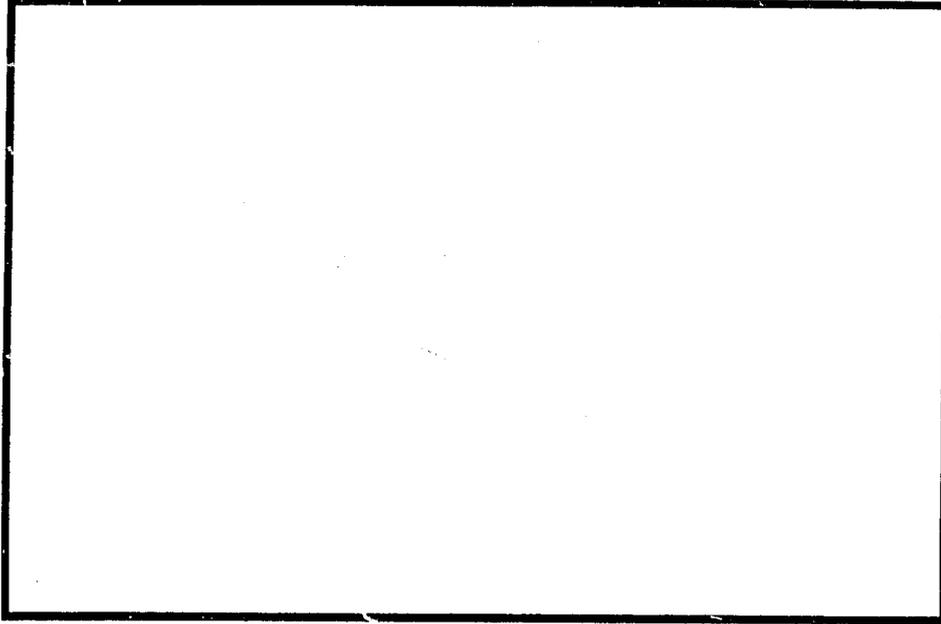


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PRITECH

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THE PRIVATE SECTOR ROLE IN
CONTROL OF DIARRHEAL DISEASES
INDIA

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PRITECH REPORT

THE PRIVATE SECTOR ROLE IN CONTROL OF DIARRHEAL DISEASES

INDIA, FEB 28 - MAR 7, 1990

BY

A. WHITE, C. SAADE, R. NORTHRUP

BACKGROUND

A PRITECH team, comprising Mr. Alfred White, Dr. Robert Northrup, and Mr. Camille Saade visited India from February 28 - March 7, 1990 to assess the role, activities, and potential of the private sector in the control of diarrheal diseases, to make a preliminary evaluation of ORS commercialization (Annex A), and if appropriate, to propose a regional conference to increase private sector involvement in ORT in Asia (Annex B).

THE SITUATION

India's diarrheal control strategy, until 1988, was to train mothers to make a home solution of salt and sugar, with training conducted through the public health system with extension to villages through community health workers. ORS packets would be available through paramedics and improved rehydration facilities in hospitals and health centers supported by media promotion efforts and improved training in professional schools. The major supply of ORS was expected to come through Government purchase and was to be distributed through public health facilities.

The Indian Market Research Bureau (IMRB) nation-wide study of how mothers and health providers deal with diarrhea served to redefine the problem and to substantially redirect the national CDD program strategy which found its final expression in India's National Diarrheal Disease Control Plan adopted in 1988. The study was undertaken on behalf of the Ministry of Health and Family Welfare by IMRB with assistance from UNICEF using funds from USAID.

The study focused on the rural population generally considered to be 60% of the overall population. Since the sample included villages and small towns of under 5000 population, the study in fact represents 84% of India's population. The findings thus apply to all but the 16% of the population, living in larger towns.

The survey established that a remarkably large proportion of mothers seek and pay for consultation outside the home for diarrhea. Consultation is sought in 65% of the 3 to 4 episodes of diarrhea occurring yearly in under fives. Of these consultations, 83% were to private practitioners using generally allopathic approaches. Only 7% sought care from government sources, health centers or local health workers. Only 1% of this population sought care directly from a chemist's shop, although that figure would certainly be higher in the more urban portion of the population. The remainder consulted traditional practitioners.

Diarrhea is thus seen as an illness to be treated with medicines best obtained from the doctor closest at hand. Practitioners are widely viewed to be purveyors of medicines, for it is through the sale of medicines that most are paid. These rural practitioners do not generally charge a consultation fee, while giving the patient a prescription, although that pattern is common among urban MBBS doctors.

The data showed, to no one's surprise, that doctors tend to give or prescribe anti-diarrheals and antibiotics and other medicines, using ORS in only 6% of the cases. ORS packets were generally not available in the offices of these rural practitioners.

If one is to affect the nature and correctness of the management of diarrhea cases, then, it will be necessary to influence the behavior of the rural practitioners who provide almost all of the care. Recognizing this fact from the study data led to the new MOH strategy incorporated in the national CDD plan of reaching practitioners, whoever and wherever they were, and convincing them of appropriate use of fluids and feeding and ORS. For the first time, private sector health providers are recognized officially as having the principal role in case management of diarrhea outside the home. At the same time, the national plan recognizes the role of the mother in initial management of the case with fluids and continued feeding, as well as in recognizing when a case needs more expert care than she can provide.

Therefore, in the future, private sector efforts should be a major component of the national CDD effort. We see three broad approaches to the private sector:

- reaching private practitioners to improve diarrhea treatment, both increased ORS use and feeding
- education and mobilization of the public (consumers) by private organizations and agencies

- enhancing the commercial marketing of ORS as a mechanism to reach both private practitioners and mothers/consumers.

We found a number of useful activities underway which should encourage greater use of ORS/ORT in the private sector, through each of these three mechanisms. It was also clear that a great deal more needs to be done before ORS/ORT is the norm for treatment of diarrhea. The remainder of this report examines these three potential areas of intervention, suggesting development activities which would support them.

PRIVATE PROVIDERS

In this section, we will examine some of the possibilities of supporting efforts of private sector professional organizations and other agencies to influence the practices of individual and institutional providers of health services.

There may be as many as 700,000 practitioners in India, although other estimates suggest lower figures. Of these, some 330,000 are allopathic. Of these about 240,000 are MBBS physicians, of which 68,000 are members of the Indian Medical Association (IMA). The chemists who supply the drugs to the rural practitioners number between 50,000 and 85,000.

