	42	22
Correct signs of diarrhea with weakness—		
Lassitude	70	52
Fever	23	12
Lack of appetite	68	25
Vomiting 1-2 times daily	17	7
Correct treatment for diarrhea with weakness—		
Give soft food	45	18
Continue breastfeeding	37	13
Give Oralit	55	30
Correct treatment for diarrhea with vomiting—		
Refer to health center	65	67
Give Oralit	60	50
Give food	10	0
Give liquids	13	3
Give breast milk	12	8
Correct mixing of Oralit—		
Use the full packet	78	43
Use a full glass of water	91	53
Give a glass of Oralit after each stool—	31	9
	N = 47	N = 50

Note: No baseline measure was taken of mothers' knowledge in either region; the planners assumed similar levels of knowledge in the two groups because no special case management training had previously been provided to either group.

Source: Department of Health, Indonesia, West Java Province

six-hour training session. Typically, less than 50 percent of the class gave the correct answer for a given question before the training session began; after training the proportion of correct answers increased to 80 or 90 percent. This answered one of the major questions of the trial: namely, whether a single six-hour day of training would be sufficient to increase levels of knowledge.

The survey helped show whether kader training could influence levels of knowledge among mothers they counseled. It aimed to determine whether mothers who had been contacted by the new kader actually had higher levels of knowledge about proper diarrhea case management than mothers in another area. One week after training, SRI and the training coordinators asked 22 newly trained kader to identify mothers they had contacted. The kader provided the names and addresses of more than 100 mothers. Seventy of these were selected randomly for the study; 47 of them were located and interviewed about case management knowledge and practice. The following day the survey team visited a nearby area where none of the newly trained kader lived. They randomly selected households with young children and interviewed 50 mothers using the same questionnaire. The results are shown in table 16-3.

The data provided evidence that kader can be motivated to reach out to mothers in their communities. Each of the mothers interviewed confirmed that she had in fact been contacted by a kader within the previous week. The

study also showed that kader can teach mothers crucial information about proper diarrhea case management. Substantially larger percentages of mothers in the intervention group gave correct answers to most questions. Kader were especially effective in communicating messages about the need for increased feeding and liquids during diarrhea.

The results of the Subang trial must be considered cautiously for several reasons. The trial cannot be said to predict levels of knowledge among mothers over the long term. In addition, the study did not measure actual practices of mothers. The pyramidal system itself was simulated under the best of circumstances. Each level of training was carefully monitored and the trainers were aware they were being observed.

The fortunate mothers who were counseled at the end of this process were part of an idealized training environment. On the other hand, the Subang trial demonstrated the potential of the new training design and led planners to make a few more revisions.

LESSONS FOR THE FUTURE

Among the many useful lessons learned by planners from the Garut and Subang training experiences were the following:

Trainers need to practice and plan—In contrast to the Garut experience in which some Health Department officers became trainers before they had practiced (or perhaps had even experienced the training) the Subang system illustrated the value of giving new trainers one or two days to plan, seek advice from other trainers, and create extra materials if desired.

Participatory techniques can be successful—Although some techniques (such as role-playing and the discrimination game) were somewhat exotic for these audiences, they were met mostly with enthusiasm and were effective in conveying information.

As a group, physicians demand a different approach—Although the techniques used were enjoyed by those physicians willing to join in, some physicians continued to view themselves as above being trained with those not at their level. Special consideration must be given to this problem and special arrangements made, if possible. Given the hierarchy in the health center, it may be necessary for district-level trainers to train physicians and allied health workers in different groups.

Training materials should be tailored and participatory—As a result of some deficiencies in the kader manual and poster, planners decided to design a new training tool. The new design consists of a high quality calendar with a pocket containing counseling cards specifically designed to assist kader in diagnosing and recommending proper treatment for the different kinds of diarrhea.[8]

The role of volunteers must be known and accepted within the community—Other media are necessary to promote the role and activities of kader. During subsequent training, each kader received a metal sign which can be nailed to her home. The sign shows a picture of a mother and child plus the label "child health kader." Other media, such as radio and mobile film vans, were also subsequently explored to help teach women about the role of kader.

Supply management is a potential problem—A substantial proportion of kader in the Garut training did not receive sufficient supplies (such as flyers or an adequate supply of Oralit packets). This problem is especially critical with regard to ORS. Kader are not likely to be a good source of distributing packets to mothers on a regular basis. For this reason, the Health Department is investigating increased commercial distribution and marketing of ORS in rural areas.

Kader alone will probably not reach enough mothers—Other media can also be effective channels for reaching mothers. Print and radio messages can be used more extensively to inform mothers about correct diarrhea case management. Planners have designed an extensive print and radio strategy and have also created a video on the treatment of diarrhea, which is being shown in mobile film vans throughout rural areas.

Selection of kader is important—Although it is not possible to control kader trainee selection completely because village chiefs make these decisions, it is possible to suggest certain criteria. One is that trainees should want to be trained; a second is that they should indicate their willingness to communicate what they have learned to others; a third is that their selection should be endorsed by their neighbors.

Kader are willing and able to provide outreach—The Subang experience demonstrated that kader can be motivated in the short term to reach out to their neighbors and share information about case management of their children's diarrhea.

Supervision, monitoring, and reinforcement of kader is crucial—One innovation planned after the Subang training was to have kader return for a second day of training 30 days after the first day. At this time they could discuss their experiences in counseling mothers, replenish their supplies, review home management norms, and discuss problems encountered. The follow-up would motivate continued participation and allow for planning of additional activities, if appropriate. The awarding of training certificates could be done on this day, contingent upon completion of the outreach assignment. Other innovations are being tested, such as the potential for reaching kader on an ongoing basis with direct mail and targeted radio programs.[9]

Both the Garut and Subang training experiences demonstrated the value of pretesting—or conducting a simulation—of training techniques, materials, and logistics prior to beginning large-scale fieldwork. The pyramidal system in West Java made it particularly difficult to simulate the entire training process; however, planners were able to measure the potential effects of new training designs on kaders' and mothers' knowledge and were able to discover areas of weakness. In the long run, a pretest is a cost-effective step in the introduction of a new system.

Planners must keep in mind that any such pretest is likely to show the design in its most positive light. A pretest is not a replacement for ongoing monitoring once a system is in place.

NOTES

1. See "Health and Population Sector Review and Assessment" (Jakarta: USAID, Office of Population and Health, August 1987).

2. See "Master Plan of Operation 1985-1989" (Jakarta: Government of Indonesia and UNICEF, 1985).

3. In some parts of Indonesia, kader also assist in dispensing vitamin A capsules twice a year. See Field Note No. 8, "The Use of Integrated Media for Vitamin A Capsule Social Marketing Activities in Central Java, Indonesia."

4. See "Diarrheal Disease Control: Program Assessment for Proposed USAID Project Amendment" (Jakarta: USAID, Office of Population and Health, April 1986).

5. See "Direct Costs of the Posyandu: a Model for Analysis," by E. Frankenberg (Jakarta: USAID, September 1987).

6. For further information about the kader system and their performance, see *The Indonesia National Family Nutrition Improvement Program (UPGI): a Case Study of Seven Villages*, by P. Fajans and H. Sudimans (New York: UNICEF, 1983); "Village Kader Study: An Investigation of Kader in Five West Java Villages," by M. Judd (Jakarta: USAID, January 1987); *A Qualitative Study of Health Practices and Mass Media Outreach in South Sulawesi*, by M. Judd (Jakarta: Indonesian Center for Community Health Education and UNICEF, March 1986); and "Kader in Indonesia: Literature Review," by M. Judd (Jakarta: USAID, January 1987).

7. The CIHDC, Annenberg School for Communication, University of Pennsylvania, is subcontractor to the HEALTHCOM Project, carrying out evaluation research activities. Annenberg collaborated with Survey Research Indonesia (Jakarta) in conducting research in Indonesia. Data included in this field note are elaborated in "Comparison of Key Variables before and after ORT Intensification in Garut Kabupaten," by Jeffrey McDowell and Zhong Zheng (Annenberg School for Communication, 1988) and reports by Survey Research Indonesia. For further information contact the CIHDC, Annenberg School for Communication, University of Pennsylvania, 3620 Walnut Street, Philadelphia, PA 19104.

8. See also Field Note No. 12, "The Development of Counseling Cards for Community Health Workers," for a detailed discussion of the design and pretesting of these materials.

9. For information about subsequent HEALTHCOM activities to motivate and sustain kader commitment, see also "An Examination of the Performance and Motivation of Indonesian Village Health Volunteers," by Thomas Reis, John Elder, Satoto, Benny Kodyat, and Anne Palmer, in *International Quarterly of Community Health Education* 11(1): 19-27 (1990-91) and "HEALTHCOM/Indonesia: The Use of Radio Spots to Improve Performance and Motivation of Kader," by John Elder, Thomas Reis, Satoto, and Rahardjo Suwandi, in *Hygie* 11(4): 21-25 (December 1992).

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17

Lessons in Creating a Communication Training Video for Health Workers

Andrew Piller
Renata Seidel

THE CHALLENGE OF RURAL OUTREACH

The cultural diversity and geographic inaccessibility of much of Papua New Guinea (PNG) makes it a challenging environment for the delivery of primary health care services. In spite of this, PNG is almost unique among developing nations in its outreach of health services to the rural population. Every 1,200 people in rural PNG are served by a health facility. The population of approximately 3.5 million people is served by 20 provincial hospitals, more than 20 urban clinics, approximately 450 health centers and subcenters, and more than 2,000 aid posts.[1] These aid posts are constructed by the local communities, which generally provide land for the post and a house and garden for the aid post orderly.

The backbone of the rural primary health care system is the aid post orderlies (APOs) who are trained for two years in common illnesses and treatments, preventable conditions, and environmental management (including water supply, sanitation, nutrition, and hygiene). In 1987 the APO training program was revised. Graduates from this more comprehensive training are called community health workers (CHWs); they will slowly replace APOs in the health system.

CONTROL OF DIARRHEAL DISEASE

One of the major preventable childhood conditions that confronts the health worker in PNG is diarrheal dehydration. Although diarrheal disease appears to have a lower incidence among children in PNG than in many developing nations, it is still the second leading cause of death among children one to five years of age and the third leading cause of deaths among infants.

Moreover, in this country it is particularly difficult to determine the actual severity of the situation. According to the National Health Plan for 1985-1990, only a little over ten percent of deaths take place in institutional settings. Approximately 65 percent of infants and children who die before the age of five die at home. It is likely that a substantial percentage of unreported infant and child mortality is related to diarrheal disease.

Since the formation of the National Committee on the Control of Diarrheal Disease (CDD) in 1979, the PNG Department of Health has undertaken a variety of activities to combat the problem. The most notable of these are:

- legislation to prohibit the sale of infant feeding bottles, except on prescription;
- the introduction of oral rehydration salts (ORS), supplied largely by UNICEF since 1985;
- the establishment of an outpatient department for the management of diarrhea and an inpatient ward at the National Hospital in Port Moresby;
- the creation of health worker training modules on CDD;
- the completion of a number of health worker supervisor training workshops.

Training under this program is conducted by the National Training Support Unit (NTSU), a part of the Department of Health responsible for preservice training, inservice training, and the design and sponsorship of regular supervisor training and other support.

In 1984, the DOH drafted ORS training modules for aid post orderlies and nurses. In the following year materials were pretested and training-of-trainer courses were initiated. In addition, the DOH developed a supervisor's CDD checklist for use in all health institutions as well as ancillary materials such as tape/slide presentations. A national workshop that year for pediatricians provided an important forum for examining the program and making recommendations for future directions. (In PNG, private physicians are supportive of the national ORT policy and consensus building within the medical community regarding appropriate technologies is not the challenge it commonly is in many developing nations.)

Despite these efforts, problems remained. In 1987 the Department of Health, in collaboration with the World Health Organization, issued a Comprehensive Review of the Control of Diarrheal Disease Program in four provinces identifying several key areas for improvement. Among these were:

- correct and adequate use of ORS, particularly at the village level;
- early recognition and adequate treatment of diarrheal disease in the home and village, with referral as appropriate;
- an appropriate program of health education about CDD, especially in villages and urban settlements;
- increased coverage of measles immunization.

The recommended improvements thus focused largely on the practices of caretakers and secondarily those of APOs—especially in their role as educators.

As part of its response to this review, the DOH invited A.I.D.'s HEALTHCOM Project to assist in introducing a systematic communication program to strengthen PNG's health education system, with special emphasis on diarrheal disease control. Communication skills *per se* have never been part of the regular preservice or inservice training programs provided to APOs. Moreover, health education has traditionally received little focus. In 1982 the Health Education Unit of the DOH was reduced to a skeletal staff of two health educators responsible for coordinating all health education efforts throughout the country. Other national and provincial health education officers were transferred elsewhere within the DOH (usually becoming primary health care officers or inservice training coordinators). At the provincial level, most health education responsibilities were addressed indirectly; every health worker was considered to be a health educator. Without proper training and support, however, this approach was ineffective. The Health Education Unit had essentially no budget until 1988 when concern about AIDS focused attention upon the Unit and plans were made to raise it to the level of a division.

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Preparing for a Pilot Program

The HEALTHCOM Project resident adviser began working with the Department of Health in 1988 in collaboration with the officer in charge of the Health Education Unit and with assistance from the audiovisual technician. With virtually no other professional staff and a very small operating budget, the PNG project has been the smallest-scale HEALTHCOM site. Priorities and methods have been scaled accordingly, and difficult trade-offs among short- and long-term goals, between speed of production and thoroughness of technical review, and between effective use of limited funds vs. institutionalization of capacities within the DOH have been everyday realities.

The PNG project provides some interesting insights into how and to what extent "corners can be cut" in order to initiate successful communication activities within the health delivery system, and what aspects of the HEALTHCOM methodology are essential to assuring the usefulness of strategies and products. It also demonstrates the importance of seeking resources and expertise outside the immediate circle of collaborators, particularly in the private sector.

Background Research

The Central Province, including the National Capital District (NCD), was selected as the site for a pilot program in the area of CDD. We began with an extensive review of existing research and determined that important background information on the knowledge, attitudes, and practices (KAP) of the target population within the Central Province was lacking. Because staff, expertise, and other resources were not available within the DOH to undertake such a study, we contracted with a local research firm, MarketSearch, to conduct a KAP survey consisting of 500 interviews with urban and rural mothers (250 from five locations in the Central Province and 250 from the NCD). This quantitative data was supplemented by information gathered through six focus group discussions (three each with urban and rural mothers) conducted by MarketSearch simultaneously with the KAP survey. The focus groups investigated what mothers know and do about childhood diarrhea.

Among other findings, the survey indicated that diarrhea is not considered serious in its early stages. However, when mothers do seek advice, health workers are their leading source of treatment and information. The research also indicated that beliefs about spiritual causes of diarrhea and other diseases are widespread. Mothers were more willing to discuss these beliefs during focus groups than in one-on-one interviews.

CDD Treatment Norms and Realities

At the time of this survey, CDD policy was in the midst of being revised by the National Committee for CDD. New norms were approved in late 1989. Recommendations include early home treatment of the child with available fluids (coconut water, fruit juices, etc.), continued breastfeeding, and assistance from the health center or APO, especially in administering ORS in case of signs of dehydration. The guidelines state that in most situations ORS packets should not be given to mothers for use in the home. Under special circumstances (such as a mother living a long distance from the aid post) the health worker can give out packets but is then responsible for ensuring the mother understands proper mixing procedures.

In fact, informal interviews conducted by the resident adviser with APOs and community health workers revealed that 31 out of 34 (of a total of approximately 80 health care workers in the Central Province) gave out packets to most mothers who came to them when a child had diarrhea. Health workers were thus often in the position of providing more training to the mother than was officially recognized.

Yet informal observations in aid posts showed that APOs spend the majority of their time providing treatment for ill children and practically no time communicating with or providing instructions to the patient or parent. These observations were supported by a PNG Rural Health Services Cost Study that found that health workers at health centers and subcenters allocated less than 15 percent of their time to preventive health care activities.

Responding to a Training Opportunity

All of these findings confirmed the need for educational programs aimed at both mothers and at health workers to improve treatment in the home and strengthen both case management and transfer of knowledge from APO to mother at the clinic level. The HEALTHCOM Project made one of its chief targets the quality of interaction between health worker and mother.

A major opportunity to integrate health communication skills into the regular training program arose from February through May of 1988 when both the Central Province and the National Capital District planned a series of inservice training workshops for APOs. The training covered a variety of child survival and other primary health care issues. HEALTHCOM was invited to assist in developing a module within the CDD portion of training. Given the lack of emphasis upon communication in the overall curriculum, we decided to design a module to provide APOs with education skills that they could transfer to any health issue involving the training or motivation of the target audience.

The HEALTHCOM Project made one of its chief targets the quality of interaction between health worker and mother.

We chose to design the training module around a video that could be used in an interactive manner and in conjunction with print materials and exercises emphasizing individual practice and role-playing. The video medium offered a standardized behavior modeling tool that could be adopted in different training settings. Given the absence of a cadre of trainers or a standard training hierarchy (common in many developing countries) the video would allow consistent messages to be provided to various groups under different circumstances. Video is an increasingly popular medium in PNG and we anticipated it would have great potential as a teaching device with our target group, among whom the medium is still quite novel. We knew electricity was available at our workshop sites and we had our own equipment to bring along. (Since that time, WHO and UNICEF have donated video equipment to each of the provincial health departments in PNG.)

We planned as the theme of the video and of all training materials to emphasize that mothers are capable of learning important health skills, given adequate instruction and feedback. The video would attempt to counter occasional negative attitudes among APOs about the caregiving abilities of mothers. It would focus on two-way communication and counseling, emphasizing the importance of both listening and making oneself understood.

Designing the Training Video

Given our time, staffing, and resource constraints, the production of our video was very much a no-fuss activity. Because we decided to make a video only one month before the first workshop was to take place, the entire process was by necessity streamlined. The

creation of the video took place in nine stages. Briefly these were:

- selection of basic content and format;
- bids and contracting of producers;
- writing of script;
- first technical review;
- selection/contracting of actors;
- production;
- pilot test in workshop setting;
- second technical review;
- revision and translation.

Pressures of time and local budget were in some ways a help and in some ways a hindrance to producing an effective, appropriate, and quality video. Our chief challenges were timely technical review and institutionalization of the learning process within the Department of Health bureaucracy. The remainder of this field note describes this process in detail and reflects on the lessons learned in the creation of *Making Things Clear.*

The Concept and the Content

In seeking models and principles upon which to design the video, we turned to two resources: *Talking with Mothers About Diarrhea* and *Promoting Health and Well Being in the Community.*[2] Both of these focus on elements of two-way communication and counseling.

The first guide leads participants through scripted interactions (both good and bad) between a mother and her physician. It provides instructions analyzing elements of a conversation and exercises in recognizing and practicing productive communication skills such as listening, asking "checking" questions, using examples and demonstrations, and providing support. The second publication is a manual for training local leaders to motivate and teach positive health practices among community groups. The focus is on participatory learning methods.

We decided to present a simple dramatization of interaction between a mother whose child has diarrhea and the APO she goes to for treatment. A narrator would help the viewer analyze good and bad aspects of the interaction. The small number of characters working in a natural setting would help reduce costs and also provide the appropriate models for role-playing exercises (including the "observer/critic.")

We provided informal creative briefings to four video production houses in Port Moresby and solicited bids. We selected FirstTake Productions, a full service marketing firm and the one able to complete the work within the short time available. We were confident of their ability to understand our target audience and our objectives. As part of their package, FirstTake also gave us the services (partly volunteered) of a market researcher from the parent company, Human Resources Development (HRD). Our creative team thus consisted of four people: the officer in charge of the DOH Health Education Unit, the HEALTHCOM resident adviser, a production specialist from FirstTake, and a market researcher.

The team quickly settled on a tone for the video: simple, straightforward, but gently humorous in order to grab the attention of listeners. Humor has been used successfully in PNG for marketing a variety of products.

We established our key communication issues as the following:

- listening
- asking questions
- examining the patient
- speaking simply and clearly
- looking at the patient/caretaker
- showing concern.

The extent to which our video could combine a focus on interpersonal skills with a valid presentation of CDD norms was problematic. Our difficulties were compounded by the state of flux in CDD policy at that time, specifically with regard to home treatment of diarrhea and determination of an appropriate home measuring device. We decided that our video should focus on the general diagnosis of dehydration and on one component of treatment—namely the mixing of ORS—that required actual education of the mother by the APO. Packet distribution to mothers being a relatively minor component of CDD norms from a policy viewpoint, it was not surprising that ORS mixing received minimal emphasis in the clinical training of APOs. We decided to concentrate on this issue.

Another major area for discussion—and some debate—among the creative team was how best to demonstrate these skills in a short video. The chief question was whether to show a single good demonstration or to compare good and bad examples of health worker/mother interaction. Although we knew there was some danger a negative example might be misinterpreted as a correct one,

The chief question was whether to show a single good demonstration or to compare good and bad examples of health worker/mother interaction.

we finally agreed to use contrasting scenarios. This approach would sharpen viewers' discrimination between effective and ineffective communication, would encourage interactive use of the video (which could be stopped at designated times and discussed) and would provide an obvious opportunity for some humor.

Our hope was the audience would feel safe in criticizing the slightly exaggerated behavior of a fictional colleague and would find the video more memorable than a didactic presentation. We decided that a video under 15 minutes could present the issues effectively and still keep participants' attention.

Script Writing and Review

We wrote the script in the space of one week. The writing itself was a group process, with FirstTake Production taking the lead. We wrote the original script in English because health workers in the Central Province/NCD area receive their training in English. Our title, *Making Things Clear*, was also our own guiding creative principle.

The narrator speaks simply but familiarly and with animation. He focuses immediately on the crowded, sometimes chaotic everyday environment of the APO and speaks directly to his colleagues:

> *You may know everything there is to know about taking care of people when they get sick, but if you do not know how to make things clear to your patients, then all your training is not very effective, because the message doesn't get through.*

He then introduces the first episode, in which it becomes quite clear that "communication means much more than talking to people."

A mother comes to the APO with her small child who has been having diarrhea for several days. The woman is obviously worried. The APO takes a quick look at the child and rapidly tells the mother what to do. He makes a number of obvious communication blunders—ignoring the mother's questions and confusion, seemingly blaming her for the child's condition, and finally dismissing her with a supercilious wave. The APO is satisfied with the encounter; the mother is not. (See Appendix for summary of script elements.)

The narrator then returns to help analyze what has and has not happened. As the scene is replayed the narrator speaks in the background, pointing out each major error that the APO makes. Among these are:

- *He used many words which the patient did not understand.*
- *He never looked at the child's mother to see if she could understand him.*
- *He spoke too fast for her.*
- *He never listened to her questions.*
- *He never asked her if she had any questions.*
- *He didn't really care about her problem.*

According to the narrator, "These six mistakes are the most common communication problems."

The next scene is the identical situation but played by a sensitive and solicitous APO. He sits down with the mother and first looks at her baby's health card. He congratulates the woman on the fact that the child's vaccinations are complete. Then he asks her what the child's problem is.

He expresses concern, makes eye contact, asks questions, and makes sure the mother understands the importance of giving liquids, food, and ORS. The mother leaves the aid post not only understanding how to mix ORS but feeling confident and encouraged about her ability to take care of her child. Once again, the narrator goes back over the scene and points out the behaviors that add up to effective communication.

The mother leaves the aid post feeling confident and encouraged about her ability to take care of her child.

After finishing the script, we reviewed it carefully with the officer in charge of the Health Education Unit to make sure the details of diagnosis and treatment conformed to the current CDD norms.

Although the video was not meant to be a diagnosis/treatment example but rather an illustration of communication skills, we wanted to make sure our script supported current treatment policy.

Production

FirstTake screened and selected four actors from the National Theater Group (three adults and a child who has no lines) and a few days of rehearsals were begun. We taped the episodes in two components. The "good" and "bad" skits were taped in a single day on location at a small health facility in a village just outside of Port Moresby. The narrator was taped in Port Moresby a few days later. Editing of *Making Things Clear* required another week. The video was then used almost immediately in the workshop setting.

From conception through production, the process took only about five weeks. However, the phases which followed proved to be equally important.

Monitoring the Pilot Video

We presented the video at district-level workshops in the Central Province (Abau District) and in the National Capital District. The videos were part of a three-hour training session conducted by the chief health officer of the Health Education Unit on the role of the aid post in community development and the importance and nature of effective communication between health workers and their patients. In both instances, the video was followed by lively discussion about the "good" and "bad" behaviors demonstrated by the actors. We then led the groups through role-playing sessions (of "good" communication practices) and followed these with further discussion.

Audience appreciation of our video was confirmed during the evening sessions. Participants had been scheduled to see several foreign videos but asked first to see *Making Things Clear* again, and watched it twice. They found the bad example particularly funny and enjoyed discussing the APO's different interactions with the mother. Although our "bad" APO was not in any sense farcical, we speculated that his behavior was so true to life and at the same time so unhelpful from the mother's perspective that our participants were able to appreciate (perhaps for the first time) the absurdity of this fairly typical interaction.

They found the bad example particularly funny and enjoyed discussing the APO's different interactions with the mother.

Behavioral Observation

Several weeks later we conducted follow-up studies to test the effect of the video on participants' actual behavior in the clinic setting. We set up a small study to contrast behaviors of 14 health workers who had received the communication skills training (and had seen the video) with the behaviors of 28 health workers who had not. Of the 14 health workers who saw the video, seven were observed less than one month after viewing it and the other seven were observed more than three months afterwards. We held the observations at district health centers on pay Fridays. This assured that we could interview a maximum number of APOs. It also assured us of sites with electricity. After the conversation/role-plays we invited our participants to view the video. The study thus also became a training experience for those who had not been in the original workshops.

The research team consisted of a local woman—who acted as a mother of a sick child—and a male observer. We invited APOs to meet individually with the team in a private setting and to role-play with the mother who had reportedly come for help with a child who had diarrhea. The mother was purposely somewhat passive and noncommunicative, requiring the APO to strive to use the skills presented in the video. She had a fixed set of responses for the various signs and symptoms the APO might ask about. The observer watched and listened and recorded activities observed and questions asked on a checklist.

We designed the checklist to evaluate the health workers according to behaviors recommended by the World Health Organization and adopted under PNG's CDD policy. WHO outlines an "ask, look, feel" method for assessing a child's condition. We added other elements to the checklist in order to evaluate treatments recommended by the APO to the mother, explanations given, and extent of personal interaction—including whether the APO showed the mother how to administer ORS and whether the mother learned the steps. Health workers who viewed the video were more likely, even after a period of three months, to conduct a more thorough assessment of the child and to ask the mother more questions than were those who had not seen the video.

Additional Technical Review

Simultaneous with our pretest of the video during the workshops, we submitted *Making Things Clear* to several technical experts for their review and input. These experts included the WHO Western Pacific regional CDD officer and the chief pediatrician at the Port Moresby General Hospital. The HEALTHCOM Project office in Washington, DC, also reviewed the video at this time.

Reviewers made several recommendations regarding clinical aspects of the dramatizations. One concerned the APO's diagnosis of the child and the other concerned mixing of ORS. Specifically, the reviewers suggested that the fictional child *not* have symptoms of dysentery (as the mother indicated) but only symptoms of mild dehydration. This allows the APO to concentrate on standard ORT treatment. Secondly, the DOH finalized its recommendation regarding the common one-liter measuring device found in PNG homes and it was necessary to change the cup selected by the mother for mixing ORS. Both of these factors necessitated a reshooting of the clinic scenes.

Given this opportunity, we made a few other changes as well. In the opening scene of the revised version, the narrator stresses that the video is not meant to serve as a complete diagnosis/treatment illustration, but only as a dramatization of communication skills. In the "good" sce-

nario the APO stresses the importance of continuing to give the child liquids and foods—a message that our behavior observations showed was not communicated effectively.

During the technical review we received widespread feedback that the video addressed an area that has been very much overlooked by traditional DOH trainings. The Health Education Unit decided to translate the video into Tok Pisin and make it available to health services and facilities throughout the country. Within a year of producing *Making Things Clear*, 600 copies of the video were distributed throughout PNG. The WHO regional office in Manila also responded to requests for the video from Laos, China, and Vietnam. Health officials in Laos are dubbing a Laotian soundtrack onto *Making Things Clear* and plan to produce a completely Lao version in the future.

Lessons for the Future

No effective behavior-modeling training tool can be made without technical content. Although we tried to focus our video on a small aspect of CDD case management, our dramatization inevitably overlapped with many other aspects of CDD policy. We learned the difficulty of designing communication materials when medical norms are in a state of ambiguity or transition, and we learned the hazards of putting off thorough technical review until changes become difficult or costly. Moreover, we realized our method of pretesting was a potentially dangerous one. Since we were using the pretest simultaneously as a training event, our mistakes could have done some harm.

On the other hand, by using a "real" video in our pretest, we gained a number of advantages. Although it is possible (and common) to test storyboards with a target audience, testing at some midpoint in the creative process leaves much to the imagination of the viewer. We also benefited from the behavioral follow-up test, which indicated that our video was successful in a true training setting. We were fortunate that time constraints obviated the all-too-common hold-ups of a comprehensive bureaucratic screening.

Given the opportunity to do this job again, however, the team would have looked for some happy medium in reviewing the script. Ideally, a small committee consisting of one or two technical experts, one or two health educators, and one creative professional would be asked to review the script once, make comments, and have input into a single revision.

Institutionalization of methods and skills within a local organization is challenging even when staff and resources are plenty. The first step is often to demonstrate a successful product or activity. Even the earliest step, however, must be carried out through cooperative planning and implementation with local partners. We were fortunate in PNG that experienced private sector organizations were interested in our project and could provide needed expertise at several stages and on a scale appropriate to our needs. Learning to work with the private sector is often crucial in professionalizing communication efforts within a ministry of health—no matter what its size. We hope that the successful partnerships demonstrated during these early efforts in PNG provide a model for future activities as well.

Notes

1. Statistics about PNG in this field note are taken from the *Handbook on Health Statistics* (PNG Department of Health, Port Moresby, 1985) and the *PNG Rural Health Services Cost Study*, by M. Mitchell, D. Donaldson, and J. Tomason (1988).

2. See *Talking with Mothers about Diarrhea: A Workshop for Physicians*, by William Smith, Cecilia Verzosa, Patricia Whitesell, and Robert Northrup (Arlington, VA: PRITECH Project, no date) and *Promoting Health and Well Being in the Community*, by W. Hoff and K. Galowa (Port Moresby: Environmental Health, Department of Health, 1988).

3. In contrived situations such as this one, we expect an "overreaction" by the participants. Knowing they are being observed, they will try to demonstrate how much they know and not necessarily what they actually do at the aid post. However, we can be fairly certain that what they don't ask or do during this observation will also not be done at the aid post.

