

issues

using radio

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PRIMARY HEALTH CARE ISSUES Series 1, Number 1, using radio for primary health care

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PRIMARY HEALTH CARE ISSUES is a series of reports designed to provide a concise, accurate, and authoritative overview of important developments in the field of primary health care (PHC). The series is directed primarily to concerned health professionals such as program managers and decision makers who plan and implement programs around the world. The series will constitute a system of information transfer for an audience with a special need for timely and relevant information that is at once generically useful and specifically applicable. The series

- addresses PHC policy issues of national and international concern

- analyzes common problems in PHC program management, including planning, implementation and evaluation
- identifies gaps in knowledge about PHC and recommends research to fill those gaps
- provides up-to-date technical and policy information on PHC delivery.

The views expressed in these reports do not necessarily reflect those of the Agency for International Development.

Reader comments are invited. They should be addressed to: the Director, APHA/IHP, 1015 Fifteenth Street, NW, Washington, DC 20005, USA.



UNICEF 8868

using radio

for primary health care

Prepared under Agency for International Development Contract DSPE-C-0053

SEPTEMBER 1982

AMERICAN PUBLIC HEALTH ASSOCIATION

1015 15th Street, N.W., Washington, D.C. 20005

Library of Congress Cataloging in Publication Data

Sweeney, William O., 1931-

Using radio for primary health care.
(Primary health care issues, ser. 1, no. 1)

- I. Radio in health education.
- I. Parlato, Margaret Burns, 1944-
- II. United States Agency for International Development.
- III. Primary Health Care Issues Series.
- IV. American Public Health Association, International Health Programs.

RA440.55.S93 1982 791.44'5 82-16234
ISBN 0-87533-109-1

The text of this publication may be freely quoted. Attribution to APHA, and copies of citation, would be appreciated.

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Designer: Hubert Leckie, Washington DC
Printer: Reese Press, Baltimore MD
Typesetting: VIP Systems, Inc., Alexandria VA

Funded by the Office of Health, Agency for International Development under Contract DSPE-C-0053.

American Public Health Association
1015 Fifteenth Street N.W., Washington DC 20005
1982

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preface

Primary Health Care (PHC) is a concept, a strategy, a health delivery system approach, and a philosophy. While PHC may be selective with respect to interventions delivered, it may employ a variety of methods to deliver them. PHC is intended to emphasize affordable, low unit-cost health care interventions, and many developing countries have committed themselves to this new approach that breaks with the curative, professional-intensive, hospital oriented approach of the recent past.

Given the financial constraints within which most developing countries operate, it is evident that participation by communities and individuals in the PHC process is more than desirable; it is essential if improvement in health status is to be achieved. In such circumstances, the role of health education and community self-help necessarily takes on increased importance.

Many steps for successful PHC implementation require both community participation and behavior change by individuals. Traditionally, efforts for health behavior change have been the province of the health educator, using "small-media" such as talks, flannelgraphs, group discussions, and school health curricula. In recent years, however, it has been increasingly accepted that often attitudes must be changed before behavior will follow. Population professionals have done much to raise our consciousness on this front with their KAP (knowledge, attitudes, and practices) studies and related activities.

As those of us in North America are aware, such marketing techniques as advertising have proven their effectiveness. Skeptical businessmen known for an unsentimental approach to data and inclined to measure the value of an approach by its financial return expend sizeable budgets on media presentations. Political figures also recognize the value of the use of media in changing thinking, and in Western societies spend considerable amounts to obtain media exposure of their ideas in attractive "packages."

More and more such "big-media" as broadcast radio, television, and motion pictures are used in the service of marketing both products and ideas. Those skilled in such media can and do inform, educate, modify attitudes, and entertain simultaneously.

Media in themselves, however, are not what makes

for effectiveness, that depends on the skill with which they are used. Skillfully employed, media can be of service in marketing health ideas, in educating, and in modifying health-related behavior no less than when used to promote purchase of products or market a political figure.

PHC involves health delivery systems, and systems are composed of many elements. It is the belief of the Office of Health that as we gain experience with PHC and have more systems in place, we must turn our attention to "second and third generation" PHC problems. As we learn to juggle, we add a third and fourth ball to those we keep in the air with some probability of success. In like manner, as we progress we can and must employ as many techniques as are needed to achieve our goal of the broadest possible health service coverage for the greatest number.

The use of radio in PHC is one technique that has received limited attention in the health literature. Although broadcast radio has been used in a number of countries for many purposes, the literature is difficult for non-specialists to identify, assess, evaluate, and draw useful generalizations from. While perhaps of limited interest to the clinician, this report has much to say to those responsible for national or regional health programs. It is for this particular audience that it has been written and refereed by professionals with many years of "hands-on" experience with media in the developing world.

It is our hope that the contents of this Issues Paper will be of use to the reader and that the references will make further study possible for those who wish to pursue this subject.

The Office of Education of the Science and Technology bureau of the Agency for International Development participated actively in the conceptual development of this publication. In particular we wish to express our appreciation to Dr. Anthony Meyer of AID, until recently a faculty member of the Institute of Communications Research of Stanford University, for his interest and the generous investment of time he has made in this document.

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D.L. Piet

foreword

This paper is concerned with the use of radio in primary health care projects. Originally intended as a report on all communications media, the subject was narrowed to radio as the mass medium with the greatest current potential for use in primary health care programs.

The two major audiences for the report are development planners in funding or executing agencies and developing country professionals who implement projects requiring a media component. The report was prepared to help them determine whether and how to use radio in their projects.

The following pages examine what is known about the use of radio in development projects, based on an extensive review of the literature in the six areas that have had widespread experience in using radio for educational objectives: agriculture, education, health, nutrition, population, and the general category of development. The literature analysis is the core of the paper.

Key findings on the impact of radio are presented in the first chapter. The focus is on factual information from evaluated projects rather than opinions and suppositions. The first chapter also defines the characteristics of radio and the special qualities that make it particularly suitable for primary health care. It presents a summary of findings about what radio can be expected to accomplish. The chapter concludes with suggestions on how radio might be used in PHC programs.

The second chapter is a guide to developing radio projects. It is based both on information gleaned in the literature reviews and on the field experience of professionals working in development and communications.

Methodology

The authors reviewed 88 programs, projects, and experiments with communication components (hereafter referred to as projects) in developing countries. This was not a sample; the 88 represent the media projects identified in the six areas of interest and described and documented in the literature. Of these, 47 were selected for summary and analysis. Appendix A contains a list of all projects considered, as well as those summarized.

Projects were included in this paper if they met three criteria:

- They present significant findings for radio use.
- They deal with a radio technology of interest to the reader.
- They deal with a strategy for using radio with potential relevance for primary health care.

Drawing on the classification system of Jamison and McAnany (1978), the authors have classified projects according to one of five strategies for radio use: open broadcast, listening groups, campaigns, two-way radio, and tape recorder. Table 1 at the end of this introduction shows all the projects included in this report grouped by type of radio media strategy. (For more complete information on a project's use of a given strategy, consult the project summaries in Appendix C.)

"Open broadcast" refers to sending out a signal that can be tuned in on any radio within range. Listening groups, or forums, as they are often described in the literature, are organized groups of people who listen to an open broadcast (or an audio cassette) together and then have an opportunity to discuss the program. Campaigns are open broadcasts, running for a limited period of time, with specific messages usually repeated a number of times. Two-way radio is similar to a telephone in that the technology permits immediate two-way flow of information. The tape recorder as an audio medium has many characteristics which make it similar to radio in the way it can be used.

Limitations of the paper

This paper is limited by the available data from radio projects. Often the data are sketchy, incomplete, and lacking in important areas. This incompleteness is not glossed over but retained in the summaries, in the findings, and the guidelines.

This paper is not exhaustive in its treatment of any given strategy for using radio. For example, there is a rapidly expanding body of literature on the use of broadcast and satellite connections for two-way radio (and television) in health. This paper selects the projects in the literature that make the relevant, salient points on current findings and presents them as they pertain to possible use in primary health care.



UNICEF 8867 by Cooper

radio and primary health care

INTRODUCTION

The concept of primary health care stresses the provision of essential health care at the local level with input from the community. The concept (PHC) has existed for a number of years and many countries have had small programs drawing on community resources to make basic health services available to previously unserved populations. Since the 1978 conference on PHC, held in Alma-Ata, USSR, this approach to extending health services has received international prominence. As a result, an increasing number of governments are undertaking large regional, and even national, programs in a new effort to reach rural as well as urban fringe populations with low-cost basic health services. This change in orientation and in scale of projects makes timely an assessment of whether PHC programs, like other development programs reaching large populations, can effectively use mass media.

This chapter reviews the role radio has played in health and development programs; examines findings from projects, in an effort to determine what has worked and what has not worked; and presents ideas on specific radio applications for PHC programs.

CHARACTERISTICS OF RADIO

During this century rapid and extensive changes in technology have revolutionized the ability to communicate and transfer information. In the last decades the pace has quickened to the point where new technologies for sound and picture are being introduced before previous innovations have become established. Sony "Walkman" headsets sprout on the heads of pedestrians in major U.S. cities and are increasingly seen in the capitals of Africa, Asia, and Latin America. Television pervades the lives of citizens of high-income countries, with sets becoming more and more portable and cable bringing dozens of channels into a single home.

Worldwide, however, radio is still the most potent communication innovation since the printing press. It has a larger audience than that of any other mass medium. The large-scale manufacture and distribution of inexpensive, battery-operated, transistor radios have brought much of the world's population into an international communications network. While radio ownership is not universal, few communities are without at least one receiver.

Radio can reach a cross-section of any nation — men, women and children, urban and rural, literate and illiterate. It is often a more direct and personal medium than print or film; it can be used to create and encourage audience participation; and it can act powerfully on the imagination through its ability to recreate situations in different times and places. Because radio reaches large audiences and does not require literacy, it is the most effective means of communication in many developing countries.

THE USE OF RADIO FOR DEVELOPMENT AND HEALTH

For the past three decades, radio has played an important role in Third World development. Beginning with nationalist independence movements in Asia and Africa and continuing through the post-colonial era of political, social and economic development, radio has been the only way to reach large groups of the world's population.

Radio enjoys widespread use throughout the world. Although the types of programs transmitted have varied considerably, given the different political and ideological complexions of its programmers, nevertheless the emphasis given to radio has been consistent. Radio has been used to support social change, land reform, community development, and commercial enterprises. It has been used to promote literacy, smaller families, better nutrition, and the entire range of consumer products that characterizes more developed markets.

While the role of radio in support of social programs is still evolving, there is a considerable body of experience in using the medium to support health objectives. The range of uses includes creating awareness about important health, nutrition and family planning concepts; teaching new information; promoting changes in behavior; and training and supporting health workers. The following are some examples from the projects reviewed for this paper:

- Brief radio announcements — spots — have been used to create awareness about the desirability of breastfeeding in Trinidad and Tobago (Summary 45).*
- Radio advertising has promoted commercial distribution of contraceptives in Indonesia and other countries (Summary 20).
- A long-running daily national broadcast (in the

*The reference is to the project summary in Appendix C.

TABLE 1 PROJECTS GROUPED BY TYPE OF RADIO STRATEGY*

Open Broadcast (18)

<i>Country</i>	<i>Sector</i>	<i>Project</i>
Afghanistan	Agriculture	Rural Broadcasting
Costa Rica	Population	Diálogo
Dominican Republic	Population	Towards a New Family Life
Haiti	Health	Radio Docteur
Honduras	Health	Mass Media and Health Practices
India	Agriculture	School-on-the-Air
India	Population	Bombay Family Planning Project
Indonesia	Population	Grains of Sand
Indonesia	Population	The Jamu Project
Kenya	Education	Correspondence Course Unit
Kenya	Health	Giving Birth and Caring for your Children
Korea	Education	Air and Correspondence High School
Korea	Population	The Songdong Gu Project
Mexico	Agriculture	Radio Huayacacotla
Mexico	Nutrition	Nutrition Education in Rural Mexico
Philippines	Agriculture	Masagana 99
Senegal	Health	The Sine Saloum Rural Health Care Project
Sri Lanka	Health	Health Education Radio Dramas

Listening Groups (15)

<i>Country</i>	<i>Sector</i>	<i>Project</i>
Botswana	Agriculture	Our Land
Botswana	Education	Understanding Government
Colombia	Education	ACPO
Dominican Republic	Education	Radio Santa Maria
Ecuador	Education	Radio Mensaje
Guatemala	Agriculture	Basic Village Education
Haiti	Health	Classe d'Hygiene
India	Development	The Maharashtra Radio Forum Pilot Project
Nicaragua	Education	Radio Mathematics
Niger	Development	Association of Radio Clubs
Senegal	Agriculture	Radio Pilot Project
Spain	Education	Radio ECCA
Tanzania	Health	Man is Health
Tanzania	Nutrition	Food is Life
Thailand	Agriculture	The Radio Farm Forum Pilot Project

Campaigns (10)

<i>Country</i>	<i>Sector</i>	<i>Project</i>
Colombia	Population	Radio and Family Planning
Honduras	Population	Family Planning Media Experiment
Iran	Population	The Isfahan Project
Korea	Nutrition	CARE Mass Media Nutrition Education Campaign
Nicaragua	Nutrition	Advertising Campaign
Pakistan	Population	The Hyderabad Project
Philippines	Nutrition	Mass Media Nutrition Advertising Campaign
Taiwan	Population	The Kaohsiung Experiment
Trinidad & Tobago	Nutrition	Breastfeeding Campaign
Tunisia	Nutrition	Dr. Hakim

*Morocco's Maadid Radio Study is not classified because it was a media-research project with no broadcast component.

Two-Way Radio (1)

Country	Sector	Project
USA-Alaska	Health	Telemedicine: Health Care for Isolated Areas

Tape Recorders (4)

Country	Sector	Project
Afghanistan ¹	Agriculture	Rural Broadcasting
Ecuador ²	Education	Radio Mensaje
Guatemala	Health	The Pila Project
Tanzania	Development	Audio Cassette Listening Forums

form of comedy dialogue) in Haiti provides information and advice on a variety of health topics (Summary 13).

- Weekly radio dramas have been used in Sri Lanka to provide general information on child health, hygiene, and nutrition (Summary 39).
- Brief radio announcements have been used in Nicaragua to teach parents how to prepare and administer oral rehydration solution. In the Philippines, radio spots were used to get mothers to enrich infants' rice porridge with oil, vegetables, and fish (Summary 31).
- In Senegal, radio broadcasts provide village health workers with continuing education and with instructions about administrative procedures (Summary 37).
- Radio melodramas in Indonesia portray the importance of family planning (Summary 19).
- Radio listening groups have been organized in Tanzania during short campaigns to educate about nutrition and community disease control (Summaries 42 and 43).
- Radio comedy dialogues in Kenya discuss modern child care practices (Summary 23).
- Radio announcements are used to promote new health services, such as family planning, in Honduras (Summary 15).
- Primary school children in Haiti listen to weekly broadcasts designed to improve their knowledge about such topics as population, immunizations, and physiology (Summary 12).
- Two-way radio has been used in Alaska to provide technical medical backstopping and in-service training to isolated paraprofessionals (Summary 47).

FINDINGS ABOUT THE IMPACT OF RADIO

Although radio has been widely used in development programs of all types, communications experts disagree on exactly what radio can and cannot do. The systematic review of findings about the impact of communications projects undertaken for this paper identified four major functions that radio can perform. They are presented here beginning with the most thoroughly documented, and ending with the least conclusive.

1. Radio can educate and provide information.
2. Radio can promote the use of health products and services.
3. Radio can elicit feedback and aid the participatory process.
4. Radio can produce results including change and action.

Finding 1: Radio can educate and provide information.

Evaluations of communications projects have repeatedly shown that radio can teach — it can present new concepts and information. Of the 47 case studies included in this report, approximately 20 report on this aspect. All conclude that radio plays an effective educational role, both as the sole medium or in conjunction with print and group support. Some examples are presented below.

In a finely-designed and executed project for teaching mathematics by radio to school children in primary grades in Nicaragua, students who were taught through radio lessons achieved significantly higher scores in a final evaluation than those taught traditionally. Radio programs in this project were accompanied by post-broadcast lessons. Radio, however, was designed to carry the major burden of instruction. Rural students tested against control groups benefited more than urban students tested against urban controls. The project evaluators hy-

¹This project is also grouped under "Open Broadcast."

²This project is also grouped under "Listening Groups."

pothesized that radio lessons are particularly effective in raising the level of knowledge of those who know least — in this case rural students. (Summary 30)

In the Dominican Republic, radio is the central medium of instruction for students of Radio Santa Maria's school, which provides eight years of primary education in four years. Students listen to broadcast lessons at home and have weekly contact with a field teacher who corrects their work and answers questions. When tested, the radio students did as well as those conventionally educated. (Summary 7)

Haiti's Radio Docteur radio program, which presents general information and advice on health topics in a two-character dialogue format, has existed since 1967. Radio Docteur is currently broadcast nationally twice a day, six days a week. A survey of 4,000 people who had heard the broadcasts for a number of years showed a high level of knowledge about the topics covered in the program. (Summary 13)

In Sri Lanka, weekly radio dramas on health and family planning have increased knowledge about these topics. A substantial majority of those interviewed could recall some of the health messages, and indicated they found the material valuable. (Summary 39)

A six-week campaign using radio spots — a format developed by the advertising industry — to promote breastfeeding in Trinidad and Tobago resulted in significantly raised "consciousness" among a variety of groups and was effective in imparting knowledge about the advantages of breastfeeding. (Summary 45)

In a year-long nutrition education campaign in South Korea, where radio spots were broadcast every day for eleven months, more than 85 percent of those interviewed had heard the spots or had heard others talk about them. In urban areas, 83 percent recalled some part of the messages. In rural areas the figure was 68 percent. (Summary 25)

In a media experiment for family planning in the Songdong Gu area of South Korea's capital city, a post-campaign survey established that radio ranked first as a source of information, both in terms of other mass media and information imparted by home visits and group meetings. (Summary 26)

After one year of operation using a format combining humor and education, Kenya's nationwide weekly radio program, Giving Birth and Caring for Your Children, was measured as effective in educating the audience about modern child care practices. An evaluation survey conducted primarily in rural areas showed high recognition of the program's major theme (child care) and a high recall of the topics covered by the program. (Summary 23)

The objectives of a nationwide health education project in Tanzania were to provide villagers with basic information on disease, disease control, and the relationship between environment and health. The

project was also designed to educate villagers on the symptoms, prevalence, and origins of five potentially controllable but currently widespread diseases. The groups met for twelve weeks with trained leaders, listened to radio broadcasts, and then discussed what they had heard. An evaluation showed that the study groups improved 47 percent between the pre- and post-tests on specific points of health knowledge. (Summary 42)

In a civic education project in Botswana, radio programs were heard and discussed by listening groups. During a five-week campaign awareness of government activities increased, as did understanding of how people can participate in the development process. (Summary 3)

Finding 2: Radio can promote the use of health products and services.

In a number of projects reviewed, radio announcements and programs have been found effective in motivating individuals to use health services and to purchase such health-related products as contraceptives. The ability of radio to increase the use of products and services is well accepted, as the outcome can be easily and conclusively verified. Findings from seven projects are summarized here.

A commercial project in Indonesia to sell a specially-packaged condom was carried out through an intensive advertising campaign, with radio as the principle medium. During the campaign, condom sales increased 50 percent. When the campaign ended, sales dropped to the pre-campaign level. (Summary 20)

In Colombia, radio was the second most important source of information for new contraceptive acceptors attending family planning clinics during periods when radio programs were broadcast, and the third most important source when there were no radio announcements. The prime source was friends, neighbors, and relatives. (Summary 5)

An experiment in Hyderabad, Pakistan, used radio spot announcements to motivate urban and rural men and women to use family planning services. Post-campaign studies showed that 69 percent of women attending family planning clinics reported hearing the family planning messages. By comparison, only 34 percent of other women interviewed after the radio campaign remembered hearing the messages. (Summary 33)

In the Dominican Republic, a five-day-a-week program dealing with family life attracted tens of thousands of listeners. An evaluation concluded that the program had increased both awareness and practice of family living. (Summary 8)

A campaign of spot announcements was undertaken in Kaohsiung City, Taiwan, in the late 1960s to measure the impact of the use of mass media on family planning acceptance. Until the campaign, the

mass media had never been used for family planning in this region. In both the pre-campaign survey and the post-campaign evaluation, radio was the medium most frequently mentioned as a source of information on family planning. Significant increases in knowledge and practice of family planning were registered. Use of family planning methods increased by 10 percent. (Summary 40)

An eight-month radio campaign in Isfahan, Iran, resulted in a 64 percent net increase in use of contraceptives. One-third of new contraceptive acceptors interviewed at health clinics cited radio as the most important source of information. (Summary 21)

A mixed media campaign in Honduras to increase the demand for family planning services among a low-income urban population included daily radio spots, a sound truck, pamphlets, and films. The post-campaign survey established that clinic attendance increased during and immediately following the five-week communications campaign. The surveyors also found that before the campaign only six percent of those interviewed mentioned family planning as a service of the health center, while 29 percent did so afterwards. A survey of new patients at the family planning clinic showed that radio was cited as the source for information on services considerably more often than the other media used. (Summary 15)

Finding 3: Radio can elicit feedback and aid the participatory process.