In all cases the demands on the practitioner conflict with his use of ORT. The mother expects to be given drugs, and may see the packet of ORS as not the same in nature or perceived effectiveness as a pill or injection. Pressures to keep ORS prices low, in order to maintain easy access to ORS by the poor, have the side effect of keeping the potential profit low for the chemist, and reduce the likelihood of the chemist actively promoting ORS to the rural practitioner seeking resupply of drugs. Also, a prevalent practice is to dispense medicine for only a single day, asking the patient to return for a follow-up visit. Such repeat visits lead to the patient wanting a change in the treatment when the diarrhea has not stopped, thereby adding additional pressure to move away from ORS to an alternative therapy. For all of these reasons the challenge to the CDD program to make ORT/ORS the cornerstone of diarrhea treatment by private practitioners is a difficult if not insurmountable one.

The village doctor and traditional systems of medicine

There are 330,000 registered medical practitioners in rural areas, most practicing traditional systems of medicine and most not qualified under either western or recognized traditional systems of medicine (Ayurveda, Unani, Siddha, Naturopathy, Yoga, and Homeopathy.)

We found in Hyderabad that training of traditional medical doctors and healers is under discussion at the state level. Western medicine met traditional medicine when the head of pediatrics and the head of social/preventive medicine at Nilouffer medical college met the heads of the state traditional medicine institutions to discuss how these institutions could be involved in case management. Two courses were conducted with 40 and 70 non-allopathic practitioners attending. There was a favorable response to this initiative and a recognition of the need to draw up a training plan. UNICEF is prepared to provide support to this effort, and the Indian Academy of Pediatrics had requested permission to offer UNICEF its assistance in such training. Unfortunately IAP received a negative reply to its request from the MOH during our visit.

This may be related to the opinion that training non-qualified practitioners would in some de facto way validate their existence and activities, and thus should be discouraged. The IMA refuses to consider such training for just this reason.

Some of the more traditional medical practitioners, those practicing recognized forms of traditional therapy such as ayurvedic medicine, are represented at the national and state level by recognized official organizations. These offer a focus for engaging this resource in ORS/ORT case management. UNICEF with 11 offices, around the country is uniquely placed to support a country-wide training effort.

Developmental activities would include development of appropriate training materials, testing them before use, studying their effectiveness in pilot use studies, supporting training courses, and evaluating the impact of such training on actual diarrhea treatment practices by trainees after returning home. An important additional effort would be policy dialogue with the MOH to obtain their support for such efforts, at least for pilot efforts to test the effectiveness of the approach.

Despite the familiarity of this approach, and the positive response of 110 practitioners to the offer of training in Hyderabad, it is certainly far from sure that

such training would be able to attract a significant proportion of the practitioner group. Even if they came, it is not clear whether the short orientation style training possible would have an important impact on subsequent case management practices. Thus, other options in addition to training should be sought. The village healer obtains medicines from the town chemist. This commercial relationship presents an important opportunity to sell ORS/ORT and possibly the quickest way to move ORS into use in rural areas. This could be pursued both through efforts to reach chemists through their professional organization, or through enhanced marketing of ORS to chemists. These are discussed more fully below. Whether the chemist will respond, however, will very likely depend strongly on how his income would be affected by his mark-up on ORS compared to other medicines he now sells, as well as other incentives and disincentives provided by ORS manufacturers or distributors. This problem will have to be dealt with actively if the CDD program is to realize fully the potential of the chemist to influence rural practitioner practices.

The Western Medical Doctor: the IMA ORT Training Effort

There are 330,000 allopathic doctors registered with 17 state medical councils with about 25,000 employed by Government. The Indian Medical Association (IMA), with UNICEF support, has undertaken case management training for its 68,000 members. Membership is spread over India through 22 state branches and 1,193 local branches. By August 1989, IMA had trained 30,000 members through 1,078 meetings. IMA has also started a public campaign to identify the good doctor as one that prescribes ORS for rehydration.

156 resource persons were selected and trained and given hands on experience. They in turn ran the state level branch meetings lasting 3 1/2 hours. The curriculum was evaluated by the trainees as satisfactory. However, the supporting film requires some modification.

While most state branches had success in involving members, a few did not. Hyderabad, for example, has 1100 members, but ran only a single course, according to the UNICEF staff member there. IMA intends to concentrate future training in the branches where participation lagged.

IMA wants to evaluate the effectiveness of training to determine the change in actual practice. While some funds remain from the original grant from UNICEF for the training effort, IMA may not have enough funds to conduct both the

evaluation and to carry out the additional "mopping up" training needed to reach still untrained members. PRITECH could consider funding and providing technical assistance to this important evaluation under the research component of its program in collaboration with WHO/CDD/Geneva.

IMA has also discussed with the Association of Pharmacists the possibility of providing training material to the Association and encouraging trained IMA members to engage chemists one-on-one, in promoting the sale and proper use of ORS. This kind of unstructured education effort has the potential danger of producing inconsistent ORS/ORT messages, but could be effective as the relationship between the generalist practitioners who are IMA members and their chosen chemist is close. Development support could be given for such activities, in particular for a trial of the approach to see how effective it might be before committing the program to a broader initiative.

The IMA is also interested in developing a patient pamphlet, to provide a reminder regarding correct diarrhea treatment, especially ORT and feeding. They recognize that this activity would require expertise in testing messages and graphics, as well as needing assistance for funding the effort. The object would be to ensure that every diarrhea patient being cared for by a trained IMA doctor would receive a pamphlet to take home. If such pamphlets could become standard not only for trained IMA members, but for other practitioners as well, this would be an excellent target for development support.

The IMA proposed to the Government a meeting with the Pharmaceutical Manufacturers Association and invited them. The IMA had proposed to work through the issues of the place of ORS and anti-diarrheals and anti-biotics in treating diarrhea. Given the IMA intention to attempt to set standards for ORS formulations, the invitations had attracted numerous positive replies from manufacturers. Unfortunately the meeting was cancelled when the general election resulted in a change in Government. IMA hopes to reschedule the meeting in the near future, and will need support for this effort.

A final potential development activity would be an investigation into the actual behavior of mothers given ORS along with multiple other drugs, as opposed to mothers given only ORS. It seems likely that such mothers often fail to use adequate fluid replacement, being distracted by the other drugs given. Data to demonstrate this would help to convince IMA doctors and other practitioners that other drugs may be dangerous because of their tendency to interfere with ORT

usage, not only for the possibility of side effects. IMA would like very much to be a part of such research, and could use the results to influence its members.

The Pharmacists/Chemists

Chemist and pharmacist associations are organized at the national and state levels. Some interest exists in sponsoring training programs for members. WHO has prepared material for training, but it was the judgement of the IMA, based on its experience, that it was not useable, a judgement we share. Appropriate material aimed at the specific behaviors desired from chemists and dealing directly with the Indian incentive/disincentive environment, as well as a training plan, need to be developed. As with the IMA and the other practitioners, it will be useful for the associations (or the Government) to mount a public campaign that the pharmacist/chemist offers ORS.

