

- PAIN-INDEX-0.47
SSCSC



RESOURCES FOR CHILD HEALTH

**REFLECTIONS ON
REACH IMMUNIZATION
PROGRAM ASSISTANCE
TO THE
FORMER SOVIET UNION,
1992-1993**

**Robert Steinglass
Technical Director**

**The Resources for Child Health (REACH) Project
John Snow, Inc. (JSI)
1616 N. Fort Myer Drive, Suite 1100
Arlington, VA 22209**

A.I.D. Contract No.: DPE-5982-Z-00-9034-00

A

PREFACE

REACH (Resources for Child Health) is a global project of the U.S. Agency for International Development (USAID) to provide technical assistance to immunization programs and programs for the control of acute respiratory infections (ARI). REACH is implemented by John Snow, Inc. (JSI) and its subcontractors: PATH (for technology introduction), The Johns Hopkins University (for research), and The Manoff Group (for communications). The current REACH Project began in October 1989, and most activities ended in September 1993. However, selected activities, particularly in the New Independent States of the former Soviet Union, will continue through March 1994.

USAID is committed to improving child health in developing countries and has repeatedly identified immunization as the most cost-effective child survival intervention. Through REACH, USAID has worked with national immunization programs, helping them build systems to deliver immunizations, improve program management, increase cost-effectiveness and cost-recovery, adapt programs more to community needs, coordinate effectively with the private sector, and reach high-risk groups.

USAID also assists efforts to prevent the four to five million children's lives lost each year to respiratory infections, particularly pneumonia. Small-scale projects have shown the feasibility of reducing pneumonia deaths through the primary health care system. REACH has assisted ARI programs implement the standard case management approach developed by the World Health Organization.

REACH has worked intensively in the following countries:

- **Bolivia:** Long-term assistance in planning and staff training in ARI control, particularly for nongovernmental organizations.
- **Haiti:** Long-term assistance in EPI management, coordination, and cold chain/logistics; a pilot project for ARI control.
- **Kenya:** Long-term assistance in EPI communications, monitoring and surveillance, and measles control.
- **Kenya, Burkina Faso, and Niger:** Demonstration projects to control measles (with USAID's HealthCom and Quality Assurance Projects).
- **Georgia, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan:** Emergency immunization assistance in procurement (vaccines, supplies, and equipment), training, program development, and assistance in reviewing/revising standard immunization policies and practices.
- **Nepal:** Support to ARI and vitamin A interventions and for data collection and analysis in a child survival pilot project.
- **Nigeria:** Major project to strengthen EPI service delivery in urban Lagos.

- **Philippines:** Technical assistance to the EPI (introduction of hepatitis B vaccine, cold chain/logistics, program evaluation, strategic financial planning) and to the national ARI control program (training, monitoring, supervision, and communications).
- **Yemen:** Training of primary health care staff, EPI planning, and monitoring and surveillance.

REACH has also provided short-term technical assistance in such countries as **Bangladesh, Cambodia, Cameroon, the Dominican Republic, El Salvador, India, Madagascar, Morocco, Nicaragua, and Tanzania.**

As most REACH activities drew to a close in the summer of 1993, REACH staff undertook a series of papers on lessons learned during the past several years. These papers--intended primarily for our colleagues at USAID, WHO, UNICEF, NGOs, and other USAID collaborating agencies--are not meant to systematically summarize the totality of REACH experience. Rather, they analyze selected technical or managerial areas in which REACH has worked.

The papers included in this series are the following:

- Engaging in Policy Dialogue and Improvement
- Reflections on REACH Immunization Program Assistance to the Former Soviet Union, 1992-1993
- EPI/ARI Strategic Financial Planning: Lessons Learned from the Philippines
- Management Information, Monitoring and Supervision to Improve Quality of Immunization Programs
- Workshop on Control of Acute Respiratory Infections
- The Children of Jumla, Nepal: Reduction of Child Deaths and Pneumonia Cases through Pneumonia Case Management and Vitamin A Supplementation at the Community Level
- Community Health Workers and ARI: Implications and Complications
- Use of Standard Case Management among Bolivian Health Professionals Treating Acute Respiratory Infections

These papers are available together in one volume and individually. The last four papers listed (on ARI) are also available in a separate volume.

January 1994

I. INTRODUCTION

Over the past 18 months, a potential tragedy for children in the former Soviet Union (FSU) has been averted--although the emergency is not yet over. In public health and other fields, the collapse of the Soviet Union has brought a breakdown in the systems of centralized control, manufacture, distribution and financing of goods and services. Medical supplies in general, and vaccines for children in particular, have been early victims of a widespread failure in the supply and logistics systems.

This paper was written to review the immunization needs of the FSU and the A.I.D./REACH response. Because it is intended to be reflective, frank, and provocative, it may challenge conventional thinking on emergency assistance.

II. BACKGROUND

The Resources for Child Health (REACH) Project is funded by the Office of Health of the U.S. Agency for International Development (A.I.D.) and managed by John Snow, Inc. In March 1992, the U.S. Government (USG) requested that a REACH/Centers for Disease Control team assess the needs of immunization services in the Central Asian Republics of the FSU and advise A.I.D. on where and how that Agency--specifically, its Office of Foreign Disaster Assistance (OFDA), Office of Health, and NIS Task Force--should target its assistance. REACH alerted A.I.D. to the fact that a public health disaster could occur: that immunization coverage rates were falling due to vaccine shortages from traditional suppliers in Russia, and that children were threatened with outbreaks of vaccine-preventable infectious diseases which had long been controlled.