Radio has been used effectively in a number of kinds of programs to advise populations of new government policies and to encourage discussion, feedback, and eventual support for new measures. Radio has also been used to promote community development and other programs in which self-help and community participation are essential. Although radio has been used frequently for such purposes, only a small number of the projects have been formally evaluated. There were five examples in the case studies reviewed for this report.

Faced with land degradation due to increased human and livestock populations, the Government of Botswana sought to involve the public, particularly rural people, in learning about and commenting on land use policies. Radio programs were broadcast twice a week during a five-week period, and over 3,500 listening groups were organized. The groups sent information on their discussions to the program headquarters, where it was used for future broadcasts. Questions raised by the discussion groups were answered on the air. The program evaluation showed that citizen awareness of overgrazing increased and that the adult public participated in defining the problem and proposing solutions. (Summary 2)

In 1979, Botswana organized a similar five-week radio campaign with broadcasts and listening groups to provide villagers in the Kalahari Desert region

with information about the government, and ways people can participate in the development process. Questions from the groups were used as part of the radio program. The post-campaign evaluation report indicated that 10 percent of the people in the project area attended group sessions and that there was an increase in people's knowledge of the subject. (Summary 3)

In 1972 Ecuador's Radio Mensaje began a program to obtain feedback and active participation from its student listeners. Under the program, which is still in operation, cassettes are sent to listening groups, whose members collaborate with others in the community in preparing materials that are aired on a special weekly broadcast. The programs have promoted community development by enabling listeners to learn what other communities are doing. Also — though this has not been formally evaluated — the radio staff believes this participatory process has heightened the self-worth of the listeners. (Summary 9)

Since 1968, Senegal has had a radio program for farmers that encourages feedback and allows them to express their opinions about government policies and activities. Begun using listening groups, the program continued without them after the pilot phase. Results indicate that feedback in the form of letters and taped comments for broadcast has had direct impact on government policy. (Summary 36)

A 20-week pilot project in 20 villages in northeast Thailand used weekly radio broadcasts accompanied by listening groups to strengthen the existing agricultural extension service. The programs included interviews with specialists, discussions from listening groups, announcements, and the answering of questions from the groups. The evaluation found that the two-way flow of information between the farmer and extension workers had improved. Retention of information and overall learning also greatly improved. A major reason was the high interest in content prepared in part from farmer discussions, and so directly relevant to the listeners' concerns. (Summary 44)

Finding 4: Radio can produce results including change and action.

The ability of radio to motivate listeners to modify behavior and undertake activities not specifically tied to available products or services has been reported in several of the projects reviewed. In some cases, evaluation findings indicate that radio alone can bring about results, while in others radio has achieved results when used in conjunction with some form of interpersonal support, whether that be a discussion/study group or contact with an extension worker. While most communication and education experts agree that radio can play an important role in inducing change, the ability to bring about such change

using radio alone remains controversial. Established theories of communication hold that human interaction is necessary at some point in getting individuals to adopt innovations.

The potential of radio has been particularly difficult to ascertain on this issue, as most of the evaluation studies reporting change in behavior are based on self-reported action by those interviewed, rather than independent observation, and as such are difficult to substantiate.

Results from those projects reviewed for this report are the following.

The nationwide Masagana 99 project in the Philippines used radio as the principal medium to present agricultural information, especially that related to increasing rice production. After a three-month saturation campaign of short messages on 250 radio stations and daily agricultural programs, an evaluation showed significant increases in rice yields and in income generation. (Summary 34)

A five-year agricultural media experiment in Guatemala, Basic Village Education Project, was carried out in two geographic areas. One of them was a Spanish-speaking farm area that was quite developed. The other, an Indian area, was more traditional. For the Spanish-speaking area, radio alone was an adequate source of information, much of which was translated into action. For the less developed area, a mixture of radio and home visits by a field worker and an agricultural specialist worked best. (Summary 10)

A study of nutrition education in rural Mexico compared the effectiveness of mass media techniques (primarily radio) with direct personal methods of education in transmitting concepts of nutrition. The experimental design included three geographic areas with similar characteristics, all in the same state. Villagers in one area were taught by radio. In a second area, the method was direct teacher education. Knowledge of nutrition concepts was evaluated immediately after instruction and three months later. One year later, changes in diet were studied. The third area was a control.

The evaluation showed that nutrition concepts were learned equally well using mass media and the face-to-face method of education. Both groups reported a positive change in food consumption habits. (This study was not concerned with the issues of which types of food habits can be readily changed and which are more difficult to change because of cultural and psychological dimensions and constraints.) (Summary 28)

In Nicaragua, a health campaign using radio spots was designed to educate rural mothers about the problems of diarrhea and to teach proper techniques of treatment, including home preparation and administration of a rehydration fluid. Approximately 65 percent of the intended audience heard and remembered the messages. Of these about 25 percent

reported that they had prepared and administered the fluid. (Summary 31)

A nutrition campaign in the Philippines tested the ability of radio alone, using modern advertising techniques, to change food habits related to infant nutrition. Specifically, the goal was to influence Filipino mothers to enrich rice porridge given to infants by adding oil, vegetables, and fish. A final evaluation showed that 50-75 percent of the respondents heard and remembered one or more of the messages. Women who said they added oil to the porridge increased from 0 percent to 23 percent in the first eight months of the campaign. Those who reported they added vegetables rose from 5 percent to 17 percent, and those who added fish, from 17 percent to 27 percent. (Summary 35)

A radio project in one area of Maharashtra State in India involved forming listening groups to stimulate discussion, decisions, and action to improve village life. An evaluation showed that some action was taken by village groups, but that many group-action decisions were never implemented because the necessary materials (for example, fertilizer) were not available. (Summary 17)

In the Tanzanian health education project, Man is Health, not only did a significant increase in knowledge result, but the campaign, which used radio along with discussion groups, brought about such health and development projects as the construction of some 700,000 latrines, and the purchase and use of mosquito netting. (Summary 42)

In a nationwide nutrition project in Tanzania, Food is Life, which was undertaken after the above-mentioned health education project and used the same format (radio plus listening-study groups), preliminary findings indicate improvement in dietary practices and some abandonment of bad food practices. Further, in response to the campaign's call for the increased production of certain foods, some vegetable gardens and poultry units are reported to have been established. (Summary 43)

APPLICATION OF RADIO TO PRIMARY HEALTH CARE PROGRAMS

Primary health care programs have as their main objective the provision of access to simple, essential and low-cost health services for the majority of people. While basic services have been available in more urbanized areas, PHC programs are designed to extend such care to the large segments of the population who live too far from modern health facilities to use them regularly.

Because the services constituting PHC are those traditionally provided by health programs, numerous radio uses that have already been tested can be applied in new PHC programs. For example, efforts to motivate acceptance of contraceptives by family

planning programs are directly applicable. Many radio applications used in nutrition programs are also completely replicable, for example, promotion of oral rehydration for infants or preparation of weaning foods.

PHC programs do, however, differ from earlier approaches to providing health care. As is evident from the Alma-Ata Declaration and from health authorities writing on the subject, PHC is more than a collection of basic services.

Primary health care represents a new concept of health care and is distinguished by the following elements and characteristics: extension of health services to unserved and peripheral areas by training persons from the community as health workers; dependence on local resources to finance activities and services; involvement of communities in providing their own health care and in solving health problems; integration of health services, including curative care and preventive and promotive services, giving emphasis to prevention; and restructuring of health delivery systems to support the peripheral level with referral services, technical support and essential supplies.

Putting these principles into practice requires that governments:

- organize and mobilize communities to participate in, and financially support, the program;
- train and support large numbers of health workers;
- inform individuals about new health services;
- educate individuals and communities about preventive health care and healthful lifestyles;
- motivate individuals to modify behavior and initiate a variety of health-related activities; and
- motivate entire communities to resolve certain health problems jointly.

The role of radio in supporting PHC programs is still evolving. The programs are relatively new, and radio has been used in relatively few projects of this kind. Nevertheless, many applications of radio are suggested by experience with the medium in health and other programs. The findings about the effectiveness of radio to undertake various functions provide a guide to the purposes it can best serve. The following section, then, presents ideas on ways radio might be utilized for a variety of PHC objectives and program support activities.

1. Fostering community participation

The establishment of a PHC system is a difficult and complex process, involving the inauguration and institution of an entirely new concept of medicine and health care. Villagers, with their own history of traditional medicine and experience of having been without ready access to government health services, are being asked to support the new programs both financially and by contributions of time, labor, and

materials. Primary health care programs have as their core strategy the active participation of the community in all phases.

As the findings indicate, radio can be expected to present information successfully to large audiences, to generate community participation and discussion, and to provide feedback to program administrators. Some evidence also suggests that the participatory use of radio, (e.g., through taping community discussions and answering questions from villagers) can give groups a greater sense of self-worth, as well as internal potency and legitimacy — attributes important in a community-oriented program.

The role of radio, then, in the crucial developmental stage of the programs could be to help build a constituency — to provide the information support and the channel for feedback necessary to village communities so that they can understand what the primary health care system is and what it proposes; understand what is expected of them and participate in setting objectives and defining responsibilities; and appreciate the complexity of the system and help formulate what is required to establish, maintain, and improve it. Radio used in conjunction with listening groups could be especially effective. Radio forums, led by a trained facilitator, can be a way of generating community participation and action, providing an on-the-spot discussion of new ideas within a social and community context.

Once the program is established, radio might be used to encourage village communities to talk about health and health care. Radio, through taped sessions with villagers and community health committees, could help people share experiences and could provide listeners with ideas on ways to generate funds to pay community health workers, on the kinds of health improvement activities that can be undertaken, or even on characteristics that have proven to be most important in effective health workers.

Radio could also be used to provide an active forum through which communities can present ideas to the government and bring pressure to bear for keeping up services, drug supplies, and other elements needed for the smooth functioning of the program.

2. Training and supporting community health workers

Community health workers have been used extensively in PHC programs to provide health care in rural areas. In large regional and national programs, thousands of such new workers must be trained, provided with continuing education, and given ongoing support and direction in undertaking their new tasks.

Results from projects surveyed confirm that the medium can teach both alone and in combination with print and/or listening groups. Radio has been demonstrated to be effective in teaching elementary and secondary school curricula as well as specialized

materials. While none of the projects reviewed specifically used radio to train health workers, there are several as yet unevaluated programs for training teachers through radio correspondence courses. In these programs, radio is either a primary or secondary medium (print having the primary role). In Kenya and Tanzania radio has been used along with printed lessons to train poorly qualified teachers and to teach the large numbers of new teachers required to implement national programs of universal education. (Ten thousand primary school teachers have been given credentials in Kenya over a ten-year period.) Brazil has recently experimented with providing vocational education through radio correspondence courses. (Perreton, 1981)

Given that radio use in the initial training of health workers has never been tested, and that trainees must learn such applied techniques and manual skills as suturing a wound or diagnosing through visual cues, the application of radio would seem limited. Two kinds of instruction, however, would be expected to be effective because of their close resemblance to the kinds of instructional tasks that radio has performed well: continuing education that consists of reinforcing lessons already learned, and continuing education with additional information.

In addition to use in training, radio might help support rural health workers in organizing and carrying out their work. Such strategies are presently being tested in several primary health care projects including ones in Lesotho, Panama and Senegal.*

The Sine Saloum project in Senegal is employing radio to increase the effectiveness of the rural health staff. Broadcasts provide information on new administrative procedures and create a link between the rural staff and the more highly trained regional staff. Although the program has not been evaluated, observation and field visits show that health staff are aware of the day and time of the radio programs and that they are deriving useful information from the broadcasts. The presence of the program on the government station indicates to both health workers and villagers that the undertaking has prestige. (Summary 37)

Evaluation information on the other projects is not yet available.

3. Presenting information about health services

Many residents of the communities reached by the new PHC programs will be unfamiliar with the full range of preventive and curative services. Many individuals in rural areas will not have had previous contact with government health services. Preventive

services in particular are apt to be poorly understood and not in great demand.

Radio can be an important vehicle for transmitting information related to health services: informing people of their existence; indicating when and where they are available and how frequently or under what circumstances they should be used; clarifying misperceptions; and otherwise providing information support for the new PHC programs.

The evaluations of radio programs referred to earlier in this chapter indicate that radio is an effective information medium. Furthermore, a large body of experience exists in using radio for such purposes in health, nutrition, and family planning programs.

4. Educating and motivating people to act

One goal of primary health care programs is to establish a preventive orientation to health care. Good health depends upon more than the delivery of curative care. It depends on the adoption of healthy lifestyles; good nutrition; prenatal care; proper child care; personal and community hygiene; early treatment of disease; and effective use of immunizations, family planning services, and other preventive health services.

As discussed earlier in this chapter, radio has been shown to be effective in disseminating health information and in improving listeners' knowledge of health. It has also been demonstrated that radio can be a positive force in bringing about changes in behavior and other action.

In most communities in the developing world, modern concepts of preventive care are poorly understood or simply not accepted. Although curative services are in high demand, most PHC programs have found it difficult to motivate people to accept and use such preventive services as prenatal care, monitoring of child growth, and immunizations. Such services have not traditionally been available to people in rural areas, and their benefits are not immediately perceivable. A PHC program, therefore, must begin a gradual process of health education.

Radio could support the work of community health workers by providing basic information about health and by developing a firm understanding of the relationship between modern medicine and disease; the importance of regular, continued, and often protracted treatment; and the explanation of environmental and other causes of disease — all concepts and areas of knowledge that are not widely known, but without which a preventive system of medicine cannot be established.

Radio might also be used as a source of information and motivation regarding specific health topics, such as oral rehydration or food consumption habits. The application of radio for such specific health education goals will most closely resemble earlier uses of the medium that have attempted to modify health

*These projects are: the AID-assisted Rural Health Development Project in Lesotho; the Rural Health Delivery System Project in Panama; and the Sine Saloum Rural Health Care Project in Senegal. (APHA, 1981)

knowledge, attitudes, and behavior. Here the experience on radio in health, nutrition, and family planning programs is directly applicable.

Past radio interventions have employed a variety of strategies. Radio has been used both to carry the entire educational responsibility and to support the efforts of extension workers. PHC programs, with their large numbers of village-level health care agents, could effectively employ radio as a support medium to provide the population with new information, to

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begin the process of discussion and assimilation, and to reinforce the instruction already experienced in a face-to-face setting. This would ease the task of community health workers, leaving them to verify the information, answer questions, and themselves reinforce the messages and information coming through the radio. The role of radio in health education can be particularly important in programs in which health education is not of popular interest and community health workers devote little time to those functions.





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radio projects for primary health care: guidelines for development

INTRODUCTION

The preceding chapter reports research and project findings on the impact of radio, and on this basis presents general ideas for using radio in primary health care programs. This chapter draws on the findings and also presents conclusions germane to developing a radio project. Issues and problems for consideration are highlighted and guidelines presented. This chapter is not intended as a complete set of rules to uses of radio, but as a set of guidelines based on research and project activities.*

The first section discusses the need for a communications plan and the advantages and disadvantages of radio. The chapter also presents important early considerations regarding political support and project management. The largest segment of the guidelines deals with planning a radio project. Topics in the planning section include selection of objectives, strategies, audiences, format, and content of messages, as well as estimation of costs and personnel requirements. The final sections take up issues of implementation and evaluation.

DEVELOPING A COMMUNICATIONS PLAN

Once a decision has been made to create a PHC project, planners must decide whether it needs a communications component. Since PHC projects deliver services at the community level, it is difficult to imagine any project that would not benefit from communication with clients and patients. Therefore, it seems proper to assume that all PHC projects have a communications component — at the very least, verbal interchange between health staff and patients. Some projects use clinic-based educational materials such as health-related literature, wall charts, and films. Most PHC projects also have trained health workers to undertake health education in the communities. Is there a need to go beyond these clinic level and interpersonal communications activities, that is, to use mass media?

As a general rule, the smaller the scale of a PHC project, the more likely that the project will need only personal and simple audiovisual communication. The larger the scale, whether in number of people or geographical area, or both, the greater the in-

dication for mass media. The media that reach masses of people can carry many messages: basic health information, announcement of time and place of services, endorsements of prominent people or satisfied clients, and ideas that motivate the listener to do something differently, to change behavior. Health personnel — health workers or field workers — can do all these things, but they tend to be few in number. The media, on the other hand, can reach many people with a standardized message. In summary, if the project is large enough, mass media may be appropriate.

A PHC program should have a long-range plan for disseminating information, communicating with, and educating the target audience. The plan would provide ongoing support to the program in all phases of development and for the different activities to be carried out. In such an overall outreach strategy, radio plays an important, but not exclusive role. A well-planned educational support effort uses both mass media and interpersonal agents for communication. It may also include print and visual media. A comprehensive education program for a rural PHC audience may include these elements:

- mass media (radio);
- personal contact (direct education by the community health worker, with simple visual aids);
- formal education (health education in the schools); and
- print and visual media (films and comic books).

CHOOSING THE MEDIUM

How does a project director choose the best medium? A review of media communications in family planning programs around the world identified six commonly used mass media: television, radio, film, newspapers, mailings, and the telephone (Sweeney, 1977). Media can be used singly or in combination. Mass media choices should be defined by the project's objectives, the intended audiences, and considerations of cost.

The newspaper offers the opportunity to tell a story in an attractive form, but the audience must be literate. In most developing countries newspaper readership is limited, especially in rural areas. Television has it all — picture and sound — but the high purchase price of a television set and the need for electricity are limiting factors. In much of the world television probably does not reach the intended PHC audiences. Films also have picture and sound, but

*The Agency for International Development (AID) provides technical assistance for developing mass communications projects and for related educational activities (see Appendix C).

they are expensive to produce and depend on a support structure, including power, a distribution system, and personnel to show them. Mailings and the telephone, while used often in the more industrialized countries, are not appropriate where literacy rates are low and where the communications infrastructure is neither highly developed nor readily accessible to the target audiences. Radio, however, has characteristics that make it attractive for many PHC users.

The advantages of radio

The literature and the findings drawn from the 47 projects reviewed for this paper identify several advantages.

- **Wide diffusion.** Radio reaches more people than any other medium in the developing world. Radio reaches more people over a longer time span, with more and more varied information, than any other medium. Radio does not depend upon electricity. Radio can reach members of an audience with much greater frequency than can a health worker.
- **Access.** Radio is accessible. The listener has only to hear and understand the language of the broadcast.
- **Simplicity.** Radio is easy to use for project purposes. Production can be simple and inexpensive, yet effective. A wide range of formats (spots, soap operas, announcements, discussions) is currently in use in much of the developing world and can be adapted to PHC programs. Variation of languages is simpler for radio than for any other medium as the cost of audio tapes is low and recording is a relatively simple process. Audio tapes are easily stored, retrieved, and distributed. Messages can be updated easily when necessary—for example, to announce a change in clinic hours.
- **Cost.** Radio can be inexpensive. Relative to other mass media, radio is economical. Effective, professional radio productions cost less than similar productions for television or film.

The limitations of radio

Radio has a significant number of limitations and constraints on choice.

- **Dimensions.** Radio lacks a visual dimension.
- **Reuse.** In the absence of tape recorders, radio material cannot be used as reference material by listeners.
- **Signal.** Radio has technical constraints. The signal may not reach the area of the country where the intended audience lives. The signal may be weak and intermittent, resulting in poor reception. The country may have an FM signal in the project area, while most of the people may have only AM receivers. Conversely, in some countries (especially

in Latin America) so many different radio stations may reach the target area that program planners will have difficulty limiting the numbers of stations they must choose in order to keep within their budgets.

