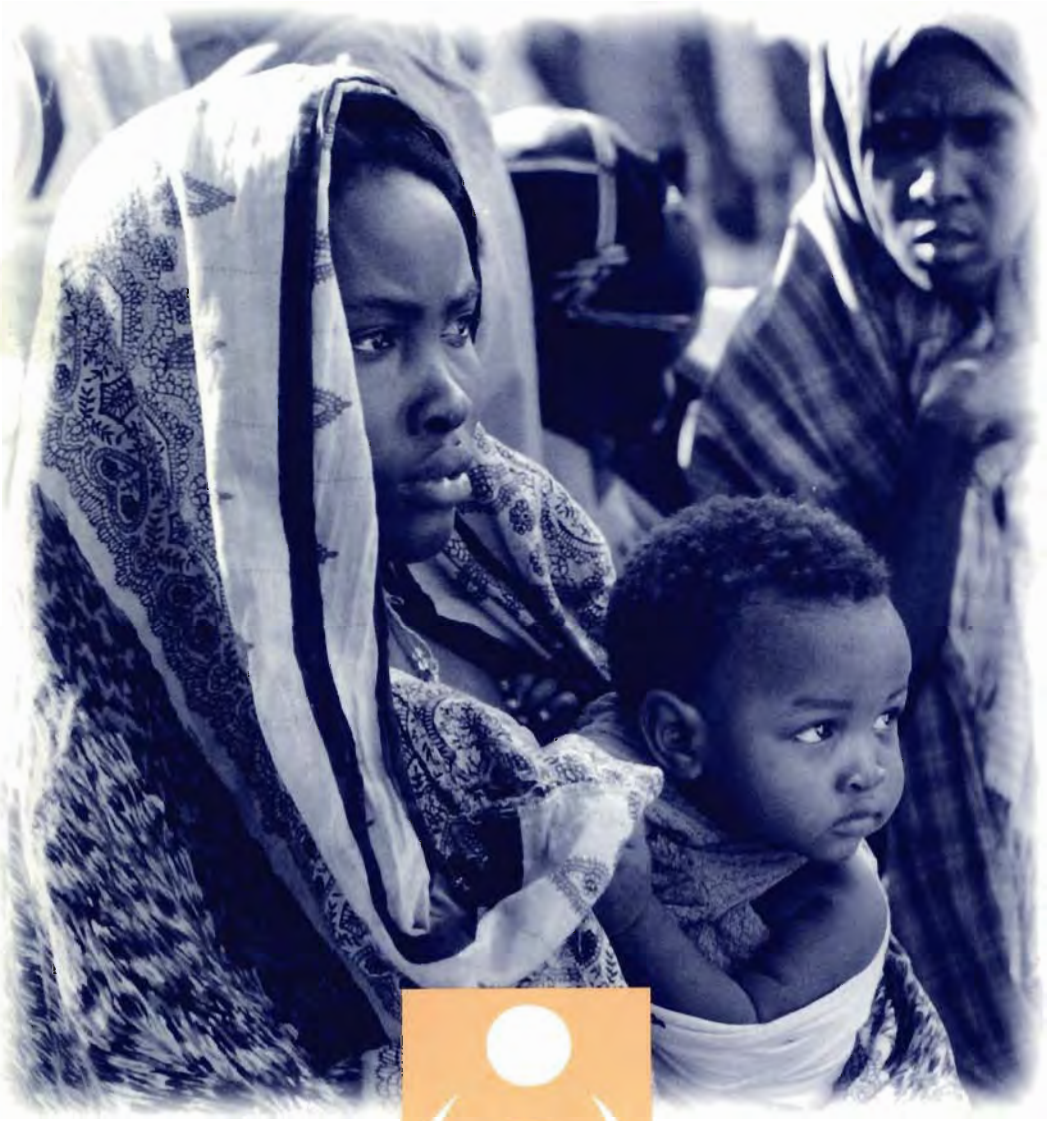
Pathways and Partnerships



BASICS Contributions to Child Survival

Pathways and Partnerships

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BASICS

BASICS

BASICS is a global child survival support project funded by the Office of Health and Nutrition of the Bureau for Global Programs, Field Support, and Research of the U.S. Agency for International Development (USAID). The agency's Child Survival Division provides technical guidance and assists in strategy development and program implementation in child survival, including interventions aimed at child morbidity and infant and child nutrition.

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Abstract

At the conclusion of the largest child survival project funded by USAID, the BASICS (Basic Support for Institutionalizing Child Survival) Project reviewed its contributions to the field of child survival. Subjects covered are community involvement, policy impact, Integrated Management of Childhood Illness, private sector involvement, monitoring and evaluation, immunization, nutrition, behavior change/communication, and system strengthening. Each chapter presents a review of the state-of-the-art of technical approaches to child survival, a detailed description of a BASICS activity, a description of where BASICS has implemented similar work, several sidebars on additional implementation sites and activities, and a list of noteworthy project publications. The historical context of the project in child survival initiatives and future considerations are also included.

