

Diarrhoea Dialogue



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The first five years

To mark the fifth anniversary of *Diarrhoea Dialogue*, this issue includes an index for Nos. 1-19 and readers are reminded that all back numbers are again available from London and are sent free to developing countries.

Making things work better

Because so many factors are known to be implicated in the causes, spread and effects of diarrhoeal disease, this major Third World problem will only be finally controlled through continuous research efforts at all levels and in a

variety of different fields. Some priorities in both basic and applied research are listed on pages four and five and there is advice on page six about making a research proposal.

To be useful, research need not necessarily be complicated or costly. People should always remember how Professor Denis Burkitt's first crucial step towards disentangling the causes of the virus-associated cancer of the jaw in African children (Burkitt's lymphoma) involved only the cost of a few photographs and stamps. He wanted to find out if other doctors in other parts of Africa were seeing similar cases and sent them photographs to compare. He discovered that the cancer was common in some areas; in other areas, it never occurred and this information

was the start of his highly successful research.

Most of the following pages in this issue discuss what is called 'operational research' — how to spread the knowledge we already possess about the treatment and prevention of diarrhoea more widely and more effectively through existing or new programmes. Everyone, not just research scientists and doctors, can contribute towards making things work better. If you have an idea, however simple, that you want to investigate and would like some assistance, please write to *DD*. We will put you in touch with appropriate sources of help both for planning the best way to do the work and for funding. It is also essential to exchange ideas and information.

Show and tell

Your letters to us, over these first five years, suggest that the *Dialogue* has already come to represent a worldwide community of people who care about the success of diarrhoeal diseases control. Our special photographic competition (see insert) provides the opportunity to 'show and tell' about your own work and to learn more about what others are doing elsewhere.

Looking forward

We did some 'operational research' ourselves last year — see page two for results from the *DD* questionnaire. We will be following up on your comments and suggestions in forthcoming issues. Meanwhile, we ask again for maximum help from all readers to expand still further the distribution of *Diarrhoea Dialogue* to health workers at all levels everywhere.

KME and WAMC



Photo by Dr Sam Abraham

DD readers in Malaysia: the newsletter is read by a rapidly growing number of people involved at all levels of diarrhoeal disease control programmes.

In this issue . . .

- Operational research in Zimbabwe and Bangladesh
- How to write a funding proposal
- *DD* photographic competition

AHRTAG

Appropriate Health Resources &
Technologies Action Group Ltd

AID: review of ORT activities

Following the International Conference on Oral Rehydration Therapy (ICORT) held in Washington in June 1983, the United States Agency for International Development (AID) greatly increased its involvement in activities to expand the use of ORT. Between 1983 and 1984, expenditure on ORT by AID has nearly doubled and numerous new projects have been launched. At the end of 1984, the U.S. Congress approved a further \$85 million to be used during 1985 for health, nutrition and child survival issues, of which the control of diarrhoeal diseases is a major component.

Technical assistance

AID supports in-country programmes through a wide range of activities. Overall assistance, both to set up new initiatives and help existing programmes, is channelled through such projects as the Technology for Primary Health Care Project (PRITECH) and the Combating Childhood Communicable Diseases Projects (CCCD). PRITECH is giving technical assistance to ORT programmes in Asia, Africa, the Near East and Latin America. In November 1984, it organized a meeting on social marketing and ORT, and its information centre sends out regular mailings of key ORT documents. The CCCD Project is assisting national diarrhoeal disease control programmes in nine African countries including Zaire, Togo and Liberia.

ORT promotion

AID's Mass Media and Health Practices Project (MM&HP), which we reported on in *Diarrhoea Dialogue 14*, has promoted the use of systematic communications in ORT in several countries including Honduras, The Gambia, Peru, Ecuador and Swaziland. The project has provided one of the first opportunities to evaluate the impact of educational campaigns on increasing the demand for ORT. AID has also provided funds to help Peace Corps staff become actively involved in the promotion of ORT in many countries. Workshops were held in 1984 in the Philippines and Nepal to teach over 100 Ministry of Health officials, Peace Corps staff and local health workers about diarrhoeal disease control.

A training manual was developed for the workshops and will be used at similar events in Senegal, Gabon and Latin America. In Africa alone, up to 100 new Peace Corps volunteers will be assigned to work with the CCCD project.

