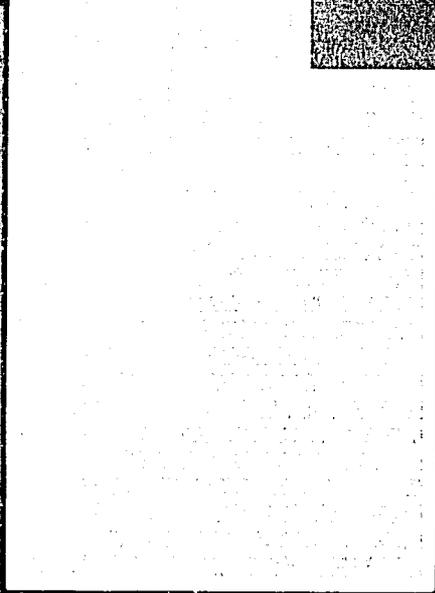
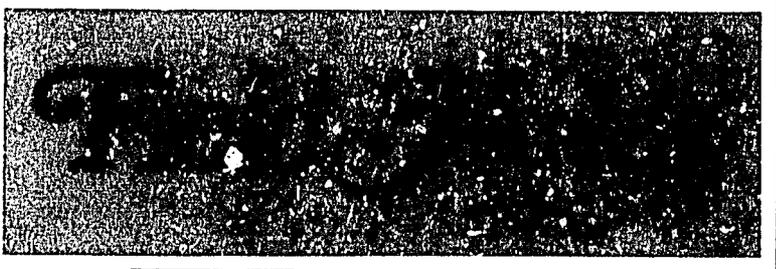
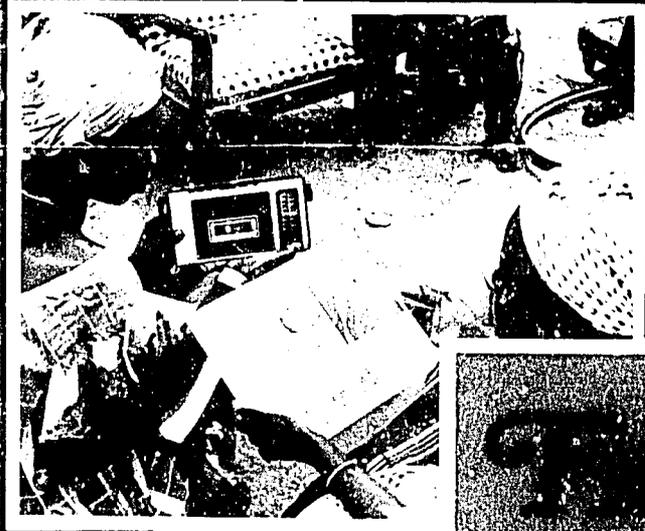


- PN-AAU-030 42668 -

COMMUNICATION FOR CHILD SURVIVAL



A PROGRAM OF  
THE OFFICE OF HEALTH AND THE OFFICE OF EDUCATION  
BUREAU FOR SCIENCE AND TECHNOLOGY  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
and the  
ACADEMY FOR EDUCATIONAL DEVELOPMENT  
1255 23rd STREET, N.W. WASHINGTON, D.C. 20037  
UNDER A.I.D. CONTRACT No. DSPE-C-0023

PN 1112-030



42668

## COMMUNICATION FOR CHILD SURVIVAL

The following field notes are part of an effort to share program experience with decision-makers and practitioners alike. The notes are short descriptions of specific aspects of HEALTHCOM activities. They have been developed over the course of the project. Many of the ideas and plans expressed in the earlier notes have been modified to meet changing circumstances as the project developed.

The notes are not comprehensive but rather are anecdotal stories of specific aspects of project developments which might be of particular interest to readers. They have been edited for consistency of usage, but each of the papers reflects the individual style of the authors.

It is anticipated that project experience gained to date, as reflected in these field notes, will provide a solid basis for on-going programs.

AGENCY FOR INTERNATIONAL DEVELOPMENT  
Bureau for Science and Technology  
Office of Education  
Office of Health

Dr. Anthony Meyer and Mr. Robert Clay  
**Project Managers**

OCTOBER 1985

A Report on the Communication for Child Survival Project  
(HEALTHCOM) prepared under Agency for International Development  
contract No. DSPE-C-0023

## TABLE OF CONTENTS

<u>Field Note</u>	<u>Title</u>	<u>Date</u>	<u>Page</u>
	INTRODUCTION		iii
1	PACKETS: Do Visual Instructions Make a Difference? by William A. Smith and Reynaldo Pareja	April 1981	1
2	THE ORT POSTER: Something Special for the Professionals by William A. Smith and Reynaldo Pareja	April 1981	8
3	BEHAVIORAL ANALYSIS APPLIED TO HEALTH COMMUNICATIONS by William A. Smith, Reynaldo Pareja, Elizabeth Mills Booth, and Paul Touchette	December 1981	11
4	1982 HEALTH WORKER TRAINING REPORT by Mark Rasmuson	March 1983	34
5	REPORT ON THE 1982 "HAPPY BABY LOTTERY" by Mark Rasmuson	March 1983	39
6	AMA - MAS: A Radio Course on Breastfeeding by Elizabeth Mills Booth	September 1983	46
7	RAINY SEASON FEEDING MESSAGES by Mark Rasmuson	March 1984	60
8	1984 MINI-CAMPAIGN IMPLEMENTATION PLAN by Mark Rasmuson and Saihou Mama Ceesay	February 1984	67
9	THE ROLE OF FORMATIVE EVALUATION IN THE MASS MEDIA AND HEALTH PRACTICES PROJECT by Mark Rasmuson and Elizabeth Mills Booth	May 1984	84
10	PERCENTAGES OR PERSPECTIVE: A Comparison of Quantitative and Qualitative Research by Elizabeth Mills Booth and Chloe O'Gara	May 1984	92
11	RADIO: The Daily Reminder by Elizabeth Mills Booth	June 1984	100

12	THE MEASURE, THE PROBLEM by Elizabeth Mills Booth and Reynaldo Pareja	April 1985	106
13	PERU: The Marriage of a Ministry and an Ad Firm by Anthony J. Meyer, Reynaldo Pareja, Art Danart, and Elizabeth Mills Booth	April 1985	110
14	ETHNOGRAPHIC RESEARCH: A Bridge Between Traditional and Modern Health Delivery Systems by Elizabeth Mills Booth, Edward C. Green, and Dale Huntington	May 1985	114
15	EPI AND THE FOUR P's: Applying Social Marketing to Immunization Programs by Elizabeth Mills Booth and Jose Ignacio Mata	May 1985	119

## INTRODUCTION

Diarrhea kills about four million children a year. Oral rehydration therapy (ORT) could save many of these lives if there were effective diarrheal disease control programs in developing countries. Yet ORT is not widely used because health care providers and mothers still do not recognize its true potential.

In 1978 the Agency for International Development through the Academy for Educational Development initiated a project to apply what is known about communications and social marketing to promote oral rehydration therapy and related child survival practices. The project began work in Honduras and The Gambia as the Mass Media and Health Practices Project, focussed primarily on ORT and the control of diarrhea. Today the project has an expanded focus and includes a variety of child survival technologies, particularly immunization, infant nutrition, and preventive measures. The project is now known as Communication for Child Survival--HEALTHCOM. In addition to its work in Honduras and The Gambia, the project is working in Swaziland, Ecuador, Peru, and Indonesia and soon will begin work in Malawi and Lesotho.

In Honduras and The Gambia HEALTHCOM focussed on those most at risk, children under the age of five. Using mass media, combined with health worker training and simple print materials, rural women were taught what oral rehydration therapy is, how they could use it at home, and how to monitor their children's progress during episodes of diarrhea. Special emphasis was also given to feeding advice in an effort to break the vicious cycle of diarrhea and malnutrition.

In Swaziland a standardized homemade oral rehydration solution (ORS) formula was developed and popularized along with infant feeding and child care advice. Again promotion involved health care workers, radio, and simple printed materials. Special attention was given to the diagnosis of dehydration, the mixing and administration of the ORT solution, the special care and additional feeding required after diarrhea, and the prevention of diarrhea through simple hygiene.

In Ecuador HEALTHCOM worked within the Integrated Rural Development Project and created radio, health worker training, and print materials on the recognition of dehydration, the promotion of Suero-Oral (the locally produced WHO-formula rehydration salts), the correct mixing and administration of these salts and related child care and hygienic practices.

In Peru HEALTHCOM helped to develop an "umbrella" media campaign which included phased radio and TV broadcasts and print materials on diarrhea, immunization, and child spacing.

In Honduras:

- At the end of two years, 95 percent of the mothers who had heard campaign messages could name LITROSOL (the local ORS packet) as the medicine promoted.
- After two years, over 60 percent of the women in the project area reported having used LITROSOL to treat diarrhea at least once.

- After two years mothers reported using LITROSOL for over one third of all episodes of diarrhea.
- Of those who said they used LITROSOL, at the end of the campaign:
  - Over 90 percent knew how to mix it properly
  - An average of over 70 percent reported giving the correct daily amount
- The number of deaths associated with diarrheal dehydration dropped by 40 percent, from 39.8 percent in the two years prior to the program to 24.4 percent in the two years after the program started.

In The Gambia:

- By the end of the campaign about 90 percent of the mothers were aware of a water/sugar/salt treatment for diarrhea.
- After two years of the campaign, 70 percent of the mothers in the country knew the correct formula promoted for the homemade oral rehydration solution.
- During the second year of the campaign, over half of all episodes of diarrhea were treated with the sugar/salt solution.

In Swaziland:

- By the third month of the campaign 60 percent of those children coming to the clinics had been given ORS before coming.

# FIELD NOTE 1

## PACKETS: Do Visual Instructions Make a Difference?

By

William A. Smith  
Reynaldo Pareja

April 1981

The Academy for Educational Development is a nonprofit service organization active in many areas of education. Under contract to the Development Support Bureau (now the Bureau for Science and Technology) of the U.S. Agency for International Development, the Academy assisted the Ministries of Health in Honduras and The Gambia to develop comprehensive public education campaigns on the prevention and treatment of acute infant diarrhea. The campaigns combined broadcast radio, simple print material, and health worker instruction in a comprehensive effort to provide practical information to rural women.

The UNICEF oral rehydration packet has no visual instructions. The ingredients are printed on the outside of each packet along with a few written instructions. The problem: most rural people don't read. The question: how do rural women learn to mix and properly administer the oral rehydration salts contained in the packet?

Most oral rehydration therapy (ORT) programs emphasize face-to-face instruction by physicians, nurses, primary health care workers, or specially trained "depot" mothers. Three assumptions are generally made in these programs. First, that most mothers will have direct contact with some health professional or primary health care worker. Second, that the instructions given to the mothers by these individuals are accurate and complete. Third, that the instructions are remembered correctly by the mothers over a period of days or perhaps even weeks.

Total reliance on the first assumption makes a large-scale, rural distribution system for oral rehydration salts (ORS) impractical simply because most rural people do not have ready access to a health worker of any kind. The necessity for direct health worker intervention limits an ORT program's potential impact to that percent of the population which is able and motivated to use the existing health infrastructure. While this might represent a significant improvement over intravenous (IV) therapy alone, it greatly reduces ORS's potential contribution.

The assumption that health workers will provide accurate and complete instructions rests upon the assumed simplicity of the instructions and an abiding faith in the basic intelligence of rural women. While the second assertion is supportable, the former is questionable. There are at least eleven specific actions which rural women must perform to meet minimal performance standards.

They are as follows:

1. Mix everything in the packet.
2. Mix only one packet at a time.
3. Mix the packet in a liter of the cleanest water available.
4. Mix the packet completely, making sure all the salts are dissolved.
5. Give the solution slowly with the instrument (spoon, cup, small glass, or bottle if necessary) most commonly used to feed the child.
6. Give the solution to the child while he or she is in an upright position to avoid vomiting and subsequent choking.
7. If the child vomits, let the child rest; continue giving him or her the solution, but do so more slowly than before.
8. Give the child all the solution in 24 hours.
9. Give the child breast milk and/or free (plain) water in addition to the ORS.
10. Do not store the ORS solution for more than 24 hours.
11. Check to see if the child is improving or becoming worse.

In addition to these mechanical steps, there are several background concepts which mothers must understand. They include:

1. ORS will not stop diarrhea, but they will prevent a child from dying.
2. To discontinue feeding is bad, not good, for the child with diarrhea.
3. Purges are bad for a child with diarrhea.

All fourteen points are important, and the unavoidable problem is that most physicians, nurses, and primary health workers do not remember to tell all the mothers all these facts. In addition to forgetting one step or another, some information is undoubtedly distorted because of poor initial teaching or poor memory. In a survey of rural health personnel in Honduras, it was discovered that only a few were able to remember the correct proportions for mixing the simple sugar and salt formula. Many had reversed the sugar and salt volumes, others forgot how much water to use, and others were unsure whether all the ingredients were really important. Some were suggesting that if a mother didn't have sugar, then just mix lemon juice with salt, or just give sugar-water if salt was scarce. A similar, though less systematic, survey was done with Peace Corps volunteers in The Gambia with very similar results.

A third point bears mentioning. Even if excellent instruction is given directly to rural women, how long will they correctly remember the information with no other external reminder? While some encouraging anecdotal information exists on the capacity of rural people to remember complex verbal instructions over time, the amount of specific information and its relative importance argues for some method of reviewing critical points at regular intervals. But what kind of simple reminder is useful to women who don't read? This was an important question we faced in Honduras.

We knew that radio could be used to teach and to remind mothers, but it was also necessary to develop a supplemental printed guide to reinforce the radio messages and health worker instructions. The guide would ensure that the information given by health workers to rural mothers was well organized, complete, and accurate. At the same time it would be given directly to rural mothers as a reminder of what they had learned from the health worker.

There were three important constraints. First, health workers were heavily overburdened with patients, and they often had only a few minutes, perhaps even seconds, with a given patient. Second, the materials had to be visual rather than written because most mothers don't read. Finally, the solution had to be cheap.

The first attempt at producing a solution to the problem in Honduras was the development of a packet label which contained four simple pictures illustrating the most important mixing step (see figure 1).

Figure 1  
(actual size of label)



The mixing illustrations were first prepared in draft form on large sheets of cardboard and taken to several communities to see if the drawings were properly interpreted. The tests proved very useful; changes were made, and the large designs were reduced and printed on gummed labels for trial use on a small number of packets.

To test whether the visual instructions would work without coaching or teaching, the packet was given to individual mothers totally unfamiliar with the packets or the

program. These mothers were asked to imagine that a friend had given them the packet. The friend had told them the packet was medicine for diarrhea, but their friend didn't know how to mix the packet. Mothers were asked what they would do in this case. The packet was physically handed to the mothers with the visual instructions facing up. None of the mothers perceived the illustrations as "instructions." They seemed to think that the pictures were simply a product label. Several women tried to read the written instructions printed on the back of the packet but were able to understand only a few words. After no more than fifteen seconds of looking at the packet, most mothers opened it and began mixing the salts in water which was available near the test site. They seemed familiar enough with other products like Alka-Seltzer and Sal Andrews to know that the salts should be dissolved in water, although they were unsure what volume of water to use.

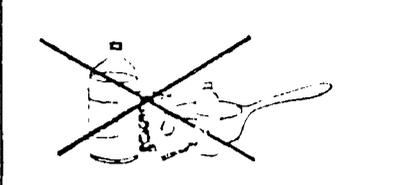
After this first stage of the test, the same mothers were shown instructions on the packet and asked to interpret them. Here the mothers were guided by the interviewer in order to see if they understood the smaller pictures when openly questioned about their content. Again, there were a number of misperceptions, some of which seemed to result from the reduction process. For example, a cup used to fill the bottle in the first illustration was not seen by several mothers even after they were told to look for a cup in the drawing.

The third stage of the test consisted of "teaching" the mothers what the visuals meant. This proved very easy to do. Mothers understood almost instantly, and several expressed their embarrassment at "being so dumb" (their expressions not ours) not to have understood before.

The next attempt focused on the development of a one-page flyer which was believed to be more comprehensive than the simple gummed label (see figure 2). This flyer taught the critical aspects of ORT and the appropriate steps for its use--mixing and administration of LITROSOL, feeding during diarrhea episodes, and the signs of dehydration which meant the child must be referred to a health center.

Figure 2  
 (draft version used only for testing)

# Guía de Tratamiento

<input type="checkbox"/> <input type="checkbox"/>	<p style="text-align: center;"><b>LITROSOL</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>1</p>  <p>Llene hasta un litro.</p> </div> <div style="text-align: center;"> <p>2</p>  <p>Ahora por el corte.</p> </div> <div style="text-align: center;"> <p>3</p>  <p>Eche las sales.</p> </div> <div style="text-align: center;"> <p>4</p>  <p>Tape y agite.</p> </div> </div>	<p>Mezcle el LITROSOL en un litro de agua</p>
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<div style="display: flex;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>	<p>Déle toda la medicina en un día. Además déle pecho, agua o jugo.</p>
<input type="checkbox"/> <input type="checkbox"/>		<p>Déle comida suave como: Sopas, purés, frutas y verduras.</p>
<input type="checkbox"/> <input type="checkbox"/>		<p>No le de Purgantes</p>

Again, the first attempt was not a great success. Several of the drawings were unclear. Mothers thought that the drawing of a child eating was a child just playing with his mouth. The drawings used to indicate a full 24-hour period, namely an early morning sun and the moon at night, were not understood. When mothers were told that the packet contained a "medicine," they concluded that only a few spoonfuls should be given each day. After all who gives a child a whole liter of medicine in one day? When the word "medicine" was changed to "suero" (meaning tonic), mothers accepted the message more readily. In order to indicate that mothers should not give purges, a large, dramatic "X" was used to cross out an illustration of common traditional purges. The significance of the X was lost. Mothers just didn't perceive an X as a "DO NOT" symbol.

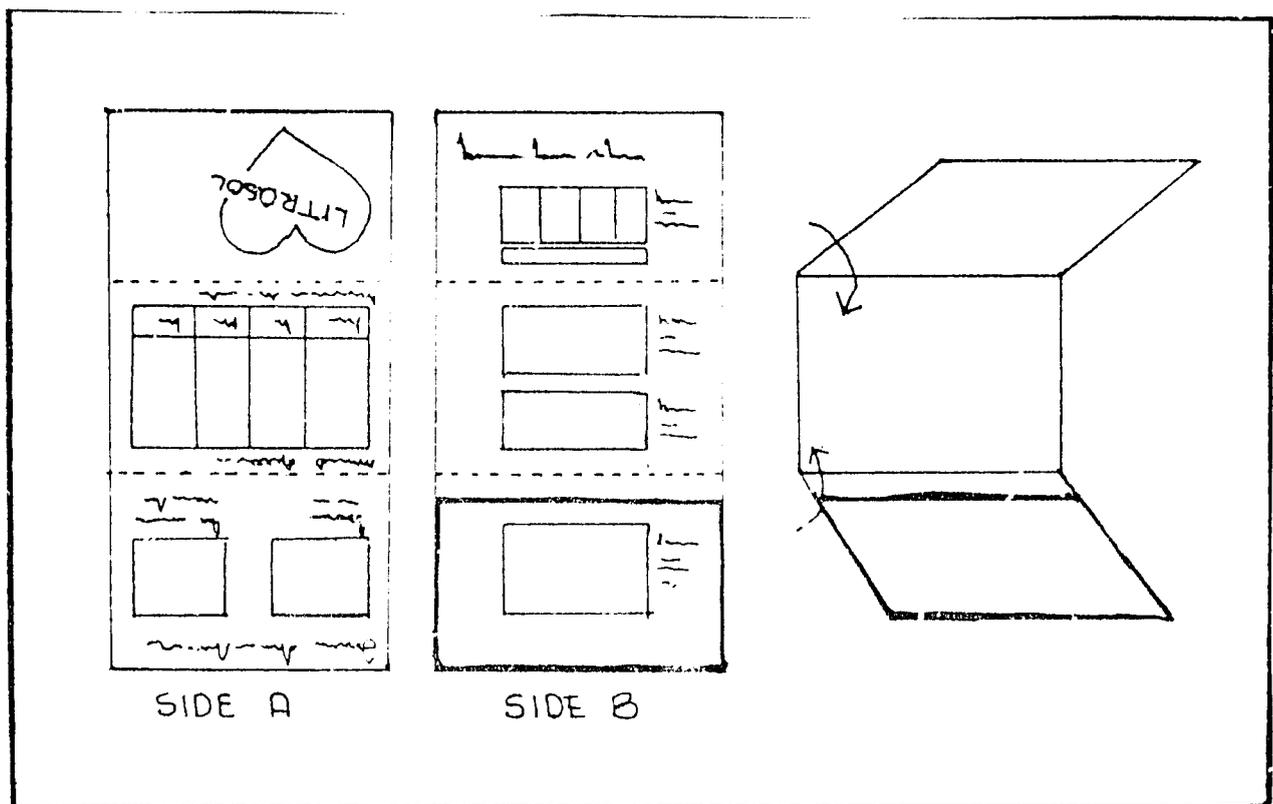
These field tests indicated that not just any set of visuals could be developed which would be easily understood by most rural women without direct instruction. The existing visual vocabulary among rural women just didn't seem rich enough. There was also a concern that we were creating ever more expensive print materials. What had begun as a four-picture gummed label had been transformed suddenly into a double-sided, full-page flyer. If this flyer had to be distributed along with every packet, the cost of the packet would increase by some 30 percent.

Two results of formative research were encouraging, however. First, mothers were able to **learn** the meaning of a given visual quickly and were able to retain the information over periods of up to six weeks with practically no distortion or loss of information. Secondly, literacy rates per household were higher than expected; over 85 percent of the houses had someone who could read and interpret the flyer for the mother.

The team decided to experiment once more with a new idea—a flyer folded to form an envelope which could serve to hold two ORS packets as well as give visual instructions (see figure 3). This would simplify distribution to the mother and yet give her a self-contained sophisticated-looking packet for the new medicine. The visuals for the envelope were based on the results of the first tests and then re-tested. Rural mothers were again asked to interpret the flyer with and without verbal explanation. Primary health care workers tried using the envelope to teach mothers and also gave us their feedback. These results were then incorporated into the final design.

The Ministry decided to experiment with the envelope in spite of the cost. All mothers coming to the health center or interacting with primary health care workers or village mayor distributors would receive two ORS packets inside one of these envelopes and, ideally, a 60-second instruction on how to interpret the visuals.

Figure 3



Systematic monitoring after the first phase of flyer/envelope use showed, however, that most mothers were not being taught how to use the flyer. The health workers and village mayors were frequently handing the mother the packet, giving some instructions on mixing and administration but not all of the information on the flyer. Campaign strategy was then redefined to emphasize the use of the flyer. Health worker training emphasized using the flyer to teach mothers, and a radio spot told mothers to follow all of the instructions on the packet so that LITROSOL would be effective. After five months of broadcasting this spot, 58 percent of the mothers said they learned how to mix and administer LITROSOL from the packet. During other monitoring activities it was discovered that many mothers kept their envelope and referred to it whenever their child had diarrhea.

Based on these results, the Ministry decided to continue using the flyer envelope feeling that its educational benefits outweighed the extra costs to the program. It has been suggested that perhaps the envelope can be discontinued after several years when most mothers have had a chance to use LITROSOL and have thoroughly learned all of the steps due to repeated use. But the Ministry says it will make this decision based on monitoring of the audience needs, knowledge, and behaviors, not just a bureaucratic vertical decision.

We feel we've learned something critical from this process--the importance of careful field testing of educational elements and the regular challenging of basic programmatic assumptions. To assume that a given message is inherently simple, that a particular illustration will get a message across to rural people, or that people will hear and accurately remember a verbal message is a mistake. Careful field testing is absolutely necessary, not only to test basic assumptions, but to detect totally unpredictable audience responses. If this assertion is true of all health education, we found it particularly important in developing an oral therapy campaign in Honduras.

# FIELD NOTE 2

## THE ORT POSTER: Something Special for the Professionals

By

William A. Smith  
Reynaldo Pareja

April 1981

The Academy for Educational Development is a nonprofit service organization active in many areas of education. Under contract to the Development Support Bureau (now the Bureau for Science and Technology) of the U.S. Agency for International Development, the Academy is assisting the Ministries of Health in Honduras and The Gambia to develop comprehensive public education campaigns on the prevention and treatment of acute infant diarrhea. The campaigns will combine broadcast radio, simple print material, and health worker instruction in a comprehensive effort to provide practical information to rural women.

The poster included here has been developed by the staff of the Mass Media and Health Practices project for use by physicians and other professional health personnel in Honduras. The poster has been designed to serve three basic functions:

1. As a teaching guide during training seminars on the use of oral rehydration therapy (ORT) in the treatment of cases of mild, moderate, and severe infant diarrhea.
2. As a post-training reminder to professional health personnel of the most salient points in a proper rehydration program.
3. As a public relations instrument emphasizing the significance of ORT in an overall rehydration program.

The poster is designed as a teaching tool. It is not intended to stand alone, but will be introduced within the context of a short training seminar. Physicians and nurses will be taught to interpret and use it. Likewise, all seminar participants will receive

copies for personal use and additional copies for display throughout fixed health facilities where ORT is likely to take place. **The poster is not designed for illiterate rural audiences.** Indeed, the apparent complexity of the diagrams, the choice of colors, and the illustrations have all been selected to appeal directly to professional medical people in Honduras.

Pre-program research in Honduras indicated that a successful rural program would depend upon the uncompromising support of Honduran medical professionals. Since many professionals were skeptical of the merits of oral rehydration therapy, they had to be convinced that ORT would work effectively. Some physicians and nurses said that ORT simply did not work; others saw it as inferior to traditional intravenous (IV) therapy in the treatment of acute infant diarrhea.

We knew that at best, we might expect only 60 percent of the physicians and nurses to participate in a short seminar on the application of ORT. Previous experience has demonstrated that these seminars can be effective if physicians have the opportunity to actually see rehydration in action and if they leave the session with a concrete reminder of what they have seen. Our problem was how to design a reminder that would be both appealing and convincing.

Clearly, for this audience a simple mimeographed page, or even a lengthy printed document would not do the job. We needed a glossy, attractive reminder to demonstrate the seriousness and importance of oral therapy and at the same time provide practical information. This poster is the result of our efforts to achieve these goals.

The poster's text is based upon the World Health Organization's Manual for the Treatment of Acute Diarrhea and was reviewed and revised by representatives of the Ministry of Health in Honduras. In addition, Dr. Myron Levine was an important source of support and information during the first stages of its development.

The design of the poster functions in the following way. The extensive text in the upper left-hand corner provides important information to the physician. It endows the poster with a visual seriousness that removes the poster from the genre of publicity and makes it a "didactic" tool for the physician. The large, central graphic shows the relationship between various rehydration regimes and stresses with color (blue) that most infant diarrhea can be treated successfully with ORT. It emphasizes the critical relationship between the volume of salts and the length of their administration. Finally, the lower three illustrations and their accompanying text stress three points which emerged during the pre-program investigation. It was discovered during this process that most physicians were not advocating breastfeeding; indeed many were actively supporting bottle feeding. Secondly, most physicians were advocating the withdrawal of food during bouts of diarrhea. Finally, the use of antibiotics to treat infant diarrhea was widespread. These three points which represent important misconceptions among local physicians were selected for particular emphasis in the poster.

This poster is now being distributed widely in Honduras and is one part of a much larger campaign which uses targeted radio broadcasts, a distribution network for nationally produced oral rehydration packets, in-service health worker training, and specialized print materials.

# LA REHIDRATACION ORAL CON LITROSOL

El Litrosol es un medicamento (LITROSOL) para la rehidratación oral en el tratamiento de diarrea en niños y adultos. Se debe administrar en dosis de 50 ml/kg de peso corporal.

El Litrosol es un medicamento (LITROSOL) para la rehidratación oral en el tratamiento de diarrea en niños y adultos. Se debe administrar en dosis de 50 ml/kg de peso corporal.

El Litrosol es un medicamento (LITROSOL) para la rehidratación oral en el tratamiento de diarrea en niños y adultos. Se debe administrar en dosis de 50 ml/kg de peso corporal.

- 1. Paso 1: Evaluación del paciente
- 2. Paso 2: Asignación de tratamiento
- 3. Paso 3: Reevaluación del paciente
- 4. Paso 4: Fase de mantenimiento/prevenición

## I. Evaluación del Paciente

El paciente debe ser evaluado en cuanto a la gravedad de la diarrea, la presencia de signos de deshidratación y la presencia de otros síntomas.

## II. Asignación del Tratamiento

El tratamiento debe ser asignado en función de la gravedad de la diarrea y la presencia de signos de deshidratación.

## III. Reevaluación del Paciente

El paciente debe ser reevaluado a las 4 horas de iniciado el tratamiento para determinar si se requiere un mayor nivel de atención.

## IV. Fase de Mantenimiento/Prevención

El paciente debe ser mantenido en fase de mantenimiento/prevención hasta que se haya resuelto el cuadro de diarrea.

## V. Signos de Deshidratación

Los signos de deshidratación incluyen: sequedad de la boca, ojos hundidos, piel seca y turgencia disminuida.

## VI. Signos de Deshidratación Moderada y Severa/SHOCK

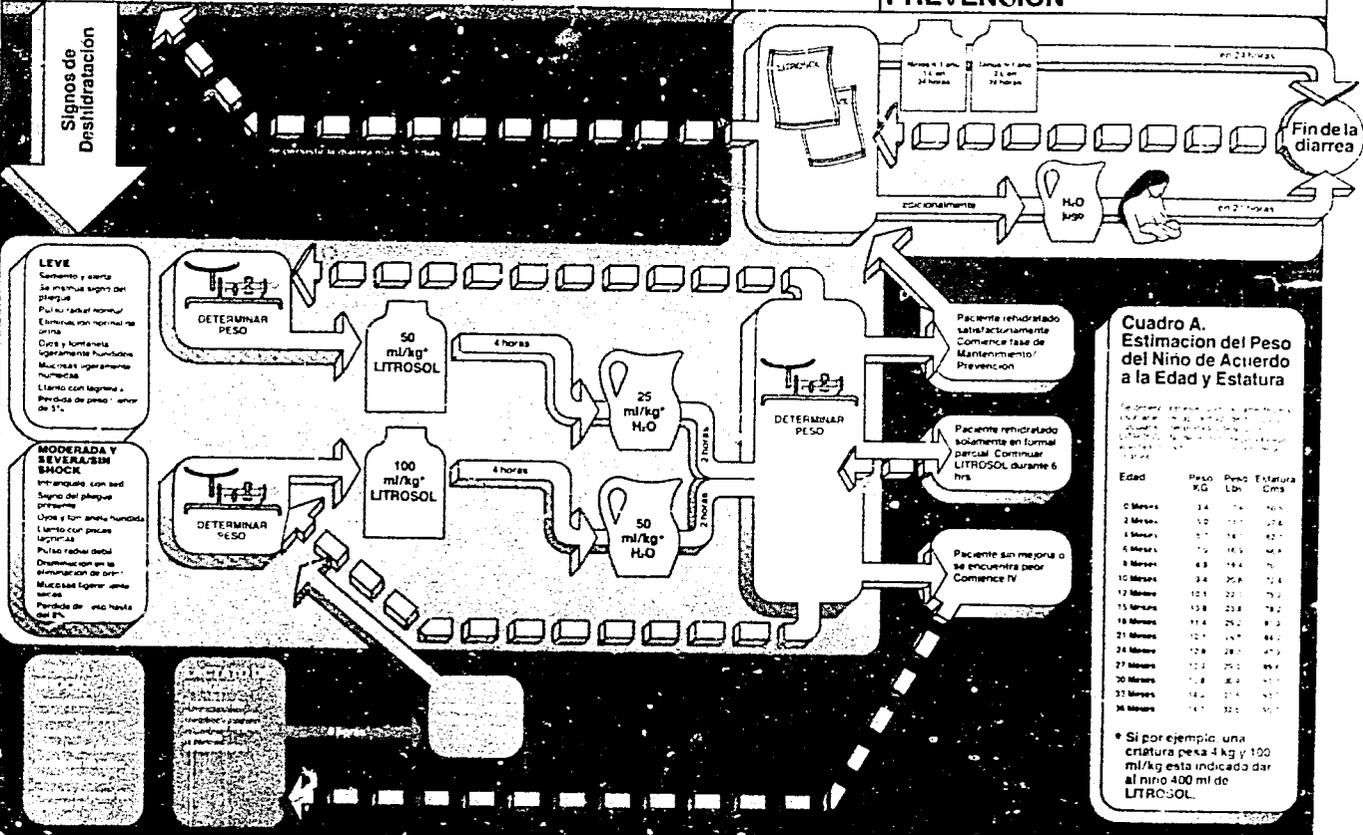
Los signos de deshidratación moderada y severa/shock incluyen: letargo, pulso débil, presión arterial baja y pérdida de conciencia.