Credit

All photos are from the BASICS Project, except the following:
WHO: Cover and pages 1, 5, 11, 34, 39, 78, 106
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ACRONYMS

AAA	assessment, analysis, and action
AIMI	Africa Integrated Malaria Initiative
AIN	Integrated Focus on the Child
ARI	acute respiratory infection
BASICS	Basic Support for Institutionalizing Child Survival Project
BBC	British Broadcasting System
BCG	tuberculosis vaccine
CAR	Central Asian Republics
CBE	capacity building exercise
CBO	community-based organization
CboH	Central Board of Health
CCCD	Combating Childhood Communicable Diseases
CDC	Centers for Disease Control and Prevention
CDD	Programme for the Control of Diarrhoel Diseases
CDTI	Community-Directed Treatment
CHW	community health worker
CORE	Child Survival Collaborations and Resources Group
CPH	Community Partners for Health
DHMT	District Health Management Team
EHP	Eritrea Health and Population Project
EPI	Expanded Programme on Immunization
ERBOL	Educación Radiofónica de Bolivia
EZA	El Zambo Angolita
FP	family planning
HFA	Health Facilities Assessment
HMIS	Health Management Information System
IDB	Inter-American Development Bank
IEC	information, education, and communication
IHFA	Integrated Health Facilities Assessment
INFECTOM	Information, Feedback, Contracting, and Ongoing Monitoring
IMCI	Integrated Management of Childhood Illness
LAC	Latin America and the Caribbean
LGA	local government agency
LINKAGES	Improving Nutrition and Reproductive Health
LQAS	Lot Quality Assurance Sampling
M&E	monitoring and evaluation
MCH	maternal and child health
MCH/FP	maternal and child health and family planning services
MEASURE	Monitoring and Evaluation to Assess and Use Results Project

ACRONYMS

MinPak	minimum package of nutrition interventions
MOH	Ministry of Health
NHC	Neighborhood Health Committees
NID	National Immunization Day
NIS	New Independent States
NGO	nongovernmental organization
OMNI	Opportunities for Micronutrient Interventions
ORS	oral rehydration salts
ORT	oral rehydration therapy
PAHO	Pan American Health Organization
PAIN	Paquet d'Activitiés Intrégrées de Nutrition
PATH	Program for Appropriate Technology in Health
PBT	preceding birth technique
PHARMECOR	Pharmaceutical Corporation of Eritrea
PHC	Primary Health Care
PLA	Participatory Learning and Action
PMPT	Pendidikan Medik Pediatri Terpadu
PRITECH	Primary Health Care Technologies
PROFILES	data-based approach to nutrition policy development and advocacy
PVO	private voluntary organization
QA	quality assurance
QAP	quality assurance project
RAP	Rapid Health Worker Performance Assessment
REACH	Resources for Child Health
SDHMT	Strengthening District Health Management Teams
SDV	Serum of Life
SOMARC	Social Marketing for Change
SRHMT	Strengthening Regional Health Management Teams
STD	sexually transmitted disease
U5	child under the age of 5
UNICEF	United Nations Children's Fund
UPSI	Urban Private Sector Inventory
USAID	United States Agency for International Development
VCR	verbal case review
VOA	Voice of America
WHO/CHD	World Health Organization Division of Child Health and Development
WHO	World Health Organization
ZCHP	Zambia Child Health Project

ACKNOWLEDGMENTS

The BASICS Project would like to express its appreciation to many people who have worked so passionately to improve the status of children's health in the developing world. First among these people are the staffs of ministries of health; multilateral donors; especially UNICEF, WHO, PAHO, and the World Bank; universities; public and private sector organizations; NGOs and private practitioners; USAID headquarters and mission staff; and cooperating agencies funded by USAID that also focus on aspects of child survival.

During the past five years, these groups have worked together in various partnerships and have had a significant impact on the problems facing the world's most vulnerable children. It is only through broad international cooperation that the complex issues in this area can be addressed and progress achieved.

The activities described in this document present only a small portion of the programmatic agenda of the BASICS Project. But they are representative and illustrative of the breadth and type of work BASICS has carried out.

Those people who contributed to this report include the following: William Foege (foreword), Ronald Waldman (chapter 1), Carolyn Kruger and Bill Brieger (chapter 2), Bart Burkhalter, Nosa Orobaton, and Michael Macdonald (chapter 3), Paula Nersesian, Bob Pond, and Rene Salgado (chapter 4), Robert Northrup, Camille Saade, Sarbani Chakraborty, and Sandhya Rao (chapter 5), John Murray (chapter 6), Robert Steinglass, Rebecca Fields, Youssef Tawfik, and Lora Shimp (chapter 7), Rae Galloway (chapter 8), Mark Rasmuson, Sandhya Rao, Carrie O'Neill, Alfonso Contreras, and Donna Vincent (chapter 9), Patricia Taylor, Nosa Orobaton, and Dick Nelson (chapter 10), and Ronald Waldman and Robert Northrup (chapter 11).

Those involved in the production of the report include David Pyle, Pat Bandy, Gus Osorio, Pat Shawkey, Sharon Pickett, and Nadia Steinzor.

FOREWORD

If global health workers sometimes long for the days of 35 years ago, it is because both the world and the field were simpler. Global health was a field that concentrated on infectious diseases and nutrition, with the principal players being a few global agencies, such as WHO and UNICEF, ministries of health, medical mission groups, some bilateral agencies, and a few universities.