- **Affordability.** Radio has economic constraints. Although aggregate figures for a country may show a high proportion of radio listenership, much of the intended audience may not own radios. Households may have inoperative radios; radios may not be in working order or may lack batteries, because money was needed for other things, and the radios were not perceived as providing enough adequate, useful information to warrant repair.
- **Misuse.** Radio can easily be misused. For example, a health worker may prepare a message for broadcasting without any investigation of the target audience's attitudes, behavior, or vocabulary. Radio used in this fashion is a waste of resources.
- **Manpower.** Radio has production and broadcast constraints. A national broadcasting agency or ministry of health may not have enough trained personnel available to do the work.
- **Scheduling.** Gaining access to a limited number of broadcast channels in many developing countries can be difficult and may result in scheduling problems. The best times of day for PHC message broadcasting may not be available.
- **Management.** Radio programming requires research and management capabilities.

PRE-PROJECT CONSIDERATIONS

Before choosing radio as a medium for a PHC project, planners should take the following steps.

- 1) Describe fully project objectives and intended audiences to identify clearly the radio audiences and the role radio is to play.
- 2) Check the technical capacity of local radio stations to ensure that there is an adequate signal to reach the intended audiences.
- 3) Determine, through a survey or a review of existing listenership studies, that the target group has radios in working order and listens to radio regularly.
- 4) Check local production and broadcast capabilities to be sure that the desired program can be produced at the level of quality required and that it can be aired at an appropriate time.

Once radio is determined to be an appropriate medium, other factors must be considered before going ahead with a radio project. The first is political support, and the second is management.

The hallmarks of a successful, large-scale health project in Tanzania were adequate planning and high-level political support. The top levels of government clearly endorsed the nationwide project, designed to

reach one million people. The result was increased cooperation between government agencies and personnel, and a perception by the citizenry that this was an important project. More than 1.5 million people participated in the 12-week program, 500,000 more than expected. (Summary 42)

Similar large-scale projects in the Philippines for increasing rice production (Summary 34) and in Botswana for land use (Summary 2) had high level, visible support from the government and were judged successful. In the same vein, small projects often need local political support. Whatever the case, a project is generally better served if appropriate political support is worked out in the early stages.

Management capability is critical to the success of radio programs. An assessment of management needs and capabilities, therefore, should be made to determine if the requisite personnel and experience exist to undertake the proposed project. Radio programs can be simple or complicated. What is important is that the program be feasible to implement. Scale is an important consideration. For example, the nationwide Man is Health project in Tanzania required 16 months of intensive and careful planning. The project involved the management and coordination of many disparate activities throughout the country: campaign publicity, production and distribution of radio and print materials; mobilization of grass-roots support; establishment of field-level forums; training of discussion leaders; and monitoring and evaluation. By contrast, another project in Tanzania (Summary 41) was carried out in only two villages and used tape recorders with locally produced messages. This was a relatively small and simple effort requiring little broad-scale managerial capacity. Both Tanzanian projects were well managed.

The kinds of activities required to develop a radio component vary from project to project but typically include the following:

- **Project plan.** The simple review of production and broadcast capabilities and the identification of project goals can be the basis for a management plan.
- **Research.** Research is essential to help determine message content of radio programs, to determine radio ownership patterns, and to identify preferred radio stations, times of day for listening, and type of programs that are most popular with the intended audience. Management of research can involve such tasks as coordinating and directing the collection and analysis of data and planning for the training of field interviewers.
- **Message development.** Research findings must be translated into messages and programs. This is a critical phase of a project, and one that is often badly executed when program managers do not know what to do with the research data they have

collected. Managers need to ensure that research findings are used, not ignored. Identifying persons skilled in analysis and message development is an important task. Once the messages have been decided on, the creative approach (form, thematic treatment, and overall tone and approach) needs to be developed. Decisions are needed not only on *what* to say, but on *how* to say it. Once messages have been prepared, they must be pretested to ensure that they are acceptable, understandable, and relevant to the intended audience. Management of this phase of a radio program might include coordination of research results with the work of the creative staff, identification and supervision of script writers, and organization of pretests.

- **Production.** Once messages and programs have been developed, they must be recorded. Management of production might consist of identifying radio actors, scheduling their work, procuring tapes and other recording materials, arranging for use of recording studios, and translating programs or radio announcements in project areas where different dialects and languages are spoken.
- **Planning for implementation.** Plans must be developed to contact radio stations to arrange for program time and to negotiate costs of radio time. If radio is being used to support the work of health workers, plans must be made to involve them. Monitoring plans are needed to ensure that the radio announcements or programs are being aired as scheduled. And evaluation plans must be developed to obtain feedback from the audience.
- **Training health workers.** In programs in which health workers have educational functions, they should be made aware of the radio programs and their content and given training on how best to take advantage of the broadcasts: to stimulate discussion, to initiate face-to-face communication, and otherwise to use, energize, and build upon the information coming from the medium.
- **Implementation.** Careful monitoring of the radio broadcasts, field-level support activities (such as forums, film showings, lectures in clinics) and audience reactions are required during the entire implementation period.
- **Evaluation.** Audience surveys to determine the impact of the radio broadcasts are essential for modifying and improving ongoing programs and as guidelines for future communications efforts. Effective programming cannot be expected without audience feedback.

PLANNING A RADIO PROJECT

1. Project objectives

Planning should begin with project goals. What is expected of radio? Radio can be used to support many

different project objectives. Radio can provide important information, educate, aid the participatory process, promote health services, and motivate people to act. Radio's most appropriate function will depend upon the stage of implementation of the PHC project, the characteristics of the target population, and the implementation problems confronting the project. A primary health care project may have a radio component during its entire course, utilizing the medium for different purposes at different times. For example, a government initiating a PHC project may wish to focus its radio program first on institution building — providing information about the new project to the population and involving the participation of communities in designing and supporting the project. At a later phase, once community health workers are trained and providing services in the communities, radio might be used to inform their inhabitants about the services available. Concurrently or at a later stage, the PHC project could launch a long-term health education program.

Another alternative is to use radio only to support occasional activities or to promote one particular health service. For example, radio might be used for a breastfeeding promotion campaign or a program of expanded immunizations. Another PHC project might find it appropriate to use radio only to provide ongoing training and support to community health workers. Obviously, many possibilities exist; each project must work out a communications plan appropriate to its budget, management capabilities, and program needs.

2. Audiences

Planning for a radio program requires careful consideration of the project's audience. Radio broadcasts are beamed to unseen listeners with the intention that individuals and groups be informed, learn, and perhaps act. The audience, however, listens selectively and chooses what it judges to be interesting, useful, or relevant. A successful project must present information that is comprehensible and useful and that reaches its target audience.

The projects reviewed provided three important findings about audiences:

- Radio can reach the rural and the illiterate.
- Radio is particularly effective in reaching and providing information to younger people.
- Failure to secure and use information about the audience's media habits can result in a much smaller audience than intended.

The Man is Life radio forums in Tanzania attracted 1.5 million participants, many of whom were rural and illiterate (Summary 42). The Dominican Republic's daily program, *Towards a New Family Life*, reaches an audience that is 70 percent rural (Summary 8). And a radio forum project in India resulted

in the finding that illiterates did as well as literates in amount of knowledge gained (Summary 17).

In a mass media family planning campaign in Honduras, radio was the most effective of the media used and was particularly effective in reaching younger women (Summary 15). Also, in a carefully designed and executed media experiment in the Songdong Gu area of Seoul, Korea, a post-campaign survey showed that radio was the first source of information for everyone surveyed and that it was particularly popular and effective with younger women (Summary 26).

It is important to remember that radio audiences vary by time of day. Also, certain formats and content appeal to certain audiences. Men working in the fields may not be listening to the radio. Soap operas draw a heavily female audience in some countries, but in others attract a wider following. News broadcasts may be of little interest to the poor. The project staff of an Indian radio experiment, for example, failed to study adequately the radio listening habits of the intended audience. As a result, the broadcast was aired at a time when women in Bombay, the intended audience, were busy with household chores and not listening to the radio (Summary 18). In other words, audience tastes and listening habits must be matched with radio use.

Size and location of the audience is also an important planning issue. Using national broadcast channels to reach a small project area is expensive and inefficient. Cost should be a major consideration in deciding what broadcast structure to use. Generally the simplest and least expensive method is best, although in some countries a large number of local stations have to be used in order to achieve national coverage. Options may include government or privately owned stations and national, regional or local stations. FM, with its limited signal range, may be best for a small project, provided the audience is equipped with FM receivers. Use of local stations is desirable when different languages are required for various regions of a country, and where local stations have larger listenerships than national ones. However, the more stations that are involved, the more costly and difficult it is to manage the program.

3. Strategies for radio's use

The term "strategy" refers to the way radio and other resources are programmed to achieve the desired result. Jamison and McAnany (1978), the authors of a commonly used reference on radio, formulate four strategies for radio use: open broadcasts, listening groups, campaigns, and two-way radio. After a review of current literature, a fifth, the tape recorder, has been added for the purpose of this paper.

Though strategies are not independent (some incorporate elements of another), each has its own identifying characteristics. There is no *one best strat-*

egy. As the findings on impact show (Chapter I), each of the strategies has been demonstrated as effective. Choice of strategy should be influenced by the particular task radio is to perform. A PHC project might well use a number of different strategies during the course of its operation to meet varied objectives. To provide diagnostic advice and ongoing support to rural health workers, a project might well use two-way radio. To train and upgrade field staff skills, a project could use listening groups. Open broadcasting could be programmed to provide basic health information to the general population and to help listeners form new attitudes. And a tape recorder strategy could be used for patient education in rural health facilities.

However, as these examples demonstrate, project objectives do not necessarily lead to clear-cut strategy decisions. Other factors enter into selection, such as available broadcast time, budget, and kinds of communication support activities that can be programmed. A simple review of goals and alternatives will usually indicate the best choice. Table 2 illustrates how frequently strategies have been used by various sectors. The following sections present the major advantages and disadvantages of each of the five radio strategies under consideration for a given educational task.

Open broadcasts. Open broadcasts refer to transmission of an audio signal that can be picked up by any receiver in range that is turned on and tuned in to the channel being used. Eighteen of the 47 projects cited in this report use open broadcasts (see Table 1). This strategy is commonly used by education, health, nutrition, and family planning projects. The findings show the following:

- Open broadcasts can increase knowledge and bring about changes in habits.
- Open broadcasts can reach large numbers of listeners and build a regular listenership.
- Follow-up of open broadcasts with face-to-face communication can increase the impact of this strategy.

An important characteristic of open broadcasts is the ability to reach large audiences that include the casual listener seeking amusement and information. Certain formats — soap operas (melodramas) and comedy, for example — can build a faithful listenership, as can programs presenting information relevant to listeners. *Radic Docteur*, in Haiti, has been on the air since 1967; Mexico's farm broadcasts over Radio Huayacacotla have run since 1965; Costa Rica's family planning program, *Diálogo*, has been broadcast daily since 1970; and the Dominican Republic's program, *Towards a New Family Life*, has been on the air daily since 1972 (Summaries 13, 27, 6 and 8). Messages in these kinds of programs, whether they appear in the story line or as commercials, can reach the same listeners many times — many more times than a PHC worker alone can.

For programs whose goals are to inform and educate, the biggest disadvantage of open broadcasts is that the most popular formats incorporate entertainment and thus are more costly to produce than other forms (e.g., radio spot announcements). Furthermore, attempting to reach a large, unorganized audience requires particular attention to listening habits and listener characteristics. Programmers need to be attentive to ensure that they are reaching the right people.

For programs designed to affect behavior and bring about adoption of new practices, the chief disadvantage of open broadcast radio is that the audience is dispersed and unorganized. These are important considerations, since educators generally agree that discussion and face-to-face reinforcement of new ideas are helpful for instituting change. How well this need for personal contact can be met informally by relatives and neighbors and how much must be met by a trained extension agent is not well understood. The research findings discussed in Chapter I provide a number of examples of open broadcasts that have affected behavior for family planning (Summaries 5, 8, 20, 21, 33 and 40); that have been instrumental in changing agricultural practices (Summaries 34 and 10); and that have initiated changes in food con-

TABLE 2 FREQUENCY OF USE OF RADIO STRATEGIES IN DIFFERENT SECTORS

Radio Strategy	Type of Program					
	Health	Population	Nutrition	Agriculture	In-School Education	Out-of-School Education
Open broadcasts	widely	widely	widely	widely	sometimes	widely
Listening groups	infrequently	•	infrequently	widely	widely	widely
Campaigns	widely	widely	widely	sometimes	•	•
Two-way radio	sometimes	•	•	sometimes	•	•
Tape recorders	sometimes	sometimes	sometimes	sometimes	sometimes	sometimes

sumption habits (Summaries 28 and 35).

The research findings, however, also suggest that personal follow-up can increase the impact of radio and that it is especially important for certain types of information and for certain kinds of audiences. Complex information and traditional audiences, for example, benefit from personal follow-up of radio information.

The Basic Village Education project in Guatemala, an intensive five-year agricultural communication effort, showed that in less-developed areas personal follow-up was important for translating information into action, while in developed areas radio alone was adequate (Summary 10). In the Dominican Republic, tests of students who receive their education via radio showed that performance correlated positively with the competence of field teachers in the higher grades, where more difficult material is presented. The evaluators concluded that reinforcement of radio is desirable for learning certain types of materials (Summary 7).

Primary health care projects, with their extensive network of community-level workers, have the infrastructure to support open broadcasts with personal follow-up. This can be done most effectively with an overall communication plan that permits coordination of extension and mass media efforts.

Campaigns. Campaigns are a type of open broadcast. Typically campaigns extend over a short time, focus on a specific topic and have a limited set of objectives. A small number of carefully prepared and tested messages are broadcast frequently to the same audience. Using techniques developed by the advertising industry, campaigns frequently employ short messages inserted in popular radio programs. Often a campaign uses radio as part of a large media package that may include print material, films, and puppet shows (Sweeney, 1977).

There are ten campaigns among the 47 projects reviewed in this report; all are for population or nutrition (see Table 1). Campaigns, like open broadcasts, can reach large numbers of individual, unorganized listeners and can maximize their impact on behavior when combined with face-to-face discussion. Other important findings show that campaigns can promote the sale of contraceptives, improve knowledge and, under some circumstances, motivate individuals to act.

The greatest advantage of a campaign is frequency. A limited number of messages are repeated over and over to help the audience recall the information. Development planners can well take the position that the process of development requires profound change and thus ask how even the best brief advertising message can contribute to that goal. Yet the findings presented in Chapter I indicate that many small but high impact changes are amenable to campaign techniques.

In Indonesia an intensive campaign with radio as the principal medium sold contraceptives. Other successful contraceptive marketing programs have used campaigns to promote sales and increase the use of family planning services (Sweeney, 1977). The nutrition campaign in the Philippines showed a high rate of recall of message information and, according to a post-campaign survey, a significant percentage of women added the suggested food supplements to infant feedings. The breastfeeding campaign in Trinidad was judged a success when a considerable number of post-partum women reported delaying the introduction of bottle feeding. In Nicaragua, mothers learned to prepare and administer rehydration fluid (Summaries 20, 35, 45 and 31).

One characteristic of campaigns is the need for a tremendous organizational effort and level of staff energy, all of which must be concentrated in a short period of time. Most government agencies can expect to undertake campaigns only occasionally as part of a communication plan that includes other strategies. Mobilizing personnel and resources for a brief period is rarely feasible and does not foster development of seasoned staff.

Also, results have shown that if campaigns are executed in isolation, without personal or media follow-up, the desired changes may not be permanently instated. The family planning campaigns in Honduras and Colombia, for example, noted that the number of new acceptors at family planning clinics tapered off during the months following the campaign (Summaries 15 and 5). Sales of contraceptives also have decreased when the media promotion ends (Indonesia, Summary 20).

Listening groups. In this strategy, small groups are organized to meet regularly to listen, discuss and often to act on radio messages. Listening groups are also frequently called radio forums or radio schools. While such terms connote a formal, academic setting with pencil shavings and blackboard dust, most of the listening groups reviewed meet in village huts, on the ground under a tree, or sometimes in a local primary school.

The essence of the listening group strategy is organization: groups must be ready to listen, talk, and learn; persons must be trained to lead the groups; and accompanying print materials must be available on location. A high degree of field-level work is required in setting up, supervising and maintaining such groups. Undertaken on a large scale, listening groups call for skilled management, logistical support, and substantial staff time. A national effort such as the three-month Tanzania Man is Health campaign, although limited in duration, can put a tremendous strain on limited human and material resources (Summary 42).

Some 15 of the 47 projects examined in this paper involve listening groups (see Table 1). They include

both in-and out-of-school groups and consist primarily of programs dealing with agriculture and traditional education (teaching primary or secondary school curricula). It is interesting to note that there are no population radio projects using listening groups. The strategy is rarely used for health and nutrition topics: the two Tanzanian projects (Summaries 42 and 43) are the only two examples, and these were conducted on a campaign basis. The findings show that:

- Radio forums can make information more relevant and directly usable than other radio strategies.
- Radio listening groups are difficult to maintain.

A number of other important findings about listening groups come from the India radio farm forums, the longest running and best documented program of its kind in developing countries. The India forums began in the mid-1950s and have been evaluated a number of times. Hall (1978), drawing on two of the major studies (1959 and 1965), notes several points regarding the effectiveness of the rural listening groups:

- People organized to listen learned better than those who listen on their own.
- Group interaction drew out knowledge individual villagers had culled from experience and prompted them to share it.
- Within the groups, literates and illiterates participated about equally (Summary 17 also makes this point).

Hall (1978) also lists lessons for development planners that emerged from the 1965 evaluation of the India farm forums:

- When initial enthusiasm for the forums declined, so did average attendance.
- Forums can be effective, but not without extensive, continuous support — a need often underestimated.
- The village forums tended to attract people least in need of them — the local elite.

The chief drawback to listening groups is the difficulty in maintaining the groups for more than short periods of time. The advent of cheap transistor radios has exacerbated this problem by increasing radio ownership and lessening the appeal of shared listening. This problem is illustrated by an agricultural project in Senegal that created listening groups in three provinces when it was initiated in 1968. After the pilot period, the broadcast coverage was extended, but the group listening strategy was dropped in favor of open broadcast. The principal reasons were difficulty in managing the groups and increasing use of transistor radios (Summary 36).

Farm forums in other countries have also felt the impact of transistor radios. It takes a great deal of energy and enthusiasm to establish and, more important, to maintain listening groups. The projects

reviewed typically maintained the forums for short periods of time: five weeks in the Botswana civics and land use projects (Summaries 2 and 3); three months for Tanzania's health and nutrition campaigns (Summaries 42 and 43); and five months for agriculture programs in Thailand (Summary 44). The long-running listening groups reviewed tend to be the radio schools organized for adult education, for example, Radio Sutatenza in Colombia (since 1947); Radio Santa María in the Dominican Republic (since 1964); and Radio Mensaje in Ecuador (since 1972). In these programs, students typically attend the group listening-discussion centers for a fixed course of study.

Advantages of listening groups are the opportunities they provide for people to listen, then consider and discuss — i.e., to exchange ideas with others and to have new ideas reinforced in a personal setting. A Thai farm forum project was conducted in eight villages in the northeastern region of the country during a five-month period. Evaluators concluded that retention of information and overall learning were greatly improved due to the participants' high interest in the content of the broadcasts and the opportunity to exchange experiences and ideas and participate in group problem solving (Summary 44). The India farm forum experience (Hall, 1978) indicates that the knowledge gained by group members was more than double that of non-members.

Radio forums can be effective in organizing people into groups for a short time to listen to radio programs, discuss and take action in agriculture (Thailand, Summary 44), health (Tanzania, Summary 42), and nutrition (Tanzania, Summary 43). This format has particular appeal for primary health care where the locus of activity is community-based, and where community health workers can organize and lead discussion groups. Radio, with its listening groups, and PHC, with its community focus, are most compatible. In Thailand it has also been found that radio forums can strengthen the relationship between extension workers and clients by enabling the field worker to respond to the questions and issues raised during the group discussion (Summary 44).

In planning any PHC project that will use radio, planners should check to see if any radio listening groups are established in the area. If so, they perhaps could include PHC as a discussion topic. Listening groups could also be formed to hear and discuss a short series of radio programs on a health topic of particular national concern, or as a means of involving communities in the early stages of a PHC project.

Two-way radio. Two-way radio originally was not included as a strategy in this paper. A further review of the literature, however, indicated that while the application of this strategy to PHC has not been used much, two-way radio may well have a significant role to play in primary health care.

