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AN INVENTORY OF  
A.I.D.-SUPPORTED ACTIVITIES IN ORAL REHYDRATION THERAPY  
AND DIARRHEAL DISEASE CONTROL

prepared by

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## INTRODUCTION

One of the most important recent research advances in the field of diarrheal diseases has been the discovery that dehydration, in cases of acute diarrhea of any etiology and of all age groups, can be treated with oral rehydration therapy (ORT) using a single solution. About one out of every 10 children born in developing countries dies of diarrhea before reaching the age of five. ORT, the most widely acclaimed technique for affecting dehydration, can substantially reduce this heavy toll. ORT is a solution prepared by drinking a simple solution of water, sugar and mineral salts to replace the life giving fluids of salts lost by the body during an attack of diarrhea. This counterattacks dehydration, which is the direct cause of diarrhea deaths.

During diarrhea the body rapidly loses fluids and the electrolytes sodium, potassium, chloride, and bicarbonate. At the same time, the ability of the intestines to absorb fluids and electrolytes in the form of salts, taken by the mouth, is impaired. Oral rehydration (OR) is a simple, effective and inexpensive treatment for the dehydration from diarrhea. It is clear that ORT is an eminently suitable tool for application at the primary health care (PHC) level and an excellent entry point for health education activities to promote other preventive measures. Making this important public health tool available throughout the world, as an integral part of health service delivery, is now a major public health challenge.

The formulation of the oral rehydration salts (ORS) recommended by the World Health Organization (WHO) is prepared by adding appropriate amounts of glucose, sodium bicarbonate, and potassium chloride to drinking water to deliver the optimum concentrations for intestinal absorption of electrolytes and water to replace acute diarrheal losses.

The ORS packet is composed of the following recommended constituents:

- 3.5 grams sodium chloride,
- 2.5 grams sodium bicarbonate,
- 1.5 grams potassium chloride, and
- 20.0 grams glucose

to be dissolved in:

- 1 liter of potable water.

These ingredients are now distributed internationally by the United Nations Children's Fund (UNICEF) and domestically through private and host country manufacturers in packets labelled "Oral Rehydration Salts." Recently, A.I.D. contracted the services of a U.S. manufacturer for the production of ORS.

Though there is worldwide agreement as to the therapeutic value of ORT in combatting diarrhea-induced dehydration, some debate exists covering the production and distribution of OR solution. Currently there are four methods of ORT delivery that have gained recognition:

1. Distribution of WHO-endorsed ORS packets containing sugar and salts in powder form.
2. Distribution of specially made spoons to measure out salts and sugar available locally for village-based or home preparations of solutions.
3. "Pinch and Scoop" approach whereby mothers or village health workers are taught to make up their own solutions using hand measurements of market-bought salt and sugar.
4. Use of locally designed standard measurement techniques and utensils.

Regardless of the method of ORS preparation selected, health workers today are urged to work hand-in-hand with isolated populations to make ORT easily accessible to all. It is essential that community participation is achieved in the program's development from the beginning and that health workers collaborate with the people whom they serve.

A.I.D. is involved in a broad range of activities emphasizing the control of diarrheal diseases. The following inventory on ORT and Diarrheal Disease Control (DDC) activities was compiled to provide up-to-date information on A.I.D.-supported activities, experiences, knowledge and skills in the area of DDC. The purpose of the inventory is to assist in the overall development and coordination of new or expanded PHC programs and to support an Agency-wide intersectional network for information dissemination of diarrheal disease control programs. Apart from the utility this inventory creates for A.I.D. personnel, technical representatives from WHO, UNICEF, PAHO and other international organizations, will find it a useful source of information.

Though it is not a definitive survey, the inventory is representative of the type of activities and programs that are indicative of A.I.D.'s efforts in the control of childhood diarrheal disease.

## DEFINITIONS

### Oral Rehydration Therapy

A method of restoring body fluids in order to replace essential electrolytes lost during an attack of diarrhea. ORT does not cure diarrhea, but prevents dehydration which leads to death.

### Diarrheal Disease

A disease characterized by frequent passage of abnormally loose or watery stools that weaken the body and leave it without the fluids and salts needed to survive.

### Diarrheal Disease Control/Oral Rehydration Therapy Programs

Diarrheal disease control programs comprise a continuing, comprehensive PHC service for the control of infant diarrhea. The organization for such control programs effective for nationwide treatment of diarrhea require a multi-level program of service delivery and back-up. Information, supplies, training materials, supervision and management techniques are characteristic of program organizations that reach at least five levels of involvement:

- o Family
- o Village Workers or Peripheral Health Workers
- o Fixed Facilities or Primary Health Centers
- o Referral Centers or Hospitals
- o National Health Systems.

## CRITERIA AND LIMITATIONS OF INVENTORY

### CRITERIA

In an attempt to standardize the presentation of information regarding A.I.D.-supported activities in ORT and diarrheal disease control, the following criteria was established:

1. Document recent or ongoing A.I.D.-supported ORT/DDC activities as of FY 1980.
2. Document/activities that reflect a specific ORT/DDC component such as:
  - o Education
  - o Training
  - o Operations Research
  - o Integrated Basic Health Services
  - o Distribution of UNICEF or Locally Made ORS Packets to the Community
  - o Assistance in Designing National ORT/DDC Programs
  - o Evaluation
  - o Information Dissemination
  - o Workshops/Seminars
  - o Technical Advisory Services.
3. Presentation of information is dealt with under the following headings:
  - o A.I.D. Technical Office or Regional Bureau Jurisdiction
  - o Project Location
  - o Project Name
  - o Project Number
  - o Project Time Frame
  - o Project Description
  - o Further Information Contact.

### LIMITATIONS

For purposes of this inventory, information was collected through interviews with representatives of A.I.D. Technical Offices and Regional Bureaus, "APHA Tracking Reports on A.I.D.-Sponsored Primary Health Care Projects," A.I.D. FY 1983 Annual Budget Submission (ABS) Reports," A.I.D. Project Papers and assorted official cable traffic.\* The information, as corrected and approved by A.I.D. Regional Bureaus and Technical Offices, was accepted without further investigation. In utilizing A.I.D. Project Papers as one major source of information collecting, it was found that in

\*It must be noted that U.S. A.I.D. Mission personnel, a valuable source of information, were not consulted regarding Mission-funded health projects.

many cases this document did not supply the degree of detailed information required to ascertain the type of diarrheal disease intervention envisioned for project implementation. In addition, by not incorporating a pretested questionnaire tool to standardize profiles of information categories, the inventory should be reviewed more as a qualitative rather than quantitative reporting system.

## SUMMARY

This inventory is an attempt to summarize and provide information relating to A.I.D.-supported activities in diarrheal diseases, including ORT. ORT and diarrheal disease remain one of A.I.D.'s priority areas of concentration in the health sector. A diarrheal disease component, vis-a-vis maternal child health (MCH), nutrition and family planning programs, is characteristic of PHC projects lending itself to an integrated basic health services delivery scheme.

The inventory provides information on 67 A.I.D.-supported projects/activities in 30 developing countries. This involvement is mainly directed in areas of education and training through integrated health delivery services and operations research.

## ACKNOWLEDGEMENTS

Special thanks should be paid to Mrs. Susan Stewart who provided outstanding assistance in typing this document.

BUREAU FOR SCIENCE AND TECHNOLOGY

OFFICE OF HEALTH

BANGLADESH

\*International Center for Diarrheal Disease Research (ICDDR/B)  
Project Number 931-1012  
Project Duration (FY 1979-1985)

The ICDDR/B was established in June 1979 on the institutional foundation of the Cholera Research Laboratory which had operated in Bangladesh for 18 years. The objectives of the Center are to undertake and promote study, research and dissemination of knowledge about diarrheal diseases and directly related subjects of nutrition and fertility with a view to develop improved methods of health care. In addition, the prevention and control of diarrheal diseases and improvement of public health programs with relevance to developing countries is another concern of the Center. The Center's programs provide collaboration with national and international institutions in developing countries to strengthen capabilities in diarrhea disease control and treatment assistance in health care programs.

For further information contact S&T/HEA, Dr. Clifford Pease.

