



RESOURCES FOR CHILD HEALTH

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ACRONYMS

ACCS	Accelerated Cooperation for Child Survival
ARI	Acute Respiratory Infections
CARI	Control of Acute Respiratory Infections
CCCD	Combatting Communicable Childhood Diseases
CDC	Centers for Disease Control
CEIS	Computerized EPI Information System
CMCH	Christian Medical College and Hospital
COSAS	Coverage Survey Analysis System
DANIDA	Danish International Development Agency
DOH	Department of Health
EPI	Expanded Program on Immunization
FMOH	Federal Ministry of Health
GAG	Global Advisory Group
JHU	Johns Hopkins University
JSI	John Snow, Inc.
KEPI	Kenya Expanded Program on Immunization
MOH	Ministry of Health
NNT	Neonatal tetanus
PAHO	Pan American Health Organization
PHC	Primary Health Care
REACH	Resources for Child Health Project
TT	Tetanus toxoid
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

OVERVIEW

In FY 1991, REACH actively supported and collaborated with EPI (Expanded Program on Immunization) and ARI (acute respiratory infections) activities on an international level and within many countries. On an international level REACH coordinated closely with the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) in advancing the state of the art for controlling or eradicating vaccine-preventable diseases. At the national level, REACH maintained long-term EPI assistance in Haiti, Kenya, Nepal, and Yemen; provided short-term EPI assistance in numerous countries; and helped draft national ARI control plans in Nigeria, Kenya, Cameroon, and Morocco.

Highlights

Self-assessment and strategy development. In FY 1991, REACH finalized some 20 internal assessment reports that described four year's of Project activities and analyzed technical, administrative, and managerial lessons learned. In February 1991, REACH began wide distribution of six of these reports (on REACH work in neonatal tetanus, urban EPI, cost and financing of EPI, acceptability of EPI, missed opportunities to immunize, and computerized EPI information systems). In a series of staff meetings and retreats in the Spring of 1991, REACH clarified its objectives, internal staff organization, and technical priorities. Eight technical working groups were formed, and each prepared a statement of its priority activities. A "mission" statement was prepared for the REACH Project as a whole and follows this overview.

Networking/Collaboration. REACH continued to reinforce and expand its collaboration and networking with numerous organizations working in EPI and ARI, particularly WHO, UNICEF, and CDC. For example:

- o REACH co-sponsored and/or participated in numerous WHO EPI meetings and conferences (including the annual Global Advisory Group meeting), and continued collaboration in such areas as the computerized EPI information systems (CEIS), coverage survey analysis system (COSAS), and ARI. The Program Coordinator of WHO's ARI program conducted an ARI program manager's course for all REACH technical staff in April 1991, and REACH staff and consultants attended a workshop in July 1991 on the WHO ARI ethnographic study methodology. REACH participated in WHO ARI country programming missions in several countries.
- o REACH conducted an international "Workshop on Management and Evaluation of Immunization Programs through the Use of Coverage Surveys and Computerized Analysis" in June 1991. Eighteen participants from 12 countries in Africa, Asia, and Latin America attended. Their participation was sponsored by such groups as UNICEF, Centers for Disease Control (CDC), USAID country offices, ministries of health, Medecin sans Frontiers, CARE, and World Vision. REACH continues to collaborate with WHO on determining the

most appropriate indicators to utilize in computerized information programs for EPI.

- o REACH is working closely with UNICEF's West and Central Africa Regional Office to plan and conduct a health care financing workshop for over 40 participants.
- o REACH met periodically with the Pan American Health Organization (PAHO) on EPI and has appreciated PAHO's excellent collaboration on ARI. REACH coordinated with PAHO and UNICEF in providing technical assistance for coverage surveys in the Dominican Republic and in assisting in the design of a neonatal tetanus elimination strategy for Santa Cruz Department, Bolivia.
- o REACH has worked with CDC on such technical areas as missed opportunities, neonatal tetanus, and urban EPI.
- o In September 1991, a REACH technical officer participated in a Rotary PolioPlus evaluation in Nigeria and a similar evaluation, with REACH technical assistance, is scheduled to take place in October in India.
- o REACH has also collaborated with other AID cooperating agencies such as the Combating Childhood Communicable Disease Project, HealthCom, and the Quality Assurance Project. In 1991 these groups expanded their sharing of information and technical feedback to each other.

Global state of the art. Among many examples of REACH contributions to global issues are preparation of the chapter on tetanus for a forthcoming World Bank book, Disease Control Priorities in Developing Countries; publication and dissemination of REACH technical assessment reports, mentioned above; preparation and dissemination of a study on EPI cost recovery; improvements and training given in software, including generic CEIS, COSAS, and a stocks and logistics module; a joint REACH/MotherCare review of the magnitude and epidemiology of maternal mortality due to tetanus; and publication of findings on ARI and child survival from the Jumla Project in Nepal (see below). REACH has worked hard to disseminate its findings through technical reports, journal articles, and meetings.

REACH has played an important role in increasing global awareness of the need for a special emphasis on urban EPI and in defining constraints and opportunities in urban areas. REACH convened a two-day meeting of experts in May to identify key urban EPI issues and actively participated in an A.I.D. meeting on urban health. REACH worked closely with the Bangladesh urban EPI project staff to prepare a detailed workplan for 1991. In September 1991, a REACH team visited Nigeria and other West African countries to assess the need and identify a site for a concentrated new REACH effort in urban EPI.

Establishing ARI on international and national agendas. With global technical direction from WHO, ARI programs are being established throughout the world. With the gradual decline in mortality due to vaccine-preventable diseases, the ARI impetus has often come from country health officials, who have come to

realize the importance of ARI as a cause of child mortality. Pioneering work of WHO in establishing guidelines, strategies, training materials, etc. has focussed attention on ARI. With the distribution in draft of AID's ARI strategy paper in 1991, REACH has been given the opportunity to do more intensive ARI programming in several countries. REACH will play an active role in the upcoming international conference on ARI (ICCARI) to take place in December 1991.

Measles. REACH has long realized the significance of measles as a childhood killer and of the need for a special emphasis on measles immunization, case management, and surveillance. Measles is a particularly important issue in urban areas of developing countries, where transmission is most rapid, epidemics occur more frequently, cases occur in children at younger ages with consequent higher case fatality rates, and from where epidemics frequently spread to rural areas. Among many significant REACH activities related to measles, the project has supported research in Haiti through a JSI subcontract with The Johns Hopkins University School of Hygiene and Public Health on the long-term mortality impact of high titre measles vaccines given to children at six months of age. The findings may play a significant role in decisions on global policy regarding measles immunization.

Project Management. REACH has moved towards more systematic long-term planning, while simultaneously maintaining its flexibility to move quickly to fill needs. Still, limited central funds make it difficult for the project to fill many of the potential requests from countries for short-term assistance in EPI and ARI. During this year, a change in the A.I.D. technical liaison ("CTO") occurred smoothly. REACH has worked closely with A.I.D.'s Research and Development/Office of Health on the problems caused by a lack of buy-ins from USAID country offices, and has been allocated additional central funds.

Lessons Learned

Although identifying lessons learned specifically in any given year is difficult, the following list provides some idea of the breadth and innovation of some of REACH's activities during FY 1991. REACH has learned:

- o that EPI should by no means rest on its laurels, because in the wake of campaigns and the passing of the international target of reaching "universal childhood immunization" by 1990, dramatic declines in coverage are occurring in many countries; that consequently donors must work with governments and the private sector to sustain the momentum; that continued attention needs to be paid not only to coverage but also to the unfinished agenda for the 1990s: improving EPI quality and disease surveillance and reducing disease mortality;
- o that EPI is an extremely cost-effective intervention with hundreds of millions of contacts a year and that, carefully planned on a sound scientific basis, it can be well integrated at the field level with many other interventions;
- o that in this difficult time of resource constraints, it is all the more important to define REACH's interests, capabilities, and

priorities and to maximize coordination and collaboration with other groups working in EPI and ARI;

- o that the integration of a new antigen such as hepatitis B into an ongoing EPI requires careful planning to minimize disruption;
- o that new international norms take a long time to be accepted at the national level and an even longer time to be understood and accepted at the local level, one example being the confusion regarding the five-dose schedule for tetanus toxoid (TT) in educational and training materials at the national and local levels;
- o that EPI cost recovery is taking place in many countries through a variety of mechanisms and that specific schemes need to be further assessed and findings disseminated;
- o that community workers employing standard ARI case management in Nepal can have a significant impact on infant and child mortality; that this impact can occur in a community-based program without referral facilities for management of cases of "severe pneumonia" or "severe disease"; and that competent case management can become gradually more valued by parents, as indicated by the increased proportion of self-referred cases, compared to cases identified during routine home visits by health workers.
- o that urban EPI requires special emphasis because of often lower vaccine coverage rates, higher risks for measles, and resources and lines of responsibility different from those in the country as a whole; and
- o that TT immunization is extremely important for protecting the mother as well as the newborn, as shown in a REACH/MotherCare literature review that concluded that an estimated 15,000-30,000 maternal deaths occur annually as a result of postpartum and post-abortual tetanus.

Constraints

Although confined to the Middle East, the Gulf War had global repercussions for REACH activities. Numerous country activities were delayed by four to six months. The REACH chief of party in Yemen was evacuated for several months, as were JSI staff from the Bangladesh urban EPI project, with which REACH works closely. Travel to Bolivia, Peru, Cameroon, the Dominican Republic, and many other countries far away from the war zone had to be postponed or cancelled.

As noted above, USAID mission buy-ins to REACH remained difficult to secure. Among the many reasons are the fact that many USAID country offices already have all or most health funds tied up in bilateral projects; AID/Washington has urged missions to "simplify their portfolios," which in some cases has meant cutting or not initiating health activities from centrally-funded

projects; and some mission staff, although interested in REACH assistance, do not have the time to process the cumbersome paperwork, nor have the time for the lengthy buy-in process.

In FY 1991, activities supported by buy-ins continued in Kenya and Haiti (EPI), and Yemen (emphasizing establishing a PHC system, including EPI). A new buy-in from the USAID mission in Nepal supported a selected package of child survival interventions in the Jumla District using locally recruited and trained personnel. And another buy-in funded REACH technical assistance for immunization coverage surveys in the Dominican Republic.

Due to the shortfall in expected buy-in funds and the consequent lack of long-term field sites, REACH placed a larger-than-anticipated emphasis on global EPI and ARI concerns and issues through studies, development of global analytical tools for EPI and ARI, and participation in collaborative meetings to learn about and contribute to the state of the art. Although the lack of field sites has enabled REACH to play a catalytic, strategic role on some global EPI issues, it has hampered the Project's ability to advance planned country activities in measles elimination, urban EPI, and other important areas.