A UNICEF effort to enlist the support of pharmacists in Hyderabad for ORS (CHAI-trained college girls promoting ORT in chemist shops) failed because it was viewed as hurting sales of other more profitable products. When another promotion scheme operated at railway stations, pharmaceutical detail men expressed resentment that the ORS demonstrators were taking away their livelihood. These anecdotes are mentioned as evidence that this channel may have limited potential as a mechanism to promote ORS/ORT. For this reason, any large-scale development efforts involving chemists should be preceded by a pilot trial to assess feasibility directly.

Nurses

The nurses association does not appear to have the capacity to sponsor training of its members. Private sector nurses in India do not appear to have an important role as direct primary health care providers, but rather function as assistants to doctors. As such their training is of lower priority than that of direct care providers. Training of nurses will have to be given by their employers.

Institutional Providers and Provider Associations

NGOs - The Christian Medical Association, the Catholic Hospital Association, the Ram Krishna Mission have as members a large number of hospitals providing care

to millions of patients. In our visit to CHAI Headquarters and to a member hospital, it was clear that the ORS/ORT message was policy. Yet, at the hospital, there was much room for improvement in practice.

The establishment of effective ORT corners in member facilities has been shown in other countries to be an effective motivator for correct diarrhea case management, and should be considered a high-priority developmental activity. UNICEF is supporting this activity in 8 institutions, but the need is in thousands. A relatively inexpensive investment could do a great deal to institutionalize ORS/ORT practice. Our visits indicated that continued attention was likely to be necessary if the ORT corners are to continue to function as desired. Support for monitoring would assist in this effort. In addition, the support of studies to quantify the cost savings to hospitals adopting ORT would help to strengthen commitment to correct diarrhea case management by these hospitals and clinics.

Employer Health Facilities and Insurance Schemes

Large employers are required to provide health care for their employees. Smaller employers with at least 10 employees are required to contribute to the national Employee State Insurance schemes, which finances clinics and hospitals around the country. They should have an interest in reducing the cost of treating diarrhea through ORS/ORT. It would be desirable to learn what the current practices are in their facilities and the extent to which they need to be modified. These employee schemes cover an estimated 125 million population (25 million employees plus their dependents.). Thus an investment in this area could affect the health of a large number of children.

For-Profit Hospitals

We did not identify an organization which could facilitate work with for-profit hospitals. Our Hyderabad visit showed clearly that this area is developing rapidly and is worthy of attention.

EDUCATION AND SOCIAL MOBILIZATION

There are a number of voluntary organizations active in promoting health education

and better health services. The Ford Foundation has been particularly active in supporting the voluntary agencies.

The Voluntary Health Association of India (VHAI) has been active for many years preparing pamphlets and training materials for its members, running training courses particularly through its state level branches, and promoting health information at county fairs. VHAI has a cell devoted to rational drug policy which strongly advocates low-cost essential drugs. VHAI is also capable of organizing field studies, although this is not their forte. Because of their non-denominational nature, VHAI could be the host for a donor-funded cell for CDD in the private sector, which would take responsibility for facilitating a range of CDD-private sector activities, in collaboration with UNICEF, USAID, and other funding sources.

The Catholic Hospital Association of India, in addition to its function as an organization of care providers, also pursues activities in education and social mobilization. We found an interesting example in Hyderabad of the contribution voluntary agencies such as CHAI can make to ORS/ORT education. CHAI trained 50 high school graduate volunteers to demonstrate ORS in railway and bus stations during their summer vacation. Thousands of travellers learned about ORS for the first time. Some children were rehydrated on the spot. The effort was strongly praised by the local community. The same students in the coming year will be sent to local schools to teach students about ORS. This is part of a larger effort to stimulate child-to-parent teaching of modern health practices. UNICEF will continue to support these activities.

Rotary, in the case of polio and other EPI vaccines, and the Lions, for measles, have mobilized their members to volunteer time as well as money for these programs. The Rotary effort is particularly well designed, with appropriate roles having been determined for the Rotarians (e.g. enumeration, facilitating repairs to the cold chain, stimulating public support, as well as assisting at the time of immunization). An effort to find a volag sponsor for ORT could be worthwhile, since this kind of organizational interest means that leading members of the community believe that proper treatment of a disease is important. The proposed Rotary initiative of each member "adopting" 50 newborns each year, and taking the responsibility that each "adoptee" should receive proper immunization is an excellent idea. It could readily be expanded to include the Rotary member taking responsibility for ensuring that the mother knows how and when to use ORT for diarrhea.

These efforts generally are confined to cities, as the level of organization in rural areas is much less. Religious organizations may be better represented in rural areas. Given that the majority of the population is in rural areas, efforts to identify potential channels of a voluntary nature should be made. At the same time, it is our opinion that the expanding nature of urban areas makes donor and technical support of urban volags both important and worthwhile.

COMMERCIALIZING THE SUPPLY, DISTRIBUTION AND MARKETING OF ORS (Annex A gives fuller details about the commercial ORS sector as well as additional recommendations for its expansion.)

Despite the large potential market for ORS (more than 600 million liter packets only for diarrhea in children under five), the current commercial ORS market is small, perhaps 50 million to 60 million annually. The government production is much smaller.

There are now some 80 producers of ORS, but one company, Fair Deal Corporation (FDC), holds some two-thirds of the market. Electral, FDC's brand of ORS, is not within the acceptable range of the WHO formula because of excess sugar and low sodium. The other companies' products come in a variety of sizes and formulas, including a solution with glycine as well as glucose. Prices range from Rs. 2.00 per packet for the product produced by the Government to Rs. \$8.50 per packet (including Rs. 6.00 for the best-seller Electral), a price considered by many as too high for poor people. ORS is available in urban centers and in small towns where chemist shops are located.

The current distribution system as well as promotion of ORS by the pharmaceutical companies stops at the chemist. This is so despite the fact that ORS is now registered as an OTC product able to be distributed through the general consumer goods channels. ORS moves in small quantities beyond the small towns through purchases by village health providers, but is not currently located in village-level shops. The IMRB survey of rural mothers reports a 6% use of ORS only.

The Government states in its CDD plan that it intends to undertake a major social marketing scheme, using public funds to support promotion and awareness of ORS, but relying on private industry to cover the cost of production, distribution and a sustained system of product marketing throughout urban and rural areas. There are

already Government sponsored spots on national television promoting sugar-salt solution, and building awareness of ORT in general.

In contrast to NIRODH, (the name of the condom promoted by the Government), the Government does not intend to purchase, distribute and market ORS, but rather to standardize control and promote a generically named product encouraging private industry to use the benefit of this large national marketing campaign to increase its own distribution and sales of ORS conforming to national standards. The potential market for ORS is enormous. The pediatric market alone could be in excess of 600 million packets a year if all cases were treated with it.

