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Final Case Study Evaluation Report**

by

**Susan Zimicki**

**Center for International, Health, and Development Communication  
Annenberg School for Communication  
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**March 1991**

The research reported here was done in collaboration with the Papua New Guinea Department of Health and was supported in part by the Academy for Educational Development through its Communication for Child Survival contract with the U.S. Agency for International Development, Bureau of Science and Technology, Offices of Health and Education (Contract no. 1018-C-00-5036-00). This paper is the responsibility of the authors and may not represent the views of those who have supported the research.

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## INTRODUCTION

Social marketing is the application of techniques developed by commercial marketers to increase the acceptability of a social idea or practice in a target group. It emphasizes: 1) developmental research to select the target audience, to decide how to make the idea or practice most appealing, and to determine the media channels to use; 2) development and pretesting of messages to encourage acceptability (possibly also development of packaging for the 'product', such as ORS packets or contraceptives), 3) monitoring, and 4) evaluation. It has had its wide application in developing countries for promoting contraception, for which it has been used since the 1970's. In the early 1980's its use was extended to topics such as promotion of the use of oral rehydration solution and childhood immunization.

Social marketing contrasts with "health education" in a number of ways. It is frequently perceived mainly in terms of its use of mass media, although that is not an essential element, in contrast to health education's emphasis on face-to-face interaction. A more essential contrast is that social marketing often has the objective of creating a demand for a 'product' (such as a type of contraception or an ORS packet) or for a service (such as immunization), while "health education" has the objective of remedying knowledge deficits.

The HEALTHCOM project involved the application of social marketing techniques to child survival issues. HEALTHCOM was a five-year communications project designed to assist developing countries to use communication strategies to promote the widespread use of effective child survival practices. HEALTHCOM was sponsored by the Office of Health and the Office of Education within the Bureau for Science and Technology of the U.S. Agency for International Development and was administered by the Academy for Educational Development. The project worked in some 17 countries, using its research and development approach to promote changes in behavior with regard to child health.

The two-year HEALTHCOM project in Papua New Guinea is an example of the introduction of social marketing concepts in a country with a great deal of cultural diversity, fairly limited mass communications, and logistic constraints that make monitoring and evaluation difficult.<sup>1</sup>

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<sup>1</sup> This case study was based on a review of documents and interviews with key people that were carried out in June 1990, at the end of the project. The Papua New Guinea Department of Health is small, and much business is accomplished in discussion, rather than through memo-writing. Thus there were not many documents to review. A few key people were unavailable to be interviewed. Had there been fuller documentation or an opportunity to interview people throughout the project, it is possible that this case

The project was asked to concentrate its efforts in two provinces, with diarrhea the focus in Central Province during the first year of the project, and a second province with a different focus added the second year.

## **CONTEXT OF THE PROJECT**

### **Geography and Population**

Papua New Guinea is one of the world's most diverse areas, both in topography and in cultural complexity. The country shares the world's second largest non-continental island with Indonesia, as well as comprising some 600 islands in the Bismark and Louisiade archipelagos and the northern Solomon islands. The topography includes mountain ranges (the highest of which rise to 4,500 meters), forests, swamps and seasonally swampy plains, upland valleys, rivers, volcanoes, plateaus, and islands.

There are only a few population centers. Most of the population (87%) lives in rural communities of less than 500 people, with only 13% in urban and semi-urban areas. As of 1988, Port Moresby was the only urban area with a population greater than 100,000; and only eight urban areas had populations greater than 10,000. Islands account for about 15% of the total land mass and generally are sparsely populated. The highlands are the most densely populated areas, but the rough terrain makes communication and transportation difficult. There are less than 20,000 kilometers of roads, and most of the country cannot be reached by road from Port Moresby, the capital. Ship and air transport are extremely important, but unfortunately, relatively expensive.

More than 700 languages are spoken. It is not clear how distinct they are, particularly for groups who live adjacent to each other. Indeed, this measure of diversity, which was reported in a number of interviews, may be somewhat misleading: differences in language do not necessarily imply differences in basic concepts, attitudes or practices. It is possible that differences between groups have been overemphasized; on the other hand, some anecdotal evidence suggests that differences may be more important here than in other places. For example, the HEALTHCOM Resident Advisor reported that during pretesting, posters that

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study would contain a fuller understanding of changes in attitudes about health education and about certain decisions. However, it is unlikely that the overall conclusions would be different.

used photographs of people were less well received than those that used sketchier line drawings; when they looked at the posters with the photographs people noticed mainly how the people in the photographs were not like themselves, rather than the similarities.

There are three official languages: Tok Pisin, Hiri Motu, and English (the official language of government and education). Women, particularly those who are older or who live in rural areas, may not know any official language. Literacy is low -- estimates vary, but range from 16% to 33% of the population being able to read any language; literacy for women is about half that for men.

The population of Papua New Guinea is relatively young. At the time of the 1980 census, 43% of the population of 2.9 million were less than 15 years old. The National Statistics Office estimated the growth rate to be 2.2% per year, thus the 1990 population was probably about 3.7 million. As of 1980, the average life expectancy for both men and women was about 50 years, infant mortality was about 72 per thousand live births, and child mortality about 42 per thousand, and the birth rate about 34 per thousand. For children 1-4 years old pneumonia is the leading cause of death, with diarrhea second; while for infants less than 1, diarrhea is third, led by pneumonia and meningitis.