WORLDWIDE

\*Accelerated Delivery Systems Support (ADSS)  
Project Number 936-5900  
Project Duration (FY 1979-1985)

Through a contract with the American Public Health Association, the Office of Health serves as a focal point to provide technical assistance to developing countries in the design, implementation and evaluation of PHC projects. Many times these efforts are directed at diarrheal disease control activities. In addition, the project provides workshops, information collection and dissemination and technical advisory services in the area of diarrheal disease control.

For further information contact S&T/HEA, Dr. Donald Ferguson.

\*Central Procurement of Oral Rehydration Salts

To date, A.I.D.'s requirements for ORS have been met either by purchases under geographical source waivers from UNICEF or UNICEF donations to national programs. In view of off-shore procurement regulations and indications of increasing demands for the packets, A.I.D. recently

contracted a U.S. manufacturer for the production and distribution of ORS for two countries with major A.I.D. assisted PHC programs. This activity will be an integral part of a broader PHC strategy for developing countries involved in procurement activities. The A.I.D. packet will be similar in design to the UNICEF model. The provision of ORS through A.I.D., is not designed to discourage local production of the commodity, but rather supplement inadequate availability while simultaneous efforts to develop local capability are undertaken where appropriate.

For further information contact S&T/HEA, Ms. Anne Tinker.

\*Communicable Disease Health Initiative

Project Number 936-5916

Project Duration (FY 1981-1984)

One purpose of this multifaceted project is to assist Ministries of Health to strengthen their national health delivery systems by decreasing morbidity and mortality from major communicable diseases. The project emphasizes the development of local competence and institutions in the control of communicable diseases. In coordination with WHO, ICDDR/B, host governments, and the Center for Disease Control (CDC), the project will develop diarrheal disease control programs on a country-by-country basis. It will also improve national disease control investigative services.

For further information contact S&T/HEA, Dr. Clifford Pease.

\*Primary Health Care-Operations Research

Project Number 936-5920

Project Duration (FY 1981-1986)

The purpose of the project is to develop and support operational research aimed at closing knowledge gaps impeding host countries' efforts to design, implement and sustain PHC programs. The project will support selected studies which address A.I.D. identified policy and programmatic questions and investigate relevant health care delivery issues. Priority research questions will be identified and studies--mainly "piggybacked" with ongoing programs--will be undertaken in the field. It is expected that potential research in ORT and diarrheal disease control will be undertaken.

For further information contact S&T/HEA, Ms. Terri Lukas.

\*Water and Sanitation for Health (WASH)

Project Number 931-1176

Project Duration (FY 1980-1988)

The project provides the means to tap large resources of technical knowledge and skills available in the U.S. private sector and

international health community to support safe water and sanitation initiatives of developing countries.

- ORT Activities:
- 1) Discussions to the effects of OR solutions made with contaminated water and how provision of potable drinking water might improve health and have an effect on morbidity, mortality and fertility rates and on nutrition.
  - 2) Review of literature on the use of water disinfection in the preparation of OR solutions.

For further information contact S&T/HEA, Mr. Victor Wehman.

OFFICE OF EDUCATION

HONDURAS

\*PAHO-A.I.D. Workshop for the Development of National Diarrhea Control Programs  
(October 25-November 1, 1981)

The Office of Education provided technical support to the Workshop in the form of providing fees for consultant participation, utilization of project (Mass Media and Health Practices) resources and other logistical services.

For further information contact S&T/ED, Dr. Anthony Meyer.

HONDURAS AND THE GAMBIA

\*Mass Media and Health Practices  
Project Number 931-1018  
Project Duration (FY 1978-1984)

The purpose of the project is to develop and demonstrate more effective means for using mass media in support of desired health practices in rural areas of two developing countries. The project is developing a system for teaching mothers to deal with the treatment and prevention of infant diarrhea. Specifically, the project will develop a methodology for combining different mass media elements to teach ways of treating and preventing acute diarrhea in infants and small children. The project makes extensive use of radio plus print and field personnel with communications content derived from medical, anthropological and psychological interactions with the involved rural communities.

The Honduras site is developing, with the GOH, a local production capacity to produce ORS. The Gambia site intends to promote and research the use of homemade sugar-salt solutions to combat dehydration in infant diarrhea.

For further information contact S&T/ED, Dr. Anthony Meyer.

OFFICE OF NUTRITION

PERU

\*Improvement of Maternal and Infant Diet

Project Number 931-1010

Project Duration (FY 1979-1984)

The First Maternal Care Workshop (October 1980)

A two week workshop was held in conjunction with the Ministry of Health and International Nutrition Communication Service (INCS) to develop community-based materials and methodologies on ORT. The materials are intended to assist nutrition and development workers in the development of OR programs throughout the country.

For further information contact S&T/N, Ms. Tina Sanghvi.

PUBLICATIONS

Management of the Diarrheal Diseases at the Community Level, National Academy Press, Washington, D.C., 1981.

This study was supported by the Office of Nutrition to consider and make recommendations concerning two direct interventions in the management of acute diarrheal diseases, OR and continued feeding. The purpose of the study was to suggest an appropriate course of action to facilitate management of diarrheal diseases.

For further information contact S&T/N, Ms. Hope Sukin.

Oral Rehydration Therapy: An Annotated Bibliography, Pan American Health Organization, Washington, D.C., 1980.

This bibliography provides a collection of annotated abstracts on OR in order to assist in understanding the large amount of information which has evolved concerning this method of treating diarrhea.

WORLDWIDE

\*Health Systems/RSSA

Project Number 931-1198

Project Duration (FY 1977-C)

Nutrition Components for Integrated Health Delivery Systems

To be carried out under a RSSA agreement with DHHS/OIH

Activity Start (FY 82).

The purpose of the project is to reinforce and expand A.I.D.'s capability to provide a leadership and supportive role in developing appropriate nutrition components for integrated health/nutrition/family planning programs in developing countries. Services that are provided under the agreement include:

1. Information and training materials on the basics of OR.
2. Resource handbook on OR.
3. Short-term technical assistance to A.I.D. Missions and A.I.D. regional programs providing guidance in the procurement, storage, supply and maintenance of materials and equipment such as OR packets.
4. Operations research-What are the limitations and risks associated with home and village level OR techniques?
5. Workshops/seminars.

For further information contact S&T/N, Dr. Stewart Blumenfeld.

**\*Nutrition: Education Field Support**

Project Number 931-1065

Project Duration (FY 1979-1983)

The project will assist developing countries to design and implement more effective nutrition education programs. The project provides the opportunity for participating countries to improve their: 1) use of mass media techniques in nutrition education, 2) design of messages at the village level, and 3) improve curriculum planning for nutrition education programs. ORT message development is one target component of the project.

For further information contact S&T/N, Ms. Jean Audrey Wright.

OFFICE OF POPULATION

BANGLADESH

Family Planning Social Marketing Project

See Regional Bureau for Asia. (See page 24.)

WORLDWIDE

Starting in 1973, the Office of Population has encouraged and supported the initiation of a number of household and village distribution projects. A number of these projects are classified as "Operations Research" and use ORS (UNICEF) as one of the major health interventions for Community-Based Distribution (CBD) projects. CBD projects use operations research methodologies to evaluate and make modifications in host-country delivery systems and to study various system components that can be compared for cost-effectiveness. The objectives of the approach is to enhance family planning acceptance by meeting locally recognized health needs and to improve the health of the population, thus providing better rapport between the health workers and local community.

The most widely used health intervention in CBD projects has been ORT; this choice finds its rationale in the importance of diarrhea to the health of the children, the efficacy and simplicity of fluid replacement therapy, and the need to provide this therapy early in the disease process and preferably in the home. Since 1977, the proportion of projects delivering OR has increased to 65 percent.

OR services were used in both completed and active operations research projects. In most cases, OR services are incorporated in "Integrated Family Planning/Health" projects which are country specific. Table I enumerates countries which have incorporated an OR component or plan that an OR service will be provided. Table II delineates project descriptions and project status.

For further information contact S&T/POP, Dr. Duff Gillespie.