Internal instability also delayed and complicated REACH activities in several countries. In Haiti there has been chronic political instability. Plans for activities under the USAID buy-in had to be substantially reoriented after a new Minister of Health required that REACH assistance be broader in scope than just EPI. In Kenya, there have been staff changes in the EPI Unit, and the largest EPI donor (DANIDA) decided to reduce its assistance. The unification of North and South Yemen and consequent government restructuring put some activities on hold. In Bangladesh, the Philippines, and other countries, REACH activities were postponed or cancelled due to volcanic eruptions, cyclones, floods, etc. Planned travel to Peru had to be cancelled due to domestic unrest.

Despite all of these constraints, REACH met the great majority of its workplan goals and objectives for the year.

MISSION STATEMENT

BACKGROUND

Immunization services were virtually nonexistent in developing countries in 1974. Impressive progress in the Expanded Program on Immunization (EPI) through complementary efforts of WHO, UNICEF, A.I.D., other donor agencies and national governments has resulted in coverage of over 70% of the children of the world with a dose of measles vaccine (generally by early in their second year of life), 80% of children by their first birthday with a third dose of polio or DPT vaccines (for diphtheria, pertussis, and tetanus), and over 80% with BCG vaccine (for tuberculosis). As a consequence, the EPI now prevents over three million deaths from measles, pertussis and neonatal tetanus and some 450,000 cases of poliomyelitis in developing countries each year.

However, much remains to be accomplished to reduce the continuing burden of vaccine-preventable death and disability. Each year, nearly two million children die and 120,000 are paralyzed from these diseases. Coverage of women with tetanus toxoid to prevent maternal and neonatal tetanus lags far behind, with global levels of less than 40%.

In 1988 the WHO Global Advisory Group for EPI recommended that immunization levels need to be raised further, aiming to reach levels of at least 80% of all infants by 1990 and at least 90% by the year 2000, in the context of comprehensive maternal and child health. It was noted that this will require continued effort, particularly in improving the management of immunization services.

Achieving and sustaining high levels of immunization coverage, as well as shifting the focus of immunization programs from immunization coverage to disease surveillance and control are major issues to be faced by immunization programs during the decade of the 1990s. Specific problems include: ensuring high quality of immunization services (from vaccine quality control through storage and handling to sterile and proper administration); developing efficient and effective health information systems (including target disease surveillance); institutionalizing the mechanisms for sustaining high levels of immunization coverage, especially to underserved populations in remote rural areas and urban and peri-urban slums; strengthening the financial base and sustainability of immunization services; advancing the goals of poliomyelitis eradication, neonatal tetanus elimination, and the control of measles within the context of the EPI as a whole; and assuring appropriate and timely technical assistance needed by governments and their partners in immunization-related areas.

In addition to immunization programs, REACH has a mandate to provide assistance for treatment and control of acute respiratory infections (ARI). In part because of the millions of deaths now being prevented by immunization and appropriate treatment of diarrhea, ARI is increasingly being recognized as an important cause of childhood mortality in developing countries. It has been estimated that two to five million childhood deaths occur annually due to

ARI. Approximately 25% of those deaths can be prevented through immunization. National and international efforts for control of ARI are being launched and strengthened. Many of the elements which the EPI community has found necessary to ensure an effective EPI are also needed in ARI: management, health information systems, training, quality assurance, and communication.

MISSION

A.I.D. is committed to assisting efforts to enhance child survival in developing countries. The Agency has repeatedly identified immunization as the most cost-effective child survival intervention. A.I.D. is an important international donor agency in the technical area of immunization and has as a priority sustaining the "unfinished agenda of EPI" (World Bank Health Sector Review).

The Resources for Child Health (REACH) Project, a worldwide project funded by the Health Services Division, Office of Health, Research and Development, A.I.D., was awarded to John Snow, Inc. and its subcontractors -- PATH, The Johns Hopkins University, and The Manoff Group -- for a four-year period (1989-1993) to provide both short-term and long-term technical assistance to developing countries in the areas of immunization and acute respiratory infections. REACH is the lead technical project of A.I.D. for the provision of worldwide assistance to immunization services and pneumonia control. REACH is dedicated to working alongside WHO, UNICEF, CDC, and other international organizations to sustain the progress made to date in the EPIs. Most importantly, continued work in immunization allows other health and population efforts to reap some of the benefits of the investment made in EPI during the 1980s and to build upon and integrate with these immunization service delivery and support activities.

The REACH mission is to help national governments and other organizations and institutions in A.I.D.-assisted countries strengthen their capabilities to protect infants through maternal and child immunization and control of acute respiratory infections, particularly pneumonia.

To accomplish its mission, REACH has selected the following key technical areas as those of primary importance for the Project to strengthen global efforts to promote child survival:

- * Measles
- * Neonatal tetanus
- * Polio
- * Hepatitis B
- * Urban EPI
- * Monitoring and Disease Surveillance
- * Acute respiratory infections
- * Health financing and economics

REACH supports the global EPI initiatives that bring critical policy and programmatic attention to the eradication of polio, the elimination of neonatal tetanus, and the control of measles; these targets propel the shift

from immunization coverage to disease control. Technical assistance needs to be given to hepatitis B, as it is being included as the seventh antigen in the EPI system. EPI is being called upon to take a leadership role in the improvement of immunization services in urban areas and in initiating policy dialogue on urban health, in general. During the decade of the 1990s monitoring and disease surveillance are increasingly important for immunization programs. In the 1990s increasing attention is being directed to the issues of sustainability, both programmatic and financial, for EPIs as well as cost and cost-effectiveness of immunization services. Lastly, control of acute respiratory infections (pneumonia) will be a high priority for REACH, since these illnesses not only represent major causes of mortality for children under five, but are assuming increased importance as other child survival interventions have already been implemented.

STRATEGIC OBJECTIVES

Between 1989-1993, REACH is committed to the following strategic objectives:

Measles

Measles deaths were estimated at 1.4 million in 1989 accounting for more deaths than all other EPI target diseases combined. REACH will increase its involvement in controlling measles morbidity and mortality. In addition to preventing measles deaths, measles vaccination remains an effective intervention to prevent childhood diarrhea and pneumonia. REACH will participate in policy discussions at the global level, conduct several activities focusing on measles surveillance, apply control strategies in four to five countries, and, if funds become available, conduct long-term interventions focusing on measles control in one or two countries.

Priorities are to: identify and target areas and groups at highest risk for measles; assist in increasing and sustaining measles vaccination coverage; assist in improving disease surveillance to document disease reduction; evaluate alternative measles strategies; decrease measles deaths through appropriate case management of measles; and advocate measles control to governments and international organizations.

Neonatal tetanus

REACH will continue to assist governments' efforts to eliminate neonatal tetanus (NNT) as a public health problem by concentrating on immunization and surveillance activities. By the end of the project, REACH will have participated at global and regional levels in discussions of policy and refinement of analytical tools, and at country level will have applied control strategies in four to five locales. Assistance will concentrate on policy discussion, problem definition, immunization and surveillance activities.

Priorities are to: assess the problem and design control strategies, shift program's focus from achieving coverage targets to disease control through improved disease surveillance and use of management information systems, strengthen monitoring and evaluation and develop tools, provide training and

information and improve social marketing/communications, and advocate key NNT technical policies and strategies to national program managers and A.I.D.

Polio

REACH activities in polio will focus on immunization and surveillance. By the end of the project, REACH hopes to have contributed on a global, regional and country level to improving methods to identify cases of polio and target high-risk groups for vaccination.

Priorities are to: improve surveillance capabilities needed for polio eradication, assess the development of country-specific polio plans of action and participate in efforts to eradicate the disease, conduct operations research, identify and address the behavioral issues affecting polio eradication efforts, and provide support in the development of training materials.

Hepatitis B

REACH's work in hepatitis B will focus on integrating hepatitis B vaccination into routine EPI operations with minimal disruption to the existing system. REACH will also act as a technical resource to A.I.D. in the area of hepatitis B immunization. Activities in this area will include participating in assessment and planning exercises as requested by USAID missions, disseminating information, advising on mechanisms for procurement of hepatitis B vaccine, and possibly conducting operations research.

Priorities are to: provide technical assistance in programs of nationwide introduction of hepatitis B vaccination into EPI, assist in technical areas affecting use of hepatitis B vaccine, and disseminate information.

Urban EPI

REACH has been active in the development, implementation and evaluation of urban EPI activities since 1986. Given the pockets of low coverage in cities and the rapid urbanization in many developing countries, increasing attention needs to be paid to immunization services provided in these areas. By the end of the Project, REACH hopes to have fostered urban EPI program development in at least four countries and to document these experiences for use by others.

Priorities are to: promote interest among donors and host-country governments for the development of urban EPI; assess the problem and design appropriate control strategies for EPI; improve the efficacy of existing services; provide information on methods and materials relevant to urban realities; and develop appropriate tools to monitor and evaluate EPI.

Monitoring and Disease Surveillance

REACH will work to improve the ability of national EPIs to collect, sort, and analyze immunization-related data for use in program management through the development of training materials and provision of intensive training. Technical assistance will emphasize improvement of routine disease reporting systems and adoption of more sophisticated disease surveillance systems as immunization coverage increases. REACH will assist countries in establishing case definitions for EPI target diseases and in identifying and promoting the use of indicators of disease surveillance efficacy. REACH will provide general training in disease surveillance procedures, including case investigation and data analysis and provide specialized training in outbreak investigation when appropriate. The Project will continue to support WHO efforts to develop and upgrade software tools that help EPI managers to sort, analyze and interpret immunization-related data for program management.

Priorities are to: improve national level surveillance capabilities, collaborate with WHO/EPI global and regional offices and national managers to identify relevant disease surveillance strategies, data needs and case definitions for surveillance activities and indicators to assess surveillance activities; train national EPI staff to collect and analyze immunization data and to use computer tools to facilitate the management of immunization data; assist WHO/EPI in the development and refinement of computer tools that will facilitate the management and analysis of immunization data for decision-making; provide technical assistance to countries to identify appropriate program indicators for ARI and assist with the implementation of a management system to monitor these program indicators.

Health Financing and Economics

The objective of REACH work in health financing and economics is to help promote financial sustainability of developing countries' programs for EPI and for treatment and control of ARI. Economic and financial constraints are among the major obstacles to a developing country's capacity to achieve health service delivery goals and to maintain, or expand, coverage of priority services such as immunization and treatment for childhood pneumonia and other ARIs. As international donors increasingly plan to phase out their funding assistance, ministries of health need to identify and mobilize additional national and local sources of finance to fill this gap. Pressures on already scarce resources also put a premium on efficient and effective resource management and on use of both public and private sector health resources to provide adequate levels of service and coverage.

Priorities are to: promote financial sustainability of EPI and ARI services through technical assistance, operational and analytic studies, and other activities that focus on three areas: 1) to assess financial needs (e.g., through cost estimates and analysis); 2) to develop financing strategies (e.g., through evaluation, field assessments, and national workshops); and 3) to improve resource allocation and management (e.g., through cost-effectiveness studies, field evaluations of public and private sector roles, tools to strengthen budget planning and resource management).