### **Government Structure**

When Papua New Guinea gained independence in 1975, the administration was highly centralized. However, by 1977 a series of legislative acts established the current structure of nineteen provincial governments and the National Capital District. In the early 1980's government services were decentralized to the provinces; thus the provinces administer and make decisions on matters such as rural primary industries, education, roads, and health services. Provinces manage all provincial health units, that is, the provincial hospital, health centers, sub-centers, and aid posts. The National Health Department retains responsibility for base hospitals, recruitment, training, and supplies, including pharmaceuticals.

The relationship between the National and Provincial Departments of Health is complex, with policy set and expertise located at the National level, but implementations decided on at the Provincial level. Funding is mainly provided from the National level, but the authority for

planning and managing the budget rests at the Provincial level. Provincial staff, who are supervised by the provincial governments, are still employed by the national public service.

Funding problems have been exacerbated recently by a number of actors. Since 1985, the government has "concentrated resources in the income producing economic sectors and made progressive annual cuts to the social sectors" (Thomassen and Kolehmainen-Aitken). The recent secessionist movement and civil strife in Bougainville, the source of much of the country's foreign income, have further reduced available funds. Moreover, more than 70% of the public sector expenditure on health is spent on salaries and allowances, which are adjusted according to a consumer price index. Thus less and less funding is available for non-salary expenses, thus limiting development of health services.

Support for many health activities comes from external donors, with the Australian International Development Assistance Bureau (AIDAB) the major donor. In the past, AIDAB gave money in block grants. Recently, money from AIDAB, as well as from WHO and UNICEF, has been more frequently given on a project-specific basis, which allows the government less flexibility in making decisions about health programs. The HEALTHCOM project was the first USAID-funded project in Papua New Guinea.

### **Health Services Structure**

The Department of Health has from the beginning emphasized the development of services in the rural areas. Because of this commitment to the rural population, by 1985 a health facility could be reached within two hours travel time by 96% of the population.

The most basic kind of health facility is the aid post, staffed by an aid post orderly (APO), who mainly provides simple curative care. There are currently more than 2000 aid posts in the country, with an average catchment population of about 1400. APO training lasts 2 years; the course includes studying common illnesses and treatments, preventable conditions, nutrition, hygiene and environmental management including water supply and sanitation. At a higher, more centralized, level, health sub-centers and centers provide maternal and child health care in addition to outpatient curative services, along with limited (sub-centers) or more extensive (centers) inpatient care. The health center in each district of a province supervises the sub-centers and aid posts in that district.

## **CDD Program**

### **POLICY REGARDING ORAL REHYDRATION SOLUTION**

A national workshop on oral rehydration therapy was held in Port Moresby in 1978, after which a plan of action was drawn up. A National Committee on the Control of Diarrheal Diseases (CDD) was established in 1979, and in May 1980 a national policy on oral rehydration was established. According to this policy, diarrhea with no hydration was to be managed by giving the child fluids more often, with the recommended fluids "anything the child normally drinks at home" and sugar water (1 teaspoon of sugar in a cup of water). Oral rehydration solution was to be distributed in hospitals and health centers to children with signs of dehydration. No packets were to be supplied to be taken home (as it was felt that mothers could not make the solution properly). In fact, packets were to be supplied to APOs only when the supervising officer was certain that the healthworker could prepare the solution properly.

Revisions of the policy were made in 1985, 1988 and 1989. The 1985 policy indicated that caretakers of children without dehydration should be shown how to mix sugar-salt solution. The 1988 policy did not mention teaching sugar-salt solution, although it emphasized the role of the healthworker in teaching parents how to prevent diarrhea and how to detect the early signs of dehydration. It also stated that "ORS packets should be supplied to the out-patients ONLY when the healthworker is certain that the parents have been taught: to dissolve each packet properly in one liter of water; how to keep the bottle containing the fluids clean; that ORS solution should stop when the signs of dehydration disappear."

There was apparently some ambiguity about use of ORS at aid posts since the March 1989 policy document clarified that ORS was to be provided "at all health facilities, including aid posts for all diarrhoea cases with signs of dehydration who are able to drink and are not severely dehydrated". It stated that if it was necessary for the mother to take ORS home the healthworker should prepare it and provide a suitable clean container, and that "packets are not normally to be given to mothers to take home unless there are exceptional circumstances (e.g., where admission is not possible). Should it be necessary to give packets to a mother it must be the healthworker's responsibility to ensure that she understands how to mix and give the solution. This includes a demonstration."

## PRACTICES AT HOME

In 1987, the Department of Health collaborated with UNICEF and WHO to carry out a comprehensive review of CDD in 4 provinces (East New Britain, Eastern Highlands, East Sepik and Gulf). A very small (133 households) survey conducted as part of this review revealed that 50% of the respondents reported increasing fluids at home (mainly plain water and/or sweet potato water) for the last episode of diarrhea. Only 19% of households knew what the ORS packet was used for, and none could administer it correctly. Of those who had ever used the packet, almost 70% thought that it stopped diarrhea. About half the households had sugar on hand, and about two-thirds had salt, but most households where either or both were unavailable said they could obtain it from local stores. However, only 13% had ever used sugar-salt-solution for diarrhea. These surveys indicated that about 40% of the children had been taken to a health facility.

A survey of 1028 mothers of children less than 5 was conducted in Milne Bay Province in 1988 indicated that about 50% of the 94 children who had had diarrhea in the past 2 weeks were taken to a health facility, and 24% had been given ORS, while about 50% had been given home fluids.