(1989) Andrew Piller was resident adviser for HEALTHCOM/Papua New Guinea and is currently with DKT-PSI/Vietnam. Renata Seidel is with HEALTHCOM/Washington. *The authors would like to thank the following individuals for their help in creating and evaluating Making Things Clear: Byron Geniembo and Megea Kivali, Health Education Unit, Department of Health; Dale Rustein, FirstTake Productions; Chris Wiley, Human Resources Development (HRD); Cecilia Cabañero Verzosa, HEALTHCOM/Washington; and John Elder, San Diego State University.*

MAKING THINGS CLEAR--SUMMARY SCRIPT

The 15-minute *Making Things Clear* video presents a typical clinic scene between an APO and a mother whose child has diarrheal dehydration. We see the scene played twice: once by an APO who has abysmal communication skills; once by a sensitive APO who knows how to listen and explain things. The narrator analyzes the "good" and "bad" behavior for us.

The following gives the highlights of this video. The complete video and script are available in both English and Tok Pisin from the Academy for Educational Development.

Narrator on Camera: You may know everything there is to know about taking care of people when they get sick, but if you do not know how to make things clear to your patients, then all your training is not very effective, because the message doesn't get through.

The purpose of this video is to help you learn about the best way to make things clear to the people who come to you for help.

Many times you are in a big hurry, and maybe you don't take the time to make sure your patients understand the things which are very new to them but quite common to health workers. We want you to understand that even though you might be speaking the same language, communication means much more than talking to people. It means making sure that the information is clear and that the patient can follow the instructions.

You are going to see an example of an aid post orderly explaining oral rehydration therapy to a mother whose baby is quite sick. This fellow will be talking but not communicating and his patient will go away confused instead of getting the correct information. This is not supposed to be a complete treatment of diarrhea, just a bit of drama to show you what we are talking about. Now, watch closely, and try to see where the health worker is not doing a good job of making things clear.

The "bad" APO made no eye contact with the mother and spoke too fast for her.

APO: *Come in, come in...hurry.*

(A nervous and frightened village lady comes in and takes a seat.)

APO: (Talking quickly, never looking at the patient) *Where is your book? What is wrong with your baby?*

Woman: *Diarrhea.* (She hands the book to the APO. He reads it quickly, then examines the baby.)

APO: *Now listen good* (picking up an ORS packet) *because this medicine is important since you let your baby get severely dehydrated due to acute diarrhea.*

(Cutaway to a closeup of the patient with a blank expression on her face.)

APO: *You must put the powder in this packet into one liter of clean water, stir up the mixture thoroughly, then administer to the baby throughout the day until the mixture is gone, and make sure the mixture stays covered when not in use.*

(Closeup of patient, her confused face darting back and forth from the APO to the packet and back.)

APO: *OK?* (Handing her the packets) *Good.* (Shouting) *NEXT!! Bring your baby book!*

Woman: *Sori, taubada.*

(The APO ignores her question. Cutaway to the patient's face looking closely at the packet, then looking to camera baffled.)

Narrator on Camera: How much did that lady understand? What are the chances that she will prepare the medicine correctly? Unfortunately, this is what happens to many patients when they come to the aid post. The health worker gave all the correct information, he was never rude, but he made some very serious mistakes. Even though he did all the things he was taught to do, he really failed to do his job because he did not make his words clear to her. Let's take a closer look at his mistakes.

(Replay of last scene without sound.)

1. *He used many words which the patient did not understand.*
2. *He never looked at his patient to see if she could understand him.*
3. *He spoke too fast for her.*
4. *He never listened to her question.*
5. *He never asked her if she had any questions.*
6. *He didn't really care about her problem.*

These six mistakes are the most common communication problems. To be good care givers, communicate clearly with patients. Remember, communication means much more than just talking to people.

Now let's watch the same scene with the APO showing the right way to give instructions.

(Same scene as before.)

APO: *Hello. Have a seat. You have your baby book?* (He reads.) *Good, your baby got all his shots. What about your other children, have they been immunized?*

Woman: *Yes, I think so.*

APO: *Very good. OK, what is wrong with the baby?*

Woman: *Diarrhea.*

APO: *Is he vomiting?* (examines the child.)

Woman: *(Nods yes)*

APO: *How many times has he vomited?*

Woman: *Just once today.*

The "good" APO showed he cared and took time to diagnose the baby.

The APO showed her how to mix ORS and made sure she could measure a liter of water.

APO: *Is he very thirsty?*

Woman: *He likes to drink a lot of water.*

APO: *That's important. Because when the baby gets diarrhea, his whole body can dry up and he can easily die from that. You must keep giving the baby drinks and keep feeding him. Now, how many stools is he making every day?*

Woman: *Three or four each day for the past four days.*

APO: *Is he making any pis pis?*

Woman: *Not very much.*

APO: (Speaking slowly and clearly, and looking straight at the woman.) *I'm afraid your baby is quite sick. Now, first of all you must keep giving the baby fluids to drink and foods to eat to keep him from drying up and getting weak. This is very important. Now I want to give the baby some special medicine right away, and because you live far away from the aid post I'll show you how to mix it yourself. You mix one of these packets with one liter of clean water.* (Pause) *Do you know what one liter is?*

Woman: *No.*

APO: *I'll show you. Do you have any of these containers at home?* (He shows four containers.)

Woman: *Yes, this one.* (Points to the tea cup.)

APO: *OK, you must fill this cup to the top with very clean water four times to get one liter of water.* (He demonstrates.) *When you have mixed up this medicine you should give it to the baby all day, and it's good if the baby can finish all of*

The APO asked the mother if she understood.

it in one day. Give the baby other drinks too like coconut water or juice, and keep giving food as well. If the baby throws up, wait for a while and then continue giving the medicine, but more slowly. Is it clear?

Woman: (Nodding yes) *Yes.*

APO: *Now, let's see if you remember. What should you do right away when the baby gets diarrhea?*

Woman: *I can't remember!*

APO: *It's OK, you must keep on giving him fluids and plenty of foods to eat!* (He continues to walk her through the steps.)

APO: *Good!*

(She smiles and looks at the packets.)

APO: *Now, I'll give you these packets for the next few days. If the baby gets fever or doesn't drink normally you come back and see me. Don't worry, your baby will be all right.*

(She gets up to leave feeling better.)

APO: *Who's next!! Bring your baby book.* (He goes to wash his hands.)

Narrator on Camera: *Can you see the difference? This time the health worker really communicated his message to the patient. He diagnosed the child and then took the time to make sure she could understand how to mix the oral rehydration.*

Let's go back and take a look at the things the APO did this time which helped the patient to really understand.

(Replay of video.)

1. *He took time to diagnose the baby.*
2. *He spoke clearly and slowly.*
3. *He did not use any big words which the woman could not understand.*
4. *He looked at the woman when he spoke.*
5. *He asked the woman if she could understand.*
6. *He asked her to repeat the instructions to make sure she knew what to do.*
7. *He showed that he cared about her problem.*

In this example the patient was treated very well and she left the aid post with a clear idea about how to use the medicine. You must try to remember that communication means more than just talking to people. It means listening, asking questions, speaking clearly, and making sure that your patient knows what to do.

You should try to use good communication whenever you are helping a patient, not only when you are treating diarrhea. We are all trying to improve the health of this nation, and knowing how to make things clear will be a big help.

Long Distance Health Education for Rural Ecuadoran Mothers

Reynaldo Pareja

WHY AN INFANT HEALTH COURSE FOR MOTHERS?

One of the chief goals of Ecuador's Ministry of Health, as part of its PREMI program (Plan de Reducción de Enfermedad y Muerte Infantil, or Plan to Reduce Childhood Disease and Mortality) was to undertake public health education efforts on a massive scale.[1] Reaching large, diverse populations requires social marketing strategies and nonformal education approaches. Yet large-scale nonformal education activities demand imagination as well as efficient logistics and infrastructures. For the most part, public ministries—with the possible exception of a ministry of education—are usually unprepared to carry out programs of this nature, and certainly have little practice doing so.

With these realities in mind, Ecuador's PREMI program planners examined options for using mass media to promote public health education.

Ecuador has a relatively high literacy rate (83 percent nationwide), and an even higher level of radio ownership (above 87 percent of households, according to PREMI surveys). Television ownership is about 74 percent and newspaper readership about 13 percent. We decided to use a range of media in various ways, but to concentrate on the most prevalent—radio.

One of the major activities was a radio course on infant health. A primary objective of the course was to bring about changes in health-related behaviors practiced in the home. A second major objective was to produce graduates who would in turn become sources of reliable information within their respective communities. The target audience, the subject matter, and the media and materials were carefully chosen. We focused on reaching an audience with a number of special characteristics. Ideally they would be rural mothers who were literate and who had children under five years of age.

In addition, they would be:

- sufficiently educated to comprehend an extensive amount of information on several child survival topics;
- personally committed to acquiring the information;
- motivated and situated to share it with others who need it most.

Our concept of the target audience in turn dictated aspects of the course content, design, and promotion.

We focused on reaching an audience with a number of special characteristics.

The goal was to involve mothers in all 20 provinces nationwide, aiming for a total of 7,200 enrolled participants in the first seven-week course (starting in 1987) and another 7,200 mothers for the second course in 1988. Broadcasting via 90 radio stations would provide the required "reach" of information.

Reaching participants was only the initial challenge. Two other major considerations were the extensiveness of material to be covered in the course and the difficulty of motivating long-term, intensive participation by rural mothers who are already burdened with many tasks.

We tackled these challenges through two basic strategies:

- **integrating several media**, including radio, print, and weekly interpersonal meetings with local health workers, in order to reinforce information as effectively as possible;
- **providing incentives** to both mothers and health workers through a nationwide lottery for educational scholarships.

In addition, the program was **promoted widely** to all levels involved—from the participants and their families and neighbors, to the general health care system, to the officials in the Ministry itself.

Course Content and Materials

Course materials consisted of three main components: a total of 36 radio programs broadcast over seven consecutive weeks; a series of printed booklets corresponding to the radio programs; and weekly group guidance at the health center by an auxiliary nurse. The process of integrating the three media—radio, print, and interpersonal—required extensive coordination of materials design, production, distribution, and health worker training.

The basic subjects covered in the course were as follows:

- **Diarrheal disease prevention and treatment**—the dangers of diarrhea; the signs of dehydration; how to treat a child with diarrhea, including the importance of restoring water and salts; proper administration of oral rehydration salts (ORS); and proper feeding during and after episodes of diarrhea.
- **Immunization**—how vaccines prevent diseases; what diseases children can be protected against; when and how often children must be vaccinated and the importance of receiving the complete cycle of doses; and possible contraindications to reactions.
- **Growth monitoring and proper nutrition**—the importance of systematic weight gain in healthy children; proper use of a growth monitoring card to register progress; the appropriate introduction of food for children at five months of age; the adequate food combinations according to an infant's age; the concept of appropriate quantity of food for small children; and the appropriate number of meals a child of a given age should receive during a day.

Multiple Materials for Mothers

Radio programs provided the backbone of the course. They were designed to be participatory—requiring mothers to follow broadcasts simultaneously with a printed booklet and to engage in group discussions. Thus, they were aimed at "committed" women who were willing to attend special group listening sessions and follow the course through to graduation. However, they were also designed to capture the attention of mothers who had not signed up formally and were just listening spontaneously.

A total of 36 radio programs each 20 minutes long were broadcast Monday through Friday of seven consecutive weeks. Course content was divided as follows:

Overview	2 radio programs
Diarrhea control	7 programs
Immunization	6 programs
Growth monitoring	9 programs
Infant feeding	8 programs
Exams	4 programs (one after each unit)

Each program consisted of five distinct parts. The brief introduction helped mothers identify the correct printed learning module corresponding to the day's lesson. This was followed by an eight-minute soap opera. The daily dramas took place in a fictional town, Santa Ana de la Cañada, where children experienced the various health problems targeted by the PREMI program. The town's adventures

Every registered mother received a new set of booklets each week to use in the group listening sessions.

were narrated by Don Sebastián, an old carpenter and church attendant, who was also the town's collective memory. The purpose of these dramas was to capture the imagination of any mother listening and to entice her into hearing a more thorough description of the children's health problems and what she could do about them.

Three fictitious characters then led listeners through the day's technical material. The characters included Miguel, a health educator; Rosita, an intelligent PREMI mother who followed the course; and El Motas, a comic fellow who also appeared in the printed learning modules, guided mothers through each section, explained concepts, and assisted them with the exercises.

A separate eight-page booklet corresponded to each program. Mothers received new booklets every week after attending the guided learning session at their health center. Every module opened with the soap opera episode summarized in a two-page comic strip. The technical content of the program was also presented in a dramatic fashion, with the radio characters (nurses, physicians, auxiliary nurses, and mothers) outlining the concepts listeners should remember in two illustrated pages. This section was read verbatim over the radio so mothers could follow along. Various characters then explained the points in more detail.

El Motas had a special role. He was full of quips—sometimes humorous rhymes, sometimes pithy summaries of child survival principles. A few examples of his sayings illustrate how rhymes were used as reminders:

La deshidratación deja al niño fuera de acción.
("Dehydration puts a child out of action.")

El pinchazo salvador para todos los niños del Ecuador.
("The saving prick [vaccination] for all the children of Ecuador.")

A calzón quitado, niño vacunado.
("Pants down, child vaccinated.")

Hay que controlarle mes a mes, para que crezca sano, cada vez.
("If healthy you want to see him grow, to monthly growth control you must go.")

Seno y puré, excelente para el bebé.
("Breast and puree, excellent for the baby.")

A comer, se aprende, comiendo.
("One learns to eat by eating.")

Yo como soy listo, repaso las cartillas y no me despisto.
("Because I am smart, I review my homework and will not get lost.")

The next section consisted of a list of summary recommendations. Following this was a section of exercises designed as much to be fun as to be informative. The mothers were asked to find key phrases among a jumble of words, fill in crossword puzzles, cut out figures, answer true/false questions, fill in missing words, and so forth. Even these exercises were discussed over the radio. Miguel assisted Rosita, the PREMI mother, who in turn gave hints to the listeners about how to figure out the correct answers.

The last section of each learning module suggested related community activities. It provided various support materials including puzzles, menus, discussion group guides, drawings, etc. The mothers were asked to organize groups of from two to five women (relatives or neighbors) with whom they could do the suggested activities. These, too, were designed to instruct as well as to entertain.

The last section of each learning module suggested related community activities.

Finally, four separate booklets contained the exams for the four different child survival themes. Even these exams were to be taken interactively in group sessions in conjunction with certain radio programs, and in the presence of an auxiliary nurse.

THE ROLE OF THE AUXILIARY NURSES

The success of the radio course depended heavily upon the involvement of 900 auxiliary nurses in the 20 participating provinces. Mothers who were officially enrolled in the course were required to attend five out of seven weekly meetings at their local health center. Each group selected a day of the week that was convenient to them. At the meetings, the designated auxiliary nurse reinforced the week's lessons, answered questions, and reviewed the exercises. Mothers also handed in the weekly test and the nurse reviewed these with the participants.

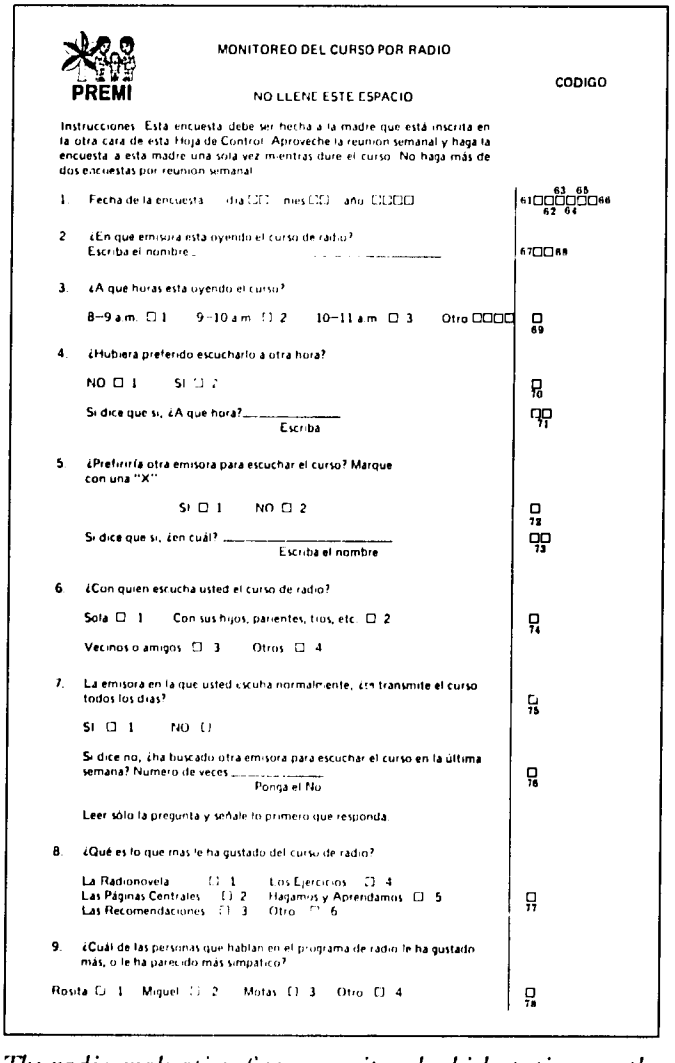
The sessions were designed both to add an element of formality to the course and to provide a support mechanism for the mothers. Those who attended at least five of the meetings and completed the exams received a graduation certificate and were eligible for the educational lottery.

Although participants were required to be literate, most of them had not gone beyond elementary school and the challenge of booklets, classes, and exams was significant to them. They benefited from the extra motivation of meeting with others and receiving personal guidance. Similarly, the written exercises and tests were designed to create as little tension and fear as possible, while reinforcing in simple ways the most important concepts of the various child survival topics.

The auxiliary nurses had numerous administrative responsibilities including recruiting participants and completing six specific monitoring checks during the course. Only by performing these various checks could a nurse prove her own successful completion of duties and become eligible for a scholarship lottery ticket.

Each nurse was required to sign up at least eight mothers and graduate at least four. She had a control sheet to fill out for every mother. The mother signed the control sheet when she received her plastic handbag of materials, including an inscription ID card and her first learning modules. In the second week, the mother signed again and received her second installment of learning modules, and so forth. The nurse also recorded the results of the various exams. Finally, the mother signed the sheet when she received her diploma.

When a nurse handed in at least eight of the completed control sheets to the PREMI provincial communication coordinator, she then received her own lottery ticket.



PREMI

MONITOREO DEL CURSO POR RADIO

NO LLENE ESTE ESPACIO

CODIGO

Instrucciones: Esta encuesta debe ser hecha a la madre que está inscrita en la otra cara de esta Hoja de Control. Aproveche la reunion semanal y haga la encuesta a esta madre una sola vez mientras dure el curso. No haga más de dos encuestas por reunion semanal.

1. Fecha de la encuesta: día ☐☐ mes ☐☐ año ☐☐☐☐ — 61☐☐☐☐☐☐66 (62 64; 63 65)

2. ¿En qué emisora está oyendo el curso de radio? Escriba el nombre _____ — 67☐☐68

3. ¿A qué horas está oyendo el curso?
   8–9 a.m. ☐ 1 9–10 a.m. ☐ 2 10–11 a.m. ☐ 3 Otro ☐☐☐☐ — ☐ 69

4. ¿Hubiera preferido escucharlo a otra hora?
   NO ☐ 1 SI ☐ 2 — ☐ 70
   Si dice que sí, ¿A que hora? _____ (Escriba) — ☐☐ 71

5. ¿Preferiría otra emisora para escuchar el curso? Marque con una "X"
   SI ☐ 1 NO ☐ 2 — ☐ 72
   Si dice que sí, ¿en cuál? _____ (Escriba el nombre) — ☐☐ 73

6. ¿Con quien escucha usted el curso de radio?
   Sola ☐ 1 Con sus hijos, parientes, tíos, etc. ☐ 2 — ☐ 74
   Vecinos o amigos ☐ 3 Otros ☐ 4

7. La emisora en la que usted escuha normalmente, ¿se transmite el curso todos los días? — ☐ 75
   SI ☐ 1 NO ☐
   Si dice no, ¿ha buscado otra emisora para escuchar el curso en la última semana? Número de veces _____ (Ponga el No) — ☐ 76

   Leer sólo la pregunta y señale lo primero que responda.

8. ¿Qué es lo que mas le ha gustado del curso de radio?
   La Radionovela ☐ 1 Los Ejercicios ☐ 4
   Las Páginas Centrales ☐ 2 Hagamos y Aprendamos ☐ 5
   Las Recomendaciones ☐ 3 Otro ☐ 6 — ☐ 77

9. ¿Cuál de las personas que hablan en el programa de radio le ha gustado más, o le ha parecido más simpático?
   Rosita ☐ 1 Miguel ☐ 2 Matas ☐ 3 Otro ☐ 4 — ☐ 78

The radio evaluation forms monitored which stations mothers actually listened to and also asked questions about what they liked and didn't like about the programs.

A broadcast monitoring aspect was built into this record-keeping system as well. The back of each mother's control sheet was actually a radio listening questionnaire. It included nine questions to be answered about the particular station that the mother listened to. The nurse asked a different mother each week to fill out the questionnaire so that the maximum possible radio stations and listening times could be checked.

Training

A hierarchical training system made it possible to reach the 900 auxiliary nurses efficiently. Each participating province initially sent two candidates to a trainer-of-trainers retreat near the capital. The PREMI communication coordinator from the provincial Ministry of Education attended, along with the provincial health educator. These 40 participants received a detailed week-long seminar on the radio course. Instruction was divided into six units corresponding to different learning modules. Teaching techniques included role-playing, sociodramas, question and answer contests, groups discussions, and lectures.

A hierarchical training system made it possible to reach the 900 auxiliary nurses efficiently.

These 40 trainers returned to their provinces and each held a two-day seminar for auxiliary nurses selected from designated health posts and subcenters in rural and semi-urban areas. At the training seminars, the auxiliary nurses received their special radio course teacher's guide and learned how to conduct the course and motivate participating mothers as well as how to fulfill the various monitoring duties that would assure them of an educational lottery ticket. They also received packages of learning modules and other materials for mothers. Later, they would turn in the completed course control sheets to their respective trainers, the PREMI communication coordinators, who would then convey these to the Ecuadoran Institute of Educational Credit and Scholarships (IESS).

Promotion and Motivation

For mothers as well as nurse-teachers, one of the prime motivations for participation, of course, was the educational scholarship lottery. Two-part lotteries were held after both of the radio courses. One

drawing distributed to each of the 170 winning mothers a prize of 10,000 sucres (U.S. $45) for their children to use for tuition, books, and other school materials. (This amount paid for over a year's tuition at the time.) The other drawing gave 34 nurses each a prize of 100,000 sucres ($450) as scholarships toward continuing education. The Ecuadorian Institute of Educational Credit and Scholarships organized the lotteries and administered the scholarships. Funds were provided from the National Institute for the Child and the Family (INNFA).

The radio courses and associated lotteries were widely publicized over the radio during the week previous to course start-up. Three different spots were aired ten times daily over 225 radio stations. In addition, one television spot was aired five days before the campaign over seven stations, eight times daily. Program planners decided to announce the course over television in spite of the fact that the course was originally designed for rural mothers, most of whom did not have access to television. Television promotion gave the activity status that it might not otherwise have had and also focused greater public attention upon the importance of child survival and the role of individual mothers. Moreover, it enhanced the image of the Ministry of Health. In fact, the television spots were so successful and inspired so many telephone calls in Quito that planners had to arrange an emergency last-minute training for 20 auxiliary and professional nurses who then signed up mothers at their local health centers.

Television promotion gave the activity status it might otherwise not have had.

Although enthusiasm for the courses was no doubt partly assured by the "gimmick" of a lottery, planners had designed motivating elements of various kinds into the entire program. The course format, as mentioned previously, was geared to be as entertaining as possible—beginning with the dramatic enticement of the soap opera and continuing on through the rhymes of El Motas, the games and puzzles, and the suggestions for community activities. In addition, mothers received an assortment of official materials to identify them as knowledgeable community leaders. Upon graduating, each mother received a door sticker announcing that she was a volunteer-PREMI promoter who could offer information to other mothers regarding diarrhea, vaccinations, growth monitoring, and infant feeding. She received a supply of ORS packets to aid her in teaching other mothers how to prepare the solution. And she received a printed diploma certifying her successful completion of the course.

Many groups spontaneously arranged elaborate ceremonies at which they received their graduation certificates and lottery tickets.

The elaborate and emotional graduation ceremonies organized by the local listening groups reflected the intensity of interest and commitment felt by almost all of the mothers who participated in the courses. Although no official suggestion had been made to course organizers about a graduation ceremony, groups independently organized formal presentations complete with speeches by officials, testimonials by graduates and their family members, and group photos. For many mothers, this was the first graduation ceremony they had ever attended.

PLANNING, PRETESTING, AND PRODUCTION

An ambitious project such as this required extensive planning and pretesting. The process of creating the radio course took approximately one year from conception to broadcast. It began with a one-week planning workshop organized by the communication and social marketing department of INNFA and held at CIESPAL (International Center for Higher Education in Communication for Latin America). Participants were primarily health educators belonging to an interministerial committee called OTIDES (created by agreement between the Ministries of Health and Education). We also invited representatives from the Department of Educational Texts Production, the Departments of Educational Technology and Long Distance Education from the Ministry of Education, from various departments of the Ministry of Health, from CIESPAL, Radio Netherlands, Educational Radio (IRFEYAL), and the Academy for Educational Development.

During the seminar, these experts offered perspectives from diverse fields in outlining the basic course strategy, the content to be covered, the media to be used, the extent of health worker involvement, the community outreach plan, and aspects of the broadcast plan. This initial meeting was important not only because it brought varied expertise to bear in the creative stage, but also because it established a necessary collaborative atmosphere. Cooperation in the planning stages is the best assurance that cooperation will be forthcoming during later implementation activities.

The target audience—mothers of children under five—was also consulted very early in the process. We originally proposed the radio programs be reinforced through a single educational poster. After draft materials had been developed, these were pretested with mothers in semi-urban areas. Afterwards, we held a second interinstitutional workshop to discuss results and plan other details of the course.

After draft materials had been developed they were pretested with mothers in semi-urban areas.

Significant changes were made in the materials, including replacement of the poster with individual program-related booklets. The second draft also incorporated the soap opera episodes, the various actors, and a learning module approach. We settled on the requisites for participating mothers, the recruiting mechanism, the supervision mechanism, the training process for the auxiliary nurses, the incentives, and the prizes.

The revised materials then went through two more pretesting stages. The character of El Motas was further developed, the time allowed for exercises was lengthened, the ordering of pages and figures in the printed materials were refined, and so on. We followed classic pretest procedures. Mothers from the target audience were invited to listen to a tape-recording of a pilot radio program that included as many elements of the final version as possible (professional actors, musical background, etc.) They followed along with prototype, photocopied graphic materials. Mothers were then asked to complete the exercises belonging to the program they had heard. Each mother was then interviewed to determine whether she both understood and enjoyed the materials.

The only element of the program that seemed to remain a challenge even after revisions was the section recommending that mothers try some activities in their communities. Pretest mothers were enthusiastic about the idea, but appeared unlikely to conduct these outside the home without further support.[2] Our final program therefore suggested that mothers try the activities with relatives or friends, as a start.

Actual production required the services of two script writers, 12 professional actors, and 80 hours of taping. Once taped, the material required 60 hours of editing. A professional musician hired on a free-lance basis composed the music for the soap opera. Production and editing were contracted to a professional group. PREMI staff wrote the learning modules and teaching guide for auxiliary nurses and also designed plastic handbags for the modules, plastic ID cards, and other items. We contracted 90 radio stations to broadcast the course during optimal listening

A CASE IN POINT

LEAVING NOTHING TO CHANCE

What elements are crucial to the success of a large-scale nonformal education effort? In the case of the infant health course for mothers, these were:

Multiple media—the integration of radio (with necessary reach and frequency); print (for reinforcement of messages); group learning sessions (for motivation and clarification).

Participatory learning—through exercises, games, and simple exams geared to women with little formal education.

Planning and pretesting—planning with health professionals to build consensus and assure messages are accurate; pretesting with the target audience and revision of materials based on the results.

Training—through a hierarchical system reaching 900 auxiliary nurses using role playing, discussion, sociodramas, and lectures.

Motivation—through design of varied and entertaining materials including an episodic soap opera; through the personal support of a group and a leader; through the reward of a graduation certificate; through an educational lottery for both mothers and nurses.

Monitoring—of attendance and successful completion of the course by mothers; of participation by group leaders; of radio broadcasts.

Promotion—through publicity over the radio and television; through personal visits to the Radio Association; through a pre-program workshop with influential groups; through spontaneous graduation celebrations.

times. Although the government does not require radio stations to donate time for public service programs such as this, many stations gave broadcast time at nominal fees. Staff made personal visits to the radio association of each province to discuss the course and gain support. The associations' support laid the basis for productive negotiations with individual radio stations.

Results and Outreach

During both airings of the radio course, approximately 80 percent of mothers who signed up actually graduated and participated in the lottery. Although many more mothers heard the course than were actually signed up, we still felt the materials could receive wider use.

After taping the radio programs, therefore, we made records that could be distributed to interested institutions and associations such as mothers' clubs for group listening. In addition to the 90 sets distributed to radio stations, we distributed sets of 36 records each to PREMI provincial coordinators (40 sets); public institutions (60 sets); and organizations involved in educational or health activities (89 sets). The records have also been shared with other Spanish-speaking countries, and variations of the course have been developed elsewhere.

Approximately 80 percent of mothers who signed up actually graduated and participated in the lottery.

While the success of the program—both objectively in terms of mothers graduated, and subjectively in terms of enthusiasm generated across many provinces—has been impressive, the complexity of organizing a program such as the Ecuador mothers' radio course should not be underestimated. The course was more than just a radio program, more than just a textbook, more than just a classroom experience, and far more than just a lottery. The process of planning and creating the program was also more than just the sum of designing these different elements.

A learning experience that relies upon interactive media requires consistency of messages and careful coordination among many writers and producers. It requires collaboration with those who have technical expertise in the field of health, with those familiar with the target audience, and with the target audience itself. Promotion must be geared to the correct audience and must create a level of demand appropriate to the level of services available. Incentives must be culturally appropriate. And health workers must be properly trained and rewarded for their help.

Notes

1. For further information about Ecuador child survival communication activities, see also Field Note No. 10, "When a Logo is More than Just a Logo," and Field Note No. 13, "Production of a Child Health Flipchart by and for the Community."