Acute Respiratory Infections

In order to support the reduction of infant mortality caused by ARI, REACH will carry out activities focussed on the widest coverage of quality first-line services: prevention, appropriate case management at the point of first contact, and generation of effective and appropriate demand. REACH's primary emphasis will be on prevention and control of pneumonia, because pneumonia is responsible for more than 80% of ARI deaths. Due to the fact that ARI programs are in their infancy, REACH will provide technical assistance to Ministries of Health for the development of national program and financing policies, workplans and evaluations of ARI control programs.

Priorities are to: promote pneumonia prevention measures, provide appropriate pneumonia case management at the point of first contact, assist in determining availability and proper utilization of drugs, and generate effective and appropriate demand for services.

LATIN AMERICA AND CARIBBEAN

BOLIVIA

At the request of USAID/Bolivia and the Ministry of Health (MPSSP), a REACH team, comprised of Acting Technical Director Robert Steinglass, Technical Advisor Michael Favin and Consultant Claude Betts, spent two weeks in March 1991 working with officials of the Regional Health Office devising a strategy, workplan, and budget for the elimination of neonatal tetanus (NNT) in the Department of Santa Cruz (DSC). Over the past several years, a great majority of Bolivia's NNT cases were reported in the DSC.

Previous to this visit, REACH had investigated the NNT problem and control measures in the DSC, and had observed numerous missed opportunities to immunize, even in urban areas with easy access to health services. A series of recommendations had been made, many of which the March 1991 REACH team discovered had been implemented by local health officials, the MPSSP, and PAHO. The REACH team found that opportunities to immunize women in hospitals and health centers were no longer being missed at the same high rate; that a vaccination team had been making house-to-house sweeps through the slums which have the highest risk; that the Children's Hospital had instituted periodic immunization in markets; and that 40 TBAs had been trained and were contributing to both immunization and surveillance.

Local officials welcomed REACH assistance in developing a systemic plan for eliminating NNT in the DSC. The plan will reinforce many positive steps that are being taken and will provide much needed training, communication support, and innovative service delivery to supplement current efforts.

Among the new strategies proposed are perifocal immunization around cases of NNT, immunization of primary school children (an excellent, long-term strategy for sustaining elimination), and extending hours and locations (including a few pharmacies on a pilot basis) of immunization. A communication component aims at improving the knowledge, capabilities, and actions of health personnel and the acceptance of immunization by the public. The REACH team also gave specific suggestions on how to reduce confusion about TT immunization among health personnel by means of revised national EPI manuals, posters, and the women's immunization card.

DOMINICAN REPUBLIC

REACH provided technical assistance to the Ministry of Health for the planning and implementation of immunization coverage surveys in the Dominican Republic. The notion of conducting immunization coverage surveys in the Dominican Republic was formulated by the Inter-Agency Coordinating Committee (ICC) - a group consisting of the MOH, PVOs and donor organizations. From October 9 - 12, 1990, a REACH Senior Technical Officer visited Santo Domingo to actively participate in the ICC and to work with USAID/Santo Domingo to define USAID's role in the survey planning and implementation process.

Through a buy-in from USAID/Santo Domingo, REACH remained active throughout the entire process. The five coverage surveys -- one at the national level and the other four at the provincial level -- were scheduled to take place in January/February 1991; however, they were postponed due to the Gulf conflict. REACH consultants hired to work with national counterparts were kept informed and were available for the rescheduled dates, April 1 - May 5, 1991. Upon arrival in-country the consultants assisted in the design of survey questionnaires, trained supervisors and workers on how to conduct a standard WHO 30 cluster survey, and trained MOH staff on the Coverage Survey Analysis System (COSAS) - a computerized tool used to assist in analyzing coverage survey results. Assistance was also provided in the analysis and recommendations based on the survey results.

Survey sites were selected by the Secretariat of Public Health and Social Assistance. Provinces where the surveys took place included: Barahona, Duarte, La Vega and San Pedro. A national survey was also conducted.

Documented immunization coverage rates for children at 12 months of age who received vaccinations at the proper age according to card, respecting the minimal intervals between doses, according to the surveys, were as follows:

	NATIONAL	BARAHONA	DUARTE	LA VEGA	SAN PEDRO
BCG	34.1%	35.3%	36.9%	23.9%	37.7%
DPT3	23.1%	20.0%	22.2%	18.7%	12.6%
POLI03	24.9%	21.6%	26.6%	25.8%	15.6%
Measles	31.7%	25.3%	21.7%	22.5%	22.6%
Completely Vaccinated	8.3%	6.8%	7.9%	7.7%	3.0%

Immunization coverage for pregnant women with TT2+ at the time of delivery, as derived from data collected from the vaccination cards, is 6% at the national level and ranges from 1 to 5% in the surveyed provinces. If verbal information is considered in addition to the data on the vaccination cards, the level of coverage with two doses of TT exceeds 87% at the national level. This shows that the use and availability of vaccination cards for women is low and needs to be improved.

HAITI

In-country staff

Luca Spinelli: Communications Advisor/Coordinator

Stephane Guichard: Cold Chain and Logistics Advisor

REACH/Haiti Portfolio

REACH continued its long-term in-country intervention in Haiti, through a second buy-in from USAID/Port-au-Prince. The scope of work included the placement of a one year advisor for Cold Chain and Logistics Management as well as short-term technical assistance in:

- defining strategies to decrease neonatal tetanus;
- communication for routine delivery of EPI services;
- performing cost-benefit studies;
- conducting operations research;
- developing a pilot project for the control of acute respiratory infections; and
- assisting in program evaluation and monitoring.

The appointment of the one year advisor and the implementation of many of the planned activities were hindered by the travel restrictions imposed during the Gulf crisis and by political instabilities experienced in Haiti. The Cold Chain and Logistics Management Advisor was subsequently placed on March 5, 1991 -- after travel restrictions were lifted, democratic elections were held and local counterparts identified within the newly appointed Ministry of Health.

Throughout the year meetings were held with the MOH, PVOs, USAID and other donor organizations. The Director General, Dr. Lerbours, requested that REACH assist with the restructuring of the MOH. REACH/Haiti, with other agencies and organizations, is planning to develop an integrated child survival service delivery package for the clinic level. Logistics, communications and management systems developed by the Project will also be used as a prototype to further decentralize service delivery nationwide.

Communications Activities

The possibility of an imminent cholera epidemic prompted REACH/Haiti staff to assist the technical subcommittee for promotion and communication in developing a plan of action for preparing for a possible epidemic. The plan, which was presented to the Minister and Director General of Health on June 27, 1991, informs major target groups on correct preventive measures. Through the

sponsorship of a local pharmaceutical company, a brochure was developed to inform the public on cholera.

REACH/Haiti assisted in launching a Marathon Run to create public awareness of immunization services. The 10K run, organized by the Federation Haitienne d'Athletisme Amateur, was sponsored by the Bureau des Soins Maternales et Infantiles. REACH/Haiti sponsored media coverage prior to the event by airing television spots three times a day and periodic radio spots. Press kits, conferences, street posters and banners were all supported through REACH assistance. The slogan of "Today's healthy children will be tomorrow's rewarded champions" was broadcast widely in order to promote the benefits of immunizing children.

Cold Chain and Logistics Management

Through the assistance of the REACH Cold Chain/Logistics Advisor, workshops were held in the districts of Port de Paix, Gonaives, Les Cayes, and Jeremie. The workshops, facilitated by the REACH Advisor, were necessary to compile an inventory of the infrastructure at the communal level. This planning exercise is almost complete for the entire country.

The REACH Advisor and his national counterpart repaired cold chain units, evaluated cold chain technicians' performances and conducted an inventory of the central warehouse and cold room.

R&D/H - REACH/Washington visit to Haiti

R&D/H and REACH/Washington staff traveled to Haiti from May 20 - 29, 1991, to participate in a week of planning for ongoing EPI and future Acute Respiratory Infections (ARI) Control activities with USAID/Port-au-Prince, local REACH field and MOH staff. Meetings with the MOH outlined the upcoming strategy for decentralization and integration of health programs.

Plans were made for commencing REACH ARI work in one commune -- the new operational unit in Haiti -- to include both public and private sectors. Additional negotiations were conducted with Haitian Health Foundation (HHF), a large Haitian PVO, to begin studies on the current costs of treating ARI versus costs using WHO standard case management, to develop curriculum for medical training in ARI, and to evaluate of training in standard ARI case management.

ARI Assistance

REACH performed a follow-up visit to Jeremie, Haiti, to assist HHF from August 19 - 31, 1991. The team, consisting of the REACH ARI Senior Technical Advisor and the REACH ARI Coordinator, reviewed current activities and operational capabilities of health service delivery agencies in the Department of Jeremie, situated in the southwestern region of Haiti. A one-day seminar devoted to pneumonia control and discussions concerning the case management approach were held with interested agencies.

Based on the outcome of the consultancy and the local interest in initiating a pneumonia control program, the consultants recommended that Jeremie should serve as a pilot program which could be enlarged for national implementation - building on the lessons learned. The strong community health infrastructure established by HHF would seem that the ARI program in Jeremie has a high likelihood of success.

In the upcoming year, REACH is planning to provide ongoing technical support to the pneumonia control program in Jeremie, directed primarily at assuring the continuing quality of services and at developing effective communications tools. This would best be provided through a combination of technical assistance methods: a locally hired program assistant, responsible for helping develop and test training, management and communications activities specific to the Haitian situation; ongoing REACH/Washington technical inputs; and assistance from the REACH/Haiti Project Coordinator and Communications Specialist.

Program Associate visit to Haiti

The REACH/Washington Program Associate assigned to provide administrative support to REACH/Haiti activities performed an introductory visit to the REACH/Haiti office from August 19 - 27, 1991. The purpose of the visit was to gain a greater knowledge and awareness of in-country activities. While in Haiti, the Program Associate worked with field staff to plan for upcoming activities (particularly future work in the control of ARI) based on the existing budget. Initial contacts regarding the purchase of a vehicle were made, as well as a thorough review of REACH/Haiti's financial operations.

EZ Measles Follow-up Study in Cite Soleil

Visits were made by a three person team from The Johns Hopkins University School of Hygiene and Public Health, through its subcontract with the REACH Project, to collect data on over 2000 children in Cite Soleil in Port-au-Prince, Haiti. The questionnaire data were coded and entered into a computer for analysis which was initiated in August. The objectives of the current study are to:

- * compare the rates of mortality in children who received high or medium titer EZ measles vaccines with children who received high, medium or standard titer Schwarz vaccines. Mortality will be compared for the three years following vaccination; and
- * compare the nutritional status of children who received the above vaccines 3-4 years ago.

Current Situation

Momentum on Project activities halted due to the coup of the democratically elected government on September 30, 1991. A.I.D. has ordered until further notice, that no new initiatives be introduced, nor any existing work be completed.