As part of formative research for the HEALTHCOM project, a survey of 500 women in Central Province and the National Capital District was carried out in August 1989. Sixty-six percent of respondents reported going to a facility for consultation on the last episode of diarrhea. Of the liquids reportedly given at home, water sugar salt solution was most commonly mentioned (30%), followed by plain water (18%). Also, 78% of the women said they continued breastfeeding during the episode.

## TRAINING OF HEALTH PERSONNEL AND CASE MANAGEMENT IN HEALTH FACILITIES

In 1984, two training modules were drafted, one for Aid Post Orderlies (APOs) and the other for nurses. In 1985 training materials were pretested and a training courses for trainers was held. A supervisor's checklist for CDD was also developed for use in all health institutions and ancillary materials, such as a tape/slide presentation, were prepared and distributed. Also in 1985 a national workshop for paediatricians was held to examine the program and make recommendations for future directions.

The 1987 comprehensive review noted a generally poor level of case management at aid posts, highlighting a lack of "standard" guidelines in English and Tok Pisin, poor clinical supervision of home fluid use, and poor advice to mothers on how to manage cases of diarrhea. Specific deficiencies in case management by health personnel were substantial proportions of both APO's (n=16) and other health personnel (n=20) doing poorly in assessing dehydration (APOs, 31%; others, 65%); preparing ORS (APOs, 64%; others 50%); and advising mothers (APOs 29%; other 73%) (Report on the comprehensive review, 1987, p. 18).

One reason for these high levels was that the training modules in clinical management prepared in 1985 had not yet been extensively used at the time of the review. However, between this time and the initiation of the HEALTHCOM project, a number of training courses were held, mainly for mid-level personnel, although at least one was held in Central Province for APOs. At the time the HEALTHCOM project started, there were plans for additional courses, so that all APO's would receive training.

#### HEALTH EDUCATION/HEALTH COMMUNICATION

The state of health education in Papua New Guinea reflects the struggle between centralization and decentralization. In 1982, a decision was taken that "every healthworker should be a health educator", and health education was abolished as a specialization. That is, the government abolished the national office of information, health education positions were eliminated, and the Institute of Health Education was dissolved. The Provincial Health Educators became Primary Health Care officers, that is, in-service training coordinators. Health education was still carried out, though in a somewhat ad-hoc fashion, and at the central level largely with the assistance and stimulus provided by outside consultants. The 1987 review noted that while a variety of materials of relevance to CDD had been produced, there was only one cartoon poster that addressed the management of diarrheal diseases. Further they noted a lack of pretesting, and a lack of health education material in Tok Pisin or Motu.

In 1985 the National Training Support Unit was created as part of a project funded by the Asian Development Bank to improve rural health services by developing training and education materials for the provinces. This unit has been involved with community healthworker training, informational workshops, train-the-trainer workshops, and family planning. It also, as part of the support services for training, designs and produces health education print materials.

In 1987 a National Health Education Advisory Committee was established. This committee, with about 50 members, continues to function, with subcommittees that meet periodically to initiate and review work.

At the initiation of the HEALTHCOM project, the National Training Support unit had a staff of seven professionals, and there were also two health educators at the national level. At that time provincial health educators were not funded. However, in June 1990, one informant from Central Province identified himself as being a health educator, and explained that he had that designation since December 1989. Thus the role of health education is again gaining recognition. However, it is interesting to note that in the plans for regionalization (and in the Child Survival project) health promotion has a minor position. Perhaps as a reflection of the lack of explicit attention to health education, healthworkers were perceived by the Resident Advisor as being generally uncomfortable referring to materials.

#### RESOURCES FOR HEALTH COMMUNICATION

A radio listenership survey conducted among 1220 urban and rural residents of areas in and around Port Moresby, Lae, Goroka and Kiela/Arawa indicated that 79% of respondents overall reported radio ownership, with somewhat higher proportions in Port Moresby and lower elsewhere. (The 1989 State of the World's Children indicates 63% ownership for Papua New Guinea as a whole). Eighty-three percent of the respondents listened to radio, with substantially higher listenership among the population under 35 years of age and among urban residents. Moreover, 75% of radio listeners reported tuning in during the evening, 49% before going to work or school, and 40% claimed to listen at home during the day.

Overall, 78% of the respondents said they preferred to listen to programs in English, and 66% said Pidgin. Only 12% said they preferred to listen to Motu and the majority of these were in the Port Moresby area. The highest incidence of English preference was in the urban areas, and among the respondents with more education.

Advice programs were widely appreciated. Respondents stated their preferred topics for these programs to be health and hygiene, and particularly advice on how to prevent serious diseases.

The Department of Health has free airtime on EMTV and government radio stations, and EMTV provides limited 'free' production and air time to the Department of Health in the form of still studio shots (of posters) with accompanying voice-overs. In addition, Radio Kalang, the commercial FM station, gives a limited amount of free airtime.

There is a small commercial advertising agency community in Port Moresby, which was felt by the project's social marketing consultant to be "well developed, innovative and culturally sensitive as well as socially conscious and concerned about Department of Health activities". One agency is affiliated with one of Port Moresby's two market research firms; both the market research and the production side of the organization were subcontracted by HEALTHCOM.

## **ACTIVITIES**

### **Defining the project focus**

Prior to the Resident Advisor's arrival in June 1988, discussions between HEALTHCOM and the Department of Health indicated that a number of topics might be suitable as the project focus -- diarrheal disease, acute respiratory disease, nutrition, immunizable diseases, malaria, and family planning had all been mentioned at least once. Much of the time immediately after the Resident Advisor's arrival was spent in considering whether diarrheal disease or family planning would be a better first topic. Family planning had the advantage of being a topic that people were interested in; while diarrheal disease, acknowledged to be one of the top five causes of infant and child mortality, aroused less interest. Some, however, felt that family planning was a "sensitive" topic, perhaps not one that should be aggressively promoted. The issue was resolved in favor of diarrhea when discussions with HEALTHCOM staff in Washington indicated that diarrheal disease would be more appropriate as a child survival topic.