How things have changed. Global health work now entails the infectious diseases and nutrition to be sure, but also environmental problems, population pressures, chronic diseases, tobacco use, violence, injuries, behavioral modification, occupational hazards, infrastructure development, micronutrients, and community organization. It requires interactions and coalitions with hundreds of nongovernmental organizations, global and bilateral organizations, foundations and special interest groups, plus knowledge of economics, Disability Adjusted Life Years, computer skills, and involvement with programs to reduce illiteracy and poverty.

But, if the scope is greater, the rewards are unbelievable. Who would have thought 35 years ago that smallpox would be eradicated, polio and guinea worm finished by the end of the century, measles tamed, onchocerciasis neutralized, and lymphatic filariasis effectively treated?

Who would have thought that immunization systems would reach most children, that famine would be reduced, and that systems would be developed for treating diarrhea, acute respiratory infections, and malaria in rural clinics? Who would have anticipated the power and low cost of vitamin A and the widespread use of iodine?

Who would have guessed that three competitive international development entrepreneurs could join forces to cooperate with each other, all because they shared the goal of better health for children and their families living in poor countries?

But, that is what happened. The Academy for Educational Development, John Snow, Inc., and Management Sciences for Health came together to administer the Basic Support for Institutionalizing Child Survival (BASICS Project), and they provided an example of cooperation that continues to astound.

BASICS, in turn, recruited some of the best global health talent ever assembled and asked them to be creative in changing approaches for the improvement of global health. The publication you are about to read provides only a sample of the impact they are having, in partnership with the world's most significant players in the field of child health. From integrating the management of childhood illness into an understandable approach, to helping ministries of health change everything from policy to logistics, to forming inner-city coalitions of churches, labor unions, and health facilities to improve health, to the development of commercial markets for lifesaving products, BASICS is combining science, management, and the marketplace to develop institutions and partnerships that will last.

Fifty years ago, the Marshall Plan was a high point for U.S. involvement in improving the lives of people in other countries. Today, we can take pride in the fact that the United States Agency for International Development (USAID) designed BASICS to improve the lives of children in the poorest countries. The results of this commitment are tangible progress in child health and survival and a better world for everyone.

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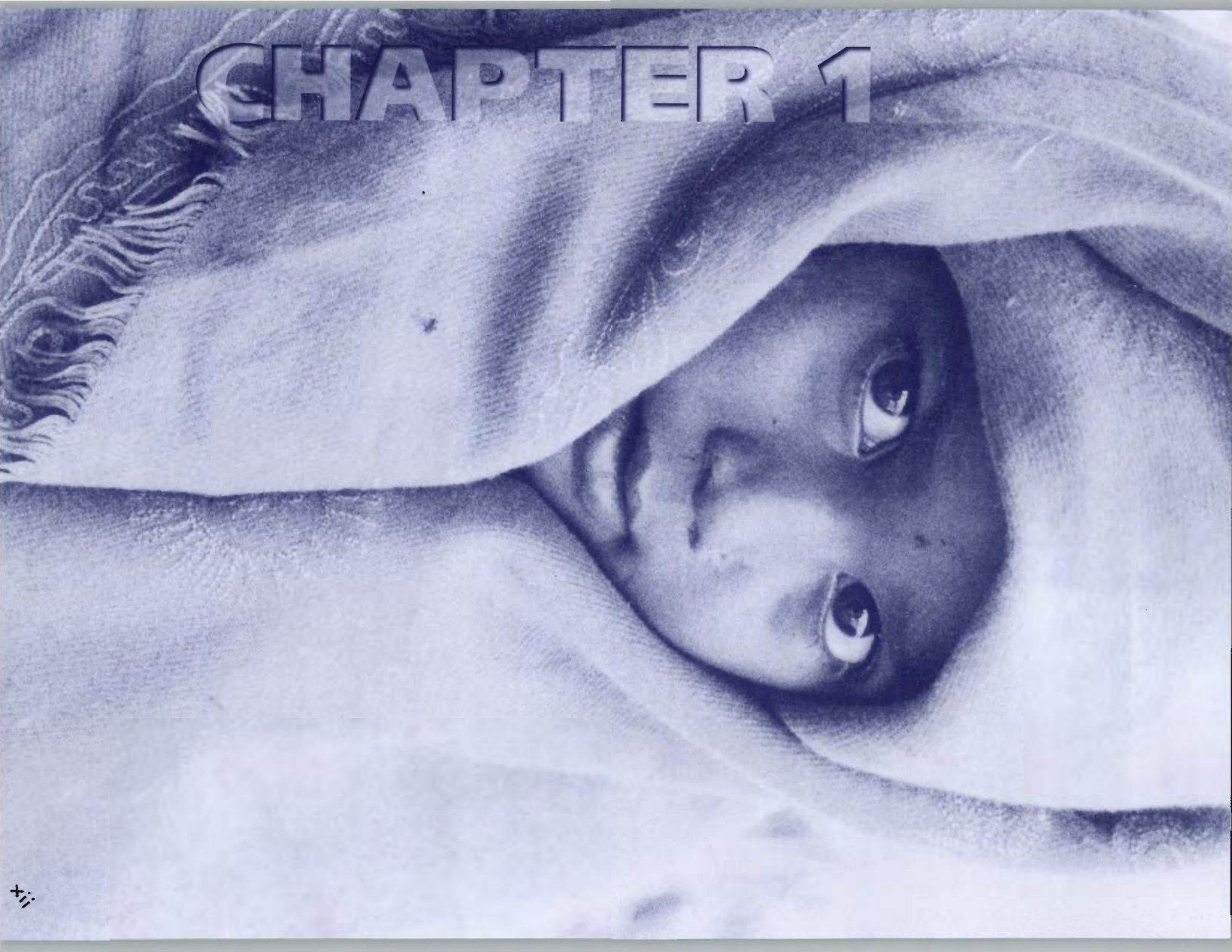