2. HEALTHCOM has undertaken several efforts to involve community volunteers in child health activities. Training and motivation of volunteers—especially semi-literate rural mothers—to sustain and support their work is especially important. HEALTHCOM has carried out such activities in Indonesia with village *kader* (see also Field Note Nos. 8, 12, and 16) in Zaire with *Maman Tengeneza* (see Field Note No. 22) and in Yemen with Caring Rural Mothers. The role of community recognition as a crucial reward for volunteer service is discussed in "An Examination of the Performance and Motivation of Indonesian Village Health Volunteers," by Thomas Reis, John Elder, Satoto, Benny Kodyat, and Anne Palmer, in *International Quarterly of Community Health Education* 11(1): 19-27 (1990-91).

(1989) Reynaldo Pareja was resident adviser for HEALTHCOM/Ecuador and is now with the collaborative A.I.D./Centers for Disease Control project in Bolivia on AIDS/STD Prevention and Control. *This radio course would not have been possible without the close collaboration of Juan Sevilla, Ilka Andino, Marco Polo Torres, Luis Dávila, Fausto Segovia, Alvaro San Félix, and Washington Coronel.*

Part E

New Policies, New Products, New Markets

(Commercial ORS product for sale in a small grocery, Honduras)

Social marketing views the client as the center of a world defined by a mix of forces. Promotion—the activity most often identified with a communication program—is only one of these. The health product or practice being promoted has attributes that influence the client positively or negatively. In addition, every choice available to a client has a price, whether monetary or otherwise. The place of a product or service will determine whether it is accessible (logistically as well as psychologically). And the underlying policies and politics of health may be more or less supportive of an individual's ability to choose solutions that make a difference. Because a communication program investigates all of these traditional "supply side" forces, it is well positioned to go beyond its conventionally assumed goal of creating demand, and can speak for the client when changes in the basic system are considered.

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Looking at Those Outside the System

Since the late 1 '70s, the Honduran Ministry of Health has advocated the application of social marketing to expand the availability and use of oral rehydration salts (ORS) to control dehydration due to diarrheal disease among children under five. In 1986, a comprehensive program review stimulated interest in extending th local availability of ORS and increasing its use in the home. This review revealed that a significant portion of the population at risk for diarrheal disease was currently not seeking help from either private sector physicians or local Ministry o. Health facilities and thus were not receiving information, treatment, or packets for preventing diarrheal dehydration. A program was launched to examine characteristics of this target audience, what marketplace would be most hospitable to them, and how an ORS product could best be made available to them.

The answer was challenging: the most promising market was a small, independent, commercial outlet, and the most appropriate producer and distributor of this product was most likely the private sector.

Before looking at those who were "slipping through the system," it should first be mentioned how significantly this system has been improved over the last decade. Under the Ministry of Health's last two five-year health communication plans for child survival (PROCOMSI I and II), enormous strides were made in the promotion and home use of oral rehydration salts. After an initial intensive two-year intervention (1981-1983) in the pilot area (Health Region 1) one-third of diarrhea cases were being treated with the government's ORS product (*Litrosol*) after its introduction in health centers. About 60 percent of mothers surveyed reported having tried Litrosol at least once. By 1987, a survey in four health regions revealed that 36 percent of mothers reported using ORS for a child's current case of diarrhea.[1]

This degree of success within a short period of time was due in great part to a carefully planned program of integrated mass media, community outreach, and health worker training to promote correct ORS use and related behaviors.

However, the Ministry of Health also realized the limits of its capacity to reach all citizens effectively, both in terms of the quantity of ORS needed and the variety of distribution networks. In 1986 the MOH believed it was appropriate to find out exactly who was being missed and how to reach them.

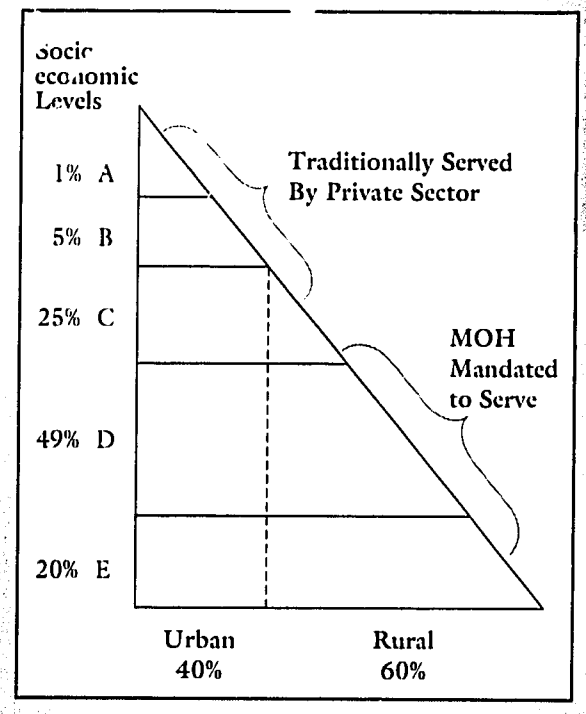
An overview of the Honduran marketplace sheds some light on the challenge. Figure 19-1 gives a rough outline of the general characteristics of the population with regard to health service utilization. In 1988, the total population was estimated to be 5 million, with 40 percent of the population living in urban areas and 60 percent in rural areas. One-third of the total population lives in the capital of Tegucigalpa and the industrial center, San Pedro Sula.

The Honduran population can be stratified into five socioeconomic groups. Group A includes approximately one percent of the population and consists of the business elite and military leaders. Group B includes 5 percent of the population and is characterized as wealthy, educated, and having easy access to goods and services. Group C includes 25 percent of the population and typifies the Honduran middle class. Its members live in both urban and rural areas. They have mixed educational and income levels and include civil servants, professionals in private industry, and so forth.

Group D is the largest group, representing approximately 49 percent of the population. It is primarily, but not entirely, rural. Income in this group is relatively low and is earned in both the formal and informal economies. Level of schooling is also low and some members are not literate. Hondurans in the lowest level, group E, live in extreme poverty, some completely outside of the cash economy. This group is primarily rural and has extremely low levels of literacy, poor sanitation, and suffers high rates of morbidity and mortality.

FIGURE 19-1

Honduran health service utilization by socioeconomic level



Estimated total population = 5 million (1988)

Traditionally, the private health sector has served groups A, B, and a significant portion of group C, since these people are primarily located in urban areas and can afford to pay for medical services. They have access to both private physicians and to pharmacies. Approximately 300 pharmacies and other commercial outlets are licensed to sell medicines in Honduras. These establishments are largely located in towns with populations greater than 2,000.

Portions of groups D and E and a percentage of C typically seek services from the Ministry of Health (MOH) facilities. However, a large percentage of groups D and E live in widely scattered rural areas and their access to health facilities is somewhat limited.

According to the government's 1980 health sector assessment, approximately one-third of the population had reasonable access to MOH facilities and one-third had limited access. (Reasonable access was defined as three kilometers, or 45 minutes walking time, from a Ministry facility.) The final third had no access.

It is important to mention that accessibility of services has improved in recent years with the addition of new rural health centers now totaling more than 700. Yet even among those people who have good and/or limited access, a certain portion choose not to avail themselves of MOH services.

Thus, for several reasons, portions of groups C, D, and E—those most in need of services related to diarrheal disease control—were not being adequately served through either private or public medical systems.[2]

Even among those who were not seeking help from private physicians or MOH clinics, however, most mothers whose children had diarrhea did **something**. They used herbal teas; they went to traditional healers (midwives or masseurs called *sobadores*); they bought over-the-counter remedies including antidiarrheals from small retail outlets (*puestos de ventas de medicinas* and *pulperias*) that commonly carry a large line of popular medicines. In fact, research showed that although this group could not afford expensive prescription or "ethical" products (and generally did not even have access to pharmacies), 93 percent were willing to spend an average of U.S. $1.50 three times a month on medicines of some kind.[3]

The Ministry came to the conclusion that if the people could not be brought to the product, the product would have to be brought to the people. The most effective distribution system would most likely be the system of small retail shops common in rural and most urban areas. Pulperias are located everywhere (in both rural and urban markets) and sell to all socioeconomic strata. In addition, pulperias are open more days and hours than MOH facili-

The goal was to make a "popular," nonprescription product available to poor rural and semi-urban populations through retail outlets where they were accustomed to purchasing over-the-counter medicines.

ties. The product itself would have to be priced within the reach of the target population. Since it would have to compete with common over-the-counter remedies (such as antidiarrheals) a strong promotional program would be required to support the new product "position" and distribution. Some sort of training program for distributors would also be necessary so that the store owners would be able to give correct information to purchasers.

Establishing Objectives

The Ministry reached these conclusions through a process based upon principles of social marketing. Social marketing is the application of commercial marketing techniques and business practices (market research, product development, pricing, promotion, and distribution) to produce a social benefit. It focuses upon the consumer—the consumer's perception of his or her needs and the competing alternatives. Social marketing encourages socially beneficial practices by appealing to people's self interest.

As the Ministry studied the population's needs it was able to refine objectives. It aimed to reach people who were not able to afford high price products available in commercial outlets and who were not being served by or chose not to use MOH institutional services. Overall goals were to:

- produce and package a quality ORS product by a local manufacturer according to the World Health Organization (WHO) formula;
- distribute the product through existing commercial systems to retail outlets;
- sell the product at a price affordable to caretakers (mostly mothers);
- support the product with a promotional program designed to stimulate and increase demand for ORS.

The expertise needed for such a program lay in large part beyond the capabilities of the Ministry of Health. The solution appeared to be some form of collaboration with the private commercial sector.

Considering the Private Sector

The decision to engage the private sector suggested both new opportunities and new challenges for a national diarrheal disease control effort. From a social marketing perspective, the commercial sector would have much to offer. It could produce

and package a quality product. It could distribute this product in a cost-efficient fashion and with appropriate frequency to outlets popular among the target audience. It could contribute understanding of and linkages with the retail system in order to help design an appropriate promotional program.

On the other side, the public sector had equally important resources to offer. The Ministry had a thorough understanding of the population's health needs and the requirements and attributes of the product. It had extensive experience researching audience perceptions and behaviors and positioning its own ORS product, Litrosol. Moreover, the Ministry proposed taking on the process of research and development (R&D) for the new product. This cost is normally borne by the pharmaceutical industry itself when it wishes to introduce a new product or enter a new market, and the cost is factored into the final purchase price. With the Ministry taking on this activity, the company(ies) who participated could pass on the savings to the consumers.

However, such partnerships between the private and public sectors in Honduras—indeed in most countries—are rare. In this case, neither side had successful models of collaboration to build upon, and lack of experience in working together would compound any potential problems. A series of questions needed to be answered before involving the private sector: Would the private sector be interested in the social marketing of ORS? Would nontraditional outlets be willing to sell ORS? Would existing distribution systems carry the product? Could the product be sold at a low enough price to be affordable to the target population but at a high enough price to provide sufficient incentives to the private sector (manufacturers, distributors, wholesalers, and retailers)? Would a private sector program complement or compete with that of the Ministry?

Such partnerships between the private and public sectors in Honduras—indeed in most countries—are rare.

And perhaps most importantly, could two such different structures—with varying management systems, goals, and perspectives—be able to work smoothly and productively together toward a common aim?

Only careful research and negotiation would determine whether such a partnership would be advantageous to both sides and whether it would ultimately be beneficial to the target audience. This field note covers a period of approximately two years, with a final postscript updating developments after another three years. One of the overriding themes of this experience has been that such collaboration takes time, patience, and mutual planning. One of the benefits, however, is that both sectors gain more than just a new product and a new market. The learning process can be institutionalized. In this case, the initial effort began with middle management levels within the MOH and ended as a priority at the level of the director general.

Three Stages of Research and Planning

The process of looking into partnership possibilities itself began as a cooperative venture. The Ministry of Health—with the assistance of the HEALTHCOM Project, Aragon y Asociados (a local subcontractor), and the support of Management Sciences for Health/Honduras—took the first steps and coordinated efforts. The initial team consisted only of a member of the Epidemiology Unit within the Ministry, two members of the Science and Technology Research Unit, a consultant funded by the U.S. Agency for International Development through AED, and a resident technical adviser. Their backgrounds were highly complementary—balancing the medical, research, and social marketing perspectives.

The team embarked on a three-staged research effort. The first stage, a "prefeasibility study," took place over four weeks. One objective of the study was to review and analyze existing data and literature on several subjects: the geo-socio-demographic and health characteristics of the country; the status of diarrheal disease and government efforts to control the problem; the community infrastructure and local practices related to diarrheal disease; and the range of products currently available on the commercial market.

A second objective of the study was to analyze the capabilities of the Ministry of Health infrastructure (in terms of financing, supplies, production, distribution) and suggest alternative models for administering an ORS social marketing program including promotional activities at the national level. The team presented the results of this review to the Ministry of Health along with a work plan for the next phases of research.

Phase II consisted of a detailed look at the market. The work took place over seven months. The group solicited bids and contracted a private sector market research company, Aragon y Asociados, to carry out a series of marketing research studies among consumers, pharmacists, physicians, and retailers. The studies included:

- a trade overview of pharmacies, *puestos de ventas de medicinas* (small stores providing over-the-counter drugs), and *pulperias* (small general stores);

- a study of physicians' knowledge, attitudes, and practices with regard to diarrhea and ORS;
- a study of users' knowledge, attitudes, and practices with regard to diarrhea and ORS;
- a consumer ORS product home use panel.

The studies were designed to help provide a ground plan for partnership with the private sector and also to provide a baseline for measuring future variations in the market as a consequence of the product launch.

This phase constituted the basic R&D that a commercial company generally carries out before introducing a new product or entering a new market. It supplied a wealth of information about how the potential outlets for the product work, what the potential competition is for consumers willing to spend a certain amount of money on a diarrheal remedy at those outlets, and what forces could influence the successful promotion of this product. It examined what products are sold and in what volume by local commercial outlets, how those retailers diagnose diarrhea and dehydration, and what they recommend to their consumers. (In Honduras, pharmacists as well as proprietors of small general stores often assume the role of medical advisers to their local customers.)

Pharmacists as well as proprietors of small general stores often assume the role of medical advisers to their local customers.

Therefore, the quantitative and qualitative research also aimed at providing an understanding of how the new product might best be positioned as a popular medicine in order to appeal to the intended consumers.

Phase III, a feasibility study for the director general, presented and analyzed the research results, summarized the methodology used, provided criteria for selecting private sector collaborators, and provided an assessment of several potential commercial partners. These companies fell into a number of categories (described under "Three Models" below) according to whether they produced ethical or popular medicines and the nature of their distribution networks. The feasibility study made multiple recommendations to the Ministry of Health in order to provide maximum flexibility in working towards agreements with one or more of the companies.

This last stage was important not only to establish the context of future efforts, but also to establish working relationships within different parts of the Ministry of Health. When the feasibility study was completed, a one-day meeting was held for senior personnel throughout the Ministry to explain the overall project strategy, the key findings and to provide an opportunity for questions. At this time, all major departments were invited to express their concerns and offer suggestions.

The meeting laid the basis for senior management consensus within the bureaucracy. At this time, a committee was also set up to handle the process of forming an agreement with the selected private sector company(ies). The committee included representatives from several departments, including those of finance and administration.

Finding Complementary Interests

What is not apparent in this description of the three-staged program is the extensive learning and negotiating process that took place over the two-year period. During this time members of the public and private sectors met continuously with each other to gather data but also to study formally and learn informally how the other worked and to build relationships. This process was as complex and as important to the success of the program as any single aspect of the research or planning.

Internal discussions focused initially on what would motivate the two sectors to cooperate with each other. There were, after all, reasons this sort of partnership did not form frequently and with ease. Within the Ministry, a better understanding of the private sector was needed—its driving forces, what factors it considered important, and how it viewed the public sector. They began by trying to step back and objectively examine the respective goals and views of the private and public sectors in relation to a health issue such as diarrheal disease control. They identified the following points:

Public sector goals are to:

- improve the quality of life for sectors of the population in need;
- control and reduce public health problems;
- ensure access to service, treatment, and education for those who cannot afford to pay for private services;
- maintain cost effectiveness.

Private sector goals are to:

- provide a quality product or service;
- obtain a profit or return.

Questions asked by the public sector before taking on a new initiative:

- Would this service or treatment help improve the quality of life?

A CASE IN POINT

ADMITTING PREJUDICES

Lack of previous collaboration between the public and private sectors had encouraged the growth of prejudices on both sides. The working group identified the following negative views.

Common perceptions of the public sector about the private sector:

- The private sector has contrasting goals.
- It provides services and products that are not essential.
- It serves different segments of the population.
- It wants primarily to make a profit rather than to help people.
- It enjoys high salaries and many incentives.
- It cannot be trusted; it is corrupt.

Common perceptions of the private sector about the public sector:

- In the public sector, staff are not motivated to get work done.
- The public sector has numerous rules and procedures that interfere with progress.
- It lacks a system of performance-based incentives.
- It is only influenced by politics.
- It has limited resources.
- It is corrupt, inefficient, and dictatorial.

Articulating and understanding these concerns was necessary before new alliances could be developed.

- Does this service or treatment address an important health problem?
- Is this compatible with the national health policy? With national programs and plans? With available resources?
- How much will it cost?
- What will the benefits be?

Questions asked by the private sector:

- Is there a demand for the product?
- Can a profit be made?
- Who would use it?
- Is it a high quality product?
- Does this product fit into our existing product line?
- If not, do we want to expand our product line?
- Will it enhance our image?
- What, if any, is the role of the government?

As this process of considering the goals and views of the two sectors unfolded, the group also began to uncover a number of negative perceptions the public sector held regarding the private sector, and vice versa. Whether the perceptions were true or not was not the issue—but the fact that they existed would affect if and how the two sectors would be able to work together. (See box.)

Articulating and understanding these concerns was the first step in developing the foundation of new alliances between the public and private sectors. To ignore or deny them might have led to false expectations and blocked the collaborative effort; to recognize them meant the group would be able to offer reassurances and explanations to a concerned party.

Government commitment to the program was important, and to build confidence required establishing a realistic basis upon which to conduct negotiations.

COMBINING STRENGTHS

When the team went into the field they were armed with an understanding of the basic *modus operandi* and potential prejudices of both sides. This perspective proved invaluable as Ministry personnel met with representatives of this quite different section of the health economy. In conducting the trade studies under Phase II of the research, the team traveled frequently to manufacturing plants (both ethical and popular medicine producers), to distributors, pharmacies, and rural outlets. They conducted both surveys and observations. They exchanged views on the needs of consumers and the difficulties of marketing health products. This face-to-face interaction was the first step in consensus building and negotiation between the two sectors.

Within the Ministry, staff agreed upon two primary principles as a basis for cooperation. The most fundamental of these was the understanding that "a good deal" is one in which both parties benefit—each party has something to offer that the other wants. The second principle was to operate according to the strengths of the two parties—to build upon institutional capabilities. Although these strengths were self-evident to both groups concerned, enumerating and discussing them helped focus on what each side had to offer and how to make the most of differences. (See box on next page.)

The team also analyzed several factors that would influence the design of the program. These related to production of ORS, distribution of ORS, and the nature of the consumers who would be targeted.

These considerations included the following:

Considerations regarding production:

- The capacity for producing a quality ORS product exists in the public and private sectors in Honduras.
- The cost of producing ORS is less in the private sector than in the public sector.

Considerations regarding distribution:

- There are more retail outlets for medicines than there are MOH facilities.
- Increasing the number and type of outlets will increase availability of ORS.
- Commercial systems renew their stocks of supplies more frequently than do the MOH facilities.
- Commercial distribution systems are efficient since each tier makes a small profit on items distributed.

Considerations regarding consumers:

- People are willing to pay something for medicines.
- People often place more value on items they pay for than on those they receive free of charge.
- Consumers in groups C, D, and E may not be able to afford products currently available in pharmacies.

This analysis laid a basis for proposing alternative strategies for engaging the private sector in producing and distributing ORS to the target audience.

Criteria for Cooperation

Before entering Phase III of the project, the group developed a list of criteria for selecting a private sector collaborator. Briefly, the ideal company would:

- be able to produce and package ORS in aluminum sachets using the WHO formula;
- have adequate staff, procedures, and systems for quality control;
- have the ability to carry out quality control procedures on all ORS produced;
- be willing to acquire equipment and, as necessary, to modify the existing facilities to produce ORS;
- have the ability to market to rural areas directly or sell to a company that distributes to rural retail outlets;
- be willing to position the product as a popular medicine that can be sold in pulperias, pharmacies, and puestos de venta de medicinas;
- have the ability to promote ORS to C, D, and E socioeconomic groups and produce a demand creation program;
- have the ability to provide incentives to its sale agents and to retailers;
- have the ability to make the product affordable;
- be willing to focus on high volume production.

The Ministry was willing to look at companies that were familiar with producing either ethical or popular medical products (or both). However, ethical and popular products make different demands on production as well as distribution systems. Choice of company would have broad implications for the program.

First, ethical products (those that are name-brand or imported) must be registered with the Colegio de Quimica de Farmaceutica and the contents must undergo a chemical analysis before initiation of any sales activity. Manufacturers of ethical products are therefore likely to have sophisticated quality control procedures. Second, the sale of ethical products is restricted to pharmacies, sales outlets for pharmaceu-

A CASE IN POINT

Identifying Strengths

The fundamental principle of cooperation is that a "good deal" is one in which both parties benefit. The second principle is to operate according to the strengths of the two parties. The working group identified the following institutional capabilities that should be tapped in developing a new ORS product.

Public sector strengths include:

- the ability to develop policy and programs that meet the health needs of the country;
- many years of experience in programs for the control of diarrheal diseases;
- knowledge of the complexity of marketing ORS to mothers and understanding of the components of an effective demand creation program.

Private sector strengths include:

- the ability to produce and distribute a quality ORS product;
- ability to distribute the product to commercial outlets with the required frequency and cost effectiveness;
- ability to reach a segment of the population not served by the Ministry;
- ability to respond rapidly to changes in the marketplace.

Although these strengths were self-evident to both groups concerned, enumerating them helped focus on what each side had to offer.

ticals, and hospitals, and theoretically requires a prescription for purchase. The number of outlets authorized to sell ethical products is also substantially lower than the number of general merchandise stores where popular medicines might be sold. A distributor of these products will therefore have similarly restricted sales networks.

Third, profit margins are legally controlled for ethical products but not for popular medicines. Producers of these different products are therefore likely to have different expectations regarding profits. Fourth, a typical firm dealing with ethical products has a staff of medical detailers whose job it is to make special visits to physicians to promote their products.

Three Models for Collaboration

Given the agreed-upon criteria and in consideration of the types of companies operating in Honduras and their respective strengths, the team developed three possible models for the program.

Model A

In the first model, one organization would carry out both the manufacturing and distribution activities. This model can be divided into two distinct subgroups. Model A(1) would be a firm that carries a line of ethical products. Model A(2) would be a company that focuses on popular medicines.

In general, such a company either produces name-brand products under license with an international manufacturer, imports finished products, or develops its own products. The marketing process (product positioning, promotional message content and materials, bonus and incentive plans or special offerings) varies according to the type of product and the manufacturer. When the product is produced under license or imported as a finished good, the international manufacturer may supervise the activities of the local firm and provide marketing support.

Resources available within the organization vary according to size of the firm, the number and type of products carried, and the length of time the firm has been in business.

Such firms may have the capacity to import raw materials and to register products (name brand, package, price) with the Colegio de Quimica de Farmaceutica. They may have sales personnel, distributors, production personnel, and other administrative staff, as well as facilities for storage, production, packaging, and shipping.

Both types of firms accept orders and deliver or sell products directly to retailers and wholesalers. Credit is frequently provided to retail outlets with whom they have established relationships. Other sales are made on a cash-on-delivery basis.

Model B

Model B involves cooperation between two different firms. One is the manufacturer; the other is the distributor. The two firms might deal either with ethical products or popular medicines. For example, the manufacturer might be a producer of ethical products that sells to a manufacturer or distributor of popular medicines. In this model, a concern for quality control during production is balanced by the need to obtain a widespread and deep penetration into the market in rural areas by tapping into resources of two different types of companies.

Model C

Model C is a combination of Models A and B. It involves a firm that manufactures and distributes ethical products. The firm would manufacture the new product and market it to its usual ethical outlets, but also sell the product to a distributor of popular medicines or consumer goods.

In all of these models, the Ministry and the private sector are looking for similar outcomes. The Ministry wants the private sector to produce a quality product and distribute it to sales outlets in rural areas where the target population is located. The private sector wants to produce and distribute the ORS product, make a reasonable profit, and be assured of government support.

Results of the Search

After analyzing the marketing research, meeting with numerous manufacturers of pharmaceuticals, popular medicines, and other consumer products, and various types of distribution and packaging firms, the Ministry began negotiations with a private manufacturer and distributor of pharmaceutical products.

Laboratorio Quimifar was selected initially because of its capacity to produce a quality ORS product according to the WHO formula and its willingness to do so in sufficient quantities to meet the projected need. In fact, they had already been considering producing a new prescription ORS product and distributing it to pharmacies. After extensive discussions with the Ministry, the firm agreed to produce a second product as well and to market it as a popular medicine at a price affordable to the target population.

Quimifar planned to market the ethical product through its standard distribution system. However, it did not have the experience or the networks to market the popular product to retail outlets in extensive rural areas. They agreed therefore to contract with a second company that has this capacity. The Ministry has left management of this process to Quimifar partly because it will be easier for the private sector firms to work together and partly because it is clearly in Quimifar's interest to provide good

oversight in order to increase its own profits on the popular product.

In principle, this arrangement follows Model C above, in which one firm manufactures a product and then arranges for distribution both through its own system and through another company. However, in this case the firm plans to produce two ORS products, appropriate to two different markets.

Challenges of Marketing

Much work remains to be done before the new product is brought successfully to the target audience in need. Most of this work will consist of bringing the product to the attention of consumers and assuring that they understand its proper use. Marketing will be the responsibility of the producer and its chosen distributor. This chapter in the story will be a challenging one.

Because there are two different products, there will have to be two different promotional strategies. And because there are two different distribution networks, there will have to be two different training systems. Such a system is already in place for ethical products. Pharmaceutical companies traditionally use *visitadores medicas*, or detailers, to bring new products to the attention of pharmacists and to inform them of their proper use. Quimifar has decided to name their new ethical product *Dextrolit*.

The popular product has been named *Hidrosol* and is identical to the projected ethical product to be marketed to pharmacies, except for its packaging. Hidrosol will be marketed as an over-the-counter medicine to small general stores of various types, as well as to pharmacies. Assuring distribution in the rural areas will provide a real challenge to Quimifar and its distributors. Traditionally, popular products are distributed through an independent network that is driven by profit motive. Retailers either buy wholesale or are given a product on consignment. A profit margin is built into the retail price. Providing effective information to rural retailers will require careful planning and innovative approaches. In the rural commercial system, the middleman who moves the product from the wholesale distributor to the retail sales outlet is an independent link in the chain. Training and motivation will therefore have to focus on both the middle and the final target.

Because there are two different distribution networks, there will have to be two different training systems.

Quimifar is considering adapting their usual sales strategy to include technical information on how to rehydrate a consumer, so that retailers might also offer sellers of Hidrosol and Dextrolit a mini-course in rehydration therapy. Sellers would pay a small fee for their training and then offer customers not only the rehydration product, but, for a small additional fee, would actually rehydrate the customer at the place of sale.

With HEALTHCOM's help, the Ministry is committed to passing on valuable demographic and marketing data to Quimifar to assist in their marketing strategy and training of both retailers and detailers. The Ministry will also be able to share its experience with formative research and product testing. In addition to information gathered in the private sector feasibility studies, years of experience in diarrhea control and Litrosol distribution have yielded a wealth of information, much of which is applicable to the distribution of the new products.

Postscript: Adjusting to the Unexpected

Since original plans were outlined, Quimifar has confronted a number of obstacles that have slowed production and distribution of Hidrosol. These developments illustrate how difficult it is to anticipate all of the factors that can affect the introduction of a new product into the market.

In late 1989, Quimifar ran into problems obtaining the special foil paper needed for ORS packaging. To purchase the packaging out of country, Quimifar needed access to tightly-controlled hard currency. They first went to USAID with the problem and were promised $25,000 worth of needed materials. However, with the grant caught in the bureaucracy, Quimifar waited until the following year and then obtained U.S. currency at a higher rate through other means. They subsequently purchased the packaging material in Mexico.

With that problem solved, Quimifar and the MOH expected smooth sailing. Before too long, Quimifar took note of quality control problems: irregular concentrations of sodium and potassium were noted in product samples. The company needed to obtain a new flame photometer to read and regulate concentrations of active ingredients. They also found they needed to purchase a one-ton mixer to meet the high volume production schedule.

By late 1990, supply problems were at last under control, and Quimifar began production of Hidrosol. By February 1991, they were ready to enter the market and had already begun initial marketing efforts.

Several production problems were finally overcome.

However, by that time the cholera epidemic had begun in Peru. The Honduran Ministry of Health realized that it would not be long before cholera entered the Central American region and cholera prevention and control measures began to take precedence over most MOH programs.

With Litrosol (the MOH product) in short supply due to a number of factors, the Ministry made an emergency purchase of ORS, a *compra de emergencia*, to assure an extensive supply of ORS in all MOH health centers for distribution to the public.

Quimifar submitted a bid and was awarded the contract to supply the MOH with 3.3 million packets of salts. Quimifar made the decision to fill the Ministry contract with the ORS product they had on hand—Hidrosol—thus introducing the soon-to-be released popular product through the public sector!

A whirlwind of questions followed Quimifar's decision. How could Quimifar convince the new target audience to purchase the identical product that was being *given away* by the MOH? Were they going to sacrifice the potential earnings from sales of the popular product, projecting larger profit from sales to the Ministry? Should they reposition their products, leaving Hidrosol to the public sector distribution and rush completion of the proposed ethical product (Dextrolit) to market as their popular product? If the company went ahead with private sector marketing of Hidrosol, would there be temptation for those with access to the MOH cache of Hidrosol to sell the product on the open market and not give it away in communities?

Quimifar decided to juggle the marketing of Hidrosol. The company was ready to test their high production capacity but for the time being, production was oriented to meet the Ministry contract. Packets were delivered to the Ministry in September 1991. Then in October of 1991, Quimifar began distributing Hidrosol as an over-the-counter product to pharmacies in the San Pedro Sula area (where their company is located), largely in response to requests. In addition, the impending cholera epidemic had created a demand for ORS among a number of private organizations and companies. Some of them made bulk purchases in order to have packets on hand for their employees. The U.S. Peace Corps, Standard Fruit Company (Chiquita Banana), Rosario Mining, the National Brewery (Cerveceria Nacional), and others all ordered from 10,000 to 50,000 packets of Hidrosol.