AFRICA

CAMEROON

ARI Programming Visit

At the request of WHO and USAID/Yaounde, REACH provided two staff members to assist in an ARI programming mission for Cameroon in September 1991. Prior to the visit, a draft plan was written by the MOH at the inter-country ARI Awareness Conference and was submitted to the Minister of Health in Cameroon for approval and financing. Although ARI was deemed a priority program in the 1991 Plan of Action for Child Survival, WHO suggested that if the plan was further enhanced it may have the prospect of receiving external funding.

Although the commitment to combat ARI was evident, the technical staff were not in place to activate plans. The team made recommendations to identify an ARI Program Manager and create an SRI sub-committee to draft an ARI policy, revise national plans of action and define needs for research and technical assistance.

KENYA

In-country staff

Grace Kagundu: Communications Advisor

REACH/Kenya Portfolio

REACH continues to provide technical assistance to the Kenya Expanded Program on Immunization (KEPI) through a buy-in from USAID/Nairobi. Activities outlined in the scope of work include continuing the support of the long-term advisor assigned to assist KEPI in social mobilization and communication strategies for EPI. Specific short-term activities involve conducting an operations research study, a cost benefit analysis, and a neonatal tetanus study; assistance in training KEPI staff in computerized monitoring and surveillance techniques; and delivering a workshop on the accelerated control of measles and other vaccine-preventable diseases.

Although travel restrictions were imposed during the Gulf War, REACH remained active in Kenya through the presence of field staff. However, one activity was postponed - the workshop on accelerated control of measles and other vaccine-preventable diseases. This workshop was originally planned to take place in February 1991; however due to difficulties in scheduling the necessary participants, it will take place in March 1992.

In-country Communications Assistance

REACH in-country staff helped plan and oversee an effort in the Siaya District to have school children refer infants in their communities for immunization at the normal health service delivery points. The project, which is locally funded by UNICEF, is designed as a competition between schools with modest

prizes awarded to the schools with the highest rate of participation, as measured by stamped and returned referral slips. Referrals by school children appear to have caused a sharp jump in childhood immunization coverage. In the month of the referrals, measles coverage increased 93%, from 991 to 1914, and fully immunized increased 58% from 1128 to 1779. In November 1990, the district conducted a second round without further external technical assistance, and the same program is now being extended to six other low-coverage districts in Kenya. This simple child-to-child approach may be a means to sustain social mobilization on behalf of the routine service delivery system.

An evaluation of the child-to-child program showed that the increase in coverage experienced throughout the study period seems to heighten an increase which happened the previous year. Criteria have been suggested for deciding which districts would benefit most from the child-to-child activities.

The child to child approach was modified to be implemented through the Kenya Boy and Girl Scouts program. By referring a number of neighboring infants for vaccination, the scouts earn a merit badge. The REACH Communications Advisor was instrumental in the preparation of a manual for participation in the scouts program. The manual illustrates the EPI target diseases and strives to increase the awareness of the importance of vaccinations.

The teaching manual for EPI, developed by the University of Nairobi - Department of Pediatrics through REACH Project support, is currently being published. This manual will be introduced in the curricula of medical students and quite possibly nursing students during the 1991/92 school year.

Technical Support Visits

Technical manager visits

From November 24 - December 14, 1990, a REACH Technical Officer travelled to Nairobi to provide technical assistance to KEPI. A series of meetings were held with KEPI, USAID, UNICEF, DANIDA and the University of Nairobi - Department of Pediatrics to discuss upcoming activities in support of KEPI.

Future REACH assistance to KEPI includes the planning and implementation of a workshop on the accelerated control of measles and other vaccine preventable diseases, whose main purpose is to discuss the current status of measles in Kenya and recent developments in measles control; additional topic areas, such as hepatitis B and other vaccine preventable EPI diseases will be discussed.

The Technical Officer assigned to manage REACH/Kenya technical activities performed a site visit from May 20 - 31, 1991. The visit primarily focused on the child-to-child program evaluation and planning for the workshop on accelerated measles control and other vaccine preventable diseases. Since this was the first visit performed by the newly appointed REACH technical officer, it also served as an introduction to the in-country activities and the persons responsible.

Assistance with routine EPI monitoring and surveillance

From September 23 - October 11, 1991, a REACH Technical Officer assisted KEPI in strengthening their routine monitoring and surveillance system through use of the Computerized EPI Information System (CEIS). During this visit, REACH worked closely with the KEPI Data Management Officer to identify reports and graphs containing key management information for the district level staff. A set of feedback materials was identified for each district and necessary training for district level staff was determined. Alternative methods to computerized tabulation of data were also reviewed during this visit and improvements in system management were noted from previous visits.

To assist district level officers, the KEPI Data Management and REACH Technical Officer developed training materials to support the CEIS reports and graphs which will be distributed to the districts.

On-site assistance

A local short term consultant was hired in August 1991 to assist with the preparations for the workshop on accelerated control of measles and other vaccine preventable diseases and planning for the study on tetanus toxoid serology. Assistance will also be given in expediting the production of the EPI teaching manual for the University of Nairobi Medical School.

Neonatal Tetanus Mortality in Coastal Kenya: A Community Survey

REACH staff and a consultant prepared a manuscript for publication based on the results of the neonatal tetanus mortality survey in a coastal area in Kenya. The manuscript is currently undergoing review by the authors, and will be submitted for publication in early 1992.

Visit by KEPI Manager

During a visit to A.I.D./Washington, Dr. Richard Sang, KEPI Manager, met with REACH/Washington staff on November 5 and 6, 1990. The purpose of the visit with REACH was to hold in-depth discussions regarding ongoing and future activities to support KEPI. Dr. Sang's visit was useful in order to clarify goals and to assist in planning for future work.

MADAGASCAR

From March 11 - April 15, 1991, a REACH Senior Technical Officer travelled to Madagascar to assist in the design of a family planning and child survival project paper (APPROPOP). REACH participation was requested to assist the team in examining potential child survival activities to integrate into future USAID family planning efforts.

MALI/NIGER

Urban Assessment Visits

With the concurrence of USAID/Mali and USAID/Niamey, a two member REACH team visited these two countries from September 30 - October 4, 1991 to explore possibilities for special urban and measles control efforts within the existing national Expanded Program on Immunization (EPI). This visit coincided with AID/R&D/H intentions to begin initiatives in urban EPI and measles control in selected African countries.

The team consisted of an EPI specialist and an urban health planner. Discussions were held with staff of the USAID missions, MOH, UNICEF, WHO, and other interested organizations.

As the team was present in the countries for only a short period of time, there was concentrated effort to determine whether interest in and need for an urban EPI initiative with a focus on measles control existed in Mali and Niger.

NIGERIA

ARI Programming Mission

At the request of WHO/Geneva and the Federal Ministry of Health (FMOH) in Nigeria, the REACH ARI Coordinator assisted in a WHO planning mission for Nigeria's national ARI program from June 8 - 21, 1991.

During these two weeks, the Nigerian National ARI Committee worked with the WHO and REACH consultants. This commitment of time and personnel was indicative of the strong commitment the FMOH has to implementing a national ARI program (NARIP).

During the consultation a national policy and program on ARI plan were written by the ARI Committee with assistance from the WHO and REACH consultants. This key policy document was then distributed for comment to all primary health coordinators in the country and key people in the FMOH and pediatric medicine.

Nigeria has adopted the following objectives and strategies for the NARIP:

- a. to reduce the mortality attributable to pneumonia in children under 5 years of age;
- b. to decrease the inappropriate use of antibiotics and other drugs for the treatment of ARI in children;
- c. to reduce the incidence of acute lower respiratory tract infections in children.

A follow-up visit by REACH is being planned for late fall 1991 to assist selected local government areas with ARI program planning.

Urban Assessment Visit

A two member REACH team visited Nigeria September 16 - 27, 1991, to explore possibilities for a special urban effort within the existing national EPI. Findings from the assessment on Lagos and its EPI coverage were quite surprising. Although assumptions were that the largest and most cosmopolitan urban center, and the city with the greatest concentration of health facilities, would logically have the best health indicators in the nation, in fact findings from the 1991 coverage survey were completely contradictory. Lagos was found to have access to immunization services equal to, but no greater than, all other areas of the country. However, the drop-out rate between DPT3 and measles is the poorest among all other states in the country. Measles coverage in Lagos is lower than the national average and lower than a majority of states.

The team recommended urban-specific strategies which respond to some of the unique opportunities and specific challenges found only in cities. They included:

- microplanning of strategies
- individual city EPI plans
- development assessment tools for EPI
- gearing up of social mobilization in cities
- role for the private sector
- reduction of missed opportunities
- inter-sectoral aspects of urban EPI
- eventual integration of health services in cities

A follow-up visit by REACH is being planned for early 1992 to conduct a detailed urban EPI assessment, including a plan of activities.

PolioPlus/Nigeria Evaluation

A REACH Senior Technical Officer participated in the Nigeria PolioPlus External Evaluation from September 15 - 28, 1991. The evaluation team consisted of staff from USAID/CDC, the Federal Ministry of Health (FMOH), Rotary International and REACH.

Preliminary findings indicate that effective programs have been developed by PolioPlus at the LGA, state, and federal levels; national immunization days have received full support of Rotary; over 20,000 community volunteers have been recruited and trained by Rotary to mobilize the general population for immunization services. In villages where the mobilizers were active, drop out rates were nearly zero.

The achievement of polio eradication is dependent on the maintenance of an effective EPI; therefore, one recommendation made by the evaluation team was to explore strategies to incorporate Rotary physicians into the national EPI programme, both in vaccine delivery and in surveillance. It was also recommended that Rotary continue the supply of OPV in Nigeria for an additional three years.

REGIONAL ACTIVITIES

Staff Visit to WHO/AFRO Office

On June 3, 1991, REACH Technical Officer, Rebecca Fields met with WHO/AFRO staff en route home from her technical assistance visit to Kenya. The stopover in Brazzaville allowed for meetings with Dr. Brian Dando, Regional EPI Adviser, Dr. Yankalbe, Regional Officer for CDD/ARI, Dr. Gene Bartley, Technical Officer for CDD/ARI, and Dr. Barakamfitye, Programme Manager for the Disease Prevention and Control Section. WHO/AFRO staff provided an update of their activities and priorities for 1991 and discussed possible collaboration with REACH in several areas including measles control, CEIS, EPI costing and financing workshops, and urban EPI.

ASIA

BANGLADESH

During the evacuation of expatriate JSI staff from the Municipal EPI Project in Dhaka, Bangladesh, REACH staff were able to offer assistance in the design of the Bangladesh Municipal EPI workplan for 1991-1992. Through discussions with USAID/Dhaka staff, who were also evacuated to Washington, D.C., it was identified that it may be useful for REACH to perform a cost and financial sustainability study for the Municipal EPI Project in Bangladesh.

This study was originally scheduled to take place in May, after the return of the expatriates; however it was postponed due to the cyclone -- which ravaged a proposed study area, Chittagong. It is now anticipated that the study will take place during the Municipal EPI Project's 1992 - 1993 activity workplan.