There are several two-way radio technologies: high frequency (HF), very high frequency (VHF), citizen's band (CB), and satellite radio. HF radio is perhaps the most common and offers the most practical means of communication where distances exceed line of sight between locations, generally 50 miles or more. VHF can be used when distances between locations are less than 50 miles or when an elevation, such as a mountain, can be used for a repeater to extend the range. CB offers inexpensive communication over short distances of 5 to 20 miles. The basic components of all these systems are a transmitter/receiver, an antenna and a power supply. Satellite radio uses small earth stations (Goldschmidt, Hudson, and Lynn, 1980).

Advantages of two-way radio include an interactive capacity that allows immediate exchanges; availability on demand or on a predetermined schedule; and a personal, very specific quality. For health, two-way radio offers the possibility for regular medical and administrative consultations. Findings from Alaska — the only two-way radio project included in this study — showed significant success in the use of two-way radio using a satellite connection (Summary 47). This health care project in an isolated area showed the following:

- Two-way radio can be used to provide useful consultations on any kind of health or medical problem.
- The use of two-way radio can provide constant in-service training, as health workers listen to the consultations being given to other health workers; this methodology has been called "Grand Rounds of the Air."
- Health workers with brief training can provide quality care with support through radio.
- Two-way radio can improve worker motivation, time on the job, and inventory control.
- More patients use the service when they are assured of medical back-up.

Goldschmidt et al. (1980) point out that two-way systems are usually less reliable than a properly functioning commercial telephone system. Foote (1977), in a review of the Alaskan satellite radio health project, points out that HF was unreliable in many parts of Alaska because of electrical interference, problems of maintenance, long distances, and mountainous terrain. This was a major reason for turning to satellite. The satellite connection was free from most of the reception problems found with the other two-way radio methods.

According to Wallace (1978), disadvantages of two-way radio include the high cost of equipment relative to modest rural health budgets and the maintenance and repair difficulties caused by complicated equipment requiring skills seldom found in rural areas. In

reviewing a CB radio project in Guyana, Reed (1978) agrees that costs of equipment and maintenance are problems and disadvantages for two-way radio projects.

Gerber (1980), in reviewing a successful medical radio network in East Africa, points out another potential problem and cautions development planners: The governments of many Third World countries, particularly those experiencing significant political unrest, are understandably sensitive to the political implications of installing expensive two-way radio systems linking rural outpost to rural outpost and to population centers. As a result, planners often hesitate to explore the potential of two-way radio for helping to solve health care delivery problems.

Tape recorders. Tape recorders can play any materials prepared for open broadcast or other purposes. The major characteristic of this strategy is its personal quality. An individual can listen to a message anywhere. The recorder can be used in groups to create a situation similar to a radio broadcast (Summaries 1, 11 and 41). Tape recorders can also be used for producing material for broadcast (Summary 9). Four tape recorder projects are included in this report (see Table 1). While a large-scale application of this strategy has never been tried, the findings from four small tape recorder projects show that:

- Tape recorders can be an effective teaching medium in listening groups (Summary 41).
- A broadcast message on a tape recorder (or radio) can have higher credibility than a message delivered in person (Summary 1).
- Information played on tape recorders in community situations can result in high information recall (Summary 11).
- Rural groups can use tape recorders to participate in production of materials for broadcast (Summary 9).
- Equipment maintenance is an issue (Summary 11).

Pilot projects in Tanzania and Guatemala that placed tape recorders in communities for listening reported only minor problems with equipment use and maintenance; in the Guatemala project, one person was given simple training and was then made responsible for care and maintenance. Both projects were relatively small. The former reached two villages and the latter, one plantation (Summaries 41 and 11). Both projects also ran for a relatively short time — one year and three weeks respectively. Large-scale and longer running projects may well have maintenance problems. Since maintenance is crucial to a project's success, appropriate support should be provided.

Tape recorders present interesting possibilities for PHC when used to develop messages. For example, the community can prepare messages that can be sent to the central broadcasting point for on-the-air

use. Tape recorders can tape programs from open broadcasts for replay as often as desired. A health worker can tape a radio program in the morning and play it back in the clinic during the afternoon. The tape recorder can serve as a base for establishing PHC listening groups in communities.

4. Content and Messages

The core of a radio project is content and message. All else fails if a message is incomprehensible, insensitive, or if it ignores the values of the intended audience. Findings regarding content are the following:

- Pre-project research is essential to identify information needs of the target audience.
- Communication aimed at bringing about action and change will have little effect if the tools of change are unavailable or if the action is otherwise not feasible for the audience to undertake.
- Too many different messages may confuse the audience or not be recalled and thus reduce impact.
- Personalized, practical, relevant information makes the best messages.
- Involving the intended audience in developing the content of the radio programs and creating the messages helps ensure their relevance.

Project objectives and audience characteristics set the context for message creation. The message developer has to decide what s/he wants the audience to know and do. Much of the current literature, particularly the nutrition literature, seems to assume that behavioral change is always the desired objective. This does not have to be the case. In fact, in many instances such an objective imposes a requirement on messages that cannot be fulfilled. Content in a radio school program can provide the opportunity for behavioral change much more readily than can 30-second spots, because the listeners will discuss the program and the teacher will reinforce the content. It is essential to remember that each format has its place. The purpose of content can be to inform, to change attitudes and/or to change behavior. It is important for the project developer to decide what is expected from the message.

Message developers must decide what they need to know about the project's intended audience before they prepare health messages. This may call for referring to existing research or carrying out new research. Issues of the audience's health behavior, cultural interpretations of illness and health vocabulary must be examined in the context of specific project objectives. One example is diarrhea. What may be diagnosed as diarrhea by a modern medical practitioner may be seen as a normal condition by a villager. Or a villager may diagnose the condition as diarrhea and then decide what type it is; the decision

about type determines whether to see a granny midwife in the village, a spiritualist, a Western physician, or another kind of service provider. The content of the message must take these socio-cultural realities into consideration.

Project planners must also determine whether the message is feasible to implement. Careful research is generally required to ensure that the tools of change are available and that the actions and behavioral modifications advocated are possible for the audience to adopt. For example, promoting the consumption of green leafy vegetables when the crops are not in season is a wasted exercise. Encouraging the target audience to boil water may also be a wasted message if fuel is expensive and if women have little extra time to devote to household chores. An agricultural radio forum project in India found that some recommended farming practices were never implemented because the necessary elements — such as fertilizer — were not available (Summary 17). Similarly, an evaluation of a project in Nicaragua that promoted the home preparation of an oral rehydration solution found that in some areas, lemons — one of the ingredients for the mix — were in short supply because of drought conditions. The careful research preceding message development had not foreseen this difficulty, an indication of the sensitivity of message content to audience environment (Summary 31).

Research is an important part of pre-project activities. Many of the projects reviewed have included a feasibility/needs study. Examples include an audio cassette forum in Tanzania that based its messages on a community needs/resource survey (Summary 41); family planning mass media campaigns in Taiwan (Summary 40) and Iran (Summary 21) that undertook pre-campaign surveys of women's knowledge, attitudes, and practices regarding the subject; a health practices project in Honduras to promote the use of oral rehydration packets for infant diarrhea that undertook studies and practices regarding infant diarrhea, as well as market studies to determine distribution outlets (Summary 14); and a nutritional project in Mexico that included a dietary survey to determine food habits and a market survey to study local food resources (Summary 28).

Once the general content has been decided, it must be formulated into specific messages. This should be a process based on project objectives, audience characteristics, and information concerning the health views and practices of the target group. The materials developed should be tested with people representative of the intended audience. After initial testing, the messages should be revised and retested. Ideally, this process continues until the message intended is the same as the message understood by the audience tested, and until the information is presented in a relevant way. For example, in a Haitian project deal-

ing with family planning, message pre-testing established that the listeners preferred information oriented toward child spacing to that using population pressure as the theme (Summary 13). Failure to pre-test messages may result in a mismatch between message and audience or between thematic treatment and audience, and all the activities that follow will be hampered by the inappropriate content and presentation.

Some projects have found it beneficial to develop message content with the participation of the intended audience. Currently, participation is a politicized term in development work. The central notion is to involve people as much as possible in planning projects that affect them. This includes involvement in the content and form of information presented. One view holds that all development begins with the person — that freedom begins with the person — and nothing is accomplished until people develop themselves. This view leads to the conclusion that radio cannot be used until it is in the hands of people, who will then decide what they want and will create much or all of the content.

Another, more moderate view recognizes the criticism that mass media programs are top down, centralized, and not participatory, but points out the advantage of providing information and an educational opportunity to large numbers of people, including illiterates, at a relatively low cost. Centralization is not necessarily undesirable. In many instances, such as in the Tanzanian health campaign, the case can be made that centrally-planned projects have had significant social and economic benefits. Nevertheless, mass campaigns have tended to focus on messages selected by the central agencies and institutions that have also been responsible for planning and production. Consideration does need to be given to developing a more participatory approach to mass campaigns, including radio (Byram, 1980). The findings indicate that creation of materials in a community context makes the information more relevant to the audience (Summaries 1 and 17), and that rural groups can successfully participate in the production of materials for broadcast (Summary 9).

The desirability of this method of production, which assumes that the messages will be more relevant, has to be balanced by considerations of cost, including equipment purchase and maintenance, staff time and transport, as well as the logistical structure required to move the materials back to the point of broadcast. The character of the project, in terms of objectives, duration and financing, should determine whether this production method is appropriate.

In developing countries in which there is high literacy, consideration should be given to creating radio projects that encourage written feedback as a means of increasing participation. The Sri Lanka radio drama series for health asked questions at the end of each

broadcast. The thousands of postcard responses were then used to evaluate the program (Summary 39). The Costa Rican sex education program draws thousands of letters each year that provide the questions answered on the air and also indicate trends and current issues (Summary 6). Other projects have also used letters to involve the audience.

5. Choice of Format

A principal consideration in planning for radio use is format. Once a decision has been made on what message(s) to communicate, the format and overall creative approach need to be decided. Variations include entertainment, humor, drama, soap opera, question and answer, brief information on services, spots, interviews, talk shows, and announcements.

Findings from the projects reviewed indicate that:

- Entertainment is a popular format for health messages. Entertainment — drama, comic dialogue or variety shows — with social messages included, is listened to, informs, and influences people.
- In most developing countries technical expertise already exists for producing entertainment programs as well as other program formats.

Program objectives and audience specifications play an important role in deciding on a format. Humor and entertainment have proven to be popular formats for health messages in Kenya and Sri Lanka (Summaries 23 and 39). Radio dramas, usually soap operas, are popular entertainment in much of the developing world, particularly in Latin America and Asia. A combination of music, story, and sound effects, this format is well within the production capacity of most of the world's broadcast organizations. Soap operas may be designed to reach both men and women in countries where these programs are shown during evening listening hours, or may be used to reach women at home in areas where the programs have a primarily female listenership. Successful projects in Indonesia and Sri Lanka confirm that this is an effective format for family planning and health education (Summaries 19 and 39). Because of the popularity of these programs, many radio stations will give them free air time — particularly smaller stations with limited budgets for developing their own programs.

A number of projects included in this report use the question and answer format. For some, such as Costa Rica's sex education program, *Diálogo*, it is the major format (Summary 6); for others, questions and answers are included as part of a broader format that may include drama, discussion, and/or music (Summaries 2, 3, 8, 32, and 44)

Spot announcements are very popular. They are brief, so they require little production time. They are inexpensive to produce and can do certain jobs well, such as providing information on clinic times

or repeating simple educational messages like the importance of receiving all DPT immunizations. The nutrition campaign in the Philippines found spot announcements effective and noted that they did not tire or bore listeners as lectures or discussions can (Summary 35). Although spot announcements are inexpensive to produce, they must be broadcast many times a day to be effective, and air time can be expensive if free time is not provided for public service purposes.

Some of the projects reviewed have shown the following format considerations to be of importance:

- Radio spots are inexpensive to produce (Summary 35).
- An identifying symbol, such as a memorable character, can help an audience remember a program and perhaps its contents (Summaries 46 and 31).

6. Costs

The projects reviewed provided little solid information on costs. Therefore, as noted in the preface, this paper does not deal with cost issues in depth. The available data can be divided into two groups: that for radio schools where students listen at home to broadcast lessons and where monitor-teachers meet regularly with students; and that for programs covering a variety of development topics (agriculture, health, etc.) and using a variety of program formats. The information is not comparable. The radio school data include costs of producing and transmitting the programs as well as those of training field teachers and maintaining listening groups. The data for the development communications programs contain only information on program production and transmission.

The data from Jamison and McAnany (1978) show a wide range of costs per student for radio schools: this is attributed primarily to program enrollment. These costs expressed in 1975 U.S. dollars are as follows:

Name of Radio Program	Cost per Student	Total Enrollment
Nicaragua, Radio Mathematics	\$ 3.05	(120,000 students)
Mexico, Radioprimary	16.44	(2,800 students)
Mexico, Tarahumara	52.86	(1,081 students)
Thailand, Instructional Radio	.44	(800,000 students)

Although the data for other types of radio programs provided by Jamison and McAnany are reported here, they cannot be compared because they deal with different radio formats and the exact format used — that is, soap opera or lecture — is not always specified. (Program format, as well as local production and transmission cost, can vary considerably.) A 15-minute family planning program in Nepal* cost \$20 to produce, while the 15-minute Kenyan comedy/dialogue, *Giving Birth and Caring for Your Children*,

cost \$225 (Summary 23). Transmission costs, expressed in 1975 U.S. dollars, were \$85 for the Nepali program and \$20 for the Kenyan one. In Nepal a one-minute radio spot cost \$60 to produce, and in Senegal an hour-long rural agriculture program cost \$615; transmission costs were \$15 per hour (Summary 36).

Despite the paucity of cost data, some general cost issues can be raised and some points made for development planners considering the use of radio. Such straightforward formats as announcements and lectures are generally cheapest to produce; entertainment formats tend to be the most expensive. Lectures and spots can often be written and delivered by existing personnel, while dramas and other entertainment formats that depend upon creative talent for their effect generally require outside expertise — script writers and professional actors. Costs vary accordingly.

Radio can be inexpensive. A project can use simple spots, prepare just a few messages, use donated air time, or broadcast on local stations.

Radio can also be very expensive. For example, elaborate hardware can be costly both to acquire and to maintain; a complex program structure can require considerable personnel and other resources; a heavy research and evaluation component can be built in; extensive field-based programming can require travel, personnel, and movement of equipment.

D.L. Piet



* This project was not summarized for this report. The other projects for which Jamison and McAnany provide cost data are included in this report, and the summary reference is given here.

TABLE 3 CHECKLIST TO HELP ESTIMATE THE COST OF A RADIO PROGRAM

The following are general items and categories of activities that require expenditures in radio programs. Not all items will apply to all radio projects.

Project Development

1. Consultant time to develop an overall communications plan, a staffing plan, and a plan for institutional arrangements and coordination.

Training

1. Central staff training (foreign study/local in-service).
2. Regional staff training (special seminars/in-service).
3. Community health worker training on how to reinforce radio broadcasts (special seminar/in-service).
4. Training radio forum discussion leaders.

Research

1. Audience listenership study.
2. Knowledge, attitudes, and practices surveys (KAP).
3. Market surveys.
4. Commercial services for survey design and implementation (sampling, questionnaires, translations, pre-tests, training of interviewers, data processing and analysis).

Message Development

1. Consultant time to translate research findings into guidelines for radio strategy to be used; message content, format, and thematic treatment.
2. Supervision of regional message development (per diem and transportation).

Program Production

1. Scriptwriters (central or regional production).
2. On-site recording (per diem and transportation).
3. Supervision for regional message production.

4. Studio time and equipment.

5. Actors.

6. Language-distinct programs (items 1 through 5 would be incurred once for each language in which program is to be broadcast).

7. Pre-tests of radio materials (salaries, per diem, transportation, and equipment).

8. Tapes and other materials.

9. Development and pre-test of print materials to use with radio forums or to support other broadcasts.

Development of Field-level Activities

1. Publicity and organization of radio forums, participatory radio taping sessions, and other local-level activities.

2. Salary for radio forum leaders.

3. Equipment and materials for forums, and/or participatory radio (purchase and maintenance).

Implementation

1. Visits to radio stations to make broadcast arrangements (salary, per diem, and travel).

2. Air time on radio stations.

3. Delivery of tapes to radio stations.

4. Distribution of print materials to radio listening groups.

Evaluation/Supervision

1. Remuneration for broadcast monitors.

2. Supervision of monitors.

3. Commercial services to develop a feedback/evaluation plan.

4. Evaluative visits to field (radio stations, villages, and health facilities).

The choice is up to the media planner. The issue should be determined by what serves the project best and what is affordable. Table 3 gives a list of program elements to show the programmer what kinds of costs must be planned for in a radio project.

In estimating program costs, the size of the audience is an important factor. As the data for the radio schools show, a large audience can make the cost per radio contact low, even if the program is expensive to produce. Conversely, a small audience will result in an expensive radio program. In the mid-1970s, All India Radio undertook a project in populous West Bengal state to reach literate farmers who had radios. The project's objective was to provide

systematic radio and print information on agricultural matters. Six courses were developed, each consisting of five 30-minute lessons. Only 114 people actually enrolled and participated actively. Yet the project continued. The second set of courses attracted 155-180 students. Few agencies can afford to maintain a project with so few participants.

Development planners undertaking costly radio projects must consider two issues. If the funding is external, is the donor prepared to make a commitment to long-term funding? If the project is to be ongoing after the period of financial assistance, can the government adequately provide the needed resources? Too many pilot projects never reach ma-

turity because funding has not been assured beyond the start-up period. Planners should assume the project will become operational and work back from there. This will help ensure that the pilot is not overly enriched and ultimately too expensive for the government to maintain.

7. Personnel

A major consideration in using radio is the people needed to develop and manage a radio project. Capable technical expertise for radio exists in most countries. The true question is whether capable staff are available for a given project or whether certain tasks should be contracted to outside groups. If the project is small and the radio materials not voluminous, existing staff may be sufficient. If, on the other hand, the project is a daily broadcast of educational materials for forum use or a daily soap opera that must be written and produced, additional staff may be required. Numbers, however, are only a part of the answer. It is important to have staff with the requisite combination of skills, or to be able to contract out certain tasks. The exact nature of staff needs will depend on the type of radio project. Generally, expertise is required in management, research, creative program development and production.

Many government agencies manage with existing staff by hiring others to carry out specialized tasks. Script-writing and actual production and recording of radio programs are often given to broadcast professionals. Also, media studies are frequently performed by specialized research organizations. Whether staff or outside personnel are used depends on the kind of radio communication plan. For example, a ministry of health that is planning a twice-weekly soap opera would probably hire its own scriptwriter; however, another ministry might need only several weeks of a scriptwriter's time to produce an occasional program, and would thus probably use an outside expert.

It may be necessary to train new staff for a radio project. When possible, training should be done in-country so that the skills that are developed deal with the problems at hand within the reality of the country. The imported or local specialist selected to do the training should create a project within the environment in which it will operate. Training at home means learning to work with what is available. In some cases there are reasons for training tours, particularly for those who handle radio hardware. But overall, foreign (U.S. or third country) training should be kept to a minimum.

IMPLEMENTING A RADIO PROJECT

During the implementation period preparations are reviewed and the project is carefully monitored. It is common for radio programs to encounter problems during implementation. Therefore, it is important to obtain feedback and to be prepared to make program adjustments.

Good project organization and monitoring are basic to successful execution. Activities should be checked to ensure that radio programs are broadcast as scheduled; that staff report according to plans; that personnel are accountable as anticipated; and that needed supervision takes place. Vigilance is also needed to ensure that programs and messages remain appropriate. Unforeseen changes in political, social or even weather conditions can render a message suddenly inappropriate. For example, messages about the importance of polio inoculation would not have much impact during a measles epidemic, when attention is focused on that disease.

In implementing radio projects, program personnel should monitor broadcasts. Was the program broadcast as scheduled? In a mass media and health practices experiment in Honduras currently under way, initial monitored broadcasts showed that the stations did not always follow the agreed-upon schedule. When the stations were advised of the monitoring and the schedule variations noted, broadcast schedules improved considerably. Such experiences are common. Frequent, heavy users of commercial radio time, such as advertising agencies, have their own monitoring staffs to ensure that programs and advertisements are aired as scheduled. Radio projects sponsored by government agencies can train field personnel to monitor programs or can utilize commercial services.

A second question is whether the quality of the signal is adequate in the intended reception areas. The answer requires local listening and reporting on problems. If the project requires materials for use at the community level, e.g., printed materials or audio tapes for listening groups, logistical support has to be checked for adequacy.