As a result of the REACH assessment visits, A.I.D. decided to launch an emergency immunization support program to avert disability and death from vaccine-preventable diseases in the newly independent countries of Kyrgyzstan, Turkmenistan, Tajikistan and Uzbekistan. The demographic and epidemiological profile of the 35 million people residing in these poorest of newly independent countries resembles that prevailing in much of the developing world -- with high fertility, high infant mortality, and a heavy burden of communicable disease.

A.I.D. assistance included the supply of vaccines to permit the primary immunization of more than one million children. While averting death and permanent disability of thousands of children, these vaccines also prevented the collapse of these countries' health services, which were on the verge of atrophy for want of commodities.

However, the A.I.D. response went considerably further. In addition to the procurement and shipment of vaccines, the assessments resulted in a USG donation of nearly one million dollars of cold chain equipment to ensure the safe storage and transport of heat-sensitive vaccines. While not originally acknowledged by some of the other donors, the need for such cold chain equipment was critical for protecting the donated vaccine and ensuring its effectiveness in protecting children. All vaccine, equipment and commodities were procured from UNICEF by OFDA with U.S. funds and delivered aboard USG Department of Defense aircraft.

A technical-exchange process was rapidly initiated not only to respond to the immediate emergency but also to strengthen and modernize the immunization service and to reduce future dependence on external support. While some variations, depending on need and opportunity, occurred among countries, a balanced package of technical assistance was provided, encompassing program planning, policy reform, vaccine procurement, training, cold chain repair and maintenance, and translation and adaptation of printed materials. A framework for the A.I.D./REACH emergency and technical assistance package is shown in Figure 1.

Figure 1

<u>Framework for REACH Emergency Immunization Program</u>		
<u>★1st Phase★</u> <i>March-June 1992</i>	<u>★2nd Phase★</u> <i>July-December 1992</i>	<u>★3rd Phase★</u> <i>Began January 1993</i>
Assess vaccine and cold chain needs	Training in cold chain management and vaccine logistics	Establish cold chain repair and maintenance system
Donate vaccine, cold chain and commodities	Train in vaccine forecasting and procurement	Assist in international vaccine tender and bid
Review problems amenable to policy reformulation	Conduct workshop on policies and practices and identify policy-making mechanism	Assist in preparing comprehensive vaccination plans

The provision of vaccine, cold chain equipment, and technical assistance provided a reprieve, so recipient countries could begin to develop a coordinated (and comprehensive) approach to policy, practice, supply and equipment issues. It also "bought some time" for the USG and other donors to organize medium- and longer-term assistance.

A chronology of milestones in A.I.D./REACH support to the assisted countries appears in Figure 2.

Figure 2

**A.I.D./REACH Emergency Immunization Activities
in the Central Asian Republics**

CHRONOLOGY

January 1992	Secretary of State James Baker announces U.S. commitment to help immunize more than 50,000 children in the republics of the former Soviet Union as part of an emergency medical program to alleviate critical shortages of essential medicines and medical supplies.
March 1992	A.I.D./REACH and Centers for Disease Control assess the immunization needs in four Central Asian Republics.
April 1992	A.I.D./REACH sends three logistics/cold chain experts to four Central Asian Republics to plan for the receipt and distribution of anticipated U.S.-donated vaccines and commodities.
May 1992	U.S. Department of Defense aircraft deliver emergency stocks of vaccine and cold chain equipment.
September 1992	A.I.D./REACH sends two experts for three months to assist with the planning for the receipt and distribution of a second shipment of vaccines and cold-chain equipment and to train local officials in the use of donated materials.
October 1992	U.S. aircraft deliver a second shipment of vaccine, supplies, and equipment to all republics. May and October shipments enable immunization of 1,000,000 children.
November 1992	A.I.D./REACH sends expert to train officials in the international vaccine-procurement process, including tender and bid.
December 1992	A.I.D./REACH organizes workshops in Kyrgyzstan and Uzbekistan on international immunization policies and practices and on identifying a potential process for setting their own policies in the future.
March 1993	A.I.D./REACH sends two experts to design and apply standardized protocol for rapid assessment of current and future vaccine needs in four Central Asian Republics, as well as in Moldova and Georgia. A.I.D./REACH staff serves as technical advisor to U.S. delegation at Meeting on Vaccine Supply in the NIS, organized by WHO/EURO.
May 1993	A.I.D./REACH sends two experts to Moldova and Georgia to assess needs for cold chain equipment and update need for vaccines.
June 1993	A.I.D./REACH organizes workshops in Tajikistan and Turkmenistan on international immunization policies and practices and on identifying a potential process for setting their own policies in the future.
July 1993	The U.S. Government and the Government of Japan sign an agreement for immunization support to Georgia, Moldova, Kyrgyzstan, and Turkmenistan; REACH will coordinate and provide technical assistance through March 1994.

III. CONCEPTUAL APPROACH

The conceptual underpinnings for REACH work in the former Soviet Union owes much to the lessons learned repeatedly by other groups involved in the field of disaster epidemiology. Some of the principles in this field apply well to the current public health crisis facing the immunization services in the FSU.

Disasters can be anticipated, prepared for, and even averted.

During the past twenty years, disaster epidemiology has evolved to improve both preparedness for and response to disasters. The approach has been to design appropriate technical responses which, while perhaps dependent on the good will of volunteers, are not so amateurish as in the past. Lessons from past disasters should not have to be relearned each time a new disaster erupts.