PSI has proposed a social marketing scheme which would use the subsidized NIRODH distribution system to bring ORS to the rural areas. It currently operates in the northern part of the country. It would depend on UNICEF to provide money for advertising and the Government for start-up stocking of packets, which could come to 2.0 - 2.5 million a year for 3 years. USAID is interested in this proposal in the hope that profits from ORS distribution could cover some of the costs of NIRODH distribution. The Government has had the proposal under consideration for four months, apparently concerned that the scheme would require continuing subsidies.

We strongly endorse the Government's policy to use public funds to promote awareness and use of ORS, relying on the private sector to produce, distribute and market the product. We too are concerned with the sustainability of the PSI proposal. Whatever fate the PSI proposal eventually meets, other market development schemes which rely more fully on the private sector should be attempted and could be supported by PRITECH.

1. Using Existing Market Mechanisms

There are three alternatives within existing market mechanisms:

- accept the current limited distribution to chemists, and support chemist promotion of ORS to village practitioners, perhaps by assisting pharmaceutical company distribution and promotion technically.
- support PSI in its proposal to sustain itself as a new channel in competition with pharmaceutical companies within the current ethical channels (up to the chemist and urban physician/practitioner) as well

as extending beyond the ethical channel to initiate general consumer distribution and marketing. PSI will have to adapt its actual marketing structure to the ethical pharmaceutical marketing which requires a different technique including a different approach (detailing) to a different target audience (doctors) through a different marketing force (a specially trained detail force instead of a "generic" sales force).

- support an existing consumer products marketer such as Hindustan Lever, Procter & Gamble or the Tata Group of companies, etc. to add ORS to their product line for promotion and distribution. This is already being tried for condoms.

A general promotional campaign by the government would add to this effort through such messages as "You can tell if your doctor is any good if he gives you ORS for diarrhea."

The pharmaceutical companies are not likely themselves to distribute ORS beyond the town chemist. Links to the retail distribution system which brings matches and soap to the smallest village should be developed. Exploring and developing these links, as well as creating promotional material for the distributors and sellers of a new product would be appropriate.

Given that there is little objective data available to choose among these alternatives, we believe that support for pilot efforts of all three alternatives would allow rational choice for larger policy determination, as well as providing data to convince government policy makers of the advisability of supporting such private sector efforts.

2. Pharmaceutical Company Promotion-

Many of the pharmaceutical companies now compete for share of a stagnant market -- they are not working to expand the market. There are 50,000 chemist shops but 1 million retail outlets to move ORS as an over the counter item. Many of them would benefit from assistance in preparing promotional material for their detail men which carries a consistent ORS message and in other efforts aimed at strengthening their competence in marketing. Based on our interviews with 10 manufacturers, none seemed enthusiastic about the prospect of extending their efforts beyond the ethical pharmaceutical marketing and changing the working methods of their salesmen.

Further information about the companies is attached to this report (Annex A)

3. The Chemist

The chemist is, at least potentially, one of the most important influences in the selection of medicines to be used in the village. He decides what he stocks and what he offers when the village health provider comes to buy supplies. We need to learn what margin, inventory financing, or other incentives he requires to push ORS rather than antibiotics and anti-diarrheals. Promotional material will also need to be prepared for the shops, which the chemists could display.

The IMA effort to reach chemists by its member trainees has already been described, as has the possibility of using the national pharmacists' association for IMA-like training. Both could contribute to other efforts aimed at the chemist.

4. The Pharmaceutical Manufacturers Association-

The major association, the Organization of Pharmaceutical Producers in India (OPPI), appears ready to sponsor ORS/ORT as the right way to deal with diarrhea. The association feels the need to respond to government pressure relating to industry promotion of the use of inappropriate drugs. Assistance in helping the association frame general service health messages might be appropriate. Assistance could also be provided in developing strategic approaches.

5. Institutional Purchases of ORS-

CMDU (Community Development Medicinal Unit) and Low Cost are two of several NGOs making bulk purchases of ORS and other essential drugs, achieving significantly lower prices. The practice could be encouraged among other institutional users. This would also encourage the production of packets that meet WHO standards.

If Government enterprises providing employees with health services (e.g. railroads) could be persuaded to bulk-purchase ORS from the private sector, this could facilitate the creation of a wider private sector market with lower prices.

Technical assistance to analyze the potential and lay out strategic options could assist in this approach.

6. Pricing ORS

ORS produced in the private sector can now be sold at market prices. Concern is often expressed that the poor cannot afford to pay Rs.6 for Electral, yet the IMRB survey establishes that the average expenditure of a family per diarrheal episode is Rs.23 to Rs. 38. At 2-3 packets an episode, use of even the most expensive brand would save the family money. However, few mothers in the rural area are likely to make their own decision to buy ORS. Rather they will buy it on the chemist's advice or because the village doctor sells it. Moreover, where illness is concerned, Indian culture associates value with price, thus more expensive medicine is seen as better medicine. We believe that the current rationale for keeping prices as low as possible is unrealistic and self-defeating, and is likely to keep ORS use low, rather than encouraging use. We recommend that pricing studies be carried out, which will provide useful information on the possibility of market segmentation based on various product presentations, as well as indication of the price elasticity of demand.

These factors suggest that demand could be inelastic over a wide range of prices if ORS is accepted by chemists and village doctors as the preferred treatment.

7. Alternative product development

Correct diarrhea case management is not practiced or prescribed for a variety of reasons, but two of the most important are that ORS does not stop diarrhea, and feeding recommendations are not perceived as "treatment" by either practitioner or mother. A major reason for the latter is because feeding is represented in the patient-physician encounter only as advice, given at no direct cost (or profit!), while drugs are actual items which have value because they are expensive.

The development of new products which could answer some of these deficiencies would thus assist in overcoming them.

With this in mind, two research and product development activities should be considered for support:

- assist in research and product development of rice-based "instant" ORS.

The rice-based ORS (RBORS) approach has been shown to reduce stool output as well as hydrating effectively, and Galactina, a Swiss baby food manufacturer, has already demonstrated the feasibility of manufacturing a RBORS product that will suspend in cold water without cooking. This product has already been tested in Indonesia, and found to produce a 30% reduction in stool output. It seems likely that a baby food manufacturer in India could have the capability to produce a similar product. Support for technical assistance to the company, for some developmental time, and for the testing of a trial product would be a useful investment.

- assist in research and product development of a special diarrhea food which could be prescribed.

Such a food could be sold at a profit although not at too high a price, and would carry the perception of a medicine over into feeding during diarrhea. This would make it possible for the practitioner wishing to practice correct treatment to satisfy his patient as well as his pocketbook, and might prove effective competition for drugs, especially if accompanied by an aggressive marketing campaign. Again, support for development, testing, and marketing of such a food would be a useful investment.