Quimifar did attempt to differentiate the Ministry from the popular product. Hidrosol going to the Ministry was labeled "product of the Honduras Ministry of Health: not for sale," in an attempt to discourage the resale of the product. Quimifar admitted to at least one slip-up (the not-for-sale packages were distributed to pharmacies for resale). The product was immediately recalled. The company is still considering the idea of somehow modifying the Hidrosol packaging for the two markets, but suffered such delays with the initial packaging that they are reluctant to pursue a modified packaging strategy.

Meanwhile, distribution of Hidrosol to its primary market—the pulperias, or small neighborhood outlets found in most Honduran communities—has not yet been realized. This goal will become a priority once again when the emergency situation has been resolved.

CONCLUSION

The Ministry of Health in Honduras has made a major investment in promoting the expansion of the ORS market in the country. Most unusual, it has taken on the unique role for a public sector institution of examining the marketplace, assessing needs, determining market potential, and studying the costs of infrastructure and other similar costs of a new commercially available ORS product. The private sector has demonstrated its will-

Hidrosol became available in late 1990.

ingness to contribute what it does well—producing and selling a product—in the interest of the public.

Reaching agreement between these two sectors to combine strengths and commitments required lengthy study and negotiation. It also required a basic willingness to come to terms with and make the most of differences. Not least of all, it has required persistence in dealing with the unexpected. Achieving the goal of bringing this product to its proper market and the consumers most in need will still require another chapter. Both parties await the outcome of this innovative approach to reaching a new market segment.

NOTES

1. See "The HEALTHCOM Resurvey of Oral Rehydration Therapy Practices in Honduras," by Carol Baume (Applied Communication Technology, August 1990). Applied Communication Technology (ACT) is subcontractor to the HEALTHCOM Project, carrying out evaluation studies in Honduras and The Gambia. For further information about these evaluations contact Applied Communication Technology, 1010 Doyle Street, Suite 16, Menlo Park, CA 94015.

2. See "Honduras ORS Private Sector Marketing Feasibility Study III" (Tegucigalpa: Aragon y Asociados, 1987). Further information about the feasibility studies can be obtained from the Honduras Ministry of Health.

3. See "Healthcare Financing in Honduras," Honduras Ministry of Health and Management Sciences for Health (1987).

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20

Development of a New ORS Product Identity in Mexico

Michael Ramah
Mary Debus

Keeping a Consumer Focus

A fundamental principle of social marketing is to keep the consumer in the center of the program. Any program that aims to change the practices of a given group must do more than simply respond to what these clients "like." It must develop a broad consumer-driven strategy to achieve specific socially beneficial objectives. It requires consistency of messages and impressions so that all communication vehicles speak with the same voice. The same strategic thinking that guides the creation of radio and television spots, for example, must be applied to interpersonal communications, health worker training materials, product packaging, and other forms of communication.

This field note focuses on the communication potential of one of the most important elements of an oral rehydration therapy (ORT) program: the oral rehydration product itself. Presented here is the development of a new ORS product name and package design—a new product identity—for the Mexico diarrheal disease control program for children under five.

The Challenge

With one of the largest ORT programs in the world, Mexico produces and distributes ten million packets of ORS annually. Clearly, these packets are a major opportunity to communicate with mothers and health providers about the product and its use. The primary target audience is mothers who seek out and administer ORS to their children. A successful product must appeal to them, be user-friendly, and rewarding in its results. On the other hand, physicians must provide, recommend, instruct, and reinforce use of ORS. They constitute a crucial secondary audience whose opinions can profoundly influence those of mothers. The product must satisfy this group as well.

Mexico produces and distributes ten million packets of ORS annually.

Much of Mexico's ORT program has concentrated on changing norms within the health system. In the early 1980s Mexico embarked on a national program for oral rehydration that focused on both service delivery and creation of consumer awareness and demand. The program included a heavy focus on training for physicians, medical students, and health workers. Seminars were conducted to update and motivate staff of all institutions in the health sector, and the government sponsored the first national course in planning and management of programs to control diarrheal disease.

In 1985, A.I.D.'s PRITECH Project (Technologies for Primary Health Care), together with assistance from the Pan American Health Organization (PAHO) and the HEALTHCOM Project, laid a strong foundation for ORS use among health practitioners through an extensive clinical training program at the Federico Gomez Children's Hospital in Mexico City. The program was conducted for

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professionals who would be responsible for managing oral rehydration units in state hospitals.[1] PAHO and the HEALTHCOM Project also created a training video to educate medical students about oral rehydration therapy.[2]

In 1987 it was time to focus intensively on demand generation and consumer use among the primary target audience—mothers and other caretakers of children under five. The demand creation effort was a collaborative undertaking between public and private sector groups.[3]

The Department of Health had devised a national distribution plan to assure its own product was available through both the medical system (hospitals, clinics, and rural health facilities) and through government-owned grocery cooperatives (CONASUPO). The distribution arm of CONASUPO (known as DICONSA) agreed to list ORS in its catalogue and encourage stocking by individual coops. The product was to be sold at a price that reciprocated the base cost of production and distribution. The CONASUPO system, which includes 16,000 outlets, has a particularly strong presence in rural areas. The overall plan therefore gave emphasis to high poverty/high diarrhea risk groups.

The product itself, and the consumer's image of and attitude toward the product and its use, would play a central role in the success of demand generation. However, an analysis of the existing ORS packet in 1987 raised several concerns:

- First, the product had a scientific-sounding name—*Electrolitos Orales* (oral electrolytes). This name was cumbersome and difficult for mothers to understand or remember. Program planners felt that mothers were unlikely to associate any clear benefit for themselves or their children with this product name.

- Second, the existing package design was institutional in orientation, the chief graphic elements being a variety of government logos. Visually, Electrolitos Orales was unlikely to have real consumer appeal or in fact to convey any use-oriented message.

- Finally, the package displayed written mixing instructions but no graphic representations understandable to the many nonliterate or low literate mothers in Mexico.

To compound this problem, the package included Mexico's insignia for an oral medication. The symbol depicts a drinking glass approximately two-thirds full. This was potentially dangerous if mistaken for a mixing instruction (e.g., the amount of water to be mixed with ORS or the amount of solution to be administered daily to the child—both of which are one liter).

In response to these concerns, several public and private sector groups undertook a collaborative effort to create a new product identity for government-subsidized oral rehydration salts. The primary participants in this project included the Health Education Unit of the Mexican

The design of Electrolitos Orales did not suggest any particular kind of product, and the instructions were completely inaccessible to a semi- or nonliterate mother.

Department of Health, Federico Gomez Children's Hospital in Mexico City, the HEALTHCOM Project and its subcontractor Porter/Novelli, and later, McCann Erickson (a Mexican market research firm), Gallup/Mexico, and Arouesty and Associates (a Mexican advertising and public relations firm).

The fundamental purpose of the design effort was to create and eventually promote an effective ORS product consistent with the overall goals and strategy of Mexico's ORT program. The group focused upon three goals:

- to select a new ORS brand name,
- to create a new ORS packet design,
- to develop a set of graphic instructions for ORS mixing/administration reflecting the national ORT norms.

The collaborating groups were committed to accomplishing these goals through a systematic program of consumer research.

Getting Started

The team began with an investigation of consumer perceptions and concerns regarding the existing package and name. Several questions about Electrolitos Orales were added to the Spring 1987 National Gallup poll. As a service to the project, Gallup/Mexico (known as IMOP) agreed to add a number of questions on ORS to their omnibus study free of charge. This multi-topic survey is conducted quarterly using a national probability study of 1,000 adults.

The findings were dramatic. Only 12 percent of the target audience had ever heard of the product; only 9 percent knew it was used for infant diarrhea. (Other respondents thought Electrolitos Orales was a car battery, something from outer space, etc.)

It was safe to conclude from this information that a change in product name or package would not undermine current product equity.

Only 12 percent of the target audience had ever heard of the product.

Through a competitive bidding process, the team selected two private sector Mexican firms to undertake initial activities. McCann Erickson of Mexico was hired to develop a new product name and package design. IMOP was enlisted to conduct formative research to guide the development of these creative materials.

To ensure that these firms had a proper orientation and understanding of the assignment, the team developed a ten-page background paper primarily on technical aspects of an oral rehydration product and presented it to these new members.

This briefing was particularly important because of the complexity and the social nature of the product, which presented new challenges to the private sector partners. However, such a background paper or creative brief is a common tool in product development and is especially useful when several groups work together. The document covered five major topics:

- basic characteristics of the product (composition, mixing/administration requirements, potential complications, distribution);
- a brief demographic profile of the target audience;
- an overview of all the products (homemade, commercial, and prescription) presently used to treat diarrhea by the target audience;
- the approach and procedures that would be taken throughout the product development process.

The team also held a day-long briefing session for the firms, giving them an opportunity to ask questions and receive feedback from all the participating organizations. This was the first of many collaborative meetings involving the entire team.

Following the briefing the team launched into a research and development process. It consisted of five major phases:

Phase I: Exploratory qualitative research with mothers,

Phase II: Initial concept screening,

Phase III: Quantitative test of the two best designs,

Phase IV: Quantitative test of the winning design vs. the old package (consumers and physicians),

Phase V: Comprehension test of mixing instructions and flyer.

The remainder of this field note discusses these stages in detail.

PHASE I: EXPLORATORY RESEARCH

Although considerable research regarding ORT and diarrheal disease had already been conducted in Mexico, none of the studies centered directly on the issue of package design and consumer perceptions/understanding. The first stage of consumer research was therefore exploratory in nature. It aimed to provide insights into the primary target audience's views on the product and packaging. The key objectives for this phase of research were to:

- investigate awareness and attitudes regarding ORS among the target audience;
- explore, in depth, reactions toward the existing product name and package;
- gain insight into the benefits and barriers—emotional, cognitive, and physical—of an ORS product *per se* among the target audience;
- gather any additional information or insights relevant to the design process.

Focus group discussions were selected as the appropriate research tool, given the need for rich responses and for opportunities to generate new ideas. The team conducted a total of eight focus groups at this stage: four in Mexico city and four in semi-rural areas. The groups consisted of eight to ten lower socioeconomic mothers of children under five years of age. A majority of these women were nonliterate. In Mexico City, IMOP's focus group facilities were used so that both the research professionals and members of the advertising agency could observe the discussions. In the more rural settings, the research team was accompanied to the field by representatives from the agency. The entire process—from research design, to implementation, to reporting the findings—took several months.

Findings from the focus groups provided the team with a broad picture of mothers' responses to diarrheal disease and ORS as a specific treatment. The following points were directly pertinent to the design process.

- Among the interviewed mothers, diarrhea was chiefly perceived as a common, low-risk disease. However, there was also high awareness that diarrhea can lead to dehydration and death. This suggested that mothers might feel some ambiguity about a product as well. To

A CASE IN POINT

CREATIVE STRATEGY STATEMENT FOR AN ORS PACKAGE

The "Creative Strategy Statement" developed for Mexico's new ORS package summarized agreed-upon directions for the new product identity that were consistent with the technical norms and reflected research with the target audience.[4]

Purpose—The purpose of the new package is to enhance consumer awareness, trial, and correct and continued use of the ORS product.

Target Audience—The primary target audience is lower socioeconomic mothers of children under five years of age from all areas of Mexico—urban, semi-urban, rural—many of whom are not literate.

Secondary Target Audience—Physicians and health workers as well as other influential groups—peers, informal authorities, extended family members—will also be targeted.

Product Positioning—The product will be positioned as a superior form of home treatment for the prevention of dehydration—a safe, easy, and effective special fluid or serum to be used in the early stages of diarrhea for the prevention of dehydration.

Communication Objectives—The new packet and name should communicate that the product is—

- a *suero oral* product (identifying the product clearly);
- life giving for the child (conveying the key end benefit);
- for the prevention of dehydration (clearly positioning the product in the ORT treatment regimen);
- superior to home mixed solutions (encouraging selection over competing products);
- an effective product mothers can rely on (generating trust);
- for mothers who want their children to be healthy and strong (providing positive reinforcement).

Tone—The tone of the new name and package should be upbeat and positive, giving mothers a good feeling about the product and conveying a "for children" impression without being frivolous.

Desired Action—Mothers should remember, seek out, and use the ORS product correctly and have it in the house for future use. Physicians and health workers should recommend and give ample product samples to mothers, encouraging them to have the product on-hand to use at home if needed.

Other Considerations—The new packet and name should also enhance the potential commercial viability of the product by creating an easily identifiable and memorable image.

clarify this, the **tone** of the package—the seriousness or casualness conveyed—would be an important dimension for creative consideration.

- Mothers recognized a variety of types or stages of diarrhea but had no specific term to signal the type of diarrheal episode that would require the administration of ORS.[5] No informal or familiar terminology would therefore be useful on the package instructions.

- Most mothers knew the term "dehydration" (or *deshidratación*) and understood many of its signs. When dehydration was suspected, mothers claimed that the child was taken for intravenous therapy. This suggested that the product could be **positioned** to prevent dehydration, since the concept was already known and considered dangerous.

- Mothers were aware of a variety of ORS-type products (such as Pediolyte) referring to them collectively as *suero oral* (oral solution). They were unclear, however, about many of the details of ORT procedures. Thus, it would be important for the package to be clear about exactly when and how the **product fit** into the ORT regimen.

- Mothers expressed strong feelings of guilt and hopelessness with regard to their children's serious illnesses. Because such feelings could potentially lead to denial or aversion regarding ORS itself, it was determined that the **tone** of the new package should mitigate against this attitude (rather than, for example, frighten mothers into action).

- Mothers in the focus groups claimed they would use whatever remedy was on hand when their children became ill. They complained that ORS was not always readily available and were clearly willing to purchase a product to treat diarrhea. This pointed to the eventual commercial viability of the ORS product and, therefore, the need to imbue the new package with **commercial appeal** and shelf impact.

- Mothers used a variety of home treatments for diarrhea. These fell into two basic groups: 1) traditional remedies such as teas, rice water, juices, and herbs, and 2) medical remedies such as Kaopectate and antidiarrheals. In addition, there was the well known out-of-home treat-

ment, intravenous therapy. Among this array of treatments, ORS did not appear to have a clear positioning in mothers' minds but seemed to fit best within the framework of home remedies. This suggested to the planning team that the new ORS package design might best take on a character closer to consumer goods or over-the-counter medications than to prescription or hospital products.

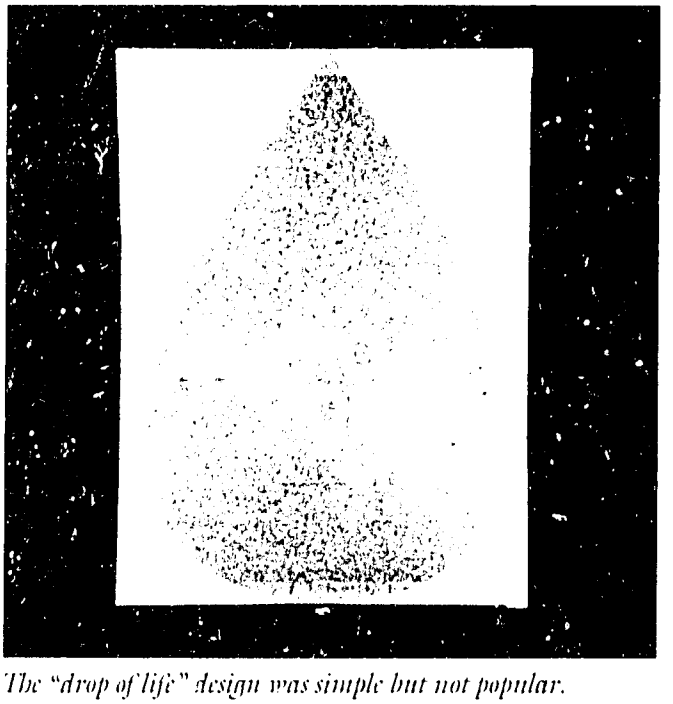
• Most important, mothers saw little difference between ORS and other forms of liquid. They did not recognize the superiority of ORS in treating diarrhea. This fact represented a creative challenge and clear direction in positioning the ORS product vis a vis traditional, (home mixed) solutions.

While some of these findings pointed directly to a design decision (e.g., not to include any lay terms to distinguish type of diarrhea), others provided broader insights into what consumers needed and what would move them to action.

The team used these findings to agree upon general creative directions consistent with the technical/medical norms outlined in the background paper. They developed a Creative Strategy Statement to be followed in designing the new product identity. (See box.)

PHASE II: CONCEPT SCREENING

McCann Erickson used the creative strategy as the basis for developing five alternative package prototypes and also suggested eleven different ORS brand names. Each design attempted to convey some end benefit suggesting a child's vitality. The designs used colors symbolizing growth and nature (such as green



The "drop of life" design was simple but not popular.

Mothers liked the "lifted child" design—but not enough.

and blue) and related symbols such as foliage or a water drop, and/or depicted a healthy, happy child. Other designs also used graphic metaphors such as being "in good hands."

To select the most viable name and package look for further development, the team held six focus group discussions among the target audience in three disparate areas of Mexico (Mexico City, the semi-urban areas surrounding Mexico City, and in semi-rural areas near Guadalajara). The concept test findings clearly pinpointed *Vida Suero* ("Serum of Life") as the preferred ORS product name. Mothers found that it communicated most effectively the superiority, modernity, and life-giving benefits of the product. They also found it easy to pronounce and remember.

Two of the package designs, however, emerged as equally viable candidates. These were the "nurturing hands" and "tree of life" designs. Both outperformed the other designs in meeting the basic communication objectives.

Two of the package designs emerged as equally viable candidates.

However, the sensations evoked among mothers by the two designs were distinctly different. "Tree of life" emphasized the vitality of the child and evoked feelings of happiness, confidence, and vitality, as well as positive feelings about administering ORS. In comparison, "nurturing hands" emphasized the caring, gentle qualities of the mother and engendered feelings of tenderness, security, and tranquility.

Thus, both concepts were essentially on-strategy but with a somewhat different focus. This tie led to a third and initially unplanned phase of research.

PHASE III: TREE OF LIFE VS. NURTURING HANDS

The purpose of this phase was to select and refine a winning package design. Specifically, the research sought to determine which of the new designs was preferred by mothers according to the following criteria:

- overall design appeal
- appropriate product image
- suitability for an ORS product
- other communication values.

First, both new package design concepts were refined based on the focus groups' findings. In addition, the product mock-ups now incorporated Vida Suero, the winning name.

In refining the "tree of life" design, the artist maintained the vibrant, lively qualities inherent in the child's posture and the rich green tree but rendered the artwork in a less cartoony fashion, as mothers had suggested. The child's features were drawn slightly more realistically—dark crayon-like lines were replaced with a finer stroke and the lettering was made blocked and crisp. In refining the "nurturing hands" design the artist maintained the serene light blue coloring but outlined the child's facial features in black to create a more solid, less hollow look.

"Tree of life" was the grand winner, shown here as it was actually produced (9 by 11 cm.)

"Nurturing hands" was one of the two top designs.

(The team found that the pale child's face with the background color of pastel blue showing behind the child's eyes and mouth had produced a frail, transparent effect. Although this evoked nurturing feelings among mothers, these feelings were tinged with melancholy—an off-strategy response.)

Up to this point the research tools had all been qualitative in order to elicit in-depth responses. However, the two designs were next subjected to a quantitative test using personal interviews to determine which one of the two designs was most on strategy.

The team conducted the interviews using a proto-monadic research design. That is, the two designs were evaluated by separate but demographically matched samples of mothers. However, to avoid a tie, each interview ended with either/or choices between the two package designs according to several key qualities. Approximately 250 personal interviews were conducted for each package design in each of three disparate locations for a total of 1,500 interviews.

This time the research findings were conclusive. "Tree of life" was preferred by 57 percent of mothers. When asked about overall design appeal, mothers said "tree of life" was:

- more attractive
- more attention getting
- generally a "better design."

Mothers were also asked several questions reflecting product image. They chose "tree of life" more often than "nurturing hands" as the high quality, effective, and safe product. They could more clearly identify the product as a *suero oral.* The two designs performed equally well in conveying the sense of being "for mothers who care." Lastly, the winning package was felt to be modern, not "cheap," and easy to use.

PHASE IV: TREE OF LIFE VS. THE OLD PACKAGE

The final stage of the research was a quantitative test of the new package design versus the old one. Again, the team used a proto-monadic research design. The sample included approximately 600 target group mothers selected from two areas in Mexico. Each monadic cell included 300 mothers. Personal interviews were also conducted with a sample of physicians (13 from the public sector and 12 from the private sector, all in Mexico City and vicinity).

Given the more commercial look of the new packet, the team developed two fairly stringent action standards. First, "tree of life" had to rank equal to or better than the old package in target audiences' perceptions of efficacy and safety. Second, the design had to perform in a clearly superior manner to the old product in terms of general appeal and consumer-oriented communication values.

Both action standards were met, as can be seen in tables 20-1 and 20-2. Although perceptions of efficacy (reflected in such description as "gives confidence," "looks high quality," and "conveys effectiveness") were similar for the two designs in the monadic ratings, the comparison ratings showed "tree of life" was considered superior by both mothers and physicians. The team felt confident that the commercial style of the new package design did not detract from mothers' or physicians' confidence about the product's performance.

TABLE 20-1

Monadic ratings for old and new designs

Positive characteristics	Percent rating Tree of Life	Old Package
General appeal		
I like it very much	14	9
I like it a lot	70	47
Pleasing	94	75
Attractive	92	63
Attention getting	83	66
Unique	80	60
Communicates what the product will do	89	75
Security/efficacy		
Gives confidence	89	94
Looks high quality	68	75
Conveys effectiveness	75	74
	N = 300	N = 300

Note: Separate groups were each asked their opinions about one design.

Source: IMOP

TABLE 20-2

Paired comparison of old and new designs

Positive characteristics	Percent rating Tree of Life	Old Package
General appeal		
Preferred by mothers	75	25
Preferred by physicians	61	39
Security/efficacy		
Safe	69	31
Effective	59	41
Better than home mix	66	34
N = 600		

Note: Scores add up to 100 percent because respondents were required to make either/or choices between the designs.

Source: IMOP

The research also showed clearly the superiority of "tree of life" in terms of general appeal and specific communication elements. In the overall paired comparison, "tree of life" was preferred by three out of four mothers and two out of three physicians. Because of the shift from a generic, scientific-looking package to a more consumer-oriented design, approval by the medical community was particularly important. It was also important to share the positive pretesting results with the medical community.

PHASE V: MIXING INSTRUCTIONS

As part of a strategy for encouraging mothers to have ORS on hand in the home, the team proposed the product be dispensed three to a package, wrapped in clear plastic together with a colorful flyer. This design would reduce the number of visits a mother would have to make to a physician or clinic, thereby reducing the "price" of ORS to the mother. With more of the product in the home, Vida Suero could more effectively compete against the popular home remedies.

The design of ORS mixing instructions, which were to be printed on the back of the package and also in greater detail on the accompanying flyer, took place over several months. The instructions on the package needed to convey proper ORS administration; the flyer would

expand upon other aspects of oral rehydration therapy such as proper feeding. Both designs needed to be graphic and understandable even to a nonliterate mother. The research conducted in this phase, which is only described briefly here, was therefore substantially different from the market research conducted in producing the new ORS name and "look." Its purpose was to ensure that the sets of instructions met desired **action standards:**

- demonstration of mothers' ability to correctly mix the ORS product;
- communication of full oral rehydration therapy procedures.

The ultimate test of these designs was the actual behavior of mothers, rather than their opinions or preferences.

Although the basic ORS packaged product is similar throughout the world, different steps in the mixing and administration of ORS and other aspects of oral rehydration therapy need to be emphasized in different environments. Common issues include identification of a local container that measures a liter of water (or other appropriate quantity); whether "boiled" or "clean" water will be recommended; whether a method of storage will be suggested (e.g., covering with a top to avoid contamination); whether handwashing will be suggested; whether harmful local practices need to be discouraged; and so forth. Since space is limited, the importance of different steps must be weighed. Technical input and review of the instructions is important so they represent country norms, and careful pretesting with mothers is crucial to assure they are understood.

In Mexico, national ORT norms formed the basis of the illustrated instructions. A graphic designer skilled in producing materials for nonliterate artists was hired to develop three alternative sets of mixing instructions as well as a prototype for the flyer on complete ORT. The artist went to the field with the research team to test the prototype designs with mothers. The original three drafts of mixing instructions were all designed to communicate the following messages:

- Use the cleanest water readily available.
- Measure exactly one litre of water (overestimating is preferable to underestimating).
- Pour entire contents of packet into water.
- Mix to dissolve completely.
- Administer small amounts continuously.
- Continue feeding.

The purpose of the flyer was more complex. It was designed not only to instruct mothers in proper ORS mixing, but to enable them to:

- identify the product,
- recognize the subject matter of the flyer (instructions regarding diarrhea/dehydration),
- readily identify the problem (diarrhea leading to dehydration),
- understand when to administer ORS,
- understand how much ORS to administer,
- understand how long to administer ORS,
- understand feeding/nutritional needs of the child during diarrhea,
- know when to take the child to a doctor.

The artist conveyed these messages in six dramatic panels. These included a problem/solution sequence illus-

A two-sided, six panel flyer, the same size as the package, illustrated the concept and seriousness of dehydration.

trating the concept and signs of dehydration (in both a plant and an infant) followed by administration of ORT as well as a visit to the doctor.

IMOP helped administer a questionnaire to evaluate the mixing instructions and the informational flyer with the target group.

A total of 60 in-home interviews were conducted among lower socioeconomic mothers of children under five years of age. Respondents performed a functional mixing test using one of the alternative sets of instructions (20 respondents for each prototype). Researchers observed and recorded the steps mothers took in following the instructions and asked questions. They also measured the amounts of water mothers used to mix the ORS.[6]

Respondents evaluated the instructional flyer one vignette at a time. They were asked to describe what was taking place in the different pictures. They also answered questions about the flyer as a whole, both in terms of actual content and conceptual format. Most of the respondents understood the problem/solution sequence clearly. They understood the concept of dehydration and the necessity of seeing a doctor, although they did not understand all of the signs of dehydration illustrated in the flyer. They also understood that it was good to keep the product on hand at home.

The artist made refinements in the drawings and the instructions based upon this research. The "winning" mixing instructions as well as the instructional flyer were subsequently reviewed by an expert panel of physicians and health practitioners to ensure compliance with ORT norms. The committee included representatives from several departments of the Ministry of Health, Federico Gomez Hospital, UNICEF, and other concerned organizations. Participants requested minor changes in the mixing instructions and added a panel on handwashing. Ideally, a "disaster check" with the target audience would have been carried out at this point to make sure mothers understood the changes, but this was not possible.

The final graphics in the mixing instructions illustrated the following steps:

1. Wash your hands.

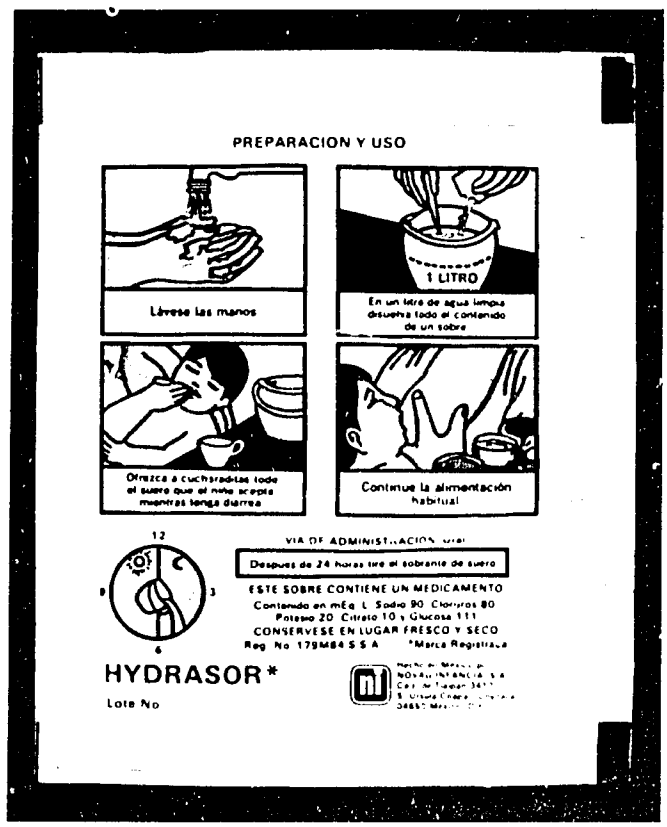
2. Add contents of the envelope to one liter of clean water; stir completely.

3. Give (by teaspoon) all a child will accept during the illness.

4. Continue feeding as usual.

5. Throw the solution away after 24 hours.

Since research showed that mothers knew what one liter was but had different ways of measuring it, step 2 was illustrated by a generic bowl with a one-liter line drawn clearly on it. Step 4 was illustrated by a mother breastfeeding her child, in order to counter resistance among some mothers to breastfeed during diarrhea.



The final package back, with simple graphic instructions.

The technical committee recommended that a separate guide book be developed for physicians and health workers to highlight the new package design and mixing instructions and include country norms for oral rehydration therapy.

Promotion Among the Primary Audience

Creating a product that is appealing and understandable to consumers is only the first step in promoting its proper use. The next step is a comprehensive communication strategy to bring the product to users' attention, motivate them to try it, and eventually adopt it for regular use. The team proposed a series of print and broadcast materials to bring Vida Suero to the public's attention.

Point of purchase materials, including free-standing dispenser packs and the instructional flyers, were made available wherever the product was sold (in grocery coops) and given away (in health centers).

A photo novella for mothers dramatized the importance of preventing diarrheal dehydration. Advertisements for Vida Suero were printed on lottery tickets, and posters and print inserts for the local press were produced. The government considered a new postage stamp featuring the ORS package. Broadcast materials included both radio

and television promotions. In addition, the Ministry of Health approved production of a short film for rural theaters. All of these materials were part of a marketing plan that focused on larger clinics and grocery stores, and eventually on private sector vendors.

Building Consensus Among the Secondary Audience

The team took two important steps to ensure the acceptance of Vida Suero by influential groups. First, they held a two-day seminar in which all of the partners participated, including the Secretary of Health. Those who attended ranged from UNICEF, to CARE, to a variety of institutions involved with ORT in Mexico. Members of the team provided a step-by-step presentation of the development of the new name and package. By explaining the various pieces of research that led to the new product identity, the team was able to show a scientific basis for the changes and helped defuse any bias within the group against a more commercial look or against advertising *per se*. The team also presented a plan for introducing the new ORS packet. The plan and the new product were met with enthusiasm.