Information exchange

The exchange of information about ORT remains an important priority. Regional workshops on ORT are being held by AID during the Spring of 1985 in Asia and Africa. These discussions will help provide the basis for the second ICORT conference, focusing on ORT implementation issues, which will be sponsored by AID in cooperation with other international organizations. ICORT II will be held in Washington in December 1985. Video tapes on ORT produced by AID for use in programming have been much in demand by TV and radio stations, universities and the general public. AID's grant to *Diarrhoea Dialogue* to expand the readership of the newsletter has already facilitated a 100 per cent increase in our print run.

New initiatives

New ORT initiatives planned by AID include an extension of the MM&PH project to maximize the use of ORT. Comprehensive activity in the area of dietary management of acute diarrhoea is also planned. AID staff are exploring ways of facilitating procurement of ORS packets. The agency has already distributed 10 million packets worldwide. Sizeable support will be provided by AID to private voluntary organizations to mount child survival programmes worldwide which will include ORT and immunization activities. New or expanded bilateral ORT programmes are planned for such countries as Haiti, Bangladesh, India, Bolivia, Nepal, Peru, the Philippines, Guatemala and Indonesia. Development of all these ORT activities will be supported by the computerized health data base being developed with the International Science and Technology Institute (ISTI). This includes a wide range of other information on primary health care as well as ORT.

Details of all AID's ORT activities are available from Mr Robert Clay, Public Health Advisor, Bureau of Science and Technology, Room 702 S & T/H, USAID, Washington D.C., 20523, USA.

DD questionnaire report

Aims of the questionnaire

Since DD was first published in 1980, we have received a vast amount of correspondence revealing both the sort of people who are reading the newsletter and their reactions to it. To build up a more detailed readership profile, we carried out a survey in 1983, sending a questionnaire to a random sample of 2,236 readers.

Initial results

An initial analysis of 640 returned questionnaires has given information about our readers' occupations, the impact of the newsletter and ways in which it can be made more useful and widely available.

- The largest group of respondents (49 per cent) were doctors, followed by nurses and health administrators.
- Many DD readers stated that their copy of DD is read by up to six other people, often junior or auxiliary staff. *There is obviously great scope for increasing the circulation to reach people such as nursing and training staff and medical auxiliaries.*
- One third of the circulation goes to those in peripheral health services, a second third to training institutions and hospitals, and a further quarter to public health staff and administrators.
- Although most copies of DD are read by government employees, almost one third reaches those working for voluntary agencies.
- Over 50 per cent of respondents are directly involved in caring for patients with diarrhoea; for a third, diarrhoeal disease control work is a full-time occupation.
- Two thirds of DD readers are involved in teaching and training at all levels of the health care system.
- Significantly, 49 per cent of respondents have been influenced by DD to

(continued on page eight)

Treating diarrhoea early

Isabelle de Zoysa reports on how operational research was used in Zimbabwe to help to develop a national policy on the appropriate management of diarrhoea at home.

A child with acute diarrhoea begins to lose essential water and salts from the onset of the illness. Unless these are adequately replaced, dehydration will develop. *Prevention* of dehydration is therefore the first appropriate response to diarrhoea. Children should be given extra drinks prepared from ingredients commonly found in the home, such as rice-water, soups and sugar-salt solutions. Simple and consistent messages about the preparation and use of household food solutions and sugar-salt solutions must be developed which are tailored to local conditions and resources and yet are scientifically sound. Generally, the type of solutions to be promoted and the methods of preparation will vary from country to country, and even from place to place within the same country if it is large and diverse. In most areas, some operational research is needed to determine which household solutions are the most safe, effective and acceptable, and which are the most reliable methods of preparation.

Developing a policy

In 1982, a study on diarrhoea management in rural Zimbabwe was carried out by the Save the Children Fund (UK) in collaboration with the Ministry of Health and the University of Zimbabwe. The Zimbabwe Programme for the Control of Diarrhoeal Diseases (ZPCDD) was under preparation, and a major goal was to develop a rational and consistent policy on the appropriate management of diarrhoea in the home. The study hoped to collect information to help formulate this policy, based on findings on people's beliefs about diarrhoea, how they treat it and how reliably they can prepare sugar-salt solutions.

Methods

Adults in 400 households in four different areas of Zimbabwe were asked

about their experience of children's diarrhoea. Those who knew of a household solution to treat diarrhoea were invited to show how they thought it should be prepared. In each home the enumerators recorded the availability of food and equipment suitable for the preparation of household solutions. Those who hadn't heard about a solution to treat diarrhoea were taught a standard method for preparing a sugar-salt solution and were visited a few weeks later to see how well they remembered it.