Maintenance cannot be overemphasized. Radio projects that include two-way radios, radios for listening groups, cassette recorders, or other technical infrastructure and hardware are totally dependent on the equipment's operation. The needed skills must be in the right place at the right time to keep equipment operating. In the developing world, maintenance problems in rural and isolated areas can be tremendous. Technical infrastructure should be kept to a minimum and plans made to service it frequently. The project plans should call for an adequate maintenance structure to be in place throughout the implementation period.

Radio needs power. If the project involves supporting power sources (batteries, for example), for either two-way radios in clinics or receivers in listeners' homes, these sources have to be available locally, and they have to be ready when needed. If not, all the project's work fails because the receiver is not working.

Also, it must be remembered that communication (radio or any other medium) aimed at bringing about

change and/or action is of little value if the tools for change are unavailable. It is important, therefore, to have good coordination. Services or products being promoted by the radio programs must be available or credibility is lost, as is opportunity for listeners to act on the messages.

EVALUATING A RADIO PROJECT

Since 1965 Radio Huayacacotla in Mexico has been broadcasting to farm families in eastern Mexico. The primary objective is to stimulate agricultural productivity by making useful and relevant information available. No measurement of the program has been made, although voluminous mail has been received over the years (Summary 27). Since 1962 the national broadcasting agency of Niger has maintained an association of radio clubs to provide information to rural Nigerians on matters related to daily needs and improvement of living conditions. No quantitative evaluation of learning gains or awareness levels has been done. The project's success can be measured only in terms of longevity (Summary 32). Both of these longstanding projects may be doing a fine job and serving their intended publics cost-efficiently. Evaluation would confirm project usefulness or indicate how the programs could be improved.

Evaluation involves deciding whether an action or set of actions accomplished what they were designed to do, i.e., meeting the intended objective. Evaluation can occur at any point during a project's development and implementation. Radio materials can (and should) be evaluated in a field test before being broadcast; the quality of the radio signal can be tested in certain areas; and the final results of the entire project can be analyzed and evaluated.

In sum, evaluation should be based on objectives that are realistic for radio projects and feasible to implement. Only through evaluation can project managers produce better radio programs and meet the educational and other goals of PHC projects.

Radio can be evaluated in the following ways:

Hearing. Was the broadcast listened to?

Comprehension. Was the content understood?

Acceptability. Was the content acceptable?

Influence. If the project proposed to begin changing attitudes, was the objective accomplished?

Action and Change. If the project proposed action and change, was the objective accomplished and to what extent?

Evaluating listening is easy. It is merely necessary to establish that the intended audience, or a sample of it, actually heard the broadcast. (See Summary 18 for an example where the audience did not hear the intended broadcast.)

Comprehension is easier to establish negatively than positively. An audience can report that they don't understand. An audience can also report understanding, but closer examination may show that the message intended to be conveyed was not the one understood. In PHC projects, health terms have to be checked carefully. There is a tendency on the part of health professionals to adopt the terms of the discipline rather than the terms used and understood by the audience.

Acceptability of content is also easier to measure negatively than positively. People react quickly to dislikes but comment in a less focused manner on likes.

Measuring attitudes requires a well-designed research instrument. Presenting information in a clear, declaratory and understandable way is relatively easy. Influencing the way people think about that information is far more difficult.

Evaluation of action or change presents many measurement problems, as the findings suggest and as a review of the summaries in Appendix C will show. In evaluating change in radio projects, the first issue is whether change was an original objective of the project. If yes, then how did the project propose to measure the change? In a nutrition education project in Mexico, change was evaluated in terms of a positive change in food consumption habits (Summary 28). In a family planning project in Iran, change was measured in terms of levels of contraceptive acceptance (Summary 21). In a project to upgrade teacher skills, the measurement of change and success was performance on examinations (Summary 22).

In sum, evaluation should be based on objectives that are realistic and feasible. Only through evaluation can project managers produce better radio programs and meet the educational and other goals of PHC projects.

appendix A

PROGRAMS, PROJECTS, AND EXPERIMENTS REVIEWED

<i>Country</i>	<i>Subject</i>	<i>Descriptive Name</i>	<i>Country</i>	<i>Subject</i>	<i>Descriptive Name</i>
Afghanistan*	Agriculture	Rural Broadcasting	India	Nutrition	CARE Mass Media Nutrition Campaign
Afghanistan	Population	Census Communication	India	Nutrition	Energee
Bolivia	Health	Mobile Health Program-Chiquitos Vicariate	India*	Population	Bombay Family Planning Project
Botswana*	Agriculture	Our Land	Indonesia*	Population	Grains of Sand
Botswana*	Education	Understanding Government	Indonesia*	Population	The Jamu Project
Brazil	Education	Movimento De Educaçao De Base	Iran*	Population	The Isfahan Project
Brazil	Education	The MobraL Adult Literacy Experiment	Jamaica	Population	Have a Heart
Brazil	Nutrition	SUNDAB	Kenya*	Education	Correspondence Course Unit
Canada	Media	Northern Pilot Project in Community Use of Radio	Kenya*	Health	Giving Birth and Caring for Your Children
Colombia*	Education	ACPO (Acción Cultural Popular)	Korea*	Education	Air and Correspondence High School
Colombia*	Population	Radio and Family Planning	Korea	Education	Educational Radio and Television Broadcasting
Costa Rica	Population	Díálogo	Korea*	Nutrition	CARE Mass Media Nutrition Education Campaign
Cuba	Education	Basic Education	Korea*	Population	The Songdong Gu Project
Dominican Republic*	Education	Radio Santa María	Lesotho	Agriculture	Thaba Bosiu Rural Development Project
Dominican Republic*	Population	Towards a New Family Life	Lesotho	Education	Lesotho Distance Teaching Center
Ecuador*	Education	Radio Mensaje	Lesotho	Health	Rural Health Development Project
Ecuador	Education	The Shuar Radio Schools	Mali	Agriculture	Mali Livestock II Project
Ecuador	Nutrition	Mass Media Nutrition Advertising Campaign	Mauritius	Education	College of the Air
Egypt	Population	Population Mass Media Campaign	Mexico*	Agriculture	Radio Huayacacotla
Guatemala*	Agriculture	Basic Village Education	Mexico	Education	Radioprimeria
Guatemala*	Health	The Pila Project	Mexico	Education	Tarahumara Radio Schools
Guatemala	Health	Two-Way Radio Project in Quirigua	Mexico*	Nutrition	Nutrition Education in Rural Mexico
Guatemala	Population	APROFAM Family Planning Program	Micronesia	Nutrition	Yap District Nutrition Education Program
Guyana	Health	Rural Health Systems	Morocco*	Health	The Maadid Study
Haiti*	Health	Classe d'Hygiène	Nepal	Population	Population/Family Planning Project
Haiti*	Health	Radio Docteur	Nicaragua*	Education	Radio Mathematics
Honduras	Education	Acción Cultural Popular Hondureña	Nicaragua	Health	East Coast Health Delivery Project
Honduras*	Health	Mass Media and Health Practices	Nicaragua	Health	Rural Health Community Action Program (PRACS)
Honduras*	Population	Family Planning Media Experiment	Nicaragua*	Nutrition	Advertising Campaign
India*	Agriculture	School-on-the-Air	Niger*	Development	Association of Radio Clubs
India*	Development	The Maharashtra Radio Forum Pilot Project			
India	Education	SITE Teacher Training			

Country	Subject	Descriptive Name	Country	Subject	Descriptive Name
Niger	Health	Rural Health Improvement Project	Sudan	Health	Southern Primary Health Care Project
Pakistan	Health	Basic Health Services Project	Taiwan*	Population	The Kǎohsiung Experiment
Pakistan*	Population	The Hyderabad Project	Taiwan	Population	The Taichung Experiment
Panama	Health	Rural Health Delivery System Project	Tanzania*	Development	Audio Cassette Listening Forums
Paraguay	Education	Rural Radio Education Project	Tanzania*	Health	Man is Health
Peru	Education	PEIFEDER	Tanzania*	Nutrition	Food is Life
Peru	Health	ORDE-ICA Regional Health Project	Thailand*	Agriculture	The Radio Farm Forum Pilot Project
Philippines*	Agriculture	Masagana 99	Thailand	Education	Functional Literacy and Family Life Planning Program
Philippines*	Nutrition	Mass Media Nutrition Advertising Campaign	Trinidad & Tobago*	Nutrition	Breastfeeding Campaign
Senegal*	Agriculture	Radio Pilot Project	Tunisia*	Nutrition	Dr. Hakim
Senegal*	Health	The Sine Saloum Rural Health Care Project	Upper Volta	Development	Project for Equality of Access for Women and Young Girls
Spain* (Canary Islands)	Education	Radio ECCA (Radio Emisora Cultural de Canarias)	U.S.A.* (Alaska)	Health	Telemedicine: Health Care for Isolated Areas
Sri Lanka*	Health	Health Education Radio Dramas			
Sri Lanka	Population	Preethi			
Sudan	Health	Northern Primary Health Care Project			

* Selected for analysis and summarized in Appendix C.

appendix B

LIST OF AID RESOURCES FOR FIELD SUPPORT OF RADIO PROJECTS

The *Office of Health* can provide short-term technical assistance to USAID missions for planning and evaluating radio programs dealing with health and family planning and for training personnel and preparing radio materials. This assistance is available through the Accelerated Delivery Systems Support Contract (ADSS).

The *Office of Nutrition*, through its International Nutrition Communication Service (INCS), can provide project support for the full range of nutrition education activities (including nutrition components of PHC projects): preparation of materials (mass media and audiovisual), organization of workshops and in-service training seminars for government personnel on topics such as planning nutrition education programs, and provision of technical assistance on the design, implementation, and evaluation of nutrition education programs.

The *Office of Population* can support needs assessment and planning studies for information-education-communication efforts concerned with population and family planning and can provide technical assistance for the development, implementation, and assessment of projects, and the development of educational materials (including radio), under its Family Planning IEC Field Support Contract.

The *Office of Education* can fund feasibility/planning studies and workshops or seminars to assist USAID missions in developing health projects using radio (including 2-way radio) under its Educational Technology: Studies and Applications Project. Under its Mass Media and Health Practices Project, the Office of Education can fund planning teams and workshops to assist USAID missions in using radio and related media as part of diarrhea control programs.

appendix C

PROJECT SUMMARIES (In alphabetical order by country)

Appendix C contains project summaries for the 47 projects reviewed. The information includes name of project, country, sector, media, media strategies, project description, objectives, duration, audiences, messages, research, evaluation, costs, findings, implications for primary health care projects, comments, and references. Where information is not available for a particular category, that category has been omitted from the summary.

Summary No. 1: AFGHANISTAN

PROJECT: Rural Broadcasting

SECTOR: Agriculture

MEDIA: Radio was the principal medium

STRATEGIES: Open Broadcast, Tape Recorders

PROJECT DESCRIPTION: This project followed an ongoing radio program for farmers. It was intended to improve the content of these open broadcasts and to experiment with the addition of tape cassettes played by field workers.

OBJECTIVES: To improve development-oriented messages in rural broadcasting, to test the feasibility of a communications system that combined broadcast radio, cassettes, and personal communication.

DURATION: 1973.

AUDIENCES: Approximately 17,500 farmers in three provinces.

MESSAGES: New agricultural and livestock production techniques. Information on credit, irrigation, and co-ops.

RESEARCH: Pre-project survey was done to determine kinds of information farmers wanted and could use.

FINDINGS: The pre-project survey showed that farmers are interested in topics that are seasonal, local, and related to decisions they have to make. Farmers valued cassette-carried information more than farmer to farmer exchanges, particularly after they became accustomed to cassette technology.

IMPLICATIONS FOR PHC: A broadcast message, even on a tape recorder, can have greater credibility than one delivered in person. Personalized information is best for messages.

REFERENCES: A.E.D. *Project Profile*, April 1978.

Summary No. 2: BOTSWANA

PROJECT: Our Land

SECTOR: Agriculture

MEDIA: Radio plus visuals, a popular print version of the country's land policy, and a study guide

STRATEGIES: Listening Groups

PROJECT DESCRIPTION: Faced with land degradation due to increased human and livestock populations, the government of Botswana developed a land management policy. This project was an attempt to deal with the land use problem through an experiment in participatory decision-making. Radio was used to explain the policy and to obtain feedback from the population.

OBJECTIVES: To involve the public, particularly rural people, in learning about and commenting on land use policies.

DURATION: Group meetings twice a week for five weeks in 1976.

AUDIENCES: Adult population. 3,200 groups averaging 16 people.

MESSAGES: Land management policy—stock control, fencing, paddocking, special feeding, rotational grazing—was not always compatible with traditional practices but was needed to protect land. Broadcasts presented information on the policy and its implications for people.

RESEARCH: Public consultation, in four phases, was organized by the government. The president and his ministers attended more than 100 community meetings throughout the country to explain the policy and answer questions. Development of the broadcasts and analysis of responses to broadcasts followed.

EVALUATION: After each broadcast, listening-group leaders sent reports on the group discussions to the project organizers. The information was used for future broadcasts, answering questions on the air, and project analysis.

FINDINGS: More than 5,000 groups were planned; 3,510 were actually established. The groups recognized the problem of overgrazing and concluded that too many cattle was the cause. Some members of listening groups were suspicious of the government's interest in their opinions. The desired outcome of the radio programs was achieved to the satisfaction of government organizers.

IMPLICATIONS FOR PHC: This experiment attempted to involve its audience, the adult public, in selection of topics and identification of needed information. This notion is appropriate for PHC projects.

REFERENCES: A.E.D. *Project Profile*, October 1978.

Summary No. 3: BOTSWANA

PROJECT: Understanding Government

SECTOR: Education

MEDIA: Radio with print and visual materials for learning groups

STRATEGIES: Listening Groups

PROJECT DESCRIPTION: This was a civics education project organized by a community college working with regional and district offices of government agencies. It was orga-

nized in response to villagers' requests for more information about how the government works and how communities can obtain assistance and services.

OBJECTIVES: To provide villagers with basic information about the government and its procedures and about citizen rights and responsibilities.

DURATION: A five-week period in June and July 1979.

AUDIENCES: Adults in Kalahari Desert region of western Botswana, an area with a widely scattered population of 50,000. Over 250 groups, totaling 3,000-5,000 people, were involved.

MESSAGES: Ten topics: voting and elections, elected representatives, civil service, cooperatives, water, health, education, wildlife, local government tax, and district development planning.

RESEARCH: To prepare study materials, villagers' lack of familiarity with government practices had to be translated into specific topics. A baseline study was done to identify information needs. This survey was the basis for selecting topics and preparing materials.

EVALUATION: Discussion questions and report forms were provided to the groups, who were asked to record answers to discussion questions. They could also include additional questions. All questions were answered, some on the radio in a series of Answer Programs that concluded the project.

FINDINGS: There was a definite increase in people's knowledge and awareness of government and of ways people can participate in the development process. Approximately 10 percent of the people in the project area attended group sessions. After the survey, participation of the villagers was possible during the preparation of the course and materials.

IMPLICATIONS FOR PHC: Community participation in the preparation of radio materials is possible through structured surveys.

COMMENTS: While there was much discussion of participation, planning and creation of materials was actually done by extension staff and government officials, based on the village level surveys, rather than by the target group.

REFERENCES: Byram, Kuate and Matenge, 1980.

Summary No. 4: COLOMBIA

PROJECT: ACPO (Acción Cultural Popular)

SECTOR: Education (Out-of-School)

MEDIA: Radio, textbooks, and other printed materials.
Groups led by volunteer auxiliaries

STRATEGIES: Listening Groups

PROJECT DESCRIPTION: ACPO began as a program to use radio combined with study groups for adult education. Today ACPO operates radio schools that offer a variety of courses nationwide and publishes a weekly newspaper and other materials, including textbooks. The heart of the operation is Radio Sutatenza, which serves over 20,000 listening groups and hundreds of thousands of students.

OBJECTIVES: To provide rural families with basic education, to relate learning and action directly for rural audiences.

DURATION: Ongoing since 1947.

AUDIENCES: All the people of rural Colombia. Anyone with

a radio can listen. Groups are formed by volunteers who are responsible for the organization and the needed texts. The radio lessons are geared to texts.

MESSAGES: Basic literacy and arithmetic. Content of courses includes health, work, and community related issues.

EVALUATION: An in-house evaluation done in 1976 showed that nearly 25 percent of the rural people interviewed in five selected communities were now or had been participants; Radio Sutatenza was the preferred station; and the number of community improvements in many areas correlated with the number of radio school participants.

FINDINGS: More than 75,000 letters are received by Radio Sutatenza each year. The staff of ACPO's correspondence service answer an average of 200 letters a day. The service allows listeners to have questions answered and to practice their literacy skills. The most significant indicators of ACPO's success are its 30-year existence and its growth. ACPO provides more than 75 percent of its own budget by selling some products and the services of its radio station, recording studio, and printing operation.

IMPLICATIONS FOR PHC: The project has a significant health education component. The nature of the project, listening groups, and structured courses with printed materials for group reference, places it in the forefront of community education for health.

REFERENCES: Bordenave, 1977; Young, 1977.

Summary No. 5: COLOMBIA

PROJECT: Radio and Family Planning

SECTOR: Population

MEDIA: Radio

STRATEGIES: Campaigns

PROJECT DESCRIPTION: This was a national family planning campaign sponsored for radio by a private association. Spot announcements of 15 to 30 seconds were broadcast several times during the day and early evening. In general, the campaign was carried out during the second six months of each year.

OBJECTIVES: To attract new acceptors of family planning to the association's clinics; to legitimize further the concept and practice of family planning.

DURATION: 1969-1972 and 1974.

AUDIENCES: Colombian women of childbearing age who did not want another child and did not know where to go for contraceptive services.

MESSAGES: Messages concentrated on reasons for family planning, who should practice it, and where and when services were available.

EVALUATION: Clinic records from 16 sites were examined and measured in relation to the times the broadcasts were made.

COSTS: At least one of the project objectives could not be quantified and therefore costed. As a result, the cost of the other objective was overestimated.

FINDINGS: The objective of legitimizing family planning complicated the evaluation because the evaluators had difficulty quantifying it. Knowledgeable observers conclude that the campaigns helped to legitimize family planning,

influenced public policy, improved popular attitudes, and helped contraceptive continuation rates. The majority of new acceptors in clinics said they had learned about family planning from friends, relatives, and neighbors. During the periods of the radio campaigns, radio was the second most important source and health personnel the third. When radio campaigns were not in operation, health personnel rather than radio were the second most important source of information.

IMPLICATIONS FOR PHC: Straightforward information messages, including location and time of services, bring people to clinics for services.

REFERENCES: Bailey, 1973; Bailey, 1980.

Summary No. 6: COSTA RICA

PROJECT: Diálogo (Dialogue)

SECTOR: Population

MEDIA: Radio and letter answering service

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: This is a daily radio program of the Centro de Orientación Familiar (COF), a private organization founded in 1968 for the purpose of promoting responsible parenthood through sex education. It was set up to establish a dialogue, through radio, with ordinary Costa Ricans on sensitive subjects. A letterwriting bureau is part of the project.

OBJECTIVES: To discuss frankly and openly sexual issues that have been taboo subjects, in the belief that good sex education will lead to responsible parenthood.

DURATION: Ongoing since May 1970.

AUDIENCES: Adults nationwide and out-of-school youth. There is evidence that the broadcasts are used in school courses.

MESSAGES: The range of topics is wide. Includes biological aspects of family life such as reproduction, contraceptive methods, and stages in sexual development as well as the social aspects such as the relationships of children to parents, male/female roles, and role of family in the community. Twenty-minute programs broadcast twice daily at prime times. The first portion presents topic of the day in the form of talks by professionals and religious leaders; the second part responds to selected letters from listeners.

EVALUATION: 1973 study and 1981 evaluation by Stanford University.

FINDINGS: Thousands of letters have been received each year. According to the study, 10,000 were received in the first six years. A 1973 estimate placed the listening audience at 25 percent of the total population tuning in regularly or occasionally. Letters are usually of two types: requests for information and presentation of personal problem with requests for assistance.

The 1981 evaluation found that: (1) low-income individuals were being reached and were more strongly affected than others; and (2) knowledge, attitudes, and practices in matters of human sexuality were affected.

IMPLICATIONS FOR PHC: A sustained program on the radio can deal with a wide selection of issues that are basic to the health and well-being of the listening audience.

COMMENTS: Costa Rica has a high degree of functional literacy, which accounts to some extent for the high number of letters.

REFERENCES: Oliva, 1975; El-Bushra and Perl, 1976; Risopatron and Spain, 1979.