Later that year the Secretary of Health introduced the product at a national press conference, which further aided its acceptance among the medical community and explained it to the all-important media. Arouesty and Associates handled the public relations including press kits and media incentives. Sixty representatives from the press as well as the three national television stations and the English-speaking news service attended. The Department of Health introduced the product in the context of its carefully determined position within the national ORT program strategy. Other promotional materials to support the product, such as the flyer, booklets, and a TV spot, were highlighted for the press.

Reflections

A number of practical lessons emerged from the experience of creating and launching an ORS product. Some of these have to do with the process of bringing together public and private sector interests in meeting a common goal. Some of them have to do with the difficulties of combining creative and medical messages.

Private/Public Collaboration

- Levels of expertise will vary among Department of Health counterparts. Every effort should be made to acknowledge this, and, so far as possible, turn this to an advantage. Every step in a process should be fully explained to all partners beforehand. Consensus must always be achieved, especially among project management. Clear agreement about how decisions will be made can avoid hurt feelings and project derailment.

- If, as in this case, private sector advertising and/or market research firms are contracted, the Department of Health counterparts must understand the operational and fee structures of the respective agencies. Very often, with an eye towards economy, the temptation may arise to take back portions of a project (printing, final art work, data processing, etc.) if an analogous function exists within the DOH structure. Unless agreement is reached regarding such matters at project onset, this will surely cause delays, if not breach of contract.

- Private sector agencies should be fully briefed on goals of the project as well as the project's management structure. Social marketing is often a new concept to private firms. But once they understand how much commercial marketing has to offer the public interest, they can become strong allies in these efforts.

- The Department of Health may interpret subcontracts with outside organizations as a slight to their capabilities. Professional pride can be preserved if those involved understand that their role is a management one and requires special expertise.

Creative and Technical "Messages"

- Child survival messages must be acceptable to both mothers and physicians. Products must also satisfy both groups. When creating a product such as a new ORS package, it is important to test prototypes with mothers for comprehension and acceptability and with technical experts for correctness and acceptability.

- Direct observation of consumers using prototype materials in a field setting is an ideal protocol for materials development.

- Use of an artist on-site to listen to consumers' responses and make adjustments is invaluable in the design process.

- Ideally a disaster check should be conducted after all refinements have been made in a set of written or graphic instructions for consumers. Unfortunately this is a luxury even few commercial consumer products can undertake.

Postscript

Vida Suero has become available in several types of commercial outlets throughout Mexico. Among these are pharmacies, the Sanborn chain (department-style stores) in major urban areas, and smaller general stores in rural areas. *Vida Suero* sells in pharmacies at

a price of 900 pesos a package (about U.S. $.29). In addition, UNICEF took the extraordinary step of providing Mexico's Ministry of Health with two million ORS packets (at a cost of $.09 each) packaged in the *Vida Suero* design. UNICEF generally uses its own packaging.

As expected, however, the best laid plans encountered a few obstacles. *Vida Suero* did not immediately appear in the cooperative groceries as planned. A batch of the packages headed for free distribution at Ministry clinics—and labeled "not for resale"—arrived at CONASUPO shelves. CONASUPO management decided it would be clearly unethical for them to sell this product. The impact of the mix-up lasted for a number of months. In 1992, CONASUPO reached a new agreement with the government to distribute Vida Suero free of charge as a public service (and an incentive) to its customers. The government estimates that in 1993 a total of about 1,500,000 packets of ORS will be distributed through rural Conasupo stores.

NOTES

1. For further information, see "Final Report: Clinical Training Project for Administration of Oral Rehydration Therapy, Program of Prevention and Control of Diarrheal Diseases (PRECED)," by Martha López de Montero (Academy for Educational Development, 1987).

2. *Miriam: El uso Exitoso de la Terapia de Rehidratacion Oral* is a 23-minute training video produced by the Pan American Health Organization and the Academy for Educational Development, 1987.

3. For a further discussion of the challenge of public/private sector partnerships, see also Field Note No. 19, "Public and Private Sector Collaboration for the Commercial Marketing of ORS in Honduras."

4. The complete "Creative Brief for the Mexico ORS Product Identity Program" is available from the HEALTHCOM Project.

5. See Field Note No. 2, "Ethnomedical Research for Developmental Purposes," and Field Note No. 7, "From Idea to Mass Media," for discussions of the importance of understanding the terms and concepts used by mothers to determine when diarrhea is serious.

6. See also "How Much ORS Solution is Actually Administered During Home Based Therapy?" by Paul E. Touchette, John Elder, and Moises Naigel in *Journal of Tropical Medicine and Hygiene* 93:28–34 (1990) describing a HEALTHCOM behavioral study in Mexico.

(1989, with postscript added in 1993) Michael Ramah and Mary Debus are with Porter/Novelli.

21

Field Perspectives on an ARI Communication Pilot Program in Honduras

Patricio Barriga

WHEN POLICIES ARE EVOLVING

Child survival communication programs neither develop technologies nor set national health intervention policies—yet they must be based upon agreements regarding both. The experiences of the HEALTHCOM Project have shown that the position of a communication program in regard to approved technologies and case management protocols, as well as national policies, is complex.

To date, the evolving nature of international and national policies about control of acute respiratory infections (ARI),[1] for example, has meant that communication programs tread on precarious ground when they attempt to develop consistent, useful messages for caretakers. Communication programs must sometimes wait for protocols to be agreed upon by the medical community.

On the other hand, ARI is a major, if not the chief cause of child mortality in many developing countries and ministries of health consider this area a high priority. Approximately four million children die each year from ARI, accounting for approximately 25 to 30 percent of deaths among children under five throughout the world. The great majority of these deaths could be prevented through proper recognition of symptoms and timely treatment.

The example of ARI illustrates how a communication project can assist in conducting audience research and sometimes pilot studies regarding child survival technologies for which policies are in their infancy.

Proper case management of ARI relies first upon recognition of symptoms—requiring the mother or other caretaker to be a diagnostician. Educating the caretaker requires an understanding of prevailing practices, traditional beliefs, and local terminologies. Every communication program begins with an investigation into the current beliefs and practices of the target audience and into potential keys to motivation or resistance. Because of its emphasis upon the client and upon actual behaviors, then, a communication program can be a logical partner in helping provide the groundwork for correct case recognition, timely management and referral, and other aspects of the "demand side" of potential ARI interventions. It can also improve communication between health providers and their clients and serve as a catalyst for policy discussions.

Proper case management of ARI relies upon recognition of symptoms.

The HEALTHCOM Project has been active in conducting research about what mothers presently do to treat respiratory infections among their children and what local terms they use to discriminate among different conditions. In addition, the project has conducted a pilot study in Honduras to investigate the effectiveness of different strategies to improve selected practices, through a program of community education and health worker training. This field note describes that experience.

ARI IN HONDURAS

In Honduras, acute respiratory infection became the leading cause of death among children under one year of age in 1987. One third of total deaths of children under five are due to acute lower respiratory infec-

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tions, or pneumonia. A Honduran child suffers an average of five to seven ARI episodes per year, and 30 percent of all cases treated at hospitals are related to ARI. In a Honduras Nutrition Survey conducted in 1987, 70 percent of 3,406 mothers surveyed said one of their children (under five) had experienced an episode of ARI in the 15 days preceding the interview.

In Honduras, acute respiratory infection became the leading cause of death among children under one year of age in 1987.

The Ministry of Health recognized the seriousness of this problem and undertook a program to control acute respiratory infections among those most at risk: rural and marginal urban children under five, and particularly those under one. Initial steps included the training of staff and provision of medicines and equipment to hospitals and other health care institutions. The next step was to launch a community education component.

In 1986 the Ministry asked the HEALTHCOM Project to assist in developing an ARI communication strategy to train health personnel and educate mothers. The plan began with a rigorous assessment of current beliefs and practices regarding ARI among mothers as well as health personnel. It progressed to a pilot intervention with plans for expansion to the rest of the country. (See Postscript.)

Research Based on Behavioral Targets

Children in developing and developed countries alike are prone to multiple respiratory infections in their early years. Unlike many other diseases, incidence of ARI is relatively similar among populations in vastly different environments. Mortality, however, varies dramatically. Successful treatment requires appropriate behavior on the part of both the family and the health system. The Honduran Ministry of Health defined the goals of its ARI program as follows:

- teach the caretaker (usually mother) to recognize symptoms of mild illness and care for the child at home properly from the onset;
- teach the mother to recognize the benefits or harmfulness of key practices;
- teach the mother the warning signs of worsening illness, to seek help immediately, and not to medicate the child herself;
- assure that health providers use medications appropriately and not indiscriminately.

This strategy aimed to reduce the number of cases that progressed from mild to severe, as well as the number of severe cases that resulted in death—often before reaching the health system.

To teach potentially new behaviors, however, the program needed first to discover what caretakers currently recognize, believe, and do. Important questions about mothers' knowledge and practices included:

- What is the popular vocabulary mothers use to describe conditions that the biomedical community classifies as ARI?
- What kind of signs and symptoms do mothers recognize for mild and moderate infant ARI?
- How do they treat mild/moderate ARI?
- Which signs of severity do mothers recognize?
- How do they treat severe ARI?
- How do they feed infants who have ARI?
- Whom do they consult when a child has ARI?

Further important questions related to the beliefs and practices of a range of health care workers consulted by mothers.

The HEALTHCOM communication methodology bases decisions and plans on reliable, current information about target audiences. The project conducted several investigative research activities for the design of the ARI communication strategy. They included:

- qualitative research (ethnographic research—both in-depth interviews and observations—focus groups, and health worker interviews);
- quantitative survey (mothers and health personnel);
- preference study (mothers' practices).

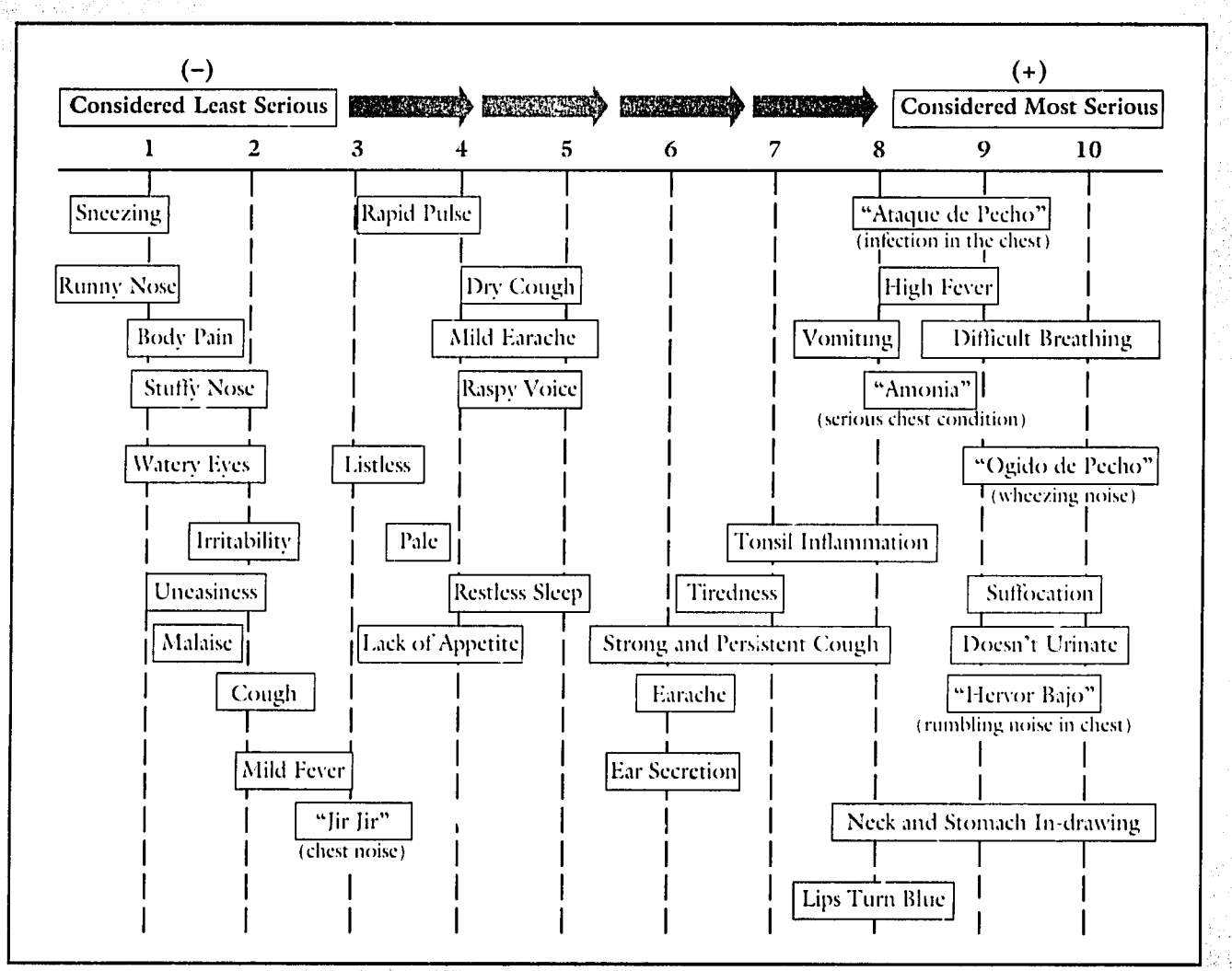
Ethnographic Research

The ethnographic research was carried out over a period of six weeks in six culturally different communities with a total of 85 informant mothers and 39 health workers. The study used two main instruments: the open interview, which allowed the researcher to go as deeply as necessary into the topic; and direct observation, which permitted identification of actual behaviors. In this way the Ministry was able to establish a popular taxonomy for ARI consisting of terminology used by mothers themselves.[2] Figure 21-1 shows the great variety of symptoms identified by mothers, ranging from those perceived as least serious to those perceived as most serious.

The taxonomy revealed a surprising commonality of terms and symptoms identified by women in different

FIGURE 21-1

Results of infant ARI ethnographic research: symptoms identified by mothers



N = 85 mothers

*** Generally not considered to be ARI symptoms**

regions and revealed useful parallels with the current medical classifications. The ethnography also investigated what mothers believed were the causes of ARI, what they did at different stages, and whom they consulted.

Several important findings emerged at this stage. A high percentage of mothers recognized mild fever, whininess/lack of energy, and runny noses, as early symptoms of illness. Many applied some kind of home treatments. These included analgesic tablets, herb teas, corn-flour drinks, and often the rubbing of several kinds of oils, greases, and alcohol on the forehead, neck, and thorax. However, some women interviewed thought that a runny nose and cough were "normal" and stated that "the child was born with a cold." Mothers tended to consult with traditional healers, older neighbors, and pharmacists before consulting physicians. In general, mild ARI was treated at home with support from the extended family and community.

As a case worsened, a mother's tendency to consult someone in the community increased. For a case of persistent cough, mothers went to relatives, a godmother, neighbor, or "someone who knows about herbs." For an infection attributed to "frightening" or to an "air injury," mothers would visit a traditional healer (or herbalist). When a child had "acute chest" or "bronchitis," mothers looked for someone who could give an injection. They also

tended to use several popular products such as antitussives and expectorants, and also self-prescribed antibiotics.

In general, mothers' reliance upon their own remedies or advice of neighbors in the early stages of respiratory illness was encouraging.

However, the notion that the persistence of symptoms can be "normal" is dangerous, and many mothers lose valuable time when a case becomes severe. The most dangerous practices highlighted by the research were mothers' tendencies to consult the formal health system either too late or not at all and their use of inappropriate or mis-prescribed medications.

Focus Group Research

The project conducted 31 focus groups to identify home treatment and feeding habits during children's ARI episodes. These 305 mothers confirmed findings from the ethnography and contributed important information about nutrition.

Almost all informant mothers, both in the ethnographic study and in focus groups, reported that some types of foods would be eliminated from an infant's diet during an episode of ARI. The mothers basically withdrew food staples that they understand as belonging to the "cold" food group. Among these are beans, rice, avocado, oranges, lemons, grapefruits, butter, and in some cases fish, pork, and beef. They would systematically stop giving these foods when the child showed any kind of ARI symptoms. They also withheld some low temperature foods such as ice cream and cold beverages.

The mothers basically withdraw food staples that they understand as belonging to the "cold" food group.

The discontinuance of nutritious food during an ARI episode is a particular concern. Malnutrition and basic impoverishment in the target population already puts these children at high risk for complications. Reduction of breastfeeding can be a direct if unintended consequence of a stuffy nose, and early weaning—compromising nutrition and immunity—can result.

The study additionally revealed the pervasiveness of giving *chupón*, or a cloth soaked in honey and oil, to newborns as a purgative or for other purposes, also undermining a child's resistance. A considerable number of mothers treated coughs and difficulty in breathing by feeding the child (often by force) animal and vegetable oils, or introducing mineral oils into the nose—a practice that can lead to hydrolytic pneumonia.

All of these practices indicated the importance of nutrition messages in a communication plan targeted at mothers.

Interviews with Health Personnel

The qualitative research included interviews with 84 health care providers representing the range of services used by the target audience. In Honduras there are two types of health care centers besides the hospital: the *Cesamo*, which is fairly centrally located and is served by a physician, and the *Cesar*, located in more remote areas (up to two hours distant from those it serves) and run by one or two auxiliary nurses. The target group relied as well upon *guardians*, or community workers, and traditional providers such as midwives (*parteras*), masseurs (*sobadores*), herbalists *curanderos*), and injectionists. The survey included all of these providers.

Providers in the formal sector were knowledgeable about the symptoms and treatment of ARI, with a few notable exceptions. One of the most striking findings from these interviews was that health workers' knowledge and case management skills were in many ways similar to those of mothers in their communities. Barring physicians, many of the providers (auxiliary nurses, *guardians*, midwives, etc.) supported the common practices of feeding different oils and also withholding "cold foods." In addition, those who had access to antibiotics tended to use them regardless of the severity of a child's symptoms. Many health care providers also recommended extended use of expectorant syrups and antitussives.

The provider surveys and the caretaker studies also asked questions about the quality of interactions between the two groups. In general, mothers who visited traditional healers of some kind knew what treatment they sought and said they were satisfied with the service. Relations between health centers and their clients were more ambivalent. The studies revealed typical areas of tension: mothers often thought health workers were overwhelmed or inattentive; physicians often thought communities had insufficient regard for their own and their children's health needs.

Thus any strategy to improve the mutual support and regard of client and service provider for each other could only increase the chances that children would be treated in a timely manner.

Quantitative and Preference Studies

A quantitative survey of 851 mothers asked questions based upon the terminology identified by caretakers in the ethnography and provided statistical data on specific practices and beliefs. It also gathered information about the target group's level of education, literacy, median income, community networks, and access to radio.[3]

The last element of the research was a behavioral preference test to find out what mothers did or would be willing to do about runny/stuffy noses—one of the early symptoms of ARI but a potentially dangerous one due to its effect upon an infant's ability to breastfeed.

THE ARI COMMUNICATION STRATEGY

The program designers compared behaviors observed among mothers and health workers with the lists of ideal ARI-related behaviors as specified by pediatricians and by the ARI norms of the Pan American Health Organization (PAHO). This helped identify which current behaviors to support, which ones to try to modify, and which new ones to introduce. This identification of behaviors became the basis for the communication plan and for designing graphic materials, radio spots, and training courses.

The ARI communication plan outlined targeted messages and strategies for their dissemination.[4] It also included the management, logistic, and financial elements of the pilot project.

Selecting Messages

The thrust of messages to parents was to teach symptom recognition and a simple, appropriate response to illness: when to treat at home and when to seek help from the clinic or a private physician.

The basic ARI symptoms and cues for treatment outlined for mothers were as follows:

CUE to begin child care at home

- Runny nose
- Cough

CARE for child at home means

- Give a lot of liquids
- Continue with feeding
- Continue with breastfeeding
- Clean the nose
- To lower fever, apply lukewarm compresses

CUE to seek help

- Persistent cough
- High fever
- Difficulty breathing
- Pus and pain in the ears

If child gets WORSE

Take child to the health center or private physician.

Graphic Materials and Radio Spots

The project's communication strategy combined face-to-face interaction between mothers and health workers with print materials and radio spots. The materials were designed to support health worker communication with mothers, provide caretakers directly with information about ARI treatment, and reinforce appropriate behaviors. Among these materials were the following:

- **Flipchart**—to be used in the health center. The collection of 24 cloth panels contained the basic ARI messages and related information. The flipchart was a teaching aid for health workers to help them explain new material to mothers.
- **Brochure**—for mothers, distributed at the health center. The eight-page comic book style handout contained illustrations and simple story/text conveying the basic ARI messages.
- **Fact sheet**—for health personnel. The communication strategy was described as well as the main messages regarding ARI to be conveyed to mothers.
- **Calendar**—for mothers. Conveying the basic ARI messages.

A comic-style brochure explained the hard-to-recognize symptoms of serious respiratory infections in simple terms.

• **Radio spots**—(30 seconds each). Described ARI risk factors, provided treatment instructions, and reminded mothers which signs warrant taking the child to see a physician.

• **Printed handkerchief**—for mothers, given out at health centers. Displayed the ARI logo reminding mothers to clean a child's stuffy nose to help him or her breathe and eat.

This combination of media and materials was designed to convey consistent messages based upon the cues/symptoms that the research showed mothers recognized.

Health Worker Training

The communication strategy was largely focused upon teaching and motivating mothers to bring sick children to the health center in a timely manner. Training of health personnel to respond appropriately, and also to be a part of this teaching and motivating process, was an important part of the intervention.

Health center staff learned the same series of symptoms and cues taught to parents. Simply put, the message was as follows:

Mild case Recognize symptoms,
Treat at home.

Severe case Recognize symptoms,
Take to clinic or private physician.

While health workers were trained to communicate the basic educational messages about ARI and its treatment, the program also put emphasis on improving the quality of the basic *charla*, or health talk. The goal was to encourage positive interaction between health workers and mothers and to create a supportive atmosphere. Workers learned to use participatory teaching methods and the print materials specially designed for these talks. The educational principles emphasized were to:

- Ask questions
- Answer questions
- Personalize the message
- Instruct
- Demonstrate
- Provide practice
- Give feedback
- Reinforce
- Use the flipchart
- Distribute print materials.

The health workers learned to use a skills-oriented approach as opposed to the usual didactic approach to health education. They encouraged mothers to practice answering questions and demonstrate new practices. Radio programs were also targeted at health workers to reinforce their involvement.

Training for health workers included use of a new flipchart to engage mothers in discussions about ARI. (The cover of this volume of field notes features its opening panel.)

A handkerchief with the program's logo was a popular prize at health centers (to mothers if not their infants!)

Motivating Learning

The pilot project culminated in a simple motivational event to encourage mothers to learn the ARI messages and practices. This included an educational quiz game at the clinic and a lottery. On a specified day, announced over the radio in some regions and via trucks equipped with megaphones, the health centers held a special contest or *sorteo* to reinforce mothers' new knowledge and skills. What was basically a health education activity thus also

became a community activity that attracted the attention of the general public and of parents who might not otherwise have visited the clinic.

After a health talk and demonstration, individual mothers were asked four questions on ARI in front of the group. If their answers were correct, they were applauded and entered into a drawing for a prize. All mothers who demonstrated their understanding of the new messages received a small prize such as the ARI calendar, the ARI handkerchief, or food staples from the complementary feeding program. During the lottery event, mothers were given the opportunity to practice new behaviors such as nose cleaning.

Results of the Pilot Study

The Ministry of Health selected eight health centers in four regions (five *Cesars* and three *Cesamos*) to participate in the entire intervention including health worker training, clinic lotteries, and supporting media materials/activities.[5] Researchers visited the participating clinics pre- and post-training to observe health worker communication skills and measure changes in mothers' knowledge of ARI through a brief interview before and after a health education session. The observers also went into the community and requested short interviews with approximately 20 women to assess whether information had spread informally to others who had not attended the clinic sessions.

Measurements of about 15 teaching techniques showed marked increases in health worker communication skills as a result of training. In addition, results of pre- and post-tests with 452 mothers suggested that the new health talks were delivering more information on ARI in a more interactive way than previous sessions at the clinics.

Measurements of about 15 teaching techniques showed marked increases in health worker communication skills.

The other intended result of the communication strategy was for information on ARI to reach mothers in the community. Planners did not expect a dramatic jump between the baseline and post-intervention measurements because they focused on a secondary audience and word takes time to spread. However, community awareness of ARI symptoms and management did in fact show

Health centers held special educational contests complete with a grand prize—a basket of groceries.

an increasing trend during the observation period. This suggested that mothers coming from the clinics were talking about what they had learned and perhaps were showing neighbors the print materials distributed at the ARI education session.

ARI Program Policy Issues

Developing a pilot ARI communication plan in Honduras was a learning experience in many respects. Both methodology development and institutionalization required intense attention since ARI is a new area for social marketing efforts.

The relationship among international institutions was also particularly challenging since technical agreement regarding ARI audience messages is still evolving. While PAHO in Washington was very supportive from the beginning, PAHO in Honduras was less enthusiastic about the project's effort to design an ARI communication strategy.

Later the program learned that PAHO had a long history of trying to update the Honduran ARI norms but progress was slow—which accounted for their lack of enthusiasm. Since then, PAHO has provided short-term consultancies to assist the ARI program.

UNICEF was not involved in technical aspects of the ARI program, but provided logistical and funding support to the effort.

The main difficulties confronted by the project would most likely be common to any communication program attempting to address a relatively new public health target. In Honduras, these difficulties included:

- less than optimal communication on policy questions among participating parties (USAID, UNICEF, PAHO, and the Honduran MOH);
- lack of sufficient technical leadership;

• competition among child survival programs for the use of available resources (funds, vehicles, installed hardware, etc.);

• difficulty in gaining access to primary health care personnel (sometimes too busy participating in other types of training and research activities considered to be higher priorities);

• lack of appropriate research skills for developmental investigation and inexperience in using data as a guide to decision making.

Other factors were favorable for the development of an ARI communication plan. These included:

• previous successful experience of the MOH in the development of a communication plan for another intervention (control of diarrheal diseases);

• presence of a supportive core group including physicians and communication specialists;

• support from the MOH political level;

• availability of financial resources;

• basic MOH openness to try out new approaches;

• development of a learning community approach as a design and implementation mechanism.[6]

The process of planning and testing the communication plan met with institutional fears and professional reluctance. ARI is a new area for the application of systematic health communication, so the learning process has not always been easy. The reward, nevertheless—the prevention of countless numbers of infant deaths due to ARI—is well worth the work.

POSTSCRIPT

Insights gained from the pilot study described here assisted in the design of a nationwide ARI intervention combining training of health care workers, health education specialists, and development of educational materials—including radio and television broadcasts.

The most important prelude to the new strategy was reformulation of the country's ARI norms. Over the course of several months, the Honduras Ministry of Health completed this process with assistance from Management Sciences for Health (through A.I.D.'s Health Sector II Project) and in consideration of the World Health Organization's latest recommendations. Technical agreement provided a basis for developing training curricula for health workers, as well as a clear foundation for messages to parents.

A quantitative knowledge-attitude-practice-behavior survey provided further information for the development of messages and a baseline for evaluation purposes. The survey was carried out in the spring of 1992 in three health regions among 239 mothers having children under five who were sick with ARI. Exit interviews at health facilities were conducted with 171 treatment seekers. Household interviews were held with 68 mothers who had not taken their child to a health facility.

All information has pointed to the importance of mothers recognizing the early symptoms of respiratory illness severity. The most important of these is fast breathing; another is chest-indrawing. However, mothers are not accustomed to looking for these signs.

The **central** message of the intervention focuses on **cough**, a symptom common to all respiratory infections which is easy to recognize. Mothers are told always to watch a cough carefully. If the child is breathing rapidly or if his or her chest is drawing in, the child should be taken to a health center immediately. These symptoms are associated with "pneumonia." Honduran mothers understand that the term indicates a serious condition and requires help from a health professional. Two radio spots and one or two television spots are being created on this theme.

The central message is summarized in a rhyming jingle, which will introduce each radio or television spot:

Si su niño esta con tos
Ponga mucha atención
A su respiración

When your child has a cough
Pay close attention
to fast respiration.

The program developed a special approach to deal with the fact that mothers commonly go to the local pharmacy or general store for a variety of childhood ailments, in particular fever, and buy acetaminophen (and less often aspirin). A poster is being prepared for these outlets. It reminds mothers once again to watch a child closely who has a cough. If he or she is breathing fast, the child is seriously ill and should be taken to a health professional.

The nationwide intervention also tells parents how to treat upper respiratory infections. These messages likewise focus on cough as the central symptom. Parents are told that a cough or common cold that is not accompanied by the dangerous symptoms can be treated at home in three ways:

- Clean the nose with two drops of camomile tea,
- Continue to breastfeed,
- Give extra liquids.

Two radio spots will deliver these messages. In addition, the Ministry of Health is creating a pamphlet to give mothers who come to the health center with a child who has a common cold. The pamphlet explains the above treatments, reassures parents the child is not seriously ill, but warns them to watch for the danger symptoms if their child has a cough.

All training of physicians, nurses, and health workers has been completed throughout Honduras through a cas-

cade system descending from the national, to the regional, to the local level.[7] Nationwide broadcasting will begin in the third quarter of 1993, and an evaluation of program effects will follow.

CONCLUSION

The pilot of the communication strategy in Honduras demonstrated how audience research can help position a seemingly complex child survival problem so that it is understandable to parents. It also demonstrated how demand creation activities, including training and measurement of specific behaviors, can be used to pilot-test messages.

Although a communication program must never proceed faster than relevant child survival technologies or norms, it can work as a partner in laying the groundwork for effective interventions. It can serve as a catalyst for the development of policies and training programs—aspects of the health delivery system that in turn provide a foundation for communication activities.

NOTES

1. The term "acute respiratory infection," or ARI, includes both upper (URI) and lower tract infections (LRI). Acute lower respiratory infection (ALRI) includes pneumonia, bronchiolitis, croup, and bronchitis. Because these last (in particular pneumonia) account for the majority of deaths, ALRI is often addressed specifically. For a discussion of changes in terminology and recommendations for management of pneumonia, see the World Health Organization publication, "Acute Respiratory Infections in Children: Case Management in Small Hospitals in Developing Countries: A Manual for Doctors and other Senior Health Workers" (Geneva: WHO, 1990). See also the WHO publication, "Supervisory Skills: Management of the Child with Cough" (Geneva: WHO, no date).

2. See also Field Note No. 2, "Ethnographic Research for Developmental Purposes," for a description of how mothers' own terms were investigated as a basis for developing diarrheal disease interventions in Africa.