## Paso 1 EVALUACION DEL PACIENTE

## Paso 2 ASIGNACION DE TRATAMIENTO

## Paso 3 REEVALUACION DEL PACIENTE

## Paso 4 FASE DE MANTENIMIENTO/ PREVENICION



### Cuadro A. Estimación del Peso del Niño de Acuerdo a la Edad y Estatura

Edad	Peso KG	Peso Lbs	Estatura CM
0 Meses	3.4	7.5	50.0
3 Meses	5.0	11.0	57.0
6 Meses	6.7	14.8	62.0
9 Meses	7.5	16.5	67.0
1 Meses	8.8	19.4	71.0
12 Meses	9.4	20.8	75.0
15 Meses	10.1	22.3	78.0
18 Meses	10.8	23.8	81.0
21 Meses	11.5	25.3	84.0
24 Meses	12.2	26.9	87.0
27 Meses	12.9	28.4	90.0
30 Meses	13.6	29.9	93.0
33 Meses	14.3	31.4	96.0
36 Meses	15.0	32.9	99.0

• Si por ejemplo, una criatura pesa 4 kg y 100 ml/kg esta indicado dar al niño 400 ml de LITROSOL.



### PROMOVER LA ALIMENTACION AL PECO MATERNO

Durante los episodios de Diarrea, el niño debe continuar con la lactancia materna. La leche materna es el mejor alimento para el niño durante la diarrea.

Como Madre Preventiva, debe asegurarse de que el niño continúe con la lactancia materna durante la diarrea.



### PROMOVER LA ALIMENTACION DURANTE LOS ATAQUES DE DIARREA

El niño debe continuar con su alimentación normal durante los episodios de diarrea. Esto ayuda a prevenir la desnutrición.



### EVITAR EL USO RUTINARIO DE ANTI-BIOTICOS Y ANTI-DIARREICOS

El uso rutinario de antibióticos y anti-diarreicos puede empeorar la diarrea y causar otros problemas de salud.

# FIELD NOTE 3

## BEHAVIORAL ANALYSIS APPLIED TO HEALTH COMMUNICATIONS

By

William A. Smith  
Reynaldo Pareja  
Elizabeth Mills Booth  
Paul Touchette

December 1981

On September 30, 1978, The Academy for Educational Development, Inc. (AED), was contracted by the United States Agency for International Development (AID) to implement a five-year mass communication project. The project, which is a joint initiative of the Office of Education and the Office of Health within the AID Development Support Bureau (now the Bureau for Science and Technology), seeks to develop a methodology for the application of mass communication to the prevention and treatment of acute infant diarrhea in the rural areas of two developing countries. The long-term development goal of the project is to strengthen the health education capacity of the cooperating Ministries of Health. The overall project is divided into three sequential phases: Phase I - a public education campaign in each of the two host countries using radio, graphic materials, and face-to-face support; Phase II - analysis of project results; and Phase III - dissemination of those results to the world community of development communication professionals. Stanford University was contracted by AID to evaluate the project.

### SELECTING CAMPAIGN MESSAGES

We proposed to reduce the negative consequences of infant diarrhea by altering the way rural people behave, without investing in large-scale clinic construction, latrine building, or water system development. We focused instead on what behaviors had to be changed to produce such results, and which of these could be successfully transmitted to a dispersed rural audience via a public education campaign which relied upon radio, print material, and limited face-to-face instruction? Following is a description of the process used by the Mass Media and Health Practices (MMHP) Project in Honduras to answer these two critical questions.

The goal was dramatic change--not so much in the way rural people think or feel but in what they actually do. The first step in producing such a change was to define exactly what was to be changed. To do so, we developed a five-step message development process.

- 1) **Develop descriptive models** which comprehensively define the behavioral parameters of the specific health problem; its medical, social, and instructional context.
- 2) **Extrapolate key issues** which require further research, either through review of existing studies or through direct field investigation.
- 3) **Conduct the required research** and develop a list of instructional goals, expressed as specific behaviors, most likely to positively affect the problem.
- 4) **Measure each goal** against behavioral modification criteria which emphasize salience, performance costs and consequences, compatibility with existing behaviors, and observability.
- 5) **Group the selected behaviors** into message clusters which constitute major campaign themes.

Each step relied heavily on a behavioral orientation to development. This orientation affected all aspects of the program, but it was perhaps most critical during this initial message selection phase.

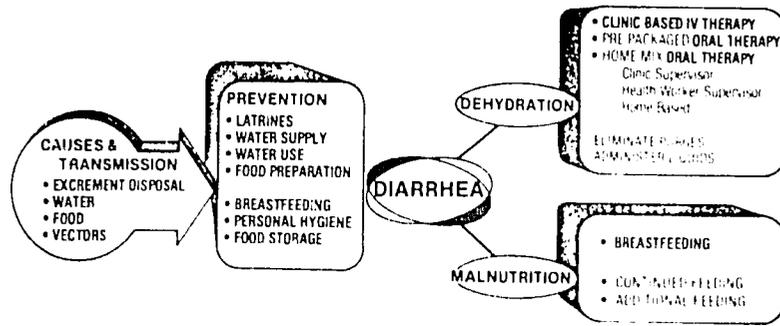
#### STEP 1: Conceptualizing the Problem

We knew that diarrhea and the response to diarrhea within a rural community constitute a complex set of behaviors. It involves medical as well as social and anthropological perspectives. There were conflicting opinions, not only from the educators on how best to reach rural people but also from physicians on what was the best treatment and prevention regimen.

To reach consensus and at the same time ensure we did not overlook critical issues, a series of conceptual models was developed.

Each model was based on expert opinions drawn from 1) physicians specializing in diarrheal disease control (DDC), 2) behavioral psychologists familiar with learning theory, 3) medical anthropologists experienced with rural behavior in Central America, and 4) communication experts trained in mass campaign development.

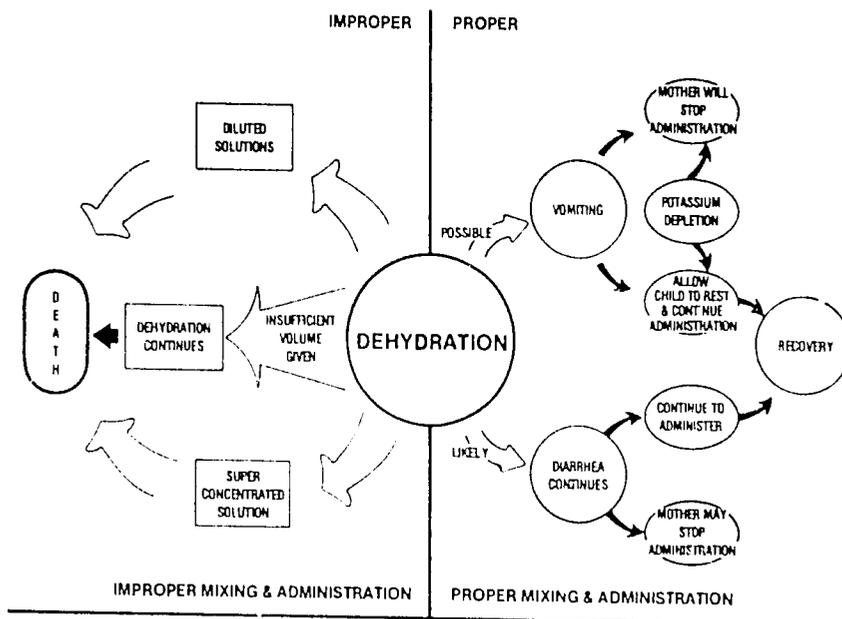
MODEL A, shown below, describes the relationship between the episode of diarrhea, its causes and effects, and potentially effective interventions to reduce both diarrheal morbidity and mortality. It represents a synthesis of professional opinion which led us to an early interest in oral rehydration therapy (ORT) as a potentially powerful intervention strategy.



MODEL A

DIARRHEAL CONTROL MODEL

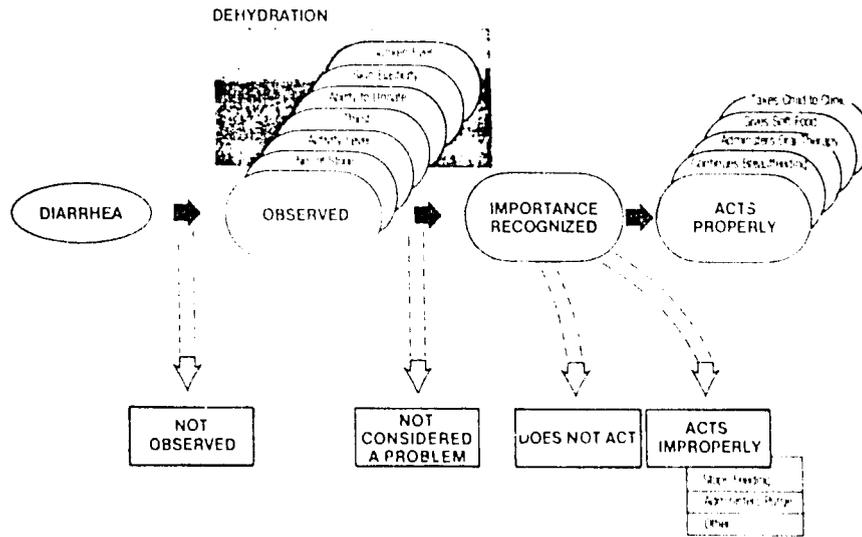
MODEL B focuses on (ORT) and describes the potential consequences of both properly and improperly mixed and administered solutions of ORT salts. This model, more than any other, helped clarify the key treatment issues: mixing in a full liter of water, giving enough solution slowly over a long period of time, vomiting, and continued diarrhea after administration.



MODEL B

O.R.T. CONSEQUENCE MODEL

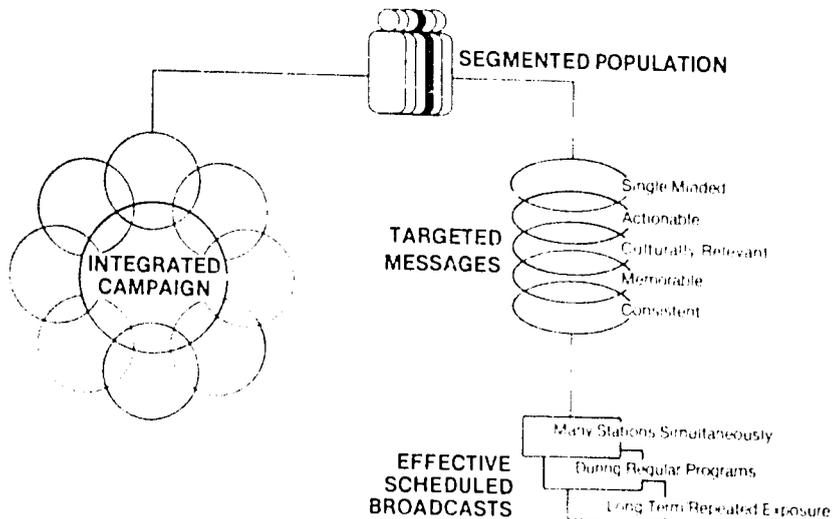
MODEL C describes, from an anthropological viewpoint, the anticipated response pattern of a typical rural mother to a given episode of diarrhea. How would such a mother define diarrhea, what signs would she observe, and what importance would she give to each one? Once defined as important, what would she do to treat a given sign, and how effective, in a medical sense, would that treatment be?



MODEL C

MATERNAL RESPONSE TO INFANT DIARRHEA

MODEL D summarizes what we had learned from previous public education campaigns and sets important limits on the number and kinds of messages we can reasonably expect to transmit via mass media. For example, we know that integrated programs involving more than one medium are better than single medium programs. The requirements of audience segmentation, targeted messages, and effectively scheduled broadcasts represent still other operational constraints which the model clarified and made explicit.



MODEL D

## STEP 2: The Key Instructional Issues

These models took weeks, in some cases months, to develop. They were invaluable, however, in establishing a shared conceptual framework among program designers and, more importantly, in defining the key instructional issues we would face in the campaign. These issues are summarized below.

- 1) Willingness of rural mothers to accept a remedy associated with diarrhea, which does not in fact stop the diarrhea.
- 2) Early determination by the mother of when the ORT solution is needed and timely access to the packets.
- 3) Difficulty in mixing ORT solutions in the rural home, i.e., the availability of a liter container and the use of the correct volume of water to salts.
- 4) Sufficient administration of the solution, i.e., give the entire liter slowly, over 24 hours, in spite of vomiting.
- 5) Willingness to continue feeding, especially breastfeeding, during episodes of diarrhea.
- 6) Identification of a cluster of prevention behaviors which is practical in rural terms and which at the same time serves as a salient inhibitor of diarrheal morbidity.

## STEP 3: Investigating the Reality

Some of these questions were answered through previous research studies, but many had to be asked anew within the specific context of rural Honduras. A six-month field investigation was designed to include 62 focus group interviews with 402 rural mothers, direct observation in 24 rural homes of child care during diarrhea, and 175 individual interviews with rural mothers, fathers, siblings and grandparents. Twenty village-based mixing trials and a physician, health provider survey were also planned. The content of the investigation included a broad spectrum of topics related to both treatment and prevention of diarrhea in the village setting and included the collection of vocabulary and local beliefs useful in the subsequent development of specific campaign messages.

One result of the initial investigation was a list of 68 prevention and 36 treatment messages which hold potential for producing positive results in Honduras. (The full list of 104 behaviors has been included in Appendix A of the Field Note.) They represent not only discrete messages but also variations on message themes which held special promise. The principal themes include:

<u>Treatment</u>	Diagnosis
	Acceptance of Oral Therapy
	Procurement of Information
	Mixing
	Administration
	Seek External Help
	Recovery

## Prevention

Breastfeeding  
Improved Feeding Practices  
Improved Food Preparation  
Improved Food Storage  
Improved Personal Hygiene  
Improved Household Hygiene  
Enabling Concepts

### STEP 4: Selecting the Best Messages

No campaign could promote 10<sup>4</sup> different messages successfully. Indeed, even one message from each of the 14 themes would be beyond our capacity to transfer successfully. The task was to choose which of the potential messages had the best chance for acceptance, given the nature of our target audience and the characteristics of our instructional delivery system. Which would produce the most significant change toward our goal of reduced diarrheal mortality?

The criteria for answering these two questions were drawn from a behavioral perspective which defines five circumstances which, singly or in combination, account for absent behavior. First, necessary materials or implements like ORT packets may be unavailable. Second, prerequisite skills, discriminations, or knowledge may be lacking. For example, rural mothers may know that boiling water is good but may not understand that it actually kills the parasites they fear. Third, there may be no incentives like immediate improvement in their child's health to engage in the behavior. Fourth, there may be incentives to engage in incompatible behavior like giving kaolin or purges. And fifth, there may be punishing consequences which discourage the desired pattern. A child may vomit, for example, or his diarrhea may actually appear to increase.

Behavioral analysis also makes an important contribution to our understanding of how to change behavior patterns, whether it be by altering an existing pattern or creating a new one. Behaviorists stress the importance of understanding the full context in which a new behavior will be incorporated, in seeking ways to construct rewarding consequences and avoiding punishing results.

They attempt to identify existing behaviors which are compatible with the new ones or look for approximations with which the new behaviors can be associated. Finally, they emphasize understanding the real costs, social and economic, of adopting a new behavior. They attempt to judge whether the frequency and persistence with which a new behavior must be successfully practiced are realistic within the actual context.

These variables were structured into the nine-item scale described in Appendix B. Each item was assigned a value ranging from a negative value (0) to a positive value (5). Individual messages were measured against each item. The issues proved too complex to reduce to purely numerical values. However, the scale did provide a coherent discussion guide permitting all the principal concerns to be discussed systematically and comprehensively.

At the first decision point, the group, composed of Ministry of Health (MOH) representatives, consultants in evaluation, behavior modification and campaign design, lacked sufficient information and, worse, had contradictory or unreliable information. The resulting decisions were clearly a compromise, representing the group's best judgment at that moment. The messages selected include:

### Treatment

LITROSOL\* is a remedy for dehydration, not for curing diarrhea. Dehydration is a loss of liquids during diarrhea that causes your child to die.

Go to any medical facility or local health workers or your mayor to get LITROSOL.

Mix one LITROSOL packet in one liter of water.

Give LITROSOL to a child gradually over a 24-hour period.

Give LITROSOL even if the child vomits.

Give the full liter of solution within the first 24 hours.

An additional glass of water, juice, or breast milk should be given during the 24-hour period.

After missing one meal, give the child soft foods, breast milk, and water.

If any one of several signs (identified specifically) are present, seek outside help.

### Prevention

Young children are especially susceptible to disease and diarrhea. Give only breast milk through the fourth month and continue breastfeeding along with other soft foods through the 12-14 month.

Reheat, and do not store foods given to young children.

Wash hands with soap before preparing the young children's food.

Boil and cool all water before giving it to the infants.

Selecting the prevention behaviors proved the most difficult task. The potential sources of contamination in a rural home were so numerous that no reasonable set of behaviors seemed likely to make a positive impact. The balance between salience and performance costs always seemed unequal so that the most useful changes such as frequent hand washing seemed unreasonable, and simple changes like covering food appeared unlikely to make any real difference. Few of the prevention behaviors provided mothers with an immediate rewarding consequence. Often changes were costly, like using soap, or had unpleasant consequences, like reheating and, consequently, hardening the tortillas.

Furthermore, to be effective, boiling water, reheating foods, or washing hands requires such persistent and frequent compliance that a small mistake, forgetting just once a day, could produce a sick child. An anti-bottle feeding campaign was considered and rejected because the immediate reward of bottle feeding (the mother's independence from the child) was likely to overpower the long-term dangers of contamination and malnutrition. A campaign against bottles might also promote bottle use by making them a public issue.

Ultimately, the decision was made that breastfeeding, reheating foods, washing hands, and boiling water could be associated with a specific focus--infant care. Mothers would not be asked to always wash hands, etc., but to recognize that an infant requires special care, and special care means breastfeeding, clean water, fresh food, and clean hands with which to feed the small and vulnerable child. This approach, built upon existing beliefs that small children are "weak," gave additional support to the increasingly threatened behavior of breastfeeding.

---

\*LITROSOL is the Honduran name for locally produced oral rehydration salts.

Treatment behaviors created a slightly different problem. The issue was not which behaviors presented the most likely possibility of adoption, but rather which presented the greatest difficulty. If treatment was to be successful, all the treatment elements would have to be present in the campaign: diagnosis, acceptance, procurement, mixing, administration, monitoring, and recovery behaviors. It did no good to have mothers who were expert diagnosticians but who could not mix the solution properly. Given this broad concern, instructional emphasis centered upon the most likely obstacles to success, or the behaviors least likely to be accepted, so that special instructional attention could be given to these.

The original theoretical models had suggested special treatment problems and the field research substantiated their potential importance. Mothers wanted five things. They wanted:

- 1) The child's watery stool to return to normal, the diarrhea to stop;
- 2) To avoid vomiting, which was perceived as a most serious and unpleasant consequence of any medication;
- 3) A readily available remedy, one they did not have to travel to town or to the capital city to acquire;
- 4) A respected remedy, the same being used by doctors and nurses in hospitals and clinics;
- 5) A simple remedy, one which could be administered rapidly and easily in their home.

Issues three and four were secondary ones related as much to distribution as to instruction. Issues one, two, and five, however, presented special educational problems. Oral therapy does not stop diarrhea or firm up a child's watery stool. It can induce vomiting in a sick child if it is given too rapidly, and it requires slow administration of a full liter over a 24-hour period.

The proposed solution was to construct the treatment theme around the simple concept that "children with diarrhea need liquids." Specific treatment advice was appended to the theme, but "give liquids during diarrhea" was the central message repeated over and over again. LITPOSOL became a special remedy for dehydration (the loss of liquids during diarrhea), and during Phase II of the campaign it took on special importance.

The basic campaign messages had finally been identified. They would now be transformed into appealing language, structured into a sequenced dissemination plan, and segmented by media (radio, print, and face-to-face instruction).

Message selection had taken more than seven months. It absorbed an unexpected share of the total creative energy invested in the program. But the systematic process originally proposed resulted in a comprehensive and cogent analysis of the task before us. In retrospect, the two key steps seem to be the careful development of the theoretical models, and the nine-point selection criteria applied to the first list of potential messages. The models were a constant reminder of our ultimate goal and the context in which that goal was to be achieved. The criteria raised practical, consumer-oriented questions and forced us to systematically challenge prejudices and anecdotal insights acquired during the field investigation. We believe now that any such program would be strengthened by these two elements, carefully and seriously applied.

## BUILDING A NETWORK OF EFFECTIVE PROVIDERS

The public education campaign is built upon a triad of radio, print, and face-to-face instruction. Each leg of the triad plays complementary roles providing different audience segments with information, skills, and action reminders as required to stimulate, transfer, and maintain a set of critical behaviors the project is promoting. The face-to-face instruction component of the program had several facets, including intensive training of selected health professionals and field health workers, continued family and peer support to rural mothers using oral rehydration therapy (ORT), and the practical distribution of ORT salts through locally available outlets. The following focuses on the first of these roles--the intensive instruction provided to health professionals and field health workers.

The first step toward an effective training program was an agreement on an ORT administration regimen suited to different Honduran settings. A summary of existing clinical and field studies was prepared and presented to a national commission composed of representatives of the National Children's Hospital and the Education and Epidemiology Divisions of the Ministry of Health (MOH) as well as representatives of the Pan American Health Organization's (PAHO) local office. The commission's suggestions and recommendations were then structured by Dr. Rito Padilla, assistant director of the Infant Care Division of the MOH, into a series of national norms which were subsequently approved by the MOH.

The approved norms focused on two different settings:

1. Clinical therapy in fixed facilities - for the most part an adaptation of the World Health Organization (WHO) regimen to specific Honduran conditions. Clinical therapy included:
  - Weighing the infant.
  - Determining the amount of solution by the weight of the child.
  - Mixing and administration of the ORT salts.
  - Treatment follow-up and monitoring.
  - Use of antibiotics and purges.
2. Home therapy by village health workers and rural mothers. It included:
  - Actual ORT solution mixing and administration in the home.
  - Instruction of mothers in the techniques.

Feeding/prevention behaviors were common to both settings and included norms on:

- Continued breastfeeding during episodes of diarrhea.
- Providing soft foods approximately six hours after administration of ORT.
- Providing special supplementary foods after bouts of diarrhea.

The next problem was time. If the training was to be completed by the time the radio promotion of LITROSOL (Honduran form of ORT salts) was to begin, more than 1,200 professional and paraprofessional health providers would have to be trained in less than three months. This training schedule was far beyond the ability of project staff to accomplish alone. Reliance was placed on the hierarchical nature of the existing health system. Project staff trained the upper level health professionals not only to perform the new behavior adequately, but also to teach those behaviors to the community workers they supervised.

The group of health professionals included public health physicians, particularly those working on pediatric wards of major health facilities, regional nursing supervisors, nurses, and auxiliary nurses. To this group of trained health professionals, a cadre of paraprofessional community health workers, including traditional midwives, health guardianes (Honduras primary health care workers), and locally elected health representatives, were added. Finally, a group of local mayors (alcaldes) were included to ensure adequate availability of salts to areas where no other provider is available. While the alcaldes' traditional function has been limited to legal and political responsibilities, a special agreement between the Ministries of Government and Health permitted these highly respected local personalities to serve as distribution points for information and packets in communities not reached by the official health system.

The training design divided trainees into two broad groups: the primary trainees who received direct training from project staff in clinical treatment, home treatment and feeding/prevention behavior, and secondary trainees who received only the latter two aspects, largely from the primary trainees. In fact, a significant number of the auxiliary alcaldes were trained directly by project staff.

It was recognized from the outset that significant deterioration in performance levels was likely between primary and secondary training groups. Most health professionals had little experience as teachers, and their own training was to be limited to just two days. To compensate for these difficulties the training skills for the secondary group were simplified, and training itself emphasized actual practice in diagnosis, child weighing, solution mixing, monitoring, and teaching skills. Additionally, a set of specially designed support materials were developed to help the health professionals in their role as teachers and, at the same time, remind the community health trainees of key points being taught.

The training sessions for health professionals were led by a team of three specialists: Wilma Martinez, an MOH nurse assigned to the Health Education Office; Dr. Elias Aleman, a local physician experienced in the clinical administration of ORT; and Dr. Rito Padilla. In addition to his position as Assistant Director of Infant Care, Dr. Padilla is also a pediatrician. Within the team, Ms. Martinez specialized in home administration of ORT and instruction of rural mothers; Dr. Aleman specialized in clinical treatment; and Dr. Padilla in the feeding and nutrition aspects accompanying the ORT regimen.

Before briefly describing the full training program, it is useful to mention the specific graphic materials produced to support the training programs and designed to provide post-training reinforcement for the most critical mixing and administration behaviors.

The most elaborate graphic material designed was a multi-color poster produced exclusively for trained health professionals (see Field Note No. 2, above). The poster has two functions. First, it graphically summarizes the principal diagnostic and treatment

steps at four levels of dehydration severity--mild, moderate, severe, and severe with shock. It also provides information on three controversial subjects within the medical community in Honduras, the use of antibiotics, breastfeeding during bouts of diarrhea, and continued feeding of soft foods during episodes. The second function of the chart is to dramatically illustrate oral therapy as a modern and sophisticated remedy worthy of professional attention. The design is deliberately complex, and the vocabulary was carefully selected because of its appeal to health professionals.

A second poster, much more modest in design and complexity, was developed to illustrate the principal signs of dehydration to both professionals and non-professionals. The same design was reduced to the size of a flyer and was widely distributed to community health workers. A double-sided two-color envelope was also developed to serve as an instructional wrapper for the ORT packet. This envelope was the principal substantive guide and regular reminder for both health worker and rural mother. The envelope summarized the basic mixing, administration, and feeding information as well as illustrating the conditions a rural mother should monitor to determine if the sick child needs professional care. Finally, a gummed label was developed and attached to each packet which described the basic mixing steps for the oral salts. All these materials were carefully pretested. They continue to go through revision based upon an ever increasing pool of information and constitute one of the principal instructional tools for the campaign.

The training sequence for the primary trainees was influenced by a program developed to train school teachers called micro-teaching. This approach begins with the assumption that teaching involves a series of specific skills which can be defined, broken down, and practiced individually within the context of an intensive training laboratory. It emphasizes modeling, practice, and immediate feedback on specific performance. These principles seemed consistent with developing the mixing and administration skills health workers would need to effectively implement an ORT program.

The training program began with a large group meeting during which trainees were given a brief description of the MOH oral therapy program and a concise, theoretical review of how oral therapy works, including the most recent research findings and practical experience with the therapy in Honduran hospitals. Physicians and nurses in Honduras, who were used to formal lectures, felt cheated unless their training began with a formal didactic session.

A practical demonstration by an expert local nurse on how to mix and administer oral rehydration solution and how to monitor the success of oral therapy in a clinic setting was given next. The principal behaviors to be transferred were correctly modeled for the large group by the nurse and performance criteria established in a subtle but effective manner. It was decided to use dolls for the demonstration rather than real children. Dolls, while obviously artificial, were also an interesting novelty for the trainees and added significantly to their motivation toward training. At the same time, the doll eliminated the discomfort a sick child would be exposed to in such a training session and later allowed several small groups to work independently in the small space available.

During the demonstration, every stage of the clinical rehydration process was simulated. A cardboard clock with moveable hands was available so that the four- and two-hour administration regimen could be practiced in the short time available. Actual packets, liter bottles like those in rural areas, and water were available so that actual mixing could be demonstrated. Small spoons, rather than feeding bottles, were used in the demonstration to discourage bottle feeding. The doll was a commercial variety with

flexible skin texture which quite accurately simulated decreased skin turgor, common in severe cases of dehydration. Using these implements, the full diagnosis, mixing, administration, and monitoring processes were demonstrated to the assembled group of trainees.

After the large group modeling, trainees were divided into small groups of three and four. Each group had its own doll, a copy of the poster and flyers, a cardboard clock, packets of salts, water, a liter-sized container, and a small cup and spoon. Each trainee would play the role of a practitioner rehydrating a child (the doll) exactly as they had seen in the demonstration. The other members of the group would provide regular feedback and play the roles of the child's parents, asking questions they felt rural mothers might ask. The trainers moved from one group to another identifying problems, answering questions, and providing positive support to the trainees.

From the outside, the practice sessions often looked chaotic. The small group work was going on simultaneously so everyone was talking and acting at once. But within each small group it was clear that learning was taking place. Simple tasks, such as pouring the salts into a small-mouthed bottle, were more difficult than many trainees expected, but they welcomed the opportunity to practice. They saw others spilling the salts and felt less clumsy about their own performance. The regimen poster, which was intimidating to several trainees, was transformed during the practice session into a simple guide. The dolls were a success and trainees clutched them with as much care as they handled real children. The cardboard clock, while an artifice, proved a useful one, forcing trainees to actually manipulate and focus on the importance of timing in rehydrating severely dehydrated children.

Once the practice sessions were over and every trainee had the opportunity to go through the full regimen, the large group was brought back together and an open discussion of how oral therapy could be used in the context of a crowded rural clinic was initiated. Real problems began to surface during these discussions. "How can I rehydrate several children at once?" "I don't always have time to boil water." "What if I run out of packets?" "How many packets should I give a mother to take home?" "Could I mix a large batch of the solution at one time and use it during the day?"

These questions were discussed. Answers often came from the group itself, and often the trainers suggested other possible solutions. "Mothers can easily be taught to carry on the rehydration under your supervision." "Boiled water is not absolutely necessary." "You may have to keep track of supplies and let us know when your supply is getting low." "Mothers should not get more than two packets at once. If she administers one packet at the clinic, then she should only take one packet home with her." "Bulk mixing of the solution is very practical. Keep the solution covered and don't store it for more than one day. Also be sure that the mother has a chance to mix her own solution at least one time under your supervision."

The trainees were given a written test consisting of 14 questions on when to use LITROSOL, the signs of dehydration, the formula for its administration, feeding during the ORT regimen, the effects of vomiting, etc. The test was self-corrected to maximize learning. After the test and resulting discussion, each participant was given a supply of packets, instructional flyers, posters, a liter bottle, plastic cups and spoons, statistical forms, and an ORT manual.

This training design for professionals was scaled down and adapted to the training needs of the paraprofessional community health workers and alcaldes. Time was an even greater problem. The community workers had only four to five hours to learn the basic

mixing and administration skills and to practice using the instructional envelope. The early theoretical sessions were excluded and emphasis was placed on individual practice with mixing and administering the ORT salts in a home setting. The administration details essential in clinical settings were also eliminated, but added attention was given to detecting signs of severity. Pouring the salts with minimal spillage into small-necked bottles required several practice trials. Most alcaldes needed practice in skills as rudimentary as how to cover the bottle top with their finger in order to shake and dissolve the salts properly. Questions from community-based trainees centered on how many packets to mix per liter and whether all the salts should be added at one time. After the practice sessions the instructional envelope was distributed to all trainees and a role-play demonstrated how it should be used. Time did not permit most trainees to practice using the flyer.