NEPAL

In-country staff

Damian Jones: Field Advisor

Funding from the A.I.D. Asia Bureau allowed REACH to begin analysis necessary to document the impact of vitamin A supplementation on mortality in the Jumla District of Nepal. This study began as an outgrowth of data collected and research initiated in 1986 in a bilateral mission project. Through an analysis of currently available data and utilizing on-going data collection and analysis, REACH will measure the impact of vitamin A supplementation on mortality of the under-five-year-old population and will document the findings by age, seasonality and cause of death. REACH will also outline programmatic information which can assist the MOH and NGOs in the development of their own strategies with regard to vitamin A distribution -- particularly with respect to defining constraints and benefits of a seasonal approach.

During the fall of 1990, data collection was initiated and will continue throughout the course of the study; also, an analysis of comparative mortality data was initiated and was completed in Spring, 1991. Data collection to be used for analysis continued into August, 1991. The areas to be identified by the analysis included: 1) mortality since vitamin A supplementation began in Nepal; 2) impact of ARI morbidity as measured by program implementation statistics; and 3) long-term cause-specific mortality trends attributable to vitamin A interventions based on four-year baseline data.

Based on the findings several articles and reports are being prepared by REACH which document the impact of vitamin A supplementation on mortality in children under five years in the Jumla District of Nepal. The article entitled, "Reduction in total under-five mortality in western Nepal through community-based antimicrobial treatment of pneumonia" authored by Dr. M.R. Pandey, REACH staff member Dr. Nils Daulaire, et al. was accepted for publication in the Lancet in the October 19, 1991 issue.

A field advisor was placed in Jumla, Nepal in May 1991, after A.I.D. travel restrictions for the Gulf crisis were lifted. The advisor and activities supporting a selected package of child survival interventions are being financed by a USAID/Kathmandu buy-in to the REACH Project. During the reporting period the advisor trained field workers in diarrhea case management in three separate training sessions -- one for supervisors and two for field workers, performing ARI case management and treatment for children under 5 years of age, and maintaining the system for data collection. Work has been initiated on the plan for a phased transfer of program implementation to the Jumla District Public Health Office.

INDIA

Cost Effectiveness Study in Vellore

In November 1990, REACH supported a visit by Dr. Reuben Samuel, Principal Investigator of the Christian Medical College and Hospital (CMCH) North Arcot Polio Control Project to the REACH office. Over the past two years REACH technical staff have collaborated with CMCH in assisting with the training of personnel needed to perform field studies and interpret data collected for management purposes.

During Dr. Reuben's visit, analysis of the 1990 cost-effectiveness study was conducted.

Technical assistance by REACH was anticipated to take place in March and then in June; however it was delayed due to Gulf War travel restrictions and internal instabilities experienced in India. A REACH Technical Advisor travelled to India in July and August to assist CMCH in carrying out the 1991 cost-effectiveness study on alternative delivery methods for the polio vaccine. This completes REACH's assistance to CMCH for the cost-effectiveness study.

Rotary Visit

After the PolioPlus evaluation in Nigeria, the REACH Senior Technical Officer travelled to India to participate in the external evaluation of the Private Sector Support for the Expanded Programme on Immunization - managed by Rotary, India and funded by Rotary International and FVA/PVC.

PHILIPPINES

Portfolio of REACH Activities

In December 1990, the REACH/Philippines Advisor concluded over two years of in-country assistance to the Department of Health (DOH) in EPI related activities. The field advisor was supported through USAID/Manila funds which expired in December 1990. The advisor was instrumental in implementing and analyzing coverage surveys and providing the DOH with general support for their EPI program.

REACH short-term technical assistance activities continued in the Philippines through additional funding from USAID/Manila. In September 1991, a buy-in was secured for REACH to assist the DOH with its plan to introduce hepatitis B vaccine, follow-up activities in support of the national EPI review recommendations, strengthen the management of the cold chain and routine health information system, and to perform EPI costing studies. This assistance package was planned to span over four months.

Hepatitis B Assistance

REACH, in collaboration with PATH, worked with the Department of Health (DOH) in the Philippines to break new technical ground within the global EPI by confronting the issues that surround the addition of hepatitis B vaccine to the routine EPI schedule. A REACH technical report was widely distributed in October 1990. The report, "The Integration of Hepatitis B Immunization into the EPI in the Philippines," concludes that, with proper planning, introduction of hepatitis B vaccination can be accomplished with a minimum of disruption to the health services. The report includes a strategic plan for introduction of this vaccine which carefully addresses such major issues as delivery strategies, cold chain and logistics, vaccine specifications and procurement, and communications and training. Many of these topics have not previously been addressed by EPI.

The integration of hepatitis B vaccination into the EPI in the Philippines constitutes the most feasible method to reduce the incidence of chronic carriage of hepatitis B and its sequelae. The existing EPI in the Philippines is performing at an extremely high level and is capable of absorbing an additional antigen into its delivery services.

As a follow-up, PATH, through its subcontract with REACH, assisted the DOH in the review of bid documents submitted by potential vaccine suppliers for the procurement of hepatitis B vaccine. A visit is scheduled for November 1991 for the REACH/PATH representative to be the primary speaker at two DOH-sponsored symposia for a group of 100 participants from government, non-government and professional societies.

ARI Activities

A REACH team travelled to the Philippines from December 3 - 14, 1990, to review and assess the national program for ARI control (CARI). Program documents were reviewed; meetings were held with DOH officials; and numerous public health offices and health facilities were visited.

Pneumonia has been documented to be the leading cause of death among children in the Philippines, and as such, the present need is not to establish new methods of assistance directed at ARI but rather to expand and improve the effectiveness of services already available. The Philippines offers an opportunity to develop the first operational ARI nationwide program, and demonstrate that ARI can be an integral part of the primary health care and child survival service delivery system. With additional support the ARI program could move rapidly towards full implementation and national coverage.

The program would develop the mechanisms necessary for quality assurance, documentation and internal evaluation, and would reach beyond the current health facilities, consequently having a greater impact on overall population mortality.

A visit is planned for November 2 - 17, 1991, by the REACH ARI Technical Advisor to assist the DOH in planning an evaluation of the CARI training program; and in planning the development of health education tools for use by midwives in educating mothers who seek pneumonia treatment for children. An initial assessment of the health information system will also be conducted during the visit.

Cold Chain Assistance

As stated in the USAID/Manila scope of work, REACH provided a consultant to DOH/Philippines to assist in cold chain and inventory management. The visit was conducted August 17 - September 27, 1991. The consultant reviewed the current EPI cold chain and vaccine inventory procedures and standardized data collection techniques for each level of the reporting system. Recommendations were given to strengthen the cold chain management system and guidelines were developed for evaluating cold chain and logistics training programs conducted by Philippines/EPI.

YEMEN

In-country staff

Noel Brown: REACH/ACCS Chief of Party

REACH/Yemen Portfolio

REACH continues its participation in the implementation of the Accelerated Cooperation for Child Survival (ACCS) Project. Through USAID/Sana'a funding, the REACH component is responsible for training of male and female primary health care workers (PHCWs) and trainers/supervisors, finalizing the equipment purchase for health centers, performing a health manpower needs assessment, assisting the Ministry of Health in EPI cold chain issues, conducting a cost-benefit study and developing community mobilization activities. REACH received an extension to March 1992 to continue the activities supporting ACCS.

PHC Training

In October 1990, two health training centers (HTCs) were opened in Al Shaghadirah and Aflah Al-Sham, Hajjah Governorate. These, along with the previous opening of two HTCs in Saada and two in the Mareb Governorate, were all part of REACH's responsibility within the ACCS Project.

As a follow-on to the HTC openings, a REACH training consultant visited Yemen from November 10 - December 10, 1990. The consultant provided guidance in the development and design of training curricula and workplans. Classes were observed which were held in the HTCs, and a brief assessment was performed.

It was concluded that there was: a lack of staff to properly train students; an emphasis on theoretical classes without an established connection between knowledge and practice; difficulty with developing budgets; and that there was a need for MOH and Health Manpower Institute input with the recruitment of candidates. Recommendations were given by the REACH consultant to release budgets for the operating costs of each HTC; recruit one person to supervise training in the office and report on progress made; hire additional trainers when needed; and increase the supply of training materials. There was also the recommendation to have stronger support for the female trainers.

The ACCS/REACH-supported nurse-midwife trainers conducted several MOH training programs in the Mareb, Hajjah, and Saada governorates. The instruction/training period is for one year for each governorate. Approximately 22% of the 180 students enrolled in these courses are females which is a major achievement.

Training continued to be provided, even throughout the period when the ACCS/REACH Chief of Party was evacuated during the Gulf War (January 12 - April 1, 1991). While the COP was in the REACH/Arlington office, a thorough review was conducted of the workplan describing REACH's activities in Yemen, with the understanding that many of these activities would be postponed due to the conflict. Subsequently, USAID/Sana'a granted an extension and an additional buy-in for REACH Project assistance through March 1992.

Manpower Assessment Study

From August 17 - September 1, 1991, the first of two consultancies were performed for a health manpower needs assessment in the four ACCS governorates (Hajjah, Hodeidah, Mareb, and Saada). This assessment was planned to coincide with a national health planning exercise. Four types of analysis will be performed based on the survey: actual staffing compared with standard staffing; staff characteristics (age, length of service, sex, nationality, etc.), capabilities and capacities of training institutions, and health services coverage.

This initial consultancy set up the preparations for the survey. The second consultancy, planned for early 1992, will follow-up on the survey implementation, and analysis will be performed on survey results.

EPI Assistance Visit

Beginning on August 30, 1991, a consultant worked for two months in Yemen to perform a review of the ACCS target governorate workplans for immunization and disease surveillance, assist in implementation of activities and make recommendations for future action. Preliminary recommendations include technically and financially supporting and assisting a workshop for developing a national in-service curriculum for immunization-related activities and a training for cold chain repair services in two ACCS target governorates, Saada and Marib.

Assessment of PHC System

A consultant was hired for ten weeks during the summer of 1991 to take part in an assessment of the primary health care (PHC) system in Hodeidah Governorate. REACH/ACCS provided the consultant as part of a seven-person team. The purpose of the assessment was to identify how the governorate can best provide the desired level of PHC within existing resources and constraints, and to recommend priority areas for future donor support for sustaining the PHC system. The assessment was to identify lessons learned from the rapid expansion of basic health services under the Tihama PHC Project.

The methodological approach was to assess whether the necessary resources for health services were available, and to find out whether these resources were being used properly. Resources included personnel, their skills and time, medical supplies, stationery, transport and buildings. The assessment of how resources were used included direct observation and analysis of reported activities through on-site examination of registers and reports, and review of the data in the Health Office Statistics Department's computer files. The dynamic processes needed to support and manage PHC were also assessed; these included supervision, the information system, and logistics. This assessment did not measure coverage of PHC services or their impact on health status, although indicators of coverage that should be used for monitoring service coverage were analyzed.

Recommendations were given based on the findings.