Summary No. 7: DOMINICAN REPUBLIC

PROJECT: Radio Santa María

SECTOR: Education (Out-of-School)

MEDIA: Radio with workbook, text, and field teachers

STRATEGIES: Listening Group

PROJECT DESCRIPTION: Begun as a literacy project, the project changed in 1970 to formal schooling by radio. Students can qualify for primary and intermediate certificates issued by government. The radio station operates under religious auspices. A nationwide hookup covers most of the country.

OBJECTIVES: To deliver primary and intermediate education (eight years) relevant to underprivileged adults that is cheaper than the traditional system, while conforming to government specifications.

DURATION: Ongoing since 1964.

AUDIENCES: Rural and urban adults.

MESSAGES: Appropriate for primary and secondary education but adjusted to needs of the underprivileged. Formal courses broadcast two hours in evening, five days a week. Each hour has four segments of seven minute lessons; the interlude is for the listener to study and complete a worksheet. Once a week students meet with a field teacher for two hours in a group, usually numbering 20, to discuss the broadcasts and consider questions. Worksheets are handed in and new ones sold to students.

EVALUATION: Survey done in 1975.

COSTS: Student payments cover 60 percent of budget. Students buy worksheets; teachers keep 60 percent of costs. 1975 study estimated cost of \$25 per student per year as contrasted with \$39 for conventional education.

FINDINGS: 1975 survey showed 20,000 students enrolled, most young, unmarried adults. In a comparison of standard test scores, radio students did as well as those conventionally educated. Student test results correlated with competency of field teachers, suggesting that reinforcement of radio is desirable. Radio students can learn at a more rapid rate; eight grades can be finished in four years. Field teachers have backgrounds similar to students, but have completed several years' schooling in advance of what they teach.

IMPLICATIONS FOR PHC: Project is an interesting combination of individual home listening and once-a-week groups. Similar format could be used in primary health care for field worker training, particularly of community volunteers, and for preventive health courses for the general public.

COMMENTS: Project came into being because of Radio Sutatenza's (Colombia) work in literacy. Then Radio Santa María was influenced by Radio ECCA and shifted to formal courses. A significant feature is government accreditation.

REFERENCES: White, 1976; White, 1977.

Summary No. 8: DOMINICAN REPUBLIC

PROJECT: Towards a New Family Life

SECTOR: Population

MEDIA: Radio and letter answering service

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: A private family planning association sponsors a radio broadcast five days a week: one-hour, prime time broadcasts for rural areas and one half-hour program for the two largest cities. Broadcast time is purchased. It is estimated that 75 percent of the population can receive the signal.

OBJECTIVES: To improve knowledge of family life and acceptance of family planning.

DURATION: Ongoing since 1972.

AUDIENCES: General public, couples in childbearing years.

MESSAGES: Child care, nutrition, hygiene, family planning, sex education, and youth problems. Format is talks, interviews, music, responses to letters from listeners.

EVALUATION: Assessment of program carried out in 1973 by staff of a national university.

FINDINGS: Over 125,000 people listen daily, and an even larger number once or twice a week. It is estimated that 70 percent are rural listeners. An evaluation concluded that the program had increased awareness and practice of family planning.

IMPLICATIONS FOR PHC: Open broadcast programs can affect behavior for family planning and perhaps for other health issues.

REFERENCES: El-Bushra and Perl, 1976; Rowley, 1977.

Summary No. 9: ECUADOR

PROJECT: Radio Mensaje

SECTOR: Education (Out-of-School)

MEDIA: Broadcast radio with much material produced on cassette recorders by school listening groups

STRATEGIES: Listening Groups, Tape Recorders

PROJECT DESCRIPTION: Radio school program for a rural area. In 1972, cassette recorders were given to listening groups to create materials for broadcast. Teaching assistants were given brief technical training. Groups, sometimes with other community members, prepare materials and send to Radio Mensaje, where they are broadcast without editing.

OBJECTIVES: To provide feedback from, and active participation by, student listeners; to promote community development by having listeners describe what they are doing for the benefit of other listeners; to heighten listeners' self worth by having them create materials for general broadcast

DURATION: Ongoing since 1972.

AUDIENCES: Rural adults, particularly those attending classes of Radio Mensaje.

MESSAGES: A program can contain advice, poems, songs, scripture readings, dramatization of a community problem, testimonials, and anything that a listening group has to say. Material is aired on a special program, one-half hour a week.

RESEARCH: Surveys done in 1971 (before cassette distribution), 1972, and 1973.

COSTS: Less than \$2,000 was invested initially. Running costs are low.

FINDINGS: Rural people are clearly able to produce radio programs on their own and are interested in listening to each others' productions, even if they are not of studio quality. "Unscientific analysis" indicates that project hypotheses and objectives have been realized to a considerable extent. Rural people have something to say that their peers find useful.

IMPLICATIONS FOR PHC: Current writings on primary health care stress participation. This project creates listener participation. Format could be useful for PHC. Key issue is structure needed to execute: In the current situation a radio school existed; for a small cost the participatory dimension was added.

COMMENTS: Project takes radio-school format one step further by seeking feedback — a form of participation. Much lip service is given to principles of participation; this project has put the idea into practice.

REFERENCES: Hoxeng, 1976.

Summary No. 10: GUATEMALA

PROJECT: Basic Village Education

SECTOR: Agriculture

MEDIA: Radio and printed materials

STRATEGIES: Listening Groups

PROJECT DESCRIPTION: This was a five-year experiment providing agricultural information to farmers in two areas of Guatemala, one Spanish-speaking, the other Indian. It introduced four media treatments into each area. Radio was basic to three treatments. Actual broadcasting was three years in one area, two in the other.

OBJECTIVES: To change farming practices and improve production through a constant flow of information.

DURATION: 1973-1978.

AUDIENCES: Rural farmers in two areas of Guatemala.

MESSAGES: A new radio station was specially installed in each area. Each station broadcast eight hours a day, six days a week in prime time for farm audiences. About 20 percent of the content was agricultural. Balance was music, local interest items, and information on health, family, and culture. The agricultural component included a 30 minute core program, 30-40 spots, and notices from the Ministry of Agriculture.

RESEARCH: The research design included four message delivery systems: (1) radio; (2) radio and a fieldworker making visits; (3) fieldworker and agronomist visits; and (4) fieldworker visits only.

EVALUATION: An extensive evaluation component was built into the project, including baseline survey and annual re-surveys looking for changes in knowledge, attitudes, and practices.

FINDINGS: All four combinations had measurable impact on knowledge, attitudes, and practices. No single medium was best in all situations. In the Spanish-speaking area, which was more advanced in development, radio alone was

an adequate source of information, much of which was translated into action. In the less developed area, the mix of radio, fieldworker, and agronomist was best. However, even in this area radio can introduce new ideas and deal with farmers' fears about innovations. In most cases, personal follow-up translated information into action.

IMPLICATIONS FOR PHC: In traditional areas, radio can introduce new PHC ideas and deal with problems, but personal contact may be required for behavior change. In better developed areas, radio alone can introduce new ideas and some behavior change can be expected.

COMMENTS: How do agricultural and PHC messages differ? Probably most rural people place a higher value on agricultural information since it directly affects their livelihood. Agricultural change often requires inputs that cost money, while health practices can often be improved without such inputs.

REFERENCES: Ray, 1978.

Summary No. 11: GUATEMALA

PROJECT: The Pila Project

SECTOR: Health

MEDIA: Cassette tapes

STRATEGIES: Tape Recorders

PROJECT DESCRIPTION: This was an experiment on a plantation in Guatemala. About 300 families, nearly 1,000 people, live on the plantation. For 15 days in a three-week period a paid worker took tape cassettes to the *pilas* (community laundry areas) and played 30-minute presentations in the morning and evening.

OBJECTIVES: To provide basic health and nutrition information to women at the *pilas* and measure the effects.

DURATION: Three weeks in 1975.

AUDIENCES: Women on a single plantation (about 200).

MESSAGES: (1) Advantage of having plantation nurse assist at delivery of children (the nurse used rubber gloves which made the women uneasy); (2) advantages and preparations of Incaparina, a high protein food supplement available in plantation store; (3) information about breastfeeding and bottlefeeding; (4) explanations about the plantation clinic and reasons for using clinic medicines over those of the commercial pharmacy.

RESEARCH: More than 40 women were interviewed about diet, food preferences, dietary questions, family health, and child care. From this information a list of principal points was developed that became the basis for messages.

EVALUATION: Some 40 women were asked 10 questions about information on the tapes. Ten women who were daily listeners got 9.2 questions right; 26 occasional listeners got 7.6 and 4 non-listeners got 3.5 correct. A control group, on another plantation, got 2.7 questions correct.

FINDINGS: Occasional listeners absorbed most of the content of the messages. Women preferred the advice sections to music or lectures. The nurse was more welcome at births and her gloves became a topic for discussion now that the women understood why she wore them. Incaparina sales picked up — buyers were using the new recipe they heard on the tape. (The same information and other instructions

were on the package, but most of the women could not read.)

IMPLICATIONS FOR PHC: This is a primary health care project.

COMMENTS: A major issue is maintenance of equipment. This project hired a local woman who did a good job with little training, but it was a short-term activity.

REFERENCES: Fernandez and Colle, 1977.

Summary No. 12: HAITI

PROJECT: Classe d'Hygiène

SECTOR: Health

MEDIA: Radio broadcasts for schools

STRATEGIES: Listening Groups

PROJECT DESCRIPTION: This grew out of the Radio Docteur project, an open broadcast program directed to Haitian adults. School children listen to 12 lessons on health matters. After each lesson students answer five questions in writing; they earn two points for each correct answer. Prizes and certificates are awarded to participants.

OBJECTIVES: To improve health knowledge of students.

DURATION: A 12-week program repeated yearly since 1970.

AUDIENCES: Fifth and sixth grade school children and their teachers.

MESSAGES: Health, including physiology, vaccination, and population information.

FINDINGS: Written responses to questions broadcast on the program have risen from 444 in 1970 to 20,064 in 1975.

IMPLICATIONS FOR PHC: An example of in-school health education at the community level. Provides opportunity for PHC information tied to local services.

COMMENTS: A school education program grew out of an open broadcast project.

REFERENCES: A.E.D. *Project Profile*, January 1979; Leslie, 1978.

Summary No. 13: HAITI

PROJECT: Radio Docteur

SECTOR: Health

MEDIA: Radio principal medium with printed matter and visual aids

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: The project was begun in 1967 by a Haitian physician associated both with the Centre d'Hygiène Familiale, a private organization, and the Ministry of Health. The broadcasts are twice a day, six days a week, in Creole, the most popular spoken language. (French is the official language.)

OBJECTIVES: To provide information and advice on health topics.

DURATION: Ongoing since 1967.

AUDIENCES: Haitian adults.

MESSAGES: Family planning, nutrition, common illnesses, maternal and child health, and related topics. Two char-

acters, who have become household familiars, keep a dialogue going on health issues. The characters assume a variety of paired roles: husband and wife, patient and doctor, or patient and nurse.

RESEARCH: In preparation for open broadcasting, 20 monologues of 10 minutes each were created on four topics: prenatal care, the new mother, infant health, and family planning. Material was field-tested in waiting rooms of clinics. Audience response to the pretest prompted replacement of the lecture format with a short dialogue for each topic.

EVALUATION: A survey of one village of 4,000 people that had heard the broadcast for eight years showed a high level of knowledge regarding topics covered in the program. This study did not attempt to isolate the effects of other health education efforts. Program impact has never been evaluated nationally.

FINDINGS: In the pretesting, it was established that clinic listeners preferred child spacing rather than population pressure as a rationale for family planning.

IMPLICATIONS FOR PHC: This project could be adapted easily to support a PHC program with services at the community level.

COMMENTS: Messages of direct personal interest (child spacing) are preferred to more global ones (population pressure).

REFERENCES: A.E.D. *Project Profile*, January 1979; Leslie, 1978.

Summary No. 14: HONDURAS

PROJECT: Mass Media and Health Practices

SECTOR: Health

MEDIA: Radio, graphic materials, and some face-to-face support of health workers and opinion leaders

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: This is a three-year project in one region (population 400,000) to improve infant health through a public information project using radio, graphic materials, and face-to-face communications. Project calls for nine months of pre-project research followed by execution, monitoring, and revision as needed.

OBJECTIVES: To develop a methodology for the application of mass communications to the prevention and treatment of acute infant diarrhea.

DURATION: Pre-project activities completed. Project being executed at the present time.

AUDIENCES: Primary audience is rural mothers of children under five years, secondary is health workers.

MESSAGES: Promotion of a pre-packaged mix for oral rehydration, to which fluid must be added. Strategy is to teach how to prepare and administer the mixture, and when to seek outside assistance if oral rehydration therapy is not working.

RESEARCH: Nine months of pre-project investigation: collection and analysis of relevant existing information; individual interviews with 175 rural people; 62 focused group interviews with approximately 402 rural people; direct observation in 24 rural homes; visits to five rural clinics;

interviews with rural store and pharmacy owners; and interviews with physicians and nurses.

EVALUATION: Planned. Project now being executed.

FINDINGS: Pre-campaign interviews indicated that mothers equated the effectiveness of health products with their sophistication, modernity and urban usage; any treatment for diarrhea given in rural clinics not practiced in central facilities is considered second class medicine. This preliminary research emphasized the need to address issues of image in promoting this oral rehydration mix.

IMPLICATIONS FOR PHC: This is a major new PHC project using radio as a primary means of informing.

REFERENCES: A.E.D. *Mass Media and Health Practices: Project Summary*, 1981; Smith, 1981.

Summary No. 15: HONDURAS

PROJECT: Family Planning
Media Experiment

SECTOR: Population

MEDIA: Radio and other media

STRATEGIES: Campaigns

PROJECT DESCRIPTION: A short-term field experiment conducted in four low-income communities in the capital district.

OBJECTIVES: To assess effects of a mass media campaign on demand for family planning services in a low-income, poorly educated urban population.

DURATION: Five weeks in 1968.

AUDIENCES: Couples in childbearing years.

MESSAGES: During a five-week period, daily spots were broadcast over local stations. Campaign also used a sound truck, pamphlets and documentary films shown in cinemas.

RESEARCH: The experiment was carefully designed, with enumeration of study population, pre-campaign survey of knowledge, attitudes and practices of family planning, and introduction of experimental variables — the media.

EVALUATION: Post-campaign survey.

FINDINGS: Before the campaign only six percent of those interviewed mentioned family planning as a service of the health center; the figure was 29 percent after the campaign. Radio was cited as the source of information for new admissions of the family planning clinic substantially more often than the other media used, and was the most effective with younger women. Clinic attendance increased from an average of 11 patients per week before the campaign to 35 per week during the month following the campaign. There was, however, a decline in attendance after the campaign, but not to the original level. Shifts in attitudes were also registered on the number of desired children.

REFERENCES: Stycos and Marden, 1970.

Summary No. 16: INDIA

PROJECT: School-on-the-Air

SECTOR: Agriculture

MEDIA: Radio, and weekly reviews of responses sent by mail

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: An All India Radio project to provide systematic agricultural knowledge to literate farmers with radios. Trainers prepared lessons that were read over the radio each week during a 30-minute broadcast. Listeners were expected to mail in answers to questions given at the end of each program. At the end of a course, participants were given grades and a certificate.

OBJECTIVES: To deliver modern agricultural information systematically through channels acceptable to a rural farming population; to have these literate farmers serve as "contact" (model) farmers for villagers incapable of interpreting, or without access to, complex information on modern agriculture.

DURATION: Begun with a series of courses in 1975-76. Similar courses in 1976-77. May be ongoing.

AUDIENCES: Rural farming population of West Bengal.

MESSAGES: Six courses consisting of five 30-minute lessons. Subjects included cultivation of wheat and summer paddy.

EVALUATION: After the first courses, responses were analyzed.

FINDINGS: Some 114 people participated in the first set of courses. In the second set, enrollment was higher (155-180), depending on the course. Most participants were young, middle income, and high school educated. More than one-third were teachers or students. Evaluation showed the likeliest participants in future courses will be prospective farm leaders, who are the ideal "model" farmers.

COMMENTS: Only a public agency could afford to maintain a project with so few participants.

REFERENCES: A.E.D. *Project Profile*, June 1977.

Summary No. 17: INDIA

PROJECT: The Maharashtra Radio Forum Pilot Project

SECTOR: Development

MEDIA: Radio and printed materials for leaders

STRATEGIES: Listening Groups

PROJECT DESCRIPTION: Radio forums were organized in 145 villages in one area of Maharashtra State. State government provided staff of organizers who worked with village headmen to draw up the lists of forum members. Every forum had a chairman and a secretary/convener.

OBJECTIVES: To determine if radio forums would work in India with rural audiences who were largely illiterate, rarely exposed to radio, and unused to organized group discussion; to stimulate discussion, increase participants' knowledge, and if possible have the activities result in decisions and action to improve village life.

DURATION: 1956.

AUDIENCES: Village adults, especially those capable of contributing to progress in the village.

MESSAGES: One message for each of 20 broadcasts. Included eight on agriculture, one on health, one combining both,

and 10 messages on education, community development, home management, and government. Each program was 30 minutes, broadcast twice a week for 20 weeks. Format was presentation of topic of the day followed by answers to questions sent in by groups. Some material was produced in the villages.

RESEARCH: Each forum had a convener who kept minutes that were forwarded to project offices.

EVALUATION: Pre- and post-broadcast survey of 20 villages done by an independent group. Evaluators also observed groups at work and talked with group members.

COSTS: Estimated cost: \$97.48 per forum, \$4.87 per meeting.

FINDINGS: More material originating in the village should have been used. Starting discussion and getting people to take part was not always easy. Some action decisions were never implemented because the necessary elements (for example, fertilizer) were not available. Communication aimed at bringing about action and change is of little value if the tools of change are unavailable. Forum members learned a great deal more than non-forum members. In amount of knowledge gained, illiterates did as well as literates.

IMPLICATIONS FOR PHC: Radio can be used to provide health information to illiterates.

REFERENCES: Bordenave, 1977.

Summary No. 18: INDIA

PROJECT: Bombay Family Planning Project

SECTOR: Population

MEDIA: Radio

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: This radio project was intended to test comprehension and recollection.

OBJECTIVES: To study the impact of a single broadcast; to learn whether just one broadcast could provide accurate information that people would remember and could correct misconceptions about family planning.

DURATION: 1965.

AUDIENCES: Currently married women.

MESSAGES: Family planning information.

RESEARCH: Two samples selected for the study: the first was interviewed before and after the broadcast; the second, after the broadcast to find out the preconditioning effect on those interviewed before.

EVALUATION: Two samples of 240 currently-married women. Study of the effects of the broadcast using a pre- and post-methodology.

FINDINGS: Only 28 percent of those interviewed even heard the broadcast because it took place on a Sunday, a day the women are busy with household chores. The project planners failed to learn the media listening habits of the intended audience.

COMMENTS: It appears that the designers of the project were so careful with the survey design that they overlooked the more practical and simpler research issues.

REFERENCES: Murty, 1967.

Summary No. 19: INDONESIA

PROJECT: Grains of Sand

SECTOR: Population

MEDIA: Radio

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: This radio "soap opera" (melodrama) is a cooperative venture of a commercial company selling consumer products (Vicks), the national family planning board, the national broadcast agency, and a private international funding agency. The commercial company, which had been producing and sponsoring a health soap opera, bought an existing Filipino series on family planning (1,000 episodes) and adapted it for use in Indonesia.

OBJECTIVES: To portray family planning as an important social message on a sustained basis; and to portray the value of planning one's life and family.

DURATION: 1977, pilot project of six months (144 episodes); extended for one year by all parties, then became a government project; ongoing.

AUDIENCES: General public; couples in reproductive years.

MESSAGES: The value of family planning. In later years it has included other health and nutrition issues. Broadcast on government stations (no commercials save acknowledgment that Vicks is a sponsor) and on local private stations (with commercials).

RESEARCH: Previous research reviewed, but not much on radio listening habits. Metropolitan Jakarta survey showed well over one-half of those surveyed listened to radio daily, that music and drama were preferred formats, and that listeners were usually young (15-39).

EVALUATION: No special evaluation was done at the end of the pilot. High interest was established through a review of listeners, letters, observations by government staff posted in rural areas, reports from radio stations, and Vicks sales.

FINDINGS: Radio dramas, in the form of popular entertainment, are listened to and inform and influence people. Commercial and government agencies can work together on social issues. This type of serial can be done successfully in a developing country using local expertise and technical capabilities.

IMPLICATIONS FOR PHC: This is a PHC program.

COMMENTS: Two points seem particularly significant. A commercial company could serve both its own and the government's interests. A pilot project moved through stages until it became a program fully funded by the government agency responsible for population.