Management of diarrhoea in the home

Most respondents were only too aware that diarrhoea is a major cause of illness and death among children but, although many of them had been told about a "special drink" for diarrhoea, they had been given a bewildering variety of advice on preparation methods. Just over half (52 per cent) knew about oral rehydration techniques, but only 5 per cent had given a child a sugar-salt solution at home. Further questions showed why. Few health workers had realised how important it was to explain that the solution is given to prevent dehydration, but doesn't actually stop the diarrhoea. Parents expecting a rapid cure were understandably disappointed and the technique had lost credibility. Furthermore, there was an unfortunate tendency to stop breast-feeding during the illness because of the belief that the breast-milk becomes harmful to the child if the mother is sleeping with her husband or becomes pregnant while breast-feeding.

Traditional beliefs

Some traditional beliefs, however, can be built upon to promote home-based oral rehydration. A depressed fontanelle is a sign of severe dehydration, and in rural Zimbabwe it is a much feared sign in a young child. But it is

thought of as a disease in its own right, caused by contact with another child who has a stronger "influence". Respondents who found the concept of dehydration difficult could understand it when explained as "power" drained from the body with the diarrhoea. Some indigenous healers and mothers explained that the child should be given fluids to help raise the fontanelle. With sensitive handling, oral rehydration therapy may soon be accepted along with traditional beliefs.

Utensils and ingredients

The study showed that litre containers were largely unavailable but that 750 ml bottles were common. The most popular are a 750ml cooking oil bottle and a 750ml fruit cordial bottle. Ninety six per cent of all households visited had one of these bottles. Nearly 90 per cent of households had all the items needed to prepare a sugar-salt solution at home: a 750ml bottle, a teaspoon, sugar and salt. Further studies were carried out to discover the most reliable method of preparation of sugar-salt solution using the utensils and grades of sugar and salt that are available in the rural areas. Other household solutions that are in common use and may be useful for the early treatment of diarrhoea include thin maize-meal porridge and *mahewu* (a traditional drink of diluted and fermented maize-meal porridge).

Intensive promotion

The study showed that people were receptive to new ideas about diarrhoea. Many people knew about home-based oral rehydration therapy. Some could prepare a safe and effective sugar-salt solution on the first visit and recall was good on the second visit, but few understood its purpose and actually used it. So, a key component of the ZPCDD will have to be an energetic and sustained programme to promote early and appropriate management of diarrhoea in the home and continued breast-feeding. The health services must be strengthened in order to assume competently the roles of motivation, education, supervision and treatment. Glucose-electrolyte solutions, where available, should be used by health workers for efficient treatment of dehydrated cases.

Isabelle de Zoysa, London School of Hygiene and Tropical Medicine, London, UK.

Operational research in the public sector

Making it work

Staff from ICDDR,B* describe the role of operational research in carrying out the national diarrhoea management programme at village level in Bangladesh.

The success of a health programme, or a component of it like the provision of oral rehydration therapy, depends on how effective it is in dealing with a particular problem, and on how well the service is utilised. Operational research involves measuring the effectiveness of a programme and working out the best way to get a job done with the resources available. It is often an in-service problem-solving methodology aimed at improving the service.

The situation

In Bangladesh an attempt is being made to assess the effectiveness of the national programme for diarrhoea management by operational research in one development area, or *upazila*, with about 200,000 population.

Two groups of workers carry out the national programme for diarrhoea management at the village level in Bangladesh. These are male Health Assistants (HAs) and female Family

Welfare Assistants (FWAs). Both groups of workers should carry packets of oral rehydration salts (ORS) in an attempt to integrate health care and family planning services. Every household should theoretically receive two visits from these workers every 3 months.

In the Abhoynagar upazila, an evaluation team of government officials, field staff and research workers from the MCH-FP Extension Project of ICDDR,B has been working since 1982. This team is called PICA (Project Implementation Committee of Abhoynagar). A sample survey of Abhoynagar village women that year showed that, if there had been a case of diarrhoea in the home in the previous 3 months, 78 per cent of them sought help. Of these, 88 per cent approached non-governmental assistance, mostly the "village doctor", who does not usually have a medical qualification, or a traditional healer. Of the 12.5 per cent who used government services, 9 per

cent went directly to the health centre and less than 3 per cent used the field workers, the HAs or the FWAs, who were supposed to be the main source of ORS and diarrhoea treatment advice. Despite the fact that a few of the field workers are the "village doctors", there is a serious lack of contact between the HAs, FWAs and the patients with diarrhoea.