The implementation plan for the HEALTHCOM project was drafted in August 1988. It identified diarrheal disease as the primary focus of HEALTHCOM activity during the first project year, and noted that a second site would be selected for HEALTHCOM activity during the second year of the project.

## Principal Program Activities- Diarrhea

### THE PACKET QUESTION

As part of the decision about diarrhea as the focus of the HEALTHCOM project, the Resident Advisor began discussing with Department of Health staff the implications of the national policy about diarrhea treatment for HEALTHCOM activities. From the beginning of the CDD program there had been great concern about whether women could correctly measure a liter of water, and consequent reluctance to let anyone but trained health personnel prepare ORS from packets. This concern seems to have been based largely on a fear of hypernatremia, since two solutions that were recommended -- "sugar water" (a teaspoon of sugar in a mug of water) and sugar-salt-solution -- would contain much less salt than even a properly-prepared packet solution. Without a change of policy, packets could not be promoted directly to mothers. However, the policy did not totally preclude development of a local name and improved label, or local packet production. The Resident Advisor followed up possibilities throughout 1988 and 1989. Another possibility that was considered was whether special 1-liter containers could be produced for mass distribution. Because of funding problems and, for local production, lack of consensus among the Department of Health and NGOs on issues such as formula, cost, package size and flavoring, these matters were not resolved.

### MATERIALS

#### An impressive number of materials were produced.

#### 1. Card on the basics of treating diarrhea

One activity that illustrated the importance of pretesting was the development of cards for parents that summarized the basics of treating and preventing diarrhea. Work on this card began in February 1989. The idea was that it would be about the same size as the booklets given to parents at the time of a child's first visit to a health facility, so that it could easily be kept with the booklets, and would provide an easily accessible reference.

In March a design from the PRITECH booklet "Talking with Mothers about Diarrhea" (Figure 1) was adapted, and 500 prototype cards (Figure 2) were printed in English. Pretesting was carried out (with literate mothers) through August 1989, and a number of

Figure 1

## HOW TO TREAT DIARRHOEA AT HOME

1.

AS SOON AS DIARRHOEA STARTS, GIVE YOUR CHILD MORE FLUIDS THAN USUAL TO PREVENT DEHYDRATION. SUITABLE FLUIDS INCLUDE:

- the recommended home fluid or food-based fluids, such as gruel, soup, or rice water.
- breastmilk, or milk feeds prepared with twice the usual amount of water.



2.

### GIVE YOUR CHILD FOOD

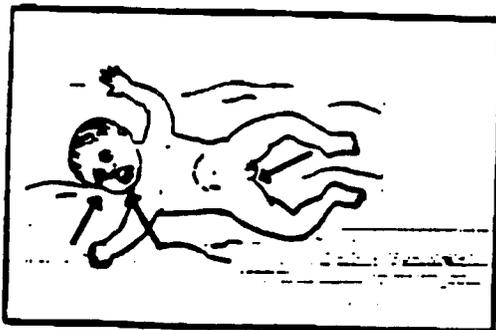
- which is freshly prepared, for example, mixes of cereal and beans, or cereal and meat or fish. Add oil to food if possible.
- fresh fruit juices or bananas.
- as much as the child wants, 6 or more times a day.
- which is cooked and mashed or ground well so it will be easier to digest.
- after the diarrhoea stops, one extra meal each day for a week.



3.

TAKE YOUR CHILD TO THE HEALTH WORKER IF THE CHILD:

- passes many stools
  - is very thirsty
  - has sunken eyes
  - has a fever
  - does not eat or drink normally
  - seems not to be getting better.
- signs of dehydration



4.

YOU CAN PREVENT DIARRHOEA BY:

- giving only breastmilk for the first 4-6 months and continuing to breastfeed for the first year.
- introducing clean, nutritious weaning foods at 4-6 months.
- giving your child freshly prepared and well-cooked food and clean drinking water.
- having all family members wash their hands with soap after defecating and before eating or preparing food.
- having all family members use a latrine.
- quickly disposing of the stool of a young child in a latrine.



Figure 2

## HOW TO TREAT DIARRHOEA AT HOME

### 1.

AS SOON AS DIARRHOEA STARTS, GIVE YOUR CHILD MORE FLUIDS THAN USUAL TO PREVENT DEHYDRATION. SUITABLE FLUIDS INCLUDE:

- . breastmilk
- . coconut water
- . soups
- . fruit juices
- . sugar and salt solution
- . rice water



BREASTFEEDING



OTHER FLUIDS.

### 2.

#### GIVE YOUR CHILD FOOD

which is freshly prepared, for example, mixes of kaurau and beans, or kaurau and meat or fish. Add oil to food if possible.

fresh fruit juices or bananas.

as much as the child wants, at least three meals a day and snacks in between.

which is cooked and mashed or ground well so it will be easier to digest.

after the diarrhoea stops, one extra meal each day for a week.