TABLE I

<u>COUNTRY</u>	<u>DESIGNATION</u>	<u>PROJECT DATES</u>	<u>SECTOR TYPE</u>	<u>CLIENT CHARGES</u>	<u>COMMENTS</u>
<u>Completed Project</u>					
Nicaragua		76-78	Public	Yes	OR service provided by agents.
<u>Active Projects</u>					
Haiti		77-81	Public	No	OR service added after July 1, 1979.
Thailand		77-81	Nonpublic	Yes	OR service added after July 1, 1979.
Tunisia (PFPC)	Jendouba	77-80	Public	No	OR service is provided by agents.
Egypt	Menoufia 2	78-81	Nonpublic	Yes	OR service is provided by agents.
Mexico	3 states	78-81	Public	No	OR service is provided by agents.
Guatemala	MOH	79-82	Public	No	Planned that OR service will be provided.
Guatemala	INCAP	79-81	Nonpublic	No	Planned that OR service will be provided.
Morocco	3 provinces	79-	Public	No	Planned that OR service will be provided.
Nigeria		79-82	Nonpublic	Yes	Planned that OR service will be provided.
Peru		79-82	Public	Yes	Planned that OR service will be provided.
Sudan		79-82	Public	No	Planned that OR service will be provided.

**TABLE II**  
OPERATIONS RESEARCH PROJECTS

a) Country, b) Organization/s c) Site, d) Monitoring Unit	Project Description	Project Status	September 1981 Results
a) EGYPT b) American University in Cairo (AUC); Ministry of Health; Ministry of Social Welfare c) Menoufia Governorate d) USAID/Cairo and AID/W	Population: 1.4 million. Specially trained canvassers distribute OCs, vaginal foaming tablets, and Oralyte to all households. Referral for clinical methods. Pregnant women receive tetanus toxoid series. Major community development component through county and village councils.	6/78 - 6/85 Original project schedule to ter- minate 6/81. Based on results of Menoufia actions, project will be extended in Menoufia and ex- panded to a new Governorate, Bent Suef. Tetanus toxoid immuniza- tion was dropped from service program because of indifference among potential participants and logistical problems in delivery system. Entire population of Menoufia has been provided oral rehydration salts (ORS) for de- hydration from diarrhea and family planning services. Broad range of community development projects initiated throughout Governorate. Expansion into Bent Suef (popula- tion 1.2 million) to commence in Fall of 1981.	There was initially some confusion between household distribution of con- traceptives and ORS. This problem was alleviated by separating the two com- ponents. Contraceptives were dis- tributed on household basis, but ORS were distributed through group meetings of mothers with children under 5 years of age. Contraceptive prevalence in- creased from 19 to 23% over two year period. Efforts have been initiated to reinforce family planning activities since increase is not satisfactory. ORS distribution had close to unanimous acceptance among mothers. Utilization of ORS and impact on mortality are being examined now.

\*Unless noted otherwise, MIRA refers to all married women 15-45 years of age.

OPERATIONS RESEARCH PROJECTS

September 1981

a) Country, b) Organization/s c) Site, d) Monitoring Unit	Project Description	Project Status	Results
<p>a) GUATEMALA b) Nutrition Institute of Central America and Panama (INCAP) in collaboration with the Ministry of Health c) Departments of El Progreso, Zacapa, and Chiquimula d) AID/W</p>	<p>Population: 150,000 In the study area, with a population of 75,000, full-time staff will provide on-going training to MNI staff, focusing on the training and supervision of 300 village volunteers (Health Promoters). Each promoter will periodically visit approximately 50 houses during which contraceptives will be distributed, high risk malnutrition and obstetrical complications identified, simple illness treated, and causes of severe illness referred. Health interventions emphasize: family planning, nutritional supplementation for third-degree malnutrition, oral rehydration, childhood diseases immunization, and sanitary and nutrition information. Before/after surveys and cost analyses will be used to evaluate the project. The control population will continue to receive standard MNI services.</p>	<p>6/79 - 5/83 A baseline survey was completed in April 1980. Service delivery began in January 1980, and continues. An evaluation survey took place after 11 months of service delivery. The project was extended 8 months to permit analysis of process variables, to refine the delivery system further, and to allow a smooth transition to exclusive MNI management.</p>	<p>Preliminary results of the evaluation survey indicate an increase of contraceptive use prevalence from 14% to 17%. Use of oral rehydration therapy rose from 1% of cases to 38%. Vaccination coverage reached approximately 90%. Screening for malnutrition was over 90% and of these about 90% are receiving supplements. Infant mortality fell from 92/1000 to 45/1000.</p>

OPERATIONS RESEARCH PROJECTS

September 1981

a) Country, b) Organization/s c) Site, d) Monitoring Unit	Project Description	Project Status	Results
a) GUATEMALA * b) Division of Human Resources, Ministry of Health c) 400 Indigenous communities d) USAID/Guatemala and AID/H	Population: 120,000 The project will train 400 community volunteers (Health Promoters) in the provision of family planning and simple health services. Half of the Promoters will receive the traditional 4 weeks of formal training, the other half a modified course of no more than 3 weeks, using a programmed learning manual. Each of these groups will in turn be equally divided between male volunteers (the traditional Health Promoter) and married couples (each couple treated as a single agent). The project will also establish an independent self-financing logistics system. Promoters will purchase supplies from local depots at a nominal price and be permitted a 30% markup as their only form of compensation. Evaluation will be effected through: (1) supply distribution records, (2) standardized supervisor evaluations, and (3) an anthropologist using the resident observer method.	9/79 - 3/83 A baseline survey of family planning and health service utilization has been completed and is being analyzed. The preliminary anthropological field work has been completed and a report is in preparation. Training of the promoters and establishment of the supply system is complete, and the project has begun providing services. Political unrest has impeded service delivery in some project areas.	No results to date.

\*Planned that OR service will be provided.

OPERATIONS RESEARCH PROJECTS

September 1981

a) Country, b) Organization/s c) Site, d) Monitoring Unit	Project Description	Project Status	Results
<p>a) Haiti b) Haitian Department of Public Health and Population (Division of Family Hygiene), and Columbia University c) South region d) USAID/Port-au-Prince and AID/W</p>	<p>Population: 250,000 Project builds on demonstration household distribution project and community development activities. Operations research will be conducted to improve the provision of low-cost family planning and NCI services by community volunteers and health agents in rural areas. Variations of service delivery will be tested. Interventions include: OCs, condoms, foam, referral for IUD and sterilization, oral rehydration, vaccination/immunization referral, multivitamins with iron, etc. Project evaluation will be based on results of baseline and endpoint surveys, service statistics and mini-surveys.</p>	<p>10/81 - 9/81 Project agreement has been signed and first year work plan developed.</p>	<p>No results to date.</p>
<p>a) MEXICO *** b) Maternal-Child Health and Family Planning Directorate of Mexican Ministry of Public Health, and Columbia University c) Three states (Chihuahua, Michoacan, Oaxaca) and Federal District d) AID/W</p>	<p>Population: 465,000 Different strategies for community distribution of NCI/family planning services were tested in rural areas of 3 states and 3 slum areas of Mexico City. Project builds on experience of San Pablo Autopan study. Several design modifications were introduced during the project to respond to changing GOR research needs. The principal research variables tested were different types of compensation to community agents and special promotional activities directed at men (rural areas only). The delivery system included OCs, condoms, and injectables (GOR supplied) as well as referral for IUDs and sterilization services. In the rural areas, community agents distributed basic medicaments as well.</p>	<p>10/77 - 6/81 Service delivery has been completed and the final evaluation report is due 11/81.</p>	<p>Baseline contraceptive prevalence in urban areas ranges from 40 to 60%. Rural census data are still being analyzed. In urban areas, 217 community agents worked with a target population of 21,700 women of reproductive age (WRA<sup>A</sup>); in rural areas, 502 agents covered a target of 47,079 WRA. Of approximately 13,000 FP acceptors: 65% chose OCs; 20% injectables<sup>**</sup>; 11% condoms; and under 1% IUDs. Active contraceptive users in New Strategies project represented 11% of WRA.</p>

<sup>A</sup>Unless noted otherwise, WRA refers to all women 15-45 years of age.

<sup>\*\*</sup>OR service is provided by agents.

<sup>\*\*A.I.D.</sup> does not provide injectables.