3. Questions regarding ARI were also added to a quantitative survey conducted by the MOH and HEALTHCOM subcontractor Applied Communication Technology in the same year. For a discussion of issues encountered in the design of questions for mothers on this subject, see Field Note No. 3, "Developing a Questionnaire for an Acute Respiratory Infection Pilot Study."

4. Details about the ARI pilot study are available in "The Contribution to the Ethnographic Research of the ARI Communications Plan," by Patricio Barriga and Bernardo Marinez (Ministry of Health, Honduras, 1987), and "Communication Plan for the Program to Control Acute Respiratory Infections: 1987-1989," by Dr. Ana Lucila de Aguilar, Nora Quiroz de Noren, and Hector Rene Espinal (Ministry of Health, Honduras). Both are available in English and Spanish from the Academy.

5. Details of the behavioral study were published in "La Experiencia Hondureña en el Control de las Infecciones Respiratorias Agudas Infantiles," by John Elder, Peter Boddy, Patricio Barriga, Ana Lucila Aguilar, and Hector Espinal, in *Boletín de la Oficina Sanitaria Panamericana* 110 (5): 390–401 (1991). English translation available from the Academy.

6. See also Field Note No. 23, "The Learning Community as a Management Approach."

7. Training has been conducted by the Ministry of Health with assistance from Management Sciences for Health.

(1989, with postscript added 1993) Patricio Barriga was with HEALTHCOM/Honduras and is now with A.I.D.'s Nutrition Communication Project, Honduras. Information for the postscript was provided by Orlando Hernández, with the Academy for Educational Development in Washington, and José Ignacio Mata, consultant to the Academy with the Honduras Ministry of Health. In carrying out the pilot study, HEALTHCOM worked in collaboration with the Divisions of Epidemiology and Education of the Ministry of Health and the General Directorate of Health. Other participants included the Divisions of Human Resources, Maternal and Child Nutrition, the Science and Technology Research Unit, and the programs for EPI and CDD. The author wishes to acknowledge his many counterparts in Honduras who carried out the work of this study. Portions of this field note were presented to a workshop, "ALRI and Child Survival in Developing Countries: Understanding the Current Status and Directions for the 1990s," sponsored by the Agency for International Development on August 2–3, 1989. The proceedings of this workshop were published by and are available from The Johns Hopkins University, School of Hygiene and Public Health, Baltimore, MD. Results of the behavioral study were also summarized in those proceedings under the title, "Behavioral Research in the Development of ALRI Communication Strategies," by Judith Graeff, HEALTHCOM.

Part F

Management for the Long Term

(Management through consensus, Honduras)

Communication and social marketing are themselves management tools. They help balance costs and benefits from the client's point of view, and keep watch on the utility of products and services designed to benefit those at risk. But few health program managers are familiar with the steps of this methodology and few socially-oriented organizations have staff with the required skills. Furthermore, a single campaign conducted by outside technical experts may succeed only in syphoning funds and energy from the regular service structure. Institutionalizing capacities in local groups is vital. The partners necessary to this approach are numerous—from policy makers to community networks. Consensus building should be the guiding principle. Different environments require, or allow, different points of entry and management approaches. Sometimes the considerable persuasive tools of social marketing must be aimed at bureaucracies to demonstrate that the "product" can produce results.

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Participatory Project Design:

The First Step in Sustainability

Joan Schubert

A Sense of Mutual Ownership

For a development project of any kind—whether child health, agriculture, or basic education—"getting started on the right foot" means building consensus regarding goals and methods among diverse individuals and groups. A fundamental sense of cooperation and mutual ownership is the key not only to planning and carrying out initial activities, but also to the eventual sustainability of a project at any level. Although the process of involving groups with varying needs and expectations can seem to create extra work and even to impede progress at times, it is really the only route to long-term success.

How does one bring together strategic players who have different impressions of what a development project has to offer? How does one assure that the grass roots perspective is not lost in an effort to build agreement among high-level donors and government officials? How does a project engage participants from the national, regional, and community levels in the common task of preparing a project implementation plan that satisfies a wide range of needs and yet simplifies and clarifies the task at hand? Is it possible to create a sense of project ownership when the institutions that are directly and indirectly involved are separated by thousands of miles and have few real opportunities for interaction or collaboration?

These were some of many challenges facing the design of the HEALTHCOM Project in Zaire. This field note explains the logistical, socioeconomic, bureaucratic, and health care environment in which the project was initiated and the approach taken by the resident adviser to bring about cooperative activities.

As a communication project, HEALTHCOM supports ministries of health in applying social marketing principles and techniques to products and services associated with priority health concerns. In Zaire, assistance was originally provided through one resident adviser (for two years); seven months of short-term technical consultancies; and training in health communication for project counterparts and health professionals at the national, regional, and zonal levels. The project was asked to address a range of child survival issues, from AIDS to immunization.

Zaire—Special Challenges

Consensus building in the Zairian context presents challenges typical of, and in some ways exceeding those, of the average development project. Geographical and logistical factors alone create imposing barriers. Zaire is the third largest nation in Africa with a land area of 2,344,932 sq. km., or approximately that of western Europe. The country is divided into four geographical regions including a vast low-lying central area that is surrounded by mountainous terraces in the southwest, plateaus merging into savannahs in the south and southeast, and dense grasslands in the northwest. High mountains enclose the country in the northeast where altitudes are as high as 5,000 meters.

The difficult terrain is not matched by suitable transportation or communication infrastructures. Travel overland between major Zairian cities is virtually impossible, particularly during the rainy season. Even transportation of basic foodstuffs such as corn can be blocked for months due to poor roads or irregular train schedules. Travel by plane is not an option for the average Zairian. Telephones work at best sporadically and even the telex services have been known not to work for weeks at a time.

During the first year or more of the project, distribution of local newspapers in Lubumbashi was closely monitored by the government and copies were not always available due to lack of ink. Some radio and television work is carried out locally but most programs are produced in Kinshasa. In spite of the fact that over 200 ethnic groups are represented in Zaire, television and radio production is conducted exclusively in the five lingua franca—French, Lingala, Kikongo, Tshiluba, and Swahili. In the Shaba region, programs are broadcast in French and Swahili. Although reception of national broadcasts throughout the country is relatively good, access to local programs is limited in the regions.

With an estimated population of 33.3 million people belonging to dozens of ethnic groups, Zaire is multicultural and multilingual. It is also a poor country, and the relatively low literacy rate (20 percent) and low annual income (about U.S. $160 per year) contribute to the isolation of different groups. Approximately 70 percent live in rural areas. The persistence of local traditions, combined with varying economic and geographic conditions, means that public health realities must be defined from community to community.

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The Advantages of Decentralization

The size and diversity of Zaire undermines the workability and relevance of any top-down or centrally-driven health care system. While national health goals for combatting particular diseases help focus energy and funds, plans inevitably must be tailored for different regions and different communities. In 1981, the Government of Zaire formally adopted primary health care (PHC) as the basis for the national health strategy, which included the promotion of a decentralized health care system.

Although many health facilities are government-run, most are funded by international donor agencies and an extensive network of private voluntary organizations (particularly religious missions) that relies primarily on health centers and village-level health workers.

The first five-year National Health Plan (1982–1986) established the policy of decentralized health care by mandating the creation of well-defined rural health zones. The purpose of health zones is to coordinate and standardize the administrative and technical supervision of all health services within specified geographic areas and to ensure coverage of the population with preventive, promotive, and basic curative services. Dispensaries (which typically offer curative services) are to be transformed into health centers with functioning primary health care programs. The plan proposes that every year three dispensaries in each operating health zone become health centers.

By 1991, approximately 300 health zones were to be operative in Zaire. Within these zones, approximately 70 percent of the population should have access to primary health care services. Each health zone has a reference hospital (which includes the central office for the zone), one to three reference health centers, and 15 to 25 basic health centers which serve between 3,000 to 10,000 people.

Each health center serves five to ten villages with populations of 400 to 2,000 per village. The health center is the focal point for the health zone infrastructure. Approximately 90 percent of health problems can be treated there. Health centers are staffed by at least one nurse and several aids who are responsible for providing basic primary health care services and for supervising community-based activities within the catchment area.

Because of the emphasis in Zaire on community participation in primary health care activities, most rural health zones have encouraged the creation of voluntary village development committees.

Members of these committees are generally trained and supervised by the health center staff. They have specific roles such as health education, the promotion of environmental sanitation, water source improvement, encouraging the use of maternal and child health services, and selecting and training village health workers.

What About Health Education?

Due to the decentralized nature of health services in Zaire, the Ministry of Public Health has adopted a flexible approach to enforcing policy with respect to different health issues. On the one hand, the Ministry would like to diffuse essential messages nationally. However, the chief medical officer for an individual health zone often determines the most appropriate approach to take given the particular circumstances of an area. This fact has broad implications for health education in Zaire, and puts it in contrast to may countries where national policy is paramount.

At the national level, the Ministry of Public Health is divided into a number of technical units responsible for matters such as family planning, nutrition, AIDS, and basic rural health. Another institute addresses the establishment of quality PHC in rural areas.

All of these units are located in the capital, Kinshasa. Each unit tends to take care of its own information, education, and communication (IEC) needs. An umbrella structure within the Ministry coordinates all health planning and health education activities nationwide. Fonds National Medico-Sanitaire (FONAMES), or The National Medical

and Health Bureau, monitors all of the IEC components of the technical units. However, even at this level, trained staff to plan and coordinate IEC activities are lacking. (The exception may be the Family Planning Services Project, which has four full-time Zairian IEC technicians and a coordinator.)

At the regional level, health education units as such do not exist. Although the regional Programme Elargi de Vaccination (PEV) offices and UNICEF carry out periodic work with the mass media and can organize campaigns, personnel are not available to do this work on a regular basis. Rather, health education planning generally occurs on a zone by zone basis and is the responsibility of the zonal chief medical officer and his staff.

In theory, this decentralization of IEC activities increases the likelihood that messages and materials will be appropriate to local populations. However, it also makes sharing of skills, ideas, and resources difficult. Without adequate staff and training, many zones conduct little or no health education.

Health education of any kind in the intervention area has been rare.

Without adequate staff and training, many zones conduct little or no health education.

Multiple Goals, Complex Teams

When the HEALTHCOM Project was initiated in Zaire in August of 1988, the Ministry requested that activities be conducted at the national, regional, and zonal levels. The project was officially attached to FONAMES and assigned a counterpart from that institution. The health themes to be addressed were extensive: vaccination, diarrheal disease, malaria, family planning, nutrition, water and sanitation, and AIDS. Given the decentralization of Zaire's PHC system, and in particular its health education efforts, the breadth of this assignment was sobering.

The project was asked to assist in strengthening national health communication planning at FONAMES and to work with the new School of Public Health and other nationwide health projects to strengthen their training efforts. At the regional level, the project was asked to assist in developing model health communication programs by working closely with other projects in the target region of Shaba. At the zonal level, the project was asked to demonstrate how chief medical officers and health education personnel can produce effective small-scale health education programs by capitalizing on existing means of communication such as traditional theater and interactive radio broadcasts.

The project, led by a single resident adviser, was set up to collaborate with a number of programs and projects whose activities are coordinated by FONAMES. These included the Programme Elargi de Vaccination/ Combatting Childhood Communicable Diseases (PEV/ CCCD) Program, a government-managed, USAID-funded national program that addresses vaccination, diarrheal disease, and malaria. The Basic Rural Health Project (SANRU), also funded by USAID, focuses on the development of rural health zones including training, technical advice, and construction/renovation. It provides financial support to health centers and health zones as well as to regional and national supporting services, stressing financial and program management, logistic support (especially for pharmaceuticals), and regular statistical reporting.

Other USAID-funded collaborating groups include Le Project des Services des Naissances Desirables (PSND) or Family Planning Services Project, the School of Public Health (SPH) in Kinshasa, and the PRICOR (Primary Health Care Operations Research) Project. Le Bureau Centrale de Coordination pour la Lutte Contre la SIDA (BCC) or National Coordinating Unit for AIDS activities, was also an important planner with the project. Most of these groups—PEV/CCCD, PSND, BCC, and SANRU—have IEC units that are generally responsible for planning, training, and some materials development work.

The HEALTHCOM Project was thus mandated to operate at multiple bureaucratic levels in a health care system characterized by regional autonomy, to address communication/education needs regarding multiple child survival technologies, and to cooperate with numerous partner groups. The need for consensus building in project planning was quite apparent. So too was the magnitude of this challenge.

GOALS AND REALITIES

The Ministry agreed that the project office should be located in Lubumbashi, the capital of the Shaba region, approximately 1,250 miles from Kinshasa near the Zambian border.

This gave the resident adviser reasonable proximity to two pilot health zones selected as starting points for intensified efforts in the Shaba region—Kabongo, a rural health zone situated 560 miles north of Lubumbashi; and Ruashi, a semi-urban zone associated with the University of Lubumbashi and located approximately three miles south of the city.

The prospect for institutionalizing a systematic approach to health communication in Zaire was deemed most promising at the regional level where HEALTHCOM was to work directly with PEV, UNICEF, local health workers, and mass media technicians.

By proving program effectiveness in the two pilot zones and providing training programs and regular technical assistance in the HEALTHCOM methodology to key groups and individuals, it was hoped that other areas of the country (assisted by FONAMES, PEV, and SANRU in particular) would plan and carry out similar health education programs.

The State of IEC

When the resident adviser arrived in Lubumbashi in August 1988, she found limited health education materials available for use by health workers or clients. A number of print materials had been produced at the national level particularly by SANRU, PEV, and CEPLANUT (the nutrition branch).

Most of the material was geared towards health workers rather than parents and was in French.

Although SANRU materials seemed to be relatively well distributed, PEV and CEPLANUT materials tended to be in very short supply in the regions. PEV/Kinshasa had recently begun some limited work with mass media, including radio and television spots on vaccinations, that were being diffused nationally. At that time, no materials were being produced in the Shaba region that specifically addressed local beliefs or health practices.

No materials were being produced that specifically addressed local beliefs or health practices.

Available Resources

Organized health education infrastructure and programs were lacking in the pilot zones and in the region as a whole. UNICEF had attempted to address the lack of a regional IEC capacity by forming a Social Mobilization Team in Lubumbashi. The fledgling group was composed of about a dozen health professionals (such as clinic supervisors and nurses) and media professionals from the local press and the radio/television studio who hoped to forge health communication strategies and community participation in Lubumbashi.

The Social Mobilization Team had just completed their first training activity and were in the process of deciding on team priorities and functions when the HEALTHCOM resident adviser arrived.

Although a counterpart at FONAMES was assigned to the project in August 1988, by late September he received a scholarship to study abroad. Because of limited funds in the IEC department at FONAMES, it was uncertain if a replacement would be identified. Later, a counterpart was assigned at the regional level in Lubumbashi; however, he already had a full-time job as the regional medical coordinator for PEV.

At the zonal level, the project worked with the chief medical officers who were likewise extremely busy with their regular jobs. Although interest in the project was quite high, regular collaboration was therefore obviously extremely difficult.

These problems were in some ways typical of HEALTHCOM sites. A resident adviser more often than not assists a health education unit that has limited staff, limited training and funds, and unwieldy responsibilities. Counterparts have overburdened agendas and are often transferred during the course of the project. In Zaire, however, the project was also faced with an enormous scope of work combined with extraordinary communication obstacles.

Contact between the project office in Lubumbashi and both Kinshasa and Washington was very difficult and sometimes impossible for periods of days or weeks. In emergencies, the most reliable means of communication involved a four-hour drive to neighboring Zambia where telephone and telex systems were more predictable. Communication with the Ruashi pilot zone was relatively easy given that it was a ten-minute drive from Lubumbashi. Radio messages to the second pilot zone, Kabongo, were possible via one of the USAID roads projects in Lubumbashi. However, travel to the zone required a two-day trip by four-wheel drive vehicle, weather permitting. Travel became particularly difficult after the project vehicle was stolen—a not uncommon misfortune. Political unrest added to the precariousness of travel.

Money was invested in the project by four different USAID-sponsored groups, three of which were located in

Kinshasa and each of which had special needs and interests. As a result, pressure was especially high to respond rapidly to a range of concerns from several groups at several levels.

PROJECT DESIGN STRATEGY

Many development projects begin their planning at the national level with representatives from government and donor groups. At first glance, this might seem to be a sensible approach in Zaire. However, the resident adviser decided to avoid a "top down" approach to strategy development. It was extremely important that people at the national level be given the opportunity for input in the project design, particularly when so many of the activities were to take place so far away in the pilot areas.

At the same time, a natural distrust of central interference and a host of logistical, administrative, and political barriers to interaction among the national, regional, and zonal levels made it important not to disempower or discourage those whose enthusiasm would actually drive project activities. And these were ultimately the zonal and local health center personnel.

Similarly, the resident adviser rejected the sometimes effective approach of demonstrating a splashy success to attract new investments of funds and ministry personnel. In some environments, expatriate specialists can through sheer individual effort produce short-term miracles that entice larger-scale government commitments. The Zairian context, however, made any sudden, impressive splash improbable.

Rather, the resident adviser concentrated by necessity on strengthening important links in the health education infrastructure and on supporting participatory decision making. The adviser's basic approach to project development rested on four major efforts:

- a series of planning meetings to build consensus across levels, focusing on field realities;
- workshops to build skills among local professionals—communication managers, physicians, nurses, health workers, and media personnel—and curriculum development to institutionalize training;
- community-level strategies including training and motivation of a special force of volunteers;
- quantitative and qualitative research to provide an empirical basis for all health communication decisions.

The guiding principle of systematic public health communication is an emphasis upon the community and the client. In child survival programs, this means the caretakers of children under five. Decisions are based upon research among the target audience and strategies are molded by a community's perceptions of health problems. With this focus upon the beneficiaries, and given data regarding the beneficiaries' actual practices and needs, project planners from diverse perspectives should in theory have a common basis upon which to build.[1] Research was therefore an immediate priority in the HEALTHCOM Project.

The guiding principle of health communication is an emphasis on the community and the client.

Research-based Planning

Research activities were underway by the fall of 1988. Several studies were conducted in collaboration with different Zairian groups, particularly the University of Lubumbashi and the Lubumbashi Social Mobilization Team, and provided opportunities for sharing perspectives and training local professionals.

The first activity was a series of 15 focus groups, each with 14 to 15 mothers, to help analyze target audiences and investigate women's understanding of diarrheal disorders and common treatments. These were held primarily in the Ruashi health zone and were part of a workshop conducted with the Lubumbashi Social Mobilization Team. The team spent one week learning how to lead discussions and take notes, followed by one week in field work.

At approximately the same time as the focus group research, two students from the Medical School of the University of Lubumbashi conducted an inventory of medical services in the Ruashi and nearby Katuba health zones and observed health education activities in well-baby clinics. The students visited the main health centers and dispensaries and interviewed head nurses using a short questionnaire to determine which health facilities include health education with their curative services. Five facilities in Ruashi and five in Katuba were identified that regularly give health talks and vaccinations.

This was followed by an ethnomedical study with small groups of women in three different Lubumbashi health zones to identify the Swahili names of common childhood illnesses and investigate how mothers diagnose them.[2] A local anthropologist from the University of Lubumbashi examined the consistency of the diagnoses for six illnesses characterized by diarrhea. Insights from this work were subsequently used to help create a questionnaire for the major quantitative study carried out in March of 1989.

In order to obtain information about places women often meet and associations they participate in, a professor

from the University of Lubumbashi conducted a series of 24 in-depth interviews in Ruashi to study information exchange among women. The interviews revealed patterns of going to market, common meeting places, popular associations, and uses of schools and medical services.

The large-scale quantitative survey was carried out approximately eight months into the project and after much of the qualitative research for Ruashi and Lubumbashi had been completed. The decision to conduct the survey was made collectively by groups at the national, regional, and zonal levels during the January 1988 Implementation Workshop (described below). Technical assistance was provided by the project's subcontractor, the Annenberg School for Communication, University of Pennsylvania, together with the School of Public Health of the University of Kinshasa. The survey included a representative sample of 1,125 Lubumbashi mothers having children under three years of age.

Questions addressed knowledge, attitudes, and practices relating to diarrhea, the practice of oral rehydration therapy, the use of medical services, vaccinations, and the prevalence of different media.

The survey provided data that was later useful for making decisions about the kinds of messages to be formulated about oral rehydration therapy and vaccinations. It also provided valuable insights into how women might be reached with information on infant health care. (Of those surveyed, most got their information from health education talks at health centers. About one-half of women listened to the radio from time to time and about 40 percent watched television.) Most important, the survey functioned as a baseline for studying the impact of health communication efforts. A similar survey at the end of the second year would allow for comparisons.

The large-scale quantitative survey was conducted in collaboration with the University of Lubumbashi.

Formative research in Kabongo health zone was also conducted later in August 1989 and was used for message development and preparing health worker training activities.

Implementation Workshop

In January of 1989 the resident adviser planned a five-day Implementation Workshop to allow IEC and medical personnel from all levels to prepare a general action plan for the project. Much of the qualitative research had been completed at this stage and was available for use. The challenge was to get key players to engage in a productive discussion about directions for the project and at the same time clarify and apply elements of the HEALTHCOM methodology to this planning process.

Representatives from the central offices in Kinshasa and the two pilot areas came to Lubumbashi. This was a notable variation on the usual direction of travel (that is, toward the capital and the source of funding). The workshop emphasized field realities—as presented by the zonal chief medical officers and as reflected in the research. Twenty-three participants from a range of organizations and disciplines attended. They included IEC program managers, physicians, nurses, social scientists, and mass media professionals.

Organizations from the national level included SANRU, PEV/CCCD, the Family Planning Services Project (PSND), and Le Bureau Central de Coordination pour la Lutte Contre la SIDA (BCC). Local level groups included PEV/CCCD, the local radio and television station (Voix du Zaire), the University of Lubumbashi, the Department of Public Health, and the Lubumbashi Social Mobilization Team.

The stage was set by the chief medical officers for the two project pilot zones who presented overviews of the priority public health concerns for their respective zones. During these presenta ions information such as basic health statistics and infrastructure for the zones, local health communication efforts to date, and the findings of recent research were shared. The national-level IEC technicians representing FONAMES, SANRU, PEV, PSND, and the BCC made presentations on national IEC plans and strategies. PEV/Lubumbashi explained the results of the baseline study. The UNICEF-organized Social Mobilization Team in Lubumbashi discussed findings from the focus group work it carried out in October 1988. Lastly, the medical anthropologist from the University of Lubumbashi presented data from his ethnomedical study on diarrheal disease and vaccinations. The HEALTHCOM Project director and FONAMES counterpart also gave an overview of the HEALTHCOM methodology emphasizing communication strategy development.

Setting Behavioral Objectives

A major component of the Implementation Workshop was a two-day discussion analyzing positive and negative behaviors associated with vaccinations, diarrheal disease, malaria, and malnutrition vis-a-vis both the community and health professionals. Participants outlined what they believed were current practices in the zones of Ruashi and Kabongo. They also formulated lists of key behavioral problems on the one side, and ideal behaviors on the other, for mothers and for health workers. The discussion produced suggestions for appropriate health education activities and specific HEALTHCOM interventions.

Since developmental research was not yet complete, participants were not equipped to identify detailed behavioral messages and strategies at this time. However, the exercise allowed the group to determine the range of practices that could be addressed within the context of a comprehensive health education program. It provided a basis for developing overall objectives and activity plans for the two zones and the project in general. At this time, planners also decided that the initial focus for project interventions would be on diarrheal disease and immunization, reflecting primary needs for both Kabongo and Ruashi.

Writing a Draft Project Plan

Immediately following the workshop, the facilitators (the HEALTHCOM resident adviser and the FONAMES director) compiled the results of the discussions into a draft project implementation plan featuring interventions and general directions for the project in Shaba over the next 18 months. They then reviewed these suggestions with the chief medical officers of the two pilot zones. The approved plan included the following recommendations for principal project activities:

- conducting qualitative and quantitative research for the purposes of project planning, monitoring, message development, and evaluation, including a large-scale baseline survey for Lubumbashi city;
- training health workers in interpersonal communication and health education skills and the creation of a core team of trainers capable of carrying out this work, first in the two pilot zones and then in the region;
- developing, pretesting, and distributing educational materials for use by health workers with mothers, featuring key messages about diarrheal disease, oral rehydration, and vaccinations;
- planning and carrying out community motivation strategies and outreach activities around health issues including:

  — the creation of village development committees and teams of women community leaders, or *Maman Tengeneza*, who would serve as liaisons between the health centers and communities, encouraging mothers to participate in well-baby clinic activities and health education sessions;

  — community motivation campaigns in collaboration with PEV/CCCD, UNICEF, and Rotary International featuring mass media, local theater and church groups, and supported by promotional materials such as banners, posters, T-shirts, etc;

  — a primary school health education program featuring seminars for teachers in health education, school health committees, and appropriate print materials such as notebooks, posters, and stickers.

Keeping the Planners Informed

This implementation document was not the last opportunity for formal input from the regional and national levels. Even those planners who were not actively involved in carrying out the project were kept closely informed of subsequent stages. Again, research was an important vehicle for bringing together high-level representatives. When results became available from the HEALTHCOM/University of Lubumbashi baseline survey, for example, 25 health professionals and social scientists from the university, zonal medical officers, members of the Social Mobilization Team, and officials from PEV/Lubumbashi and BCC attended a day-long meeting to share results and discuss the findings.

Research was an important vehicle for bringing together high-level representatives.

Two additional presentations were made in Kinshasa to colleagues from the School of Public Health, SANRU, FONAMES, PEV, CEPLANUT, PSI, PRICOR, and Santé Pour Tous (a Belgian-funded project). These provided opportunities for invested groups to learn about project accomplishments, provide input into future directions, and maintain a sense of ownership in the project.

From Regions to Zones

However, the general recommendations of the Lubumbashi implementation planning workshop could only be carried out through frontline health workers, their supervisors, and the chief medical officers. A major goal was therefore to involve these individuals in preparing operational action plans in health pro-

motion/education for their respective zones. The hope was to give the health zones a sense of self-reliance and to avoid creating a dependency on outside expertise that would lead to a natural end to the project or discourage other health zones from conducting similar activities.

The hope was to give the health zones a sense of self-reliance and to avoid creating a dependency on outside expertise.

One of the first steps was a zonal planning and trainer-of-trainers workshop in Lubumbashi for three weeks in the spring of 1989. Participants included selected health workers, supervisors, and the chief medical officers from the pilot health zones, and members from the Lubumbashi Social Mobilization Team who would continue building the IEC capacity in the region. The 17 professionals received in-depth training in IEC planning, management and supervision, objectives design, team building, adult learning skills, counseling, health education techniques, focus group research, creative health message delivery, and technical subjects including diarrheal disease, vaccinations, malaria, and AIDS.

Because of the strong influence of person-to-person contact upon mothers' levels of knowledge in this region, the workshop emphasized interpersonal skills and creative message delivery such as songs, stories, theater, and demonstrations. As part of this effort, members of the national theater troupe were invited to perform health skits and helped participants write and practice their own scripts.

IEC training emphasized songs, stories, theater, and demonstrations as part of health education techniques.

The participants also worked in two teams—one for Kabongo and the other for Ruashi—to develop one-year action plans for their respective health zones. Each group went through the steps of identifying problems, deciding which could be resolved through IEC, setting priorities and realistic objectives, and pinpointing target audiences. The Ruashi health zone also had the advantage of being able to work from the results of the recently completed community baseline survey. Both groups identified resources and assigned responsibility and completion dates for tasks. For the Kabongo team this included plans to conduct focus group discussions throughout the health zone.

Features of the action plans prepared for both zones included health education training, formative research, supervision, materials development, campaigns, and outreach work via community leaders, women's groups, primary schools, and/or churches.

The action plan for Kabongo also called for work with village health committees. In Ruashi the action plan called for the creation of an entirely new team of volunteer *Maman Tengeneza*, or "mothers for improvement," who would be trained to act as child health resources in their neighborhoods.

Objectives for both health zones focused on diarrheal disease and immunization. Measurable goals were to:

- increase mothers' knowledge of how to prepare sugar-salt-solution (SSS) correctly (from the 1988 figure of 15 percent for Lubumbashi, baseline unknown for Kabongo) to 50 percent by the end of May 1990;
- increase to 40 percent those mothers from the target areas in Kabongo who are capable of correctly explaining how to administer SSS to a small child;[3]
- increase the number of completely vaccinated children between the ages of 12 and 23 months in urban Ruashi from 35 percent to 70 percent by August 1990;
- increase to 50 percent from Kamungu; 60 percent from Lenge, Kyondo, and Kime; and 70 percent from Kina (all Kabongo neighborhoods) those mothers capable of correctly describing the vaccination calendar.

In order to realize these objectives, both zones planned to increase significantly the number of mothers who attend the under-five well-baby clinics conducted in the health centers.

According to the community baseline survey, women who attend the well-baby clinics, or *kipimo*, to have their children's growth monitored are more likely than others to have had their children completely vaccinated. The *kipimo* is also a focal point for information on oral rehydra-

tion therapy, malaria-related issues, nutrition, family planning, etc. A logo and slogan encouraging mothers to attend their nearest neighborhood *kipimo* was planned under the Ruashi strategy.

Training and Sharing

As part of their action plans, the health workers from Ruashi and Kabongo health zones developed a strategy in which health workers and supervisors would themselves be responsible for training their peers in interpersonal communication skills, effective health education planning and delivery, and appropriate teaching techniques. Training could therefore be continued at the zonal level under the direction of the chief medical officer without the need for external assistance or funding. The group planned a series of about eight workshops for the two zones. A small study was initiated to monitor the success of these workshops.

Observation of health education sessions both before and after training provided information on the success of the new interpersonal techniques and on ways to improve both training and supervision. Preliminary monitoring has shown that health workers are taking some pleasure in trying out their new skills and are experimenting using role-plays, demonstrations, and new songs—to the great interest of local mothers.

As other health zones move to strengthen their own health education programs, the core team can serve as a resource group. To help bring this about, HEALTHCOM developed an interpersonal communication and IEC training guide for use in Shaba and other regions. These "curriculum" materials will be an invaluable resource when outside technical assistance ends.

Lastly, the team decided that a "sister health zone" arrangement be formed between Kabongo and Ruashi. Health workers from Ruashi would make periodic visits to Kabongo and vice versa to share ideas, discuss strategies, and collectively work on focus group research, training, and supervision. Biannual meetings between the two groups as a whole were also proposed to maintain a sense of team spirit.

The team decided that a sister health zone arrangement be formed between Kabongo and Ruashi.