The method

In operational research, once a problem has been identified and it is apparent that the service is not functioning as well as it should, a number of steps may be followed.

1. **Identify the problem.** It may be difficult for health workers to realise there is a gap between the expectations of the programme supervisors, and what is actually happening. In Bangladesh it took some time for the Government officials to recognise and accept that ORS was not being delivered by the field workers.

2. **Determine if the problem is important and really worth investigating.** In Abhoynagar, ORS distribution was considered an important issue because seasonal diarrhoea epidemics are a real cause for concern.

3. **Examine the possible causes of the problem and identify which are the real stumbling blocks.** The PICA team examined four factors possibly limiting the diarrhoea treatment service.

- Field workers' lack of knowledge and skill in treating diarrhoea. Evaluation showed that this was not an important factor.
- Failure of the ORS supply system. This was a significant problem, particularly for the FWAs, and was partly due to demarcations between the different administration and emphasis of the health and family planning departments. 40 per cent of the FWAs had never carried ORS and did not consider it to be part of their job.
- Inadequate motivation of the field workers. Work targets and worker evaluation was mostly based on family planning services and, to a lesser extent, the collection of blood slides from children with fever.
- Inaccessibility of field workers when diarrhoea occurs. Contact between



Photo courtesy of ICDDR,B

The Project Implementation Committee of Abhoynagar (PICA) meeting to discuss the programme.

r: implementation and priorities

families and field workers is infrequent. Even in good weather, a family would not be visited more often than once in two months by a HA and once in four months by a FWA. Monsoon and floods often disrupt visiting. Few mothers knew where the field workers lived, and as the HAs were men, even fewer would visit them.

4. **Develop new strategies to overcome each barrier.** Clearly the proposals must be feasible within the resources. In order to improve the ORS supply problem, the PICA team proposed that the FWAs would collect the packets they needed when they attended the monthly team meeting and collected their salary. Motivation was improved by supervisors' participation in practical training on oral rehydration, thereafter promoting this more enthusiastically from their own observations. They also requested regular reporting of diarrhoea cases by the field workers. During a seasonal diarrhoea epidemic these factors greatly increased the interest in the programme. In order to improve the inadequate worker-population ratio, PICA proposed a depot system for ORS packets, served by one neighbourhood mother for every 50 homes. She would need to be carefully selected and trained. An alternative distribution system would be to instruct, supply and use the "village doctors". Already they were recognised as providing much "primary care". They would sell the ORS packets and this is unacceptable in the national programme. The PICA is currently debating the possible strategies before proceeding to the next two stages of the operations research, namely to:

5. **Test the strategies in a limited area.** This may be difficult in the public sector since government workers are unfamiliar with an experimental model and normally see their responsibilities as simply providing a service.

6. **Modify the strategy or try another.** Often the most satisfactory method will be developed by testing out a new strategy.

Conclusions

Whatever the programme and the basic questions to be asked and answered by operations research, it is only possible with the involvement of both the personnel and the public. In addition,

there must be commitment on the part of all concerned to try and make the changes required to improve the service.

Operational research should be a continuing process, a series of small steps which build on each other, a reallocation of resources, reducing to a minimum the gap between what is planned for a programme and what is actually provided for people at the periphery.

**International Centre for Diarrhoeal Diseases Research, Bangladesh.*

Marjorie A. Koblinsky, Zahidul Huque, Laila Bagee, Tariqul Islam, Atiar Rahman and Sadar Ali.

The authors gratefully acknowledge the support given to this programme by USAID.

To achieve effective control of diarrhoeal disease morbidity and mortality, both basic and applied research efforts must continue. In the longer term, a better understanding of the disease process itself should make protective vaccines and improved drugs for treatment widely available. Meanwhile, a better understanding of what is happening at primary health care level in the application of the knowledge we already possess could have important short and intermediate term benefits. Some immediate priorities in both research fields are listed below.

Basic research

- Antidiarrhoeal drugs that will safely and inexpensively decrease stool loss and therefore the risk of dehydration.
- Development of vaccines against rotavirus, enterotoxigenic *E. coli*, shigella and cholera organisms.
- Causes and pathophysiology of chronic diarrhoea.