OPERATIONS RESEARCH PROJECTS

September 1981

a) Country, b) Organization/s c) Site, d) Monitoring Unit	Project Description	Project Status	Results
a) MEXICO b) Mexican Ministry of Health, Coordinated Public Health Services of State of Chihuahua, and Columbia University c) State of Chihuahua d) AID/W	Population: 250,000 Project will implement and evaluate alternative approaches to training and supervision of community health workers for the improvement of family planning and basic health care in rural areas. One system will use existing personnel and another will introduce a mobile professional health team. Modifica- tions will also be introduced in the logistics and service statistics systems of the existing HCH/IP program. In addition, the project will assist the MOH in evaluating the introduction of new health services including oral rehydration therapy for diarrhea. Interventions will be monitored and evaluated through service statistics and survey data.	11/81 - 10/83 Revised proposal and budget have been approved. Baseline survey is scheduled to begin 11/81.	No results to date.
a) MEXICO b) Columbia University, Autonomous University of the State of Mexico, and Mexican Ministry of Public Health c) San Pablo Autopan d) AID/W	Population: 8,000 MOH paramedics and traditional health practitioners visited each household, offering free 3 cycles of OCs, a dozen condoms, and injectables,^^ with referral for IUDs. Following health services also offered: treatment for intestinal parasites, diarrhea, external lesions. Resupply through village depots.	5/76 - 10/77 Final evaluation completed.	Contraceptive prevalence among MIRA 15-49 years of age increased over a 21-month period from 6.6% to 34%, an increase of 415%.

OPERATIONS RESEARCH PROJECTS

September 1981

a) Country, b) Organization/s c) Site, d) Monitoring Unit	Project Description	Project Status	Results
a) MOROCCO b) Ministry of Public Health c) Beni Mellal, El Jadida, Meknes Provinces d) USAID/Rabat and AID/W	Population: 2.5 million (3 provinces) MOPIH fieldworkers will visit each house, offering OCs, condoms, referral for clinical methods, oral rehydration salts, vitamins to pregnant and lactating women, a weaning food for severely malnourished children and vaccination referral. A baseline contraceptive prevalence/health survey will be conducted. Subsequent sample surveys will test acceptance and impact of interventions. Project will be expanded after one year to include seven more provinces.	11/81 - Present Baseline survey and service delivery are scheduled to begin 11/81.	No results to date.
a) NICARAGUA b) Ministry of Health c) Countrywide (rural areas) d) USAID/Hanagua and AID/W	Population: 720,000 Indigenous midwives received 5-days training in the use of a basic health kit comprised of OCs, condoms, oral rehydration salts, antiparasitic tablets, prenatal vitamins with iron and folate, aspirin, simple obstetrical equipment, and a canvas bag. The initial kit was free. Midwives sold medications in their communities at a subsidized price and retained a commission. They obtained resupply at a local MOH clinic.	11/76 - 6/79 The single training/supervision team trained 768 midwives, 497 of whom were considered active at the end of 1978. Average annual OC distribution per active midwife was approximately 20 cycles in late 1977, rising to 31 in 1978. Sales of oral rehydration salts were minimal throughout the project. The sales of other medications were moderate and relatively stable. A baseline survey was carried out in one representative district in mid-1977. A mass media campaign in the same region was begun in August 1978. Evaluation of this effort, along with proposed improvements in midwife selection and supervision was impeded by political unrest which eventually resulted in the premature termination of the program.	The baseline survey indicated a prevalence of OC use among married fertile age women of 4.4%. Service statistics indicated a relative increase in use of approximately 40%, assuming no replacement of other sources of contraception.

OPERATIONS RESEARCH PROJECTS

September 1981

a) Country, b) Organization/s c) Site, d) Monitoring Unit	Project Description	Project Status	Results
<p>a) NIGERIA *</p> <p>b) University of Ibadan and Columbia University</p> <p>c) Oyo State</p> <p>d) AID/W</p>	<p>Population: 85,000</p> <p>The project has trained 171 community volunteers in the rural areas north of Ibadan to provide contraceptives, selected health services, first aid and improved obstetrical deliveries. Two-thirds of the volunteers are traditional midwives; one-third male residents. First level supervision is carried out by 7 government nurse midwives who are in turn supervised by university nurse-midwives. The ratio of volunteers to supervisors falls into two groups, about 20:1 and 30:1. This constitutes one research variable; the other is type of volunteer.</p>	<p>3/80 - 6/82</p> <p>A baseline survey was carried out prior to the initiation of service delivery and results are now available. An evaluation survey is scheduled prior to the end of the contract, and an international workshop is planned in mid-1982. Training of the volunteers took place February-July 1981.</p>	<p>The baseline survey indicated that 96% of respondents, both male and female adults, stated that they did not accept the idea of family limitation. 10% of adult women approved of family planning and 26% could name a modern method. Only 2.5% of women reported ever-use of a method and 1.5% current use. Reported postpartum abstinence averaged 23 months. Initial levels of service delivery correspond to approximately 7 treatments per month.</p>
<p>a) SUDAN</p> <p>b) University of Khartoum and Columbia University</p> <p>c) Khartoum Province</p> <p>d) AID/W and USAID/Khartoum</p>	<p>Population: 125,000</p> <p>This community-based family planning/health project provides a variety of services at the village level. The three interventions that receive emphasis are: family planning, oral rehydration, and immunizations. The first two services are provided through a series of household visits by specially trained traditional birth attendants. Immunization is through a village-wide campaign. Besides large before and after surveys, mini-surveys are conducted periodically in order to rapidly assess progress.</p>	<p>10/79 - 5/83</p> <p>Entire study population has received services and program is now in maintenance stage in which resupply and follow-up of clients are emphasized.</p>	<p>Delivery system was socio-culturally acceptable in this rural setting. Initial acceptance of services was high, but impact and long-term utilization have not yet been determined.</p>

\*Planned that OR service will be provided.

OPERATIONS RESEARCH PROJECTS

September 1981

a) Country, b) Organization/s c) Site, d) Monitoring Unit	Project Description	Project Status	Results
a) THAILAND * b) Ministry of Public Health and CHFPs c) Countrywide d) USAID/Bangkok and AID/W	Population: 6.5 million Four delivery systems being tested: (a) Selling of OCs and condoms by lay village agents. (b) Same as "a" but initial house- hold distribution of free 2 cycles of OCs or dozen condoms. (c) Same as "a" but agents also sell household drugs. (d) Same as "b" but agents also sell household drugs. In all systems, referrals made for IUDs and female sterilization.	6/77 - 9/81 Baseline survey in N.E. districts and delivery systems implemented in 80 rural districts with a total of 5800 village distributors. Evaluation on the four delivery systems completed on 2/79. Based on the findings, the delivery system was modified and unified into model E which continues to sell OCs and condoms; and those interested village distributors sell and promote 15 household drugs. Second evaluation com- pleted 4/81.	According to 2/79 and 2/80 assessments, the initial free distribution of con- traceptives did not produce a long- term increase in contraceptive sales. The inclusion of household drugs in- creased both the distributors' train- ing costs and the cost of program maintenance, without generating addi- tional income. The program sells contraceptives to about 8% MRA <sup>4</sup> in project districts which constitutes 14% of all contraceptors in the same area.

\*OR service added after July 1, 1979.

OPERATIONS RESEARCH PROJECTS

September 1981

a) Country, b) Organization/s c) Site, d) Monitoring Unit	Project Description	Project Status	Results
<p>a) TUNISIA ** b) National Office of Family Planning and Population (ONPFP) c) Three delegations (Fernana, Jendouba, Ain Draham), Jendouba Governorate d) USAID/Tunis and AID/W</p>	<p>Population: 144,000 The PFPC household contraceptive distribution project builds on PFAD feasibility study but was designed to be larger, more cost-effective and with potential for nationwide replication. Local trained female workers conducted initial household canvass offering married women aged 15-44 (MIRA*) contraceptives (OCs, condoms, foam) and IUD and tubal ligation referrals. Resupplies were provided during second household visit (2 delegations only). Different permanent resupply mechanisms were tested in all three project areas, with emphasis on free distribution by itinerant health workers. Project director provided medical follow-up visits. Study compared cost-effectiveness and impact of family planning only delivery system (2 delegations) with integrated FP/MCH system (1 delegation).</p>	<p>1/77 - 7/80 Project evaluation is completed. Detailed report has been prepared in French on results of household visits, one-year follow-up survey and end-point contraceptive prevalence survey as well as implications for national program.</p>	<p>Family planning acceptance and use varied considerably among three project areas. Performance was best in Fernana delegation where only family planning services were offered: 83% of at-risk population accepted a method, and contraceptive prevalence increased from 16 to 28% after 12 months and two household visits. In Ain Draham, where integrated FP/MCH services were introduced, the contraceptive prevalence rate rose from 24 to 29%. Overall in the three delegation areas, contraceptive prevalence increased from 24 to 31%. There was a corresponding 27% decrease in MIRA* at risk of pregnancy. Under the PFPC project, cost per new family planning acceptor (US\$22) is one-third the corresponding cost under the PFAD demonstration household contraceptive distribution project. The fieldworker-MIRA ratio for PFPC is 1:2,826 compared to 1:493 for PFAD.</p>

\*Unless noted otherwise, MIRA refers to all married women 15-45 years of age.