REFERENCES: Piet, 1981.

Summary No. 20: INDONESIA

PROJECT: The Jamu Project

SECTOR: Population

MEDIA: Radio spots, with printed materials

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: This consisted of an intensive advertising campaign, with radio the major medium, to sell a specially packaged condom, the "Karet-KB." A private Indonesian foundation worked with a producer of *Jamu*, traditional herbal medicine preparations. The modern commercial distribution system for *Jamu* was used.

OBJECTIVES: To promote acceptance of family planning concepts. To promote sales of condoms.

DURATION: 1975-76.

AUDIENCES: Indonesian males of reproductive age.

MESSAGES: Use condoms for effective family planning. An intensive campaign was undertaken from October 1975 to March 1976. In the month of December alone more than 50,000 spots were broadcast on 100 stations.

EVALUATION: Informal and based on sales figures.

FINDINGS: Condom sales during the campaign period increased from a monthly average of 1,000 gross to 1,500 gross, or 50 percent. The percentage of eligible retailers selling condoms increased from 40 to 49 percent. When the campaign ended, the sales dropped to the pre-campaign level.

IMPLICATIONS FOR PHC: Commercial and traditional product distribution systems can be used for health products if there is adequate and sustained promotion.

COMMENTS: It is hard to fault increased sales as a measure of effectiveness. Sales seem to be based on advertising frequency.

REFERENCES: A.E.D. *Project Profile*, 1979.

Summary No. 21: IRAN

PROJECT: The Isfahan Project

SECTOR: Population

MEDIA: Radio and other media

STRATEGIES: Campaigns

PROJECT DESCRIPTION: This was a major mass communications project in Isfahan, a province of 2 million people. Radio was the principal medium. In phase I, only radio was used; in phase II, radio was used with print, mailings, banners, and cinema slides. Each phase lasted four months. Radio time on the government station was free.

OBJECTIVES: To increase use of family planning methods; to learn the impact of an intensive communications campaign on knowledge and practices of family planning.

DURATION: May 1970 to January 1971.

AUDIENCES: Women of reproductive age and their husbands.

MESSAGES: Family planning, including specific information on various contraceptives. Formats for radio included spots, talks, dramas, and announcements.

RESEARCH: Pre-campaign to determine media habits and exposure, and to establish baseline for family planning knowledge and practices. Media materials were pretested.

EVALUATION: Campaign was evaluated by measuring levels of acceptance at clinics; comparing results with statistics from other provinces; comparing pre- and post-campaign surveys; and street interviews. The evaluation

attempted to determine knowledge and practices changes and to measure the impact of individual media.

COSTS: Estimated \$2.75 per new acceptor.

FINDINGS: A substantial increase was found in use of contraceptives during the campaign period. Net increase for all contraceptive methods was 64 percent. Of those who went to a clinic, radio was cited as the most important source of family planning information by 26 percent of the acceptors in phase I and 39 percent in phase II.

REFERENCES: Lieberman, Gillespie and Loghmani, 1973.

Summary No. 22: KENYA

PROJECT: Correspondence Course Unit

SECTOR: Education (Out-of-School)

MEDIA: Traditional correspondence school structure with radio broadcast available as supplement

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: A correspondence course was offered to upgrade uncertified primary teachers and provide advancement for qualified teachers who could then take national competitive teachers' exams and move up in rank. Although the course was self-contained, radio was used as a support medium, particularly for slow learners.

OBJECTIVES: To train uncertified teachers and upgrade the skills of others to improve the national education system.

DURATION: Ongoing since 1967.

AUDIENCES: Primary school teachers and those wishing to be certified.

MESSAGES: Curricula for teacher training.

FINDINGS: On the competitive exams, participants in the radio correspondence course consistently performed better than other examinees. Use of radio represents the continuation of the oral tradition in Africa.

IMPLICATIONS FOR PHC: This project suggests that health workers can be trained through correspondence courses. Radio could be a primary or secondary medium.

COMMENTS: Radio did not carry the main teaching burden in this project. The reports do not provide evaluation information on the role played by radio.

REFERENCES: Kinyanjui, 1977.

Summary No. 23: KENYA

PROJECT: Giving Birth and Caring for Your Children

SECTOR: Health

MEDIA: Radio

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: Weekly nationwide 15-minute broadcasts of a program concerned with child health and nutrition.

OBJECTIVES: To mix entertainment, humor, and education on a radio program directed at child and maternal health.

DURATION: Pilot began in February 1975 under UNICEF

sponsorship and concluded in mid-1976. Now ongoing under government auspices.

AUDIENCES: Rural adults. Three million estimated listeners.

MESSAGES: A variety of modern child-care practices are promoted in dialogue comedy format. Three well-known radio comics play stereotyped characters and use child-health and nutrition information in their skits, often contrasting modern and traditional practices.

EVALUATION: A survey was conducted at the end of first year. In a random sample, 510 people were interviewed within a 90-mile radius of Nairobi. Ongoing evaluative techniques include feedback from studio audiences present when shows are taped and from the mail.

COSTS: U.S. \$350.00 per show, \$0.0001 per listener quoted in Leslie (1978); (\$225 production and \$20 transmission). Jamison and McAnany (1978) quote a figure of \$245 per show).

FINDINGS: Appeal was roughly equal across age groups; more rural than urban listeners; more than one-half of those interviewed said they listened for the educational content, and more than one-third said they listened for the entertainment. Survey showed general recognition of the major theme (child care), and a high recall on topics covered by the program.

IMPLICATIONS FOR PHC: This is a primary health care project.

REFERENCES: Leslie, 1978; Peigh, 1979; Hostetler, 1976; Jamison and McAnany, 1978.

Summary No. 24: KOREA

PROJECT: Air and Correspondence High School

SECTOR: Education (Out-of-school)

MEDIA: Radio and printed materials

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: The project operates under the auspices of government agencies. A diploma is offered. Students must complete 204 units covering 16 subjects. Course consists of self-study, assignments, printed study materials, radio broadcasts, attendance at educational centers (every other week), monitoring, and testing.

OBJECTIVES: To provide a secondary education via the mass media to those who have completed middle school but are unable to attend high school.

DURATION: Ongoing since 1974.

AUDIENCES: Youth and adults seeking high school education.

MESSAGES: High school curriculum. Radio lessons 30 minutes daily and classroom instruction every other week.

COSTS: Largely financed by student fees.

FINDINGS: Academic achievement of this group is below that of regular high school students. Costs can be kept manageable. Existing classrooms are used, radio facilities rented, and trained teachers contracted.

COMMENTS: The socioeconomic level of Korea is such that students can pay fees.

REFERENCES: A.E.D. *Project Profile*, April 1979.

Summary No. 25: KOREA

PROJECT: CARE Mass Media Nutrition Education Campaign

SECTOR: Nutrition

MEDIA: Radio and printed materials. Both media given equal emphasis

STRATEGIES: Campaigns

PROJECT DESCRIPTION: This was a year-long campaign sponsored by a government agency in association with CARE. Two media were emphasized: printed materials and radio. Two 30-second spots were broadcast every day for 11 months.

OBJECTIVES: To improve nutritional knowledge of Korean adults.

DURATION: One year, 1970.

AUDIENCES: All Korean adults.

MESSAGES: For good health, eat foods from each of five different food groups. Messages identified foods found in average Korean diet.

EVALUATION: Study carried out in final two months of campaign.

FINDINGS: No baseline survey was done, so comparisons are not available. Of persons interviewed, 92 percent of urban and 87 percent of rural respondents had heard spots or had heard others talk about them, 83 percent of urban and 68 percent of rural respondents remembered something of the messages.

IMPLICATIONS FOR PHC: This was a health project.

COMMENTS: Much attention was devoted to message preparation, but not enough to evaluation. While results show people hear nutrition messages on radio, they provide little additional information.

REFERENCES: Leslie, 1978; Higgins and Montague, 1972.

Summary No. 26: KOREA

PROJECT: The Songdong Gu Project

SECTOR: Population

MEDIA: Radio as part of mass media package

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: This experiment was conducted in the Songdong Gu area of Seoul (population 370,000). Over a two-year period, the intended audience was exposed to information about contraceptive methods and availability of services.

OBJECTIVES: To measure the effect of various communication strategies and combinations of media on contraceptive acceptance.

DURATION: 1964-66.

AUDIENCES: Some 44,923 married women, aged 20-44, living in study area.

MESSAGES: Information about contraceptive methods and availability of services.

RESEARCH: Research design had four campaign strategies: mass media alone, mass media plus home visits, mass media plus group meetings, mass media plus printed materials.

EVALUATION: Pre- and post-campaign survey.

FINDINGS: In post-campaign survey of 3,045 women, radio ranked first as source of information, ahead of neighbors, home visits and group meetings. It was also more popular with younger women. However, as a direct influence on clinic visits, the media was outranked by primary relations (e.g., family and neighbors).

REFERENCES: Park, 1967.

Summary No. 27: MEXICO

PROJECT: Radio Huayacacotla

SECTOR: Agriculture

MEDIA: Radio and printed materials

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: Radio programs were broadcast daily from 4 p.m. to 8 p.m. to farm families in eastern Mexico (population about 11 million). The station is under the auspices of a private educational organization.

OBJECTIVES: To stimulate agricultural productivity by making useful and relevant information available. To stimulate self-reliance and cultural integration.

DURATION: Ongoing since 1965.

AUDIENCES: Farm families in eastern Mexico.

MESSAGES: Agricultural information, news, music, and information on social problems.

FINDINGS: No measurements have been made of the program's success other than to note that voluminous mail is received.

COMMENTS: It appears that this program continues to run because the station operators and the listening public find mutual interests. Efforts are made to respond to listeners' expressed requests. This project, like many projects undertaken by social action organizations, would benefit from evaluation.

REFERENCES: A.E.D. *Project Profile*, 1979.

Summary No. 28: MEXICO

PROJECT: Nutrition Education in Rural Mexico

SECTOR: Nutrition

MEDIA: Mass media group: radio with posters and pamphlets. (Direct education group: teachers and audio-visuals)

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: This study compared the effectiveness of mass media techniques with direct methods of education in transmitting concepts of nutrition and hygiene. The experiment used three groups: one was given mass media treatment; one was taught directly by nutrition teachers; the third was a control group.

OBJECTIVES: To compare mass media with face-to-face education for nutrition.

DURATION: Three months during 1978.

AUDIENCES: A selected number of mothers of preschool children in three villages in a rural area of one Mexican state.

MESSAGES: Divided into four units. Unit one stressed an adequate diet with more fruits and vegetables and high nutrition dishes; unit two was concerned with infant feeding; unit three with pregnant and lactating mothers; and unit four with hygienic handling of food.

RESEARCH: Experimental design included three locations with similar characteristics, all in same state. A control was used. A market survey was done to determine available food resources. Dietary survey was done to determine food habits. Pre-project interviews were carried out (questionnaires averaging 20 minutes) to determine knowledge of nutrition concepts.

EVALUATION: Immediately following the campaign, levels of knowledge of the nutrition concepts were evaluated. After three months, retention of concepts was evaluated. After one year, changes in diet were studied.

FINDINGS: Nutrition concepts were learned equally well using face-to-face instruction and mass media. Both groups had a positive change in food consumption habits, increasing intake of fish, vegetables, and fruit. Radio messages are more uniform than direct education, as messages are received in identical format by all listeners. Style of presentation and content do not vary as they do from teacher to teacher.

IMPLICATIONS FOR PHC: At the community level direct education and/or mass media are equally effective in teaching nutritional concepts.

COMMENTS: Unfortunately, no costs are included in the write-up. This is a major consideration. If one treatment is significantly cheaper, that is a major advantage.

REFERENCES: Cerqueira et al., 1979.

Summary No. 29: MOROCCO

PROJECT: The Maadid Study

SECTOR: Health

MEDIA: Radio

STRATEGIES: Not applicable

PROJECT DESCRIPTION: Not a project; this study, however, affords significant findings about use of radio for dissemination of health messages.

RESEARCH: Non-directed, in-depth interviews of two to three hours were conducted with 60 mothers living in Maadid, an urban slum of the capital city of Rabat.

FINDINGS: The study created some doubts about the impact of radio on this urban slum group:

While most of the households visited did have a transistor radio it was usually mute, either because the batteries were worn out and had not been replaced, or because it had been broken by the children and had not been repaired. Battery or repair costs are onerous when budget restrictions reduce choices to basic priorities. But our study suggests a more fundamental interpretation. The available radio programs apparently provide so little in the way of useful information or satisfaction that any maintenance or repair cost is not justified by its yield . . . the results of this study suggest that the state-owned and operated broadcast out-

lets do not do an adequate job of programming for women's needs. The language of the broadcasts tends to be incomprehensible to the illiterate woman, and educational programs, including the news, seem to assume basic information that Maadid women do not possess. Maadid housewives appeared totally alienated by the radio.

REFERENCES: Mernissi, 1975.

Summary No. 30: NICARAGUA

PROJECT: Radio Mathematics

SECTOR: Education (In-School)

MEDIA: Radio with teacher involvement

STRATEGIES: Listening Groups

PROJECT DESCRIPTION: Radio was used as the primary medium of instruction for teaching math to grades 1-4. The project reached 10,000 children in four of 16 political subdivisions. The national government curriculum was the basis of the radio lessons. Each lesson had two parts: radio broadcast and post-broadcast with teacher involvement. A special teacher's guide was prepared for use during the second segment of the lesson. Radio, however, was designed to carry the major burden of instruction.

OBJECTIVES: To improve the quality of classroom instruction through radio lessons and to improve student achievement levels.

DURATION: July 1973-December 1978. Ongoing program.

AUDIENCES: Primary school children.

MESSAGES: Mathematics. All programs had instructional and entertainment segments. Lessons were structured for high level of student involvement with oral, physical, and written responses. All programs were professionally produced in commercial studios with actors as "teachers."

RESEARCH: Extensive use of formative and summative evaluation techniques. Formative included classroom observation and frequent student testing during development of standardized lessons. Summative included tests of achievement.

EVALUATION: Summative evaluation began in 1976 and concentrated on the effects of project lessons on student achievement. Control groups used.

COSTS: U.S. \$0.50-0.75 per student per year. This is *after* five years of development costs.

FINDINGS: Students who had radio lessons achieved significantly higher levels than those without lessons. Rural students, tested against rural control groups, benefited more than urban students measured against urban controls. The radio mathematics course was in the context of ongoing classes and did not reach new groups. Therefore, the usual savings that occur when use of radio extends to unserved groups did not occur here. Cost savings occurred because the number of repeat students was reduced.

COMMENTS: Quality work produces quality results. Careful targeting of one subject and excellent preparation resulted in an award-winning project. Development costs were high. This raises a feasibility issue for many developing countries.

REFERENCES: Galda and Searle, 1980.

Summary No. 31: NICARAGUA

PROJECT: Advertising Campaign

SECTOR: Nutrition

MEDIA: Radio

STRATEGIES: Campaigns

PROJECT DESCRIPTION: This was a radio experiment by a government agency using the services of a commercial advertising agency. The campaign was intentionally independent of other related activities.

OBJECTIVES: To educate rural mothers on the rehydration that accompanies diarrhea, to teach proper techniques to treat diarrhea, including home preparation and administration of a rehydration fluid.

DURATION: July 1976 to May 1977.

AUDIENCES: Mothers of children five years and under.

MESSAGES: Recipe for "Super Limonada," a liquid mixture for home rehydration of children with diarrhea. Contents of mixture readily available to listeners. Radio spots using a mini-drama format were broadcast during the daytime.

RESEARCH: Pre-project household survey on beliefs and methods of caring for infants with diarrhea, availability of ingredients to prepare mixture, and media habits. Interim survey and evaluation done. Messages pretested.

EVALUATION: Post-project surveys, and interim and final evaluation studies done of knowledge, attitudes, and methods of caring for children under five with diarrhea.

COSTS: U.S. \$0.65 to \$1.75 per mother reached.

FINDINGS: 70,000 mothers (approximately 65 percent of intended audience) heard and remembered message. Approximately 25 percent of mothers who heard and remembered the message gave Super Limonada for diarrhea. As a result of the campaign, community workers recommended use of the oral rehydration beverage. The character — Dona Carmen — introduced to convey messages was successful in conveying information, and was subsequently given a dominant role in succeeding radio programs.

IMPLICATIONS FOR PHC: This is a primary health care project.

REFERENCES: Cooke and Romweber, 1977.

Summary No. 32: NIGER

PROJECT: Association of Radio Clubs

SECTOR: Development

MEDIA: Radio

STRATEGIES: Listening Groups

PROJECT DESCRIPTION: The clubs were founded by the national broadcasting agency and maintained by paid village staff. Organizers lead post-broadcast discussion and tape materials locally for broadcast. Number of clubs peaked at 70, in 1978 there were 30.

OBJECTIVES: To provide information to rural Nigeriens on matters related to daily needs and improvement of living conditions; to broadcast opinions of rural people on various subjects.

DURATION: Ongoing since 1962.

AUDIENCES: Adult Nigeriens, particularly those in rural areas.

MESSAGES: Lectures on general interest topics; talks on subjects of regional interest; and free-form presentations by rural people on various issues.

EVALUATION: No quantitative evaluation of learning gains or awareness levels.

FINDINGS: Project's success can be measured only in terms of longevity.

COMMENTS: This is one of the world's earliest experiments with radio forums.

REFERENCES: A.E.D. *Project Profile*, October 1978.

Summary No. 33: PAKISTAN

PROJECT: The Hyderabad Project

SECTOR: Population

MEDIA: Radio

STRATEGIES: Campaigns

PROJECT DESCRIPTION: The project studied the listening habits of the people of Hyderabad district, and the effects of radio spot-announcements on their knowledge, attitudes, and practices. The work was conducted by a national research institute.

OBJECTIVES: To learn about listening habits in the area; to determine whether broadcasts can induce people to begin practice of family planning; and to determine who hears and remembers the messages.

DURATION: November 1967.

AUDIENCES: Urban and rural men and women in the district.

MESSAGES: Messages were designed to emphasize the health and welfare of mothers and children and to demonstrate that family planning is safe, inexpensive, and a commonplace practice. Five spot announcements were broadcast at least five times each day during one month. Each message had musical introduction, dialogue between two adults, encouragement for people to ask workers about family planning, and announcements about clinic locations.

EVALUATION: Analysis of this study was based on random field interviews with 200 rural and 100 urban males and females, and 941 interviews with women attending a family planning clinic.

FINDINGS: Some 67 percent of all respondents interviewed, urban and rural, said they listened to the radio. Between 30-44 percent of all respondents reported hearing family planning messages. Of women attending clinics, 86 percent reported they were radio listeners and 69 percent said they heard family planning messages. Of the random sample of women, 58 percent reported radio listening and 34 percent stated they heard family planning messages. Radio messages proved effective in motivating people to take advantage of available community services in rural and urban communities of Hyderabad. A total of 14.8 percent of the message hearers reported taking some kind of action as a result of what they heard. The most frequent action was IUD insertion for the respondent or, in the case of male respondents, the respondent's wife.

REFERENCES: Karlin and Ali, 1968.

Summary No. 34: PHILIPPINES

PROJECT: Masagana 99

SECTOR: Agriculture

MEDIA: Radio plus comics, bulletins, newspaper stories, and posters

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: A major program to increase rice production nationwide. The project elements included research, production and distribution of seeds, distribution of fertilizer, credit assistance, and a mass media campaign. Radio, the principal medium, was used in three ways: motivation (spots), information (daily farm programs), and instruction (radio courses).

OBJECTIVES: To increase rice production; for the mass media campaign, to spread information, and to educate the public.

DURATION: The project began as a special campaign in 1973 and maintained a high level for several years; ongoing to some degree.

AUDIENCES: Rice producers.

MESSAGES: Motivation: spot messages were broadcast up to 20 times a day for three months on a network of nearly 250 national, regional and local stations. Information: local daily programs broadcast 30 minutes in the morning in each of 58 principal rice growing areas. Instruction: done through existing Farmers' University of the Air. Short courses offered. Registrants received printed materials to use with broadcasts. A number of questions were asked at the end of broadcasts. Participants gave written answers to extension agents; papers were graded and returned.

RESEARCH: Research reported that 85 percent of population was reached by radio and that 75 percent of households owned transistor radios. No pretesting of messages.

EVALUATION: Impact of media and messages not evaluated apart from overall impact of project on production totals and income gains.

FINDINGS: Significant increases occurred in rice yields and income generation. The project was judged a success for nation and farmers. A total of 50,000 farmers signed up for and completed one or more of the short radio courses.