Anecdotal information from visits to rural communities indicates that proper mixing and administration is remarkably widespread. Most people interviewed knew about LITROSOL by name, they knew where to get it, could describe how to properly mix and administer it, and seemed to feel it is a remedy for diarrhea. Probing indicates that these knowledge gains are in large part a function of the training experience which combined modeling, practice, feedback, discussion, and support materials they could apply immediately upon return to their community. Secondly, the interaction between all three elements of the program--radio, training, and graphics--is critical. Radio and posters are informing even isolated people of LITROSOL's benefits and where to get it. Distribution points are sufficiently dispersed, ubiquitous, and well supplied with packets. Health workers are providing adequate instruction and distributing the print materials to each user. Radio is then reminding people who have received packets of key mixing and administration steps.

But several relevant problems have also been exposed. Direct observation of patient interaction in rural clinics has indicated that feeding information is not being passed on to patients adequately. More significantly, the instructional envelope is not being used as regularly or as effectively as planned. To correct these problems, the flyer is being redesigned and more attention is being given in subsequent training sessions to practical use of the flyer as an instructional aid. Special radio programs have also been designed to remind both rural mothers and field health workers how useful the envelope is as a source of instruction.

A second problem resulted from the delayed distribution of packets to many of the trained alcaldes. Due to administrative problems, several alcaldes did not receive a sufficient supply of packets until several weeks after training. This seemed to account for a considerable loss in their effectiveness as educators. Follow-up visits to rural communities showed that these alcaldes were the least effective teachers in the group. They tended to forget several important administration and recuperation behaviors.

Several factors are essential to the successful field application of skills learned in independent training activities. First, the necessary materials for applying the new skills must be available. Secondly, they must be available as soon after training as possible so that community application can begin immediately. Thirdly, the first application should be, wherever possible, with supportive members of the community, so that the likelihood of positive, rewarding results are maximized. Concretely, we feel from our experience that it is important to develop an explicit plan with each trainee at the end of the training program, on how, when, and with what resources the trainees will first apply the new skills in their own community. This should be accompanied by some task (perhaps a letter from the trainee) describing the results of the trial. This letter can serve as a basis for rewarding trainees after their first trial.

In sum, we feel the following elements to be critical for an effective training program on the application of oral rehydration therapy.

1. **Specific learning objectives** defined in terms of behaviors which trainees will practice after the training session that they presumably do not practice now.
2. **Precise understanding of the environmental and social context** in which trainees will apply the selected skills and the subsequent segmentation of trainee groups to reflect the needs of each social context.
3. **Training activities which establish clear performance criteria** for each skill, permit repeated practice, and provide accurate and supportive feedback on performance to each trainee.
4. **Immediate application of the learned skills in a real-life context** which maximizes positive results. This implies the availability of all resources necessary to successfully apply those skills.

**APPENDIX A**

COMPLETE LIST OF TREATMENT BEHAVIORS CONSIDERED

● Cluster A: Diagnosis

1. Recognize that the child's stool pattern is abnormal.
2. Confirm that the following symptoms are present:

Infant	Child
Watery stool More than three displays a day	Loss of appetite Listless (vomiting) and pale

3. Confirm that severe dehydration is/is not present:

Infant	Child
Diarrhea and vomiting and/or Dry skin/mouth Sunken eyes	Dry skin/mouth

4. If two is yes, and three is no, go on.  
If two is yes, and three is yes, go to hospital/clinic, medical advice.  
If two is no, and three is no, stop therapy, check again tomorrow.

● Cluster B: Acceptance Knowledge

5. Identify rehydration packet as medicine for dehydration, not diarrhea.
6. Identify rehydration packet as able to help restore appetite and activity of child, without stopping the watery stools or reducing the number of stools.
7. Identify purpose of rehydration medicines as replacing liquids which are important for activity and appetite.
8. Identify rehydration medicine as better than purge, starvation, and home remedies.
9. Identify cost of mixture in dollars (lempiras) and effort.
10. State why it is worth making the effort and expenditures.

● Cluster C: Procurement Knowledge

11. Name packet.
12. Identify packet visually.
13. Identify location(s) where packet can be obtained.
14. Specify packet's cost.

15. State that two packets should be purchased at a time.

16. State how they will obtain packet.

● Cluster D: Mixing Ability

17. Identify a vessel one liter in size (large guaro bottle).

18. State that vessel must be washed and free from foreign matter.

19. Fill one liter container to the top with as much clean water as possible.

20. Add only the contents of one packet with minimal spillage.

21. Open salt packet without spilling salts.

22. Add nothing else to solution.

23. Stir or shake.

24. Identify dissolved solution.

25. Do not boil the mixture.

● Cluster E: Administration

26. Use a small spoon to give child/infant the entire one liter mixture little by little over next 24 hour period.

27. Give child/infant, particularly children who are only mildly dehydrated, at least five huacales (one-half liter) of water or juice and breastfeed as much as child will take.

28. If child/infant vomits, allow him to rest for a few minutes, and begin giving the medicine in small amounts, slowly.

29. Feed the child agua de arroz, plodas, atoles, as soon as his appetite returns. Do not withhold food.

30. If diarrhea continues after first day, mix and give new solution for one more day, or until diarrhea stops.

● Cluster F: Seek External Help

31. If diarrhea continues after two days, seek medical help.

32. If vomiting continues more than five times a day, seek medical help.

33. Give solution to infant during trip to clinic if possible.

● Cluster G: Recovery Behavior

34. Feed child soft-boiled eggs each day for ten days after diarrhea stops and child's appetite returns.

35. Give child more food after diarrhea than is normally given.
36. Give child additional food for as many days as he had diarrhea.

#### COMPLETE LIST OF PREVENTION BEHAVIORS CONSIDERED

- Breastfeeding/Bottle Feeding

1. Do not use infant formula.
2. Prepare infant formula correctly (series of actions).
3. Bottle feeding is dangerous to infants if formula is not mixed with the right amount of water.
4. Bottle feeding is dangerous unless mother boils all water used to make formula.
5. Bottle feeding is only easier if it is not prepared correctly.
6. Bottle feeding is dangerous unless bottle, water, and nipple are boiled before each use.
7. Breastfeed infant as much as possible.
8. Breast is best, safest for children.
9. Because breast is best, feed more often.
10. A good mother will nurse her child at least four times a day and her infant at least six times a day.
11. Infants should only get breast milk until they are six months old and then continue getting the breast with other foods until 12 to 18 months.
12. Colostrum is like a vaccination for the infant (la primera vacuna).
13. Mothers need to eat well when they are breastfeeding.
14. Increased amounts of foods, particularly eggs, are good for breastfeeding mothers.

- Feeding Practices

15. Do not feed cuajada (a soft cheese) to children after it has been stored more than one day.
16. Do not give beans to infants because they are difficult to digest.

- Food Preparation

17. Reheat tortillas (flour pancake) before giving to child/infant.

18. Reheat frijoles (beans) in small frying pan and give to child warm.
  19. Reheat soup in small frying pan and give to child warm.
  20. Reheat rice in small frying pan and give to child warm.
  21. Reheat cow's milk after four hours before giving to child/infant.
  22. Reheat bean soup before giving to child.
  23. Wash mango before giving to child/infant.
  24. Peel fruit before giving to child/infant.
  25. Water can be dangerous to infants because animalitos (germs) are especially dangerous to them.
  26. Boiled water given to infants should be stored in a covered jar, out of children's reach.
  27. Boil all water used for infants.
  28. Discard teas given to child after child finishes.
- Food Storage
    29. Keep tortillas covered with cloth when not eating.
    30. Keep cooked frijoles covered when stored.
    31. Keep soup covered on stove but not directly on burner.
    32. Keep cooked rice covered when stored.
    33. Store cow's milk in a bottle with top.
    34. Store cuajada in tightly covered container.
    35. Do not store food for infants, always make it fresh.
    36. Keep all drinking water covered.
  - Personal Hygiene (Mother and Infant/Child)
    37. Mother washes her hands with soap before preparing food for children/infants.
    38. Mother washes her hands with clean water before preparing food for children/infants.
    39. Mother washes her hands in clean water frequently while making tortillas.
    40. Mother washes her hands before feeding infants.

41. Mother washes her hands before serving foods.
  42. Mother washes her breast at least three times a day if breastfeeding.
  43. Mother cuts her fingernails once a week.
  44. Mother cuts fingernails of older siblings and washes their hands before giving foods to infants.
  45. Increase volume of water used to wash hands.
  46. Increase number of times mothers wash hands.
  47. Always use soap to wash your hands, your hands will become cleaner.
  48. Wash hands after defecating.
  49. Wash hands before preparing meals for infants.
  50. Mother washes child's/infant's hands before she/he eats at meals.
  51. Keep separate bowls of chlorinated water to wash hands in.
  52. Wash hands frequently with soap while making tortillas.
- Household Hygiene
    53. Wash container in which water is kept (with chlorine).
    54. Wash container that water is carried in with soap after emptying.
    55. Wash with soap the spoon that is used to cook beans.
    56. Wash pot that is used to cook beans.
    57. Keep infant's spoon and other utensils separated from family utensils.
    58. Store soiled diapers in a covered spot and out of children's reach.
    59. Store soiled diapers as soon as they are changed.
    60. Build a corral for infant as soon as he/she begins crawling, and leave child there when not with mother.
    61. Put door/gate on kitchen door to keep animals out.
    62. Wash bedpan every morning with chlorinated water or soap and water.
    63. Mother should have a special towel to use.
    64. Bury excrement away from home and water source.
    65. Do not defecate near water source.
    66. Encourage infant to tell mother after defecating.

- Enabling Knowledge

67. Child/infant is different from adult, must be given special treatment.

68. Heat kills animalitos, bichos, lombrices, (germs, worms), etc.

## APPENDIX B

## BEHAVIORAL DESIGN PRINCIPLES

1. COMPATIBILITY WITH EXISTING PRACTICES
  - 0 Totally incompatible
  - 5 Already widely practiced
2. APPROXIMATIONS
  - 0 Nothing like this one now exists
  - 5 Several existing behaviors are similar
3. DIVISIBILITY
  - 0 Not divisible into discrete parts
  - 5 Easily broken down into segments which can be taught sequentially
4. PERCEPTIBLE POSITIVE CONSEQUENCES FOR THE MOTHERS
  - 0 No perceptible consequences which the mother would logically associate with behavior
  - 5 Clear, positive, and immediate consequences for correct performance of behavior
5. PERFORMANCE COSTS
  - 0 Requires some unavailable or expensive outside commodity or demands some unrealistic level of effort
  - 5 Can be performed with existing resources
6. FREQUENCY
  - 0 Must be done with great regularity or benefit is marginal
  - 5 Must be done infrequently and still have significant value
7. PERSISTENCE
  - 0 Requires continuous compliance over a long period of time
  - 5 Can be accomplished quickly
8. OBSERVABILITY
  - 0 The behavior itself is very difficult for an outsider to observe
  - 5 The behavior can be readily perceived and reinforced by outsider
9. SALIENCE
  - 0 Has a modest positive effect on health problem
  - 5 Has a potentially dramatic positive effect on health problem

# FIELD NOTE 4

## 1982 HEALTH WORKER TRAINING REPORT

By

Mark Rasmuson

March 1983

The Academy for Educational Development is a nonprofit service organization active in many areas of education. Under contract to the United States Agency for International Development Offices of Health and Education, Science and Technology Bureau (S&T/H, S&T/ED), the Academy is assisting the Ministries of Health in Honduras and The Gambia to develop comprehensive public education campaigns on prevention and treatment of infant diarrhea. The campaigns combine broadcast radio, simple print material, and health worker instruction in an effort to provide practical information to rural women.

### I. INTRODUCTION

The Mass Media for Infant Health (MMIH) Project is a two-year effort in The Gambia designed to reduce the number of deaths among children below the age of five caused by diarrheal dehydration. The Project is conducting an intensive educational campaign on the treatment and prevention of infant diarrhea with special emphasis on the promotion of a standard oral rehydration therapy. The campaign strategy consists of integrating the use of graphic materials, radio broadcasting, and health worker training around key themes. Accordingly, the MMIH team carried out a series of training programs in 1982 on the management of diarrheal disease for selected members of the Gambian health system. This report summarizes the planning and implementation of that training.

The core of the MMIH training effort was a series of five five-day workshops during April-June 1982 for mixed groups of Health Inspectors (HI), Community Health Nurses (CHN), Dresser-Dispensers (DD), and Nurse Midwives (NM). These sessions were planned to include all CHNs in the country and all up-country HIs as the two cadres most mobile and involved in health education, as well as key curative personnel from each health center (i.e., DDs and NMs). Members of each of these four cadres were included in each training session to encourage a team approach to the problems addressed. In

addition to these five-day workshops, shorter sessions were conducted for Leprosy inspectors, another group chosen for training because of its wide coverage of isolated villages (four days); Peace Corps Health Volunteers (one day); and Community Health Nurse trainees (one half day). Finally, a special seminar was held for physicians working in The Gambia in October 1982 to orient them to the Project's objectives and activities.

A total of 182 health workers participated in the project's 1982 training activities, as follows:

● Dresser-Dispensers	11
● Health Inspectors	20
● Nurse Midwives	13
● Community Health Nurses	48
● Leprosy Inspectors	20
● Peace Corps Volunteers	10
● Community Health Nurse Trainees	28
● Physicians	<u>32</u>
TOTAL	<u>182</u>

## II. OBJECTIVES AND METHOD

The following two sections describe the objectives, method, and content of the three-day diarrhea management component of the five-day training workshops. At the request of the Medical and Health Department, the first two days of these workshops covered a group of other topics in the areas of health education, maternal and child health, primary health care, immunization, and family planning. These were the responsibility of the relevant units within the Department.

The objectives of the diarrhea management training were as follows:

- All trainees will assess the child's hydration status correctly.
- All trainees will implement Diarrhea Treatment Plans I and II correctly.
- All trainees will mix the sugar and salt solution correctly and quickly.
- All trainees will teach the sugar/salt solution and diet for diarrhea effectively.
- All Health Inspectors and Community Health Nurses, upon completion of the training, will train 10 village volunteers and distribute flags and posters to them.
- All Dresser-Dispensers and Nurse Midwives will train other staff at health centers and dispensaries.

Training activities were structured according to the following learning method:

- A rationale for the target behavior was provided.
- The behavior was modeled expertly by a trainer.
- Participants practiced the behavior.
- Participants learned to discriminate between correct and incorrect performance, especially in key areas where critical mistakes are likely.
- Intensive individual practice was aimed at greater fluency and skill in performing the behavior and gradually performing the behavior under actual field conditions.
- Group discussion was held on relevant participant experience and potential constraints to performing the behavior in real-life conditions.
- Performance was reviewed together with self-corrected testing of the knowledge and skills to be acquired.
- Immediate post-training applications and rewards were provided.

### III. CONTENT/TRAINING ACTIVITIES

#### Day One

In the first session, the Project Field Director presented an overview of the Mass Media Project, describing its history, major goals and activities, and specific training objectives. The need for one of the major training objectives (i.e., standardizing the practice of oral rehydration among health workers) was underscored by having trainees discuss the posters they had been asked to make as part of the workshop registration process. These posters outlined the current practice of oral rehydration, particularly the mixture of sugar-and-salt solution, at each trainee's health post. They vividly illustrated that while many health workers already knew something about oral rehydration therapy, there was a disturbing number and variety of solutions, some dangerous, being recommended.

The second session included a lecture by a physician on the physiology and clinical manifestation of diarrhea and the specific etiology and epidemiology of diarrheal disease in The Gambia. Particular attention was paid to presenting oral therapy as the most modern and effective treatment for diarrhea and to discouraging the use of kaolin and other drugs still common among curative workers in The Gambia.

Session three was devoted to a demonstration followed by group practice in mixing the S/S rehydration solution. One of the staff trainers first correctly demonstrated the mixture of the solution using the standard formula advocated in the Department's Diarrhea Manual (i.e., 3 Julpearl soft drink bottles of water--equivalent to one liter-- 8 Julpearl caps of sugar, and 1 cap of salt). In doing so, the trainer introduced a "mixing jingle" in both the Wolof and Mandinka languages, a concise set of directions for mixing the solution to enable trainees to remember and teach them more easily. The trainer then introduced the first "discrimination game": the mixing of the solution was demonstrated several more times, each time making a small mistake (e.g., adding 7 rather than 8 caps of sugar) which the trainees were asked to identify. Trainees were divided into three groups with each trainee having a chance to mix the solution and describe the process to the rest of the group using the mixing jingle.

**Session four** in the afternoon of the first day consisted of a brief lecture by one of the trainers on the administration of the S/S solution, emphasizing the volumes appropriate to children of different weights/ages and such key points as the need to mix a fresh batch of the solution each day. This was followed by a general discussion led by a trainer in which trainees were asked about their prior experiences with oral rehydration in their health stations and the problems they foresaw in convincing village women of the merits of S/S solution.

The **final session** of the day began with a brief "performance review" of the day's teaching. Divided into small groups, trainees were questioned by a facilitator about the key points covered during the day. The day ended with an entertaining "mixing contest" designed to give each trainee another opportunity to practice mixing the S/S solution with both accuracy and speed. Again, the trainees were divided into three small groups, which competed against one another to see which team's members could all mix the solution correctly in the shortest time. Trainers judged the mixing and awarded simple prizes--soft drinks and packs of chewing gum--to the winning teams.

## Day Two

The second day of the diarrhea management training focused on two areas: treatment of a dehydrated child (sugar-and-salt solution was presented as a measure for preventing dehydration) and teaching village mothers how to mix and administer the S/S solution.

**Session one** dealt with the assessment of hydration status. An experienced Nurse Midwife from the training group assisted the trainers in presenting this session using a life-size training doll with which the symptoms of dehydration, including reduced skin elasticity, could be demonstrated. One of the trainers then outlined the treatment plans for moderately and severely dehydrated children using the project's treatment summary poster which was issued to all trainees.

**Session two** provided a demonstration and group practice in the full process of assessing and treating a moderately dehydrated child. In the demonstration, the trainer again assessed the hydration status of the training doll and then simulated the full treatment plan outlined on the poster: weighing the doll on a real scale, mixing a UNICEF packet in a liter of water, calculating on poster paper how many mls. of solution the child should receive based on its weight, filling a graduated cylinder to show precisely that quantity, and describing what action should be taken according to the outcome of the child's subsequent reassessment. Each trainee then had an opportunity to practice this procedure in a small group setting with a trainer posing questions and problems.

To open the afternoon's sessions on teaching villagers about oral rehydration, **Session three** began with a discussion led by one of the trainers on facilitating adult learning, emphasizing mutual esteem and participation between trainer and trainee in the learning process.

**Session four** was devoted to role-playing the teaching of S/S solution to a village mother or other volunteer. First, one of the trainers outlined suggested steps to follow in teaching the key points of mixing and administering the solution. Trainees were urged to follow the same sequence of activities that had been followed in their own training (i.e., correct demonstration by the trainer using the "mixing jingle," the discrimination game, the volunteer trainee practices mixing, and the performance is reviewed). Next, two of the trainers, one taking the role of a health worker and the other playing the role

of a villager, enacted the initial steps of this teaching process. Finally, pairs of trainees took turns acting out other steps of the teaching followed by a discussion and critique of each pair's performance.

### Day Three

The **first session** of Day Three provided a review and discussion by the whole group of the previous day's activities in two areas: the calculation of volumes of rehydration solution using the Treatment Poster and the selection of 10 village volunteers to be identified and trained by trainees. The latter discussion raised important issues of village politics and protocol for consideration by health workers in the effort to multiply the effect of their own training in the villages where they worked. In some of the workshops a portion of this session was also devoted to pretesting some of the project radio spots with the health worker trainees.

The **second session** was devoted to a written evaluation of the training by participants.

The remainder of the third day of diarrheal management training involved the distribution of project educational materials and the planning of post-training activities. Each trainee received a set of materials to take back to their health stations: the Treatment Summary Poster, the Diet for Diarrhea Poster (promoting the S/S solution, breast milk, and solid foods), and a copy of the Medical and Health Department's Manual on Diarrhoea Management.

Community Health Nurses and Health Inspectors were then asked to identify 10 villages in their area where they planned to seek and train a village volunteer in the mixing and administration of the sugar/salt solution. These health workers were given 10 additional "diet" posters for use as training aids as well as 10 red flags to identify the village volunteers. The group was then informed of the project staff's plans to visit them in the field to follow-up the volunteer training.

The training ended with a group photo-taking session.

Training certificates, signed by the project Field Director and the Director of Medical Services, were delivered or mailed to all participants at a later date.

# FIELD NOTE 5

## REPORT ON THE 1982 "HAPPY BABY LOTTERY"

By

Mark Rasmuson

March 1983

The Academy for Educational Development is a nonprofit service organization active in many areas of education. Under contract to the Offices of Health and Education, Science and Technology Bureau (S&T/H, S&T/ED), United States Agency for International Development, the Academy is assisting the Ministries of Health in Honduras and The Gambia to develop comprehensive public education campaigns on the prevention and treatment of infant diarrhea. The campaigns combine broadcast radio, simple print material, and health worker instruction in an effort to provide practical information to rural women.

### INTRODUCTION

As part of its national campaign to educate rural mothers in the proper treatment of acute infant diarrhea, The Gambia's Medical and Health Department recently conducted a unique educational project--a national contest offering inexpensive but attractive prizes to mothers who learned how to mix correctly a simple oral rehydration solution.

The "Happy Baby Lottery," carried out during the months of September and October 1982, combined the use of a pictorial handbill showing how to mix the solution, face-to-face teaching by health workers, and an intensive schedule of instructional radio programs. Preliminary evaluation findings suggest that as many as 40% of Gambia's rural mothers have learned how to mix the rehydration solution as a result of the lottery and six months of prior project activities.

### THE LOTTERY'S INSTITUTIONAL SETTING

The Mass Media for Infant Health Project, which conducted the "Happy Baby Lottery," has been operating in The Gambia since May 1981. Part of a larger two-country project sponsored by USAID's Offices of Health and Education, the Bureau of Science and

Technology, the Mass Media project is intended to develop the application of mass media to the control of diarrheal disease. The major goals of the Project in both countries--the other is Honduras--are to reduce substantially mortality caused by diarrhea in children under five years and to institutionalize the project's educational methods in each country's Ministry of Health.

In The Gambia, the project has followed the lead of the Ministry's national diarrheal disease control policy, which advocates home use of a simple rehydration solution made from water, sugar, and salt to prevent the most serious consequence of common acute diarrhea--dehydration. A standard formula for this solution was developed using a local soft drink (Julpearl) bottle and cap for measurement: 1 liter of the solution is made using 3 Julpearl bottles of water, 8 Julpearl caps of sugar, and 1 cap of salt.

The major instructional objective of the project has thus been to teach the primary audience of rural mothers and other child caretakers how to correctly mix and administer this solution. Important related messages about proper feeding of infants during bouts of diarrhea and specific hygienic measures that may be taken to prevent diarrhea are also being disseminated.

To achieve these objectives in The Gambia, Africa's smallest country (just 50 miles wide by 250 miles long, with a population of around 540,000), three communication channels were identified for use: radio broadcasting (two-thirds of rural compounds in The Gambia have a working transistor radio), pictorial graphic materials (the rural population is predominantly illiterate), and face-to-face instruction by health workers and other rural opinion-leaders.

Cooperating local institutions include the Medical and Health Department's newly formed Health Education Unit, where the Project is formally housed, Radio Gambia, the country's national government radio station, and the Ministry of Education's Book Production Unit.

## DESIGN OF THE LOTTERY

The central idea of the Lottery was to provide a structure for an intensive period of education on oral rehydration, using graphic materials, radio messages, face-to-face instruction, and some incentives--the Lottery prizes--to encourage mothers to participate in this educational process.

Specifically, the Lottery was designed to motivate mothers to seek out a colorful 8"x11" handbill showing the Julpearl bottle and cap formula for the sugar-salt solution and to listen to a special series of radio programs which explained how to interpret the handbill and how to use it to mix and administer the solution. Four months of prior radio broadcasting had sensitized mothers to the special danger of diarrhea, namely dehydration, and had introduced the sugar-salt solution as a measure for preventing it. A series of training workshops for 150 key health personnel throughout the country also had been held to ensure that the campaign's radio messages would receive interpersonal reinforcement from health workers in the field.

The Lottery was planned to work as follows:

Approximately 200,000 handbills, or "mixing-pictures" as they were called, would be delivered by the Mass Media Project staff to approximately 20 health centers and dispensaries throughout the country. A portion of these would be distributed to mothers

at the health centers by the local government health workers, and the rest would be delivered in turn to a network of some 800 village volunteers who had been trained by the health workers as village "diarrhea experts" following their own training at the Project's workshops (see Field Note No. 4 above).

During this same time, an intensive publicity campaign about the Lottery would begin on Radio Gambia in four local languages--Wolof, Mandinka, Fula, and Serehule--explaining that the mixing-picture was to be used as the ticket for entering and encouraging all women (only) to obtain one and to learn how to mix the sugar-salt solution. A series of radio programs interpreting the mixing-picture and explaining key points of administering the solution would be aired throughout the Lottery period. (To ensure nationwide reception of these programs, cassette tape copies would be delivered to Radio Gambia's up-country relay transmitting station in Basse for direct broadcast. Reception in this part of the country was notoriously poor due to the weakness of Radio Gambia's signal reaching the relay transmitter from its origin 200 miles down-country.)

The distribution of the mixing-picture tickets would be followed by the Lottery's core activity--at four weeks the names of 18 villages from all over the country would be drawn randomly and announced over the radio. Each of these villages would be visited by a contest judge, one of the local health workers. Every woman in the village who came to the contest with a mixing-picture in hand would be eligible to enter an initial drawing, conducted by a judge, to choose 20 women who would then have a chance to demonstrate their mixing knowledge. Each of the 20 women who correctly demonstrated for the judge how to mix the sugar-salt solution would win a prize--a one-liter plastic cup. If she could also correctly answer at least three out of five questions about how to administer the solution she could win a second prize as well--a bar of locally made soap. She would also then become eligible for the Grand Prize Drawing: a special one-hour program, broadcast on Radio Gambia in which a Gambian VIP would draw and announce the winners of 15 radio-cassette players from among the village contest winners. Five community prizes, consisting of a 50-kg bag of sugar and a 100-kg bag of rice each, also would be awarded to the villages who had participated most actively in the village contests.

## DESIGN AND PLANNING CONSIDERATIONS

The Lottery design was the end-product of a planning process that involved long hours of discussion among Project staff, close consultation with Medical and Health Department and Radio Gambia officials, and a trial village contest conducted to test this key component of the overall design.

The idea of the village contest itself resulted from a staff brain-storming session on how to avoid the many problems anticipated with the original lottery scheme in which the 200,000 mixing-picture tickets would be numbered and a true lottery-style drawing and announcement of numbers would take place. Primarily, most rural villagers in The Gambia cannot read numbers. Also anticipated was the accidental loss of winning-numbered tickets resulting in few or no winners or the intentional hoarding of tickets at distribution points. The village contest idea that finally evolved, in which names of villages rather than numbers were drawn and announced, avoided all of these problems and had the additional virtue of rewarding not just a lucky draw but the actual performance of the very set of behaviors--mixing the sugar-salt solution--the Project is trying to teach.

The drawing that the judge would conduct in each village contest to select 20 actual contest participants was added to the design after it became apparent that the

contests would attract great interest and that it would be impossible to give every woman with a mixing-picture a chance to demonstrate her knowledge. Thus, at each contest the judge would use a system of marked and unmarked plastic bottle caps: every woman with a mixing-picture would draw a cap from a bag, and those who drew one of 20 specially marked caps would become contest participants.

After considering hiring short-term employees to serve as the contest judges, at the suggestion of Medical and Health Department headquarters it was decided that 18 rural Health Department Inspectors would be chosen because they were distributed throughout the country's five political divisions, they had attended the project's earlier training workshops, and they were the most mobile of rural health staff--most had motorcycles and petrol allowances.

Their selection largely determined the number of village contests that could be held and the number of women who would be allowed to participate. After conducting the trial village contest, project staff determined that a health inspector could not reasonably be expected to conduct more than one contest each week for four weeks, given his or her regular work load. Each contest would require two trips to the village--the first to make the necessary explanations and arrangements with village leaders, and the second to actually run the contest. Given the time required to set up and to allow each woman a chance to demonstrate the mixing of the solution, a single contest, involving only 20 women, could easily become a full day's work.

Selection of rural health inspectors as contest judges also influenced the way the 72 winning villages were chosen. To ensure that these villages were reasonably accessible to the judges, four winning villages were drawn from the vicinity of each of the 18 health inspector's posts in the following manner: A comprehensive, consecutively numbered list of all (approximately 2,000) villages in The Gambia was obtained from the project's evaluation director, who had compiled the list in determining the sample for his baseline research. In drawing each judge's four villages, the numbers of all villages in those three or four districts served by the judge's health post were considered part of the pool. A random number table was used to select the four winning village numbers from the pool, but with the provisions that a village would be rejected if it were too small (fewer than 100 people) or too remote from the judge's post (more than 15 kms). Thus, while every village in the country had a chance initially to be drawn--all districts are covered by a health facility served by a health inspector--resource constraints (the judge's time and petrol) and the project's desire to have a maximum impact on public awareness determined that larger and more accessible villages would be favored in the final selection.

In choosing the contest prizes, project staff sought items that would be locally available and inexpensive but useful and appealing to village mothers and, if possible, related to or consistent with project goals. The plastic cup, the most common vessel for drinking water and a convenient one-liter measure and the bar of local soap satisfied all of these criteria. To make them more colorful and attractive, both were decorated with a bright red decal with a picture of a happy baby on it.

The more expensive grand prizes--radio-cassette players, which are highly valued possessions in rural villages--were offered to generate high interest in participating in the lottery and in following it on the radio. The community prizes, too, were planned to sustain wide interest and to encourage maximum participation. A 50-kg bag of sugar, which could be used to make the sugar-salt solution, and a 100-kg bag of rice, another commodity highly valued during the pre-harvest "hungry season" when the lottery was held, were selected after project staff had confirmed that traditional means of sharing

such donated goods existed in the villages so that the prizes would not be monopolized by one or two village leaders.

Finally, the Lottery was planned to coincide with a time of the year when Gambia's hard-working women would have some free time to participate. September/October was chosen because it is a time when most of the women's rainy season planting activities have been completed and they have some leisure time. It is also a time when rainy-season diarrhea is at its peak, and the Lottery's educational messages could be expected to arouse high interest among the rural audience.

## IMPLEMENTING THE LOTTERY

To a greater extent than expected the Lottery proceeded almost entirely according to plan and with no serious hitches.

The 72 village contests generated a great deal of excitement and enthusiasm in the rural areas. In some villages, as many as 400-450 women turned out with mixing-pictures in hand ready to participate. Other village contests were accompanied by festive drumming and dancing, and in at least one village a sheep was purchased by the village elders and cooked to feed the contest participants.

Much credit for the success of these village contests must go to the conscientious efforts of the health inspector judges and other local health staff who assisted them. (Setting up and judging the contests proved to be more work than one person could handle, but assistance to the health inspectors from their fellow health workers always seemed quickly forthcoming.) A campaign T-shirt was given to all the local health staff who helped, and a small cash honorarium was provided to each health inspector judge.

There were, of course, some problems. The most serious of these was a petrol shortage which severely reduced allocations to all departments in the Gambian government in August, just as the Lottery was beginning. The most serious consequence of this shortage for the Medical and Health Department was that the outreach operations of the rural health centers, whose staff hold mobile clinics in surrounding villages at least two or three days each week were severely curtailed. For the Lottery, the shortage meant that the project staff had to provide commercial stations so that they could distribute the mixing-pictures and later reach the village contest sites. This expenditure represented a substantial unanticipated cost. Indeed, petrol, including that purchased by Mass Media staff to make the six country-wide, lottery-related treks, was the major cost of the entire undertaking.