In the absence of vaccine, levels of immunization coverage fall and outbreaks of disease naturally occur. While this is obvious to infectious disease epidemiologists, other persons may see a hurricane approaching and argue against evacuating the population in its path in the hope that it will not touch shore. Explosive epidemics of measles and other communicable diseases can be expected unless those in control take early action. In the absence of measles vaccination, all children will get measles, and in developed countries at least 3 of each 1000 will die from it. In the FSU, statistics such as this translate into 15,000 unnecessary deaths for each annual cohort of unimmunized newborns. Before the A.I.D. assessment, an outbreak of diphtheria occurred, the magnitude of which the world has not witnessed since before the Second World War.

The aim of donated vaccines should be to restore the status quo ante.

Times of crisis and system breakdown may not be appropriate for introducing new vaccines. The overriding need is to return to basics by protecting the youngest children against measles, poliomyelitis, diphtheria, whooping cough (pertussis), tetanus and tuberculosis with the standard core of familiar vaccines: respectively, measles, oral polio vaccine, DPT and BCG. Until recently, the Soviet Union was able to achieve higher levels of early immunization coverage than most countries of the world, including the United States. With the proper tools (sufficient vaccine and related supplies and equipment), its constituent countries can regain high coverage levels through the existing delivery systems. Integrating unfamiliar vaccines into the immunization schedule would be distracting and require considerable training and re-orientation. Important vaccines such as hepatitis B, Hemophilus influenzae type B (Hib), and MMR (measles-mumps-rubella) can be introduced once the dust settles--and once funding for a continuous affordable supply can be secured.

Donations should respond to objectively identified needs and not be pushed by donor interests.

Officials in the FSU know what they need: familiar vaccines and effective cold chain equipment to preserve them. In times of vaccine shortages, price rises, serious banking difficulties, frozen foreign reserves, and uncertainties about future supplies, Ministries of Health (MOHs) might be tempted by any offer. However, inappropriate international responses, including sales of higher-priced products from the donor country, are not appropriate in emergency situations, undermine attempts to

safeguard the public good, and ultimately lead to resentment on the part of the recipient MOHs.

An example of an inappropriate donor-driven agenda would be a one-time donation of costly MMR (measles-mumps-rubella) vaccine, rather than a much larger supply of monovalent measles vaccine for the same amount of money. Not only is rubella (German measles) vaccine largely unknown in the FSU and a rubella-control strategy non-existent, but use of such a multivalent viral vaccine preparation is actually contraindicated by Soviet policy and practice, where monovalent preparations of measles and mumps vaccines are not administered with less than a two months' interval. While policy reform is needed to allow simultaneous administration of live viral vaccines, MMR vaccine would be challenged by pediatricians, cause confusion, and risk going unused while taking up valuable space in refrigerators. Local officials have been articulate in requesting what they need during the current emergency. Good listeners will provide technically relevant items whose need is already well-accepted.

Local officials should participate in the determination of needs in the field to ensure that the quantity and type of commodities are both technically appropriate and desired by and acceptable to the recipients. To do otherwise is to risk alienating or, worse, offending the recipients. REACH was told point-blank by officials in Osh Oblast, Kyrgyzstan to be sure that whatever the U.S. Government decided to donate would be worth the oblast's effort to mobilize scarce vehicles and fuel to collect from the capital city hundreds of miles away!

Immediate needs should be met without undermining local capacity to cope.

As a matter of principle, vaccines should be purchased locally whenever possible, instead of being donated. Over the long haul, vaccine manufacturers in the FSU need critical inputs of financial and technical assistance to increase production, improve quality, and regain vaccine self-sufficiency. These vaccines have been effective in the past in controlling vaccine-preventable diseases in the FSU. For the time being, locally produced vaccines can still be purchased in rubles for a fraction of the cost of vaccines from any other source. Nevertheless, MOH budgets cannot accommodate price increases of up to fifty-fold for some vaccines. In most cases, mechanisms have not yet been put in place domestically to ensure the continued arrival of vaccines from domestic or international sources. Donations of emergency vaccines are needed to provide a safety net until such time as vaccines can be procured locally in adequate quantities and with assured quality.

Identify and target the most vulnerable population.

The health authorities within any administrative unit must be provided with enough vaccine, syringes, and other immunization supplies to meet the needs of all infants resident within their jurisdiction. To cope with vaccine shortages, MOH officials have already begun appropriately to target the epidemiologically most important age group -- infants and young children -- for primary vaccinations. Vaccine must be available in sufficient quantity to permit all infants to be vaccinated throughout the entire administrative area.

Appropriate technical assistance can strengthen the capacity of the system to respond.

If improved but unfamiliar building materials are provided for earthquake reconstruction, some

guidance in their use is required. Similarly, the cold chain system in the FSU is built on shaky ground with chronic weaknesses. The tools and, in some cases, the knowledge needed to mend it are absent. Experts in vaccine logistics and cold chain are needed for effective utilization of both domestic and donated vaccines and optimal use of existing resources. This type of technical assistance aids longer-term recovery of the immunization-delivery system, while at the same time satisfying donors that their investment in emergency vaccines is protected.