DISEASE CONTROL STRATEGIES

ARI

A.I.D. ARI Strategy Development

REACH staff participated in the technical review of the draft A.I.D. strategy on ARI control activities. The strategy was distributed to USAID missions for review and comment in June 1991. The release of this document has encouraged missions to request REACH assistance in support of ARI control.

REACH Staff participated in WHO/ARI Training Course

REACH staff participated in a one week training course on program management of the control of acute respiratory infections (ARI) and the management of ARI in young children. The training was conducted by Dr. Antonio Pio, ARI Program Director from WHO/Geneva, and held in Arlington, Virginia, during the last week of April. R&D/H staff joined REACH staff for the first day.

The ARI program managers course develops the capacity of the participants to:

- * Define the ARI problem in a country
- * Design an ARI program for a country
- * Implement a case management strategy for ARI
- * Supervise, monitor and evaluate an ARI program.

Since the training, WHO has requested that REACH assist in several ARI programming visits. REACH participated in a joint ARI programming visit to Nigeria and Kenya in June and performed a similar visit to Cameroon in September.

Participation in ARI Program Managers Meeting, Tunisia

En route home from Nigeria, the REACH ARI Coordinator stopped in Tunis to attend the WHO meeting of ARI Program Managers for the WHO Eastern Mediterranean Region (EMRO). Representatives of Ministries of Health from Afghanistan, Bahrain, Cyprus, Djibouti, Iran, Iraq, Jordan, Libya, Morocco, Pakistan, Sudan, Tunisia, and Yemen attended the meeting, as well as WHO/Geneva and UNICEF representatives.

REACH attended the meeting as an observer and participated in the francophone countries' small group discussions. Meeting recommendations included that all countries in EMRO will formulate and implement an ARI control program by 1995 which will strive to reduce mortality from pneumonia. Standard case management techniques will be employed as well as using the ARI control program to promote immunizations, especially against measles. A consensus on the countries' antibiotic policies will also need to be reached. The group requested that the next meeting be held in two years (1993). The representative from Iran volunteered to host the next meeting.

ARI Ethnographic Training

REACH sponsored the participation of two consultants and one staff member to a WHO training workshop for ARI Ethnographic Studies, held in San Francisco, from July 22 - 25, 1991. The overall approach of conducting the focused studies to assist in planning national ARI programs was reviewed. Workshop participants were trained and gave feedback on the methodology. The results of the studies allow national ARI program managers to: develop counseling and other messages using words and concepts that mothers will understand; identify attitudinal or other barriers or motivations to mothers' promptly bringing their child with possible pneumonia to a trained health worker; learn mothers' expectations concerning treatment; and identify other factors likely to influence community response to the ARI program.

ARI Technical Orientation Meeting

On July 31, 1991, REACH hosted an ARI Technical Orientation Meeting for A.I.D./R&D/H. The meeting was attended by A.I.D. Washington staff as well as A.I.D. central project staff and other interested organizations. Representatives from WHO and UNICEF provided the participants with an overview of their strategies and activities in ARI control. A.I.D. central projects gave updates on how their activities support the global effort in ARI control. This meeting is hopefully the first in a series of "technical update" meetings for R&D/H's ARI control strategies.

ARI Programming Mission to Nigeria

At the request of WHO/Geneva and the Federal Ministry of Health (FMOH) in Nigeria, the REACH ARO Coordinator assisted in a WHO planning mission for Nigeria's national ARI program from June 8 - 21, 1991. For additional information please see page 9.

ARI Programming Mission to Cameroon

At the request of WHO and USAID/Yaounde, REACH provided two staff members to assist in an ARI programming mission for Cameroon in September 1991. For additional information please see page 6.

ARI Programming Mission to Haiti

R&D/H and REACH/Washington staff traveled to Haiti from May 20 - 29, 1991, to participate in a week of planning for ongoing EPI and future Acute Respiratory Infections (ARI) Control activities with USAID/Port-au-Prince, local REACH field and MOH staff. REACH performed a follow-up visit to Jeremie, Haiti, to assist HHF from August 19 - 31, 1991. For additional information please see page 4.

ARI Programming Mission to the Philippines

A REACH team travelled to the Philippines from December 3 - 14, 1990, to review and assess the national program for ARI control (CARI). For additional information please see page 14.

ARI Financing Meeting

REACH hosted an external workgroup on ARI financing and economic issues on July 16, 1991. For additional information please see page 22.

FINANCING ACTIVITIES

Intercountry Consultative Meeting on Financial Management of EPI

EPI managers are increasingly concerned about financial sustainability of national immunization programs as the possibility of donor withdrawal of funding support appears more likely. This possibility became one of the dominant topics of discussion at the WHO/South East Asia Regional Office (SEARO) Intercountry Consultative Meeting on Financial Management of EPI, held in New Delhi, India on January 14 to 18, 1991. The REACH Project -- along with regional Ministries of Health, Planning and Finance -- and representatives from WHO/Geneva, UNICEF, and several non-governmental organizations were invited to discuss topics ranging from resources mobilization for immunization programs to the cost effectiveness and affordability of such services.

Senior officials of WHO/SEARO and UNICEF/Delhi emphasized that donor funding for EPI is declining, and called for "urgent actions" by member countries to sustain their EPI programs with country funds. These officials stressed the need to strengthen management of existing resources, and to develop alternative sources of national and local financing -- including fees for services, and community financing strategies.

Recent REACH financing and sustainability studies, presented at the meeting, provided evidence on these strategies. The studies found that many of the poorest countries are likely to have difficulty supporting EPI with their own resources. Confronted with declining donor and government budget resources, many developing countries have already initiated some kind of action to raise revenues specifically for EPI.

Lessons learned from REACH experience suggest that each country needs to adapt general financing strategies to meet its own particular circumstances. No global formula exists for effective revenue generation for immunization or for health services in general. But revenue raising efforts alone will not be enough to cope with sustainability problems. Activities to improve financial sustainability almost always need to be paired with management and quality improvements. And, for long-term sustainability, financing strategies for immunization need to be linked closely with the financing and organization of primary health care and the total health system.

Meeting participants adopted numerous recommendations. A common theme emphasized was an intention to conduct cost and resource studies for their country's immunization programs. They stressed the need to use such studies in dialogue with donors to support a phased approach to developing sustainable EPI programs.

Study of Cost Recovery Mechanisms for EPI

During the year, REACH completed a comprehensive review of cost recovery mechanisms for EPI in developing countries. The purpose of the review was to examine resource generation efforts undertaken by countries and address concerns that have been raised worldwide, assessing the potential of the various cost recovery strategies for sustainability, identifying gaps in knowledge of the mechanisms, and identifying schemes for further analysis and evaluation.

Of the 79 countries included in the review, nearly half were undertaking some type of resource generation effort in the public sector, specifically for immunization. The most common mechanisms identified were fees -- per shot or for immunization card -- and voluntary efforts: fund-raising, lotteries, or contributions of labor or goods. Forty-one percent of the countries also identified cost recovery efforts for primary health care that were not specific to immunization. The least common mechanisms identified were cross-subsidization of the EPI through charges for other health services, coverage of immunization through social insurance programs and prepayment schemes.

While prepayment of services was uncommon, both China and Vietnam reported that an innovative prepayment mechanism, the "EPI contract system," has been implemented. This scheme generates resources for EPI by charging a fee for full immunization and guaranteeing compensation to the family of any immunized child should become ill with one of the diseases targeted by EPI.

The range of experience identified through this review indicates that many financing mechanisms for immunizations and primary health care may be appropriate in different circumstances. The Republic of Korea has a high immunization coverage rate financed through universal health insurance and delivered largely via private sector clinics. The Latin American and Caribbean region is rapidly approaching the eradication of polio from the Americas, relying almost exclusively on government and donor financing. In each case, financing mechanisms were chosen to enable the costs of immunization to be covered while still achieving high utilization.

In-depth field evaluations of some of the mechanisms which were identified in this review would contribute to a better understanding of these mechanisms and to the development of guidelines for assessing alternative financing initiatives in other countries. Such guidelines would help countries develop the most productive and appropriate strategies for generating additional revenue for immunization according to their own country context.

On May 30, 1991, REACH presented the study results in a debriefing to staff from of A.I.D./Washington, World Bank, WHO/PAHO and other interested organizations.

WCARO-REACH Regional Workshop on Financing Strategies for Sustainability of EPI

With technical assistance from REACH Project staff and consultants, the West and Central Africa Regional Office (WCARO) of UNICEF will hold a regional workshop on the Financing Strategies for Sustainability of EPI. The meeting, scheduled to take place in Dakar, Senegal, from November 12 - 16, 1991, will be attended by UNICEF, Ministry of Health, WHO, and USAID mission personnel from the nine countries in the WCARO region -- Burkina Faso, Cape Verde, Cote d'Ivoire, Guinea, Guinea-Bissau, Mali, Niger, Senegal and Togo.

During this quarter the REACH Senior Officer for Health Financing worked with staff from UNICEF/New York and UNICEF/Abidjan to develop the overall plan and agenda for the workshop. Based on these discussions, workshop objectives are to strengthen participants' capabilities in assessing EPI financing and resource needs, analyzing the costs and financing of EPI, identifying means to improve efficiency and make the best use of available resources, and developing strategies to coordinate and mobilize necessary financial resources.

REACH will be responsible for the technical direction of the workshop. As part of these responsibilities REACH will develop the workshop training materials, which will assist the participants to promote EPI sustainability at the country level. Focus will be on financing and resource issues specifically related to EPI, as well as relevant linkages to broader health service delivery and financing systems. These materials will be utilized in subsequent workshops to be hosted by UNICEF/WCARO and other regional UNICEF offices.

Financing intern at REACH

An intern, Getahun Aynalem, M.D., worked with REACH during the summer of 1991. Dr. Getahun is a Rockefeller Foundation Health Economics Fellow in the International Clinical Epidemiology Network (INCLIN) program at the University of North Carolina. His work at REACH concentrated on economic and cost issues in efforts to strengthen ARI programs. Based on reviews of the literature and discussions with REACH staff, Dr. Getahun developed an internal methodology and framework for REACH which analyzes ARI case management costs. He also compiled a summary of statistics and ARI program information, to the extent available, for 10-12 African countries.

REACH writes chapter on Tetanus for World Bank Health Sector Priorities Review

During the 1991 reporting period, REACH staff finalized a paper entitled "Tetanus" as part of a World Bank Health Sector Priorities Review. The paper comprehensively reviews the magnitude and epidemiology of tetanus. For additional information please see page 26.

External Workgroup on ARI Financing Issues

REACH hosted an external workgroup on ARI financing and economic issues on July 16, 1991. The purpose of the meeting was for the Project to seek outside advice on overall, as well as specific, issues and topics that may be encountered. Principal issues and discussion points included an overview of A.I.D.'s ARI initiative, estimating the costs and benefits of an ARI program, modifying drug utilization, prescription, and distribution, and financing ARI services. The workgroup established a list of priorities for REACH action.