\*\*OR service is provided by agents.

OPERATIONS RESEARCH PROJECTS

September 1981

a) Country, b) Organization/s c) Site, d) Monitoring Unit	Project Description	Project Status	Results
a) ZAIRE b) Baptist Community of West Zaire and Tulane University c) Bas Zaire - City of Matadi and surrounding rural area of Songololo d) AID/W	Population: 350,000 The project is designed to test the relative impact and cost-effectiveness of two alternative strategies for improving the health of women of reproductive age (WRA*) and young children: (1) use of outreach workers to provide at each household an initial free supply of contraceptives to WRA and to sell basic medicaments for young children, with resupplies available at local dispensaries; and (2) stocking of local dispensaries with contraceptives and drugs, but with no outreach activities. Urban and rural target populations are randomly divided into experimental and control groups. The delivery system includes: household distribution of OCs, condoms and foam with referral for IUDs, injectables (government supplied) and tubal ligations, and (in rural areas only) selected drugs for young children (chloroquine, oralyte, mebendazole, aspirin).	10/80 - 1/84 The baseline survey has been completed in the rural area and is under way in Matadi. Rural home visitors have been recruited and trained. Service delivery is expected to begin 10/81 in rural areas and 1/82 in Matadi. Forms have been designed to collect service statistics and data on program inputs for use in a cost-effectiveness analysis.	According to preliminary results from rural baseline survey (30% of sample tabulated): one-third of respondents have never attended school and one-half are illiterate; 54% are Protestant, 36% Catholic; 20% do not want any more children; mean number of pregnancies is 5.0; mean number of living children is 3.6; 80% favor idea of family planning; over half of women have heard of OCs, IUDs, condoms, injectables and female sterilization; 6% are currently using a modern contraceptive method and 54% a traditional method.

\*Unless noted otherwise, WRA refers to all women 15-45 years of age.

BUREAU FOR PRIVATE AND DEVELOPMENT COOPERATION

OFFICE OF PRIVATE AND VOLUNTARY COOPERATION

Matching grant contributions from A.I.D. provide support for ORT/DDC activities to the following private voluntary organizations:

\*Foster Parents Plan, International

This organization supports a series of activities in training health auxiliary workers as part of an overall MCH program in the use of ORT.

For further information contact PDC/PVO, Ms. Deborah Mace.

\*MAP International

MAP supports ORT/DDC activities through a series of "Health Through Community Development" workshops.

For further information contact PDC/PVO, Ms. Carla Maged.

\*Project Concern

Project Concern installs PHC training programs that are involved in diarrheal disease control activities.

For further information contact PDC/PVO, Mr. Ron Ulrich.

REGIONAL BUREAU FOR AFRICA

LIBERIA

\*Liberia Primary Health Care

Project Number 669-0165

Project Duration (FY 1981-1985)

The purpose of the proposed project is to create the physical and institutional infrastructure to achieve GOL long-term health care goals and to increase the percentage of the target population with access to PHC. Project will include MCH, family planning and nutrition activities where oral fluid therapy can be advocated in treatment of diarrhea episodes in children age 0-5. In addition, mothers will be trained in treatment techniques of diarrhea for their children.

For further information contact AFR/DR, Dr. Nellie Kanno.

MALI

\*Oral Rehydration Unit

Bamako, Mali

In 1981, an OR Unit was established at the pediatric ward of the Gabriel Joure National Hospital in Bamako, Mali. With the support of U.S. A.I.D./Bamako, detailed line-item budgeting, managerial aspects and epidemiological results generated from the unit has been documented.

For further information contact AFR/DR, Dr. Joe Stockard.

\*Rural Health Services Development

Project Number 688-0208

Project Duration (FY 1979-1983)

The project is operating two demonstration projects which utilize volunteer village health workers to bring basic curative health services to the village level emphasizing promotive and preventive health activities. MOH staff are being trained to support the pilot projects which will serve as the foundation for a national rural health system. ORT activities are included in project development.

For further information contact AFR/DR, Dr. Joe Stockard.

REGIONWIDE

\*Combating Childhood Communicable Diseases (CCCD)

Project Number 698-0421

The purpose of the project, currently in proposal stage, is to assist 20 African countries in training host country personnel to be managers of diarrheal disease control and disease surveillance programs. The project will be divided into regional and country-specific training courses.

The training and program emphasis are envisioned as follows:

- 1) Management Training for Expanded Immunization Programs.
- 2) Management Training for Diarrheal Disease Control Programs.
- 3) Operations Research.
- 4) Health Education Activities Including Material and Methodology Development.
- 5) Disease Surveillance.
- 6) Cold-Chain Activities.

For further information contact AFR/DR, Dr. James Shepperd.

\*Strengthening of Health Delivery Systems Project (SHDS)

Project Number 698-0398

Project Duration (FY 1973-Continuous)

The project represents a major attempt by A.I.D., other donors, African regional organizations and 20 West and Central African governments to coordinate and rationalize the use of limited African and donor resources with the goal of extending basic health services to a larger proportion of the population in West and Central Africa. Improving the effectiveness of regional and national disease surveillance systems and integrating this system into the national health delivery system structure, and the large scale regional training of trainers who will return to staff and manage national training centers, are two major contributions in establishing national diarrhea disease control programs and activities.

Central and West African countries: Benin, Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea, Gabon, The Gambia, Ghana, Guinea, Ivory Coast, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo and Upper Volta.

For further information contact AFR/DR, Dr. James Shepperd.

SENEGAL

U.S. A.I.D./Senegal is currently collaborating with MOH officials in the design of a National ORT Program.

For further information contact AFR/DR, Dr. Joe Stockard.

SUDAN

\*Northern Sudan Primary Health Care Project

Project Number 650-0011

Project Duration (FY 1979-1982)

The project will assist in the implementation of a national PHC program in four of Sudan's poorest provinces. Community health workers (CHW) will be trained and returned to their rural villages or nomadic tribes to provide preventive and curative health care. ORT activities are included in PHC services.

For further information contact AFR/DR, Ms. Janet Anderson.

\*Southern Primary Health Care (OPG) Project

Project Number 650-0019

Project Duration (FY 1979-1983)

The purpose of the project is to provide the country's rural population with comprehensive health services that rely on community participation. This will be accomplished by training community health workers selected by their own community to provide basic preventive/promotive and curative medical services. ORT activities are included in PHC services.

For further information contact AFR/DR, Ms. Janet Anderson.

SWAZILAND

U.S. A.I.D./Swaziland is beginning several interventions in the health sector which will strengthen Swaziland's PHC system and intensify community health education. Widespread introduction and training in the use of oral fluid therapy is one important activity envisioned in these efforts. Community health workers will promote home preparation of OR fluid while decisions are made about how to best make packaged electrolytes available.

For further information contact AFR/DR, Ms. Joy Riggs-Perla. (See page 4.)

THE GAMBIA

\*Mass Media and Health Practices

Project Number 931-1018

Project Duration (FY 1978-1984)

See Bureau for Science and Technology, Office of Education.

TOGO

\*Primary Health Care Seminar for Health/Nutrition and Population Officers

Lome, Togo  
(November 15-20, 1981)

The course will provide the opportunity for African Health Officers to update their knowledge of PHC developments. Course topics will include ORT.

For further information contact AFR/DR, Dr. James Shepperd.