IV. TECHNICAL LESSONS

REACH learned that it is possible to craft a rapid, timely and targeted technical response, based on field-assessed needs, which both meets the emergency humanitarian requirements as well as enhances the long-term capabilities of health services to deliver immunization. Technical assistance was planned so that donated commodities were appropriate to current needs and so that the ability of the system to cope in the future was strengthened. *The involvement of a centrally funded health project at the outset when determining the appropriate response to an emerging disaster represents a model worthy of replication.*

The Marriage of Technical and Emergency Expertise

Either the number of disasters is truly increasing or advances in telecommunications have made emergencies more accessible to viewers in donor countries and, therefore, harder to ignore. In response, the U.S. Office of Foreign Disaster is accustomed to moving large quantities of commodities extremely effectively and rapidly. However, OFDA does not appear to have the staff, mandate or time to attend to the technical nuances and longer-term implications of the commodities supplied. By way of illustration, the "bible" for procurement of tested and approved cold chain equipment, the Product Information Sheets issued by UNICEF and WHO for immunization-related equipment, was unfamiliar to the experienced officers at OFDA.

The REACH approach to the emerging disaster in the FSU included a level of technical assistance unprecedented in A.I.D.'s standard emergency humanitarian response. A.I.D. found it advantageous to involve the Office of Health and its REACH project to ensure that the programmatic, technical and operational issues surrounding immunization would receive their due attention.

The combination of the speed and logistical savvy of OFDA with the technical skill of a centrally funded Office of Health project led to a rapid and relevant response. Commodities alone were not sufficient; technical assistance was also required. Involvement in emergency responses was unusual for the Office of Health and REACH. Emergency responses typically must move a good deal faster than they are accustomed to, yet they were able to facilitate both emergency assistance and longer-term system strengthening. They kept their vision fixed and pursued it doggedly, in the face of the many distractions that arose in such a highly visible effort.

Equipment and commodities were selected so that something useful would be left behind (e.g., cold chain equipment and steam sterilizers) and on-the-ground technical assistance was required to make appropriate use of donated items.

With an Eye on the Future

REACH learned that even in emergency situations it is possible to advance development and promote long-term sustainability. This was done through (1) the extensive training that accompanied the delivery of new cold chain equipment and supplies; (2) a review of the immunization policies and practices and an identification of regular mechanisms to set and review immunization policies; and (3) assistance with learning the unfamiliar procedures of the tender and bid process to purchase vaccines on the international market. In addition, no campaign-style immunization was advocated, despite some pressure to do something highly visible. The routine health delivery systems were still in place and adequate to reach the population.

REACH was able to assist the MOHs to plan for the use of the donated commodities. Cold chain training materials were developed, and training was provided to bring some practices (e.g., vaccine handling) up to international standards. The donated cold chain will last long after the emergency is over and help to ensure that children are protected with potent vaccines. The cold chain will result in less vaccine wastage, which will translate into less dependence on external donations. Spare parts for the cold chain and repair tools were also provided, as well as training in cold chain repair and maintenance.

REACH learned that timely provision of commodities increased its credibility greatly and permitted the project to expand its technical role into matters of policy. Workshops on immunization policies, practices and policy-setting resulted in the countries streamlining their immunization schedules such that immunization could begin and end earlier in life with fewer contacts and fewer doses of vaccine. This will reduce inefficiencies and lead to reduced requirements for vaccine. The workshops stimulated the newly independent countries, passive recipients in the past of policies dictated from distant Russia, to take responsibility for identifying their own problems and formulating their own policies.

Anticipatory Planning

Despite an overall vision of where REACH hoped to be heading, funding uncertainties necessitated incremental steps. REACH could not be sure whether funds for more flights would be forthcoming or how much A.I.D. money there was likely to be for commodities. Therefore, lists of needed supplies and equipment for procurement were always prioritized and frequently updated in case no additional funding was forthcoming.

Uncertainties in early 1992 as to whether or not there would be a second round of flights in October 1992 had some undesirable technical consequences. For example, REACH needed to supply the full complement of bulky disposable syringes/needles in April 1992 to take advantage of available free transport, even though more than half the vaccine was not scheduled to arrive until four months later.

In the beginning before careful cold chain assessments were completed, the full range of needs could not be known. Providing A.I.D. with immediate documentation of need proved to be a dilemma for REACH, which constantly had to balance the need of A.I.D. to respond rapidly and visibly with the need to respond in a technically responsible manner.

On the one hand, REACH was concerned that it might frighten donors with long lists of cold-chain requirements. On the other hand, because REACH's early lists of minimum cold chain needs were procured by the USG before comprehensive assessments could be undertaken, there was a danger that non-technical people would perceive that the cold chain had been "taken care of" and that donors could move on to other needs.

Although A.I.D. urgently demanded procurement lists and associated costs with assurances that these calculations could be revised later, in reality REACH was often held to hastily prepared lists. Therefore, REACH became more skilled at anticipating what documentation might be requested in order to be ready to comply.

V. ORGANIZATIONAL LESSONS

Well-seasoned technical experts, who were known to REACH to be highly competent and possess sound judgment, were selected for the field work. They were backstopped with abundant technical and administrative support from Washington. The highest compliment to REACH field staff was paid by the Deputy Minister of Health in Kyrgyzstan who told a senior visiting A.I.D. official from Washington that "you think that Carl Hasselblad [REACH in-country technical officer] works for you. In fact, he works for us!"

A network of competent local fixers was needed on the ground.

It cost very little to engage and retain these local persons, but in the absence of full-time REACH staff they played a critical role as conduits between REACH, the MOHs and the U.S. embassies. Their presence also allowed REACH to play a helper role to advance other development efforts (e.g., the REACH network was instrumental in generating a cabled request from the U.S. embassy in Kyrgyzstan for technical assistance from the Centers for Disease Control for epidemiological surveillance).

Because of communications difficulties between Washington and the field and the need for logistical flexibility in the field, it was essential to delegate some decision-making authority to field staff, supporting them with strong backstopping from Washington.