The other major problem encountered was that in spite of efforts to select carefully the contest villages, several of the villages selected and announced over the radio during the first week were either many miles away from the judge's post or were only a tiny hamlet of one or two compounds in which no one had ever heard of the Lottery. In one case, the concerned judge telephoned project staff from his distant up-country post to say that he had exhausted his entire petrol allowance searching for the village announced for his area only to learn that it was actually across the border in neighboring Senegal. These lapses required the project staff to review carefully the remainder of the villages that had been selected, reselect a number of them, and make an extra trip up-country to inform judges affected by the changes and to replenish the petrol allowances of several.

With these few exceptions, however, the Lottery proceeded smoothly and according to schedule, which was as follows:

- July 19-31
  - Trek to rural health centers throughout country to inform staff about Lottery plans and recruit judges.
- Aug. 5
  - Hold trial village contest to test contest design.
- Aug. 9-28
  - Trek to health centers to distribute mixing-pictures. Health staff in turn distribute to village volunteers.
  - Assemble judges' instruction books and village contest kits.
  - Draw names of 72 contest villages.
- Aug. 23-Sept. 10
  - Lottery publicity and mixing-picture explanation programs begun on Radio Gambia.
- Sept. 1-9
  - Trek to rural health centers to train contest judges and deliver instruction books and contest kits to them.
  - Deliver Lottery programs in Fula and Serehule on cassette tapes to Basse relay transmitting station.
- Sept. 9
  - First group of 18 winning villages announced on Radio Gambia.
- Sept. 9-15
  - Judges conduct first round of 18 village contests.
  - Project staff treks to selected sites to monitor first contests.
- Sept. 16
  - Second group of winning villages announced.
- Sept. 16-22
  - Judges conduct second round of contests.
- Sept. 23
  - Third group of winning villages announced.
- Sept. 23-29
  - Judges conduct third round of contests.
- Sept. 30
  - Fourth group of winning villages announced.
- Sept. 30-Oct.5
  - Judges conduct fourth round of contests.
- Oct. 6-8
  - Staff treks to all judges' posts to collect names of village contest winners for grand prize drawing.
- Oct. 9
  - Grand Prize Drawing on Radio Gambia.
- Oct. 11-20
  - Trek to distribute grand prizes and community prizes to winners.

The "Happy Baby Lottery" came to an exciting conclusion on October 9 when the Gambian President's wife, Lady NJaimeh Jawara, drew and announced the names of the grand prize winners in a special one hour trilingual (English, Wolof, and Mandinka)

broadcast on Radio Gambia. She also surprised the Mass Media Project staff by adding extemporaneously that she hoped that this would be the first annual Happy Baby Lottery.

During the two weeks that followed, the Mass Media and Radio Gambia staffs were on the road again delivering radio-cassette players, bags of rice, and bags of sugar to the lucky Lottery winners all over The Gambia, while a series of post-Lottery spots began on the radio congratulating winners and consoling losers with the message that the **real** prizes in the Happy Baby Lottery, of course, are healthier and happier Gambian children.

## RESULTS OF THE LOTTERY

As part of a separate contract with USAID to evaluate the Mass Media Project, Stanford University's Institute for Communication Research is conducting research in 20 rural villages in The Gambia, concurrent with the project's implementation, to assess its ongoing and summative impact. Following the baseline survey carried out prior to the start of the project's educational activities, Stanford's four field workers have been regularly collecting data from approximately 800 rural mothers in the areas of infant mortality and morbidity, nutritional status, and knowledge and practice of oral rehydration therapy.

The impact of the Happy Baby Lottery is thus being assessed in terms of the numbers of mothers who heard the Lottery programs, obtained and learned how to use the mixing-picture, and learned how to mix and administer the sugar-salt solution as a result of the Lottery.

A separate evaluation of The Gambia's Expanded Program of Immunization (EPI) was conducted by the U.S. Center for Disease Control in November 1982 which included several questions about rural mothers' diarrhea treatment practices. The evaluation team reported that of the 200 mothers surveyed, 60% named sugar-salt solution as the preferred treatment for diarrhea and 40% were able to cite correctly the Julpearl bottle-and-cup formula for mixing the solution.

The following statistics on the Lottery were compiled from records kept by the Health Inspector judges:

	<u>Number</u>
Village contests	72
Women who entered village contests with mixing pictures	6,580
Women who won chance to demonstrate mixing of solution	1,440
Women who mixed solution correctly	1,097
Women who correctly answered at least 3 out of 5 questions about administering solution correctly	1,157
Combined participants and spectators in 72 contests	10,728

# FIELD NOTE 6

## AMA - MAS: A Radio Course on Breastfeeding

By

Elizabeth Mills Booth

September 1983

Maria, a young mother in a small village in rural Honduras, looks at the pictures of a booklet on breastfeeding she received at the local health center as she listens to a radio program which explains the booklet's pictures. The Auxiliary Nurse at the health center two miles away told Maria if she listened to the nine radio programs and filled in the exam attached to the booklet she would receive a diploma from the Ministry of Health making her an "expert" in breastfeeding and a member of AMA-MAS, the Association of Mothers who Always Breastfeed. Maria loves her newborn baby Miguel and wants to do the best for him. She hopes what she learns in the course will help her.

### I. SCOPE OF PROJECT

The Honduran breastfeeding campaign was an integrated mass media campaign utilizing radio, graphics, and face-to-face communication to change behaviors related to breastfeeding. The campaign was a pilot project in three of the eight Ministry of Health regions. The total population was about one million, approximately 30 percent of whom were women of child-bearing age. Thousands of women like Maria took part in the radio-based ten-week course. Over 1,000 women in one region alone completed the exam and received a diploma.

The campaign methodology emphasized formative evaluation including audience analysis, pretesting of materials, and tracking of campaign implementation. The campaign centered on a radio course which taught the "Nine Golden Rules of Breastfeeding" complemented by a 20-page booklet "A Guide to the Course," which graphically explained each rule. Participating mothers received their Guide from a rural health nurse or community health worker and followed the course on the radio for ten

weeks. As a part of the tenth program, mothers filled out a simple exam which was attached to the Guide. Any mother who returned the exam to the health center received a diploma which qualified her as a member of AMA-MAS (LOVE MORE), Association of Mothers Who Always Breastfeed. The diploma was used as an incentive to motivate mothers to listen to the radio and to encourage them to become opinion leaders and support to other women in their community. Frequent radio spots were used to promote the 15-minute radio course and to reinforce key messages.

## II. GOALS

The overall goals of the campaign were to:

- Promote exclusive breastfeeding for the first four months of an infant's life and breastfeeding plus supplemental foods thereafter.
- Up-grade the status of breastfeeding as a modern, health-giving behavior.
- Teach mothers skills which would improve milk production.
- Teach the relationship between bottle feeding, increased diarrhea, and reduced natural milk production.
- Coordinate with and motivate other institutions to promote breastfeeding.
- Train and motivate a nucleus of active and articulate women who would promote and support breastfeeding in their communities.

## III. ADMINISTRATIVE/MANAGEMENT STRUCTURE

A. **Implementing Institutions:** The Ministry of Health's Division of Education staff worked in close collaboration with the Divisions of Maternal/Child Care and Epidemiology and the Nutrition Department in the development of campaign strategy, communication objectives, messages, and materials.

### **Collaborating Institutions:**

**Academy for Educational Development (AED):** Technical assistance funded as a part of the Mass Media and Health Practices (MMHP) Project of the Offices of Health and Education of AID's Bureau for Science and Technology.

**PRO-ALMA:** An AID-funded project designed to implement hospital practices which promote breastfeeding, including breastfeeding immediately after birth, rooming-in, and hospital staff training. This linkage was critical since many Hondurans perceive national hospitals as providing the best medical care in the country. It was also critical since it permitted two institutions, the MOH and PRO-ALMA, to unify their technical messages on breastfeeding.

**AID:** The campaign was jointly funded by the Honduran AID Mission, the MMHP Project, and the Ministry of Health.

The Division of Education staff and two AID consultants formed the implementation team (IT).

B. **Field Research:** All of the field research was designed and implemented by the staff of the Division of Education in coordination with the other MOH staff mentioned above, PRO-ALMA, and with the technical assistance of AFD.

C. **Creative Work:** All of the materials were designed by the IT. The graphic materials were printed by a commercial printing company and by the Ministry of Health Division of Graphic Arts. The radio materials were produced in a local radio station, utilizing professional announcers and actresses under the team's direction.

D. **Scheme of Overall Campaign Management:** The campaign was managed by the implementation team with the following responsibilities:

Project Director: general administration, liaison with Ministry officials, PRO-ALMA, Liga de la Leche, AFD.

Assistant Project Director: technical and logistical direction, administration of audience analysis, pretesting of materials, production of radio materials and distribution of graphics.

Graphic Arts Coordinator: design and pretesting of graphic materials, supervision of graphic materials production.

Educational Radio Materials Coordinator: design, pretesting, and production of all radio materials.

Training was designed by team members in coordination with staff of the MOH Divisions of Epidemiology, Maternal Child Care, Region I, and PRO-ALMA. It was managed and implemented by regional MOH staff in coordination with the team.

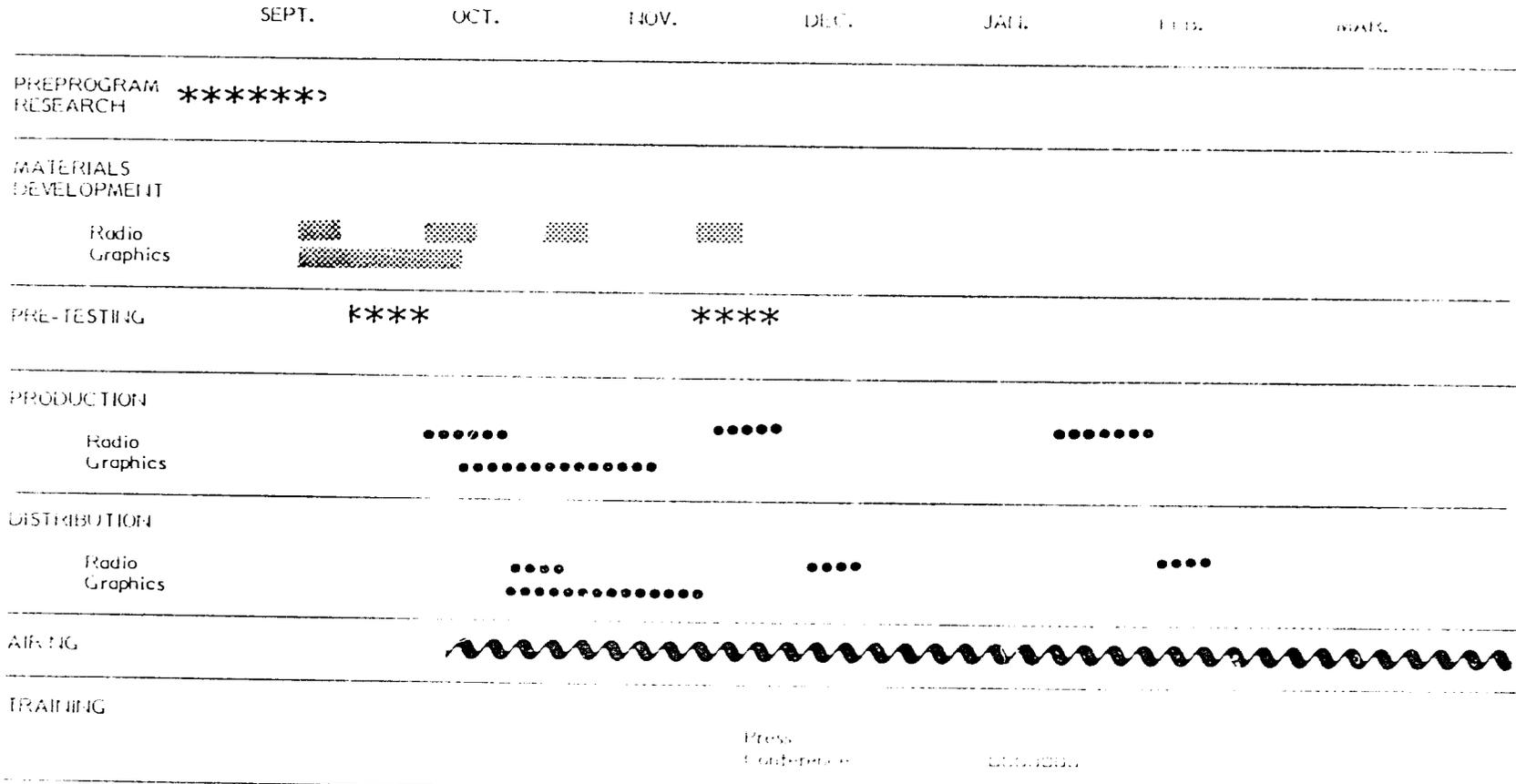
#### IV. PROGRAM IMPLEMENTATION

The schedule below illustrates the time and phasing of all implementation activities. Note that even with the limited time available for campaign preparation, significant time was given to audience research, pretesting, and monitoring.

A. **Concept Development and Message Formulation** were based on careful pre-program audience investigation. Five focus groups with about 35 mothers and individual interviews with 21 community health workers and seven Auxiliary Nurses were conducted. The results of these interviews were compared to the initial results of a large survey being carried out in the capital. The accumulated data indicated that most mothers believe breast milk is the best milk, but that breast and bottle feeding are even better. The reasons mothers gave for this were:

1. Breast milk alone is not sufficient in quantity or quality.
2. An infant must learn to eat early or the mother will have trouble teaching him to eat later on.
3. A mother's diet affects the quality and quantity of milk. Rural women expressed the belief that their diet made them produce less milk than urban women.

SCHEDULE OF PROGRAM IMPLEMENTATION



These beliefs caused mothers to introduce many foods, especially formula, very early in the infant's life to supplement the breast milk which they perceived to be inadequate. There was little knowledge or understanding of the let-down reflex and the relationship between suckling and milk production.

Breastfeeding was perceived as a traditional behavior. Young mothers didn't breastfeed as much as their mothers, partially because breastfeeding was believed to ruin the figure, causing breasts to sag. Many rural mothers expressed the belief that poor mothers had to breastfeed because they couldn't afford anything else. However, if they could afford it, they would introduce the bottle as soon as possible. These results were used to define the audience, the educational objectives, campaign tone, and strategy.

## B. Campaign Design

### 1. Audiences

**Primary Audience:** Mothers of child-bearing age in the pilot area.

**Secondary Audience:** Fathers of young children. Nurses in the health centers.

### 2. Instructional Objectives

**Primary Audience** - after the campaign 60 percent of participating mothers will state that they believe they should:

- Give only breast milk for the first four months and breast milk plus supplemental foods thereafter.
- Begin breastfeeding within three hours after birth.
- After four months, give supplemental foods but let the infant nurse each time before solid foods are offered.
- Feed from both breasts every time they nurse.
- Permit infant's appetite to control the schedule of breastfeeding.
- Breastfeed in a tranquil place and take as much time as possible.
- Express milk that is left in the breast if the infant does not drink it all.
- Drink at least six glasses of liquids daily while they are breastfeeding.
- Eat more than they normally do when they are breastfeeding.

Mothers in the course will be able to state that:

- The more the child suckles, the more milk the mother will produce. The less the baby suckles, the less milk mothers will produce.
- Bottle fed children have more diseases, especially diarrhea.
- If a mother bottle feeds her child, her breast milk will eventually dry up.
- Breastfeeding alone doesn't make breasts sag.
- The breastfeeding woman is special and is doing the best for the health of her children.

Secondary Audiences - after the campaign, trained nurses will be able to:

- Correctly state the objectives listed for the primary audience.
- Teach and promote those objectives to mothers.
- Inform women about the course, distribute the Guides and diplomas, and motivate women to participate.

Fathers - after the campaign fathers will:

- State that bottle fed children have more diseases, especially diarrhea.
- State that if a mother bottle feeds, her milk will eventually dry up.
- State that breastfeeding alone doesn't make breasts sag.
- State that the breastfeeding mother is special and is doing the best for the health of her children.
- Emotionally support the breastfeeding mother by  
a) creating a peaceful environment when she is breastfeeding, b) making sure she eats well, and  
c) making her feel special.

### 3. Campaign Tone

The campaign tone was decidedly urban, reflecting the preprogram audience research which indicated that rural women were highly influenced by urban breastfeeding trends. The strategy and messages were designed to promote the concept that breastfeeding is the most modern behavior; the breastfeeding mother is up-to-date, special, and doing the best for the health of her children. This tone was largely established with the jingle "The modern mother, who gives only breast

milk, has healthy children." (La madre de hoy, que solo pecho da, niños sanos tendrá.") This was put to a catchy merengue rhythm of a popular song to further promote the tone that the breastfeeding mother is "with it."

#### 4. **Media Strategy**

The **radio course** was selected as the central component of the campaign because time and resources didn't permit an extensive face-to-face activity. The radio format featured an Auxiliary Nurse giving a course to a group of rural mothers. This format was chosen to help legitimize the radio programs which required that the mother learn in a very informal environment, alone in her home without face-to-face support. Frequent radio spots promoted the course, set the tone of the campaign, and repeated key knowledge and skill messages.

The **graphic booklet** was selected and designed after evaluations showed a much higher level of literacy (56.8 percent) in the rural female population than was previously believed to be the case. Even so it was designed to focus on a single concept on each page and emphasized simple pictures and common vocabulary. The diploma was identified in preprogram research as a positive incentive for rural women who typically display family diplomas or certificates with pride.

The **face-to-face encouragement** and guidance given by health auxiliares served to legitimize and support the larger radio and graphic components and also served as a timely distribution point for the graphics.

Another important part of the strategy was a press conference called by PRO-ALMA in coordination with the Ministry of Health, the Social Welfare Committee, the Honduras Social Security Institute, and the Ministry of Labor. This press conference was held to kick off PRO-ALMA's work and legitimize the MOH radio course campaign. Representatives from each of the collaborating institutions spoke briefly and responded to questions about the economic, social, and health benefits of breastfeeding. The course was promoted and educational materials including copies of the International Breastfeeding Code were distributed to the press. Much of the conference was broadcast live on two of the national radio stations and the materials served as a source of information for news stories many weeks after the conference. This was an important part of the overall strategy for gaining support from opinion leaders throughout the society.

## V. DESCRIPTION OF MATERIALS AND MATERIALS DEVELOPMENT

The campaign was divided into two phases of three months each. The training, distribution of graphics, and a series of radio spots took place in the first three months; the radio course and a second series of radio spots took place in the second. The core of

the campaign was the Nine Golden Rules of Breastfeeding which were taught in the radio course and radio spots and promoted by the nurses. They included:

- **The more the child suckles, the more milk the mother will produce:** If your baby suckles several times during the day, you will produce enough milk. If your baby is bottle fed, he won't have suckled and your milk will dry up.
- **Give other foods (not bottles) when your baby is four months old. Give the foods after he has breastfed:** The infant needs only breast milk for the first four months. After four months he is "prepared" to eat soft foods...but give them after he has suckled.
- **The sooner your newborn is breastfed, the sooner your milk will let down:** Your breast milk will let down much quicker if you breastfeed your infant within three hours after he is born. The "first" milk is like a vaccination; it protects your infant from diseases, like diarrhea. If you bottle feed your baby he may reject your breast milk.
- **You will produce more milk if you feed from both breasts every time your baby suckles:** A "good" breastfeeding is when the child suckles from both breasts. You will produce more milk if you empty each breast when the child suckles.
- **Your baby's hunger is the best schedule for breastfeeding:** Breastfeed him when he's hungry. A hungry child can empty your breasts. A child normally breastfeeds eight to twelve times in 24 hours.
- **The mother who breastfeeds in a hurry leaves her baby hungry:** Breastfeeding is like eating. It needs time and tranquility. A hurried breastfeeding won't give your baby a chance to empty your breasts and will leave him hungry.
- **Babies have unpredictable stomachs. Sometimes they eat a lot and sometimes a little:** If your baby is very hungry, give him ONLY breast milk. If your baby isn't very hungry, give him only breast milk and express the milk that is left over. If your baby has breastfed well, but still cries, it is not because he's hungry. It could be because he has gas, wet diapers, colic, or needs to be held a little longer.
- **The breastfeeding mother needs to drink six glasses of liquids daily:** In order to produce a good quantity of breast milk, you need to drink a lot of liquids. The mother who doesn't drink enough liquids can't produce enough breast milk.
- **The breastfeeding mother needs to eat for two:** You need to eat for yourself and for your baby. If you aren't hungry, eat small portions several times during the day.

These nine rules were promoted through graphics, radio, and face-to-face channels.

**A. Graphic Material**

	<u>Printed</u>	<u>Distr.</u>
Guide to the Course-AMA-MAS: Twenty Pages, Two Colors	30,000	8,000
Diploma for Course Participation 8 x 10            30,000	8,000	
Membership Card AMA-MAS	30,000	8,000

These materials were distributed by the Auxiliary Nurse in the health centers. In some cases the Guide was also distributed by the community health worker. Only 8,000 were distributed as a part of this pilot study; the rest will be distributed in subsequent campaigns.

**B. Radio**

**Radio Course - Curso de AMA-MAS:** Eleven 15-minute programs. Nine programs taught the Nine Golden Rules of Breastfeeding. One program took mothers through filling out the booklet exam. The last program was recorded in a rural clinic with mothers who had followed the course and were receiving their diplomas. The course was broadcast on three national and six local radio stations so that mothers had several opportunities to listen to the program during the week.

**Radio Spots:** Ten 30-second spots and one song broadcast on two national and three local radio stations. Six spots were broadcast during the first three months of the campaign and four during the last three months. The song was broadcast on local radio throughout the campaign.

The goal of the series of spots broadcast in the first three months was to "set the stage" by promoting breastfeeding as a modern, positive health-giving behavior and by promoting the course as a source of information for breastfeeding mothers.

The messages of the spots during the first three months included:

- **Introduction to the Campaign:** The breastfeeding mother is special, modern, and is doing the best for the health of her children. Features two men complimenting the wife of one of the men who has just won an award for being a good mother and breastfeeding.
- **Fathers should support mothers when they are breastfeeding:** The breastfeeding mother is special and needs support from the father when she is breastfeeding. He especially needs to see that she eats well while she is breastfeeding. Aimed specifically

at a male audience, the spot features two men, one who has just had his first child and wants to give something special to his wife to show how happy he is. The other man advises that he recite a poem to her which says how special she is and how she needs to eat well while she is breastfeeding. But the most important thing, the man advises, is to put his words into practice.

- **Breastfed children are more healthy than bottle fed children.** Features Dr. Salustiano, a fictional character popularized in earlier health broadcasts, talking with parents of a newborn about how bottle fed children have more diseases, especially diarrhea.
- **Promotion of Radio Course:** Explains the course, how to enroll, and times of airing. (Three spots)

The second series of radio spots were timely reminders of key knowledge and skill messages given in the course. These messages included:

1. Breast milk is sufficient for the first four months of an infant's life. Features Dr. Salustiano.
2. Bottle feeding makes mothers' milk dry up because the more the child drinks from a bottle, the less milk the mother produces. Features distraught mother who bottle feeds as well as breastfeeds talking with Dr. Salustiano about why her breast milk is drying up.
3. A child learns to eat more easily after he is four-months-old when his gums are thicker. Features urban voices and modern soft music.
4. Breastfeeding alone doesn't cause breasts to sag. Features two mothers talking at a party. One mother compliments the other on her appearance and asks how she remained so attractive when she breastfed all of her children.

The selection of radio stations and scheduling of radio materials was based on the listening habits of the primary audience as indicated by the pre-program audience research. The spots were carefully scheduled during times of highest listenership, particularly early in the morning (6 a.m. to 8 a.m.) and during the noontime newscasts on the national stations. This helped maximize the impact of limited resources.

### C. Training

Auxiliary Nurses in Rural Health Centers Trained	110
Regional Area Supervisors Trained	8

Auxiliary Nurses were trained in the key knowledge and skill objectives as well as in their role in implementing and promoting the radio course. The training was implemented in two one-day sessions (50 participants in each session) by Regional Nursing Supervisors.

The team also coordinated with PRO-ALMA in the selection of messages and the development of materials for their training and assisted in some of the initial sessions. PRO-ALMA's objective is to change hospital practices which inhibit breastfeeding and train hospital staff in the promotion of breastfeeding.

#### D. Pretesting

The first draft materials were always reviewed by the implementation team, MOH Division staff, and PRO-ALMA.

Due to the limited time frame which required a lead time of over a month for printing and another month for distribution, it was not possible to pretest the Guide. Since it was the only graphic which was not pretested by the team during their three years work in Honduras, they felt they could build on many of the lessons learned in earlier pretests to design effective visuals. Even so, later monitoring showed problems, albeit in the text, which probably would have surfaced in pretesting. Most of the radio spots were pretested however, and some critical changes were made based on the results. Two examples of those changes include:

**Promotion of Breastfeeding as a Modern Health-Giving Behavior.** Two radio spots were pretested and compared. The first featured a modern mother with a more 'urban' voice giving a testimonial about breastfeeding as a modern, health-giving practice. The second featured two men complimenting one man's wife who has just won an award for being a good mother and breastfeeding. The team expected that mothers would identify with, and therefore prefer, the woman as a source of information about breastfeeding. However, mothers overwhelmingly selected the spot with the two men. They liked the idea that men were positively discussing a breastfeeding woman and felt that it gave them status.

**The Breastfeeding Mother is Special and Needs Your Care and Support.** This spot was directed specifically at men. The implementation team wanted to identify a popular "with-it" personality to promote this message. Due to the recent World Cup Soccer Championship in which Honduras participated, the team designed and pretested a spot featuring one of the best-known soccer players. The second spot featured two men wherein one man is telling the second a poem about how the breastfeeding mother needs special care. "But the most important thing is to put your words into practice." We expected that the men with whom we pretested the spot would prefer the one with the soccer player. However, they overwhelmingly rejected the spot informing interviewers that the soccer players are generally womanizers and therefore not appropriate sources of this information.

#### E. Tracking/Monitoring

1. **RADIO:** Previous experience had shown it was important to monitor radio broadcasts to ensure that spots were being aired at the scheduled times. One person monitored national radio stations and one, local radio stations, alternating stations and hours each day. The spots which were not broadcast, usually about 10 percent on national stations and 25 percent on local stations, were then re-scheduled.
2. **GRAPHICS:** Auxiliary Nurses were asked to send a telegram (a free service to government officials) when they received their graphic

materials and when they needed more. Several health centers requested more materials and these were then sent by bus.

#### F. FOLLOW-UP ACTIVITIES

The campaign continues through the work of PRO-ALMA. The MOH Division of Education plans to run the radio course and spots again on a wider scale. PRO-ALMA plans to produce the radio course on cassettes and utilize it in hospitals and clinics.

### VI. EVALUATION

Initial results of the radio course were very positive. Only one month after the course ended, the team had received over 600 exams from 22 (13 percent) of the participating health centers. Almost half of the exams were answered completely correctly. Another thirty-six percent of the respondents answered only one question incorrectly. This question contained a double negative and was in itself difficult to understand. These results suggest that rural women can learn from radio, without the structure of formal listening groups, monitors, or other regular interpersonal support.

As a part of a separate contract with USAID to evaluate the Mass Media and Health Practices Project, Stanford University is conducting research in 20 villages with 750 rural families. The final impact of the breastfeeding campaign, changes in knowledge, attitudes, and practices as well as changes in nutritional status and morbidity/mortality, will be measured as a part of those summative evaluation activities.

#### LESSONS LEARNED

The Mass Media and Health Practices staff has been concerned that the approach initially developed to support widespread use of oral rehydration therapy in Honduras may be too time consuming and expensive for regular use with more limited health campaigns. The key to that approach was regular and systematic audience research and an integrated delivery system stressing the complementarity of broadcast, print, and face-to-face channels. This breastfeeding campaign begins to answer some of the team's primary concerns. This campaign was organized quickly in response to an immediate need, yet it included significant audience research and did integrate the three primary channels. Several important differences between this and the earlier model should be noted, however:

- Less time was given to pre-program research.
- More attention was given to radio pretesting than print material testing. This was done for practical reasons, but the decision seems to have been a good one. Essentially, testing was done where it would make the most difference--where the results could be easily incorporated and used to compensate through verbal clarification on the radio for mistakes made in print media.
- The short broadcast period permitted less substantive monitoring, focusing almost exclusively on distribution and reception.

Several lessons learned from the earlier campaign were reinforced:

- A campaign must be audience driven and build on what people already believe and do. Pre-program research, pretesting, and monitoring are essential elements of campaign design and implementation. A major obstacle to implementation was ensuring that the radio stations broadcast the materials at the scheduled times, especially the radio course. Due to sports (The World Cup) and political (news) priorities, the radio materials were frequently pre-empted. This required continued monitoring and re-negotiation with the radio stations.
- The campaign should integrate various channels, ensuring that all of the channels are promoting the same messages, to maximize campaign impact. It isn't enough just to print a poster or have a good radio program.
- Inter-institutional coordination is critical to campaign implementation. It also makes for a richer, more in-depth campaign design.
- Pre-program research indicates that the role of men must be taken into account to support breastfeeding.
- An educational campaign to change attitudes and practices is not enough if the legal and social systems are not changed to support breastfeeding practices. The economic realities of today require that mothers work outside of the home. An educational campaign should not make women feel that they are bad mothers for not breastfeeding when they work to support their children. Educational campaigns should influence opinion leaders to promote labor laws and social structures which support breastfeeding mothers.

VII. COSTS

	<u>MOH</u>	<u>AID MM&amp;HP</u>	<u>AID HONDURAS</u>	<u>TOTAL</u>
<b>GRAPHICS:</b>				
1. Guide to Course- AMA-MAS-20 pgs. Two colors. US\$ .17 ea. (30,000 printed) 8 000 distributed			1,260	
2. Diploma 8" x 10" MOH Printing Press. US\$ .08 ea. 8,000 distributed			640	
3. Membership Card			160	
4. MISCELLANEOUS- (Photo- copies, bus fares to send graphic materials, etc.)		300		
TOTAL GRAPHICS				\$ 2,360
<b>RADIO:</b>				
1. Air Time National Radio- 6 months. Two stations with an average of 11 spots daily on each.	8,000			
Local Radio-6-months 3 Stations with an average of 20 spots daily.		1,650		
2. Production-Radio Course 11 Programs including re- production of programs and distribution to the 9 radio stations.		1,700		
Radio Spots @ \$60 each Song Jingle		600 300	425	
TOTAL RADIO				\$12,675
<b>TRAINING:</b>				
1. 110 Nursing Auxiliaries				4,803
TOTAL TRAINING				\$ 4,803
<b>RESEARCH:</b>				
1. PRE-TEST - 2 pre-test field trips, 3-4 inter- views for one week each trip.	700	1,200		
2. Monitoring - 6 months National Local	900 450			
TOTAL RESEARCH				\$ 3,250
CAMPAIN TOTAL				\$23,088

# FIELD NOTE 7

## RAINY SEASON FEEDING MESSAGES

By

Mark Rasmuson

March 1984

The Academy for Educational Development is a nonprofit service organization active in many areas of education. Under contract to the Offices of Health and Education, Science and Technology Bureau (S&T/H, S&T/ED), United States Agency for International Development, the Academy is assisting the Ministries of Health in Honduras and The Gambia to develop comprehensive public education campaigns on prevention and treatment of infant diarrhea. The campaigns combine broadcast radio, simple print material, and health worker instruction in an effort to provide rural women with practical information.

### FIRST-YEAR MESSAGES

Following its developmental investigation of diarrhea-related beliefs and practices among rural Gambian mothers, the Mass Media for Infant Health Project identified a core set of messages for this primary audience during the first year (1982) of the project's educational campaign.