CHAPTER 1

USAID's Enduring Commitment to Child Survival

From the mid-1970s to the mid-1990s, remarkable progress was made around the world in reducing preventable childhood deaths. The absolute number of deaths for children less than 5 years old fell from about 14 million to just over 10 million per year according to estimates of the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO).

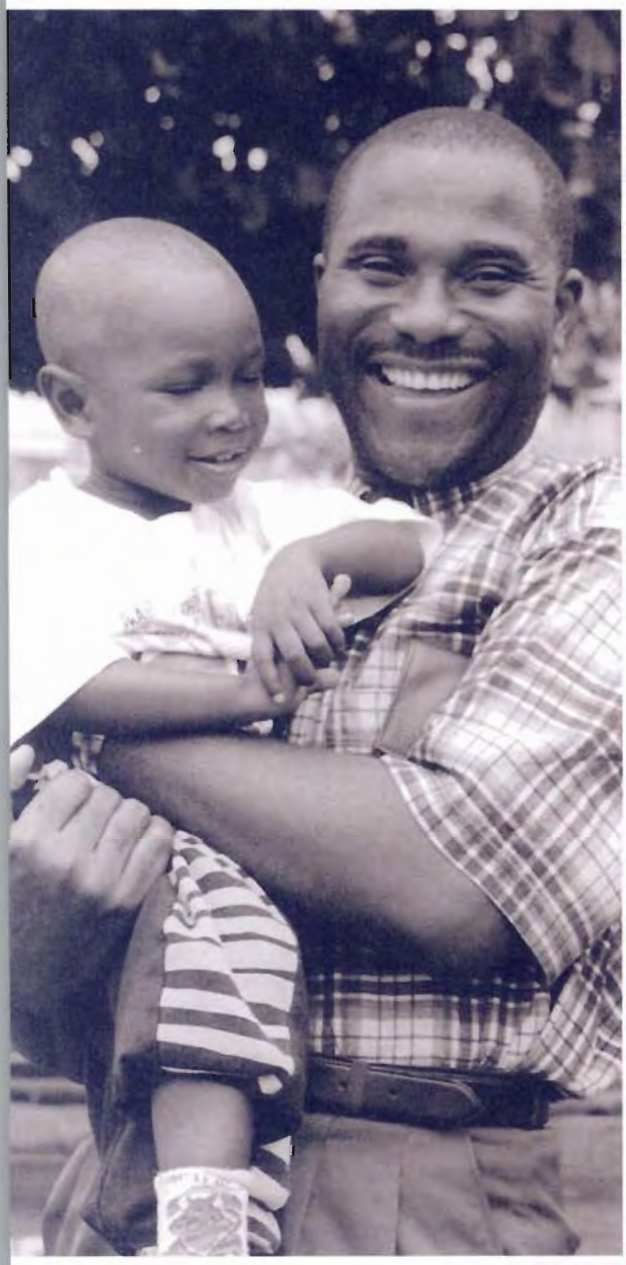
This annual reduction in mortality of about 1 percent has occurred in spite of the emergence of important countervailing forces. Ever-increasing numbers of births, increasing resistance of Plasmodium falciparum to anti-malarial drugs, emerging bacterial resistance to the medicines most commonly used for the treatment of pneumonia, and the relentless spread of the AIDS epidemic are all obstacles to bringing about further decreases in child mortality. Although it is very difficult to attribute the success of the "child survival revolution" to specific interventions, there is no doubt that, along with improvements in socioeconomic status, female literacy, and modern contraceptive use, progress in the development and implementation of international public health programs has played an important role.

Principal among the interventions were three WHO programs: the Expanded Programme on Immunization (EPI) and the Programme for the Control of Diarrhoeal Diseases (CDD), both developed in the 1970s, and the Programme for the Control of Acute Respiratory Infections (ARI), initiated about 10 years later. From the onset, each of these programs has been implemented

BASICS Project Strategic Vision

Continue and sustain reductions in morbidity and mortality among infants and children in developing countries. Integrate interventions and link common elements to form effective delivery systems. Build national capabilities and institutionalize support for child survival services.

- Increase coverage of, access to, and use of EPI, CDD, ARI, malaria, and related child survival services.
- Develop and apply service provider performance standards for delivery of child health services, based on internationally accepted algorithms and recommendations.
- Systematically assess and improve the functioning of critical components of the health systems delivering child survival interventions.
- Develop and implement effective, resource-appropriate information, education, and communication strategies for inducing and supporting appropriate preventive and care-seeking behaviors by families and health care providers.
- Develop and evaluate approaches to integrate delivery of child survival services.



on a global basis, with the close technical and financial collaboration of UNICEF, other bilateral donors, including the United States Agency for International Development (USAID) and, especially, ministries of health (MOHs) in most developing countries.