8. Marketing ORS - ORS For What?

In Egypt, the concept of dehydration was heavily promoted and eventually understood and ORS was marketed successfully to deal with that problem. This IRMB survey suggests that village practitioners believe ORS would be more attractive if marketed in terms of the desired effects such as restoration of appetite, better energy, less weakness and lethargy. Whatever the pitch the feeding component of the ORT message should not be lost.

PRESERVICE EDUCATION, DIARRHEA TRAINING UNIT DEVELOPMENT

It would be far better if the graduates of medical colleges, nursing schools, and pharmacy colleges started their service with an understanding of proper treatment of diarrhea. Hands-on training for the MMBS and nurses is essential to producing graduates who believe in ORT.

With this as the objective, establishing DTU's in teaching hospitals, and assisting in the faculty training and materials adaptation from existing WHO materials would be useful contributions to sustainable changes in the norms of diarrhea treatment among the next generation of practitioners.

There is enormous institutional resistance to change, everywhere, yet progress has been made in Indonesia and the Philippines in modifying medical training. In Andhra Pradesh, the chief medical educator is anxious to tackle the problem. Providing support for his effort, if desired, could result in an important demonstration of what might be possible.

RESEARCH

The power of good operational research is demonstrated by the IMRB study which changed India's understanding of how diarrhea is really treated. It changed Government policy fundamentally. There is a continuing need to find answers to operational problems:

What will it take to make chemists sell ORS rather than anti-diarrheals?

What marketing strategy will move ORS into the retail distribution system? Stated otherwise, which is more effective: chemist-oriented or consumer-oriented promotion?

Would different ORS products, at different prices, make ORS more attractive to producers, and to additional consumers?

What do mothers do after receiving prescriptions of both drugs and ORS?

What is the level of compliance under different economic factors?

What is the effectiveness of different appeals to rural consumers?

What is the effectiveness of this or that approach to training?

Answers are also needed to allay the fears of the doubters about certain innovative activities. These represent practical problems that need answers if effective private

sector participation in case management is to develop. A few facts can help formulate appropriate answers.

We understand that there are a number of Indian organizations that, with financial support, could conduct quality operational research.

POLICY DIALOGUE

The new policy for ORT provides a remarkable statement of intentions. It gives full recognition to the role that the private sector must play in case management. But not everyone is persuaded that it is the way to go. To translate the policy into practical actions will be the challenge, actions which in fact extend the scope of the effectiveness of private players. It is important that USAID has the capacity to discuss with the Government its view of how well this process goes, should it choose to support a private sector intervention.

PRELIMINARY EVALUATION OF ORS COMMERCIALIZATION IN INDIASUMMARY & KEY FINDINGS1. Market Situation of drugs used in the treatment of diarrhea.

This information is based on 1989 sales as reported by ORG, a market research agency that specializes in pharmaceutical market research, and on personal visits to 10 companies producing ORS. Note: ORG figures are usually underestimated by 10-20%.

1.1 Market Size

1.1.1 Antidiarrheals (intestinal anti-infectives, intestinal absorbents, anti-motility drugs and yeasts) represented sales of Rs 314 million in 1989 of which Rs 112 came from liquid forms (presumably for children)

1.1.2 Oral electrolytes (ORS) 1989 sales are estimated at Rs 130 million, largely dominated by one single brand Electral (FDC), Rs 106 million, with unit sales estimated at 31 million packs.

1.1.3 Antibiotics. Quantities are unknown, but large amount are reported for the treatment of diarrhea.

1.1.4 I.V. Solutions. Here also the portion used for diarrhea/dehydration treatment is not known.

1.2 Market Trend. Antidiarrheal sales in liquid forms have generally decreased by 9% over 1988 sales. Electrolytes sales are increasing at a low pace (growth figures, not calculated)

1.3 Key-Players

1.3.1 Antidiarrheals liquids: 5 top-selling products in units:

- KALTIN & NEOMYCIN (Abbott) = 2.7 million units
- ARISTOXYL (Aristo Pharma) = 2.7 million
- FUROXONE (Eskayef) = 1.9 million
- STREPTOMAGMA (Wyeth) = 1.7 million
- ALDIAMYCIN (Alkem Labs) = 1.1 million

1.3.2 **Electrolytes:** 5 top-selling products:

- ELECTRAL (FDC) = 31 million (18 million 51g packs and 13 million 10g packs). It commands over 2/3rds of the ORS market.
- RELYTE (Rallis) = 2.1 million
- SPEEDORAL (Roussel) = .7 million
- PROLYTE (Cipla) = .5 million
- PEDITRAL (Searle) = .4 million

1.4 **ORS producers**

All ten companies visited have the same type of marketing: ethical pharmaceutical detailing through their detail force. Most have a force of some 200 detailmen (medical representatives). They call roughly on 60,000 doctors of which 40,000 are general practitioners (essentially the busiest ones) in urban areas. We can realistically assume that all companies call on the same busy doctors, with the difference that those with a larger force call on them more frequently, i.e., once a month. This concentration on the same busy practitioners results in cannibalization between the different ORS brands instead of the desired expansion of ORT/ORS prescriptions.

Due to the leading position of ELECTRAL (marketed since 1972) which is strongly established at the prescription level, new companies, even if larger than FDC, have faced strong competition which made it difficult for their ORS brand to make significant in-roads. Many have given up on promotion or re-allocated their ORS brand to a low-priority status (minimum promotion).

The general "mood" of the companies is that they lost their motivation to actively promote their ORS brand. Most have adopted the "passive marketer" attitude, i.e., just respond to the demand. Except for FDC which understandably has the most at stake (ELECTRAL is ranked #12 among all drugs sold in India), other ORS producers have diverted their resources to more profitable products. No one has come up with alternative marketing, or innovative technique to exploit the huge potential of ORS market and go around the dominating position of ELECTRAL.

The following is a brief summary of the 10 ORS producers visited with and selected by Mr. P.G. Ramachandran, executive secretary of PSI-India:

1.4.1 **FDC ltd.** (Fair Deal Corporation).

FDC started ORS production in 1972. In a way, this company can be considered a pioneer in ORS. This early start and the commitment to ORS has paid off generously

as reported by the sales data of ORG (a pharmacy sales audit organization): In 1989 ELECTRAL was ranked #12 product among all pharmaceutical products sold in India. It should be noted that ELECTRAL has a high 225 mmol/l concentration of glucose, and a low sodium concentration of 52 mmol/l. The heavy dependency on ELECTRAL (their best-selling product) is causing some worries to FDC management, especially that they are being pressured by MOH to change their formula to conform with the WHO one. In response to this pressure, they are diversifying their product line and investing increasingly in new products. They also started production of a WHO ORS formula renamed PUNARJAL in a 6g pack to be dissolved in a glass (200 ml) of water.