\*Proposal for Togo Combating Childhood Communicable Diseases (CCCD) Program

Project Number 698-0424  
Rural Health Outreach  
Project Number 693-0221

The principal output of the Togo Rural Health Study is the elaboration of a proposal for the CCCD program in Togo (see CCCD). As currently envisioned, the CCCD Program in Togo will have three primary aspects:

- 1) Expanded Program of Immunization (EPI).
- 2) OR Program.
- 3) Yaws Control Program.

OR will be directed at the same population as the EPI Program (children aged 0-4 years), but will consist mainly of an educational effort.

For further information contact AFR/DR, Mr. Noel Marsh.

\*Rural Health Support

Project Number 650-0030  
Project Duration (FY 1980-1984)

The purpose of the project is to improve the capability of the Ministry of Health to deliver PHC to the rural population of Sudan with special emphasis on MCH and family planning. Training in ORT will be included in MCH programs.

For further information contact AFR/DR, Ms. Janet Anderson.

REGIONAL BUREAU FOR ASIA

BANGLADESH

\*Family Planning Social Marketing Project

The project, which began in 1975, is putting forth a proposal for 1982, to incorporate a test market experimental design component for the introduction of ORS under the pretense of social marketing theories. The project, funded by U.S. A.I.D./Bangladesh, is a joint collaborative effort between the Office of Population and the Asia Bureau.

For further information contact ASIA/TR, Mr. Michael Jordan.

BURMA

\*Primary Health Care

Project Number 482-0002

Project Duration (FY 1980-1983)

The purpose of the project is to expand the coverage and the quality of Burma's PHC system in 147 of 283 rural townships. The project will increase the number of trained PHC workers supplied with necessary drugs and equipment. A resupply of ORS in basic drug kits will be provided to all community health workers (CHW) and auxillary workers (AMW).

The use of ORS made widely available by CHWs and AMWs, can by itself significantly reduce diarrheal disease mortality. CHWs presently working in villages have within one year distributed virtually all of the 150 OR packets that had originally been provided them (and kept individual records on use), thereby demonstrating the feasibility of the CHW as a mechanism for village-level distribution. In order to promote still wider availability, the project will provide sufficient ORS packets for initial and resupply of both CHWs and AMWs, who will both receive in-service training in its use. ORS packets are provided by UNICEF and A.I.D.

Both AMWs and CHWs are currently trained in the preparation of homemade salt and sugar solutions for OR. Plans are underway in the Department of Medical Research to field test the reliabiity of this method.

For further information contact ASIA/TR, Dr. Donald McCorquodale.

INDONESIA

\*Village Family Planning/Mother-Child Welfare

Project Number 497-0305

Project Duration (FY 1980-1984)

Employing mechanisms tested in demonstration projects, the project will deliver MCH services to villagers through an established family planning delivery system. The project will initiate a program of village nutrition services for mothers and children under five years of age as well as for pregnant and lactating women. One service is providing means to control diarrhea with referral to the health clinic when needed. ORS for children under five years of age is provided by UNICEF.

For further information contact ASIA/TR, Dr. Donald McCorquodale.

REGIONAL BUREAU FOR LATIN AMERICA/CARIBBEAN

BOLIVIA

\*Rural Health Delivery Services Project

Project Number 511-0453

Project Duration (FY 1975-1981)

The purpose of the project was to implement a demonstration rural health services delivery system emphasizing basic health services at the family and small community level and to develop a rural public health planning, technical administrative capability within the Bolivian Ministry of Social Welfare and Public Health (MSWPH). The provision of ORT was provided through the distribution of ORS packets at the district and local levels.

For further information contact LAC/DR, Ms. Linda Morse.

DOMINICAN REPUBLIC

\*Health Sector Loan I and II

Project Number 517-0107 -- 517-0120

Project Duration (FY 1975-1980)

An important part of the loan was to create and support a Basic Health Services scheme to bring PHC services to a large number of unserved citizens. The project used indigenous auxiliary health workers to deliver biweekly health, nutrition and family planning services to individual community homes. ORT was one of the major education interventions.

For further information contact LAC/DR, Ms. Linda Morse.

ECUADOR

\*Integrated Rural Health Delivery System (IRHDS)

Project Number 518-0015 (L)

518-0027 (G)

Project Duration (FY 1981-1984)

The purpose of the project is to develop a low cost health delivery system in three Integrated Rural Development (IRD) areas which can be replicated nationwide. The project anticipates supporting OR as part of an integrated rural development target areas.

A national Diarrheal Control Program has begun and is based on the well tested methods of provision of OR via ORS. The project will ensure that local level staff in the IRD projects are adequately trained for participating in this program.

For further information contact LAC/DR, Ms. Linda Morse.

EL SALVADOR

\*Rural Health Aides (RHA)

Project Number 519-0179

Project Duration (FY 1978-1981)

The project purpose was to extend, improve and integrate health, nutrition and family planning services for the rural poor by developing, expanding and improving the community-based RHA system. The major outputs included training, deployment and support of 412 new RHAs and 99 supervisors/evaluators. The RHA program represents the MOH's first use of paraprofessional health workers. RHA's activities included health promotion, basic curative care and administration. In this case, curative care included treatment of diarrhea, without vomiting, referral for serious diarrhea and the distribution of UNICEF ORS packets.

For further information contact LAC/DR, Ms. Linda Morse.

GUATEMALA

\*Altiplano Promotera Project

See Bureau for Science and Technology, Office of Population, Guatemala, MOH, and MOH Rural Health Promoter Training Research Project (PRINAPS).

For further information contact LAC/DR, Mr. Charles Mantione.

\*Community-Based Integrated Health and Nutrition Loan

Project Number 520-0251

Project Duration (FY 1980-1983)

The purpose of the project is to develop the institutional capacity of the MOH to increase the coverage and effectiveness of a fully integrated rural health delivery system in the target area. In addition, it will use the training, supervisory service, information and logistic systems developed in the following centrally-funded A.I.D. projects:

1. Integrated System of Nutrition and Primary Health Care (SINAPS)

In 1979, A.I.D./Washington agreed to provide funds to the Nutrition Institute of Central America and Panama (INCAP) for a multidisciplinary research and service delivery demonstration project. The project delivers PHC services in an ambulatory fashion to some 70,000 (expanding to 130,000) population through a system of 400 promoters and 17 rural health technicians. The provision of ORT is a key function of promoters in the SINAPS project. A locally made ORS formulation in 250 ml-size doses is one method used for rehydration purposes. This formulation is supplied through regular requisition-supply channels to promoters

free of charge who give them to all households with children below five years, as well as provide ambulatory treatment when needed.

The project is based on the belief that it is feasible to implement an effective and efficient PHC system based on service delivery by nonprofessional personnel when adequate supervision is available. The general objective is to design, implement and evaluate an integrated system of nutrition, PHC and family planning services with community participation.

The services activities carried out in each community include OR for children under five years of age suffering from diarrhea and health education classes for cases of diarrhea.

## 2. MOH Rural Health Promoter Training Research Project (PRINAPS)

This centrally funded A.I.D./Population project provides funds to the Division of Human Resources in the MOH to train community promoters. The project delivers PHC services to about 120,000 people in five health areas through a system of 400 promoters supervised by some 25 rural health technicians. Each promoter is responsible for 50-60 families. Among their functions is the delivery of ORT and the preparation of training materials. Like the SINAPS project, the PRINAPS project utilizes one-liter "Destoral" packets which the government purchases from a private manufacturer in El Salvador.

For further information contact LAC/DR, Mr. Charles Mantione.

### \*Knowledge, Attitude and Practice (KAP) Study on Oral Rehydration Therapy Project Start (Fall 1981)

The study is aimed at examining the degree of attitudinal and behavioral response of the availability, preparation and use of ORT based in two health areas of Baja Verapaz and El Progreso. The project will examine three projects (SINAPS, PRINAPS and UNICEF/Baja Verapaz) and study the results of widespread introduction of OR practices. U.S. A.I.D./Guatemala proposes to examine KAP factors of ORT interventions targeted at four community groups:

1. Auxiliary Nurses
2. Rural Health Technicians
3. Village Residents
4. Rural Health Promoters.

In addition, a cost-effective analysis to determine the cost of the treatment for diarrhea and a preliminary study ascertaining infant

mortality rates in the preparation of child deaths from diarrhea will be examined. ORS packets are provided by UNICEF.