Organized around the concept of a "special diet for diarrhea," the campaign promoted a threefold response to a bout of diarrhea: (1) preventive oral rehydration using a home-mixed sugar-salt solution; (2) continuation of breastfeeding; and (3) feeding of solid foods both during and after the bout and **extra** food once the bout has subsided. This latter feeding message was designed to address the nutritional problem of wasting that occurs among Gambian children--the most worrisome aspect of the chronic diarrhea they suffer during the rainy season--and to counter the practice common among Gambian women of reverting from solid foods to watery gruels of little nutritional value in feeding their sick children.

Such nutrition advice is widely recognized as an integral part of the treatment of diarrhea. WHO's Programme for the Control of Diarrhoeal Diseases, for example, states the following:

"In the management of acute diarrhoea it is essential to repair whatever nutritional deficit arises and to maintain nutrition during the diarrhoea illness. This deficit results from reduced food intake due to anorexia and withholding of food, and from nutrient loss due to vomiting and malabsorption. There is no physiological basis for 'resting' the bowel during or following acute diarrhoea. In fact, fasting has been shown to reduce further the ability of the small intestine to absorb a variety of nutrients. Even during acute diarrhoea, 60% of the normal absorption of nutrients occurs. This is particularly true for fats and oils, which can provide a large amount of energy for the quantity eaten. Greater weight gain has been documented in infants given a liberal dietary intake during diarrhoea when compared with others on a more restricted intake."

(A Manual for the Treatment of Acute Diarrhoea,  
WHO/CDD/SFR/80.2, p.11)

## EVALUATION RESULTS

In early 1983, the Mass Media Project's implementation team conducted a formative evaluation for the purpose of assessing the progress of its campaign to date and to guide the development of second-year messages. At about the same time, Stanford University, which is conducting a separate but concurrent impact evaluation of the project, produced its initial set of data on the learning and adoption among Gambian mothers of the campaign's key messages.

Both evaluations indicated the same pattern of response to the "diet for diarrhea" messages: while as many as half of the Gambia's rural women appeared to have learned the campaign's formula for mixing sugar-salt solution and had begun using it, fewer than a third had adopted the "give solid foods" message. To cite the Stanford data:

"64% of the women interviewed in December 1982 knew the entire sugar-salt solution formula correctly....The proportion giving sugar-salt solution has risen 450% during the course of the campaign (from 20.6% to 89.3% of those mothers who treat their child themselves)....The use of solids, starting at a very low level (13.6%) has more than doubled (to 29.5%), but 70% of these women still do not offer solids to their children during diarrhoea."

(Mass Media Project Evaluation Unit,  
Quarterly Report #6, February 28, 1983)

## INTERPRETATION OF RESULTS

Several explanations for this discrepancy were considered, including the obvious possibility that the ORT messages had received much greater exposure during the first year. Indeed, the peak of the campaign's first-year was a highly publicized national educational lottery over Radio Gambia in which 150,000 handbills illustrating the sugar-salt solution formula were distributed and prizes were awarded on the basis of knowledge of the formula and how to administer it.

Another plausible interpretation was that the solid foods message was too crudely formulated. "Give solid foods during diarrhea" was very possibly contraindicated in the minds of many mothers by the anorexia children often suffer during diarrhea: a sick child may be reluctant to take **any** kind of food, let alone solid foods. The message also obviously did not apply to an unweaned child.

Project staff thus decided to reformulate the campaign feeding messages and to make feeding the primary focus of the 1983 rainy season phase of the campaign, just as oral rehydration had been the first year.

#### REVISED FEEDING MESSAGES\*

The list of revised feeding messages is as follows:

- Continue breastfeeding.
- Give sugar-salt solution to prevent dehydration and to restore appetite. Remember the 3/8/1 formula. (3 Julpearl bottles of water, 8 Julpearl caps of sugar, and 1 cap of salt.)
- Try to give the child small, frequent feedings even if he has little appetite.
- Add some sugar or milk to the child's pap at the time of feeding to increase its palatability.
- Once the child's appetite has returned, give solid foods like nyankatango (mbahal), nvelengo (nyeleng), futo (chere), and mani fajiringo (malo buriye bahal) to restore weight and power.
- Oil, sugar, milk, and pounded groundnuts add extra power to foods. Add some of these to the child's food to increase its power.
- Give an extra meal to the child for at least two days after the diarrhea has ended, and **keep giving extra food until his weight and power are fully restored.**

\*The Mass Media and Health Practices Project wishes to acknowledge the special contributions of several individuals to the development of the messages described herein. Mr. Nigel Taylor, nutritionist in The Gambia's Medical and Health Department, provided continuous guidance to project staff in the development of the messages and the supporting graphic materials. A number of useful suggestions were made by Dr. Phil Gowers, Medical Officer of Health in the Department, and Mr. Paul Robson, Health Education Officer.

The project also benefited once again from the experience and expertise of the British Medical Research Council staff in The Gambia, who have been conducting research on aspects of disease, nutrition, and child growth in the country for more than 30 years. Ongoing discussion with and advice from Dr. Michael Rowland has been particularly valuable. Dr. Bill Lamb and members of his field staff at the MRC station in Keneba also provided helpful advice.

## CHANGES IN EMPHASIS

These revised messages reflect the following changes in emphasis from the project's first-year messages:

- 1) **We are differentiating between feeding a child during diarrhea and feeding after diarrhea, and now promote solid foods during the latter phase.**

Rather than telling mothers to give solid foods to their child at a time when he or she may have little or no appetite, we are now acknowledging the difficulty a mother may have in feeding her sick child and giving several practical suggestions for encouraging the child to eat **something**. These include giving small, frequent feedings and adding sugar or milk to the pap, which the mother is most likely giving to improve its flavor and increase its energy value. Mothers are also encouraged to continue breastfeeding their sick child, which a very high majority of Gambian mothers already do.

Solid foods are then encouraged as an important and appropriate "catch-up diet" once the child is getting better and recovering his appetite.

- 2) **Solid foods are promoted as a source of power (strength) and weight gain for a child.**

A slogan was developed in the Mandinka and Wolof languages for use in both radio programs and graphic materials which says, "When your baby is recovering from diarrhea, give him solid foods to restore his power!" We are continuing to contrast **powerful** solid foods with **weak** watery paps. This message builds on our finding that loss of weight and strength are among those symptoms of diarrhea most commonly identified and cited by Gambian mothers as a concern.

- 3) **Full restoration of weight and power is also the guideline we are emphasizing for how long to give extra food to a child recovering from diarrhea.**

We made this decision after failing to agree on a specific number of extra days or meals to recommend that would be neither too few as to be ineffectual or too many as to seem unrealistic in The Gambian context. WHO, for example, recommends an extra meal every day for at least a week but we felt this recommendation would be rejected as unrealistic by Gambian rural women who spend most of the day during the rainy season working in the fields away from their children, many of whom suffer diarrhea almost continuously at this time of year. We also felt confident, as stated earlier, that most Gambian mothers are very sensitive to their child's weight gain and loss, perhaps because a high percentage of them regularly attend an MCH clinic where their children's weights are charted on a Road-to-Health Card.

Our final decision was to advise mothers to give an extra meal to the child for **at least 2 days** after a bout of diarrhea and, more importantly, to **continue giving extra solid foods** until his weight and strength are fully restored.

- 4) **We are recommending a number of specific local dishes which are particularly energy-rich.**

These dishes include the following rice and millet dishes, for which the Mandinka name is given first, followed by the Wolof. (Descriptions of dishes and energy values are extracted from G.J. Hudson, P.M.V. John, and A.A. Paul, "Variation in the Composition of Gambian Foods: The Importance of Water in Relation to Energy and Protein Content," Ecology of Food and Nutrition, 1980, Vol. 10, pp. 9-17.)

- mani-fajiringo/malo bunye bahal: dehusked rice is boiled, sometimes after preliminary steaming, and then the water content is reduced by a final steaming. Fajiringo is usually served with the groundnut sauce durango.
- futo/chere: finely powdered flour is steamed twice, almost to dryness. Futo is eaten with added water or a thin sauce, dajiwo, often the water in which fish has been cooked.
- nyankatango/mbahal: fajiringo that has been cooked once is steamed with groundnuts, and often fish are cooked on top of it.
- nyelengo/nyeleng: dehusked, whole cereal is steamed. This food is usually served with a sauce made from groundnuts and leaves.

These dishes were recommended on the basis of their high energy content. All of them have a gross energy content in the range of 125-200 kcal/100g., expressed on a fresh weight basis, depending on which sauces or other ingredients are added to the dish. This compares very favorably to the rice or millet paps which mothers commonly feed their infants which are about 88% water and have energy contents in the range of 35-60 kcal/100g.

- 5) **In addition to these recommendations of specific dishes, we also are promoting a number of food ingredients that will enrich the energy value of a child's food.**

These ingredients include sugar, milk, oil, and groundnuts. In addition to being desirable ingredients in a catch-up diet for a child who has been sick, promotion of these foods also represents an attempt to redress the imbalance in the nutrition education most Gambian mothers have received in the past which has concentrated almost entirely on relatively expensive protein foods such as meat and eggs.

## FOOD HYGIENE

The advisability of adding a message or messages on food hygiene also was discussed at great length in the process of reformulating the feeding messages, especially because contaminated food is believed to be the greatest source of bacterial infection for Gambian infants and because some of our new feeding recommendations--e.g., adding sugar to pap--could conceivably exacerbate this problem by making an even better medium for bacterial growth.

There was general consensus that the best food hygiene message would be: "Cook your baby's food fresh each time he or she is fed." Field staff at the MRC research station in Keneba report that many Keneba mothers do indeed prepare their child's meal fresh each time. They admit, however, that this result has been obtained only after many years of MRC presence and educational activity in Keneba. Elsewhere in The Gambia, the common practice is still for a mother to prepare a batch of rice or millet pap for her baby in the morning and then store it in a bowl or thermos flask for use throughout the day. We concluded that it would be unrealistic to expect mothers to act on a "prepare fresh each time" message, especially during the rainy season when many women are in the fields all day long, and that other food hygiene messages needed more understanding of current local hygiene practices than we presently had.

In our current phase, then, we have restricted food hygiene messages to emphasizing in the case of adding sugar or milk to pap, that this should be done at the time of feeding rather than when the pap is originally made, so as to deter further bacterial growth.

## MESSAGE DISSEMINATION STRATEGY

The strategy for dissemination of these revised feeding messages has been the same as during the project's first year: face-to-face teaching supported by graphic materials and instructional radio broadcasts.

The full set of messages has been introduced at a series of in-service training sessions to a core group of rural health staff representing all rural health stations. These staff members were asked to brief their fellow staff and the village health workers they supervise about the messages with the aid of a large (60x72 cm.) color teaching poster which all health stations will receive.

Health staff also have been supplied with a large number (50,000 for the entire country) of a second graphic aid--a smaller (30x42 cm.) color handbill illustrating two of the key messages: "Give solid foods like nyankatango...etc. when your baby is recovering from diarrhea," and "Add oil, sugar...etc. to your child's food to increase its power." These handbills are being given to mothers at clinics after short teaching sessions on the messages they illustrate. Special radio spots on Radio Gambia are advising mothers to go to their health centers to obtain a handbill and are also broadcasting a step-by-step explanation of its meaning.

This strategy appeared highly effective in teaching the formula for the sugar-salt solution during the project's first year. A formative evaluation in February 1983 indicated that 82% of rural women had seen one of the sugar-salt solution handbills we distributed, 62% had her own copy, and 66% were able to explain correctly the meaning of the handbill. And, as mentioned earlier, a majority of Gambian mothers appear to have learned the sugar-salt solution formula promoted by the project in the handbills, radio programs, and training sessions.

We are hopeful that this strategy and the changes we have made in the feeding messages will produce equally salutary results during the 1983 rainy season in The Gambia. Another formative evaluation planned for October 1983 and Stanford's ongoing data collection will soon provide some first answers.

# FIELD NOTE 8

## 1984 MINI-CAMPAIGN IMPLEMENTATION PLAN

By

Mark Rasmuson  
Saihou Mama Ceesay

February 1984

### INTRODUCTION

The 1984 Mini-Campaign was the final phase of the AID-sponsored Mass Media and Health Practices Project in The Gambia. Following upon 18 months of intensive educational activity focusing on oral rehydration therapy (ORT) and the proper feeding of a child with diarrhea, the mini-campaign was conceived with two major goals in mind.

1. To promote several key personal and community prevention behaviors in an attempt to reduce the incidence of infant diarrhea.
2. To provide an intensive in-service training experience in the Project's educational methodology for members of the Health Education Unit (HEU) to ensure that the methodology is well institutionalized.

AED worked closely with members of the Health Education Unit and Radio Gambia staffs on applying this methodology to a six month mini-campaign. In this shorter time period and using a simpler approach, we hoped to institutionalize a health education methodology which the HEU had experienced fully, which has proven effective, and which is within the current resources of the Unit to put into regular practice.

This Field Note may thus be read in three ways:

1. As an example of a simple implementation plan for a health education mini-campaign.
2. As a description of a key MMHP Project institutionalization activity.

3. As a streamlined application of the Project's educational methodology.

The key elements of this methodology are:

- The specification of clear, measurable **behavioral objectives**.
- A **developmental investigation**, using both quantitative and qualitative research methods, of existing knowledge, attitudes, and practices among target audiences to ensure that objectives and messages are appropriate.
- A campaign strategy which **integrates mass media** (radio, print/graphic materials) **and face-to-face channels** (such as health workers) to achieve maximum impact.
- A systematic process of campaign **materials development and pretesting** to ensure they are accurate, comprehensible, attractive, and culturally appropriate.
- A system of **monitoring and formative evaluation** which indicates if and how the campaign elements are working and suggests necessary mid-course corrections.

## I. AUDIENCES

Target audiences for the campaign are:

1. **Primary: Community Health Workers (CHW's)**, including Community Health Nurses (CHN's), Village Health Workers (VHW's), and Traditional Birth Attendants (TBA's), and **members of the Village Development Committees (VDC's)**.
2. **Secondary: Rural mothers and other health workers.**

## II. OBJECTIVES

BY APRIL 30, 1984

### Exposure to Campaign

1. 50% of CHW's and VDC members and 25% of rural mothers will name well protection, hand washing, or VDC responsibilities as the topic of a recent health program they have heard on the radio.
2. 75% of VDC members will report they have discussed one of the three campaign topics with CHW or at a VDC meeting.
3. 75% of CHW's and VDC members will have a copy of the hand washing poster.

### Learning from the Campaign

4. 50% of CHW's and VDC members will name at least two out of the three priority VDC functions promoted by the campaign, namely:
  - a. Support of the VHW and TBA
  - b. Mobilization of the community for community projects
  - c. Protection of community wells
5. 50% of CHW's and VDC members and 25% of mothers will name at least three out of the five features of a well-protected well promoted by the campaign, namely:
  - a. Wall or parapet
  - b. Cement apron
  - c. Cover
  - d. Fence
  - e. Permanent pail on a pulley system or forked stick
6. 50% of CHW's and VDC members and 25% of mothers will describe germs as "seeds of disease" which cannot be seen but can cause illness in man.
7. 50% of CHW's and VDC members and 25% of mothers will name at least two of the four times washing hands with soap is important as promoted by the campaign:
  - a. After using the latrine
  - b. After cleaning up feces in the compound
  - c. After cleaning a baby who has defecated
  - d. Before eating or preparing food
8. 75% of the CHW's and VDC members with hand washing posters will be able to explain it correctly.

### Action from Campaign

9. 25% of VDC members with posters will have used the poster to teach someone else in their village.
10. 10% of VDC's will have undertaken some aspect of a well protection project since the campaign began.

### III. RATIONALE FOR OBJECTIVES

The campaign's objectives were selected through a process of elimination and ranking involving:

1. The campaign planners' initial ideas about what constituted high priority objectives.
2. The results of the developmental investigation which preceded the campaign.
3. The results of a behavioral analysis of possible objectives conducted following the developmental investigation.
4. A final subjective assessment of what constituted a manageable number of objectives and what type of change (e.g., knowledge, attitude, practice) could realistically be expected from a campaign of only several months' duration.

This process is described briefly below.

Campaign planners initially identified a number of desirable objectives, given the long-term goal of reducing the incidence of infant diarrhea, in the following areas:

- Water use: improvement of construction and maintenance of wells, water raising and storage practices, beliefs about water-related disease, etc.
- Environmental sanitation: improvement in construction and maintenance of latrines and rubbish pits, infant feces disposal practices, beliefs about feces-related disease, etc.
- Personal hygiene: particularly use of soap when washing hands.

Existing knowledge, beliefs, and practices in these three areas were explored in the pre-campaign developmental investigation, along with an inquiry into the current activities and problems of the VDC's.

**The results of the developmental investigation provided the basis for eliminating certain possible objectives in favor of others.**

For example, a high percentage of rural women reported filtering their water (85%) and keeping it covered (97%), making these practices low health education priorities. In contrast, a relatively low percentage of women spontaneously reported washing with soap after using the latrine (22%), after cleaning feces from an infant (17%), or before preparing food (13%), indicating the need for attention to these areas.

Likewise, while community wells were generally well-sited, far away from latrines and rubbish pits, few wells were fenced (3%) or covered (4%), and many were the site of potentially harmful practices like watering animals and doing laundry. These findings suggested that discouraging the latter two practices and promoting well covers and fences should be higher priority objectives than promoting the removal of latrines or rubbish pits from well sites.

Having reduced the list of possible campaign objectives on this basis, **we then applied a type of behavioral analysis to the remaining objectives to further rank them.** Each possible objective was analyzed on the basis of its susceptibility to change and the magnitude of its consequences. Objectives were rated according to a list of behavioral criteria.

This type of analysis generally favors attempted changes which are low in performance costs and changes which are high in visible impact. Thus, a change like fencing a well receives a higher rating than washing hands with soap because the former is a community behavior which must be done only once (or infrequently) to be effective, while the latter is a personal behavior that many people must do continuously to have the desired impact. Neither of these behaviors, however, like many disease-prevention behaviors, has much immediately visible impact on community health status.

Copies of the behavioral criteria used and an example of one of the rating sheets are included in Appendices A and B of this Field Note.

Finally, we further pared our list of objectives according to the constraints placed on a number and type of objectives chosen by the very limited duration of the campaign. One entire topic area--latrine construction and protection--was dropped, leaving three--well protection, hand washing, and promotion of VDC's--which is still probably an overly ambitious number for a campaign of three to four months.

And we limited our objectives in these three remaining areas primarily to those involving exposure to and learning from the campaign. While the campaign has several modest behavioral objectives, we generally felt that the duration of the campaign was too brief to produce much in the way of immediately observable behavior change.

#### IV. MESSAGE DEFINITION

Specific campaign messages are as follows:

##### Village Development Committees

- The VDC is the entry point to the village. All visitors should pass through it.
- The VDC's responsibilities include organizing remuneration for the VHW and TBA; managing the VHW's drug supply; mobilizing the community to undertake health promoting projects, such as water and environmental sanitation, vegetable gardening, etc.
- One of the VDC's most important specific responsibilities is inspection and maintenance of well-protected community wells. All VDC members should know the features of a properly protected well.
- VDC's should meet regularly to exchange ideas and plan ahead. Records of all activities should be kept.

##### Well Protection

- Wells should be protected against all possible sources of contamination because water is a good medium of disease germ growth and transmission.

- Wells should have the following protective features: a well or parapet at least three feet tall; a sloping cemented apron forming a four to six foot radius around the well; a cover preferably made of flattened metal or other durable materials; an animal-proof fence around the well made from some locally available material; a permanent pail on a pulley system or Y-shaped pole for raising water.
- Laundry, washing of utensils, and watering of animals should be done outside the well's fenced area.
- VDC members should keep close watch on community wells to make sure they are kept well-protected.

#### Washing Hands with Soap / Germ Theory

- You should wash your hands with soap and water at the following four important times: after using the latrine; after cleaning up feces from the compound; after cleaning a child who has defecated; before eating or preparing food.
- Germs ("seeds of disease") are tiny creatures which are not visible to us but which can make us sick.
- Germs usually enter our bodies in the food we eat or water we drink or through the bite of an insect like a mosquito.
- Feces contain many germs which can make us sick. They can enter our bodies if our hands come into contact with feces and then touch our food, water, or mouth, or if flies sit on feces and then come in contact with our food.
- Washing hands with water alone cannot wash away germs. Soap is necessary.

#### **V. MESSAGE PHASES**

Campaign messages will be phased in the following manner:

Phase 1: February 11-March 9. VDC role will be disseminated by radio and will predominate. Well protection messages will be introduced in the context of well protection as a priority VDC activity.

Phase 2: March 9-April 1. Well protection messages will predominate on radio. Germ theory messages will be introduced in the context of how wells can become contaminated. All campaign messages will be taught at three regional health worker training sessions.

Phase 3: April 1-April 30. Hand washing and germ theory messages will predominate in radio broadcasts and health worker community teaching activities, which will be supported by the hand washing poster.

## VI. INSTRUCTIONAL COMPONENTS

### RADIO

Three series of radio programs will be produced and broadcast for the mini-campaign, one for each of the campaign's three major themes:

VDC's - A series of four 13-minute programs to be broadcast on Radio Gambia's new "Bantaba" program during the month of February.

1. Interviews with PHC trainers to explain the role of VDC's within the PHC structure.
2. Interviews with CHN's to explain common problems of VDC's and VHW's.
3. A case study of a successful VDC, including interviews with CHN's, VDC members, and villagers.
4. Talk by an authority on the essential elements of one of the VDC's most important responsibilities: protection of community wells.

Well Protection - A series of four programs, 10-15 minutes each, to be broadcast on the "Tesito" program during the month of March:

1. Talk by an authority explaining germ theory and relating it to contamination of water and protection of wells.
2. Instructional talk on important considerations in siting, constructing, and protecting wells.
3. An actuality program from a successful village "tesito" project on well improvement.
4. A question-and-answer program on germ theory.

Hand Washing and Germ Theory - A series of five 10-15 minute programs to be broadcast on the women's programs ("Musoltaa" and "Jotayi Jigainyi") during the month of April.

1. Germ theory explained in a way village women can easily understand.
2. A short drama demonstrating the essential times to wash hands with soap and water.
3. A talk on the importance of keeping well water pure and doing laundry and watering animals far away from the well.
4. A dialogue showing the importance of cleaning up infant feces promptly and disposing of it in a latrine.
5. A short song by a prominent Gambian griot (storyteller) on the four important times for washing hands with soap and water.

These radio programs were planned in close consultation with the Rural Broadcasting Section of Radio Gambia and with the assistance of a Mass Media Project radio consultant, Esta de Fossard, during her three-week consultancy in mid-January. Field material for the programs was recorded on a four-day trek to Mansakanko and Farafeni regions during the week of January 22, which included interviews with VHW's, TBA's, PHC Trainers, and Regional Health Team members at a VHW re-training session and visits to a number of nearby villages.

## PRINT

The hand washing component of the mini-campaign will be supported by a poster/teaching aid illustrating the four essential times for washing hands with soap promoted in the campaign: after using the latrine, after cleaning up feces from the compound, after cleaning up a baby who has defecated, and before eating or preparing food.

The poster will be distributed to CHN's at three regional training workshops at the end of March (see following section on Training), and they will in turn distribute copies to the VHW's, TBA's, and VDC members in their regions. Copies will also be distributed to all major health stations by the HEU.

**The main intended use of the poster is as an aid to community health workers (CHN's, VHW's, TBA's) and VDC members in teaching the campaign's hand washing messages to other community members.**

The poster was designed by the HEU and Book Production Unit graphic artists. The poster's central graphic image, a pair of hands washing with soap, benefited from two days of intercept interview pretesting in the town of Brikama during the week of February 20 with a total of 60 women. The first drawing showed only hands washing with a bar of soap, and only three out of 30 women immediately identified the image. Many respondents thought the bar of soap was a box, a book, or some other object. When, on the second day, a picture of another hand pouring water from a cup onto the washing hands was added to the drawing, 19 of the 30 respondents immediately identified the drawing correctly.

One thousand copies of the poster are being printed by silkscreen by a local Gambian graphic arts studio, Studio A in Serrekunda.

## TRAINING

Three regional training workshops for Community Health Nurses (CHN's) in the Primary Health Care Program are planned as part of the mini-campaign. These workshops are for the purpose of discussing the campaign's objectives and messages with the PHC CHN's and provide them some guidance and practice in effectively teaching the messages to the VHW's, TBA's, and VDC's whom they supervise. (CHN's in the Primary Health Care Program normally supervise the work of the VDC, VHW, and TBA in each of four villages surrounding the Key Village in which the CHN resides.)

These one to two day workshops, planned in cooperation with the Regional Medical Teams and to coincide with their regular in-service training programs, are scheduled as follows:

Central Region:	March 19-20 in Mansakanko. 16 CHN's from NBD and LRD.
-----------------	--

Eastern Region:	March 26 in Bansang. 13 CHN's and several PCV's from MID.
Western Region:	March 30 in Essau. 6-9 CHN's and 2-4 PCV's from NRD and WD.

Training activities during the workshops will include:

- Discussion of campaign research findings, objectives, and messages.
- Discussion of problems in working with VDC's.
- Discussion of rural villagers' understanding of disease causation and of effective approaches in teaching the germ theory of disease.
- Teaching practice sessions: discussing and teaching germ theory with villagers; use of the hand washing poster.

The workshops will also be used to distribute the hand washing posters to CHN's, who will in turn distribute copies to the VHW's, TBA's, and VDC members they supervise. CHN's will also be given copies of the broadcast schedule of the remaining mini-campaign radio programs and be encouraged to tell VDC members to listen to and discuss the program.

**In addition to these three workshops, the HEU will distribute posters and provide on-site orientation about the campaign to the staff of most of the country's major health stations during the treks between the workshops.**

## VII. MONITORING AND EVALUATION

HEU staff will regularly monitor the broadcast of campaign radio programs to ensure that they are played according to schedule. This will be particularly important during the month of April, when community health workers and VDC members will have been told to listen to scheduled programs. Spot checks on CHN progress in distributing posters and holding meetings about the campaign with VHW's, TBA's and VDC's will also be made.

At the end of April, the HEU will conduct a survey of community health workers and VDC's comparable in scale to the developmental investigation to determine what impact the mini-campaign has had.

APPENDIX A

HEALTH EDUCATION UNIT / MASS MEDIA PROJECT  
1984 Mini-Campaign Work Plan

(page 1 of 3)

GENERAL ACTIVITY	DECEMBER					JANUARY				FEBRUARY				MARCH				APRIL			
	12/1	12/5	12/12	12/19	12/26	1/1	1/8	1/15	1/22	1/29	2/5	2/12	2/19	2/26	3/5	3/12	3/19	3/26	4/2	4/9	
I - Establish Learning Goals																					
A. Outline Broad Topic Area	XXX																				
B. Narrow Focus to Behavioral Outcomes Sought	XXXXX																				
II - Developmental Research																					
PLANNING																					
A. Review Existing Documents	XXXXXX	XXXXX																			
B. Specify E-A-P Variables To Be Investigated	XXXXXX																				
C. Training in Questionnaire Construction	XXXXX																				
D. Draft Questionnaires	XXXXXX	XXXXX																			
E. Develop Sampling Plan	XXXXX																				
F. Pre-Test Questionnaires	XXXXX																				
G. FIELD RESEARCH CONDUCTED			XXXXXXXX																		
ANALYSIS OF DATA																					
H. Write Codebook					XXXXX																
I. Code and Tabulate Data					XXXXX																
J. Write Research Report								XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
III - Implementation Planned																					
A. Behavioral Analysis To Prioritize Objectives								XXXX													
B. Write Implementation Plan										XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX

## HEALTH EDUCATION UNIT / MASS MEDIA PROJECT 1984 Mini-Campaign Work Plan

(page 2 of 3)

CAMPAIGN ACTIVITY	DECEMBER				JANUARY				FEBRUARY				MARCH				APRIL	
	5	12	19	26	2	9	16	23	30	6	13	20	27	5	12	19	26	
<b>IV - Materials Development</b>																		
<b>RADIO</b>																		
A. Outline Program Series and Broadcast Schedule						XXXX												
B. Training in Program Planning and Scriptwriting						XXXXXXXXXXXX												
C. Script Programs						XXXXXXXXXXXXXXXXXXXX												
D. Field Recording							XXXX											
E. Pre-Testing												XXXX						
F. Final Production												XXXXXXXXXXXXXXXXXXXX						
<b>PRINT</b>																		
G. Poster/Teaching Aid Designed										XXXXXXX								
H. Pre-Testing												XXXX						
I. Production												XXXXXXXXXXXX						
<b>V - Campaign Implemented</b>																		
<b>A. RADIO PROGRAMS BROADCAST</b>																		
1. V.D.C. Programs Broadcast												XXXXXXXXXXXXXXXX						
2. Well-Protection Programs Broadcast												XXXXXXXXXXXXXXXX						
3. Hand-washing Programs Broadcast													XXXXXXXXXXXXXXXX					
<b>PRINT</b>																		
B. Posters Distributed														XXXXXXXXXXXX				

HEALTH EDUCATION UNIT / MASS MEDIA PROJECT  
1984 Mini-Campaign Work Plan

(page 3 of 3)

CAMPAIGN ACTIVITY	DECEMBER				JANUARY				FEBRUARY				MARCH				APRIL			
	7 <sup>th</sup>	14 <sup>th</sup>	21 <sup>st</sup>	28 <sup>th</sup>	7 <sup>th</sup>	14 <sup>th</sup>	21 <sup>st</sup>	28 <sup>th</sup>	7 <sup>th</sup>	14 <sup>th</sup>	21 <sup>st</sup>	28 <sup>th</sup>	7 <sup>th</sup>	14 <sup>th</sup>	21 <sup>st</sup>	28 <sup>th</sup>	7 <sup>th</sup>	14 <sup>th</sup>	21 <sup>st</sup>	28 <sup>th</sup>
<u>C. TRAINING CONDUCTED</u>																				
1. Eastern Region Workshop																				
2. Central Region Workshop																				
3. Western Region Workshop																				
<u>VI - Monitoring/Evaluation</u>																				
A. Broadcasts Monitored																				
B. Campaign Evaluated																				

APPENDIX B:  
STAFF CONTRIBUTIONS

<u>UNIT / STAFF</u>	<u>CAMPAIGN TASK *</u>
<u>Directorate</u> Dr. Phil Gowers	I-A
<u>Health Education Unit</u> Sekou Dibba Paul Robson Mark Rasmuson Famara Sanyang Yahya Sanyang Saihou Ceesay	I-AB;II-BCD;IV-F;V-BC;VI-B I-AB;II-D;V-C;VI-B I-AB;II-DEJ;III-AB;IV-AG;VI-B IV-G I-AB;II-EGHI I-AB;II-ACDEFGHIJ;III-AB;IV-ABCDEFH; V-BC;VI-AB
<u>Academy for Educational Development</u> Esta de Fossard	IV-ABCDF
<u>Stanford University</u> Dr. Peter Spain	II-CDEH
<u>Nutrition Unit</u> Nigel Taylor Haddy Gabbidon Oulaye Taal	I-AB I-A;IV-D I-AB;II-ACDEFGIJ;III-A;IV-CEF;V-BC; VI-B
<u>Primary Health Care Training Team</u> Anthony Nathe Musa Marenah Thomas Smart Momodou Conteh	II-D I-B II-D;IV-C II-G
<u>Radio Gambia</u> Amie Joof Sering Fye	IV-ABF;V-A;VI-B IV-DF;V-A
<u>Book Production and Material Resources Unit</u> David Garrett Samir Safi	IV-G IV-G
<u>Studio A</u> Madoun Jobe	IV-GI
<u>Regional Medical Teams</u> Dr. Kebir Cham Dr. Curt Fischer Dr. Ian and Sheila Cross	V-BC V-BC V-BC

\*Task numbers and letters refer to same on Work Plan, Appendix A.