A CASE IN POINT

When the Future is Now

The Zaire project was designed without the promise of future funding, the prospect of large-scale government support, or the possibility of dramatic short-term results. This notable dearth of "miracles" was both a drawback and a blessing. It meant that the resident adviser had to think of the future from the very beginning. The resident adviser and local groups came up with the following strategies:

- **consensus building** in the planning stages, partly through a series of meetings bringing together officials and collaborators from national, regional, and local levels;
- **a focus on field realitites**, encouraged by the simple but unusual process of bringing high level decision makers to the intervention area for planning meetings;
- **audience research** as a basis for planning, as a vehicle for keeping far-flung officials informed of project events, and as the criteria for selecting behavioral objectives;
- selection of an **appropriate mix** of communication channels, including traditional theater for enlivening health education and radio for audience reach;
- encouragement of **community involvement** through training of Maman Tengeneza, or "mothers for improvement";
- **mutual support** of health zones through a sister health zone arrangement;
- **integrated health care messages**, stressing attendance at well-baby clinics;
- **training** as an opportunity to improve skills, provide field experiences, and build bridges between important groups such as broadcast professionals and health workers;
- **curriculum development** and the creation of training guides for long-term institutionalization of new health education and communication approaches;
- **avoidance of donor dependence** by initiating nothing which could not be replicated—through either local trainers or local resources.

Taken singly, none of these strategies assured that health communication activities would continue over the long term. Taken together, however, they went far to support local capacities.

Nurses and Radio Producers

The resident adviser also sought training for several professional groups which would have a lasting involvement in any successful health communication program. Among these important target audiences were two somewhat disparate professions—nursing instructors and radio producers.

One of the most important links in the Shaba region health education infrastructure is provided by the 16 medical technical institutions that train thousands of nurses each year in two- and four-year programs. To strengthen this link, the HEALTHCOM resident adviser and a technical consultant collaborated with SANRU in conducting two two-week workshops in Ruashi to promote integration of primary health care and health educational skills development into the current nursing school curriculum. The workshops were co-facilitated by the prefect of Lubumbashi's largest nursing school, who was also a member of the Social Mobilization Team.

Representatives from nearly all of the medical institutions attended both workshops. Participants included nursing instructors, directors, and physicians who supervise students during their field practice. They were exposed to innovative teaching methodologies and to both theoretical and practical course planning. More than 25 percent of the first workshop was dedicated to either field practice or observation on location.

In response to participant evaluations, the second workshop spent more time on discussions and fieldwork. More responsibility was also given to the two Zairian co-trainers, thus encouraging institutionalization and less dependence on expatriate involvement.

The workshop for radio producers held in June of 1990 was also designed as a field practicum. The ten participants included programming chiefs for radio and television of the Voix du Zaire, six radio producers including a popular comedian and sports announcer who also prepare programs on health and development topics, and two health educators. Most had familiarity only with long-format programs. The purpose of the workshop was to give the participants experience in applying elements of social marketing to the creation of radio spots that would subsequently be used to support upcoming vaccination drives in Lubumbashi and environs. It was also designed to help bridge the gap between radio producers and health professionals.

The workshop also helped bridge the gap between radio producers and health professionals.

The resident adviser co-conducted the workshop with a radio specialist working in Lesotho. The participants learned how to use the results of audience research to develop short messages to encourage desired health practices. They studied the objectives of the Shaba region immunization program, learned about the results of the community baseline study, and developed a creative strategy for a series of spots utilizing a popular vaccination song.

Participants learned how to use the results of audience research to develop short messages.

Brainstorming among the producers and the health educators led to agreement on eight basic messages for mothers. Among the more predictable (such as "Take good care of the vaccination card" and information about the vaccination calendar) were messages tied closely to the reality of Shaba life.

For example, research had shown that although mothers were not discouraged from going for vaccinations by any overt "expense," a hidden cost had proved important to them. Gathering at the health center was a high-visibility social event and many women would not go if they could not dress properly. The producers came up with several messages emphasizing that "you don't need a new *pagne* [or skirt wrap] to get your child vaccinated."

The spots were recorded in Swahili and French at the production studio of the Voix du Zaire. The station also donated airtime.

Because mothers' radio listening habits are irregular, the broadcast schedule required high repetition—a minimum of ten spots a day for four days before each campaign and three days during each one. Later, the producers created longer programs for both radio and television, explaining in detail the importance of each message.

The quality of production equipment remains a problem in Lubumbashi. However, the workshop organizers were careful not to raise standards or expectations to a level that could not be maintained later with available equipment and techniques.

Unusual Mothers

Although health workers and radio spots are undoubtedly important in reaching Zairian mothers, communication occurs most profoundly at the community level, from

family member to family member and from woman to woman.

An awareness of this fact led to the creation of a new category of volunteer health worker in Ruashi—the *Maman Tengeneza*, or mothers for improvement—to provide a link between the communities and the health center. The idea was conceived by the Ruashi IEC team.

Criteria to become one of the *Maman Tengeneza* included 1) a history of regular attendance at well-baby clinic sessions; 2) a voluntary spirit; 3) a dynamic personality and recognized influence in the community; and 4) having at least two children.

With the help of a consultant, the Ruashi team created a two-day curriculum for selected mothers, followed up by an additional day of training each month. In the first year, 45 mothers received training.

The consultant created a guide that could be used in future trainings. The *Maman Tengeneza* visit homes to demonstrate how to administer rehydration solution to children with diarrhea, to encourage mothers to attend growth monitoring sessions, and to motivate them to have their children vaccinated.

Monitoring has shown that the *Maman Tengeneza* are extremely enthusiastic about their roles. In contrast to volunteers in many countries, these women are reaching out actively and are eager for more training. They have been particularly successful in identifying children who have not been vaccinated, and have even taken some to the health centers themselves when the mothers are unable to do so.

The volunteer Maman Tengeneza became enthusiastic liaisons between their local health centers and neighborhood women.

Lessons Learned

In many development projects, "participatory decision making" is an oft-used phrase and a seldom-risked process. In the HEALTHCOM/Zaire project, however, it was a necessity.

The structure of the health system made top-down planning unfeasible. Logistical obstacles and a small staff made local initiative the only true engine for action. At the same time, the interest of many organizations at a variety of levels made consensus building the only workable approach to planning.

"Participatory decision making" is an oft-used phrase and a seldom-risked process.

Although the project design process was a long one, it was evidently quite successful in terms of clarifying roles, building commitment, and establishing good working relationships among a variety of groups representing several layers of the Ministry of Public Health infrastructure. It also served to introduce certain elements of the HEALTHCOM methodology to dozens of people involved in the planning process as well as generate a great deal of interest in the methodology.

The process of institutionalizing skills and systematic methods is not an easy one. Health communication, with its focus on the client and its basis in research, challenges many traditional assumptions about health education and offers special hurdles to those who are unfamiliar or uncomfortable with the idea of collecting data before creating materials. In Zaire, the situation is even more complex given the decentralized nature of the health education infrastructure at the national level and the lack of such infrastructure at the level of region and zone. The resident adviser approached this problem by casting the training net as wide but as carefully as possible, rather than by concentrating efforts among a few centrally-located individuals. She also took care that techniques and expectations were appropriate to local capacities so that expatriate involvement would help solve, rather than create problems.

The Zaire experience demonstrated that there is no replacement for local skills and local enthusiasm. The payoff was the discovery of just how powerful such commitment can be when it comes from those who are closest to the beneficiaries themselves.

NOTES

1. See also Field Note No. 5, "Reporting Research Results as Information Exchange," for a description of how research can be introduced as a basis for discussion and decision making.

2. See also Field Note No. 2, "Ethnomedical Research for Developmental Purposes," for a description of the rapid ethnomedical techniques used to elicit these six Swahili terms commonly used by mothers in the target area and how the information was subsequently used in the design of a quantitative survey and as a foundation for the communication strategy.

3. Since writing the plans, Ministry policy has shifted away from sugar-salt-solution and health workers are now recommending a rice-based solution which can also be made at home.

(1990) Joan Schubert was with HEALTHCOM/Zaire and is now with the USAID Cameroon Maternal and Child Health Project.
The author would like to express her appreciation to the many health professionals, social scientists, media technicians, and artists at the community, regional, and national levels who contributed to the success of this pilot project. Thanks are extended in particular to Dr. Mongolo Molengi, Medical Inspector of the Shaba Region, and his staff; to Dr. Musinde Sangwa, former IEC director at FONAMES, Kinshasa; and to USAID/Zaire. Special appreciation goes to Dr. Jean Tshiulawa, chief medical officer for the Ruashi Health Zone, and Dr. Kafuka Ba Dinnda, chief medical officer for the Kabongo Health Zone. In addition, the pilot zone IEC team members, Mbo Mikweh, Mwanza Katele, Asani Zuya, and Nkoy Yebel (Ruashi); and Kiluba Makabuz, Lubefu-Lubefu, Banza wa Ntumba, Masangu, and Mwanya (Kabongo) deserve particular acknowledgement. The project also especially wishes to thank Kashimika Kalonji, administrative assistant.

The Learning Community as a Management Approach

Patricio Barriga
Hector Espinal

It is six o'clock in the improvised building of the Health Education Division of the Honduras Ministry of Health and we can still hear voices coming from the end of the hall. An ongoing debate has taken place after work during the last few evenings about how to plan and carry out the communication strategy in support of the Acute Respiratory Infection Program. According to group members, these discussions are more fruitful after the daytime interruptions of meetings, phone calls, and visitors have ended. Difficult decisions about content, behavioral objectives, messages, and personnel training need to be made in order to speak to mothers' perceptions and, at the same time, address the Ministry ARI norms. The discussion is animated but cordial. Innovative and even daring ideas emerge from each one of the seven professionals sitting casually around a table full of research reports, computer worksheets, coffee, and doughnuts.

From Discussion to Decisions

The staff members of the Health Education Division of the Honduras Ministry of Health (MOH) have undergone a kind of metamorphosis since 1985 when debate or discussion might easily have ended up in a polarization of views. At that time, team work was a rarity; individuals held onto their fixed opinions about various communication issues. Agreement and decision making by consensus was almost impossible.

It is true that these professionals now have new technical skills in designing, developing, and implementing communication plans; but, more important, they have developed the capacity to learn from each other and from their own past experiences in the field. They all have a field background either as promoters, field supervisors, or health education workers. The Ministry has provided them with many institutional skills, but only during the last few years has a **learning community** been created.

The concept of a learning community is based on cooperative group interaction and on experiential learning. In Honduras, communication plans for child survival interventions in diarrheal disease control, immunization, and acute respiratory infection (ARI) have been developed through this approach. Consensus building begins in the earliest planning stages. Once qualitative and quantitative data have been collected, a group of professionals get together among themselves and later with regional health teams to devise communication strategies aimed at modifying behaviors, strengthening existing behaviors, and providing positive reinforcement for practices leading to better health for children under five.

Honduras is the site of HEALTHCOM's longest-running technical assistance program. The Mass Media and Health Practices Project (or MMHP, HEALTHCOM's predecessor) provided support to the Ministry of Health beginning in 1980, and a total of four resident advisers and numerous short-term technical consultants have worked with members of the Ministry's Health Education Division (HED) since that time. The

Honduras program offers an unusual chance to look at the evolution of a communication for child survival program over a period of years.

This field note looks especially closely at management issues—at the difficult process of transferring technologies to a specific group of people and to a bureaucracy of ever-changing members and shifting priorities. The recognition and cultivation of a learning community has been one key to the success, so far, of this "institutionalization" of a communication methodology within the Honduras Ministry of Health.

"SUCCESS"—PROCOMSI I AND II

In 1980 the Honduras Ministry of Health requested assistance from the MMHP Project to support its promotion of a new oral rehydration salt (ORS) product. The Ministry had minimal resources to devote to its public health communication project. The Health Education Division consisted of three people (one physician and two health educators) and the Audiovisual Unit consisted of three people. Funds were scarce for the project, known as PROCOMSI I, or Proyecto de Comunicaciones Masivas. Technical assistance through A.I.D. brought in critically needed funds and staff.

The success of the first project led to a greatly expanded division reporting to the director general. New positions were created for radio and graphics specialists.

The program combined intensive use of print, radio, and interpersonal communication channels to promote *Litrosol,* the government's new ORS product in Health Region 1. By 1983, 60 percent of rural women interviewed in the region reported using LITROSOL. Mortality associated with diarrhea in children under five dropped from 40 percent to 24 percent in the target region. The PROCOMSI I story has been reported extensively in many HEALTHCOM documents.[1]

The demonstration of concrete, positive results provided much-needed credibility to the health communication approach. The Ministry of Health saw the value of expanding these activities. At the end of PROCOMSI I, the project staff was incorporated with that of the Health Education Division and the Audiovisual Unit to create a single health communication office reporting to the director general. Two new positions, radio and graphics specialists, were added to the team. The project was extended to Health Regions 2, 4, and 7, and the methodology was applied to a broad new range of interventions including tuberculosis and malaria prevention, immunizations, and family planning. The HEALTHCOM Project participated in the transition from PROCOMSI I to PROCOMSI II beginning in 1985.

Under PROCOMSI II, the Health Education Division began to function as a minimarketing agency within the Ministry of Health, relating to the technical offices as though they were direct clients. In many ways, the role of health communication has been institutionalized within the Ministry. Staff have been increased, the status of the activity has been raised, and the applications to child survival expanded to new areas. How deep, and how permanent, is this institutionalization? What have been the most important factors in bringing it about? Is an initial success story—with data to show definite increases in positive behavior and decreases in child mortality—enough? Or are other factors equally or more important? This field note examines some of these questions within the Honduran context.

Is an initial success story—with data to show definite increases in positive behavior—enough?

When Technical Assistance Ends

When donor assistance to a ministry ends in any country, a crisis of some proportion is predictable. Behind this crisis may be loss of financing, loss of political support, and many other elements. Within a given bureaucracy, a development project is often valued to the extent that it strengthens an institution by concentrating funds, staff, and prestige. Outside funds and technical assistance can legitimize a project for a while, giving it "artificial" life, but what happens when available funds become scarce or are withdrawn? In many instances, it is not even necessary for technical assistance to have come to an end for a project to pass through a crisis. Many HEALTHCOM programs are located in overburdened, constantly changing, or inefficient bureaucracies and their long-range viability is continuously challenged.

The initial phase of any development project is especially important. If the basic methodology is not accepted and adopted in some significant way, later institutionalization is very unlikely. A certain momentum must be generated so that critical processes are begun.

"Success" vs. Institutionalization

It is possible to execute virtually any communication project successfully on a small scale, at a demonstration or experimental level. Requirements include a sufficient commitment by the local agency (or at least a certain permissiveness), sensitivity to and consistency with the target audience's needs, some technical assistance, and efficient resource management. The history of social development abounds with examples of small, creative projects that have demonstrated some degree of positive short-term results.

However, very few social communication projects having a deliberate educational purpose manage to sustain themselves once the initial intervention has been concluded. Most simply disappear or are reduced to minimal expression when outside technical assistance is withdrawn, when financial support is reduced, or when political support dries up.

Frequently, especially in the field of health, local as well as international bureaucracies are geared toward obtaining dramatic, short-term results. Such accomplishments help demonstrate a project's value but in the long run can prove to be a liability if not dealt with properly. Eventually, political support is usually cut back (after a change in government or decision-making officials) and one or more of the following may take place:

- users (institutional and community) compare the first phase of "project success" with the subsequent phase, which is frequently less efficient, and lose confidence or withdraw their support;
- the personnel involved no longer receive the incentives they most likely got in the earlier phase and enthusiasm flags and work productivity drops off;
- a backlash may take place among midlevel officials who were originally pressured to make sure the project succeeded and now perceive that the project is vulnerable.

Additionally, the early project success may have been led or supported by foreign experts and their names and documents bearing their names received broad visibility. The host country personnel may have developed a degree of resentment that becomes an obstacle to later project viability.

These unhappy situations arise out of many intangible experiences and reactions among host country personnel. The role of these personnel is the most important single factor in the successful institutionalization of a communication project.

After "Success" in Honduras

A few of these destructive elements confronted the Honduras HEALTHCOM Project in 1985 when we began a second wave of technical assistance to the Ministry of Health. Some of the staff in the newly-formed Division had felt left out of the previous success story. Others felt their office had been "invaded" by new personnel. Some were not completely committed to the methodology employed under PROCOMSI I. Not only had some of the personnel distanced themselves from one another and from their work, but communication with other branches of the Ministry was not ideal.

Significant efforts to reconcile goals, personalities, and styles had been made but little progress had been achieved. PAHO provided a short-term consultancy in order to reorganize the Health Education Division, establishing new units and assigning responsibilities to each one of the eight health educators working in the central office. But this was a formal decision difficult to implement without the creation of a more dynamic and cooperative style of management that would meet the demands being made upon the group.

Since the problem was at least in part one of human relations, one option might have been interpersonal confrontation in the old style of "sensitivity training," but the risks involved were a little too high since the emotions were intense and the staff lacked the skills necessary to handle this intensity openly. Another possibility considered was an organizational development intervention involving a diagnostic test for employees and then remedial plans to address each problem identified. We also abandoned this strategy because it would require too much time and attention from management over too long a period and because some external issues were beyond the group's control.

Finally, we settled on a three-tiered strategy. Our goal was to revitalize personal commitment to the program among three different levels of influence. The process started with the "top" layer—the political and policy-making power structure. The next level was that of influential primary health care groups, both inside and outside of the government.

The last, but not least important level, was that of professionals and technicians who would directly implement the new program. This last group also become known as the "learning community." These people would be motivated by, among other factors, the degree of support offered by the other levels.

Gaining Commitment from Friends and Possible Foes

At the beginning of PROCOMSI II, not all of those forces which could potentially help—or harm—the project in significant ways were committed to its underlying goals. Although PROCOMSI I was viewed as a success, the prospect of expanding this somewhat limited program (covering initially only one health region) to a national scale required ownership by a much larger constituency. We decided to arrange an event that would bring together some of the major figures who could exert political influence and give visibility to their support for child survival.

The president himself agreed to call a conference to promote the theme, "Por la Vida del Niño," or "For the Health of our Children." His office invited 12 ministers as well as members of congress, several bureaus of the government, leaders of unions and prominent private sector groups, and members of the international donor community including UNICEF, PAHO, WHO, the European Economic Community, and USAID—a total of 55 attendees. The president and the minister of health addressed the group and also signed a decree stating their commitment to the child survival program. The conference was widely publicized in the press.

This conference was followed by a series of workshops with high-ranking health professionals. We arranged four workshops within the next six months and invited representatives from the pediatric society, the association of social workers, the school of medicine, and so forth. The goal of these seminars was to present in a dramatic fashion a "revolutionary" approach to health education involving the use of media, face-to-face interventions, print media, and a systematic research-based methodology. We might not have taken this approach with another audience. But these participants were highly educated professionals and bureaucrats who responded to this positioning of the methodology as a sophisticated and scientifically tested system for promoting health.

Any power structure that is indifferent to health interventions is actually an obstacle to them. By informing and engaging many levels of the power structure in even this relatively superficial way, the project neutralized some potential obstacles to its activities and laid the basis for possible support.

Later on, when something seemingly simple would be needed, such as an approval for a trip to the field to pretest materials, an official would be more likely to recognize the need for this step in the methodology. When activities were planned involving some new constituency—such as school children and teachers—the minister of education might be more likely to encourage their participation. And when radio broadcasts began, physicians might be more likely to take an interest in the messages—knowing the depth of planning and consultation that had gone into them.

Regaining Commitment of Project Staff

The process of assuring ownership of the project among the actual Health Education Division staff was in some ways more challenging than promoting it among the higher tiers of political and policy oriented personnel. At the start of HEALTHCOM, the staff of the Health Education Division amounted to a total of 34 professionals, including 12 assigned to the eight health regions who visited the project office approximately once a month. Commitment on the part of staff to the program and to each other ranged from high to minimal. Although the success of engaging commitment from above, through the publicized signing of a child survival decree and the holding of professional seminars, was a powerful motivator, its long-range effect on staff attitudes could not be profound. The daily management processes of the project was the most important determinant of staff productivity and satisfaction.

We decided not to emphasize the already-established office hierarchy in our management structure but rather to introduce formally a new organizational development plan that was task oriented and stressed sharing of responsibilities. We began by issuing a document, "Organizational Development Process for the Division of Education," and held a four-day seminar to stimulate new working relationships within the core group. The document introduced the idea that the HED was entering a new era and facing greater challenges: an expansion of its duties, an increase in its personnel including technical staff from various disciplines, and a greatly increased work load implying a greater dependence by the Ministry on the contributions of the Division. These new demands, in turn, called for new strategies of response and planning. Work would be best organized around a systematic approach to dealing

with specific tasks. The general objective of this reorganization would be:

> *To strengthen the HED structurally, organizationally, and operationally in order to optimize the use of available physical, economic, and human resources and so to provide timely, high quality technical services tailored to the needs of the Ministry and to those of the beneficiary population.*[2]

In other words, this whole process also represented adoption of new technical standards and a heightened professionalism of the Division as a whole.

During the four-day seminar, HED staff members met together to write work plans. As a group, they made lists of specific objectives and factors that were either favorable or unfavorable to the achievement of those goals. They categorized the sources of all identified obstacles and evaluated the likelihood of their being resolved. The process of writing the work plans encompassed nine phases and included the naming of work groups and coordinators. The four days offered staff a chance to step back and view their problems somewhat objectively. The experience also required that they take a long view of project goals and analyze the various steps involved in achieving them. This was the first meeting of the Organizational Development Committee, later to become the learning community.

Afterwards, weekly meetings were instituted to plan, evaluate, and above all share experiences (good and bad) stemming from the execution of the plans. Because the reports encompassed all aspects of the methodology—including radio and print media production, research, publication, and administration—each member of the newly emerging team began to identify with the tasks of the others. At first, individual reports at the meetings were somewhat cold and colleagues made almost no comments. Debate and discussion were not part of the group culture. To provide feedback to each other about individual performance was even stranger.

Debate and discussion were not part of the group culture.

From time to time conflicts would arise because of some criticism, and the staff had to learn to make comments constructively. Detailed discussion of technical problems often brought more problems than solutions. In this group culture where there were already pre-existing rivalries, any disagreement was interpreted as antagonism toward the person presenting the idea. It was difficult to achieve a level of technical debate while maintaining detachment and maturity. Many of these conflicts were really manifestations of a lack of self-confidence and self-esteem.

Providing individual feedback about ideas and performance came slowly to the group; the staff learned to discuss each other's contributions constructively.

As the weeks passed, the antagonistic attitudes began to disappear somewhat, giving way to a more collaborative attitude. The learning community became a kind of oasis where both ideas and feelings could be shared and legitimized. Over time, it also allowed individuals to process feelings about previous work-related experiences. What we had really accomplished by the end of three months was to make room for discussion.

In a society where decisions tend to be made along vertical lines, group consultation is infrequent. But an autocratic and manipulative style is not conducive to the flexibility and interaction necessary to an integrated methodology such as public health communication. A learning community helps bring about a necessary shift.

After several months, one of the groups characterized its achievements by saying, "Only now can we say that the work is ours; *we* programmed, *we* implemented, and *we* will evaluate..." Participation in the decision-making process was perhaps the best incentive for the HED team. However, it was not the only incentive. A short time later when the communication plans for ARI and ORT were presented to higher Ministry officials including the minister and the director general, the staff received glowing congratulations.

Including Physicians and Nurses in the Learning Community

The extension of the learning community to members of other divisions was one of the major reasons for the success of the two communication plans. Initial meetings showed that the HED was able to provide specific services to the ORT, EPI, and ARI programs of the Epidemiology Division. Predictably, the first request from that Division was for educational materials.

A CASE IN POINT

MORE THAN JUST CONVERSATION

A learning group "works" because it includes a number of specialists who have partial answers to a single puzzle. In the process of putting that puzzle together, however, more is at stake than just the completion of a common task. The other goals of a learning group are motivation, information, mutual support, and new understanding of both the public health system and ways of serving the community.

In the HEALTHCOM context, motivation is directed at:

- **efficient management of communication activities**—learning begins with the intellectual treatment of communication planning and gradually focuses more on hands-on experience;
- **service to the community**—rather than to political, institutional, and personal interests;
- **a focus on preventive medicine**—rather than simply the curative approach prevalent in medical institutions, and requiring convincing demonstration of the efficacy of preventive medicine and community education.
- **a systematic view of communication**—that encompasses the administrative process (planning, organization, leadership, personnel management, follow-up, and evaluation).

The informative function of the learning community aims at:

- **teaching** the HEALTHCOM methodology, emphasizing the importance of skills required for each stage;
- **sharing** results with both policy makers and the community;
- **studying** results of similar efforts in other countries.

The mutual support process concentrates on:

- encouraging decision-making by **consensus** and the search for input from various sources, including the institution and the community;
- encouraging two-way communication, fostering an attitude of **respect** for the opinion of others, and stimulating discussion as a problem-solving mechanism;
- encouraging horizontal **communication** and with those who are at a lower administrative level in order to learn from everyone involved;
- practicing **feedback** as an alternative to criticizing or judging fellow workers;
- practicing group **solving of problems** in project development, stimulating mutually discovered solutions;
- practicing **participatory leadership**, promoting the training of new cadres who will eventually be able to take on leadership responsibilities.

The learning community helps generate new kinds of understanding such as:

- **a critical attitude** towards the public health system—assessing the system through experience rather than merely accepting conventional views;
- **an understanding** of causal relationships within the field of health communication itself;
- **a re-evaluation** of the potential contributions of traditional medicine and indigenous forms of communication;
- **a holistic approach** to medicine that places the individual's health within a broad environmental context.

Thus, the group is in touch with the community, and also becomes a community itself. This is the guiding value system of the learning group approach.

The HED's response was to suggest a complete intervention including research and a nationwide strategy. Staff then divided themselves into two subgroups: one dedicated to elaborating a communication strategy for ORT (both public and private sector) and a second oriented toward initiating qualitative research for the ARI program. Physicians and nurses from the Epidemiology Division were included in the process of designing and implementing the new plans. This design process allowed each group to contribute its area of expertise.

Extending the learning community to members of different professions and a different Division was a difficult but gratifying experience. It was the first time physicians, nurses, and communication specialists related with one another at the same professional level. The new learning community served several purposes:

- it built communication bridges among various professions;
- it established a team approach to management;

• it encouraged members to learn from each other's past experiences;

• it provided a forum for dealing with differences of opinion in a constructive fashion.

The most important outcome of the approach was a sense of collective ownership of the work accomplished. Members of the different groups felt that the plans not only belonged to them but that all participants were committed to their implementation.

THE THEORY BEHIND A LEARNING COMMUNITY APPROACH

The learning community is more than a committee or task force; it is a work and study space that fosters analysis, reflection, discussion, and decision making. Within it, ideas are put to the test by experts from several areas and plans are formulated through consensus. The group's members take on responsibility for planning and executing tasks while simultaneously learning the theoretical and practical aspects of each of the auxiliary disciplines.

The learning community is a work and study space that fosters analysis, reflection, discussion, and decision making.

Seeking consensus through group analysis fosters commitment and growth more effectively than decision making through majority rule or formal leadership. Creativity is stimulated and unconventional responses are explored. This in turn encourages investigation of new ways of conducting health communication. In short, the learning community is an administrative approach aimed at legitimizing a series of processes that do not fit into the traditional institutional order.

A learning community is not only a technical group that carries out required activities; it must also be a management group that advocates and promotes its methodology. The learning group constitutes a point of reference for interacting with other sectors of a bureaucracy. Identification by personnel with the project's overall goals and methodology not only strengthens their commitment to the project but also facilitates negotiations with an institution's changing authorities. Concessions can be made, if necessary, without sacrificing crucial aspects of the operation.

A learning community is a force for both consensus building and professionalization. People with different technical skills work as equals toward common goals.

In Honduras, the learning community additionally became a professionalizing force for the project. By bringing together decision makers, physicians, technicians, artists, and those with many backgrounds, we encouraged their appreciation of each other's skills and raised the status of the whole. Most of HEALTHCOM's efforts take place within a government context in which a meritocracy system prevails and greater importance is given to those who have academic credentials. An official's academic standing is closely related to his or her level of influence in the government. For this reason, it is extremely important to bring into the working group professionals such as physicians, accredited nurses, economists (if possible), sociologists, journalists, social workers, and others.

Professionals associated with the project should be involved in all aspects of the methodology including research, behavioral analysis, design of the social marketing strategy, and even materials pretesting within local communities and health institutions. Those who make decisions regarding plans, budgets, and schedules should have a hands-on understanding of the methodology, rather than merely a superficial, intellectual understanding. Experiential, or inductive learning, is a crucial aspect of the success of any learning community.[3]

IMPLICATIONS FOR INSTITUTIONALIZATION

In the Health Education Division of the Honduras Ministry of Health, the problems of organizational development have not been completely solved, but at least the feasibility of a systematic effort toward communication in the public health arena has been confirmed. Recently the Division has made two important decisions

reflecting the group's understanding of the HEALTHCOM methodology as an integrated approach to public health and also reflecting their support for expanding the working group and increasing its productivity. The Division has designed an intervention for combining promotion of EPI, ARI and ORT, and growth monitoring within a single "good health" theme. The strategy will involve participation of local communities, public health volunteers such as midwives, health promoters, and *guardians.*

In addition, the Division has decided to establish a support system for the staff at the eight regional health offices, offering them consulting services so that they may take on greater local responsibilities in the area of health communication.

The HEALTHCOM approach is no longer simply experimental but can be geared effectively toward large populations. Therefore, it is crucial that health communication be institutionalized within the state apparatus so long as there are no other promising institutional options. A group of individuals who have developed favorable attitudes towards preventive medicine and who have at the same time developed skills for managing HEALTHCOM's methodological process provide the basis for institutionalizing the program.

If a learning community approach is used, the group can become its own self-sustaining mechanism. It can supply a cohesive management structure and commitment to process that has a chance of surviving changes in individual staff and political direction.

Program continuity can only be partially assured by higher officials. Sustainability is a combination of several factors. Not the least of these is commitment and cooperation among a diverse group of trained professionals.

NOTES

1. Further information about HEALTHCOM and the MMHP Project in Honduras is available from the Academy or from Applied Communication Technology (ACT), 1010 Doyle Street, Suite 16, Menlo Park, CA 94015. ACT is a subcontractor to the HEALTHCOM Project, carrying out evaluation studies in Honduras and The Gambia. In particular, see the following documents:

Summary Report of the Major Findings: the Mass Media and Health Practices Evaluations in Honduras and The Gambia, by Applied Communication Technology (Stanford: Stanford University, September 1985).

Preliminary Report on the Results from the 1987 Resurvey in Honduras, by Carol Baume (Menlo Park, CA: Applied Communication Technology, February 1987).

ORT PLUS: Combining Themes in Public Health Communication—A Final Report of the Honduras Primary Health Care Communication Project, by José Ignacio Mata (Tegucigalpa: HEALTHCOM Project, December 1985).