For further information contact LAC/DR, Mr. Charles Mantione.

## HAITI

### \*Introduction and Promotion of Oral Rehydration Fluids in Haiti

Grant Number A.I.D. 521-C-141

Nutritional Status of Infants with Gastroenteritis

Grant Number A.I.D. 521-000-3-0047

Project Duration (September 1980-February 1981)

The primary objective of the project was to introduce, promote and train Haitian physicians in OR techniques and to gather information on the nutritional status of infants with gastroenteritis. Pilot studies comparing OR with the standard parenteral therapy at the Hospital de l'Universite d'Etat d'Haiti (HUEH) were established to study the efficacy of ORS. Other studies in the role of antibiotics and "antidiarrheal drugs" were conducted to show the cost and efficacy of these types of therapy compared to a control group receiving only rehydration treatment. The introduction of control studies at HUEH provided the opportunity to develop, among the physicians, an inquisitive mind as to the efficacy, side effects and cost of antidiarrheal drugs. Other studies were performed to adjust the ingredients of the oral solution to local needs as well as to focus on the limitations of laboratory tests in diagnosing infantile gastroenteritis and typhoid fever.

In addition, this project gathered statistical data on the epidemiology, nutritional status, management and hospital course of patients admitted with the diagnosis of infectious gastroenteritis.

Promotion of OR was done by daily teaching of interns, residents, nurses and paramedical personnel and demonstration of various medical facilities outside the HUEH. Training also includes practical information at the bedside and in the laboratory on other common infectious problems frequently associated with infectious gastroenteritis.

For further information contact LAC/DR, Ms. Linda Morse.

### \*Maternal Child Health/Family Planning II.

Project Number 521-0087

Project Duration (FY 1978-1981)

The project includes the training of health agents in the proper use and preparation of ORS. The project utilized OR packets provided by UNICEF to reduce infant and child mortality.

For further information contact LAC/DR, Ms. Linda Morse.

\*Rural Health Delivery System

Project Number 521-0091

Project Duration (FY 1979-1983)

The purpose of the project is to implement an integrated and affordable regionalized health system to deliver basic preventive and curative health services to all rural Haitians by 1984. There are plans to provide ORS as an ORT intervention and to collect baseline data on the incidence of diarrhea in infants and children under six years.

For further information contact LAC/DR, Ms. Linda Morse.

HONDURAS

\*Health Sector I

Project Number 522-0153

Project Duration (FY 1980-1984)

The project consists of financing participant and in-country training, equipment, mass communication extension services and improved administration for health sector activities in Honduras. These services will be provided to the MOH to improve and expand the use of health and personal medical care technology among the country's rural and urban poor. Improved health technologies will be introduced both in programs which deal with the environment and in several programs which require individual attention to patients. One specific subproject activity is the training of 120 regional and area supervisors in infant diarrhea.

For further information contact LAC/DR, Mr. Charles Mantione.

\*Mass Media and Health Practices

Project Number 931-1018

Project Duration (FY 1978-1984)

See Bureau for Science and Technology, Office of Education. (See page 4.)

\*PAHO-A.I.D. Workshop for the Development of National Diarrhea Control Programs (October 25-November 1, 1981)

The objectives of the Workshop, sponsored by A.I.D., PAHO and the Government of Honduras, is to focus on planning for national diarrhea control interventions with an emphasis on the use of ORS and health education/communication techniques. The newly developed WHO Workshop Training Modules for planning, implementing, and evaluating National Diarrhea Control Programs and host country case studies of ORT involvement were presented.

JAMAICA

\*Health Management Improvement Project

Project Number 532-0064 (L&G)

Project Duration (FY 1981-1985)

The project purpose is to strengthen the ability of the Ministry of Health (MOH) to plan, implement and evaluate health care delivery and nutrition programs. The project will restore health and nutrition resources to a viable operational level, will provide for effective administration of available resources and will establish improved systems for identifying health and nutrition problems and for marshalling, maintaining and distributing health and nutrition inputs to address these problems. Technical assistance, in-country training and commodities will be made available in nutrition. The project will attempt to increase the PHC services delivery for children under three from 65% in 1979 to 86% and 20% increase in patients receiving PHC in health centers rather than hospitals, as well as decrease the incidence of gastroenteritis in children by 10% by 1985.

The project purpose is to strengthen the ability of the MOH to plan, implement and evaluate health care delivery and nutrition programs. The project will restore health and nutrition resources to a viable operational level, will provide for effective administration of available resources and will establish improved systems for identifying health and nutrition problems and for marshalling, maintaining and distributing health and nutrition inputs.

For further information contact LAC/DR, Ms. Paula Feeney.

\*Health Management Improvement for Young Children

Project Number 532-0040

Project Duration (FY 1976-1980)

The project provided ORT training to auxiliary health workers.

For further information contact LAC/DR, Ms. Linda Morse.

PERU

\*Extension of Integrated Primary Health

Project Number 527-0219

Project Duration (FY 1979-1982)

The project will assist the MOH in its efforts to develop a PHC system and begin implementation of its five-year national plan. The project contributes to achievement of the sector goal of improving the health and well-being of the rural and marginal urban population. The purpose is to

strengthen and extend basic health services to rural and marginal urban population with emphasis on community participation including environmental sanitation and community education. Major emphasis will be placed upon preventive health actions such as OR in the form of training, supervision and continuing education of new and existing health personnel. Management and administrative skills to maximize program success are also included.

Utilizing health auxiliaries, community promoters, and empirical nurse-midwives, the MOH will extend centrally needed preventive services including simple curative services especially focused upon mothers and children, e.g., OR.

For further information contact LAC/DR, Ms. Linda Morse.

\*Integrated Family Planning/Health

Project Number 527-0230

Project Duration (FY 1981-1985)

The goal of the project is to assist the Government of Peru (GOP) to improve the health and well-being of the Peruvian poor. The purpose of the project is two-fold: 1) to strengthen basic primary health services in marginal urban areas and reinforce the service delivery capability of MOH health centers, and 2) to expand and integrate family planning services in the public and private health sector and reinforce national population policy formulation and research analysis. Particular attention will be given to the distribution and use of ORS, coinciding with the current, well-publicized campaigns by the MOH to alert the general public to the effect and treatment of infectious gastrointestinal diseases in infants and children. In addition, training in ORT will be included.

For further information contact LAC/DR, Ms. Linda Morse.

REGIONAL BUREAU FOR NEAR EAST

EGYPT

\*Control of Diarrheal Diseases

Project Number 263-0137

Project Duration (FY 1981-1986)

The purpose of the project is to reduce child mortality from diarrheal disease within five years by making rehydration services and materials (especially ORT) widely available and used through a national program.

The project strategy is to build and expand upon an existing infrastructure of private and public facilities and networks delivering health services (formal and informal). The strategy involves the Ministry of Health, universities, medical and pharmacy syndicates, Chemical Industries Development (CID), pharmacies, and local communities themselves to create awareness of and support for rehydration programs. OR is an integral part of MCH services in Egypt. The project will explore, develop and refine alternative methodologies for broadening access to services, including commercial networks. The establishment of an effective national program is complex and will involve the testing and coordination of several sets of activities leading to achievement of the project purpose. These are:

- 1) Administration: This component of the design establishes the organizational structure necessary to plan, initiate, implement, and coordinate a national rehydration campaign. The design calls for a Steering Committee at a technical level including Ministry, university and private sector members to oversee rehydration policies and strategies; a Secretariat linked to the Ministry of Health with full-time staff assisted by Egyptian and U.S. contractors to develop, test and direct a national campaign; and a full-time Governorate ORT Coordinator who will implement the project at the local level.
- 2) Production and Distribution: This component deals with packaged ORS to be supplied by CID, a state-owned, profit-making drug manufacturer with ORS availability through existing outlets (such as pharmacies) and distribution to new outlets (such as dukkans, or older mothers in each hamlet serving as a repository and teacher for other mothers). The component will also assure the distribution of a special intravenous rehydrating solution tailored to diarrheal disease and scalp-vein needles necessary for infusion of infants.
- 3) Training: The project will develop Governorate ORT Coordinators and a core of trained staff (pediatricians from medical schools and general hospitals and senior nurses at the two existing

rehydration centers). This group will teach governorate teams to provide training to Health Center and unit personnel who will in turn be responsible for face-to-face instruction of mothers. The training teams will also work with village councils, district hospital staff, CID detail salesmen, professionals and dayas.