Operational research

Improved treatment

- More effective oral rehydration solutions. Improved solutions may increase absorption from the bowel so effectively that the stool output is decreased. This may be by the addition of certain amino acids, dipeptides or glucose polymers to the solution, or by substituting a cereal powder for the glucose in the ORS. This will probably also have nutritional benefits.
- More regular and early use of oral rehydration within the primary health care system.
- Better distribution of ORS packets.
- Identification of local foods that are nutritionally valuable, physiologically absorbable and culturally acceptable during diarrhoea.

Preventive measures

- Modes of transmission of diarrhoeal infections so that spread can be interrupted.
- Behavioural studies into personal hygiene and sanitation to identify ways to limit transmission.
- Importance of measles vaccine in preventing diarrhoea and the associated malnutrition.
- Evaluation of the efficacy of any new vaccine and the best way to deliver it.

Better communication

- Understanding of traditional beliefs and practices about the causes and treatment of diarrhoea so that messages can be appropriate.
- More effective ways of reaching the public, and parents in particular, with information about why, when and how to start rehydration.
- Improving training techniques for health workers at all levels.
- Promotion of breastfeeding to prevent diarrhoea, and to improve nutrition during disease.
- Encouraging feeding of acceptable and absorbable local foods during diarrhoea and convalescence.
- Educational methods which can effectively improve personal hygiene practices.

Dr Nate F Pierce, The John Hopkins University, Baltimore, USA.

Practical advice

How to write a funding proposal

The key requirement is to have an interesting and practical scientific idea. Other features which make success with your proposal more likely are outlined below by Bridget Ogilvie.

The world of science is increasingly competitive. Work in a remote area can provide you with the opportunity to identify a topic that is not yet too fashionable and where your environment or training gives you an advantage. Are there diseases or conditions unique to the region or local social, genetic or nutritional factors that affect the pattern of presentation of an otherwise well defined condition or infection? If so, what makes you the right person to carry out the proposed research?

Choosing the right donor

All funding bodies have priorities and constraints which change from time to time. It is a good idea to write with a brief outline of what you want to do rather than just ask for an application form.

What influences your chances of success

Who will do the work? Where? Is the proposal realistic? All workers named in a project proposal must be shown to have had relevant experience and to possess the expertise and techniques required for its success. It must be clear who will actually carry out the work and who will supervise and how closely. If the project is laboratory-based, are the facilities adequate and likely to remain in good working order? If field or population based, has the site or population been well chosen? Are there adequate numbers, both of cases and, where relevant, controls included in the proposal? Can the work be carried out in the time period specified and with the human and material resources available or to be supplied? Never make the mistake of outlining an enormous, far-reaching programme which is obviously impossible in your circumstances.

Filling in the proposal form

Forms differ but all funding bodies will

want somewhere the information already described. Grant proposals usually fall into the following sections:

Background to the project

This section has two purposes. It should illustrate your general knowledge of the subject and especially your awareness of recent advances relevant to the work for which funding is sought. This is the place to outline and highlight your strengths; those aspects of your previous research record or training that relate to the topic; and any special advantages of the research environment.

Aims of the project

This is the key section. It should state what research is proposed, how it will be done and by whom. It should also be related to the present state of knowledge of the subject.



Specialized equipment needs extra care in the field.

Reasons for support required

This information is frequently missing, particularly in applications from inexperienced writers of proposals. It is an important section because this is the

place to explain how compensation will be made for any potential weaknesses. Applicants must explain why they want the support they request. If they will not do the work themselves, say why not. If salaries are needed for assistants, state the level of training these will have had and why this is necessary. If the applicant and his named collaborators do not have one or some of the skills or techniques essential for the success of the project, state here where and how these will be obtained. If *specialised* equipment is requested, state how it will be maintained. Sometimes, it is better to ask for 'old-fashioned' equipment because it requires little maintenance compared with modern electronic equipment. If the equipment requested is *standard* equipment, that the granting body might expect to be provided by the institution housing the project, explain the reason for it being requested e.g. available equipment is approaching obsolescence, is already heavily used, is insensitive for the purpose of the project, is available but inaccessible for frequent use etc. Finally, if funds for travel are required, give details of frequency, cost per journey and justify the need for travel.