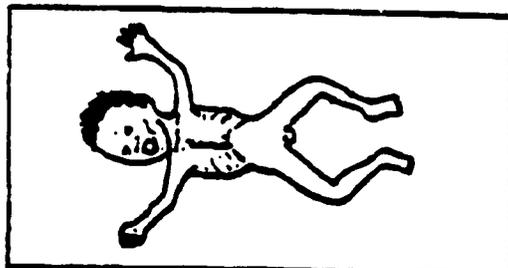


FEEDING

### 3.

#### TAKE YOUR CHILD TO THE HEALTH WORKER IF THE CHILD:

- passes many stools
- is very thirsty
- is vomiting
- has sunken eyes
- does not eat and drink normally
- is very tired or sleepy
- has a fever
- has blood and mucus in stools
- is not getting better



DEHYDRATION

### 4.

#### YOU CAN PREVENT DIARRHOEA BY:

giving only breastmilk for the first 4-6 months and continuing to breastfeed for the first year.

Introducing clean, soft and mashed foods at 4-6 months.

giving your child freshly prepared and well-cooked food and clean drinking water.

having all family members wash their hands with soap and water after defecating and before eating or preparing food.

having all family members use a latrine.

quickly disposing of the stool of a young child in a latrine.

have your child immunized against measles at the age of 9 months.



SANITATION



changes were made. For example, it was decided to drop the mention of coconut water in the cards printed in Tok Pisin and English, since mention of it alienated people who had no access to coconuts (people living along the coast, where coconuts are available) were more likely to speak Motu.

Further pretesting with non-literate mothers resulted in revisions with fewer words and more drawings. Pretesting of the revisions was finished in November 1989, and in February 1990 40,000 English version cards were printed, with the costs of printing and shipping shared by UNICEF, the Department of Health, and HEALTHCOM. By April the Tok Pisin and Motu translations were finished, and printing of these was started in May.

## 2. Poster

In March 1990 work was begun on posters about the treatment and prevention of diarrhea that could be used in diarrhea treatment units, as well as more generally distributed. The Resident Advisor noted that there were no posters on these topics that were locally produced, and proposed to use the same images as in the treatment and prevention pages of the pamphlet which had been completed in February 1990.

The development of the poster provided an opportunity to examine the effect of using photographs or line drawings. Private sector marketers favored photographs, believing "that people don't take drawings seriously, or don't relate drawings to real life", while an anthropologist had suggested that the detail in photographs might be too distracting, particularly when faces were shown. Pretesting of the draft posters, carried out in April, resulted in a decision to use drawings.

## 3. Video - Making Things Clear

The production of the video "Making Things Clear", about how healthworkers can more effectively communicate with mothers, arose out of identification of interpersonal communications skills as one of the areas that most needed to be addressed. Production of the video started in February 1989 and proceeded relatively quickly. The format used was that of a management training film. The video shows a typical conversation between a healthworker and a mother who has brought her child to be treated for diarrhea. A narrator then guides the viewers through an analysis of the interaction, points out the instances when the APO does not

communicate well with the mother, and emphasizes the principles of effective communication. In a second scenario, the APO is shown using these principles to communicate well with the mother. The principles emphasized are those that are considered in the printed training manual for healthworkers: "Talking with Mothers about Diarrhea", which had been previously prepared by HEALTHCOM staff at the Academy for Educational Development in collaboration with the PRITECH Project.

The first version of the video was completed in March 1989, and it was presented at a workshop for 23 APOs in Abau District of Central Province, who responded positively and gave helpful comments for revision. From April through June it was screened for various Department of Health officials. They too were generally positive about the video, and expressed interest in similar videos on other topics. They also raised the question of video equipment and its use within the Department; as a result of this concern guidelines were drafted on the use of equipment at the provincial level.

In July, in response to the elicited comments, revised scripts (in English and Tok Pisin) were prepared, which were approved and given technical clearance by the Department of Health in August. After some delays the revised versions were finally re-shot in October, and 60 copies had been made by February. Discussion guidelines were prepared in March, and 2 copies of the video were distributed to each province beginning in April.

The video was used in a WHO-sponsored training course in March 1990, and had received favorable comments. A copy was supplied to the Western Pacific Regional Office as well as to the CDD program headquarters in Geneva. It has been successfully used in training courses in Vietnam and Nigeria, and is being considered for regular incorporation in the training course.

#### 4. Typhoid poster

In February 1990, HEALTHCOM was asked to coordinate efforts to develop a mass media campaign about typhoid prevention and treatment. A poster and radio messages were produced, as well as a 1-minute spot public service announcement for television. As of March, the TV spot was being shown 3 or 4 times a day.

## 5. Treatment chart for diarrhea

In September and October 1989 a modified version of the WHO-prototype wall chart summarizing the treatment of diarrhea was developed and field tested. The first test involved training APOs for about 2 hours in the use of the chart, then giving them sample case histories (story problems) and asking them to use the chart to determine the appropriate treatment. This approach was somewhat successful, but WHO resisted simplification of the chart, and the project was dropped.

## RESEARCH

### KAP in Central Province and National Capital District

An initial survey of the knowledge, attitudes and practices of 500 women in Central Province and National Capital District was carried out beginning in September 1988. First Marketsearch, the market research firm contracted to carry out the survey and associated focus group discussions, submitted preliminary tabulations in time for the Resident Advisor to report the results at a review of the project in Washington in November 1988. Unfortunately, due to a computer failure, the data were destroyed before more extensive analysis could be accomplished.

The preliminary results showed that 78% of the respondents said that a child could die from diarrhea, and the causes of diarrhea most frequently mentioned were bad food (61%), bad hygiene (32%) and unclean water (25%). Sudden weight loss (19%), sunken eyes (17%), and weakness (15%) were the most commonly mentioned symptoms that the diarrhea was getting worse.