- 4) Information, Education and Communication: The project will build a national public education campaign to help create awareness of, demand for, and expertness in the use of ORT. The subcomponents of public education include face-to-face and group training of practitioners, village leaders and parents; a mass media campaign will reinforce these and other forms of education and training.
- 5) Evaluation: Will provide data both for management purposes, that is, ongoing decision-making and for determination of outcomes. Market analysis, audience message testing, operational research, household and sentinel facility surveys will be used to track the progress of each component of the project, and to determine further directions to take.

For further information contact NE/TECH, Ms. Barbara Turner.

\*Strengthening Rural Health Services Delivery Project (SRHD)

Project Number 263-0015

Project Duration (FY 1978-1983)

In 1976, the Egyptian Ministry of Health and A.I.D. entered into an agreement to strengthen the Egyptian Rural Health Services. The SRHD project was initiated in April 1978, with the underlying goal to improve the health status of Egypt's rural population. The SRHD is attempting to accomplish this goal by testing and demonstrating various configurations of health services and their delivery systems in ten districts at four separate governorates of Egypt.

A program aimed at the control of child deaths from diarrhea became the highest priority of the SRHD project because of the impact it could have on improving the health status of rural Egyptian children.

A Diarrheal Disease Control Study was initiated with the following objectives:

- 1) To compare the effectiveness of different methods of ORT.
- 2) To determine the effect of unhindered and ready access to different types of ORT.
- 3) To determine the utilization and effectiveness of ORT when made available through alternate sources.

The "applied research" study on diarrheal disease control became an important focus of the project. The study was carried out in 29 villages

in three districts of the Dalcahlea governorate, covering 23,800 children below the age of five. The objective was to find cost-effective means to reduce preschool child mortality by testing different types and methods of distribution of ORS, as well as investigating all child deaths in the area to determine causes and circumstances.

For further information contact NE/TECH, Ms. Barbara Turner.

\*Urban Health Delivery System Project (UHDSP)

Project Number 263-0065

Project Duration (FY 1979-1985)

Several years ago the Government of Egypt (GOE) recognized that in spite of extensive human physical resources, the maternal and child health care system was not functioning in a manner that provided the best utilization of those resources, even in urban areas. Further, there was evidence to suggest that the health of those mothers and children who were the target of these efforts had not significantly improved. Because of its size and population, Greater Cairo was chosen for the development of a comprehensive urban health services project.

The purpose of the project is to make the existing urban health care delivery system more accessible and effective so that it better supports efforts at health improvement in the project area and could form the basis for Cairo-wide and other urban area replication. The target population of approximately 1.7 million people (of which 60% are low-income) reside in the South, West and Helwan zones of Cairo.

As of June 1981, a new project amendment was requested and approved. This amendment includes expansion and replication of project activities to include Alexandria, the second largest urban area in Egypt. The amendment also provides funds to increase project impact on the health care available to the poor by expanding project activities beyond the MOH system.

The following ORT intervention is one that might be tried over the life of the project. These have not yet been accepted and no implementation plan has been established.

ORT

Goal: There will be a reduction in the rates of infant mortality and morbidity associated with diarrhea and dehydration.

- Objectives:
1. To train all the physician and nursing personnel in MCH and Family Planning activities in MCH Centers and General Urban Health Centers in the UHDSP area in OR techniques.
  2. To teach at least one family member in each family, which presents a child with diarrhea and dehydration, to

recognize the need for OR and to administer the therapy correctly, by the end of the first year.

3. To establish a reliable inventory and distribution system for ORT aids in UHDSP facilities within six months.

For further information contact NE/TECH, Ms..Barbara Turner.

## JORDAN

### \*Health Education

Project Number 278-0245

Project Duration (FY 1980-1985)

The purpose of the project is to create an awareness, increase knowledge, positively influence attitudes and foster adoption of appropriate preventive curative health behaviors of the public through organized health education efforts. The five-year project will contribute to an overall improvement in the health status of the population of Jordan through the introduction of health education into the Ministry of Health's (MOH) preventive and curative health services delivery system. One subject priority, established by the MOH, which requires reinforcement by health education is reducing infant mortality by OR programs to combat the efforts of diarrhea. Training in ORT for providers is a primary mission of the Division of Health Education.

For further information contact NE/TECH, Ms. Julie Weissman.

## MOROCCO

### \*Family Planning Support II

Project Number 608-0155

Project Duration (FY 1978-1983)

The Household Distribution (UDMS) component of the project, currently distributing oral contraceptives through a house-to-house distribution scheme, will expand activities to include distribution of ORS packets. In addition, educational components, including OR information dissemination, will be included.

For further information, contact NE/TECH, Ms. Julie Weissman.

## WEST BANK

### \*Health Education Project (Nutrition, Child Development and First Aid)

Grant Number A.I.D./Near East-G-1652

Project Duration (September 1979-September 1982)

In September 1979, A.I.D. granted to Catholic Relief Services-United States Catholic Conference (CRS), funding to provide support to a program for Health Education (Nutrition, Child Development and First Aid) on the West Bank. The grant covers a period of three years.

CRS has for a number of years rendered assistance to the Arab Charitable Societies on the West Bank. CRS initiated a Nutrition Education Program on the West Bank in 1975. This program was supported by a grant from A.I.D. The response to the Nutrition Education Program by the people on the West Bank gave a clear indication that the program met a real need. It also became evident that there was need for additional activities for the improvement of family health and the growth and development of the children on the West Bank. The purpose of the present grant is to continue to develop and to sustain educational activities in the areas of nutrition, child development and home first aid.

As outlined in the grant document, CRS will undertake a number of training activities to meet the expressed needs of the West Bank. One activity is to:

Develop lesson plans (curriculum) for courses in First Aid and Child Development both for mothers and for staff members from the Charitable Societies, who will be teaching the mothers. Seventy-five staff members are to be trained in Child Development and 1,500 mothers are to be reached with courses in Child Development.

Much emphasis is being placed on the prevention of diarrhea and on the preparation of rehydration drinks for children suffering from diarrhea. A course in the Child Development curriculum addressing diarrheal disease will focus on how to recognize, prevent and treat signs of dehydration. Attention is being directed at this course and plans for additional training in hygiene and environmental sanitation are being planned.

For further information contact NE/TECH, Ms. Barbara Turner.

## YEMEN

\*Tihama Primary Health Care  
Project Number 279-0065  
Project Duration (FY 1980-1986)

The goal of the project is to improve the quality of life for rural families of the Tihamas. The training component of the project gives priority for training of Yemeni health providers serving in community sites. PHC units, in the project area, will provide clinical experience and theoretical/administrative community-based health care courses to community health providers.

ORT is included in the training curriculum.

For further information contact NE/TECH, Ms. Julie Weissman.

OTHER A.I.D. FINANCIAL AND TECHNICAL SUPPORT ASSISTANCE  
FOR ORT/DDC ACTIVITIES

A.I.D. has provided financial assistance through contractual arrangements in collaboration with other international health organizations and for agencies participating in A.I.D. related ORT/DDC assistance programs. An illustrative list of organizations are:

- o Academy for Educational Development
- o Management Sciences for Health
- o Manoff International, Inc.
- o University of Hawaii, School of Medicine Health Manpower Development Staff (MED/EX)
- o Westinghouse Health Systems
- o Catholic Relief Services
- o International Nutrition Communication Service
- o The Johns Hopkins University, Population Information Program, Population Reports, "Oral Rehydration Therapy for Childhood Diarrhea"
- o Center for Disease Control
- o Stanford University.

REFERENCES

- o "APHA Tracking Reports on A.I.D.-Sponsored Primary Health Care Projects"
- o "A.I.D. FY 1983 Annual Budget Submissions (ABS) Reports"
- o A.I.D. Project Papers
- o Interviews with Representatives of A.I.D. Technical Offices and Regional Bureaus
- o Assorted A.I.D. Cable Traffic
- o "Oral Rehydration Therapy (ORT) for Childhood Diarrhea," Population Reports, Population Information Program, The Johns Hopkins University, November-December, 1980.