How decisions are made

Applicants should remember that decisions are made by scientists with experience in the subject. Most scientists who make decisions on funding bodies are especially sympathetic to young workers or scientists working in unfavourable circumstances and will strive to help them to obtain support if their proposals are scientifically sound and worthwhile.

Finally, terms such as 'exciting' or 'original' are rarely heard in committees making funding decisions. More usually, awards are made to applications that provoke comments such as 'well written', 'clearly presented', 'sensible', 'feasible', 'realistic', 'appropriate', 'worthwhile'. Really novel, totally original proposals are rare and most successful grants concern proposals to lay a few well chosen bricks skilfully on a predetermined knowledge structure, rather than to design and put together a whole new building.

Bridget M Ogilvie, The Wellcome Trust, 1 Park Square West, London NW1 4LJ

Problem-solving research

Expensive field experiments are often set up that do not tackle the real problems of ORT delivery because of lack of research beforehand. Staff from the PRICOR project (Primary Health Care Operations Research) describe one approach to avoiding this problem.

What is the most effective way to train mothers to give appropriate oral rehydration therapy (ORT) when their babies have diarrhoea? Should the training be given one to one or in a group? If the latter, how big can the group be? Where should the training take place — in the village or in a nearby clinic? Who should the trainers be — clinic staff, village workers, schoolteachers? How can planners be sure that oral rehydration salts (ORS) will be available at a reasonable enough cost to ensure use? Equally, how can planners be sure that sugar and salt are always available for home-prepared solution, and what household fluids are available for early ORT?

The traditional research approach to

Egypt

A PRICOR study in Egypt shows the critical importance of careful definition of the problem. A local programme administrator was concerned because use of ORT in the area was very low. At first it was thought that ORS was not sufficiently accessible to mothers and the first reaction was to try to persuade pharmacies and other outlets to remain open longer hours. However, in the problem analysis phase of his PRICOR study, the administrator surveyed mothers and health care providers. He found that pharmacists were a major source of information for mothers. But when mothers asked them for advice about treatment of diarrhoea, the recommendations were usually antibiotics, not ORT. The solution now being tested is an educational programme for pharmacists and other providers on the usefulness of ORT, not, as originally anticipated, how to provide mothers with greater access to ORS.

developing a strategy which answers these questions has been to select two or three combinations of all the strategy components which seem most reasonable and set up an experiment to compare them. This type of approach can be expensive and time-consuming. It also selects only the best of the strategies tested. Other, perhaps better, possibilities may not even have been considered.

PRICOR has developed an operations research approach which can minimize these problems. The methodology consists of three distinct phases.

Phase one

First, the problem is defined and analyzed. Often, a graphic model of the system is produced showing the components of the system and how they relate to one another. In ORT for example, the model would show how trainer selection, ORS logistics, message delivery methods, and selection of training sites interact with one another. Models like this help to show up key problems in the system and an appropriate set of priorities to solve them.

Phase two

The potential solutions to the problem identified in the first phase are developed and analyzed. To do this, the first step is to work out an objective for the solution in quantitative terms — for example to maximize the number of mothers sensitive to the value of ORT and capable of preparing and administering the solution. Next, 'decision variables' are specified. These are factors which can be used to produce a strategy which will achieve the objective — for example, in relation to training mothers, some variables would be group size, training location and identity of the trainers. Constraints on the range of solutions must also be iden-

Sierra Leone

In Sierra Leone, the government has decided that commercial ORS should be reserved for treatment of severe dehydration, while home-prepared solutions should be encouraged for prevention. However, the provincial health education officer carrying out a PRICOR study on how to train mothers discovered that sugar is often unavailable in the home or the village. The solution being proposed for this part of the problem is to try to promote sugar as a medicine to be bought and stored for use in ORS.

tified — for example, training costs, available transport and literacy levels.

The next step in phase two is to develop a systematic method for generating potential solutions. These solutions are then evaluated, taking into consideration the constraints and potential for achieving the objectives. A number of techniques are available both to generate potential solutions and to evaluate them. Although some methods require more skill than many programme planners and managers might have, many others are straightforward and could be used by the non-specialist. Availability and cost of obtaining data are often considerations in the choice of techniques used for developing and analyzing solutions.

Phase three

The purpose of the third phase is to confirm the appropriateness of the solution chosen. Sometimes, however, even careful analysis cannot select between two solutions which appear to be very similar, and the third phase may be set up as a field experiment to try to differentiate between them.