### Behavioral research

In January 1989 a consultant, John Elder, who is a behavioral psychologist, worked with the Resident Advisor to develop a protocol for examining health worker knowledge and behavior and the practices of mothers who attended health centers. The initial plan was that 15-20 APOs and 150-200 mothers would be interviewed in 4 districts in Central Province before and after training. Interviews were started in February by 6 field staff; preliminary results reported in April indicated

that health workers were strong in the technical knowledge of diarrhea but not very good at communicating with mothers.

During a second consultancy visit by Elder in July the data was reviewed and a decision was taken to drop the portion of the research that concerned mothers. This portion was time consuming, there had been some trouble with the quality of the interviews, and it seemed unlikely to yield much information because of the poor communication between health workers and mothers. Instead, the study was reduced in size and refocussed to measure the effectiveness of 'Making Things Clear' used in a workshop situation. Data collection for this modified study was completed in November 1989; it indicated that 14 health workers who had seen the video asked diarrhea patients more questions than 28 workers who had not seen the video. This effect was evident even for health workers who had seen the video more than 3 months before they were observed/interviewed.

#### WORKSHOPS AND FORMAL TRAINING

The Resident Advisor was active in introducing to various groups both the concept of social marketing and qualitative research techniques that are particularly useful in formative research, particularly the focus group discussion method. The first time that the concept of social marketing was presented formally was at the Seminar on Health Education and Social Science held in December 1988, where the director of the market research firm that had carried out the KAP survey and the Resident Advisor presented a paper on social marketing.

In June of the following year, at a Health Educator Workshop in Mt. Hagen attended by 13 healthworkers, the Resident Advisor gave a one day presentation on health communications and introduced focus groups as an effective means of qualitative research. In July, 3 hours of a workshop on Health Systems Research attended by healthworkers from 7 provinces were devoted to focus group techniques. The next month, at a Health Educator Workshop in Madang, 25 participants were given an overview of social marketing and an introduction to focus group discussions and individual interviews.

In February 1990, 35 participants at a WHO-sponsored CDD Supervisory Skills Workshop were shown 'Making Things Clear'. The Resident Advisor was a facilitator at the workshop and led a discussion of how health officers can use the video with the healthworkers they supervise.

In addition to these workshops, the topic of communications skills was incorporated into a series of workshops for APOs in Central Province. The original plan was that the Resident Advisor would attend each of at least three workshops; however, the timing proved to be bad and the Central Province counterparts showed and discussed 'Making Things Clear'.

#### COUNTERPARTS AND HANDSON TRAINING

The people interviewed for the summative evaluation were unanimous in their appreciation of how the Resident Advisor's working with Department of Health staff had resulted in practical learning, particularly about pretesting and video production. In addition to his 'official' counterpart, the National Health Education Coordinator, the Resident Advisor worked most closely with the Training Coordinator and Primary Health Care Officer in Central Province, with the National Health Information Officer, with staff from the Media Production Unit and from the College of Allied Health Sciences.

#### PRINCIPAL PROGRAM ACTIVITIES - NUTRITION

From early in the project, nutrition had been discussed as a possible topic for the HEALTHCOM intervention in the second province, and some thought was given to the possibility of involving consultants from the Nutrition Communications Project or from the Dietary Management of Diarrhea Project (both USAID-funded projects in which the Academy for Educational Development has had a strong role).

The Resident Advisor met Dr. Carol Jenkins, an anthropologist from the Papua New Guinea Institute of Medical Research, who was interested in applying a new method to identify malnourished children for a follow-up intervention that would encourage women to feed them more frequently and with a greater variety of food. After discussions between the Resident Advisor, Dr. Jenkins, the Department of Health and the Academy of Educational Development, two sites in Madang Province were selected for the intervention trial, which became the second site activity.

The background to the project was that the typical way of carrying out nutrition surveillance is by maternal and child health nurses in mobile clinics, who weigh each child and plot the weight against the child's age on the Road to Health card, which uses the Harvard standard weight-

for-age cutoffs to indicate when a child is malnourished. The problem is that as many as half of all children fall into the category of less than 80% of the Harvard standard weight for their particular age, and are thus identified as malnourished. Because of this, MCH nurses may learn to ignore the child's nutritional status as there is little they are able to do for a large number of children in the short period of time they have during mobile clinics.

Research conducted by the Papua New Guinea Institute of Medical Research indicated that measuring a child's the mid-upper arm circumference and using a cut-off of 13.0 cm would correctly identify children over 6 months of age whose weight-for-height is greater than 2 standard deviations below the median (NCHS standards), that is the group most at risk of dying. This group is smaller than that identified by the criterion of less than 80% weight for age standard.

In the HEALTHCOM sites, the intervention activity which was proposed was that the mother would be asked to work with a female helper, preferably from the same hamlet and family. The two women would be taught together how to prepare nutritious soups or stews of locally available foods. The proposal was that a flip-chart would be developed containing a series of photographs presenting various locally available foods in different combinations (recipes), to aid the maternal and child health nurses in discussing improved nutrition with the mothers and helpers. Women would be invited to attend cooking demonstrations to see how the recipes could be made. To assess the effectiveness of the intervention, the children's weight, height, and arm circumference would be measured periodically.