USAID, in particular, had been a strong and faithful partner of WHO and UNICEF during this time, adopting a "twin engines" approach of vaccination and oral rehydration therapy to its child survival programming.

The Global Bureau of USAID had supported the Resources for Child Health (REACH) Project to promote vaccinations and ARI control, the Primary Health Care Technologies (PRITECH) Project to promote diarrheal disease control, and the HealthCom Project to promote behavior change in public health programs. In addition, the Africa Bureau of USAID had supported, for more than 10 years, the Combating Childhood Communicable Diseases (CCCD) Project, which dealt with all of these conditions. Although different approaches were adopted and different mechanisms were implemented by a wide number of agencies and organizations, reducing child mortality was widely accepted, both in the international community and in countries, as an area of highest priority. The consensus contributed substantially to the success of these efforts.

Child Survival—A Sector in Transition

Success, however, breeds complacency. By the early 1990s, organizational changes, new trends in international health programming, the emerging recognition of other major public health problems, and a sense of ennui had begun to make it more difficult to mount support for child health programs. The USAID commitment remained strong, however, and with the completion of the projects previously mentioned a single new entity—Basic Support for Institutionalizing Child Survival (BASICS)—was created.

The staff of BASICS, largely drawn from the predecessor USAID projects, found the field of child survival in a state of considerable flux. UNICEF had put an enormous amount of money and effort into its Universal Childhood Immunization initiative, which culminated in the World Summit for Children at the start of the decade. This proclaimed success, tragically followed by the death of its charismatic and dedicated executive director, James Grant, seemed to lead to a period of rethinking, redirection, and reflection as to future directions.

To stimulate renewed interest in the funding of child health programs,

WHO was in the process of developing a new, integrated initiative that would eventually develop into Integrated Management of Childhood Illness (IMCI), but in the early 1990s IMCI was still largely unknown outside Geneva.

Finally, other bilateral donors in North America and Europe, particularly the Scandinavian countries, were shifting their investments from technical programs to more fundamental, structural, "system-building" projects that promoted and assisted the processes of decentralization, cost recovery, and other health sector reforms.

Launching BASICS

The desire not to be excessively buffeted about by these currents of change was important in the development of the BASICS structure and strategic approach. BASICS was characterized by a strong, experienced staff and by an unusually large and firm financial commitment from USAID, which made it possible to develop and implement strategic plans at both global and country levels.

It took time for the staff, drawn from the three partner firms (Academy for Educational Development, John Snow, Inc., and Management Sciences for Health), to implement BASICS, to get to know each other, and to adjust to working in what were often new areas of technical focus. There was a natural tendency to want to function as three separate projects rather than as a single entity intent on developing new, unified goals and objectives. No one doubted the logic of BASICS, but it took time to develop a modus operandi.

At first, the size of BASICS was a two-edged sword. There is no doubt, on one hand, that the financial security of the project was an attractive feature. On the other hand, the re-engineering of USAID and the delegation of budgeting authority from Washington, D.C., to the country missions made operations more bureaucratic. The need to account frequently, and in great detail, to more than 70 sources of funding required both an extremely complex information system and the time and energy of staff members who, at times, found it difficult to exercise their considerable technical skills.