HEPATITIS B

Assistance to DOH Philippines

REACH, in collaboration with PATH, worked with the Department of Health (DOH) in the Philippines to break new technical ground within the global EPI by confronting the issues that surround the addition of hepatitis B vaccine to the routine EPI schedule. For additional information please see page 14.

International Conference on the Control of Hepatitis B in the Developing World

Planning continued for a REACH presentation at the International Conference on the Control of Hepatitis B. The meeting is scheduled to take place in Yaounde, Cameroon in October and is organized by WHO, the International Task Force for hepatitis B Immunization, the Ministry of Health (Cameroon), and the University of Yaounde Medical School.

MEASLES

Measles Review and Options Paper

In support of A.I.D. adopted objectives for measles control, REACH collaborated with the Department of International Health at The Johns Hopkins University School of Hygiene and Public Health on a literature review and options paper. The document reviews the available activities for measles control and provides an assessment of their likely impact.

Technical meeting on Measles

On June 4, 1991, Dr. Neal Halsey of The Johns Hopkins University provided the REACH staff with a technical update on measles, the single most important vaccine-preventable disease. In collaboration with JHU, REACH is supporting a follow-up study on an earlier study of Edmonston-Zagreb measles vaccine administration to children. The outcome in terms of survival will be assessed in about 80% of these children, now 3-1/2 to 4-1/2 years old, who were enrolled in the original study 3 years ago. Dr. Halsey stated that further study will be needed on vaccine characteristics to see what might be causing differences in survival.

EZ Measles Study in Haiti

Visits were made by a three person team from The Johns Hopkins University School of Hygiene and Public Health, through its subcontract with the REACH Project, to collect data on over 2000 children in Cite Soleil in Port-au-Prince, Haiti. For additional information please see page 5.

A.I.D. Measles Initiative

The REACH Project, along with HEALTHCOM and the Quality Assurance Project, were selected by the Office of Health to serve as key health projects on the measles initiative proposed by A.I.D. With funding from the Office of Health the three projects will work collaboratively in three African settings to plan and implement measles control activities. A cable was sent by the Office of Health to canvass host country support for such an initiative.

In September 1991, a series of meetings took place among the contractors to identify areas of collaboration and to plan for a larger meeting being hosted by the Office of Health at the end of October.

POLIO

Technical Meeting on Polio

On April 1, 1991, REACH technical staff -- with the participation of Dr. Mark LaForce, Professor of Medicine at the University of Rochester and A.I.D. Technical Officer, Dr. Jerry Gibson -- held a one day meeting to determine the extent and direction of REACH involvement and specific activities to support WHO's strategy to eradicate polio. In addition, discussions were held on strategies to pursue in the elimination of neonatal tetanus and the control of measles.

Meeting with WHO Geneva

REACH staff met with Dr. Nick Ward, WHO Medical Officer in July at the REACH office. Several activities were identified for future collaboration with WHO in the areas of surveillance, financing studies, materials development, operations research and field assessments in support of the global polio eradication efforts.

Rotary PolioPlus Evaluations

A REACH Senior Technical Officer participated in the Nigeria PolioPlus External Evaluation from September 15 - 28, 1991. For additional information please see page 10.

SURVEILLANCE AND MONITORING

Generic CEIS Development

From May 13 - 31, 1991, a REACH consultant travelled to WHO/EPI/Geneva to assist the EPI Unit at WHO headquarters in assessing its information systems needs and to ensure that the software for EPI management (CEIS), developed with technical assistance from the REACH Project, meets the current information needs at the global level for coverage, disease, and demographic information. This global system will set standards for regional, national and local levels in terms of management of information.

Stocks and Logistics Module for CEIS

A field test of the Stocks and Logistics Module was made in Papua New Guinea by a REACH consultant. The module's aim is to assist national EPI managers to monitor vaccine and syringe usage and to better estimate supply needs. Based on the results of the field test, the module will be revised. The consultant also recommended that additional training be provided to the personnel responsible for stocks and logistic management in Papua New Guinea.

The computerized module and the comments derived from the field test were sent to WHO/Geneva for their review prior to including this module in the CEIS package.

REACH Presentation on Monitoring and Surveillance at Office of Health Staff Meeting

REACH provided the Office of Health with a demonstration of computerized monitoring and surveillance systems in June 1991. The presentation centered on reports and graphic outputs of CEIS and their use by program managers in monitoring program performance. The completeness and timeliness of immunization reports and the incidence of reportable diseases were also addressed.

Workshop on the Management and Evaluation of Immunization Programs Through the Use of COSAS

From June 19-21, 1991, 18 participants attended the first international workshop on the use of the WHO-developed Coverage Survey Analysis System (COSAS) software as a tool for program management. Participants came from 12 countries located in the Americas, Africa, and Asia and were affiliated with Ministries of Health, UNICEF, USAID missions, the Immunization Division of the Centers for Disease Control, and private voluntary organizations including CARE, Project Concern, World Vision, and Medecins Sans Frontieres.

The intensive three-day course was designed, organized, and implemented by REACH staff in Arlington. A mixture of training methods was used including lectures, small and large group discussions and exercises on how to identify, manually calculate and interpret data from COSAS. Computer training in the use of COSAS was also performed. During the final exercise, participants worked in small groups using COSAS to generate results from a sample coverage survey and evaluate immunization program performance in the survey area. Participants were able to identify program strengths and weaknesses and make suggestions for program improvement.

In collaboration with WHO and UNICEF, REACH developed a set of 11 indicators of program performance which will be used in the latest version of COSAS which is now being finalized by WHO. These indicators will be part of a standardized report that all countries will use to report immunization survey results. Careful analysis of results in terms of these indicators should enable health personnel to target resources to specific program needs such as coverage, access/utilization, continuity and quality of services, including missed opportunities.

Evaluations indicated that the workshop was extremely well-received by participants. Ongoing follow-up activities will include a six-month review of the action plans developed by participants during the workshop. Both WHO and UNICEF have expressed interest in having REACH staff conduct similar COSAS workshops in Africa and Asia in 1992.

TETANUS

REACH/MotherCare Present Tetanus Literature Review at NCIH

A joint REACH/MotherCare presentation on "Maternal Mortality due to Tetanus" at the 1991 NCIH Conference held in June attracted considerable interest. This was the first time that existing literature concerning the magnitude of postpartum and postabortal tetanus and their epidemiological characteristics has been comprehensively studied. More than 80 hospital and community based studies were reviewed.

The paper estimates that 15,000 to 30,000 women die annually due to tetanus following induced abortion or delivery. A conservative estimate of maternal mortality due to tetanus is 3%. Yet despite its easy prevention, tetanus has rarely been mentioned in standard references on safe motherhood or discussed at gatherings of obstetricians/gynecologists and nurse/midwives.

REACH writes chapter on Tetanus for upcoming World Bank publication

During the 1991 reporting period, REACH staff finalized a paper entitled "Tetanus" as part of a World Bank Health Sector Priorities Review. The paper will appear as a chapter in the forthcoming book Disease Control Priorities in Developing Countries (Oxford University Press for the World Bank). The paper comprehensively reviews the magnitude and epidemiology of tetanus.

Because treatment of tetanus is expensive and may not reduce the case fatality rate sufficiently, prevention remains a key component to child survival. The paper reviews 15 studies of the cost and cost-effectiveness of tetanus immunization and shows that the median cost was \$0.91 per tetanus toxoid (TT) dose delivered and \$2.80 per dose of TT2, resulting in a median cost per death averted of \$115. These costs compare extremely favorably to other primary health care interventions, attesting to the importance of increased attention to preventing neonatal and non-neonatal tetanus. The authors conclude that immunization programs to prevent tetanus have an extraordinarily strong claim on resources.

URBAN STRATEGIES

Technical Discussions on the Control of Vaccine Preventable Diseases in the Urban Setting

On May 16 and 17, 1991, REACH hosted an informal meeting in Arlington of persons with experience with health programs in urban areas. The purpose of the discussions was to exchange current information on the special needs and strategies for controlling vaccine-preventable diseases in urban areas. The topics discussed were: epidemiology and disease control; financing of immunization; organization of sustainable immunization services; surveillance and evaluation; social and cultural factors affecting utilization of services; effective methods of communication; the role of the private sector; and social mobilization techniques.

MEETINGS

Health Sector Council Meeting (HSCM)

At the HSCM held in Arlington, VA, October 4, 1990, a REACH Senior Technical Officer gave a presentation on the work of REACH in monitoring quality of immunization programs. The findings were based on the use of COSAS to analyze certain parameters of immunization programs. Using this software it is possible to measure health worker performance with respect to missed opportunities for immunization, age distribution of antigens given, appropriateness of intervals and other parameters.

WHO EPI Global Advisory Group Meeting

REACH staff presented two discussion papers at the WHO EPI Global Advisory Group (GAG) Meeting in Cairo, Egypt, October 14 - 18, 1990. The first paper, An Overview of EPI Sustainability Issues, was drafted by the REACH Technical Director; the paper provided an introduction to major issues pertaining to the sustainability of EPI efforts and outlines significant issues involved in aspects of political, social, financial and technical sustainability.

The second paper, The Financial Sustainability of EPI, was prepared by a REACH economist. This paper explores factors which affect the financial sustainability of EPI. Also discussed are (1) the approaches taken by donor and technical agencies and their influence over the cost of EPI, and (2) strategies which take financial considerations into account, and their inclusion in broader EPI planning to ensure the sustainability of a strong and effective EPI at all levels.

These papers contributed to recommendations to be issued by WHO; which include:

- Development of criteria for the promotion and use of EPI,
- Creation of Interagency Coordinating Committees at all levels to advance financial sustainability;
- Allocation of adequate resources for supervision and evaluation of EPI, as well as the improved training of supervisors to facilitate management.

To sustain communications, WHO GAG members proposed the creation of national planning committees to draft long-term communications plans and assure a communications budget of 2 percent of total EPI costs. Additionally, countries should receive assistance from WHO when determining the cost of EPI and when budgeting for such programs. Other issues discussed at the meeting were the eradication of poliomyelitis, the introduction of new or improved

children vaccines, and the maintenance of Universal Childhood Immunization (UCI) beyond 1990.

Planning Retreat

REACH staff held a one day planning retreat on October 26, 1990, to develop a workplan for 1991, discuss the project's mandate and possible future activities.

Development of Technical Statements of Purpose

In the summer of 1991, REACH developed a series of statements of purpose that describe its priorities and major activities in eight technical areas: measles, neonatal tetanus, polio, hepatitis B, urban EPI, health financing and economics, monitoring and disease surveillance, and ARI. The Project prepared these statements for the information of A.I.D./Washington and USAID Missions, the World Health Organization, UNICEF, Centers for Disease Control, and other organizations and institutions working in the areas of international immunization and pneumonia control.

These primary technical areas illustrate the range of interventions that the REACH Project can undertake. In addition, REACH continues to be involved in an number of broad technical issues which cut across the eight technical components. These include missed opportunities to immunize, refugees, evaluation, operations research, training, communications, technology (including cold chain and logistics), and program sustainability. These documents present REACH's philosophy and approach to supporting national and international immunization and ARI goals.