The proposal was officially approved by the National and Provincial Health Offices by April 1989. Although it was hoped that eventually the identification of malnourished children and the intervention could be carried out by maternal and child health staff during the developmental phase these tasks were the responsibility of two Peace Corps volunteers and an Institute of Medical Research fieldworker. In September work began in one of the two project sites, Yilu village of Ramu District in Madang Province, where the Peace Corps Volunteers were trained to measure mid upper arm circumference as well as height and weight, and were oriented to the nutrition communication aspect of the project. Work was begun in the other project site, Kenainj, in October.

A draft of the flip-chart/photo book of 15 local foods was completed in September. This draft consisted of photographs of individual foods; the idea was that once it had been established that

women could recognize them, recipes using combinations of foods could be developed and incorporated into the flip-chart as photographs of the ingredients. However, during the first pretest, carried out in Kenainj in October, it was found that people became confused when there were too many foods in one photograph and that they did not recognize some of the foods. More samples of these foods were collected and photographed. Eventually a poster of all the local foods was developed with the idea that healthworkers could point out the individual foods being talked about.

There were some initial difficulties with the reliability of the anthropometric measurements in the Yilu village site and preliminary review of the measurements in Kenainj in March did not show the anticipated change in nutritional status. Cooking demonstrations in both sites were well-attended by the mothers and their helpers, but there was no evidence that the women were incorporating the recipes into their own practice. The major constraint of this intervention is how well it could be implemented on a wider scale.

## **DISCUSSION – INSTITUTIONALIZATION**

One of the major objectives of the HEALTHCOM project was stated in the implementation plan as being "to institutionalize the HEALTHCOM methodology of communication planning and implementation via a two-pronged effort: a) hands-on involvement at each stage of the program by appropriate DOH staff members, and b) workshops and training seminars covering the basic principles of social marketing and HEALTHCOM methodology."

As a result of the HEALTHCOM project, there is substantial interest in the social marketing approach, particularly at the upper levels of the National and Provincial Health Departments. The major constraints to complete institutionalization identified in the summative evaluation were length of the project; the choice of focus; its location at the Provincial level, and in particular the choice of Central Province as the first site; lack of budget; and shortage of expertise.

### **Length of the project**

The Resident Advisor arrived in June 1988 and left in May 1990. Those interviewed for the summative evaluation were unanimous and vocal in their disappointment that there was no

possibility of extending the project. Two years was too short a time to carry out even one full cycle from problem identification to evaluation and modification of a communication intervention, particularly given the initial confusion about the appropriate topic and the appropriate approach. The fullest example of application of the HEALTHCOM methodology was the production of the training video, "Making Things Clear". Unfortunately, at the time the project ended it had just begun to be distributed and used, and there had been little time for evaluation of its effectiveness as actually used.

### **Choice of focus**

At the beginning of the project there was some confusion about the area of focus -- the Department of Health was most interested in family planning, but agreed to the choice of diarrhea as the initial topic. In the summative evaluation interviews opinion was divided on whether the choice of the topic of diarrheal disease as HEALTHCOM's initial focus helped or hindered the institutionalization of the HEALTHCOM methodology. Some felt that this choice of a "less interesting" focus may have dampened interest in the project, and thus limited the potential for institutionalization of the HEALTHCOM approach. They suggested that choosing family planning, a topic of greater interest, would have stimulated interest in the method and that more people would have gotten involved. On the other hand, one respondent made the point that the choice of the lower-profile topic of diarrheal disease meant that adequate time could be taken for the Resident Advisor to work with people and introduce them to new ideas about how to plan and develop materials.

One constraint for the project, given the choice of initial topic, was the official policy that women should not be given ORS packets except under exceptional circumstances, thus ruling out social marketing of packets. Additionally, there was some indication that the policy might change -- health workers were being allowed to give packets to women they thought could make the solution reliably. Given this possibility, and following the models of other HEALTHCOM projects, in August 1988, at the time the implementation plan was written, it seemed likely that the major HEALTHCOM activity in Papua New Guinea would be a campaign involving radio to promote ORS packets.

The probability that policy might change was hard for the Resident Advisor to assess; because of the emphasis on integrated rather than vertical health programs in Papua New Guinea, there is no single person responsible for CDD. The Resident Advisor continued to pursue the

possibilities of local production and development of a local name and label with mixing instructions throughout the project. However, in early 1989 he reoriented the approach from the anticipated campaign to an emphasis on interpersonal communication skills.

The project's second topic, nutrition, was one that was better appreciated as a problem, but the HEALTHCOM activities in this area had such a low profile as to be almost invisible. The approach of using mid upper arm circumference to identify children at risk was seen by a few respondents as being potentially useful. However, it was not applied on a wide scale, nor was its use by health workers tested; it was used to identify children eligible for the intervention that was being tried. This intervention, of developing recipes of combinations of foods and using flip charts to introduce mothers to them along with cooking demonstrations for mothers and designated "helpers", is interesting. However, it is difficult to imagine it being implemented on a wide scale. Fewer people commented about these nutrition efforts in interviews, mainly because they were tried out in two small, hard-to-get-to sites. Moreover, the people carrying them out were not part of the Provincial health system.

#### **Location of the project and counterparts**

The main site chosen for HEALTHCOM, Central Province, had greater financial difficulties than the other Provinces; at the time of the HEALTHCOM project's start it had already spent health allocations for the next 2 years. As a partial consequence, not all of the health facilities in the Province were staffed, and supervisory travel was curtailed. In addition, the political situation in the Province was unstable.

The Resident Advisor's designated national counterpart was designated as the counterpart for two other projects. The location of the primary counterpart for the HEALTHCOM project at the National level, while activities were supposed to be developed and implemented at a Provincial level created some dilemmas, which were operationally resolved by the Resident Advisor's developing secondary, Provincial counterparts -- facilitated because Central Province is adjacent to Port Moresby. He also worked closely with National technical staff in developing, testing and evaluating materials.