Given rudimentary channels of communications, difficulties in finding working faxes and photocopying machines, canceled flights, unavailable aviation fuel, and the inconvenient time difference between Washington and the FSU countries, maintaining regular communication both between the countries and to/from the U.S. required an unusual degree of perseverance and dedication.

The difficulties can be exemplified by an anecdote. Beyond the technical challenge of preparing for a series of policy workshops, simply finding paper, photocopy equipment and necessary supplies required creative planning well in advance. A REACH Technical Officer stationed in Tajikistan stockpiled scarce paper to assure its availability for documents being translated by REACH into Russian for the workshops in Uzbekistan and Kyrgyzstan. After his evacuation with all other Americans due to the eruption of civil war, document preparation continued in Tajikistan. However,

when the local REACH interpreter arrived at the border of Uzbekistan with 200 kilos of documents, he was not permitted to cross, requiring the REACH Technical Officer to travel many hours from Tashkent (Uzbekistan) to the border to retrieve the documents.

Insistence on adhering to strict organizational protocol would have inhibited the rapid response.

Flexibility and innovation were required. Rather than rely solely on senior management to convey messages laterally between donors and then through channels to technical levels, REACH established direct links with technical counterparts in other donor agencies to improve coordination, share findings and reduce the possibility of redundancies. Ironically, the bureaucracy in Washington has become more involved with the project, making it increasingly more difficult to achieve speedy results as compared to the early days when embassies had only just been established.

Operating according to standard procedures established by A.I.D. in Washington, REACH nevertheless had to take risks to be effective.

While waiting for eventual approvals, REACH frequently had consultants standing by ready to travel-knowing that once the bottlenecks had been removed, funders in Washington would be impatient. On one occasion, REACH had one consultant holed up in Copenhagen and one in Vienna for several days while awaiting marching orders. Business was not "as usual." Planning needed to be done with far less certainty than normal.

VI. DISSEMINATION

Because the FSU effort had high political visibility in Washington, many persons needed to know what was happening. REACH pursued dissemination aggressively to inform A.I.D. decision-makers of the latest field findings, establish credibility that the project was on task, share the findings, shape the agenda, and get others to adopt REACH conclusions and recommendations (for example, that donor resources should be directed at strengthening the cold chain). REACH reports were shared widely and rapidly. A publications list covering some twenty consultancies conducted from March 1992 to July 1993 appears in Annex 1.

Highly visible emergencies require highly visible public relations.

A REACH video documented the arrival of the emergency commodities and was worth its weight in gold in generating political support within Washington. These images were evidence of the practical accomplishments and spoke louder than all the words, although the footage risked creating the impression that the problem of shortages had been solved. Similarly, props were used to make important points, such as an uninsulated wooden box typical of those in which all vaccine in the FSU was transported without ice.

Messages were kept simple, reduced almost to the level of "sound bites." This required knowing when to say what to whom. Thus, "to protect children, first the vaccine itself needed to be protected." "To protect the investment in donated vaccine, cold chain equipment was needed." It

was effective to express the expected impact of the donated vaccine to a simple estimate of the number of child deaths which would be averted, without tedious caveats and explanations of the many assumptions needed for valid interpretation.

Keeping informed about the political climate was important. Reading the newspapers and news magazines and sharing the findings with A.I.D. officials became a fetish. Also staying current with professional journals and other donors' reports on developments in the FSU was important. In one case, REACH responded in a letter to The Lancet to correct a published erroneous impression by another assessment team on the purported good condition of the cold chain in the FSU.

Active dissemination also advanced the long-term goal of development. When REACH translated over 300 pages of key English immunization documents into Russian for use in a series of immunization policy workshops, it took the next step and sent the set to other development and donor agencies and MOHs for their use, as well. Similarly, REACH disseminated the policy recommendations of the international team from the workshop in Uzbekistan in both Russian and English to other countries and agencies to stimulate policy reform elsewhere.

VII. POLITICAL LESSONS

It was necessary to be responsive to distracting requests (e.g., assisting the MOH in Kyrgyzstan to develop a list of emergency medical needs in the wake of an earthquake), as this generated support and appreciation in Washington and Kyrgyzstan for REACH's primary mission.

REACH needed to anticipate political needs in Washington.

For example, REACH predicted that it would have to be ready at some point with a cost comparison of vaccine procured by the USG through UNICEF (for one twentieth the cost) versus direct from American manufacturers. Similarly, REACH was ready with a conceptual piece by REACH consultant Gordon Larsen describing the methodology for forecasting 1993 vaccine needs in an attempt to develop a standardized protocol. The resulting protocol for rapidly assessing the vaccine needs specified the various assumptions and method of treating, for example, the backlog of unimmunized children from the previous year, vaccine reserve factors, wastage factors for each vaccine, actual stock balances, proportion of stock available for primary vaccine series, actual proportion of previous year's vaccine needs met by Russian manufacturers, donor consignments of vaccine, etc. Applying such a standardized instrument and using the actual field experience of the MOHs, rather than relying on theoretical desk-generated assumptions, increased REACH credibility among the recipient countries and other donors who were also trying to determine vaccine needs.

Dedicated staff in many A.I.D. and Department of State offices and U.S. embassies worked in tandem with REACH. REACH encouraged them to feel ownership and share the credit for a successful intervention. The embassies were so pleased by the concrete and practical support and by expressions of MOH gratitude that they were keen to officially cable Washington with the latest findings of REACH staff and consultants, thus ensuring that Washington would need to articulate a response or a position. In such a way, the embassies ensured that the continuing needs would attract attention in Washington.