According to members of the Indian Medical Association (IMA), FDC is aggressively promoting PUNARJAL, funding IMA branch meetings, distributing samples and small 200 ml plastic glasses.

FDC employs some 200 detailmen who are requested to call on 10 doctors and 2 or 3 chemists a day.

1.4.2 Rallis India ltd.

Our main objective in meeting Dr. S. Agarwala was more in his role as president of the OPPI (Organization of Pharmaceutical Producers in India) than as director of Rallis pharmaceuticals, manufacturers of RELYTE - a 250 ml WHO ORS flavored formula. Dr. Agarwala is very enthusiastic and committed about ORT. He offered not only the services of his corporation but also those of OPPI. He sees a golden opportunity for OPPI to promote its public image as an organization, by embarking into an ORT education campaign. He is ready to consider adopting any public health message, e.g., breast-feeding, weaning food, nutrition, immunization, etc.

He asked us to submit a proposal with target objectives, areas of interventions and preliminary strategies. He is ready to advocate such a proposal in front of the OPPI members. Apparently the OPPI has a small budget earmarked for public relations purposes.

1.4.3 Roussel.

Roussel started production of SPEEDORAL in half-litre packs in 1987. It is a glycine-based product instead of glucose, with the other ingredients conforming to WHO formula. SPEEDORAL marketing stresses on the "superiority" of glycine. However, this approach has

not been very successful, sales did not take-off as expected. Despite the high price of the product Rs 8.75 for a one litre equivalent pack, the relatively poor sales performance of SPEEDORAL coupled with the high cost of glycine are hampering the profitability of the product. However, the company has invested a lot of money and efforts in developing and promoting the product, it is committed to continue, though with more modest expectations (and efforts!).

I noted the absence of the feeding messages in SPEEDORAL material. ROUSSEL asked for supporting documents to incorporate feeding in their promotion.

1.4.4 Cipla.

Cipla has produced PROLYTE since 1978 using the bicarbonate WHO formula in 1 litre pack. The product is not on active promotion due to low profitability. (It was not clear if Cipla contract-manufactures PROLYTE outside, which would increase the cost of the product.) Cipla management was not aware that ORS was classified as OTC. (This denotes the little interest accorded to PROLYTE!) I tried to steer them into the opportunity of marketing to the chemists who often were neglected by other companies. I sent them a copy of the WHO/IPF booklet on treatment of acute diarrhea for the pharmacist usage. They definitely need technical assistance in OTC marketing.

1.4.5 Searle.

We could not meet with the marketing director due to a board meeting. Dr. Phaterpekar, the Medical Advisor confirmed that PEDITRAL was a modest product in the company product line. Searle's detail force promotes it only during the diarrhea season (along with Lomotil and Diodoquin?)

PEDITRAL has a higher glucose concentration and a lower sodium concentration than the WHO formula.

1.4.6 Nicholas ltd.

Nicholas ceased production of its SUPERLYTE in 1987 because of poor sales. However, the whole company sales have declined for the past few years due to ownership problems. Nicholas now is a fully owned Indian company with a new management team.

Historically, Nicholas has been mainly an OTC marketing operation. They had a best-seller product, ASPRO, with

such a high popularity that it reached the most remote rural areas. Since then, ASPRO has lost most of its franchise and was beaten by lots of competition. The new management plans are not fixed yet. They seemed interested in reviving the OTC line, and resuscitating SUPERLYTE.

1.4.7 **E. Merck.**

E. Merck is a major pharmaceutical company with over 300 detailmen. They cover some 80,000 doctors on a monthly basis. They produce ELECTROBION in 3 forms: 200 ml, 1 litre and 3 litre packs.

They are interested in receiving scientific information on ORS, especially on the role of ORS and feeding. They are planning to produce mothers' leaflets and would appreciate any material developed for this audience.

1.4.8 **Glenmark Pharma.**

Glenmark is a small local company producing mainly branded generics with a high sales volume. It produces MARKLYTE but sales are relatively low. Promotional efforts are minimal. It is just mentioned by the detailmen as a last position product/reminder during the diarrhea season. No promotional material is planned for MARKLYTE.

1.4.9 **M M Labs.**

This is a small local company that operates only in the West and North. It does some export business mainly to East Africa. It produces two ORS products: EMLYTE, a WHO formula and EMLYTE-S, an ORS plus lactobacillus. The latter is the one which is actively promoted. Of course, it commands a premium price. EMLYTE is available in Kenya.

1.4.10 **Parke-Davis.**

Parke-Davis has discontinued the production of PREQUEST and PREQUEST FORTE, a WHO formula due to insufficient sales. No plans are made to revive the products.

2. KEY-ISSUES.

The most important key-issue is to market ORS beyond the core urban areas. The resources presently expended for ORS marketing by producers result in sales of 50-60 million packs per year, mostly in urban areas. This use represents barely 10% of the estimated potential need for ORS in children below 5 years of age in India (600 million packs/year).

3. POTENTIAL STRATEGIES.

Two basic strategies can be considered: one is to optimize actual resources of ORS producers and stretch the reach of ORS to the feasible limits of the pharmaceutical marketing, i.e., expansion of doctors and chemists coverage (the traditional target audiences) and beyond this coverage, include other health professionals, i.e., homeopaths and quacks. The other broad strategy is to go beyond the pharmaceutical marketing and market ORS as a mass consumer product with a different distribution system leading to general stores and grocery stores, and a direct-to-the-consumer advertising campaign.

3.1 Optimize the pharmaceutical marketing of ORS

- 3.1.1 Motivate actual ORS producers to expand their coverage by adopting innovative marketing techniques, i.e., OTC (Over-The-Counter) marketing. It has been proven that taking a "mature" product into OTC marketing has resulted in a two to three fold sales increase within the first year of OTC conversion.

Possible tactics:

- An "eye-opener" workshop
- Market research to identify actionable opportunities, e.g. Inter-relationship/dynamics of demand/influence, i.e., town chemist-village doctor-detailmen

- 3.2.1 Enlist the OPPI and IDMA, the 2 umbrella organizations of Drug manufacturers, which group companies representing respectively 2/3 and 1/3 of the pharmaceutical market, in playing an active role in ORT dissemination. A role they are willing to play if it helps build-up their public image.

Possible tactics:

- One or both organizations will fund and conduct a public-awareness campaign on diarrhea treatment and prevention, i.e., breast-feeding. Different campaigns will be conducted to different targeted groups, i.e., school children and teachers.

- Convince one or more of their members producing ORS to ensure physical distribution of ORS to remote areas through stock pressure on town chemists who supply village doctors.