The PRICOR Project is helping some 50 studies in 30 countries to apply the methodology described above to solve operational problems in the use of community health workers, community financing, community organization, and commodity distribution. A number of these studies focus on ORT (see boxed examples).

For further information about PRICOR's work, write to: **PRICOR Project, Centre for Human Services, 5530 Wisconsin Avenue, Chevy Chase, Maryland 20815, USA.**

(continued from page two)

use oral rehydration regularly, and a similar proportion have altered their dietary management during diarrhoea.

- Similarly, DD has influenced the teaching of over half the respondents, particularly about ORT and nutrition.

Comments on the content

- We were pleased to find that 95 per cent of respondents found DD easy to understand, and that a large number of respondents have found the diagrams and illustrations informative and useful. Many readers commented that they had reproduced the diagrams and line drawings in DD for use in training materials.
- The most popular topics, in order of preference, included up-to-date are: ORT; feeding and diarrhoea; training and health education; and research and aetiology.
- Many readers commented that they would like more coverage of health education and training issues in future issues. There were also many requests for an up-date of the feature on laboratory diagnosis of diarrhoeal diseases, and we hope to be able to do this in the near future.

Distribution

The majority of readers receive their copies of DD regularly. Where readers have been receiving the newsletter erratically, we will investigate this and try to improve the distribution. Forty per cent of the respondents do not have access on a regular basis to other sources of information on diarrhoeal diseases apart from *Diarrhoea Dialogue*. We must, therefore, continue to identify ways of promoting the newsletter and expanding the distribution coverage to reach people working in diarrhoeal disease control at all levels of health care provision, and in every part of the world.

Somalia: stressing health education

Thank you very much for your booklet *Diarrhoea Dialogue*. I work with a project for strengthening the health delivery system in Somalia, based in the Public Health Care Division. As part of the project we have material for trainers of village health inspectors. This material which includes books, written in the Somali language, films and audio-visual aids, contains information to educate mothers in the use of ORT, one of the main tasks envisaged for the village health inspectors. The training equipment has been reviewed by health personnel with wide experience of working in rural areas. They stressed the need for health education and the use of alternative methods to ORS packets. The need for sanitation and nutrition education in relation to the treatment and control of diarrhoea was also stressed. The health education programme includes lectures, group discussions and radio programmes.

Abdulkadir Sh-Axmed Leames, P.O. Box 6703, Mogadishu, Somalia.

DD in Sri Lanka

I am writing concerning the possibility of obtaining some regular subscriptions to *Diarrhoea Dialogue* for distribution to plantation medical assistants here in Sri Lanka. The project on which I am working presently includes water supply, sanitation, and health education in two districts of the country with a combined population of almost 600,000.

I have been reading *Diarrhoea Dialogue* for some time and feel sure that it would be both useful and relevant to the medical assistants referred to above. The number of copies I would be interested in obtaining on a regular basis are 50, which would be distributed from here to 42 plantations, district health offices and a few other government and voluntary organisations. Please let me know as to whether such an agreement would be possible. Thanking you for your kind attention

to this request and hoping to hear from you soon.

Dr Charles Pendley, Kampsax-Kruger, 532/8 Siebel Place, Kandy, Sri Lanka.

Soap-making on a small scale

I would like to congratulate you for packing so much information in such a concise and lucid manner in DD 18 on 'How to make soap'. The article shows how soap can be made cheaply and easily on a small scale, in the home or village using locally available ingredients.

Hosca A Mteka, P.O. Box 28002, Kisarawe, Coast Regional, Tanzania.

ARI News

The challenge to health services in developing countries to introduce effective control programmes for acute respiratory infections (ARI) remains largely unmet. A major reason for this is the lack of available information about the causes of ARI and possible approaches to the problem. Since 1976 WHO has initiated ARI control programmes and research studies, but lack of information to complement these programmes is still a major problem.

ARI News, a newsletter on acute respiratory infections, is intended to provide an information channel for disseminating new research and ideas, and a focus for discussion by readers of the practical issues involved in ARI control.

ARI News will be published by AHRTAG and the first issue will be available in April 1985. The newsletter is aimed at health administrators, educators, paediatricians, research workers and clinicians working in the field of ARI. The newsletter will be distributed free of charge in developing countries. There will be a small annual fee of £5.00 for three issues for subscribers in developed countries. If you would like to be placed on the *ARI News* mailing list please write to AHRTAG at 85, Marylebone High Street, London W1M 3DE, U.K.

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