To be effective, it was necessary to appreciate the various interests and agenda (hidden and overt) of all the players, especially of potential funding sources.

A single, short-lived, centrally funded project of one bilateral donor cannot do it all alone: the needs are too great. In expectation of possible short-lived political commitment and for the sake of continuity to meet the wider technical and developmental needs in addition to the need for commodities, REACH consciously sought from the start to draw in other donors who have a longer planning horizon. To that end, REACH put aside institutional vanity and considered that its field staff and findings belonged to the wider donor community. Consequently, WHO/EURO, WHO/Geneva, CDC and UNICEF have all participated in REACH-organized activities.

There are risks involved in such a highly visible effort. The disadvantage of operating inside of a fishbowl is that there is a good deal of second-guessing. The limelight shows all the warts. When something does go wrong--such as the non-arrival of icepacks along with the provided cold boxes during the first shipment in April 1992, and the serious mis-direction of cold chain equipment despatched from the U.S. military base in Germany--it is very visible and public.

Finally, the MOHs require and expect decisiveness on the part of donors. There is a serious risk that repeated donor assessments of needs without provision of commodities will be perceived by the MOHs as a substitute for action.

VIII. A NOTE OF CAUTION

A.I.D.'s and REACH's involvement in the FSU carries an opportunity cost. Any agency contemplating a role in the FSU should recognize this up front. The immunization program has been an extremely intense, time-consuming endeavor. The demands on staff and consultant time have been great. For example, the pool of talented cold chain consultants is not large; if they are put to work in the FSU, they simply are unavailable for important assignments in Kenya, Nigeria, the Philippines, etc.

IX. NEXT STEPS

In 1992, the emergency immunization support program assisted Kyrgyzstan, Turkmenistan, Tajikistan, and Uzbekistan to maintain immunization services and began the process of change. In 1993, further REACH assistance will be provided by A.I.D. in these countries to consolidate and expand upon the gains made in 1992 and also in Moldova and Georgia. A summary of the need and rationale for technical assistance appears in Annex 2. In summary, this support is intended to:

- ensure that the countries have sufficient quantities of the standard vaccines used in the Expanded Program on Immunization (EPI) in 1993 and beyond for primary immunization of all their children;
- develop a "vaccine safety net," which provides timely warning to the international community of impending shortages;

- assist in the development of a cold chain between vaccine producers in the FSU and the countries;
- further strengthen cold chain practices, repair and maintenance within each country and provision of additional commodity support; and
- provide technical assistance to address such issues as international vaccine procurement, immunization policy formulation, program planning, and program monitoring.

Inspired by the discussions at the Meeting on Vaccine Supply in the Newly Independent States (NIS), convened in Copenhagen by WHO/EURO on 18-20 March 1993, Japan and the USA have agreed to marry their comparative advantages, build upon their prior assistance to the NIS, and consolidate and expand upon the gains already achieved by providing further commodity support and technical assistance to selected countries until early 1994. The joint response of Japan and the USA, together with the dynamic involvement of the MOHs in the selected countries, will form the nucleus of a model multi-year, multi-party plan for wider donor collaboration in the selected countries.

The needs are large. The coordinated assistance of all donors will be needed to assure that the total needs are met. Other donors will be encouraged to assist in meeting other important needs, e.g., to improve disease surveillance and to develop social mobilization approaches.

ANNEX 1

Bibliography of REACH Documents

A. ASSESSMENT'

- A1. Bassett, David. 1992. Emergency Childhood Immunization Support Program: Tajikistan, 16 - 19 March 1992. Arlington, VA: John Snow, REACH.
- A2. Bassett, David. 1992. Emergency Childhood Immunization Support Program: Turkmenistan, 20 - 25 March 1992. Arlington, VA: John Snow, REACH.
- A3. Steinglass, Robert. 1992. Emergency Childhood Immunization Support Program: Kyrgyzstan, 15 - 20 March 1992. Arlington, VA: John Snow, REACH.
- A4. Steinglass, Robert. 1992. Emergency Childhood Immunization Support Program: Uzbekistan, 23 - 26 March 1992. Arlington, VA: John Snow, REACH.
- A5. Steinglass, Robert. 1992. Emergency Immunization Support Initiative: Central Asian Republics of the NIS, 7 March - 5 April 1992 [Summary Report]. Arlington, VA: John Snow, REACH.

B. FIRST PHASE (APRIL - JUNE 1992) ASSISTANCE

- B1. Bass, Allan. 1992. Emergency Childhood Immunization Support Program: Tajikistan, 19 May 1992. Arlington, VA: John Snow, REACH.
- B2. Larsen, Gordon. 1992. Emergency Childhood Immunization Support Program: Turkmenistan, 22 April - 20 May 1992. Arlington, VA: John Snow, REACH.
- B3. Hasselblad, Carl. 1992. Emergency Childhood Immunization Support Program: Kyrgyzstan, 26 April - 5 June 1992. Arlington, VA: John Snow, REACH.
- B4. Bass, Allan. 1992. Emergency Childhood Immunization Support Program: Uzbekistan, 19 May 1992. Arlington, VA: John Snow, REACH.

C. ASSESSMENT AND FIRST PHASE OVERVIEW

- C1. Hasselblad, Carl. 1992. Emergency Childhood Immunization Support Program: Tajikistan, Turkmenistan, Kyrgyzstan and Uzbekistan [Summary Report], March - June 1992. Arlington, VA: John Snow, REACH.