APPENDIX C

HEALTH EDUCATION UNIT / MASS MEDIA PROJECT  
 1984 Mini-Campaign:  
Behavioral Analysis of Educational Objectives

POSSIBLE EDUCATIONAL OBJECTIVES	Compatibility with Existing Practices	Approximations	Divisibility	Perceptible Positive Consequences	Performance Costs	Frequency	Persistence	Observability	Saliency	TOTAL
<u>WELL CONSTRUCTION &amp; PROTECTION</u>										
1. Increase wells with aprons	5	5	5	3	3	5	5	5	0	36
2. Increase wells with covers	2	1	5	5	4	0	0	5	5	27
3. Increase wells with fences	2	2	5	4	3	3	5	5	0	29
4. Construct pulley system and permanent bucket	1	1	5	5	2	0	1	5	5	25
5. Stop laundry and ut. nail washing around wells	0	1	5	3	1	0	0	5	2	17
6. Stop watering of animals	0	1	5	2	1	0	0	5	3	17
7. Hang buckets up when not used	2	2	5	1	5	0	0	5	5	25
<u>WASHING HANDS WITH SOAP</u>										
1. Use soap after using l.rine.	2	5	5	0	5	0	0	0	5	22
2. Use soap after cleaning up feces	2	5	5	0	5	0	0	0	5	22
3. Use soap before preparing food.	3	5	5	1	5	0	0	0	5	24

APPENDIX D:  
BEHAVIORAL DESIGN PRINCIPLES

1. COMPATIBILITY WITH EXISTING PRACTICES
  - 0 Totally incompatible
  - 5 Already widely practiced
2. APPROXIMATIONS
  - 0 Nothing like this one now exists
  - 5 Several existing behaviors are similar
3. DIVISIBILITY
  - 0 Not divisible into discrete parts
  - 5 Easily broken down into segments which can be taught sequentially
4. PERCEPTIBLE POSITIVE CONSEQUENCES FOR THE MOTHERS
  - 0 No perceptible consequences which the mother would logically associate with behavior
  - 5 Clear, positive, and immediate consequences for correct performance of behavior
5. PERFORMANCE COSTS
  - 0 Requires some unavailable or expensive outside commodity, or demands some unrealistic level of effort
  - 5 Can be performed with existing resources
6. FREQUENCY
  - 0 Must be done with great regularity or benefit is marginal
  - 5 Must be done infrequently and still have significant value
7. PERSISTENCE
  - 0 Requires continuous compliance over a long period of time
  - 5 Can be accomplished quickly
8. OBSERVABILITY
  - 0 The behavior itself is very difficult for an outsider to observe
  - 5 The behavior can be readily perceived and reinforced by outsider
9. SALIENCE
  - 0 Has a modest positive effect on health problem
  - 5 Has a potentially dramatic positive effect on health problem

SOURCE: Paul E. Touchette, "Behavior Analysis in the Selection of Health Messages". Paper presented at 1983 NCIH Conference, Washington, D.C.

APPENDIX E  
HEALTH EDUCATION UNIT  
Radio Program  
Planning and Management Form

(Page 1 of 2)

Program Title and Topic	Duration	Radio Gambia Program Slot	Broadcast Date(s)	Script or interview guide completed	Pre-production (% of Field recording) completed	Field Recording Taped & Logged	Pre-testing	Production Completed	Master Tape Date & Result
Program IIIII and IVII  Bantaba #1: To explain the role of VDC's within structure of PHC. Interviews with PHC trainers.	13 minutes	Bantaba	2/13/84	✓	✓	✓		✓	✓
			M 2/14/84	1/25/84	1/20/84	1/24/84	✓	1/24/84	
			W 2/16/84	✓	✓	✓	✓	✓	
Bantaba #2: Common problems of VDC's and VIW's. Interviews with CHN's.	13 minutes	Bantaba	2/17/84	✓	✓	✓		✓	✓
			2/18/84	1/25/84	1/20/84	1/24/84	✓	1/24/84	
			2/20/84	✓	✓	✓	✓	✓	
Bantaba #3: Case study of successful VDC activities. Interviews with villager, VDC member, and CHN Super.	13 minutes	Bantaba	2/21/84	✓	✓	✓		✓	✓
			2/22/84	1/25/84	1/20/84	1/24/84	✓	1/24/84	
			2/23/84	✓	✓	✓	✓	✓	
Bantaba #4: Elements of a key VDC activity: protection/maintenance of wells. Talk by authority.	13 minutes	Bantaba	2/24/84	✓	✓	✓		✓	✓
			2/27/84	1/25/84	1/20/84	1/24/84	✓	1/24/84	
			2/28/84	✓	✓	✓	✓	✓	
Tesito #1: Germ theory, hygiene, and clean water. Talk by authority.		Tesito	3/1/84	✓	✓	✓		✓	✓
			3/2/84	1/25/84	1/20/84	1/24/84	✓	1/24/84	
			3/5/84	✓	✓	✓	✓	✓	
Tesito #2: Proper siting and construction of wells. Talk by authority.		Tesito	3/6/84	✓	✓	✓		✓	✓
			3/8/84	2/10/84			3/5/84	2/21/84	
			3/9/84	✓	✓	✓	✓	✓	
			3/11/84	✓	✓	✓		✓	✓
			3/12/84	✓	✓	✓		✓	✓
			2/17/84	✓	✓	✓		✓	✓

HEALTH EDUCATION UNIT  
Radio Program  
Planning and Management Form

(Page 2 of 2)

Program Title	Duration	Radio Gambia Program Slot	B'cast Date(s)	Present at interview guide	Production completed	For recording	Monitoring	Production completed
Tesito #3: Actuality program on successful toilet well protection project in Bongro-roba	13 minutes		3/20/84 3/19/84	1/25/84 1/25/84	1/20/84 1/28/84	1/29/84 1/29/84		1/25/84 1/25/84
Tesito #4: Question-Answer program on germ theory			3/27/84 3/20/84	2/10/84 2/10/84	2/10/84			
Women's #1: Germ theory explained in a way village women can easily understand.			3/28/84 4/1/84	3/5/84 3/5/84				
Women's #2: Drama demonstrating essential times to wash hands with soap and water			4/4/84 4/8/84	2/10/84 2/10/84				
Women's #3: Importance of keeping well water pure and doing laundry well away from well site.			4/11/84 4/15/84					
Women's #4: Dialogue showing importance of cleaning up infant feces and disposing of it in latrine.			4/18/84 4/22/84					

Best Available Document

# FIELD NOTE 9

## THE ROLE OF FORMATIVE EVALUATION IN THE MASS MEDIA AND HEALTH PRACTICES PROJECT

By

Mark Rasmuson  
Elizabeth Mills Booth

May 1984

The empirical process of formative evaluation is properly acknowledged to be a critical element in the successful implementation of development communication projects. Such research, when undertaken prior to project implementation, provides the planner and implementor an informed basis for selecting appropriate strategies and messages. Performed during the life of an intervention, it provides essential feedback on progress towards project goals and identifies mid-course corrections necessary to reach those goals. While formative evaluation generally relies on qualitative, small-sample techniques, the recent experience of AID's Mass Media and Health Practices Project (MMHP, 1980-84) in Honduras and The Gambia demonstrates that formative evaluation methods can provide useful quantitative indicators of project impact as well.

### STAGES OF FORMATIVE EVALUATION

The Academy for Educational Development (AED), implementation contractor for the Mass Media and Health Practices Project, used formative research at three stages of project planning and implementation.

#### Pre-Program Research

A four to six month pre-program "developmental investigation" was conducted in both Honduras and The Gambia to assist planners to thoroughly understand the problem that the educational campaign would address--the prevention and treatment of infant diarrhea--and the cultural context in which it would take place. This investigation examined the epidemiology of diarrheal disease, existing knowledge, attitude, and practice (KAP) among rural women and health workers, and the systems of interpersonal and mediated communication in the rural areas of each country. It also encompassed behavioral trials and analysis for the purpose of assessing prospects and problems of adoption of several new practices promoted by the Project, particularly the correct mixing and administration of oral rehydration salts (ORS).

This pre-program research resulted in a detailed project implementation plan which defined:

- Behavioral objectives
- Segmentation of target audiences
- Specific instructional messages
- Culturally appropriate message formats
- Plans for media use and integration
- Overall work plan

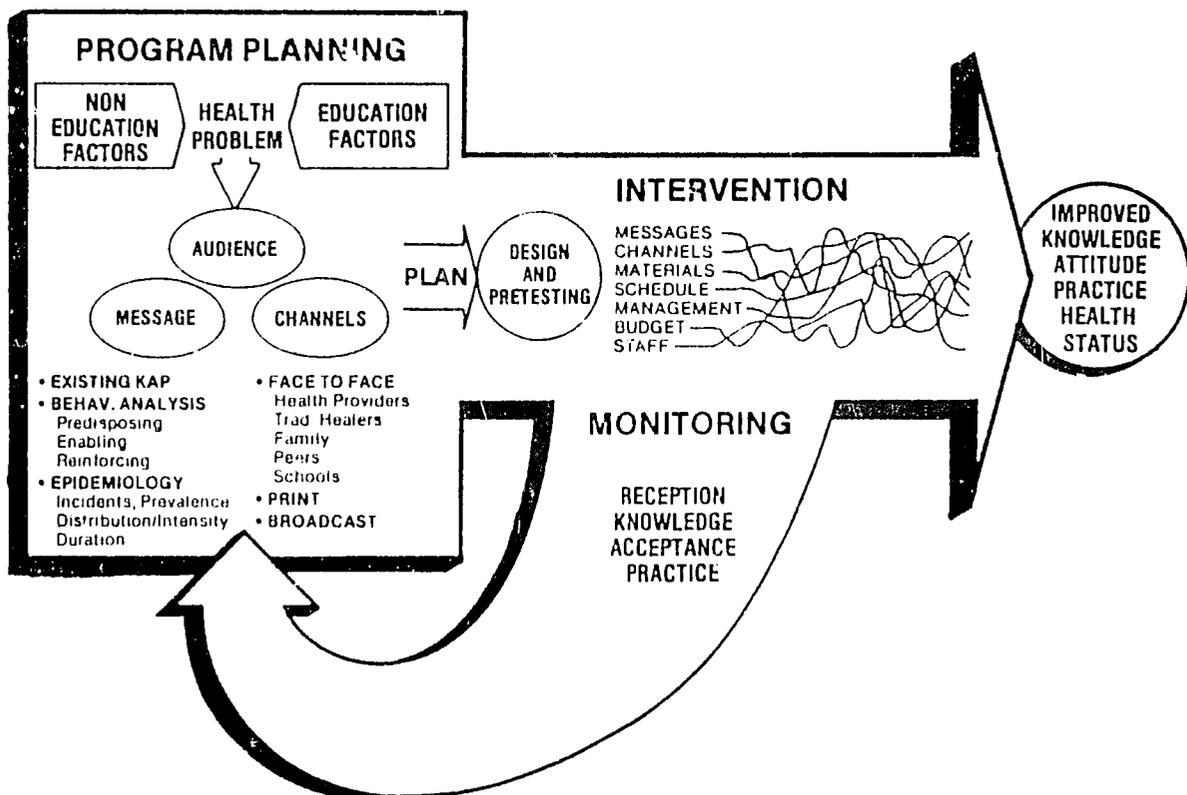
Materials Testing

Samples of project educational materials, including posters, radio programs, and training materials, were pretested in the field with members of the appropriate target audience for accuracy, comprehension, and acceptability. This was a particularly important process in the development of new messages and new message formats. Modification, substitution, or elimination of pilot materials were the normal consequences of this process.

Ongoing Program Monitoring

The processes of production, distribution, use, and consumption of educational materials were systematically monitored and analyzed to create a permanent feedback loop. This mid-course research measured incremental learning among target audiences and identified weaknesses in project implementation in time for action to be taken to correct them. The chart below illustrates these three stages of formative evaluation in the context of the MMHP's overall communication model.

**PUBLIC COMMUNICATIONS MODEL**



## RESEARCH METHODS

Several different qualitative and quantitative research methods used in MMHP's formative evaluation are described below.

1. Focus Group Interview: A practical and efficient technique, adapted from the field of marketing, for generating ideas and feelings about a topic by gathering together potential members of the target group for discussion. The goal is to encourage as many ideas as possible and to stimulate participant interaction. Questions are open-ended and the interviewer must be able to ask follow-up questions that probe, without leading the group towards predetermined answers. MMHP used focus groups of rural mothers to discuss traditional diarrhea beliefs and practices and to generate the vocabulary used by rural people for objects and concepts to be incorporated in the project educational materials.
2. In-depth Interview: A one-on-one interview, usually structured around a carefully designed set of open-ended questions. The in-depth interview serves a similar purpose as the focus group--to probe attitudes and feelings among a small number of respondents and to develop hypotheses--but avoids the peer influence and pressure of a group setting. MMHP used the technique in Honduras to probe health worker's understanding of diarrheal disease and in The Gambia to explore the concept of dehydration with rural mothers.
3. Pretest Interview: A one-on-one or group interview structured around specific materials. Questions are directed at determining what people see or hear in the material, how well they understand its message, and how well they like it. MMHP used the technique extensively in developing radio spots and print materials.
4. Survey: A standard social science research method which quantifies human knowledge or behavior by aggregating responses from a sample of individuals. MMHP's surveys (samples of 130-150) were conducted to assess audience performance on such variables as knowledge and practice of oral rehydration therapy, radio listenership, and awareness of the project educational messages.
5. Central Location Intercept Interview: A special type of survey usually conducted at some popular place within the community--a street corner, market, clinic, etc. The questions are very short, usually requiring only yes or no or simple one-or-two word answers. It allows the researcher to question large numbers of people quickly and requires little interpretation or subjective analysis. We found the technique particularly useful in The Gambia in pre-testing simple graphic materials.
6. Observation: Another social science research method which seeks understanding of human behavior through its direct observation and systematic recording by a trained observer. Observation was used as a formative research technique by MMHP primarily during the pre-program stage, when observers spent several days in rural households observing child care practices, particularly the care of sick children.
7. Behavioral Trials: Such trials provide detailed information on unexpected problems and are essential for validating the potential practicality of new manual skills being promoted. MMHP conducted ORS mixing trials during the pre-program research to expose any difficulties rural mothers might have in mixing ORS in their actual home conditions.

8. Product Preference Trials: Another research technique borrowed from the field of marketing, product preference trials seek to identify consumer preferences among a range of products and product packaging available for a particular need. MMHP asked rural mothers to identify the types of medicines they preferred (among tablets, injections, liquids, etc.) to help determine how best to package and promote ORS.

9. Broadcast Monitoring: Two types of broadcast monitoring were used. During the pre-program research, project researchers monitored the number and strength of all radio station signals reaching the project geographical target area to validate reports of radio listening by survey respondents and guide the choice of which stations to use for best broadcast coverage. During the campaign monitoring stage, broadcasts of project radio spots were monitored to ensure that radio stations were adhering to the schedules agreed upon with project personnel.

Each of the above techniques required slightly different skills, provided significantly different kinds of information, and was more appropriate at certain stages of formative evaluation than at others. Several of the techniques are obviously quite specialized and appropriate to only particular kinds of educational program investigations.

The special value of combining the use of several of these methods is in the variety of perspectives they bring to bear and the cross-validation they provide on another. Some of the important findings produced by these methods, and MMHP's uses of these findings, are described below.

## USE OF FINDINGS

### Pre-Program Investigation

Methods Used: Focus groups, survey, observation, in-depth interviews, behavioral trials, product preference trials, broadcast monitoring

Research uncovered traditional health beliefs which helped us create messages that rural women could understand and accept. For example, in both countries prevention of diarrhea messages were linked to traditional beliefs about the causes of diarrhea. In Honduras, there is widespread belief in "La bolsa," a sack believed to exist in everyone and to contain worms. If these worms become agitated, they leave the sack and cause diarrhea. We used this belief to build a comic radio spot in which two worms, Lombrolo and Lombricio, talk about all the unclean food and water their host child consumes which causes them to leave their sack. Message: Keep the worms in their sacks by giving boiled water and reheated foods to your child.

Rural Gambian mothers most often attributed diarrhea to some vague natural cause such as "dirt" or "wind," to a supernatural cause such as having accidentally dropped a piece of the baby's clothing into the fire, or simply to "Allah." Gambians' strong Islamic religious orientation was also reflected in the common traditional practice of using "jujus," verses from the Koran written and given by a religious leader (imam or marabout), to wear for the treatment or prevention of different types of illness. We built on this religious culture in such ways as appealing to the strong Muslim emphasis on cleanliness (e.g. ritual ablutions before prayers) in radio programs about feces disposal, and in having prominent Gambian imams record project messages for broadcast.

We were not sure how the ORS solution should be promoted--as a fancy new medicine, as a traditional tea, or as a new local remedy? We assumed mothers would

prefer something close to their existing practices, which in both countries included giving herbal teas as a treatment for diarrhea.

In Honduras, our research proved this assumption to be incorrect. Mothers preferred a modern medicine for diarrhea. Although they used some teas and rice water for early treatment of diarrhea, they consistently purchased medicines such as antibiotics and kaolin when they perceived their child's diarrhea to be worth serious attention. LITROSOL (the ORS packets) was promoted by "Dr. Salustiano" (Dr. Healthy) as the newest, most scientific treatment for infant diarrhea.

The Gambia posed a different problem in that the ORS solution being promoted was not a prepackaged packet but a simple sugar-and-salt solution mixed by mothers themselves in the home. Here, too, the solution was given the blessing of modern science ("doctors recommend the sugar-salt solution as the most effective treatment for diarrhea"), but the promotion emphasized the positive aspect of the solution as something **mothers could do themselves** in their own homes for the health of their children. It also built on what we discovered to be a clear awareness and concern about dehydration among Gambian mothers.

In both countries, our fears about rural mothers' ability to mix the ORS solution in the correct proportions proved ill-founded. In Honduras, our first mixing trials, with local **nurses**, were very discouraging: they spilled between 10% and 30% of the salts in pouring them from the packet into the narrow necked bottle of the most common liter measure. We decided to go ahead and test **mothers** anyway and found to our surprise that they were very adept at pouring powder into a narrow opening. We promoted the narrow neck liter bottles and solved a major measurement problem.

In The Gambia, the measurement system involved using three soda bottles of water, one bottle cap of salt, and eight caps of sugar. Here again we discovered in mixing trials that after only one or two explanations of the procedure, even from a message recorded on a tape, Gambian women could readily and accurately mix the solution.

### Materials Testing

Methods Used: Pretest interviews, central location intercept interviews

Careful pretesting of campaign materials often enhanced their clarity and appeal and sometimes prevented what could have become critical mistakes.

Probably the most dramatic example was a radio spot in Honduras which was designed to teach mothers to mix the **entire** packet of ORS in a liter of water rather than only **part** of a packet in part of a liter as some mothers were doing. Ministry of Health staff believed the spot to be perfectly clear and were sure that rural mothers would have no problems understanding it. Pretesting showed, however, that many mothers understood the spot to be saying that they should mix **two** packets of ORS in a liter of water. If we had aired the spot without pretesting, we would have created much confusion in a very critical message.

Originally we felt that soap operas would be an effective format for radio spots. Many rural women in fact listened to commercial radio soap operas in Honduras. Pretesting in both countries, however, showed that soap opera formats were of limited use. They were too long and cumbersome for a short instructional spot. Messages often seemed lost when submerged in a dramatic story. Mothers simply did not understand

what they were being asked to do unless it was stated explicitly. And in the Gambia, the process of producing good radio drama using professional talent was often simply beyond the means of the government radio station. In both Honduras and the Gambia, short, catchy songs and spots carrying project messages proved to be the most popular radio programs.

The original ORS packet in Honduras showed four mixing steps in a cross-hatch pattern--two boxes above and two boxes below. Pretesting demonstrated that even when these boxes were numbered rural mothers could not understand the mixing order, and that these instructions were best understood when the boxes were placed in a simple horizontal line. This important visual concept was therefore used in the design of other materials, saving time and expense in the development of new materials.

In rural Gambia, where literacy among women is under 5%, and where there is an extreme paucity of pictorial materials of any kind, pretesting of the flyer illustrating how to mix the sugar-salt solution showed that most mothers could not comprehend the flyer without an explanation of it. **With** an explanation, however, mothers readily understood the graphic and could explain it in turn to others. This finding led to the decision to use **radio** to teach the flyer to rural mothers. Eventually a national contest, the "Happy Baby Lottery," was planned, offering prizes to mothers who could demonstrate how to correctly mix the sugar-salt solution. The flyer was advertised as the ticket required to enter the contest, motivating mothers throughout the country to obtain one, and a series of short radio programs was designed to teach mothers the mixing instructions illustrated by it.

### Monitoring

Methods Used: Focus groups, survey, in-depth interviews, broadcast monitoring

At six-month intervals in both Honduras and The Gambia monitoring exercises were carried out to assess learning to date among target audiences and identify strengths and weaknesses in the campaigns.

Our second field monitoring in Honduras showed that mothers believed that LITROSOL (the name of the ORS packet) was not to be used with other medicines. Therefore, if she received kaolin from the Auxiliary Nurse or if she decided to try another common commercial medicine, the mother would stop using LITROSOL. Likewise, we found that mothers believed that LITROSOL should not be used for certain types of diarrhea. We therefore had to reprogram our strategy and message content to address the beliefs that could restrict the use of LITROSOL. Radio spots with these messages were designed, pretested, and aired throughout the next phase. When the next program monitoring was done six months later, the number of mothers espousing these erroneous beliefs had dropped dramatically.

Strategy also was changed when the evaluation showed that mothers did not understand the concept of dehydration, nor did they associate it with diarrhea and LITROSOL. Therefore, the emphasis on the concept was dropped and instead the **signs** of dehydration were heavily emphasized during the next six months. The results were extremely gratifying. Mothers' knowledge of signs of dehydration rose from 20% to 77%. It was a wise decision to drop the abstract concept and to teach the mother something she could observe and act on--give the child LITROSOL and take him to the health center.

The Gambia Project's first monitoring exercise assessed rural mothers' response to the campaign's first-year messages about a "special diet for diarrhea" consisting of three

elements: (1) sugar-salt solution, (2) breast milk, and (3) solid foods. We found that while as many as half of Gambia's rural women appeared to have learned the campaign's formula for mixing sugar-salt solution and to have begun using it, fewer than a third had adopted the "give solid foods" message.

Several explanations for this discrepancy were considered, including the obvious possibility that the ORT messages had been better learned because they had received much greater exposure during the first year. Another plausible interpretation was that the solid foods message was very possibly contraindicated in the minds of many mothers by the appetite loss children suffer during diarrhea: a sick child may be reluctant to take **any** kind of food, let alone solid foods.

Project staff thus decided to reformulate the campaign feeding messages and to make feeding the primary focus of the second year of the campaign just as oral rehydration had been the first year. The main change in emphasis was to differentiate between feeding a child **during** diarrhea and feeding **after** diarrhea, with solid food promoted during the latter phase.

We acknowledged the difficulty a mother may have in feeding her sick child and gave several practical suggestions for encouraging the child to eat **something**. These included giving small, frequent feedings and adding sugar or milk to the child's porridge to improve its taste and increase its energy value. Solid foods were then encouraged as an important and appropriate "catch-up diet" once the child is getting better and recovering his appetite.

Stanford University (Institute for Communication Research), the evaluation contractor for the MMHP, is currently analyzing the results of this mid-course reformulation in The Gambia campaign.

## THE SUMMATIVE VALUE OF FORMATIVE EVALUATION

Sophisticated research can be expensive. It not only requires staff time to conduct interviews, but also time to develop questionnaires and analyze responses. Travel expenses to reach rural areas can be a particular problem. Most importantly, it requires a trained staff of specialists. For many developing countries, sophisticated large-scale research is out of practical reach and a much more modest approach is required.

Small is not necessarily beautiful, however. Even the most meticulously planned and executed research, if too small in scale, runs the risk of being invalid or unrepresentative of the population as a whole. And poorly planned and conducted research can be worse than no research at all. It may be better to realize that we do not know, than to believe we know when in fact we do not.

A secondary but very important goal of the MMHP formative evaluation program in both Honduras and The Gambia was to assist the Ministries of Health develop models of educational program evaluation for routine, ongoing use that would fall somewhere between the above two extremes. We thus sought to develop models that would be as representative of large populations as possible while of a scope that the Ministries, with their limited resources, could realistically maintain over time.

The formative evaluation "package" MMHP developed for program monitoring has proven to be a particularly effective response to this need. In each country, this package typically consisted of the following elements:

- 1) A survey of 130 - 150 rural mothers using mostly closed-ended questions to provide a quantitative measure of mothers' learning of campaign messages.
- 2) In-depth interviews with 20 - 30 health workers using mostly open-ended questions to elicit opinions and reactions to the Project's activities and impact and identify any perceived problems.
- 3) Focus group interviews with three to five groups of mothers in different locations to probe perceptions of and experience with the practices promoted by the Project and identify problems encountered.

These evaluation exercises were carried out in the limited time (three to four weeks) and with the limited resources (one to two vehicles, two to three full-time staff) available. Methodological short-cuts were required at many turns. For example, villages selected for interviewing in The Gambia project's cluster sampling method were not infrequently eliminated or replaced by others because they were deemed too distant to reach on the Ministry's tight schedule and budget.

Despite these methodological shortcomings, however, these monitoring exercises usually produced findings that were subsequently validated by the data produced by Stanford University's independent concurrent evaluation, conducted among a much larger and more rigorously selected sample of mothers. Differences between the two sets of data on measures of particular variables were often sizable--as many as 20 to 25 percentage points, suggesting substantial margins of error in the formative evaluation findings. But the patterns and magnitude of findings were almost always consistent.

For example, The Gambia data from Stanford's December 1982 sweep of its sample of 800 mothers and AFD's February 1983 formative evaluation present the same general picture of:

- High awareness of the sugar-salt solution among rural mothers.
- Relatively high knowledge of the correct formula for the solution.
- Relatively high reported use of the solution.
- Relatively low correct understanding that the main purpose of the solution is to prevent dehydration.
- Relatively low reported use of solid foods during diarrhea.

This has led us to conclude that in the absence of resources to conduct more sophisticated evaluation, the type of formative evaluation methods used in MMPH offer developing country project implementors not only an effective qualitative guide for project planning and implementation but a useful quantitative guide to project impact as well.

# FIELD NOTE 10

## PERCENTAGES OR PERSPECTIVE: A Comparison of Quantitative and Qualitative Research

By

Elizabeth Mills Booth  
Chloe O'Gara

May 1984

Formative research designed to provide "guidance for educational planners in facilitating the development of appropriate, attractive and effective educational and community programs"<sup>1</sup> has proven to be an effective tool to improve program impact.<sup>2</sup> Yet many educational programs and materials in developing countries are implemented without systematically exploring or being responsive to target audience beliefs and practices. Many implementors understand the need to explore the target audience systematically but feel unable to implement a quantitative study because of time and funding constraints. Qualitative research techniques and small sample quantitative surveys offer a cost-effective, timely alternative for the educational planner.

This paper describes the field experience of participants in two AID-funded health education programs, the Mass Media and Health Practices Project and the PRO-ALMA Breastfeeding Project, in which formative research significantly shaped the design of the strategy and materials. It compares the type of information obtained through four research techniques--observation, in-depth informant interviews, focus groups, and a quantitative survey--and makes recommendations on the selection and use of these techniques for future field settings.

<sup>1</sup>Public Communications Campaigns, "Heart Disease Prevention," Maccoby, N. and Solomon, D. p. 120.

<sup>2</sup>Stanford Heart Disease Prevention Program, The Childrens Television Workshop Health Minutes, The Guatemala Basic Village Education Project, and Others.

## MASS MEDIA AND HEALTH PRACTICES

The Mass Media and Health Practices Project (MMHP) was implemented by the Honduras Ministry of Health with technical assistance provided by the Academy for Educational Development. MMHP sought to change rural women's behaviors related to infant diarrhea through a communications strategy integrating radio, simple graphics, and face-to-face support. The breastfeeding component promoted prevention of infant diarrhea through exclusive breastfeeding for the first four to six months of infant life and breast milk and supplementary feeding thereafter. Formative research was needed to understand rural women's attitudes and behaviors related to breastfeeding, especially exclusive breastfeeding for the first four to six months. It was also necessary to identify opinion leaders to reinforce correct breastfeeding behavior and to identify appropriate images and sources of information for graphic and radio materials.

Earlier in the project, focus groups, a marketing research tool which has recently been applied in developing country social programs, had proven to be the quickest, most cost-effective method of obtaining salient information for program design. Homogenous groups of six to ten people were brought together in a neutral setting to discuss their breastfeeding experience. The facilitator guided the discussion around a series of questions without intruding or giving her opinion. The group setting allowed participants to speak openly among themselves, uncovering sensitive or previously unknown information that would not emerge in a predesigned quantitative survey.

The results of the focus groups were used to design an intensive six-month breastfeeding campaign. Some of the ways the results affected the design included:

- Campaign tone: The tone of the training, graphic, and radio materials was modern and upbeat to counteract the attitudes that breastfeeding is a traditional behavior and that "modern" mothers bottle feed. The radio materials were particularly supportive of the breastfeeding mother as someone special who is doing the best for the health of her child.
- Educational focus: The training and educational materials focused on skills to increase breast milk, especially emphasizing the relationship between suckling and milk production. This focus was selected in response to the belief expressed by women that they introduced bottles because they did not produce sufficient breast milk. (Technical note: the amount of breast milk a mother produces is directly related to the amount an infant suckles. When an infant bottle feeds rather than breastfeeds, the mother will produce less milk.)
- Source of radio information: Radio materials featured an Auxiliary Nurse giving technical information and other mothers speaking about their own breastfeeding experience. Focus group participants agreed that "experience" is what really counts when they need information about breastfeeding.
- Graphic image: Neither very urban nor very rural. Rural focus group participants overwhelmingly preferred rural models, while semi-urban participants preferred urban models. Limited funds required producing the same materials for both groups.

## PRO-ALMA

The second Honduras breastfeeding project, PRO-ALMA, also promoted exclusive breastfeeding for the first four to six months of infant life but in an urban environment. Both qualitative and quantitative research influenced the PRO-ALMA design.

A longitudinal study using ethnographic research techniques followed 65 women and their families from the last months of pregnancy through the sixth month of their infants' lives. Careful observation and repeated in-depth, open-ended interviews explored how, when, and what people fed their babies, and why. Some of the ways this research influenced the design of the educational strategy follow:

- The project was located in health care facilities because the in-depth interviews consistently revealed the importance urban mothers attach to experience and information given in this setting.
- Before the study Honduran implementors believed that mothers were not giving colostrum and that this should be one of the project focii. In in-depth interviews women reported throwing the colostrum away. Observation revealed, however, that most women discarded only a few ounces of milk. Most suckled their infant from birth to relieve discomfort or to quiet the child. The PRO-ALMA strategy therefore capitalized on these two accepted benefits of early lactation. Information about colostrum was provided but not emphasized since it was not the salient issue for at least half the audience.
- The study helped to mobilize and focus interest among health providers and international funding agencies. Indeed, PRO-ALMA was financed primarily because of this study.

Health officials were interested in this information but they wanted numbers and a representative sample before embarking on the design of a project to remedy a problem many did not believe existed. Funds and time were at a premium; a household-based survey was out of the question. Based on the quantitative study, the researcher argued that time samples of post-partum mothers in two hospitals would provide an unbiased sample of approximately 90 percent of the target population. A later extensive and rigorous survey of households proved this assumption to be correct. This quick, cost-effective survey confirmed the qualitative portrait of urban infant feeding, convinced health officials of the problem and the strategies to remedy it and provided a quantitative baseline for future impact evaluation of the educational program which was developed.

## A COMPARISON OF INFORMATION GATHERED WITH EACH TECHNIQUE

The projects used four research techniques to obtain information from urban and rural women about the same basic questions. The following table demonstrates the type of information obtained by each technique as applied to four important program design questions.

This table demonstrates that some information was available only through qualitative techniques. The qualitative research then provided a good sampling frame and relevant questions with appropriate vocabulary for the quantitative research. The quantitative survey verified the qualitative research, presenting it in a form that was considered more valid and credible to decision-makers and providing a baseline for program impact.