- etc.

3.1.3 Obtain endorsement and active contribution of chemists association(s), homeopaths and other paramedic associations, as per IMA model.

3.2 Approach pharmaceutical companies with OTC capacities to produce and market ORS, e.g., Richardsons-Vicks. Could ORS piggy-back on such OTC line?

Note: Since Aug. 1989, ORS has been classified as OTC, and can be sold outside the chemists distribution network.

3.3 Take ORS beyond the pharmaceutical marketing and launch it as a mass consumer product.

Many national and/or regional mass marketers do an excellent job in getting their product in the most remote retailer shops, i.e., packaged food, matches, teas, soaps, etc. Why not ORS? This strategy deserves careful assessment based on market research findings, and preliminary contacts to identify potentially interested companies.

3.4 Include ORS in a specialized social marketing outfit such as PSI, which proposal can be considered a pilot test for mass marketing of ORS confined to selected areas.

LIST OF ORS PRODUCERS VISITED IN BOMBAY - MARCH 1-3, 1990

Company	Name and Position	Tel/Address
NICHOLAS LABS	Mr. J.C. Saigal Executive Director	Tel: 551 0477 V. N. Puravav Marg Deonar, Bombay 400 088
	Mr. Manohar Arora Mktg. Director	
	Mr. K. J. Kaul Mfg. Manager	
SEARLE INDIA	Dr. Subhash Phaterpekar Senior Medical Advisor	Tel: 204 7731 Rallis House Waudby Road Bombay 400 023
MM LABS	Mr. A. Merchant Executive Director	Tel: 492 6614/5 Mahalaxmi Chambers 22 B. Desai Road Bombay 400 026
CIPLA	Mr. Mohan T. Motwani General Mgr., Marketing	Tel: 3922891 289, Dimtikar Road Bombay Central, Bombay 400 008
	Mr. Ranganathan Mktg. Services Manager	
	Dr. Y. M. Joshi Medical Advisor	
FDC, Ltd. (Fairdeal Corporation)	Mr. A. Chandavarkar Jt. Managing Director	Tel: 575691/2/3 Factory: 142, Vivekanada Road- Jogeswari Bombay 400102
	Dr. R. S. Shetty Medical Services Manager	
	Dr. V. B. Sovani Medical Adviser	
ROUSSEL	Mr. S. R. Balsekar Vice President	Tel: 493 846/7 D - Shivsagar Estate A. Besant Road, Bldg. D Bombay 400 018

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Company	Name and Position	Tel/Address
E. MERCK	Mr. A. Verghese Mgr., Pharmaceutical Division	Tel: 492 2855 Shivsagar Estate A. Besant Road, Bldg. A Bombay 400 018
	Mr. Stanley D'Souza Marketing Manager	
	Dr. S. M. Gupte Clinical Research Head	
GLENMARK PHARMA	Mr. T. R. Srinivasan Sales Director	Tel: 492 2850 22 B. Desai Road Bombay 400 026
PARKE-DAVIS	Mr. S. C. Sabharwal Director Sales Training Development & Administration	Tel: 493 3331 Nirlon House A. Besant Road Bombay 400 018
RALLIS INDIA LTD.	Dr. S. Agarwala Director (Pharmaceuticals) President of Organization of Pharmaceutical Producers in India (OPPI)	Tel: 204 9778 204 8221 21 D. Sukhavadala Marg Bombay 400 001

TEAM PROPOSAL FOR ACONFERENCE ON ORT IN ASIA (ACORT)INCREASING PRIVATE SECTOR INVOLVEMENT IN ORTRATIONALE:

National Control of Diarrheal Diseases (CDD) programs, in the concentration of their efforts on the government's health services system, have in many countries been ignoring the majority of care provided to children with diarrhea.

In India, for example, care outside the home is sought for 65 percent of episodes of diarrhea; more than 80 percent of this care is in the form of consultations to private practitioners of various sorts, while only 10 percent consult the government health system subcenters, PHCs, and hospitals. With private sector activities in medical care prominent in virtually all Asian countries, recognition of this fact constitutes a critical challenge to national CDD programmers, donor and technical agencies supporting ORT and CDD programs, and private professional and voluntary organizations concerned with the health and welfare of children:

How can appropriate diarrhea case management practices be promoted effectively to non-governmental medical care providers?

The range of such providers is broad. It includes private physicians; a variety of other "doctors", including non-allopathic doctors, registered but non-qualified allopathic practitioners; non-registered "quacks" and traditional healers; pharmacists, chemists, and other drug sellers; and small one-unit up to large multi-facility or multimember private voluntary or charitable organizations (PVOs). Linked closely to this range of providers are the pharmaceutical manufacturers and distributors who provide the drugs and Oral Rehydration Salts (ORS) used in treatment. Still other groups may not provide direct medical care, but play a role in educating mothers, or providers, about diarrhea treatment and prevention.

While some of these private sector entities are classified as non-profit, almost all charge a fee for services or drugs, in order to remain in existence and financially solvent; thus, economic considerations, both for mothers seeking care for diarrheic children and providers and drug suppliers providing it, are fundamental in any discussions of this area, in addition to considerations of access, equity of care, and the quality or correctness of care. This attention to economic reality is consistent with the current enhanced appreciation that even government medical services may be

forced to consider fees for services or drugs if they are to remain functional in conditions of increasing economic pressure on already limited health budgets.

At the same time, the obstacles to reaching this range of providers, many of whom participate in no organizational structure or any sort, are staggering. How can government or non-government agencies organize and manage efforts to influence the behavior of millions of individuals who cannot be ordered to attend a course or submit a report? How can the messages or instructions conveyed be kept consistent with the most current understanding of correct diarrhea treatment?

While the broad, international emphasis on the private sector is recent, individual agencies throughout Asia have for some time been active in this area, with many successes. Commercialization of ORS is widespread in many Asian countries, India having, for example, over 80 manufacturers of ORS packets. Non-profit efforts to market ORT or ORS have taken place outside government in Bangladesh and India, often with government support. Professional associations such as the Philippine Pediatric Society, the Coordination Body for Indonesian Pediatric Gastroenterology, and the Indian Medical Association, have both trained their own members and reached out to other institutions. PVOs in most Asian countries have developed training and promotional materials and conducted courses and outreach promotion of ORT. In short, valuable experience in reaching the private sector has been accumulating, although much of it is known only locally.

Given the need to face the deficiencies of CDD programs in the private sector and to take aggressive action to overcome them, and the existence of a range of useful experience in the region, the team believes that it is desirable at this time to carry out a regional workshop on this topic.

Discussions with the UNICEF Regional Director in New Delhi indicated his strong support for the concept.