D. SECOND PHASE (SEPTEMBER - DECEMBER 1992) ASSISTANCE

D1. Unavailable.

D2. Larsen, Gordon. 1993. Emergency Immunization Support Program -- Technical Assistance in Needs Assessment and Cold Chain Planning: Turkmenistan, 26 October - 4 December 1992. Arlington, VA: John Snow, REACH.

D3. Hasselblad, Carl. 1993. Emergency Immunization Support Program -- Technical Assistance in Cold Chain and Program Planning: Kyrgyzstan, 3 October - 19 November 1992. Arlington, VA: John Snow, REACH.

D4. Pott, John. 1993. Emergency Immunization Support Program -- Technical Assistance in Cold Chain Assessment and Planning: Uzbekistan, 4 September - 18 December 1992. Arlington, VA: John Snow, REACH.

D5. Woodle, Dian. 1993. Trip Report on EPI Vaccine Acquisition in Uzbekistan, Kyrgyzstan and Turkmenistan: 25 October - 30 November 1992. Arlington, VA: John Snow, REACH.

D6. Woodle, Dian. 1993. Summary Report on EPI Vaccine Acquisition in Uzbekistan, Kyrgyzstan and Turkmenistan: 25 October - 30 November 1992. Arlington, VA: John Snow, REACH.

D7. Steinglass, Robert. 1993. Meetings on Immunization Policies, Practices and Policy-Setting in the Republics of Uzbekistan and Kyrgyzstan: December 1992. Arlington, VA: John Snow, REACH.

D8. Hasselblad, Carl. 1993. Field Coordination of Second Phase Emergency Immunization Support Program Activities in Four Central Asian Republics: 2 September - 28 November 1992. Arlington, VA: John Snow, REACH.

E. 1992 OVERVIEW

E1. Steinglass, Robert and Hasselblad, Carl. 1993. Review of USAID/REACH Emergency Childhood Immunization Support Activities in 1992 in Four Central Asian Republics and Anticipated Requirements for 1993 [Summary Report]. Arlington, VA: John Snow, REACH.

F. 1993 ASSESSMENT

- F1. Larsen, Gordon. 1993. USAID Emergency Immunization Support Program, Newly Independent States of the Former Soviet Union: Protocol for Standardized Evaluations of Vaccine and Cold Chain Supply, 1 March 1993, Arlington, VA: John Snow, REACH.
- F2. Larsen, Gordon and Spanner, Soren. 1993. Emergency Immunization Support Program -- Assessments of 1993 Vaccine Needs in Six Newly Independent States: Turkmenistan, Uzbekistan, Kyrgyzstan, Tajikistan, Moldova and Georgia, 22 February - 20 March 1993, Arlington, VA: John Snow, REACH.

G. 1993 ASSISTANCE

- G1. Steinglass, Robert. 1993. Report of a Technical Visit To: UNICEF and WHO, Copenhagen, Tajikistan, Turkmenistan, Kazakhstan, Uzbekistan, Georgia, and Moldova, 10 June - 22 July 1993, Arlington, VA: John Snow, REACH.
- G2. Steinglass, Robert. 1993. Seminars on Child Immunization Policies, Practices and Policy-Setting in Turkmenistan and Tajikistan, June - July 1993, Arlington, VA: John Snow, REACH.
- G3. Larsen, Gordon. 1993. USA-Japan Joint Immunization Initiative: An Update of Program Needs in 5 Newly Independent States: Turkmenistan, Kyrgyzstan, Tajikistan, Kazakhstan and Georgia, 3 May - 20 July 1993, Arlington, VA: John Snow, REACH.
- G4. Spanner, Soren. 1993. Emergency Immunization Support Program: Moldova, 21 May - 19 June 1993, Arlington, VA: John Snow, REACH.

ANNEX 2

The Need and Rationale for Continued Technical Assistance

1. VACCINE AND VACCINE SAFETY NET

Many of the countries of the former Soviet Union will require donation of vaccine in 1993 and beyond. If they are to complete primary immunization of their children, these countries need a vaccine safety net. The countries which have received REACH assistance are suffering from similar breakdowns in systems of manufacture, supply and finance of vaccine. Therefore, certain shared problems should be dealt with on a region-wide basis. It may be useful for donors to capitalize an emergency reserve of vaccines, syringes and essential cold chain equipment (for higher cold chain levels), which can be accessed in case of the failure of manufacturers to honor their supply contracts.

Underpinning a regional vaccine safety net is the need for an effective information system which (1) continually audits the ability of domestic manufacturers to meet the requirements and the contracted amounts and (2) monitors and forecasts vaccine requirements based on current inventory and lead time to receive supplies. The information system would also need to track donated supplies in the pipeline.

2. COLD CHAIN

Region-wide

The initial link in the cold chain -- from manufacturer to first administrative level-- continues to be the weakest yet the easiest to rectify. Transport of vaccine in uninsulated containers without ice from the vaccine manufacturers in the FSU to the republican and oblast levels undermines any efforts taken within the individual countries to improve their cold chain. The need for technical assistance is becoming apparent to the vaccine manufacturers in the FSU as a necessary step to retain consumer confidence. Activities which are needed to address cold chain problems at the higher levels include:

- Investment of a modest sum to produce one-way transport boxes with polystyrene sheets fitted inside. Prototypes have been developed by firms in Moscow but finance is required.
- Assistance to vaccine manufacturers in implementing the use of insulated transport boxes.
- Assistance to vaccine producers and the Tarasevich Institute regarding adoption of the international vaccine shipping guidelines, use of cold chain monitors, advance notification of vaccine shipment, and improved packing standards.