Indeed, qualitative research uncovered important information previously unknown to even Honduran implementors.

## CONCLUSIONS AND RECOMMENDATIONS

Formative research was found to improve significantly the design of educational program strategy and materials in the field settings in Honduras. Formative research can use both qualitative and quantitative techniques; each has unique contributions to make to program design. Qualitative research is necessary where discovery or determining the nature of a problem is at issue. These techniques vary in the implicit knowledge of a problem they require and the degree of discovery they permit. Quantitative research is appropriate when the implementor has defined the problem and seeks to confirm or refute a hypothesis about that problem.

Future educational program implementors should first assess available information and potential sources of information. They should then select appropriate research techniques which maximize the use of funds, time, and expertise, while minimizing the risk of irrelevant or ineffective educational programs.

Under ideal circumstances--sufficient amounts of time and money--formative research should begin with unstructured observation to maximize discovery. Even where information sources are excellent, the implementor can never entirely account for the unknown biases they may reflect. Observation then should be expanded into open-ended, in-depth interviews with key informants, including experts and policy-makers as well as the target audience. Focus groups can test hypotheses while still allowing for some degree of discovery. Brief survey work can then quantify the information and establish a relevant baseline before implementation begins.

Where systematic background information is not available, as was the case in Honduras with respect to infant feeding practices, the least structured qualitative techniques are appropriate regardless of time and funding constraints. Lack of time can, to some extent, be compensated for by funding--several observers can spend a few days rather than one observer spending several weeks, for example.

Focus groups are particularly appropriate when some background information is available and when time and funding are limited. They can provide salient information about specific program design questions quickly and inexpensively. Focus groups are a relatively structured qualitative technique, however, and do not permit as much discovery as observation or in-depth informant interviews. Also, they may not be valid in all cultures.

Table II further outlines the strengths and weaknesses of each technique.

Some type of formative research should always be carried out before a program is implemented. The focus of each educational program is unique and cannot rely on general research. Even in the most extreme cases of restricted time and funding, one of the qualitative techniques should be used for even a few days to systematically explore the subject. The design of the program will positively reflect even the least amount of research.

TABLE I

## A COMPARISON OF INFORMATION GATHERED WITH EACH TECHNIQUE

QUESTIONS	RURAL MOTHERS		URBAN MOTHERS	
	FOCUS GROUPS	OBSERVATION/ - IN-DEPTH INTERVIEWS	SURVEY	
Why do mothers introduce other milks?	Mothers report they produce insufficient milk and must bottle feed or the baby will be hungry/thin. Believe that breast milk is insufficient in quality and quantity, especially due to rural mothers' poor diet.	Expected in their social milieu. Powdered milk is given by baby's father as a sign of his involvement. To be free to leave or give baby to others for care. Breast milk can be injurious. To fatten baby.	15% - Mothers don't produce enough milk 33% - To nourish/fatten the baby 30% - To accustom them to the bottle/other foods 20% - To work 12% - To be able to leave the baby	
Why do mothers introduce other foods?	A child needs to learn to eat very early or a mother will have difficulty teaching him to eat later on. If a mother only breastfeeds her child, she is spoiling him.	To teach the baby to eat. To fatten the baby.		
What do mothers do with colostrum?	Colostrum is 'dirty' milk. A mother shouldn't give it to her baby. She should give a sucker of honey, sugar, water, or cow's or powdered milk until her milk comes.	Other mothers reported throwing it away. Younger mothers were unaware of colostrum. Both observations showed, however, that mothers began nursing at birth and continued breastfeeding. Those that did discard milk only discarded a few ounces.	45% - Reported they discard colostrum because it is 'dirty,' 'thin,' or 'old.' 10% - Because of medical professional's advice	
Increasing milk flow.	The focus groups were exploring mothers' knowledge of the need to consume liquids, and eat well when breast feeding so the facilitator specially asked what foods/liquids a mother should consume to increase milk. Mothers agreed that chicken soup, chocolate, milk, and meat were important. A good example of how the facilitator must phrase the question correctly to 'discover' new information.	Good diet, drink fluids, put baby to breast more often. Eat specific foods such as those mentioned in focus groups.	45% - Eat better 20% - Drink liquids 11% - Put baby to breast more often "Why do women not have enough milk?"	
Why did you stop breastfeeding?	Mother's milk dried up. Mother or baby were ill. Mother became pregnant and had to stop because pregnant mother's milk makes baby ill/gives him diarrhea. Male babies should be breastfed less. Milk is to mother's blood. Males have no way to release excess blood as do females. At puberty they will get nosebleeds.	Milk dried up. Milk was bad because it was 'agitated' (a belief related to mother's emotional/physical status) Male babies should be breastfed less.	33% - Milk dried up 33% - Baby didn't want it any more 14% - Mother was ill 7% - Baby was ill 6% - Work 6% - Medical professional's advice	

TABLE II

A COMPARISON OF STRENGTHS AND WEAKNESSES OF EACH TECHNIQUE

	OBSERVATION	IN-DEPTH INTERVIEWS	FOCUS GROUPS	SURVEYS
DISCOVERY OF PROBLEMS, PERCEPTIONS, AND BELIEF STRUCTURES	****	***	**	----
DISCOVERY OF VOCABULARY	**	***	****	----
LESS DESIGN BIAS	****	**	**	----
QUICKEST TURN AROUND OF DATA	*	*	****	----
REPLICABILITY	----	*	**	***
QUALITY LESS DEPENDENT ON PERCEPTIONS/SKILLS OF ONE PERSON	----	----	*	***
LESS OBSERVER/INTERVIEWER BIAS	----	----	*	***
EASE OF ANALYSIS	----	----	*	***
MOST CONVINCING TO DECISION-MAKERS	----	----	*	****

TABLE III  
 DECISION TREE FOR RESEARCH TECHNIQUES IN APPLIED PROGRAM DEVELOPMENT  
 VARIABLES OF INTEREST, AVAILABLE BACKGROUND INFORMATION,  
 TIME CONSTRAINTS, FINANCIAL RESOURCES.  
 TECHNIQUES PRESENTED IN ORDER OF APPLICATION

IF BACKGROUND INFORMATION OF KNOWLEDGE IS:	TIME CONSTRAINTS ARE MINIMAL		TIME CONSTRAINTS ARE RESTRICTIVE	
	FINANCES GENEROUS	FINANCES LIMITED	FINANCES GENEROUS	FINANCES LIMITED
EXCELLENT	Some observations			
	A few key Interviews			
	Focus groups	Focus groups	Focus groups	Fewer groups focus
PASSABLE	Observations	Observations	Brief observations	
	Key interviews	Fewer key interviews	As few key interviews	
	Focus groups survey	Focus groups	Focus groups	Focus groups
NON-EXISTENT	Extensive observations	Observations	Observations	Brief observations
	Many key interviews	Many key interviews	Key interviews	A Few key interviews
	Focus groups	Focus groups	Focus groups	Focus groups
	Survey			

TABLE IV  
RESOURCE NEEDS

COSTS

<u>OBSERVATION</u>	<u>IN-DEPTH INTERVIEWS</u>	<u>FOCUS GROUPS</u>	<u>SURVEYS</u>
<ul style="list-style-type: none"> <li>o Salary/per diem of observer(s)</li> <li>o Transportation</li> <li>o Materials</li> </ul>	<ul style="list-style-type: none"> <li>o Salary/per diem of interviewer(s)</li> <li>o Transportation</li> <li>o Materials</li> </ul>	<ul style="list-style-type: none"> <li>o Salary/per diem of facilitator(s)</li> <li>o Transportation</li> <li>o Materials</li> </ul>	<ul style="list-style-type: none"> <li>o Sampling frame (Salary/per diem)</li> <li>o Interview format (Salary/per diem)</li> <li>o Interviewers salary and per diem</li> <li>o Transportation</li> <li>o Reproduction facilities</li> <li>o Data Analysis (Salaries/per diem of data processing facilities or personnel with pencil time)</li> <li>o Materials</li> </ul>

TIME

<p>Extensive--the more time, the better</p> <p>In Honduras--3 people/7 months</p>	<p>Usually one-two interviews per day per interviewer</p> <p>In Honduras--combined with the observation In Honduras--repeated interviews of 75 families over one year</p>	<p>On focus group per day. Ideally until no new information is uncovered.</p> <p>In Honduras--two facilitators/five focus groups in five sites. One week of research/one week of analysis.</p>	<p>Dependent on length of questionnaire and geography and spacing between houses in the area of the survey.</p> <p>In Honduras--visited 5,000 households</p>
---	---	--	--

TRAINING

<p>In Honduras--three day initial training and on-going training throughout the seven months</p>	<p>In Honduras--three days</p>	<p>In Honduras--one day</p>	<p>In Honduras one day with experienced people and a short questionnaire</p> <p>Success of quantitative research is less dependent on the interviewer's personality. Interviewer bias increases with the length of the questionnaire. The shorter the interview, the less training needed.</p>
--	--------------------------------	-----------------------------	--

To a certain extent, the success of all quantitative research depends on the personality of the observer/facilitator. Those selected must have rapport and insight. Training consists of teaching them a standardized framework and form on which to record their observations and insights.

The length of training in all research techniques also depends on the experience of the interviewer/facilitator.

# FIELD NOTE 11

## RADIO: The Daily Reminder

By

Elizabeth Mills Booth

June 1984

In a small adobe house perched on the side of a mountain, a young Honduran woman wearily turns on the radio as she lights the morning fire. She's been up all night with her youngest child who has diarrhea. She's very worried about him because his eyes look sunken and he won't eat. "Listen," she says to her husband. "Dr. Salustiano on the radio says that Tito has dehydration caused by his diarrhea and he needs help immediately at the health center. Let's go right away."

In a dirt compound in rural Gambia, a group of mothers sit around the chief's radio. Most of them have a colorful flyer which has pictures showing how to mix sugar and salt with water to make a new "diet for dryness." The woman on the radio is explaining what the pictures mean. "I understand how to mix it!" one mother comments. "And I'm going to practice so that when they bring the lottery to our village I'll win one of the prizes they're going to give."

The Gambia and Honduras, two very different cultures and settings, were the sites of a recent mass media pilot project which uses radio to change health behaviors. Funded by AID's Offices of Health and Education of the Bureau for Science and Technology, the project was designed to apply a communications methodology to a major health problem in two countries, one in Africa and one in Latin America.

The health problem selected was acute infant diarrhea with the focus on oral rehydration therapy. Dehydration resulting from diarrhea is the principal cause of infant mortality in most developing countries, killing three to six million children under five years of age annually. In the past, dehydrated children have had to be treated at the hospital with intravenous therapy, a method which requires trained medical personnel and a sterile environment. It is an expensive treatment for most developing countries' health

budgets and a luxury unavailable to most rural families. Oral rehydration therapy (ORT), a recent scientific breakthrough, permits children to be rehydrated in the home by drinking a solution made of salt and sugar to which bicarbonate and potassium are sometimes added. The solution can be prepared with prepacked ORT salts or made with sugar and salt found in the home. The proportions of sugar and salt are critical, however, since too much sodium can cause hyponatremia.

One of the pilot project's goals was to evaluate the impact of a mass media campaign using a systematic methodology for diarrheal disease control, in particular the promotion of ORT. The Academy for Educational Development was contracted to implement the project; Stanford University was contracted to evaluate the impact. The methodology used in the implementation was a social marketing strategy emphasizing formative evaluation including pre-program developmental investigation, pretesting of materials, and systematic tracking of campaign elements. It emphasized an integrated media approach combining radio, graphics, and face-to-face support through health workers and opinion leaders to change health behaviors. It also borrowed from the field of behavioral psychology using behavioral analysis to identify and define key behavior changes.

Initial Stanford evaluation results indicate that the impact of the methodology is substantial. In Honduras 93 percent of the target audience knew about ORT, 48 percent had used it in their homes, and 95 percent of these were mixing and administering it correctly after only one year of the project. In The Gambia 66 percent knew about ORT, 47 percent had used it, and of those over 90 percent were mixing it correctly after only eight months.

## PROJECT SIMILARITIES

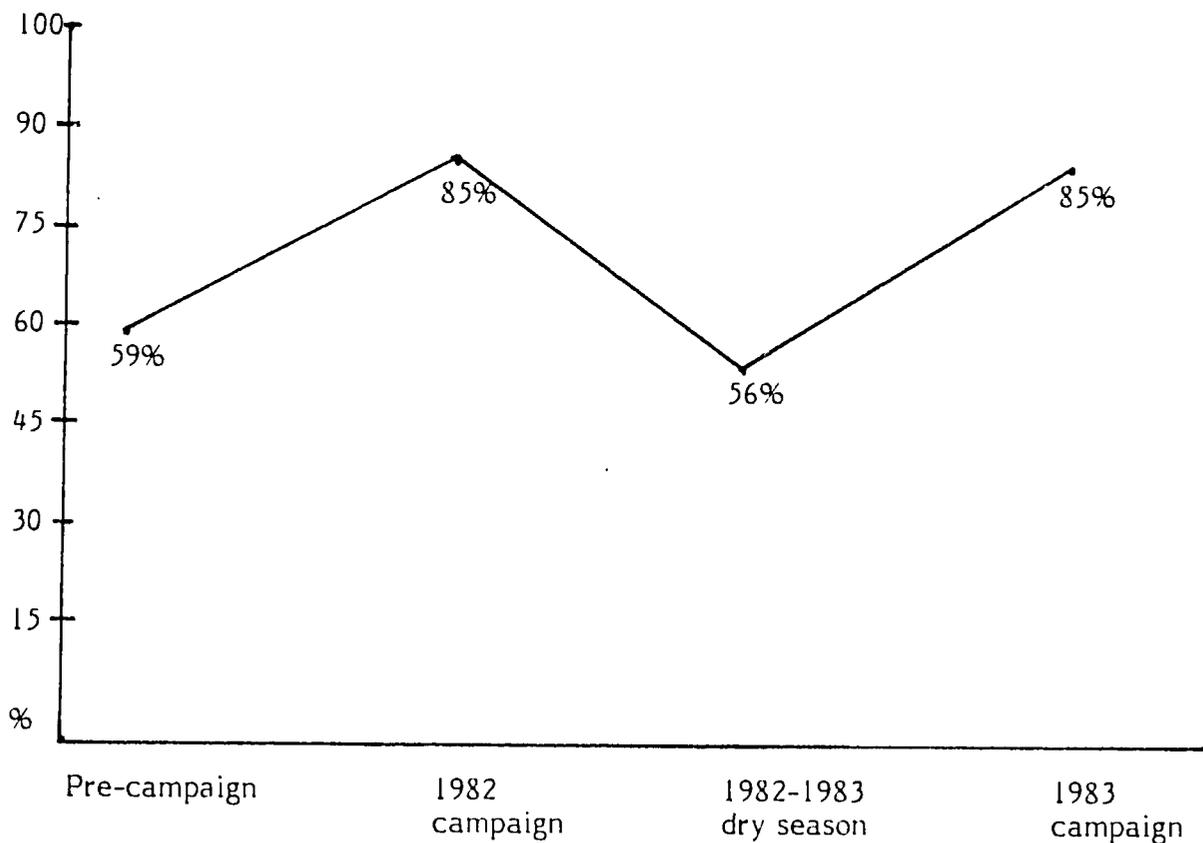
In spite of the cultural differences, the two sites shared many similarities. Both projects worked within the Ministry of Health, implementing the campaigns with Ministry staff and resources. Both promoted ORS and feeding during diarrhea episodes as the proper treatment of infant diarrhea. Both used community volunteers in rural villages to distribute materials and to reinforce key messages. Most importantly, they shared the same methodology. Pre-program developmental investigation helped to make decisions about scheduling of radio materials, formats, sources of information, and vocabulary. The radio materials in both sites were changed according to the results of pretesting.

In both countries radio had the critical role of making mid-term corrections--responding in a timely way to questions rural mothers had or mistakes they were making. In Honduras, for example, the third phase formative evaluation indicated that many mothers thought that ORS should only be used for "light" cases of diarrhea. A creative radio spot taught mothers that ORS should always be used because all types of diarrhea can cause dehydration. The spot was broadcast on several stations over the next four months, and the next formative evaluation indicated that knowledge of this critical message had risen from 30 percent to 87 percent.

The use of radio and the design of materials also had some similarities. Both sites emphasized radio to reach rural women in their home rather than bringing women together for organized listening groups. Both used the radio to promote the new product as well as to teach key messages, such as signs of dehydration. Both sites used a radio signature tune throughout the campaign to give the radio materials continuity, and both developed attractive songs promoting campaign messages.

The focus and intensity of the media campaign varied over the course of the project. Radio messages on certain themes would be highlighted during certain seasons, then de-emphasized as more timely messages were stressed. This variation in message emphasis seems to have brought about a similar variation in message effects. For example, in The Gambia feeding messages such as the "Diet for Diarrhea" were prominent on Radio Gambia during the rainy season (which lasted from July to October 1982) and then became much less prominent over the subsequent dry season, through June 1983. When the feeding messages were intense, clear improvements in women's practices were measured, such as increasing liquids during bouts with diarrhea and continuing normal feeding during these bouts. These practices fell off when the messages were cut back, then peaked again when the rainy season feeding emphasis was resumed in July 1983. Similar patterns were found with several of the behaviors promoted by the campaigns in both Honduras and The Gambia--a phenomenon that argues for steady promotion to achieve steady results.

MOTHERS WHO INCREASED LIQUIDS DURING DIARRHEA IN THE GAMBIA



Source: Stanford University MMHP evaluation in The Gambia

## PROJECT DIFFERENCES

There were, of course, many differences in the two sites which affected campaign strategy and message design.

One of the most important differences was the actual "product," the form of oral rehydration therapy to be promoted. The Honduras Ministry of Health had decided to promote the use of locally produced ORS packets called LITROSOL. Major project emphases, therefore, were to distribute enough packets to the rural target audience to have an impact, to promote the distribution points, and to teach, through radio, correct mixing and administration of those packets. The Gambian Ministry of Health decided to promote a homemade sugar/salt solution using a local soft drink bottle and bottle caps to standardize the critical water/sugar/salt measurements. The Gambia project, therefore, used the radio to teach the complicated mixing of this formula.

There were other cultural differences as well. Honduras has one language, while The Gambia has over 12, thus requiring the production of radio materials in at least three languages. Honduras is Catholic, while The Gambia is largely Muslim. In Honduras rural people live largely in remote, isolated homes, and women frequently listen to the radio alone. In The Gambia rural people live clustered in compounds and typically listen to the radio in small groups. The percentage of rural people who have radios in the two countries is about the same; however, in Honduras women have almost free access to the radio while in The Gambia men have greater influence on what programs are listened to. Honduras has over 200 commercial stations and a relatively sophisticated broadcast environment, while The Gambia has only one radio station with national coverage.

## HONDURAS RADIO MATERIALS

The Honduran radio materials had to compete with commercial materials broadcast on the same station. The format, therefore, was the 30 to 60 second spot scheduled primarily at peak target audience listening times--early morning and noon newscasts. These spots taught key mixing, administration, and feeding messages and emphasized what LITROSOL was for and where to get it.

The source of information or spokesperson(s) for the radio materials was an important consideration. Initial radio materials tested two sources of information--a midwife who used traditional beliefs and vocabulary to explain dehydration, and a fictional physician, Dr. Salustiano, who gave stature and seriousness to the campaign. Early program monitoring indicated that rural women overwhelmingly preferred the physician. The rest of the radio materials, therefore, featured Dr. Salustiano to explain and give credibility to technical messages.

A number of innovative formats were used to compete with the attractive commercial materials. Various formats were tested to evaluate their impact. One used rural mothers' testimonials with LITROSOL. Other formats included newscasts, radio dramas, and a question-and-answer spot between Dr. Salustiano and a real mother. Slogans were found to be particularly effective; one slogan became a jingle and was put to the catchy rhythm of a popular merengue song.

Traditional beliefs also were used as a basis for attracting attention and involving the target audience. One spot was derived from a local belief that everyone carries worms in a sack located in his stomach. These worms thrive and multiply on dirt found in food and water. If there are too many worms in the sack, they begin moving about the body causing, among other things, diarrhea. The spot's message: Keep the worms in their sack by giving your child "clean" food--boil your water and reheat infant foods.

## DESCRIPTION OF THE GAMBIAN MATERIALS

The radio materials used in The Gambia were adapted to the local culture and programming of the radio station. The format was generally a five- to fifteen-minute program which adapted a popular agriculture program style. Again, the materials were broadcast at times of highest target audience listenership, in this case in the morning after local obituaries and in the evening when chores are completed. Radio focused on teaching rural women to interpret a pictorial flyer which explained how to mix the sugar/salt solution. Widespread attention was attracted through a women's "Happy Baby" lottery for which the flyer served as the lottery "ticket." Some 200,000 flyers were distributed throughout the country. Health worker teams randomly selected villages to participate in the lottery. These visits were then promoted through radio. Women with flyers in hand were eligible to participate in sugar/salt mixing competitions. Women able to mix the solution correctly received simple prizes and became qualified to win a radio through a nationally publicized drawing. Radio was the catalyst for a large-scale popular mobilization around the key health behavior being taught--correct mixing of homemade sugar/salt solution.

The source of information was also an important consideration in The Gambia. The Muslim religion stresses cleanliness. Therefore, a Muslim leader was identified as an appropriate spokesperson for diarrhea prevention messages about cleanliness in the home. ORT messages used various sources including well-known and respected Radio Gambia staff, testimonials of rural women, and two newly created personalities, Miriam and Fatu, who explained in a rural vocabulary the concept of dehydration and the mixing of the sugar/salt solution.

Again radio materials were designed based on local traditions. One traditional belief uncovered in the early investigation, that rural women compared the child with dehydration to a plant during a drought, led to the promotion of the concept of "dryness" and a new "diet for dryness." A rhythmic song which taught how to mix the sugar/salt solution was created by a well-known griot (story teller) using traditional musical instruments.

## LESSONS LEARNED

Several conclusions can be made about using radio to change health behaviors based on this pilot project. First and most importantly, radio can teach rural people health messages and motivate them to change their behavior outside of a formal listening group setting. It is most effective, however, when it is integrated with graphic and face-to-face communication. In order to be effective, radio materials must be:

1. SCHEDULED based on target audience listening habits.
2. FOCUSED on only a few messages during one broadcast phase.
3. LIMITED in the number of messages. A radio spot should have only one message; a radio program one message every few minutes.
4. EXPLICIT in what the target audience is expected to do.
5. INTERNALLY REPETITIOUS of the principal message. Even a 30-second radio spot should repeat the message twice.

6. **AUDIENCE-DEFINED AND DRIVEN:** Materials should be designed based on pre-program developmental investigation, and changes should be made based on the results of the pretesting and midcourse tracking. The target audience also can be incorporated in the design and production of the materials.
7. **MONITORED** to insure that the materials are broadcast at the scheduled times. Radio stations in most countries do not expect government or other service organizations to monitor the broadcast of their radio materials. This means developing new relationships between the radio station personnel and these institutions and convincing the station personnel of the importance of targeted scheduling.
8. **CREATIVE:** To be creative means taking risks and making mistakes. In traditional bureaucracies risk-taking is generally punished. Creativity and innovation are critical to the development of good radio materials and were an important element in both sites. Incentives for risk-taking within communications programs are therefore essential. One entry point for innovation is the area of traditional beliefs, such as the use of the griot in The Gambia or the "worm" belief regarding diarrhea in Honduras. Any project using radio effectively must allow time for the design and production of creative materials and develop ways to reward the risk-taker.

# FIELD NOTE 12

## THE MEASURE, THE PROBLEM: Communications at Work in Ecuador

By

Elizabeth Mills Booth  
Reynaldo Pareja

April 1985

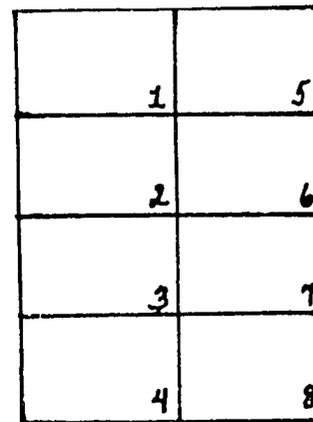
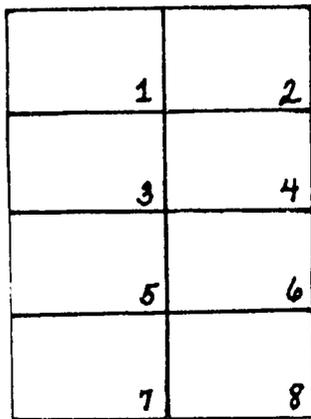
Diarrhea kills millions of children every year by dehydration. Most of these children could be saved if they were given the oral rehydration salts (ORS) being promoted in so many countries today. But a common problem for many diarrheal disease control programs is how to be sure that the correct amount of water is used in preparing the ORS. If too little water is used the solution can be dangerous, and too much water will dilute its concentration and make the solution weak.

Throughout the world, many types of containers have been used as standard measuring devices. In The Gambia, Julpearl (a local soft drink) bottles are used--three full bottles make a liter. In Honduras, the standard liter Coca-Cola bottle is promoted. In Kenya the size of the ORS packet is geared to the quantity of a light inexpensive plastic cup supplied with the packets.

In Ecuador a baseline investigation showed that, as in many other countries, no standard liter-sized receptacle was available throughout the country. Yet donor agencies and the public and private sectors were already producing and distributing liter ORS packets. To design and distribute a special bottle jar would have been too expensive for the MOH's limited resources. A practical and original solution was found that was economically feasible: a plastic bag which could be used as the liter measure.

The bag is made of durable polyethylene plastic, measures 6 x 10.5 inches, and costs U.S. \$.02 apiece when ordered in lots of 60,000. On one side of the bag the diarrhea control program's logo is printed underneath the ORS name, SURE-ORAL. The other side of the bag contains instructions on how to mix and administer the solution. The instructions show how to: (1) fill the bag with water to a clearly printed black line; (2) empty the water into another container; (3) pour in the contents of one packet; and (4) mix the salts. The bag also teaches the mother to give the child as much of the solution as the child wants throughout the day and to continue breastfeeding and feeding soft foods throughout the diarrhea episode.

The logo and instructions were pretested with rural mothers to insure that they were understandable and attractive. One of the most important changes in the graphics due to pretesting was in the visual order of the instructions. The first draft showed the instructions moving from left to right. Even though the boxes were numbered, mothers did not understand that this was the order they should perform the actions depicted in the boxes. This problem was overcome when the graphics were positioned top to bottom, however.



Product testing also identified constraints to effective usage before the bag was distributed. Laboratory tests were performed until the bag was thick enough that it did not stretch or tear with the weight of a liter of water. The placement of the line indicating the liter measure was also determined from laboratory tests. Field trials with rural mothers identified the need to turn down the top of the bag and to place the bag on a flat surface to make filling easier. Training of clinic and community health workers focused on repeated practice with the liter bag both as a measuring and an instructional tool and emphasized solutions to constraints identified in the graphic and product testing.

When a mother goes to a health post or a community distributor seeking help for her child with diarrhea, she receives the plastic bag containing two ORS packets. She is instructed on how to use the plastic bag as a liter measure and how to follow the directions printed on the bag. The community leaders in charge of distributing the plastic bags and the ORS to mothers in their communities are trained to refer a dehydrated child to a clinic as soon as any signs of dehydration appear.

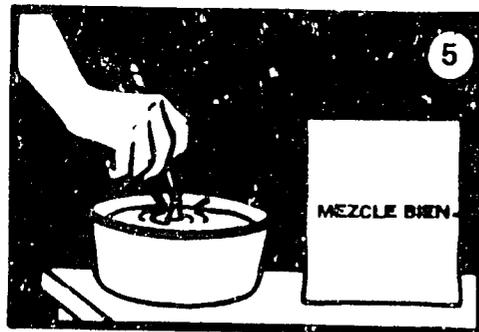
These same messages are repeated on dozens of radio spots. Radio broadcasts also describe the signs of dehydration and dangers of loss of body salts and water during an episode of diarrhea. A flipchart used in communities shows the same plastic bag and its use.

This practical, inexpensive Ecuadorian response to the measurement dilemma has proven to be a highly effective communication tool, as well as providing an accurate standardized measuring device. Audience research, laboratory tests, and field trials will be important to effectively adapt the Ecuador solution to other countries.

# SUERO ORAL

ASI SE PREPARA EL SUERO-ORAL

HASTA AQUI 1 LITRO



Recuerde: Mezcle



# SUERO-ORAL



- Si su niño tiene diarrea dele enseguida **SUERO ORAL**.
- **EL SUERO-ORAL** repone los líquidos perdidos por la diarrea.
- La pérdida de líquidos, llamada deshidratación, causa la muerte a los niños con diarrea.

## IMPORTANTE

Si el niño no mejora con el **SUERO-ORAL** consulte a la persona que le entregó los sobres.

# FIELD NOTE 13

PERU:  
The Marriage of a Ministry and an Ad Firm

By

Anthony J. Meyer  
Reynaldo Pareja  
Art Danart  
Elizabeth Mills Booth

April 1985

Family planning, diarrheal disease control, immunization coverage, and malaria control: a growing number of developing countries and significant donor resources are committed to dramatic growth in these primary health care programs. Significant clinical and logistic progress has been made in each of these areas. Viable technologies are available. Now moving to center stage as the predominant problem in establishing these programs is the need to achieve massive outreach and coverage of semiliterate, traditional populations with these technologies.

Educational breakthroughs are being experienced today in Egypt, Honduras, The Gambia, Ecuador, Peru, and Swaziland through the application of mass media and social marketing approaches to existing interpersonal health service systems and product distribution systems. One promising social marketing campaign, presently under way in Peru, involves the marriage between the Ministry of Health and Forum, a local Peruvian advertising firm.

Traditional health education models relied almost exclusively on instruction through direct client contact. Media such as flannel boards and flipcharts supported face-to-face instruction administered by the health worker or auxiliary at the health post or dispensary. From an epidemiologist's perspective, this approach could be expected to result in 5% coverage of a population with perhaps 80% efficacy.

Early attempts to use media in health education followed an advertising model. These experiences were useful but had limitations. First, the objective of most ad campaigns is to change simple product choice behavior regarding a commodity people are already using--Tide vs. Cheer. They generally don't involve complex skills such as mixing and administering oral rehydration salts (ORS), a completely new marketing concept.

They don't ask people to stop existing practices, like purging or withholding food and breast milk. They don't suggest the adoption of contraceptive methods in the face of cultural resistance to contraception.

Ad campaigns also deal with immediately reinforced behavior. Fifty cents buys a cool, sweet, refreshing soda, right away. ORS, on the other hand, stops dehydration but does **not** stop loose stools, which is what the mother really wants. Contraceptive use only prevents a future event and can be inconvenient. In fact, the natural positive reinforcement for most health promoting behaviors takes place hours, days, or weeks later.

Finally, ad firms are in the black if only 1 to 3% of a target audience buys the product, but many public health efforts require changing behaviors of 45 to 50% of a target audience. Applied to public health objectives, the advertising model leaves us with 95% coverage and the expectation of 3 to 5% efficacy.

Against this background, a number of programs have emerged which have developed comprehensive, multichannel marketing strategies which are more deliberate in the application of behavioral insights and which rely more heavily than former programs on data from the end user. These programs have been loosely labeled "public health communication" or "social marketing" programs. Some of these programs are achieving 95% coverage with over 50% efficacy.

Philip Kotler and Gerald Zaltman first described social marketing in 1971 as the "design, implementation, and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communications, and marketing research" (Journal of Marketing 35, pp. 3-12). These enterprising professors of marketing made a successful foray into the domains of marketing, advertising, communication research, and the diffusion of innovations. Today U.S. social marketing firms mount campaigns for a variety of socially beneficial causes that range from seatbelt use to smoking cessation.