In the second year of the project the need for the Resident Advisor to be in two places meant that each site got somewhat shortchanged. One possibility that was apparently not considered

was that HEALTHCOM could have worked only in one Province, with the understanding that Provincial staff would share the expertise they gained with staff in other Provinces.

### **Lack of budget**

As explained in the section on the context of the project, the health system of Papua New Guinea was under severe and worsening budgetary constraints at the time of the project. The project relied on local funds for research and implementation monies; thus these activities were greatly curtailed. In one way, the lack of funding was advantageous, in that it kept activities realistic and replicable. However, it did limit exposure of the Department of Health staff to some aspects that staff were exposed to in other HEALTHCOM sites, such as extensive use of mass media or evaluation using survey methodology. In addition, there were insufficient funds to allow access to expertise that could only be provided by consultants.

The Resident Advisor was acutely aware of the limited local and central project budget; he succeeded in getting funding for materials development and production costs from other NGO's, in particular UNICEF. However, his concern about costs may have constrained development of approaches that could have been funded by other sources. It is possible that he could have received more assistance from USAID and HEALTHCOM in developing other sources of funds.

### **Shortage of expertise**

The HEALTHCOM approach's emphasis on both formative and evaluative research was not fully realized because of a number of factors: a paucity of local research expertise, even in the private sector; limited budgets; the Resident Advisor's limited experience with research design; and the limited amount of technical support provided by the Academy for Educational Development, either directly or through consultants.

At the time the project started, social marketing was unknown -- in fact market research in general is still rare. Expertise in research (either formative or evaluative) is not extensively available, and none of it is institutionalized in the Department of Health. The Resident Advisor contracted work to a market research firm that seems to have done a capable job of carrying out a baseline survey and focus groups and analyzed the data to produce a preliminary report. However, no subsequent analysis was carried out, as the subcontractor that had been hired to

do the processing went out of business and discarded the data. No Department of Health people were involved in this research, and as funds for more were not available, the Resident Advisor was not able to show people how to define problems and contract out research. Because of institutional and policy constraints, nothing was built on the research that had been carried out, so there was no opportunity to train people in using quantitative data.

The Resident Advisor is most experienced in and comfortable with production of materials and, to a certain extent, with qualitative research methods. Although he had previously worked on some evaluations he did not feel he had the expertise to push research through in Papua New Guinea. Moreover, he did not receive as much technical assistance as he would have liked from HEALTHCOM. This was largely a function of cost but resulted from other factors as well: Porter Novelli (M. Debus) helped with the first survey, but this activity turned out to be too expensive to replicate; a behavioral scientist came out to help with a health worker intervention and evaluation, but the scope and complexity of the research design was difficult to carry out. Other requests for technical assistance (for example about a possible survey design problem or with training) from the Resident Advisor did not receive sufficiently quick or full replies for him to feel supported. The Resident Advisor was praised by respondents for his flexibility, his ability to fit in and work with Department of Health staff, and his learning Tok Pisin.

## **CONCLUSION -- LESSONS LEARNED**

Two years is probably too short a time for a first social marketing project.

The focus of project activity should be a problem perceived as sufficiently important for special attention. Pilot studies of interventions run the risk of being too low-profile to catch people's attention.

For a first project, one site is enough. Institutionalization may be facilitated by site-specific counterparts.

For projects in countries where funding is a particularly severe constraint, some extra orientation and assistance could be given to Resident Advisors about securing funding from other donors.

If technical backup cannot be provided through consultants, some provision could be made for a good system of referring Resident Advisor's questions to appropriate experts and ensuring that they get replies.

### **PEOPLE INTERVIEWED**

Isaac Ake, Office of the Administration First Assistant Secretary DOH  
Manoa Bale, Assistant Health Population and Nutrition Advisor, USAID  
Mary Biddulph, National Training Support Unit DOH  
Byron Geniembo, Community Health/Health Education Coordinator, DOH  
Carol Jenkins, Papua New Guinea Institute of Medical Research  
Barry Karlin, (WHO) Health Educator  
Gabriel Kepas, Director, Theater Group 'Vadi Raun' Megea Kivali, Community  
Health/Health Education/Health Information Officer  
Louis Kuhn, (by telephone) Assistant Director, USAID  
Diana Lai, Research Assistant, Papua New Guinea Institute of Medical Research  
Tau Lakani, Central Province Primary Health Care Officer/Health Educator  
Ben Mboya, Resident Representative, UNICEF  
John Mills, (WHO) PHA. Medical Officer  
Richard Montanari, (WHO) Malariologist  
James N. Mullally, STD/AIDS Unit  
Andy Piller, HEALTHCOM Resident Advisor  
Marie Powell, Assistant Programme Officer, UNICEF  
Tim Pyakalia, Disease Control Assistant Secretary DOH  
Quentin Reilly, Secretary for Health DOH  
Levy Sialis, Primary Health Services First Assistant Secretary DOH  
Kathy Simmons, Program Assistant, USAID  
Kuldip Singh, OIC Media Production Unit, DOH  
Jane Thomassen, Consultant  
Rigo Valkai, Central Province Training Coordinator

Thalia Wat, Nutrition Section Scientific Officer DOH  
Chris Wylie, Managing Director, First Marketsearch

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Letter from S Yoder to A Piller (7 June 1988) concerning formative research

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