2. See *Proceso de Desarrollo Administrativo (PDA)* (Tegucigalpa: Honduras Ministry of Health, October 1986).

3. For more on an experiential approach to learning, see *Handbook of Structured Experiences for Human Relations Training*, by W. Pfeiffer and E. Jones (San Diego: University Associates and Consultants, 1981).

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Institutionalization of the HEALTHCOM Methodology in Lesotho

Edward F. Douglass

Don't Forget the Future

In the context of international development, "institutionalization" is a process of ensuring that what a project has introduced to a host organization becomes an integral part of the organization's operation. Whether the project introduces new personnel, skills, equipment, objectives, or ways of accomplishing goals, these changes must become self-sustaining within a given environment in order to say that institutionalization has occurred. Such transfer will not take place if the project fosters dependence on short-term expatriate expertise or short-term donor resources.

Institutionalizing a health communication methodology is one of the goals of the HEALTHCOM Project. A resident adviser—a specialist who lives in the country for at least two years—is charged with implementing the project in collaboration with specialists in a variety of fields within the host country. Generally the primary collaborating organization is the health education unit of the ministry of health. These counterparts play a central role in the institutionalization of new approaches. However, other governmental, private, and community organizations play a role as well.

The fundamental technology utilized at HEALTHCOM Project sites is a particular way of going about the creation, presentation, and testing of health education strategies and materials so that they are founded upon research into the client's perspective and address the client's concerns. This communication methodology has as its ultimate aim the adoption of positive behaviors among caretakers so that the incidence of sickness and death in their children under five years of age will be reduced.

The methodology has proved effective in promoting important health technologies in several countries, and experience suggests it will be beneficial when applied to an even wider range of public health problems. However, application to specific interventions will reap only short-term benefits. If the methodology is embraced and utilized by the staff of health education units and collaborative partners, there should be a noticeable increase in the effectiveness of public health information, education, and communication (IEC) and a resulting change in health practices over the long term.

Ideally, the process of institutionalizing a complex activity like the HEALTHCOM methodology would be carried out over the period of a generation. Unfortunately, HEALTHCOM resident advisers have only from two to perhaps four years to initiate this process. If progress toward institutionalization is to be made, with what should the resident adviser be concerned?

Experience in the Ministry of Health in Lesotho suggests two major tasks for the resident adviser. One is to **introduce and teach the methodology** and **demonstrate its effectiveness** to Health Education Unit (HEU) staff and management personnel (as well as to their superiors) at every opportunity. The second task is to create or **strengthen structures and systems of management** so that the methodology has a favorable environment in which to persist after the life of the project.

Teach and Demonstrate

Formal classes, seminars, and workshops are useful vehicles for teaching a methodology. Upon initiation of a HEALTHCOM Project, one of the first priorities is an assessment (either formal or informal) of local skills and resources. Organized training sessions on specific methodology-related topics may be appropriate

for professionals within the health education unit as well as for partners in other units and collaborators outside the ministry. If the budget allows, such training can be useful throughout the life of a project—to reinforce as well as introduce skills.

One of the first priorities is an assessment of local skills and resources.

These organized sessions have certain advantages which include focused attention on aspects of the methodology, systematic coverage of the topic, and some valuable public relations visibility for the project's activities and goals. They can also serve to motivate staff members in a variety of ways, not the least of which is to confer a degree of status on the participants and their new activities. Moreover, in bringing together participants from different divisions or organizations (possibly even from the private as well as public sectors) they can help build important cooperative links for future project activities.

Formal training events have disadvantages, too, however. The first is that seminars and workshops can be time consuming for both trainers and trainees. Secondly, protocol and custom may require elaborate proceedings and take up time that might be better spent on teaching and practicing the methodology. A final disadvantage is that formal training tends to be theoretical, and practical applications can easily be underemphasized and divorced from reality.

A complementary approach for teaching essential skills involves the application of the methodology while working one-on-one with the staff. In this environment, advice-giving accompanies naturally with the work and has a less authoritarian tone to it. In the day-to-day operations of a project, the way a resident adviser works with the staff and management team in the counterpart unit has an important effect on the extent to which new methods are learned as opposed to the extent that they are merely observed.

A useful principle is that the adviser should not carry out the work him or herself. Despite formidable temptations and pressures, the rule should be, always work with at least one member of the local staff.

People tend to learn only a limited amount by watching. Tasks accomplished by hardworking advisers on nights and weekends have practically no potential for instilling confidence or building skills among counterparts. (Thinking through, planning, and preparing what needs to be done to involve counterparts in the methodology are appropriate after-hours activities.) Local staff are unlikely to feel much responsibility for or pride in the work if they have not personally taken part in it.

Basic human nature can tempt the adviser to break this rule. Temptations can include the creative desire to do something of one's own; the need to demonstrate one's skills; a drive for perfection that doesn't sit well with the early products of staff who are in training; and, most significantly, impatience. External pressures on the adviser stem from the urgency of project deliverables and the requirements of several bosses to list quantifiable accomplishments on an evaluation form and produce fast, visible results. The resident adviser must always aim at a fine balance between the need to demonstrate success and the need to involve all appropriate counterparts in the project's work. Sometimes an apparent conflict between these

A CASE IN POINT

WHAT TO LEAVE BEHIND

The HEALTHCOM Project's primary institutionalization objective is to ensure that a host country organization or group of organizations will continue to apply systematic health communication to public health programs after project support has ended. Success will contribute to another important objective: sustaining particular behavior changes among target groups over time.

The critical elements of a public health communication methodology that should be institutionalized are:

- strategic integration of communication with other program elements including training, product development, distribution, and service delivery.
- regular, comprehensive communication planning;
- use of developmental research to inform plans and strategies;
- focused instructional goals established around a narrow set of behavior objectives;
- use of multiple, integrated communication channels (mass media in addition to face-to-face support);
- careful testing of all educational materials;
- regular monitoring of program activities to identify and correct problems.

The Appendix to this field note describes the skill areas that are critical to carrying out the methodology and also outlines constraints, tactics, and indicators of successful institutionalization.

two "goods" can be resolved by publicizing interim achievements that management would not otherwise perceive as valuable. Staff members likewise benefit from public validation of this step-by-step approach.

PUBLICIZE RESULTS

Although training helps instill in ministry counterparts a degree of confidence in the methodology, this commitment only becomes self-reinforcing when counterparts see desired results coming from their own efforts. Practicing the skills and techniques that demonstrate concrete results during the life of the project are critical to institutionalization.

Within the time frame of a HEALTHCOM project it is difficult to demonstrate that the methodology as a whole works and works better than what has been in use before, because significant data (changes in behavior or an actual reduction in morbidity/mortality) are not available in the short term. Successes of predecessor projects or similar ongoing projects may help to convince, but there is no match for local proof. Results from early stages of implementing the communication methodology locally can begin to prove its value, especially if the resident adviser calls attention to these achievements. One approach is to identify and formally share results from qualitative studies of the target audience. The findings can be very revealing to health educators as well as to professional health staff.

In Lesotho, for example, qualitative studies showed that mothers distinguished among eight different kinds of diarrhea. Mothers have differing levels of concern about these diarrheas and they have quite different behavior patterns in the treatment of each kind.[1] One condition is thought to afflict a child who crosses the path of a woman wearing a kind of perfume said to be irresistible to men. The result is a virulent kind of diarrhea which, according to its symptoms, would be called dysentery by western medicine. Because of the perceived cause, the mother does not believe that ORS or SSS are appropriate treatments, and she takes the child to a traditional healer.

This information was new to most of the health educators and health professionals. It made them realize that they were not as conversant with diarrhea and its local treatment as they thought they were. Furthermore, health educators recognized that without this knowledge of what mothers knew and typically did, communication efforts would have been off target.

The results of developmental research are by definition positive, because they are by nature useful. Unlike the more threatening summative evaluation data, information gathered at this stage—even if it reveals "problems"—can be presented as the key to solving problems. Sharing the results of formative research and focusing on them as a starting point for major decision making can be an early

The program discovered that mothers identify eight kinds of diarrhea and treat them differently. The value of such early developmental research should be emphasized.

consensus-building opportunity for the project.[2] It is also an important training opportunity. The research basis of systematic health communication is one of its most challenging features to many ministries of health. Only by repeatedly promoting such discussions of research results and their implications have the terms "KAP studies" and "focus group interviews" become accepted buzz words at the Ministry of Health in Lesotho.

The results of developmental research are by definition positive, because they are by nature useful.

Concrete discoveries arising from the pretesting of health education materials provide another opportunity to demonstrate the efficacy of an essential stage of the methodology. Health education unit staff are often capital bound. They want to generate materials for a target audience by taking as much care as they can to create messages that seem (to them) clear and unambiguous. Before witnessing the value of pretesting they are not likely to view the process as a cost-effective use of their limited budgets.

An actual pretest experience often reveals that the target audience understands materials in an entirely unforeseen way. In some cases, the intended message is lost or,

worse, misunderstood.[3] The graphic artist or the radio producer is usually embarrassed by the miscommunication and quickly learns that pretesting can save him or her from making a serious communication mistake.

Decision makers can also be shown how much they have saved by making this upfront investment to avoid potential disaster. The materials development person or team will eventually come to rely upon this part of the methodology. Moreover, once materials are revised and prove acceptable to a target audience, the design process becomes a success quite beyond that of producing intrinsically "creative" materials.

Reexamine Structure and Staffing

Beyond the resident adviser's teaching efforts, work behavior, and highlighting of particular steps in the HEALTHCOM methodology lie a series of potentially more difficult challenges to institutionalization.

One fact which was immediately apparent in Lesotho was that the HEALTHCOM methodology is much more labor intensive than the health education approach used before. Because the methodology aims to achieve behavior change, it deals with communication programs in support of different technologies (diarrheal disease control or immunization) rather than isolated campaigns. In Lesotho, it calls for an integrated effort involving health workers at all levels to teach the target audience(s); it calls for the extensive use of print and graphic materials as well as the intensive use of radio. To produce behavior change, this tripartite effort has to be sustained over time, with special periods of intense work timed to a diarrheal season or a repeating urban vaccination cycle, for example. It also requires ongoing monitoring of effects and outreach to relevant organizations.

The methodology deals with communication programs rather than isolated campaigns.

In Lesotho, this much energy and resources have never been put into health education efforts. The implications of the methodology in terms of size of staff and extent of their skills and in terms of the management of human and material resources are significant. Obviously, without appropriate staffing levels the methodology cannot be sustained, let alone extended to additional public health problems.

What can an adviser do when there are simply not enough staff members? One priority when setting up a project such as this is to make sure that the resident adviser is assigned at least one true counterpart. In Lesotho, the adviser assisted the development of the Health Education Unit (HEU). The appropriate counterpart was the head of the Unit and this working arrangement was established from the beginning. But the adviser was also responsible for carrying out public health communication interventions in support of the country's programs in the control of diarrheal disease, immunization, breastfeeding and infant nutrition, and child spacing. No counterparts were assigned for the tasks of designing and implementing comprehensive communication programs for these four child survival areas.

What can an adviser do when there are simply not enough staff members?

Working with the graphic artists and the radio producers to create materials was only a small part of the task; however, this was the only part of the task originally understood by the staff. Other important steps of the HEALTHCOM methodology, especially the management of developmental research, integration with service delivery activities, and collaboration with other units in the ministry, were not anticipated and no counterpart(s) were available to carry them out.

The government has found it difficult to provide the necessary staff positions to carry out systematic health communication planning. The adviser needed to put considerable energy into working with the head of the HEU to persuade the Ministry authorities to fund new staff positions. The effort has paid off: the staff of the Unit nearly doubled in size in the first 18 months of the project and a counterpart was assigned for the design and implementation of communication interventions.

Several tactics were used to increase the size of the staff. First, Health Education Unit staff positions had been previously "borrowed" by other units in the Ministry and not returned. Reclaiming lost positions proved easier than finding new money. Efforts were also made to secure the transfer of positions from other units of the Ministry of Health. Because the Ministry is placing a higher priority on health education at present, moving positions away from other programs that do not enjoy the same priority and attaching them to the Health Education Unit may be politically feasible. Caution is in order, though. An individual gained from another unit may be motivated but may come with little or no experience in traditional health

education, let alone in different aspects of modern health communication. The new staff member will need a period of training before he or she can be productive. Furthermore, the contributing unit may see the request to give up an employee as an opportunity to rid themselves of a problem individual. A degree of screening is essential.

Whenever the resident adviser is asked to take on new responsibilities, he or she should also ask for additional counterpart positions or encourage interministerial transfers (secondments).

The massive attention now being given to AIDS is a case in point. When the Health Education Unit in Lesotho took on this new health challenge, the Unit successfully made the case for three new positions so that staff members who were being counted on for work in the areas of immunization and oral rehydration therapy would not be diverted.

None of the tactics described here for obtaining more staff involve the use of donor-funded positions. Donor funding is usually of short duration and does not contribute to the long-term building of a unit.

None of the tactics described here for obtaining more staff involve the use of donor-funded positions.

Donor-funded positions are very useful, however, in two cases. One of these is to cover a position while a regular staff member is sent off for further training. Another is to contribute in the short term to on-the-job training programs for permanent staff.

Adjust Organization and Management

An additional factor in the institutionalization of a public health communication methodology is the organizational structure of the health education unit itself. Does the structure favor the methodology? For example, is the structure appropriate for activities dealing with the design and implementation of integrated, multimedia, and face-to-face programs? Do the graphic artists work independently of the radio producers or, preferably, do they work in teams?

Who plans programs and coordinates the work of researchers, graphic artists, and radio producers? Does nearly everyone report directly to the head of the unit or, preferably, is there a middle level of management that can devote time to actual program implementation? Most important, does the unit communicate with other parts of the ministry dealing with training and technical issues?

Does the unit communicate with other parts of the ministry dealing with training and technical issues?

As a result of the introduction of the HEALTHCOM methodology to the HEU in Lesotho and the introduction of new skills to the staff (as well as the introduction of new staff members) the kinds of work performed within the Unit are changing. Whereas the Unit used to have a single health educator, it now has a team of specialists: radio producers, newspaper writers, developers of materials for the educational system, creators of training manuals for health workers, persons who work through traditional and other social organizations, artist-illustrators, printers, and others.

As these changes occur, a change in management technique is necessary. Emphasis now must be put on coordinating staff efforts to create and implement sustained programs of formative research, health communication, and evaluation. The head of the Unit must be more and more a manager of diverse activities and less a doer. Furthermore, the staff of the Unit has grown in size to the point that no single individual can keep adequate track of and provide guidance for all the activities currently underway. This means that a middle level of management, with responsibility and authority to delegate and oversee all aspects of health communication interventions, is essential. In the absence of such a system, interventions can only be carried out for one or two health topics at a time. If the management system and style are not appropriate to the methodology, institutionalization will be difficult to achieve.

The resident adviser in Lesotho has worked with HEU staff to help with the development of a management system appropriate for carrying out modern public health communication interventions in a range of health areas. One of the steps has been the joint writing of a mission statement by and for the Unit. This is a declaration of what the Health Education Unit exists to do (and by implication, what it is not prepared to do). The process of thinking through the document helped to develop a sense of unity of purpose among individuals with different responsibilities.[4] A second step has been the writing or

rewriting of job descriptions for each staff position to highlight new tasks inherent in the new approach. This exercise has helped the staff know what is expected of them and has required management to think through the Unit's personnel needs.

A third step has been to encourage management to build incentive and reward systems for excellent performance. At present the Ministry has no system for reviewing work and providing rewards of value to members of the Unit. Ideally, compensation would involve higher pay or upward job reclassification. However, these are difficult times financially for Lesotho. At the risk of fostering dependence on donor funds, outside money is often made available for overseas training or to purchase equipment long sought by deserving employees. Although financial rewards can be powerful, they are not the only effective reinforcements. Management needs to be creative in finding appropriate social rewards for outstanding staff performance.

Management needs to be creative in finding appropriate social rewards for outstanding staff performance.

Assisting in the process of making structural adjustments within part of a bureaucracy can consume an enormous amount of an adviser's time. These are inherently slow processes and are sometimes impossible to effect within the lifetime of a project. Yet, if at the beginning of the project a resident adviser sees that the counterpart structure is inhospitable to modern public health communication activities, relevant areas need to be strengthened in order to carry out the project's objectives. A weak or inappropriate organizational structure can be an impediment not only to institutionalization but to progress in implementing individual interventions.

Remember the Bigger Picture

Institutionalization is also affected by factors within the larger organizational structure of the ministry—and beyond. Is the health education unit an integral part of the development of the ministry's health care programs or is the unit brought in only to promote specific desired practices? Is the unit in a position to coordinate health education in the country or is health communication carried out by several organizations that are not able to cooperate effectively? And if decentralization is a goal, is the unit able to provide training and guidance to regional or local partners?

An organization's ability to build coalitions, to contract private sector organizations if appropriate, and to extend outreach to diverse constituencies who can contribute to the adoption of positive health behaviors, is an important indicator of its potential for long-term effectiveness.

In Lesotho, the Health Education Unit is in a position to participate in every aspect of health education in the country, particularly with respect to face-to-face training. The HEALTHCOM methodology relies heavily on face-to-face interaction with the public by professional health workers—and often volunteers—at all levels. The Health Education Unit in Lesotho participates in the continuing education of health workers of all kinds. The Unit creates training materials and teaching aids that effectively guide the content of what nurses and village health workers teach mothers.

The promulgation of standard health education messages helps to avoid the danger that disparate parts of the health system will communicate different messages to the target audience(s). It also assures that messages conveyed through personal interaction and through other media, such as print and broadcast, are consistent. If mass media messages conflict with and undercut the teaching of mothers by health workers, for example, a problem of serious proportions could arise.

The Unit also reaches out to groups not within the Ministry's immediate structure. In Lesotho, physicians in government service as well as in private practice have an important influence on the success of a child survival program because of mothers' high regard for their opinions and advice. The number of physicians in Lesotho is growing rapidly. Many are expatriates who come only for two-year tours, creating a large turnover. These physicians are often given positions of great responsibility, such as heading district hospitals and health management teams. Depending on their training and prior experience, they have varying levels of enthusiasm for certain technologies (such as oral rehydration therapy). Recently the Unit has supported what will become a regular orientation program by the Ministry for new physicians. The Health Education Unit presented these physicians with an overview of the Unit's most active health education programs, provided them with health education materials, and appealed to them to support the Ministry's policies and programs through their patient education efforts.

About half of Lesotho's hospitals and 60 percent of its clinics are operated by religious mission organizations. These institutions organize themselves through the Private Health Association of Lesotho (PHAL). In view of their significant role in health care delivery and health education, it is important that mechanisms for coordinating activities be established. The Unit is in the process of developing standard messages to be used by all health educators in

Lesotho. The messages are accompanied by a cover letter signed jointly by the head of the Ministry program and the chief health educator, explaining the critical importance of offering consistent information to target audiences.

The Unit also engages in outreach to faculty of the health training institutions so that course content (e.g., interpersonal communication techniques, development and use of visual aids, specific health messages, and so forth) is consistent with Ministry norms. Over time, professional health workers such as nurses and pharmacists can eventually be expected to deliver the same information that the public is learning from other communication channels.

Coordination of training and message development is only possible if other departments within the Ministry of Health are also able to communicate and work smoothly together. The structure of the Ministry in Lesotho favors the coordination of work by the Health Education Unit with the activities of different programs (such as immunization, the control of diarrheal diseases, family planning, and acute respiratory infections). The Unit is represented on the technical coordinating committees of all these programs. One of the Unit's purposes, as expressed in its mission statement, is to provide communication support to these programs. The heads of these areas are regarded as the experts for all technical input into communication strategy development.

Avoid Donor Dependence

A technical assistance project can unfortunately easily erect its own barriers to institutionalization. This happens primarily through the pursuit of an unsustainable scale of operations. A temporary abundance of resources and prestige can detract attention from the need to establish processes that are appropriate within an imperfect environment, or to focus attention on the process of changing that environment. Vision must always be aimed at the day when donor resources will be withdrawn. In Lesotho, the HEALTHCOM Project had money to pay for many of the costs associated with the methodology over a given time period. However, the temptation to spend at rates that the Health Education Unit's budget could not sustain after the project was over has been resisted. More work has to be done to increase the size of the annual budget so that the costs of a public health communication approach can be provided for. Without the money to pay for research, media talent, radio spots, printing costs, and so on, the methodology cannot be kept alive.

Is institutionalization achievable in the time frame of a typical HEALTHCOM country project? A great deal depends on the country situation and how the resident adviser goes about his or her work. In the space of two years, the answer to the question is probably "no." However, progress toward institutionalization—and the elimination of some of the impediments to carrying out the HEALTHCOM methodology—is realistic.

Notes

1. See also Field Note No. 2, "Ethnomedical Research for Developmental Purposes: Examples from Nigeria and Zaire," and Field Note No. 21, "Field Perspectives on Implementation of an ARI Communication Pilot Study in Honduras," for examples of how local illness taxonomies have been used as the basis for strategy design and policy development.

2. See also Field Note No. 5, "Reporting Research Results as Information Exchange: A View from Niger State, Nigeria," and Field Note No. 22, "Participatory Project Design: The First Step in Sustainability," for discussions of how research can be used to bring decision makers together and how it can be presented in a positive setting as the basis for project design.

3. Numerous field notes in this volume describe how pretesting is vital to the development of appropriate materials. See especially Field Note Numbers 6, 7, 10, 11, 12, 13, and 20.

4. See also the field note entitled, "Building Management Systems on Cultural Traditions in Developing Countries: An African example," by Donald P. Mullally and Edward Douglass (unpublished).

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TAKING THE MEASURE OF PROJECT INSTITUTIONALIZATION*

Every development project must balance the pressure to demonstrate early results with the longer-term need to build organizational capacities. Sometimes these goals can be addressed simultaneously. More often a conflict will arise, particularly when time and resources are limited.

A phased approach is rarely the solution. Too frequently projects that are divided into a "demonstration phase" and an "institutionalization phase" end before the second phase has begun. No matter how resources are allocated, capacity building should be part of all activities to some degree. One of the first priorities of a project should be the design of a realistic institutionalization plan. Its goals should be monitored throughout the project.

TACTICS

Institutions, like people, are unique. Each presents special openings and obstacles to the adoption of new approaches. The following strategies may be helpful:

Trust consensus building—Begin the process of institutionalization at the program's outset. Familiarize staff and decision makers with the concept. Seek the participation of counterparts in designing the institutionalization plan, as all plans. Build the concept into letters of agreement. When capacity building becomes a stated goal, it can be measured and progress can be celebrated just as other forms of success are.

Clarify roles and build coalitions—Organizations must work as a team, just as people must, in order to meet common objectives. Focus on these common goals when building coalitions. Seek partners at every level (government, private sector, and local community networks). Clear definition and respect for roles is the key to effective cooperation.

Apply behavior change strategies at the institutional level—Establish concrete intermediate goals that are obtainable over short periods of time. Give periodic feedback to staff (such as charts of program progress) so they can see the effects of their work. Provide positive reinforcement to program participants whenever possible. Opportunities for further training or for expanded responsibilities can be appropriate rewards.

Pursue skills training—Train more people than necessary at all levels. This will help lessen the effects of staff turnover. Today's director of EPI may be tomorrow's health education director—or vice versa. Make sure that post descriptions are changed to reflect responsibilities for performance in specific areas.

Build interdisciplinary constituencies—Consult with people from different disciplines and groups (including physicians, marketing professionals, auxiliary health personnel, community participation strategists, commercial retailers, and communication specialists) throughout the life of the project. Familiarize the ministry with methods for bringing in outside expertise—establishing links with local universities and writing contracts with private companies.

Learn to work the system—Look at policies, procedures, and norms. Be an expert on how to get a budget approved. Learn what motivates those individuals and organizations whose opinions and actions are crucial to program success. Most important, keep them informed and involved.

Publicize results—One of the most effective variables of long-term program survival is a program's ability to show that it works. Tangible results supply a base upon which institutionalization can be furthered. However, don't wait for a final evaluation to publicize success. Find interim measures of progress to keep the program visible.

Find multiple uses for technical assistance visits—Use consultant/technical assistance visits as an opportunity to train counterparts in specialty fields.

CRITICAL SKILLS

Training (both formal and on-the-job) is the heart of capacity building. Four major skill areas are needed to conduct effective public health communication:

Management—A health communication program manager must be aware of the overall program. This person should have a broad understanding of communi-

*Portions of this Appendix are adapted from previous HEALTHCOM documents: Chapter 10 of *Communication and Marketing for Child Survival*, by M. Rasmuson, R. Seidel, W. Smith, and E. Booth (1988); and the introduction to "Institutionalizing a Methodology for Public Health Communication: A Midproject Report," by M. Rasmuson (1988).

cation strategies and the principles of behavior change and community participation. He or she should be skilled in mobilizing resources, supervising staff, building coalitions (and writing contracts with private sector companies if appropriate), and monitoring program performance. The manager should also be able to articulate program issues and problems to various constituencies.

Research—Competent staff members must be able to conduct developmental research, materials pretesting, and program monitoring. None of these activities necessarily requires sophisticated quantitative research abilities. They do, however, require a basic understanding of qualitative research design, training in certain kinds of questionnaire development, and knowledge of special techniques such as how to conduct focus group discussions with the target audience.

Communication Planning—Planners must be able to use research results to formulate appropriate behavioral objectives and educational messages and to design effective strategies. They must have an understanding of how different communication channels can be integrated to achieve maximum message impact. And they must be able to write a cogent operational plan with a realistic scheduling of project activities. Skills from the fields of instructional design and mass communication are essential.

Design and Production—Various professional resources and skills are needed to produce radio and TV programs, training kits and manuals, posters, flyers, logos, public relations materials, etc. It is important to strive for the highest level of professionalism and innovative design possible within existing constraints and to balance creativity with careful pretesting so that materials are appropriate and powerful.

INDICATORS OF PROGRESS

The following measures of institutional success should be monitored throughout the project:

- stated commitment to public health communication by leadership of the ministry of health, health education personnel, and relevant private institutions;
- creation of a permanent communication department and/or positions within relevant counterpart institutions;
- annual budget for public health communication activities;
- adequate number of personnel trained in health communication through in-service workshops or more formal processes at both national and regional levels, particularly in the areas of—

  developmental research

  materials pretesting

  program planning

  program management

  supervision and monitoring

  community participation.

- plans and educational materials that reflect the public health communication methodology;
- extension of the public health communication strategy from one program to others;
- strengthening or restructuring of health education units or activities along lines suggested by the methodology—for example divisions of research, design, planning, and management;
- emergence of job descriptions that reflect routine performance of the skills and procedures required in public health communication;
- changes in administrative norms and procedures that integrate health communication with routine overall program planning, establish or increase relevant budgets and staff, and support training;
- mechanisms for coordinating multi-institutional efforts in health communication and active involvement of diverse groups.

CONSTRAINTS

Projects supported by external donor assistance confront a number of typical barriers to long-term institutionalization. Some of these problems are inherent to a local system; some are inherent to donor funding.

Problems Inherent to the Local System

Lack of personnel slots—"Slots," or administrative positions, drive bureaucracies. If slots do not exist for appropriate specialists, these must either be created or other slots be given the new responsibilities. Temporarily assigned counterparts may work hard for a year or so and learn a great deal, but their participation will likely end with the project.

Lack of budget items—Many governmental institutions have no budgetary line items for air time, actors, field research, or promotional materials. To create a new budget line item in a government min-

istry is almost impossible; yet without resources to cover these costs, the job will not get done.

Lack of policy maker commitment—Health education is typically a low priority in ministries of health. Emergency or epidemic situations attract attention for the short-term but have little long-term effect on investment of resources.

Fear of data and failure—The type of developmental methodology that lies at the heart of the public health communication project's success requires an empirical view of the world—skepticism of unresearched "facts," a love of uncovering mistakes (particularly one's own), and a willingness to adjust course. Mistakes are anathema to bureaucracies, however. The fear of admitting failure constitutes a major stumbling block to a research-based methodology.

An absolute paucity of resources—The poorest countries have chronic shortages of trained personnel. Moreover, ministry budgets are so spartan that funds are often insufficient for such essential commodities as paper, audio tapes, gasoline, and per diems for field trips. Donor-funded projects are often used by governments to finance these basic operational costs.

A scarcity of communication expertise—Even countries with greater resources often suffer from a shortage of the skills necessary to implement effective communication programs. Sometimes the skills are available but the management ability to tie them together is absent.

Resistance to setting priorities—Most developing country public sector professionals feel compelled to address the whole range of health problems facing their countries. Officials are reluctant to set priorities and exclude other colleagues' specialties. Consensus decision making can lead to programs with too many objectives.

The need for visible success and the lack of continuity—Every new official needs to demonstrate success in a short amount of time. The temptation is to go for the flashy campaign rather than the long haul. Systematic public health communication programs have little chance to be institutionalized if the product and the delivery systems, including health worker and opinion leader training, are not developed at the same time as the promotion strategy.

General resistance to change—The public sector in many developing countries discourages, rather than rewards creativity. The measure of success is survival, not a challenge to the status quo. Yet innovation is frequently what makes the difference between a superficial program and one capable of changing health behaviors.

The print prejudice and the fear of media—Everyone wants a nice poster and pamphlet. Broadcast media can be threatening—expensive, unfamiliar, and risky. A single angry call from the minister's cousin can ruin a bureaucrat's career. At the same time, broadcasting is often viewed as a miracle drug. If diarrhea is mentioned on TV or radio, it is considered "covered". Channel strategies are not well understood, and like research, represent a difficult aspect of the methodology.

Problems Inherent to Donor Funding

Unsustainable outside prestige—Well-financed, donor-conceived projects receive special attention within most developing country bureaucracies. This attention helps overcome implementation obstacles as they occur, but the positive effects of this prestige are impossible to replicate when the project loses its donor status.

Unsustainable control of money—Money is not only short in developing countries; procedures for spending money are often cumbersome and result in delays. Donor-funded projects have ways around these obstacles. They short-circuit the system, often in simple but important ways. This flexibility is difficult to replicate once outside support is withdrawn.

Disappearing focus—Outside experts are able to focus on a single task, are well paid, have special status as outsiders, and are driven by explicit project-related measures of success. These factors combine to act as a catalyst for energy and action within a project. Unfortunately, none of these elements can be replicated by local counterparts.

COMMON SENSE GOALS

Given these realities, a project should set reasonable goals. One A.I.D. study* concluded that programs are most likely to be sustainable "when they are affordable (by the country and the community), when beneficiaries have a role in planning and managing them, when simple but effective management systems are in place, and when program objectives are focused but not limited to a single intervention."

**"Development Assistance and Health Programs: Issues of Sustainability," by Shirley Buzzard (A.I.D. Program Evaluation Discussion Paper, No. 23, 1987).*

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