National

REACH cold chain assessments in six countries have recently been completed as a basis for national planning, for rational cold chain procurement and as part of developing a cold chain repair and maintenance system.

In 1992, donations of cold chain equipment from the USA launched the process of establishing an international-standard cold chain in four countries. However, additional commodity and technical assistance is required to secure the system at the national level and to extend the cold chain to appropriate service points in the same four countries, as well as in other countries of the FSU.

Cold chain maintenance and repair systems are presently not fully operational in any of the countries. There is an urgent need to strengthen repair capabilities through training and provision of tools and spare parts.

A cold chain consists of more than just equipment. Proper procedures and trained staff are essential elements. USAID/REACH has assisted the MOH in Kyrgyzstan to design and test a cold chain manual in Russian aimed at the level of the health facilities. Technical assistance is required to refine the manual, introduce it into the other REACH-assisted countries, and extend it down to the health-facility level. In addition, appropriate cold chain training materials (based on WHO documents) for supervisory staff need to be drafted, tested and introduced.

3. VACCINE PROCUREMENT

Technical assistance is needed to continue the work begun in Kyrgyzstan, Uzbekistan and Turkmenistan -- that is, to walk a core group of procurement staff through an actual international vaccine tender and bid process (as well as through the contractual and financing aspects). The development of alternative supply sources and of MOH staff trained in procurement will increase the competition and put pressure on Russian vaccine manufacturers to improve their vaccine quality and cold chain practices. Hard currency should be donated to Kyrgyzstan, which is further ahead in the process of exploring new procurement approaches, in order to finance an international tender and bid exercise.

4. POLICY FORMULATION

Immunization policy formulation meetings in Kyrgyzstan, Uzbekistan, Turkmenistan and Tajikistan have been completed. Health authorities realize that they have been isolated from the mainstream of scientific thought on immunization and disease control and are genuinely eager to learn from international experience. They also lack experience in policy formulation. Technical assistance will be provided to Georgia and Moldova to conduct meetings and seminars with the countries' leading pediatricians and epidemiologists to review existing domestic immunization policies, practices, disease-control strategies, and policy-setting options; and to expose MOH staff to the latest epidemiological and immunological thinking.

5. MANAGEMENT

Technical assistance is needed by the MOHs to create a national immunization plan which includes the following components: objectives, coverage and disease-reduction targets, guidelines (on immunization schedule, contraindications, etc.), strategies (e.g., use of polyclinics, defaulter tracing, outreach, special strategies for polio eradication, cold chain system, etc.), responsibilities of different sectors and disciplines, time frames for achieving targets and completing activities, evaluation schemes, and resource and vaccine requirements. This plan will facilitate organization of services in the changing circumstances of these independent countries and will also help attract and coordinate support from donors.

Kyrgyzstan has requested early assistance in completing its immunization plan, and the other REACH-assisted countries will soon be in a position to require this same assistance.

6. RESEARCH

A parallel study comparing the potency of frozen and unfrozen vials of measles vaccine would be useful, as there is considerable resistance to the WHO standards which stress that, at higher levels of the cold chain, measles vaccine should be stored in freezers when use is not imminent.

Another parallel study on the effect of multiple freezing and thawing cycles on the potency of polio vaccine would be useful, as there is again reluctance among some staff to freeze polio vials. These studies could be commissioned with the national control authority in Russia or with an independent laboratory.

7. HEALTH EDUCATION

The countries have achieved high immunization coverage and the population is aware of the importance of immunization. However, the changing economic and political circumstances may make it more difficult to sustain public interest and confidence in immunization. In order to sustain achievements, technical assistance is needed to help the MOHs formulate plans for individual and mass health education directed at health-care providers and to the public, which would include an explanation of any changes in the immunization schedule. Teaching on immunization could be incorporated into school curricula, if not already included.

8. TRAINING

The MOHs will need to invest in basic training in immunization as part of the core curriculum in medical and nursing schools. Additionally, in-service training for staff of polyclinics and other sites should be provided for current staff. Technical assistance would be helpful to introduce and adapt some of the training courses which are expected to become available in Russian during 1993, including the standard WHO Mid-level Managers course.

Kyrgyzstan has led the pack in identifying some of the aspects of an immunization program which require changing. Two-way exchanges of staff between countries could be supported as a means of influencing immunization practice and policies.

Appropriate English journals dealing with public health and epidemiology could be donated to these countries. Existing documents in Russian should be printed and distributed more widely.

An annual immunization conference for regional groupings of countries, such as the Central Asian Republics, could be conducted. Regional newsletters concentrating on immunization, epidemiological surveillance, and disease control could be considered.

9. MONITORING

The MOHs have a well-defined registration system for recording a child's immunizations, tracking drop-outs, and determining vaccine requirements. The system is also used to monitor coverage. The MOH is unfamiliar with monitoring systems used in most other countries. The appropriateness of introducing simpler methods of monitoring and validating immunization coverage, including both routine and survey methods and use of the Computerized EPI Information System (CEIS), should be considered.

10. SURVEILLANCE

Disease surveillance--the collection, analysis, use and feedback of epidemiological data-- is critical to continually guide immunization efforts. The MOH already collects impressive quantities of data and needs to develop the other elements of an effective surveillance system, especially feedback to all levels of the health system and to all sectors of the health services, including pediatricians. Surveillance for adverse reactions would be useful to continually monitor the safety of vaccines and to substantiate the guidelines on contraindications.