GOALS:

The goals of the ACORT-Private Sector include:

1. To establish the importance of enhanced emphasis on the private sector in CDD efforts
2. To exchange experiences among countries and agencies regarding private sector initiatives which were successful or which failed; to stimulate creative new approaches in the private sector
3. To develop recommendations for policies and activities which will support enhanced private sector participation in ORT and CDD

4. To enhance commitment of governments, donor agencies, and indigenous groups to greater efforts in private sector CDD/ORT
5. To facilitate collaboration among country participating organizations, between countries, and among donor agencies in private sector CDD/ORT efforts

PARTICIPANTS:

The countries participating in the workshop would include:

- | | | |
|--------------|---------------|---------|
| - Bangladesh | - Philippines | - India |
| - Indonesia | - Pakistan | - Nepal |
| - Sri Lanka | - | - |

Participants from these participating countries would represent the following types of organizations and activities:

private sector:

- professional organizations (e.g. medical or pharmacist associations)
- private voluntary organizations (e.g. national PVO coordinating organizations, individual PVOs with exciting CDD/ORT activities)
- manufacturers and distributors of ORS
- individual private practitioners of various types
- market or social science research organizations having experience with ORT/ORS studies

government:

- the government CDD program, both national and peripheral, to include those with experiences in private sector initiatives
- government drug controller agency representatives

donor agencies:

- involved donor agencies (UNICEF, USAID) and technical support agencies (WHO)

others:

- national press reporters

In addition, participants representing international perspective would include:

- donor and technical agency home office representatives
- multinational pharmaceutical company representatives

- experienced consultants and researchers

LOCATION:

Suggested location is Bangladesh, in order to allow easy attendance by both Indian and Pakistani participants, also recognizing the strong private sector activities in Bangladesh (BRAC, ORS Social Marketing Project).

TIME:

Given the amount of effort required to obtain agreements and implement such a conference (see SCHEDULE below), the conference would occur no earlier than February 1991.

In the manner of previous ICORT arrangements, it would be expected that facilitators, panelists, and presenters would arrive 2 days ahead of the conference opening to finalize presentations and working arrangements. The conference itself would be held over 3 days.

TOPICS:

The following topics would be covered in the conference:

1. The Role of the Private Sector in CDD: The Problem

- Methods for quantifying the private sector role; problems and pitfalls in field studies
- Extent of private sector treatment of diarrhea cases in participating countries
 - types of providers
 - type of treatment
 - ORS - mother education - drug use
- Economic aspects of private sector case management
 - expenditures for cases by rich versus poor families
 - ORS price influence on use rates
- Country-by-country data on private sector role
- Private sector players and their roles:
 - practitioners and care-giving institutions
 - drug companies and pharmacists
 - development agencies (non-health)
 - professional groups
 - PVOs
- Research needs in analyzing private sector activity

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- Donor agency and government roles in monitoring private sector CDD activities

2. ORS Commercialization

- National policies and regulations on manufacture, price, distribution, product (packet size, label, formula)
- Pricing: effects on use, and on drug company promotion activities; methods for studying demand elasticity
- Competition
- Subsidies and sustainability
- Reaching beyond ethical distribution limits; reaching village outlets
- ORS promotion: role of generic (e.g. government sponsored) versus product specific promotion; social marketing versus commercial marketing
- Detailing as method for changing ORS use by practitioners as well as other case management behaviors (e.g. feeding recommendations, other drug use)
- Potential effect of availability of commercial rice-based ORS on standard ORS sales and use
- Current marketing capability and deficiencies of ORS manufacturers; need for and role of training in marketing
- Research needs in ORS commercialization
- Donor agency and government support in private ORS production, distribution, and marketing

3. Reaching the Private Practitioner

- courses by professional associations
- The role of the chemist/drug supplier
- Detailing
- Other information dissemination approaches
- Specific approaches for specific types of providers
 - qualified doctors (allopathic) - village health workers
 - non-qualified doctors - other auxiliaries
 - pharmacists - private hospitals
 - traditional healers - large employers and their health insurance schemes

- Role of national treatment policy on home therapy
 - Policies and certification in changing institutional (or individual) behaviors
 - Research needs in analyzing private practitioner behavior and response to initiatives
 - Donor agency and government support in reaching private practitioners
4. Educational Activities in CDD by private Organizations aimed at Families and communities (consumers)
- Areas of potential activity: promotion of exclusive breast feeding, education regarding hygiene and sanitation; education on home diarrhea treatment; water and sewage facility provision; nutrition/weaning/food supplementation; measles immunization
 - Potential players, their advantages and disadvantages: national PVO coordinating agencies; women's' groups; religious groups; non-health-development groups; schools; individual PVOs and community organizations; multinational PVO (CARE, CRO, Save the Children, etc)
 - Mobilizing and supporting these PVO activities: training of trainers, materials, operational funding; information systems and evaluation; monitoring; commodity supply (e.g. ORS); ensuring standard messages and consistency with national policy; medical and referral support for diarrhea treatment
 - Research needs
 - Donor agency and government roles in mobilizing, monitoring, and supporting PVO educational activities

ORGANIZATION AND MANAGEMENT:

The ACORT-Private Sector workshop would be sponsored by UNICEF, USAID (through PRITECH), and WHO (Geneva) as well as UNICEF and USAID missions in the participating countries and the UNICEF South Asian Regional Office in Delhi. Additional potential sponsors who may be considered include:

- other multi-lateral and bilateral development agencies (e.g. World Bank, UNESCO, CIDA, SIDA, _____, _____ ,
- private donor agencies (e.g. Ford Foundation, CARE, _____,)
- multinational and national ORS manufacturers

An organizing committee, with representation from each of the major sponsoring organizations and participating countries, will meet to define and arrange the agenda, to nominate potential speakers and participants, and to advise regarding the preparation of pre-conference background papers, discussion agendas for conference panels and working groups, and logistics arrangements.

A single agency will take responsibility for managing the implementation of the conference, so as to avoid excessive time and manpower costs from consensus decision making.

SCHEDULE FOR WORKSHOP PLANNING AND IMPLEMENTATION

1. Major sponsors negotiate re workshop
2. Agreement reached, basic funding promised
3. Nomination of steering committee
4. Steering Committee meets, prepares draft agenda speakers, participants
5. Selection of workshop organizing agency
6. Draft agenda, speakers, participants circulated
7. Organizing agency inspects site
8. Invitations to speakers mailed
9. Background papers commissioned
10. Invitations to participants mailed
11. Background papers submitted
12. background papers reviewed
13. Steering committee/organizing agency meet
14. Background papers revised
15. Revised speaker invitations mailed
16. Travel arrangements made
17. Local logistical arrangements made
18. Workshop occurs
19. Publications subcommittee edits papers, proceedings, recommendations
20. Proceedings published