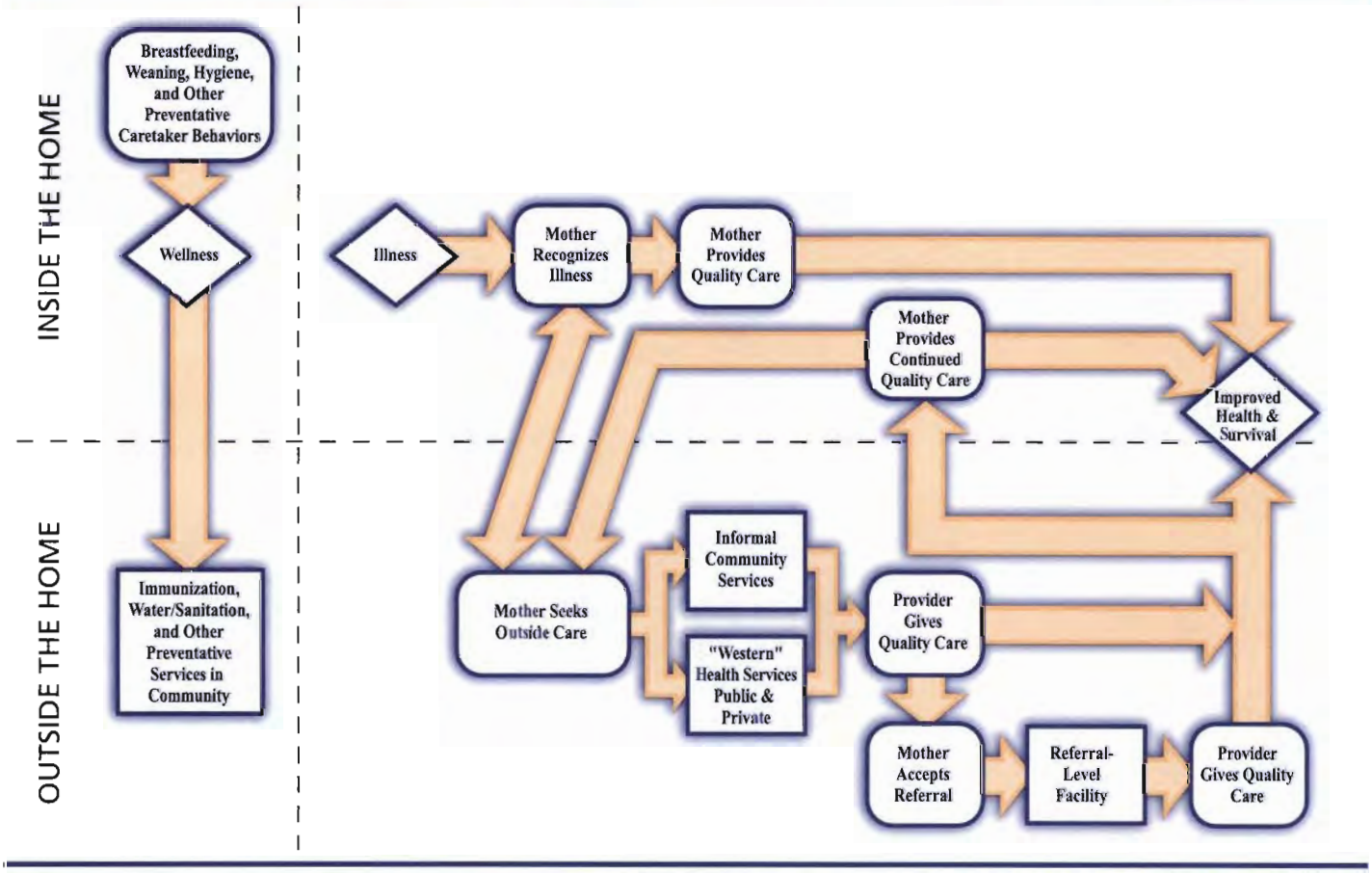
Added to this situation was the very real perception of BASICS as a behemoth that had the potential to devour everything in its path. The U.S.-based private voluntary organizations (PVOs), in particular, were appropriately skeptical of what a giant-sized, administratively complex entity could contribute to the field. A very early challenge to BASICS was to earn a seat at the international policy-making table of child health programming and not to be perceived as having bought its way in.

BASICS was to build on and go beyond the approaches of previous child survival health projects by pursuing more integrated or comprehensive child survival interventions. The aim was to pursue both improvements in the availability of quality services and empowerment of families and communities to effectively identify their health problems and seek solutions for the problems.

Focusing on preventive, as well as curative, interventions, the initial technical focus was suggested to be on diarrheal diseases, acute respiratory infections, malaria, and vaccine-preventable diseases. Approaches were to be cost-effective and able to be replicated locally. BASICS was also to attract and leverage resources from other donors and the private sector. The project was committed to institutionalize technical innovation at all levels—local, national, and global.

The project recognized that its overall strategic approach needed

Figure 1.1 ***Pathway to Survival***



to involve not only the application of the best technical innovations—the science of child survival—but, in addition, the need to collaborate with international partners to ensure sustainability—the art of child survival.

The Pathway to Survival Model—Strategic Vision for Child Health

The first major contribution of BASICS to the child health field was the development, in close collaboration with USAID and the Centers for Disease Control and Prevention (CDC), of a framework that could guide its thinking in a unified way. This framework came to be known as the Pathway to Survival (see figure 1.1). It is from this model that BASICS strategic vision flowed.

The essential thought behind the Pathway was that the way to make further inroads into reducing childhood mortality was to get away from thinking in terms of technological solutions. The answers to the question—"What do children die from?"—should not be the names of diseases (for example, diarrhea or pneumonia), because the treatment for these conditions (oral rehydration and antibiotics) were known and available.

Instead, it would be more challenging and accurate to ascribe the causes of death to breakdowns in the health system, both at the community and health facility level. Both WHO and UNICEF had been heavily investing in community-level interventions for a long time. The Pathway was not so much intended to be something new as it was to be something that could explain, both inside and outside the project, the strategic way BASICS intended to organize its thinking and its activities.

The hallmark of the Pathway is its emphasis on the socio-behavioral aspects of child health, including the need to concentrate on improving caretaker knowledge and behavior. This is in contrast to what, in the past, had been primarily a medical approach with an emphasis on training health staff. The premise of the Pathway was not that the training approach was wrong (indeed it was recognized as continuing to be essential) but that it needed to be complemented by a more quantified analysis of behavioral factors and a more balanced array of interventions.

One appealing feature of the Pathway, which has proven to be a robust model, is that it can be quantified. Early on, BASICS developed a mortality surveillance methodology, which was implemented in El Alto, a poor suburb of La Paz, Bolivia. Part of the survey was an interview of

mothers whose children had recently died. As expected, the cause of death was most often ascribed to an aspect of maternal behavior, either the inability to recognize the potentially severe nature of the child's illness or medically inappropriate care-seeking behavior. The performance of health workers was not nearly as important. The logical conclusion to draw would be that if 75 percent of the mortality problem is shown to be at the level of the household and community, 75 percent of the resources should be invested there. Implementing this logic has been problematic, however. Health workers remain easier to reach; ministries of health prefer to place their emphasis on improving the performance of their personnel; and training, at least in the short run, is easier and more demonstrably effective than individual behavior change.