Meeting with Philippines DOH Representative

The ARI Technical Advisor and Senior Technical Officer travelled to Boston on November 3, 1990, to meet with Dr. Maritel Costales of the Philippines Department of Health. The purpose of the meeting was to discuss the upcoming EPI review and technical visit to assist the national control of acute respiratory infections program in the Philippines.

Meeting with Representatives of SmithKline Biologicals (SKB)

On November 7, 1990, A.I.D. representatives and REACH staff attended a presentation by SmithKline regarding its hepatitis B (HB) vaccine and its views on the prospects for vaccine technology transfer. SKB is the human vaccine division of Smith Kline-RIT in Belgium, a subsidiary of SmithKline Beckman Corporation, headquartered in Philadelphia. Since the 1950s, SKB has been manufacturing viral vaccines; Enderix B, the trade name for SKB's HB vaccine, represents the company's first vaccine manufactured using recombinant DNA technology and is now licensed in the U.S.

Topics discussed at the meeting included the drop in price for HB vaccine in the past few years, the transfer of HB vaccine technology to developing-country producers, plasma-derived vaccine (PDV) versus recombinant DNA

vaccines, and packaging and formatting which minimizes impact on EPI cold chain and logistics.

SKB was also asked about the availability of high titer Edmonston-Zagreb (EZ) measles vaccine. It was anticipated that another three years would be needed, given anticipated regulatory obstacles.

Regional Meetings on Polio and NNT in Francophone Africa

A REACH Senior Technical Officer attended the WHO/AFRO sponsored EPI Managers' Meeting on Polio and Neonatal Tetanus in Togo, from November 11 - 17, 1990. The meeting was attended by EPI managers, epidemiologists and Rotary PolioPlus personnel from eight francophone countries in West Africa. The focus of the meeting was on the development of individual national plans for the eradication of polio. Presentations and discussions on the implementation of EPI in the 1990s and on its sustainability were also part of this week-long workshop.

Meeting with UNICEF/WCARO

En route back to the United States, on November 19, 1990, a REACH Senior Technical Officer visited Abidjan, Cote d'Ivoire to meet with UNICEF EPI representative Claude Letarte. The major topic discussed at this meeting was REACH's future collaboration on a financing and sustainability workshop to be held in late 1991.

Meeting with Senegal Ministry of Health

A REACH Senior Technical Officer travelled to Dakar, Senegal, November 20 - 24, 1990, to meet with representatives from the Ministry of Health, EPI Unit, USAID and UNICEF, to discuss continued collaboration in the area of surveillance. At the meeting an assessment of the country's CEIS and the changes needed to make the system more efficient was discussed. Informal meetings were also held with Rotary PolioPlus members to examine future activities.

Meeting with Amie Batson, WHO/EPI

REACH staff met with Amie Batson of WHO/EPI on December 19-20, 1990, to discuss collaboration between REACH and WHO on health financing issues that affect immunization programs. Ms. Batson presented WHO/EPI's current perspective and approaches for helping countries address issues of financial sustainability of EPI. The meeting also focussed specifically on ways to provide support and assistance to help strengthen the capacity of EPI managers and ministries of health to carry out cost estimation and analysis and broader budgeting functions for EPI and primary health care programs.

EPI Managers' Meeting for Central (Francophone) Africa

Two Senior Technical Officers attended the meeting in Burundi from January 12 - 16, 1991. Technical updates on several EPI topics, and the preparation of national plans of action for polio eradication were the outcomes of the

meeting. Program managers from over ten countries worked with members of REACH, Rotary PolioPlus, UNICEF, WHO and other agencies to draw realistic plans for their polio eradication initiatives.

Attendance at Blue Ribbon Panel for Preschool Assessment at State or Local Level

From January 24 - 25, 1991, in Atlanta, Georgia, a REACH Technical Officer participated in a review of the different methodologies that could be used to assess the current immunization status of the general preschool-aged population. Participants were asked to recommend a methodology that should be used initially at the state level to derive estimates of immunization coverage in each of the 50 U.S. states. The conference was hosted by the Center for Prevention Services, Division of Immunization, of the Centers for Disease Control (CDC).

Conference participants were provided with the details of REACH's experience in using WHO's 30-cluster survey methodology to assess immunization coverage and to describe the indicators of program quality and performance available from data collected in these surveys. Four different methods for assessing immunization coverage in the general preschool population were reviewed. Presenters then discussed the theoretical basis for each and gave results from coverage surveys conducted in the U.S., using three of the four methods. Participants agreed that any household-based survey methodology would be too time-consuming to implement in a random way; however, they could not decide whether a random dialing telephone survey or a variation of a survey method using two-year old birth certificates as the sampling frame would be preferable for use at the state level.

The panel also discussed methods that could be used to assess immunization coverage among preschool-aged children attending public health clinics in this country. Different schemes for randomly sampling clinic-based immunization records were presented, including an application of lot quality assurance sampling. A written recommendation for assessing immunization surveillance in the two populations was prepared by REACH.

Health Financing and Sustainability (HFS) Project Technical Advisory Group (TAG) Meeting

A REACH Technical Officer attended the HFS Project TAG on February 1, 1991, in Arlington, Virginia. During the TAG the HFS Project's first-year activities and future plans were reviewed. By gathering input and questions from attending organizations, HFS staff and A.I.D. managers were assisted in focusing their resources and activities with a greater impact on the HFS project's intervention countries.

REACH Collaborative meetings with WHO in ARI and EPI

On February 16, 1991, a REACH Senior Technical Officer travelled to Geneva to continue REACH collaboration with WHO headquarters in the areas of ARI and EPI. At the meetings, WHO priorities were reviewed and possible ways that REACH could assist with WHO initiatives were discussed - especially in areas

of communications, financing studies and evaluation of current programs. In the EPI field, discussions were held regarding the upcoming Technical Consultative Meeting to take place in Geneva in April, priority countries in the effort to eradicate polio, and the current status of the COSAS indicators proposed for inclusion in the program by REACH.

Technical Introductory Panel (TIP)

A REACH team travelled to UNICEF/New York to participate in the TIP meeting. The meeting was called to discuss the development of EPI and PHC technologies. Representatives from WHO, USAID, PATH and other organizations were presented with new or evolving technologies, such as non-reusable syringes (including SOLOSHOT, a syringe tested by REACH in Pakistan), time-temperature monitors for vaccines, and solar-powered refrigerators to be used by EPI.

Advisory Committee on Immunization Practices (ACIP) Meeting

On February 26 - 27, 1991, REACH sent a Senior Technical Officer to the ACIP meeting, sponsored by CDC, in Atlanta, Georgia. The focus of the meeting was on the immunization in the U.S. context against childhood diseases and hepatitis B. Particular attention was given to polio. The total number of confirmed polio cases for 1990 in the Americas was not known at the time of the meeting, but an investigation of eight cases in Mexico and Guatemala turned out to be of polio type 3 and exhibited genetic relatedness. It may reflect the fact that the vaccine produced, tested, and used in Mexico had the 3 poliovirus types in 10:1:3 ratio, which may not provide enough type 3 virus.

FVA Child Survival Proposal Reviews

In February 1991, REACH staff were asked to participate in a series of reviews of ARI and EPI proposals submitted by different private voluntary organizations to FVA/PVC/A.I.D. for child survival activities. The review was a mechanism to identify the most appropriate proposals for funding from FVA/PVC.

WHO/EPI Advisory Meetings

The World Health Organization's Expanded Program on Immunization (EPI) convened in Geneva the eighth semi-annual meeting of the Research and Development (R&D) Advisory Group (April 15-16) and the initial meeting of the EPI Technical Consultative Group (April 17-19). The REACH Acting Technical Director participated in these meetings.

The R&D group reviewed results of several research projects on measles vaccines and endorsed the effectiveness and safety of the Edmonston-Zagreb high-titre measles vaccine for use at six months of age and recommended its use when it becomes available commercially. The group concluded that polio campaigns should not be conducted during hot/rainy seasons, that doses given during diarrhea episodes should be repeated and that each contact with EPI should be used to give an additional dose of oral polio vaccine. Concerned by the recent identification of locally-produced tetanus toxoid vaccine lots of

low efficacy, the group recommended that WHO make a major effort to monitor and improve the quality of locally-produced vaccines. The Children's Vaccine Initiative was endorsed.

The Technical Consultative Group reviewed a draft EPI measles acceleration plan to reach the 1995 measles control goals and identified cross-cutting issues applicable to measles, polio and neonatal tetanus initiatives: accelerating and sustaining immunization coverage; shifting focus from coverage to integrated local disease surveillance in order to identify high risk areas for more effective targeted control; disaggregating coverage data; reaching disadvantaged urban areas; sustaining donor interest and support. The Technical Consultative Group's concentration on field program operations was useful to WHO as EPI is now developing its global plan of action for the 1990s.

Participation in CCCD/UNICOI Annual Meeting

From April 15 - 17, the REACH Project Director travelled to Georgia to participate in the Annual Combatting Communicable Childhood Diseases (CCCD) Meeting at Unicoi State Park outside of Atlanta. The meeting's purpose was to review past achievements, share lessons learned and plan for future activities for CCCD activities.

Presentation at Non-reusable Syringe Conference

A Technical Officer presented the REACH experience with the field trial of the SOLOSHOT syringe and field trial results at the Non-reusable Syringe Conference, held in New York City on April 18, 1991. The meeting brought together people interested in the advancement of non-reusable syringes as well as developers of syringes.

Meeting with UNICEF

On May 9, 1991, representatives from REACH and R&D/H travelled to UNICEF/New York to meet with program staff and to review areas of potential collaboration in the areas of immunization and the control of ARI.

Participation in "The Effectiveness and Efficiency of Child Survival Interventions" Seminar

The REACH Acting Technical Director presented a session on the cost effectiveness of immunizable diseases at a seminar in Baltimore hosted by The Johns Hopkins University, A.I.D., and The World Bank, held June 20 - 22, 1991. The session focused on tetanus, polio, measles and tuberculosis.

Meetings with USAID Health Officers

Throughout the third quarter, REACH staff met with health officers assigned to India, Egypt, Papua New Guinea, Kenya, Haiti, Mali, Madagascar, Nepal, Bolivia and Bangladesh. At the meetings REACH Project capabilities were outlined as well as past experience in the countries. Discussions were held on possible future collaboration.

PAHO Update Meeting

The quarterly update meeting with the Pan American Health Organization (PAHO) took place on June 24, 1991. An update of activities past and planned was provided at this meeting which was attended by PAHO, REACH and A.I.D./Washington staff.

NCIH Meeting

REACH staff members took part in two panel presentations at the annual National Council for International Health Meeting, held in June 1991. The following papers were presented:

- * Maternal Mortality due to Tetanus: Magnitude of the Problem and Potential Control Measures; and
- * The Impact of Health Financing Policy Reform on Women's Access to Primary and Preventive Health Services.