AID's Contraceptive Retail Sales program (CRS) took a giant step forward over prior health education methods used in developing countries by incorporating techniques and principles from social marketing. The 1980 review of CRS social marketing in Population Reports (January 1980: pp. 393-434) reported that these programs were aimed "at promoting, distributing, and selling a contraceptive product to consumers through an existing sales outlet at a relatively low, subsidized price to achieve a recognized social goal--expanding contraceptive use."

The main features of CRS programs include:

- Increased cost efficiency through passing a portion of the cost on to the consumer.
- More efficient service delivery fostered by the use of indigenous marketing, distribution, advertising, packaging, and printing firms where possible.
- In-country marketing research and pretesting of media materials including product packaging and logos.
- High quality promotional campaigns using radio, print, and point-of-purchase displays.

- The training of vendors who come in direct contact with the target population.

Note that these features center more on the packaging, distribution, promotion, and sale of a product than on the behavior and practices of the target audience required to adopt and use contraceptive methods.

More recently, AID's experience in applying social marketing to the promotion of oral rehydration therapy (ORT) has placed greater emphasis on user behavior. In Honduras, the promotion of LITROSOL--locally packaged ORS salts--provides a useful example. This program included significant product orientation. Product packaging, logo, and accompanying materials were developed with careful product testing and materials pretesting. Indigenous packaging and distribution systems were used, although in the public sector. The product was introduced to the target audience through an intensive promotional campaign using radio, posters, and flyers in addition to the training of health system workers.

Three features of this program, however, give it an enhanced orientation toward user behavior:

- **First, message and material development aimed at correct use of ORT were based on unusually detailed village-level investigation:** Using focus groups and direct observation in the household, the details of behavior, vocabulary, and concepts surrounding the **mother's** definition and treatment of diarrhea were determined. What was the cost to her in pursuing a new course of action? What could be the basis for instructing her in the foreign concept of dehydration, for teaching her how to tell when she was applying ORT correctly, or for rewarding and reinforcing correct performance of ORT-related behaviors? The emphasis is on correct product **use** as much as it is on selling the product itself. Over 140 behaviors were identified as having relevance to diarrhea. These were examined for their importance to the problem, their relationship to other existing practices, their feasibility, and whether and how they could be reinforced.
- **Second, principles of instructional design drawn from behavioral psychology guided the investigation and message development process:** Messages and strategies were developed to take advantage of this behavioral analysis. The effort to shape new skills was based on a foundation of what mothers were already doing and what they already knew. Behaviors that were advocated were actionable and reinforceable. Activities and messages were generated to provide positive reinforcement for trying the new behavior. In Honduras, the keynote poster for the campaign featured a loving mother, complete with rose, laurel, and heart, breastfeeding her child, a portrait that reflects that country's devotional and artistic history and an accepted behavior which mothers were largely already doing. Radio announcements continued this theme of the loving, breastfeeding mother. The heart theme became the logo of the campaign and was the umbrella symbol for LITROSOL and family activity surrounding diarrhea control. The established behavior of breastfeeding became the symbolic anchor for the new behavior being advocated.
- **Third, promotional advertising was used in closer coordination than usual with training and face-to-face health worker-client contact over an extended period of time.** The campaign included a significant training component for health workers and other so that interpersonal contact could reinforce correct user behavior and

provide a source of local, credible motivation for action. This was a more comprehensive effort than the training of vendors in CRS programs and again reflects the emphasis on changing user behavior.

A newly initiated undertaking between Peru's Ministry of Health, Forum, an ad firm and Carlos Michelsen, a marketing firm, creates a new model for public health communication. Here, in an extended, multiphased campaign aimed at immunization, family planning, and ORT, is an exciting attempt to combine, more comprehensively than before, both product and user orientations in a social marketing program.

One way to describe the exchange values in this relationship is to say that the Ministry is being introduced to professional marketing and advertising competency and is learning how to include contemporary communication outreach in its scope of health education activity. The ad firm, in working with a Ministry, is being introduced to more complex and extensive client demands than they usually encounter with their beer and soda clients. The marketing firm is developing an improved orientation to the study of rural audiences. AID and the Mass Media and Health Practices Field Director represent a broker function and assist the Ministry by providing a guiding intelligence for the integration of all the elements.

Impressive market research was undertaken and village level behavior was closely examined. This led to careful selection of target audiences, selected behaviors, and key themes for each of the three programs. An umbrella theme of "Love and Care for the Children You Decided to Have" tied the three programs together. The comprehensive implementation plan required phasing of each theme. Immunization was emphasized shortly before and during the MOH Immunization Week in October. Diarrhea was the primary focus during peak diarrhea season--November through February. Family planning was promoted throughout the campaign. However, family planning messages were "pulsed" when the other programs were not being emphasized. Prototype materials were developed and pretested for each theme. These were distributed through both the MOH service providers and the private sector.

Throughout this process the MOH became increasingly impressed with the creativity and production quality of the ad agency. The ad agency became more respectful of the technical expertise of the MOH and sensitive to the differences between selling a product and changing health behaviors.

However, both parties also became increasingly aware of the need to ensure that the MOH service delivery system was able to meet the demand created by the ad agency campaign. As campaign launch neared, the MOH with AID technical assistance assessed the capacity of the system to meet product and service demand in the three programs. Due to this assessment, the MOH decided initially to limit the campaign to targeted areas, while strengthening the service delivery in the rest of the country.

A program evaluation in late 1985 will assess the impact in product sales and user adoption as evidence that this marriage of perspectives has in fact worked. A process evaluation will also assess the strengths and constraints of such a marriage and implications for future public communications programs.

# FIELD NOTE 14

## ETHNOGRAPHIC RESEARCH: A Bridge Between Traditional and Modern Health Delivery Systems

By

Elizabeth Mills Booth  
Dr. Edward C. Green  
Dale Huntington

June 1985

### INTRODUCTION

Ethnographic research on knowledge, attitudes, and practices related to health and illness tends to focus on aspects of culture that many ministries of health find a bit embarrassing to acknowledge or discuss with outsiders. Traditional healers, supernatural beliefs relating to magic and sorcery, traditional practices such as purges that may be condemned by public health officials, and herbal medicines learned through the divine revelations of ancestor spirits seem not quite respectable and certainly do not relate to the training most MOH personnel have undergone. Many people, including government officials, believe that traditional beliefs would be ridiculed by foreigners--especially the scientifically trained--and so they are mentioned as seldom as possible.

Similar attitudes are encountered when it comes to research methodologies. Research methods seem credible only if they involve elaborate sampling and statistical techniques, and preferably computers. Real science must be mysterious and difficult. Casual-appearing ethnographic techniques such as direct observation, participant observation, and the use of unstructured, open-ended interviews do not appear nearly as scientific as quantitative research and computer analysis of data. Yet the ethnographic approach is frequently what is needed to design culturally-specific and culturally sensitive health programs.

Ethnographic research played the important role of providing a bridge between the traditional and modern health systems in Swaziland and assisted program planners to design a more effective diarrheal disease control program.

## METHODOLOGY

Aware of the pitfalls of attempting standard survey methods to elicit valid data on health beliefs and practices among a traditional population, the consultant anthropologist relied heavily on indigenous health practitioners as sources of information and on qualitative research methods such as participant observation and open ended interviews.

First, 144 traditional healers from all four geographic zones were interviewed. The open ended questionnaire focused on various aspects of traditional healing beliefs and practices. Secondly, key informant interviews focused specifically on a wide range of traditional categories of illness, including those that relate to diarrhea symptoms. These interviews were conducted by the consultant anthropologist and two Swazi assistants trained in qualitative research methods. Finally, the anthropologist conducted participant observation research and in-depth interviews with 24 traditional healers selected from the original sample of 144, as well as with a number of their patients. This research was carried out over a period of a year and a half. Although the most time consuming, the participant observation research provided the necessary social and cultural context in which to interpret findings derived from the questionnaire. It also provided a validity check for the self-reported information.

## ETHNOMEDICAL BELIEFS IN THE CONTEXT OF CHILDHOOD DIARRHEA IN SWAZILAND

Swazi healers and patients tend to classify illnesses as either African/traditional or modern/European/"doctors" illnesses. "African" illnesses include all those that involve supernatural agents, which accounts for most of the more important illnesses that Swazis recognize. "Modern" illnesses constitute a less well-defined category but include cholera, tuberculosis, heart disease, venereal disease, bilharzia, and high blood pressure.

Infant diarrhea is generally divided into three types: simple diarrhea and the two more dangerous diseases of kuhabula and umphezulu.

Simple or natural diarrhea is believed to be caused by food or changes in season, diet, or location. One variety of simple diarrhea is thought to accompany teething in a baby. Teething is said to cause heat in a child, and the heat in turn causes diarrhea. Treatment is usually a number of different herbal decoctions known by the generic term timbita tekusonga ("herbs that harden the stool"), which are administered orally. If simple diarrhea is thought to be caused by teething, traditional medicines are also rubbed on the child's emerging teeth to "make them grow faster" and thereby decrease the opportunity for diarrhea. If simple diarrhea does not respond to these treatments, it is suspected that it might be one of two more serious childhood illnesses, kuhabula or umphezulu.

### Kuhabula

According to Swazi belief, babies are infected with kuhabula soon after birth by inhaling the smoke or invisible vapors of tinyamatane. Tinyamatane is a general term referring to mixed herbal medicines and sometimes dried animal skins that are burned in preparation for therapeutic fumigations or traditional vaccinations. They are used to treat a broad range of illnesses, and each Swazi clan is said to have its own special tinyamatane that are used to protect clan members against illness.

Babies become ill with kuhabula when they inhale fumes from tinyamatane other than those of their own clan. Their exposure may be accidental or deliberate. Thus there are two ways to protect a baby from kuhabula-- prophylactic fumigation with clan medicines or administration of antidotes in advance of exposure to the vapors of foreign or non-clan tinyamatane. When a child exhibits the symptoms of kuhabula he is generally taken at once to a traditional healer. After a complex process of diagnosis, a medicinal mixture is placed over hot coals and the sick child is fumigated by covering him with a blanket and making him breathe smoke from the burning medicine. In addition to fumigation, some healers give babies herbal enemas in order to purify or "drain bad air out of" the stomach. Some also prepare herbal decoctions for the baby to drink.

### Umphezulu

A baby is believed to be born with umphezulu since it is contracted in the womb and results from the behavior of the mother while pregnant. Specifically, umphezulu is caused by: 1) the pregnant woman passing through an area where lightning has recently struck or crossing over a place where enemies have deliberately spread harmful medicines, or 2) the pregnant woman failing to keep her head covered at all times. Prenatal exposure of the baby to lightning vapors seems to be the commonest cause of umphezulu. Since lightning (or thunder) vapors are invisible and are believed to linger for a considerable time and since thunder storms are very common in Swaziland it is difficult for a pregnant mother to feel that she has never exposed her baby to the vapors.

Healers tend to agree that umphezulu can be prevented and cured by the same treatment. The baby is taken to a place where lightning has recently struck. A hole is dug, a fire built in it, and the baby is positioned over the hole and given an herbal enema. The baby's feces are left in the hole, which is then refilled. Herbal decoctions or traditional vaccinations may also be used to treat umphezulu. Hospital or clinic treatment for umphezulu is regarded by healers as dangerous as well as ineffective.

### Resource to Therapy

Decisions regarding infant diarrhea treatment are usually made by the mother. Younger mothers are advised by their generally more conservative mothers-in-law. Fathers and other male homestead members, unless they are healers themselves, are usually content to leave such decision-making to women.

When a baby has diarrhea some mothers use home-prepared herbal medicines right away; others wait for a day or two before beginning treatment. Most mothers use herbal teas to harden the stool. However, some give herbal decoctions that actually promote diarrhea followed by herbal enemas intended to clean out the baby's stomach.

Traditional healers are most mother's second source of treatment. This is partially due to proximity and convenience--there is some sort of traditional healer for every 110 people as compared with the physician/population ration of 1:10,000. However, it is also because Swazi mothers share common beliefs with healers. Among these beliefs, two of the most serious causes of diarrhea, those which require treatment outside of the home, are considered to be African or traditional diseases and, therefore, must be treated by traditional healers.

However, there is some indication that this is changing, partially due to outbreaks and public awareness of "new" diseases such as cholera and bilharzia. A minority of mothers now take their children directly to a clinic at the first signs of diarrhea or at least after home treatment fails. A minority of traditional healers encourages this, and

they claim they prefer to refer cases of infant diarrhea to a clinic rather than treat them. As one healer commented, "There are so many diarrheas these days that a mother should either use her own medicines or send her child to a clinic right away."

Thus the two systems--traditional and modern--are beginning to merge, and a child may be subjected to therapies and medicines from several traditional and modern practitioners in quick succession or even simultaneously.

## LINKING THE TRADITIONAL AND MODERN HEALTH SYSTEMS

One of the most striking effects of the ethnographic research was the incorporation of traditional healers in Ministry of Health activities for the first time. The ethnography documented that Swazi healers are a tremendous resource who are already present in most rural communities and are opinion leaders in matters pertaining to health. Although the MOH had already known this to some extent, they were reluctant to begin a policy of legitimizing personnel and treatments which they could not control. However, publications of the ethnographic research vividly illustrated the extent and importance of the traditional health system in Swaziland. After the release of various reports and publications containing ethnographic research data and repeated interactions between the researchers and MOH officials, the government decided to attempt a pilot project to work with traditional healers.

In mid-1983, workshops for traditional healers were initiated by the MOH Education Unit in coordination with the AID-funded Rural Water-Borne Disease Control Project. These initial exploratory workshops were then followed up by the AID-funded Mass Media and Health Practices Project with assistance from the Centers for Disease Control's CCCD Project. The purpose of the workshops was to establish a dialogue with traditional healers and to determine if some sort of cooperation between modern and traditional practitioners was possible.

If healers seemed receptive, then training in the understanding, prevention, and treatment of childhood diarrhea would be provided by public health nurses and other health professionals. The healers' ORT training program will undergo external evaluation, but a preliminary in-house evaluation indicates that: (1) healers have high recall of what they were taught in the workshops; (2) a high percentage of healers trained in workshops have adopted ORT in the treatment of childhood diarrhea (but this is in addition to the use of herbal diarrhea teas rather than instead of them), and (3) ideas and practices have diffused to healers who did not participate in the workshops. Impact on the use of enemas is not known.

The ethnographic research also shaped the MOH Diarrheal Disease Control (CDD) program. This program was supported by two AID-funded projects previously mentioned--the Mass Media and Health Practices project and the Centers for Disease Control (CDC) Control of Communicable Childhood Diseases (CCCD) project. A few examples of the ways the ethnography shaped the CDD program include:

- **TARGET AUDIENCE:** Program planners had originally thought older siblings might be an important target audience, since they frequently "babysit" younger children. However, mothers and grandmothers were defined as the primary audience due to ethnographic research findings that infant diarrhea treatment was their responsibility.
- **PRODUCT POSITIONING:** Based on the ethnographic findings, program designers decided to promote ORS and feeding during diarrhea as a way of restoring or

maintaining the balance of liquids and keeping a child strong during diarrhea episodes. This builds on the traditional belief that a state of equilibrium is necessary for a person to be healthy.

- **FEEDING DURING DIARRHEA:** In many countries mothers stop feeding and/or breastfeeding their children during diarrheal episodes, believing that it is wise "to rest the gut" during this illness. Although program planners had expected this to be true in Swaziland as well, the ethnographic research demonstrated it was not. The ethnography allowed planners to identify what mothers were already doing correctly--feeding and breastfeeding their children--and positively reinforce this behavior. However, since the MOH was promoting water/sugar/salt solution to prevent dehydration instead of the complete formula prepackaged ORS salts, program planners wanted to promote specific foods rich in potassium to provide that necessary ingredient in the child's diet. Participant-observation allowed planners to identify foods which were high in potassium, inexpensive, widely available throughout the country, and which mothers believed could be fed to a child during diarrhea episodes. These foods were specifically promoted through radio spots, health workers, community leaders, and a "feeding poster".
- **PURGING:** Effective communication programs emphasize the positive benefits of a new behavior instead of the negative effects of the old one. The practice of using enemas and purges to treat diarrhea was so widespread and represented such a dramatic health threat that planners decided they had to explicitly address it in the program strategy. However, purging was presented in the context of the positive benefits of replacing liquids lost during diarrhea. Planners also decided to deliver this message only through interpersonal channels, the channel which previous communications programs had demonstrated is the most effective for delivering sensitive information. Training of Ministry of Health workers and community volunteers, as well as the traditional healers, included a discussion about the use of enemas and purges, emphasizing the positive benefits of replacing liquid loss with water/sugar/salt solution.

The CDD program is at present undergoing external evaluation. Preliminary indications suggest, however, that the program has had considerable impact on health behaviors related to diarrheal disease. The MOH has recently committed resources to apply this systematic public health communications methodology to improve their immunization program. The first step of this effort has been pre-program research--which included ethnographic research methods--on beliefs and practices relating to both traditional and modern immunizations, including traditional notions of health protection.

The Swaziland experience demonstrates how ethnographic research methods can assist ministries to link traditional and modern health systems. The use of a quantitative survey would not have provided much of the most valuable insights into Swazi beliefs and practices. Initial answers to the traditional healer survey questions that referred to bilharzia, cholera, and probably to diarrhea as well, reflected the effects of intensified health education efforts on the part of the Swaziland Government since 1981. However, the ability to provide answers that satisfy government interviewers did not necessarily mean the traditional healer actually believed what he or she was saying. Since all survey-type questions posed to healers were open ended, the spontaneous or additional comments of respondents provided insights into genuine attitudes and beliefs. From participant observation research it was clear that most Swazis believe the traditional explanation of disease causation, yet most refer to modern explanations in survey interview situations. In the words of one healer, "They say diseases like cholera are caused by feces that aren't disposed of properly, but I don't believe that. Our ancestors never had toilets and yet they were never affected by cholera".

# FIELD NOTE 15

## EPI AND THE FOUR P's: Applying Social Marketing to Immunization Programs

By

Elizabeth Mills Booth  
Jose Ignacio Mata

June 1985

Juana, a rural Honduran mother, walked almost the whole morning in order to reach the Health Center and vaccinate her two-year-old son, Carlitos. She had heard over the radio that some diseases, like tetanus, are fatal and that the child has to be vaccinated various times to be safe. She has brought her son many times to be vaccinated but she wants to be sure. She wouldn't want anything to happen to her baby. After waiting for a long while her turn comes at last. She gives her son's vaccination card to the nurse who, after reviewing it, tells her that it's complete. Her child doesn't need any more vaccinations. Juana feels glad her child is safe, but...she walked so much!... and now she has to return to her village. She came for nothing.

In a survey with 270 rural Honduran mothers, almost all of them could show their Ministry of Health vaccination card, frequently wrapped in plastic and carefully stored with the family's other valuable documents and belongings. However, most of them could not tell interviewers the number of doses a child needed to complete the vaccination series or what vaccinations their own children had received.

In 1982, the MOH began a new strategy of semi-annual "Immunization Week" campaigns and asked the Division of Education to produce radio and graphic materials to motivate mothers to bring their children to be vaccinated. Observation in rural clinics during the first campaign confirmed the survey findings and provided insight into other program constraints. Many of the children brought to be immunized had already received the full series of vaccinations. The radio and graphic materials had successfully motivated mothers to take their children to be immunized, but in many cases the trip

was a waste of the mothers' time. Observation also demonstrated that nurses had little time for patient education. They generally read the vaccination card, applied the vaccine, filled in the card, and told the mother the day to return for the next vaccination. They felt pressured by the lines of crying children and waiting mothers.

In-depth interviews with some of these mothers demonstrated that even literate mothers could not understand the vaccination card. The script was too small, the graphics looked like a complex crossword puzzle, and some of the nurses used roman numerals to write the dates. Even literate mothers, looking at the card, could not tell the interviewer the name or number of doses of each vaccine that had been given to her own child or that needed to be given to complete the vaccination series.

The MOH strategy drew from various fields to improve the planning and implementation of the EPI program. One of those planning tools was social marketing--how could the concepts of product, price, place, and promotion be applied to improve an EPI program?

**PRICE:** Although vaccines are given free of charge by the Ministry of Health, there is considerable cost to the mother in time spent walking to the clinic and waiting to receive the vaccination. This cost is unacceptably high when the mother comes to the clinic unnecessarily. The mothers needed to understand when they really needed to bring their child to be vaccinated in order to avoid this unnecessary cost.

**PLACE:** As a part of the new Immunization Week campaign strategy, the MOH committed resources to improving the cold chain and health worker training to provide effective vaccines at the village level, making the product more accessible.

**PRODUCT:** The MOH had already committed considerable resources to insure that the product was effective through improved cold chain and service delivery. Formative research indicated that mothers viewed immunizations as a valuable product, one which they would spend considerable time and energy to obtain. A major constraint to product use, however, was that some vaccines caused a reaction which worried mothers. Also, due to experience with past MOH policy, mothers believed their children could not be immunized when they were ill, so many children with mild colds or diarrhea were not brought to be immunized. The vaccination card was also perceived by mothers as a valuable product, as demonstrated by the careful manner in which it was stored and protected. However, the card was only a registration tool for the MOH; it had not achieved its potential as a product which was useful to the consumer, the rural family.

**PROMOTION:** Previous public health communications work in Honduras had dramatically demonstrated to the MOH the effectiveness of the integration of mass media, graphics, and interpersonal support to change health behaviors. The MOH had already committed resources to training and motivating clinic staff to provide sufficient and effective vaccines during the semi-annual Immunization Week campaigns. Radio had already been used to create more demand for immunizations. In the new strategy radio continued to create product demand, but also taught key messages to improve consumer compliance. Radio taught mothers that reactions to some vaccinations are natural and indicate that the child needed the vaccination. Radio also taught mothers the new Ministry policy that mildly ill children **could** be immunized. If the child was too sick to receive an immunization, he needed medical treatment anyway.

Program planners then focused attention on the complementary immunization product—the vaccination card—to make it more attractive and useful to the rural mother. They wanted it to serve as a timely reminder and an understandable positive reinforcement to mothers for correct consumer behavior. The card had to visually demonstrate: 1) what vaccine needed to be applied, 2) the necessary doses for each vaccine, and 3) how many of these doses had already been applied. Planners knew that the card must stand on its own; they could not ask the nurse to do more than what she was already doing—fill in the card and tell the mother when she must return for the next vaccination.

Again the participant observation in rural clinics helped provide the solution. Observation and in-depth interviews helped planners understand that **mothers identified the vaccine given to their child by the way it was applied:**

- If it is given orally, it is a polio vaccine.
- If it is a shot deep in the arm, it is measles. Mothers did not like this shot because it caused reactions in many of their children.
- If it was a superficial shot on the arm, it was tuberculosis.
- If it was a shot in the hip, it was for tetanus. Of the three diseases the DPT vaccine prevents, tetanus was the one mothers most remembered.

The graphic artist drew samples of each immunization. Color was added to the drawings in order to make them more attractive. The number of necessary doses for each vaccine was indicated by placing circles and lines beside each picture. The Auxiliary Nurse would fill in the circle and print the date on the line once the dose was given. The date the mother should return would be printed in pencil on the next line and filled in in ink when the mother returned.

Another important question was the size of the card. Vaccination cards were collected from public institutions, the Ministry of Health and Social Security, and private institutions such as pediatric clinics and laboratories. The vaccination cards used by private institutions were four times larger than the cards used by the Ministry of Health. The reason given was that it was to avoid loss of the card.

Program planners knew that the consumer should decide which product was most useful. Three different models were prepared for pretesting with rural women. Version A was the size of the private institutions' vaccination card, approximately 5" X 5". Two vaccines were shown on each page. Version B was the size of the MOH card, approximately 2" X 2". Only one vaccine was shown on each page. However, the graphics were the same in both A and B. Version C was the original Ministry card. The pretest assessed comprehension, attractiveness, and appropriateness of the graphics and the size of the cards. At the end of the interview the mother was asked to choose which card she liked best.

Both nonliterate and literate mothers understood Versions A and B—the graphics and the reason for the circles and lines indicating the number of doses for each vaccine. The card previously used by the Ministry was understood by only a few of the more literate mothers. The mothers overwhelmingly preferred Version B, the smaller card, because it was easier to carry to the Health Center. Rural women in Honduras, as in many other countries, carry money and valuable documents in a plastic bag in their brassieres, where they feel it is safe. Mothers also preferred the smaller card because it was easier to understand one picture on each page.

The MOH officially adopted the new vaccination card in 1984 and made an initial printing of 100,000 cards. The card is soon to be evaluated and changes will be made based on input from both Ministry staff and rural mothers.

In two years, the MOH raised EPI coverage from approximately 55% for the third doses of DPT and polio for under fives to 78%. One of the keys to the success of the new strategy was the integration of radio, graphics, and interpersonal support. For the first time, these three channels were systematically incorporated into a comprehensive plan to improve effective EPI coverage. This initial experience has also demonstrated how formative research and the consideration of social marketing concepts of product, price, place, and promotion can significantly improve the delivery of Ministry of Health EPI programs.

VERSION A.

COVER AND BACKCOVER.

Por decreto del Gobierno de la República se establece con carácter obligatorio la tarjeta de vacunación contra la:

Polio, Difteria, Tosferina y Tétanos;  
Tuberculosis y Sarampión.

Es obligatorio presentar esta tarjeta de vacunación para ingresar al kinder, primer grado, orfanatos, comedores infantiles, servicios de recuperación nutricional y para consultas en los establecimientos médicos del Estado y privados.



Nombre: \_\_\_\_\_

Edad: \_\_\_\_\_

Dirección: \_\_\_\_\_

Persona Responsable: \_\_\_\_\_

## TARJETA DE VACUNACION



República de Honduras, C.A.  
Ministerio de Salud  
Dirección General de Salud  
División de Epidemiología  
Programa Ampliado de Inmunizaciones (PAI)

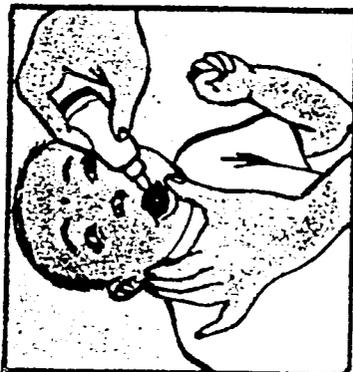
VERSION A.

INSIDE COVER.

### Poliomielitis:

Tres dosis

Se espera al menos mes y medio entre cada dosis.



1ª. dosis

\_\_\_\_\_  
 2ª. dosis

\_\_\_\_\_  
 3ª. dosis

### Tuberculosis

Dos dosis:

- Antes de cumplir un año y
- Al entrar al primer grado escolar

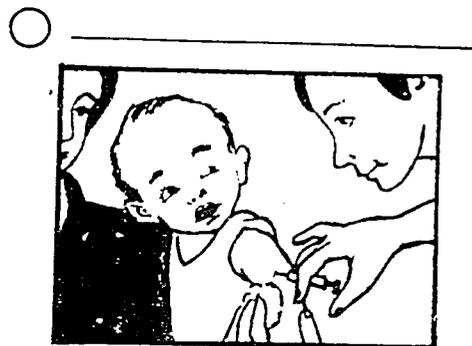


1ª. dosis

\_\_\_\_\_  
 2ª. dosis

### Sarampión:

Se aplica desde 9 meses.  
Sólo se aplica una dosis.



### Difteria, Tosferina y Tétanos:

Tres dosis.

Se espera al menos mes y medio entre cada dosis.



1ª. dosis

\_\_\_\_\_  
 2ª. dosis

\_\_\_\_\_  
 3ª. dosis

Por decreto del Gobierno de la República se establece con carácter obligatorio la tarjeta de vacunación contra la:

Polio, Difteria, Tosferina y Tétanos;  
Tuberculosis y Sarampión.

Es obligatorio presentar esta tarjeta de vacunación para ingresar al kinder, primer grado, orfanatos, comedores infantiles, servicios de recuperación nutricional y para consultas en los establecimientos médicos del Estado y privados.




PROCOMSI

BACKCOVER

# TARJETA DE VACUNACION



Ministerio de Salud Dirección General de Salud.  
División de Epidemiología  
Programa Ampliado de Inmunizaciones (PAI)  
República de Honduras, C.A.

COVER

- 125 -

Nombre: \_\_\_\_\_

Edad: \_\_\_\_\_

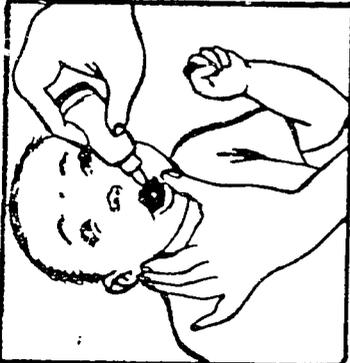
Dirección: \_\_\_\_\_

Persona Responsable: \_\_\_\_\_

\_\_\_\_\_

**Poliomielitis:**  
Tres dosis

Se espera al menos mes y medio entre cada dosis.



1ª. dosis  
\_\_\_\_\_

2ª. dosis  
\_\_\_\_\_

3ª. dosis  
\_\_\_\_\_

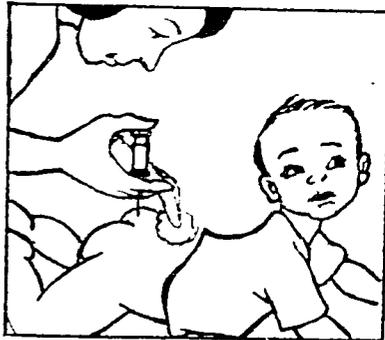
VERSION B.

PAGES 3 and 4.

### Difteria, Tosferina y Tétanos:

Tres dosis.

Se espera al menos mes y medio entre cada dosis.



1ª. dosis

2ª. dosis

3ª. dosis

### Sarampión:

Se aplica desde 9 meses.

Sólo se aplica una dosis.

\_\_\_\_\_



### Tuberculosis

Dos dosis :  
- Antes de cumplir un año y  
- Al entrar al primer grado escolar



1ª. dosis

\_\_\_\_\_

2ª. dosis

\_\_\_\_\_

### Tétanos: (Embarazadas)

Dos dosis  
A los 5 y 7 meses de embarazo



1ª. dosis

\_\_\_\_\_

2ª. dosis

\_\_\_\_\_

VERSION C.

Card formerly used by the Ministry of Health.

INSIDE COVER.

NOMBRE		EDAD			
DIRECCION:					
PERSONA RESPONSABLE:					
VACUNA	D O S I S				
	PRIMERA FECHA	SEGUNDA FECHA	TERCERA FECHA	REFUERZO FECHA	
Poliomielitis					
D. P. T. (Difteria, Tosferina y Tétanos)					
Sarampión.					
B. C. G. (Tuberculosis)					
Toxoide Tetánico(embrazadas)					
OTRAS (Indicar)					

VERSION C.

Card formerly used by the Ministry of Health.

OUTSIDE COVER.

<p>POR DECRETO DEL GOBIERNO DE LA REPUBLICA SE ESTABLECE CON CARACTER OBLIGATORIO LA TARJETA DE VACUNACION CONTRA LA: POLIO, DIFTERIA, TOSFERINA, TETANOS, TUBERCULOSIS Y SARAMPION.</p> <p>REGRESE EN LA FECHA QUE SE LE INDIQUE PARA APLICAR LA SEGUNDA, TERCERA OOSIS Y EL REFUERZO.</p> <p>LA TARJETA DE VACUNACION ES REQUISITO OBLIGATORIO PARA INGRESAR AL KINDER, PRIMER GRADO, ORFELINATOS, COMEDORES INFANTILES, SERVICIOS DE RECUPERACION NUTRICIONAL Y PARA CONSULTAS EN LOS ESTABLECIMIENTOS MEDICOS DEL ESTADO Y PRIVADOS.</p>	<p><b>TARJETA DE VACUNACION</b></p> <hr/> <p>REPUBLICA DE HONDURAS</p> <p style="text-align: center;">①</p> <p>MINISTERIO DE SALUD PUBLICA Y A.S. DIRECCION GENERAL DE SALUD DIVISION DE EPIDEMIOLOGIA</p>
--	--