Finally, although the Pathway mortality survey has been an educational and useful procedure, it has not been widely replicated. Identifying deaths in a community in a timely manner is a difficult undertaking and interviewing mothers of recently deceased children is a culturally sensitive and challenging exercise, one that requires a major commitment from local public health officials and the approval of community leaders. Because the survey is also a resource-intensive and time-consuming undertaking, not all USAID missions are willing or able to support it.

BASICS GLOBAL AND NATIONAL LEVEL PARTNERS

Ministries of Health
WHO
UNICEF
PAHO
World Bank
Bilateral Donors
PVOs and NGOs
Commercial Sector
Professional Organizations

Perhaps the most important contribution of the Pathway to date is that it has enabled BASICS to address some of the problems mentioned above. For one thing, it is an easily understandable tool and one that has relevance to all aspects of a multifaceted child health project. It is a tool that BASICS staff has been able to use in designing both the technical and operational aspects of country programs. It has been particularly useful in reviewing those programs, to see that appropriate emphasis is being put on all aspects of the Pathway, prevention and curative, at both household and health system levels.

Because the Pathway is easy to explain to national and international partners, it has been a very useful tool in explaining the BASICS approach in international forums. With its emphasis on household and community interventions, the Pathway has been a way to explain, in practical terms, the nature of the relationship that BASICS wanted to forge with nongovernmental organizations (NGOs). In all, the Pathway explains what BASICS is about, although it may remain underused and undersold.

Thus, the project had developed a new conceptual model with which to strategize its technical approach, but it also recognized that working with international partners was an equally important component to BASICS efforts.

Creating Worldwide Partnerships

A second critical component of BASICS vision has been its insistence on contributing to the

child survival efforts of other organizations and not engaging in ideological confrontations by developing its own projects based on its own ideas. One of the major constraints of USAID projects has been their self-limiting nature—they have a planned life span of only five years.

As a result, it is nearly impossible for a new project like BASICS to organize itself, conceive new ideas, field-test and refine those ideas, implement them on a large scale, evaluate their impact, and demonstrate the results to other organizations in a convincing way. This is the role of the international organizations, notably WHO, UNICEF, and the World Bank, that are in the business of child health for the duration and that have the ability to call upon an institutional memory that goes much further back than any individual USAID project.

Instead, the approach of BASICS has been to work in as collaborative a fashion as possible with those agencies, to seek to function as a full partner in maximizing the impact of their work, and to contribute to both the development and implementation of child health programs. The premise has been that the only way to ensure the sustainability of BASICS intellectual contribution to the field of child health is to get its ideas firmly implanted on the agenda of other organizations in a way that allows those organizations to assert ownership over the ideas.

BASICS has been reasonably successful in this regard. Perhaps the best illustration of the success of this approach is that the term "WHO/UNICEF/BASICS" is frequently used in referring to the major purveyor of child survival interventions in the world today. In EPI, IMCI, and communications and behavior change activities, USAID/BASICS has come to be regarded by the three major international players in child health as a strong, valued partner.

Working in Partnership with PVOs

BASICS attached a great deal of importance to finding ways to work more closely with PVOs as partners. From the start, a strong cooperative relationship between a large USAID project and the PVO community seemed potentially beneficial for both. BASICS could help the PVOs become involved early on with new global initiatives, such as IMCI, and provide technical input to those programs.

In fact, one of the most successful BASICS contributions to date has been the series of evaluations that BASICS helped selected PVOs carry out. Traditionally, PVOs are not adequately funded to conduct meaningful evaluations of their own projects, but financial assistance from BASICS, in conjunction with the USAID Bureau of Humanitarian Response, has allowed this to happen in a growing number of cases. From these evaluations, BASICS (and the PVO) learned how to better address community

needs—what kinds of interventions work and which do not—and then to take these ideas to scale. BASICS sponsored a meeting of PVOs at which examples of "high impact at small scale" were presented. Ideas for replicating these high-impact programs at a larger scale are being discussed.

Because BASICS recognized that the PVO/NGO community had much to offer when global programs were implemented at peripheral levels, they tried to establish functional partnerships with many organizations, both in Washington, D.C., and in the field. Similarly, the PVO community's recognition that BASICS has an important role to play in keeping them current with new global initiatives and in contributing to the continuous upgrading of their technical knowledge has been one of the more heartening successes of the project.

Adding Nutrition to the Technical Agenda through IMCI

Arguably, the most important technical contribution that BASICS has made is its insistence that nutrition interventions be implemented in conjunction with child health programs. Traditionally set apart, with distinct Nutrition and Health divisions in WHO, UNICEF, the World Bank, and USAID, nutrition programs had played a secondary role, at least at global and national levels, to health programs despite the clear-cut evidence that the two were inextricably linked. The findings of D. L. Pelletier, E.A. Frongillo, Jr., and J.-P. Habicht, "Epidemiologic Evidence for a Potentiating Effect of Malnutrition on Child Mortality," published in 1993 in *American Journal of Public Health*, served as a springboard to the project and allowed for the development of a more completely integrated approach. In addition, bureaucratic changes at USAID, which combined its global offices into a single Office of Health and Nutrition, and the request to BASICS from the USAID mission in Madagascar to assist in the design of what they perceived as a primarily nutrition-oriented project, created a permissive environment.