REFERENCES: Merrick, 1981.

Summary No. 35: PHILIPPINES

PROJECT: Mass Media Nutrition Advertising Campaign

SECTOR: Nutrition

MEDIA: Radio

STRATEGIES: Campaigns

PROJECT DESCRIPTION: This radio experiment by a government agency employed the services of a commercial advertising agency. Spot announcements were inserted in regular broadcasts over a one-year period.

OBJECTIVES: To test the ability of radio alone to change food patterns; to test use of radio and modern advertising techniques to change attitudes, knowledge, and behavior related to infant nutrition; to get Filipino mothers to enrich infants' rice porridge with oil, vegetables, and fish.

DURATION: One year, 1975-76.

AUDIENCES: Low-income rural mothers in one province with infants over 10 months.

MESSAGES: Carefully designed and pre-tested (basic to commercial approach) messages on oil, vegetable, and fish additives to porridge. Six 60-second spots using drama format were developed. These were broadcast morning and evening.

RESEARCH: Pre-project survey, interim survey, and post-project evaluation. Baseline survey showed that only 3 percent of women had heard of adding oil to porridge; none had ever tried it; 5 percent had tried adding vegetables, and 17 percent had previously added fish.

EVALUATION: Interim and post-project surveys.

COSTS: U.S. \$1.50 to \$2.50 per mother reached.

FINDINGS: Interim survey showed that the number of women who used oil rose from 0 to 23 percent in eight months; vegetable use rose from 5 to 17 percent; and fish use, from 17 to 27 percent. Final evaluation showed 24 percent for oil, 17 percent for vegetables, and 27 percent for fish. One-half to three-quarters of the target women (approximately 30,000 mothers) heard and remembered the message. No significant effect was found on weight gain of children.

IMPLICATIONS FOR PHC: This is a primary health care project.

COMMENTS: Some advantages for radio spots: production costs are low, the casual listener is reached, spots can be inserted in the most popular programs, and spots do not require the level of concentration from the listener the way that lectures and discussions do.

REFERENCES: Cooke and Romweber, 1977.

Summary No. 36: SENEGAL

PROJECT: Radio Pilot Project

SECTOR: Agriculture

MEDIA: Radio

STRATEGIES: Listening Groups

PROJECT DESCRIPTION: Begun as a pilot project with 57 radio listening groups in three provinces, this project was part of a larger national government project in adult education using television, films, and radio. Each group was given a radio. The group leaders either worked for a government agency concerned with development or were volunteers trained by the agency. Farmer "feedback" (responses or comments) was encouraged. After the pilot project, the program was expanded.

OBJECTIVES: To provide food producers with agricultural information; to encourage feedback from food producers, and to allow them to express their opinions about government policies and activities.

DURATION: Initiated in 1968 with listening groups; ongoing as open broadcast for individual listeners.

AUDIENCES: Farmers and rural people.

MESSAGES: Focused on topics of concern to farmers: production and marketing of ground nuts; responsiveness of government agencies to farmers' needs; problems of debt financing at village level; and other relevant social prob-

lems. Some broadcast materials were produced at village level with farmers and listening groups.

FINDINGS: Feedback, in form of letters from farmers and taped comments for broadcast, had direct impact on policy. The president of Senegal standardized wholesale purchase price of ground nuts, a major benefit to farmers. After the pilot phase, the project continued as an open broadcast for individual listening. Reasons given were increased use of transistor radios and problems of maintaining listening groups.

REFERENCES: Cassirer, 1977.

Summary No. 37: SENEGAL

PROJECT: The Sine Saloum Rural Health Care Project

SECTOR: Health

MEDIA: Radio

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: In Sine Saloum province, radio is being used to support a rural primary health care project. The primary audience is the health worker.

OBJECTIVES: To increase effectiveness of health staff; to provide information to rural health care staff, particularly on new administrative procedures; to use radio broadcasts to link regional staff and rural staff more closely; and to encourage "feedback" in the form of letters from staff and villagers.

DURATION: Begun in January 1980; still in formative period.

AUDIENCES: Health staff providing care in rural areas, and current and potential users of health services.

MESSAGES: How to organize health work; importance of involving villagers in health work; current administrative problems, such as reordering supplies.

EVALUATION: Informal, by observation and visits.

FINDINGS: Health staff knew time and day of broadcasts. Some letters have been received. Staff are deriving useful information from broadcasts. Presence of radio program on government station indicates, to both staff and villagers, that project has prestige.

IMPLICATIONS FOR PHC: This is a PHC project that has linked staff to the next higher level of administration. It has important implications for program management and in-service training.

COMMENTS: A small, young project that could have important implications for rural health.

REFERENCES: AID, 1980.

Summary No. 38: SPAIN

PROJECT: Radio ECCA (Radio Emisora Cultural de Canarias)

SECTOR: Education (Out-of-School)

MEDIA: Radio, with printed lessons and other printed matter

STRATEGIES: Listening Groups

PROJECT DESCRIPTION: Radio ECCA is run by the Catholic

church. It broadcasts educational material many hours each week. The project is organized around learning centers with extension teachers who review with students materials covered by broadcasts, handle homework and exams, and collect weekly fees. Each course lasts one to three years. Students earn certificates.

OBJECTIVES: To provide practical education to adults who have never had the opportunity to attend school or whose education was cut short.

DURATION: Ongoing since 1965.

AUDIENCES: Adults over 14 years who wish to enroll in learning centers; a small fee is charged.

MESSAGES: Wide range of topics associated with literacy, numeracy, agriculture, and culture.

EVALUATION: Attendance records are used to measure impact. In the first year, 1,400 participants enrolled. In 10 years there was a cumulative total of 107,000 students.

COSTS: Tuition fees meet two-thirds of total costs.

FINDINGS: The majority of students attending primary level courses are middle-aged or older.

IMPLICATIONS FOR PHC: Courses on basic health could be added to curriculum of radio school projects such as this one, or health-related information could be integrated into the existing curriculum.

COMMENTS: Radio ECCA airs neither news nor commercials. Broadcast time not used for courses is devoted to music and public service programming.

REFERENCES: A.E.D. *Project Profile*, January 1978.

Summary No. 39: SRI LANKA

PROJECT: Health Education Radio Dramas

SECTOR: Health

MEDIA: Radio and postcards

STRATEGIES: Open Broadcast

PROJECT DESCRIPTION: Begun as a family planning radio project, this activity expanded to include other health topics. The high literacy of the Sri Lankan population allows the programs to ask questions and invite listeners to send in post card responses. Two radio series were developed, one in Tamil and one in Sinhala, both major languages of the country.

OBJECTIVES: To use a mass media entertainment format to convey health and family planning information.

DURATION: From July 1974 to July 1975, and again from March 1976 to December 1976.

AUDIENCES: Adult population.

MESSAGES: Format was radio drama; broadcast weekly. Initial messages contrasted a small family and a large one. While retaining same characters and similar story line, the messages were expanded to include child health, hygiene, and nutrition.

EVALUATION: Random samples were taken from postcard replies. A sample of 1,400 was sent a 30-item questionnaire. There were 980 responses.

FINDINGS: Approximately 26,000 postcards were received in response to broadcasts. The evaluation survey showed the majority preferred entertainment, but 39 percent pre-

ferred educational materials; much of the health information was new and seen as valuable; and 100 percent of Tamil-series listeners and 59 percent of Sinhala-series listeners could recall health messages.

IMPLICATIONS FOR PHC: This is a primary health care project.

COMMENTS: The unusually high literacy rate for a developing country allowed for the postcard method. This limits the application of this aspect of the experiment.

REFERENCES: A.E.D. *Project Profile*, April 1980.

Summary No. 40: TAIWAN

PROJECT: The Kaohsiung Experiment

SECTOR: Population

MEDIA: Radio, with film and print materials

STRATEGIES: Campaigns

PROJECT DESCRIPTION: This mass media campaign took place in Kaohsiung City, a southern city of 650,000 people. Prior to the campaign, all family planning communications had been limited to home visits.

OBJECTIVES: To measure impact of mass media use.

DURATION: November 1966 to May 1968 (18 months).

AUDIENCES: Women of childbearing years.

MESSAGES: Messages about various contraceptives were broadcast as spot announcements for nine months.

RESEARCH: Pre-campaign survey of married women to determine media habits and knowledge, attitudes, and practices of family planning.

EVALUATION: Post-campaign survey of the women in the pre-campaign survey.

FINDINGS: Radio was medium most frequently mentioned by respondents as media source of the information. Significant increase in knowledge and practice was registered. The percentage of listeners who knew about the loop rose from 62 to 77 percent; those who knew about the pill, from 58 to 71 percent. Current users of family planning methods rose from 33 to 42 percent.

REFERENCES: Cernada and Lu, 1972.

Summary No. 41: TANZANIA

PROJECT: Audio Cassette Listening Forums

SECTOR: Development

MEDIA: Audio cassettes and group discussion

STRATEGIES: Tape Recorders

PROJECT DESCRIPTION: This one-year pilot project used audio cassettes and group discussions in two contrasting villages — one poor and the other relatively affluent. Group leaders were chosen from the villages and trained. The project was based on two existing women's groups. Project components included a needs/resource survey, locally produced tapes, discussions, and group participation in project planning.

OBJECTIVES: To involve participants in planning, implementation, and evaluation of development projects centered on their needs; and to test effectiveness of audio cassette technology.

DURATION: 1980.

AUDIENCES: Women in two villages (approximately 120).

MESSAGES: As determined by each group. Included lack of water, inadequate sanitation, chronic drunkenness, and lack of clothing for children. Messages were taped locally. Communications strategy was to integrate tapes with group discussion.

RESEARCH: A study of participants' needs was done. At first they were given questionnaires to complete, but response was superficial. The problem was solved by conducting interviews. Results were basis for taped messages and discussions. Research design included control villages.

EVALUATION: Post-project interviews.

FINDINGS: Audio cassette technology was judged appropriate and effective. Local production of tapes kept project within local control. Illiterate women were able to handle the technology. Equipment held up well and only minor maintenance was required. More than three-fourths of women found the tapes useful. In post-project interviews, more than one-half said they had taken health related actions. Women's positive attitudes about their ability to improve their prospects increased significantly in participating villages but not in controls. Women of poorer village placed less importance on cassettes.

IMPLICATIONS FOR PHC: An excellent forum and medium for PHC, but difficult to replicate on large scale.

REFERENCES: A.E.D. *Project Profile*, September 1979.

Summary No. 42: TANZANIA

PROJECT: Man is Health

SECTOR: Health

MEDIA: Radio, with instructional materials

STRATEGIES: Listening Groups, Campaigns

PROJECT DESCRIPTION: In the 1960s and early 1970s, various Tanzanian agencies experimented with radio forums. In 1971 planning began for a major national campaign on health using radio listening groups. With top level government support, a well conceived and planned campaign, "Man is Health," was conducted using radio with listening groups and trained leaders.

OBJECTIVES: To provide villagers with basic information on disease, disease control, and the relationship between environment and health; to educate villagers on symptoms, prevalence, and origins of five potentially controllable but widespread diseases; and to motivate villagers to act to prevent certain diseases.

DURATION: Twelve weeks in 1973.

AUDIENCES: Rural adults. Planned for one million participants; 75,000 study groups with 15 participants per group.

MESSAGES: Recognition and prevention of common diseases: malaria, hookworm, dysentery, bilharziasis, and tuberculosis. Groups met weekly with trained discussion leaders to hear radio broadcasts and discuss simple written texts provided by government. From discussions, community work projects were to be conceived and carried out by the groups in their own villages.

RESEARCH: No pre-campaign research. Group leaders were

expected to complete forms on groups both before and after campaign. The two sets were to be compared for knowledge gain.

EVALUATION: The campaign used interim evaluation reports based on short evaluation tours and reports by group supervisors who visited more than 2,000 groups, as well as pre- and post-materials prepared by group leaders. After the campaign, on-the-spot examination of eight villages determined what physical changes had taken place.

COSTS: Approximately U.S. \$0.50 per villager reached.

FINDINGS: Approximately 1.5 million people participated, one-half million more than the government estimated. More than 60 percent remained for the 12 weeks. Group size ranged from 15 to 60 people. The campaign reached rural and illiterate people. The campaign resulted in health and development projects, including construction of an estimated 700,000 latrines and use of mosquito netting. The study groups showed 47 percent improvement between pre- and post-tests on specific points of knowledge regarding health. Some control groups showed a 19 percent improvement; however, the national broadcast character of campaign affected controls.

IMPLICATIONS FOR PHC: This was a primary health care project.

COMMENTS: The hallmarks of this project were high level political support, large scale, and adequate planning.

REFERENCES: Hall, 1978; Hall and Dodds, 1977; Bordenave, 1977.

Summary No. 43: TANZANIA

PROJECT: Food is Life

SECTOR: Nutrition

MEDIA: Radio, with learning materials

STRATEGIES: Listening Groups, Campaigns

PROJECT DESCRIPTION: This nutrition campaign was a sequel to the 1973 health campaign "Man is Health" (see Summary 42). Since the government system changed between campaigns, the second effort was organized differently; it was more decentralized. Each region had to be convinced of the need for this campaign and could set its own objectives and monitor results.

OBJECTIVES: To provide information about the nutritional value of different foods; to provide information about various ways to obtain a balanced diet on a limited budget; to eliminate various food taboos and improper food habits; and to increase production of certain kinds of food.

DURATION: Three months, June-September 1975.

AUDIENCES: All adults, but rural emphasis.

MESSAGES: Produce and consume a variety of foods for health.

EVALUATION: Decentralized. Six sample areas chosen. Pre- and post-tests given to a limited number of study groups on nutrition knowledge and family eating habits.

FINDINGS: Pre-test indicated that food taboos were many and widespread. Preliminary follow-up findings from sample areas indicated an increased consciousness of need for more food production, establishment of vegetable gardens and poultry units, improvement in dietary habits, and some abandonment of bad food practices.

IMPLICATIONS FOR PHC: This is a primary health care project.

REFERENCES: A.E.D. *Development Communication Report*, No. 17, 1977; A.E.D. *Development Communication Report*, No. 20, 1977.

Summary No. 44: THAILAND

PROJECT: The Radio Farm Forum Pilot Project

SECTOR: Agriculture

MEDIA: Radio, print materials, and fieldworker visits

STRATEGIES: Listening Groups

PROJECT DESCRIPTION: This was an agricultural radio forum with organized groups. Each group chose its leader and was linked to an extension worker who received weekly reports on the forum from the leader. Questions raised in group discussions were answered by an extension worker, on the radio, or during a visit by a specialist.

OBJECTIVES: To strengthen existing agricultural service; to obtain qualitative data on value of radio farm forums in facilitating communication between the farmer audience and extension service.

DURATION: Twenty weeks during 1975 pilot period.

AUDIENCES: Eight villages in northeast Thailand.

MESSAGES: Weekly 30-minute broadcast each Sunday. Varied format included interviews with specialists, discussions from listening groups, announcements, and questions and answers. Group discussion followed each broadcast.

RESEARCH: Simple study was done to determine best listening time for farmers.

EVALUATION: Evaluation was an integral part of project. Methods used included weekly reports from forums and visits to villages.

FINDINGS: The crucial element of radio forums was the opportunity they afforded members to exchange experiences and ideas and to participate in group problem solving. The two-way flow of information between farmer and extension worker was shown to improve greatly. Retention of information and overall learning also improved greatly due to high interest in content of broadcasts and opportunity to discuss. Messages were reinforced by various communication channels. Agricultural broadcasting was made relevant to farmer problems.

IMPLICATIONS FOR PHC: A project with a similar structure could be used for PHC.

COMMENTS: As a pilot, this project seemed very successful. Expansion to any significant scale will require good management capacity.

REFERENCES: Purnasiri and Griffin, 1976.

Summary No. 45: TRINIDAD AND TOBAGO

PROJECT: Breastfeeding Campaign

SECTOR: Nutrition

MEDIA: Radio, other mass media, print materials, extensive public relations component

STRATEGIES: Campaigns

PROJECT DESCRIPTION: The Association of Advertising Agencies offered their services to the Housewives Association to promote consumer education. The campaign topic chosen was breastfeeding. A six-week campaign was planned and carried out with free advertising space and time donated. All mass media were used.

OBJECTIVES: To provide mothers with facts on breastfeeding to aid in making a reasoned decision to nurse their babies; to create awareness of desirability of breast milk in the entire population.

DURATION: Six weeks in June and July 1974.

AUDIENCES: Prime audience: mothers and pregnant women. Secondary audience: population at large.

MESSAGES: Breastfeeding is preferable to bottle feeding. Nine 15-30 second spots were broadcast daily.

EVALUATION: Effects of campaign were evaluated immediately upon completion. Sample of recently delivered mothers was interviewed soon after birth and four months later. Knowledge and feeding practices were measured.

FINDINGS: A highly significant relationship was found between level of breastfeeding knowledge and frequency of exposure to mass media. The campaign reached a very high percentage of pregnant women and had the effect of delaying introduction of bottle feeding in a considerable number of cases. Campaign organizers concluded that campaign had significantly "raised consciousness" (increased awareness) among a variety of groups: politicians, administrators, health workers, and the general public.

IMPLICATIONS FOR PHC: This was a campaign on a PHC topic.

COMMENTS: Good example of use of commercial resources.

REFERENCES: Jelliffe and Jelliffe, 1978; Gueri, 1975; Gueri, Jutsum and White, 1978.

Summary No. 46: TUNISIA

PROJECT: Dr. Hakim

SECTOR: Nutrition

MEDIA: Radio

STRATEGIES: Campaigns

PROJECT DESCRIPTION: The national nutrition institute, with external support and assistance, developed this project to test use of radio for nutrition education. Radio was supported by face-to-face instruction by health clinic personnel.

OBJECTIVES: To improve the nutritional status of young children.

DURATION: 1978, campaign lasted 6 months.

AUDIENCES: Mothers with young infants, parents of young children.

MESSAGES: Five basic themes: importance of exposing infants to sunlight; need for supplemental feeding in first year; need for eggs and protein in diet; addition of vegetables to diet; and importance of breastfeeding. Some 37 messages were created around the 5 themes. A fictitious male physician, Dr. Hakim, was created. One to two-minute messages, in the form of short lectures, were broadcast a number of times each day.

RESEARCH: No testing done of use of male physician as

radio character or of choice of five themes. Actual messages were pretested.

EVALUATION: Research design measured effectiveness of radio only versus radio plus personal instruction in a clinic setting.

FINDINGS: The main character, Dr. Hakim, became well known. He was even referred to in a newspaper cartoon. There were too many messages (37). The evaluation found that information was muddled. The broadcast period, six months, was too short, particularly given the number of messages. Thorough evaluation of knowledge about program content showed that mothers were positively influenced; behavioral change data were inconclusive.

IMPLICATIONS FOR PHC: This is a primary health care project.

COMMENTS: Use of a character to identify a program or product is common practice. There are a number of radio as well as print examples for health.

REFERENCES: Smith, 1979.

Summary No. 47: U.S.A. — ALASKA

PROJECT: Telemedicine: Health Care for Isolated Areas

SECTOR: Health

MEDIA: Radio using satellite connection

STRATEGIES: Two-way Radio

PROJECT DESCRIPTION: Alaska's rural areas are similar to those of many developing countries, with widely scattered villages, small population, and limited access to health care. This project uses health aides who are chosen from the community, given 16 weeks' training, and backed up by a physician who consults regularly by two-way radio.

OBJECTIVES: To provide primary health care through a system of health aides to the general public of rural Alaska.

DURATION: Ongoing since 1971.

AUDIENCES: Rural health aides.

MESSAGES: Health information as needed by patients.

EVALUATION: The project was evaluated carefully through study of performance, efficiency, adequacy, effort, and process. Data showed dramatic increase in frequency of contact and number of new cases treated. Both doctors and health aides considered health care improved.

FINDINGS: Satellite connection is so much better than high frequency radio that other findings are affected. A good, clear connection has made the medium unobtrusive and allows health work to proceed without interruption. Telemedicine, by radio, can provide useful consultations for virtually any type of medical problem. Rural health aides with no more than 16 weeks' training can provide high quality care with assistance of telemedicine. Health aides report that patients are more willing to come for treatment now that there is regular access to a doctor.

IMPLICATIONS FOR PHC: This is a primary health care project. It is community-based, uses staff from the local community with short-term training and is backed up by a physician who is linked by two-way radio.

COMMENTS: Availability of satellite makes this a special case.

REFERENCES: Kreimer, 1977; Foote, 1977.

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