But, perhaps the most important spur to the development of a strong nutrition group at BASICS was the project's wholehearted embrace of the WHO/UNICEF IMCI initiative. This undertaking, which has entirely replaced the CDD and ARI programs, is an attempt to address

the five leading biomedical causes of childhood mortality—pneumonia, diarrhea, malaria, measles, and malnutrition.

IMCI places a reasonably strong emphasis on counseling mothers about breastfeeding and weaning their children. To be able to do this, information must be obtained from the community regarding culturally appropriate foods and behaviors. BASICS became an expert at carrying out studies of this nature, and was recognized as such by WHO, and this expertise was an important contribution during the early stages of the initiative.

IMCI was considered by many to be only a training program, when other things were called for, and the training that WHO proposed was felt to be too long and too difficult. To address this last point, BASICS commissioned the development of the "complementary course," a training approach that maintains the integrity of the IMCI algorithm while using a broad array of adult education techniques aimed at health workers of limited literacy. This course is still being field tested.

Eventually, USAID became a strong and important partner of WHO in the further development of IMCI. BASICS took on the task of implementing the initiative with components from the ministry of health in Zambia and was able to contribute important "lessons learned" at the early stages of IMCI; however, the health sector reforms being undertaken in Zambia made it difficult for the ministry of health to participate fully.

In the Americas, BASICS arduously forged a strong and effective partnership with the Pan American Health Organization (PAHO). In the Central Asian Republics, what began as a small commitment to improving training in CDD and ARI in three countries grew into an important partnership with the WHO Regional Office for Europe to explore ways to adapt and implement IMCI. In Indonesia, BASICS was in the forefront of exploring the potential of medical schools to become involved in teaching IMCI at the pre-service level.

But, perhaps the greatest contribution that BASICS was able to make was participation in and support of the decision of WHO and UNICEF to broaden the IMCI initiative to include not only training but also components dealing with the strengthening of health systems and the participation of the community. Reflecting its Pathway to Survival orientation, BASICS recognized that for IMCI to become universally accepted, it would have to address deficiencies in the health system and, equally important, it would have to influence mothers to care for their children in a manner consistent with at least the spirit, if not the content, of the initiative.

Most important, BASICS has become a full partner of both WHO and UNICEF in further developing these difficult, but necessary, aspects of the initiative. By the end of BASICS,

USAID was fully committed to the implementation of IMCI as part of its child health programming and was planning to undertake an important and expensive evaluation of its potential efficacy as part of its research portfolio.

Immunization Efforts

Two other technical areas must be mentioned in a description of BASICS contribution to child health. The role that BASICS has played in the further implementation of immunization programs is important. Building on the activities in the former Soviet Union shortly after its dissolution, BASICS staff members (former REACH staff) were important advisors to the new Central Asian Republics in the development of their programs. From teaching ministries how to procure vaccines, to convincing and training health staff to reduce missed opportunities for vaccinations, to developing highly useful monitoring systems, the contributions of BASICS were recognized and applauded by the new governments.

Elsewhere, BASICS has emphasized the need to assist countries in developing sustainable immunization programs. At times, this approach seemed to conflict with the ideas of those who are champions of eradication programs. BASICS recognizes the importance of bringing the polio eradication effort to a successful completion on schedule and has made important contributions to this effort. At the same time, BASICS has insisted that this effort be done in a way that contributes to the ability of countries, especially the poorest countries, to strengthen their routine immunization programs. Considerable debate has taken place on this topic during the past five years and, undoubtedly, considerably more will occur in the future. In the meantime, BASICS continues to work with UNICEF, WHO, and the World Bank on the development and use of indicators that can measure the sustainability of immunization programs on a country-by-country basis.

Involving the Private Sector

BASICS has pushed the concept of child health beyond total reliance on the public health system. While the vast majority of BASICS support and activities have focused on the public sector, the project demonstrated that it is essential to think in terms of a broader health system that includes private practitioners, the commercial sector, and the NGOs.

Surveys have demonstrated that a growing percentage of parents access the private health facilities and practitioners when their children become ill.

As public funds become ever more scarce, we can expect to increasingly rely on the private health sector. It is important for health workers and physicians to provide quality care and follow best practices, and to give correct information to the

caretaker. BASICS discovered in several countries that the quality of child health care being given by private practitioners was woefully inadequate, and that additional training dramatically improved their performance. The implications for the private sector health providers in the developing world are clear.

BASICS also showed that it is not only possible, but also advisable, to partner with the commercial sector to achieve sustainable child health goals. Private firms can succeed financially and, at the same time, help to improve child health. For example, a pharmaceutical firm can promote ORS (oral rehydration salts), increase sales and revenues, and increase usage, thereby decreasing child mortality rates from diarrheal diseases. BASICS believed strongly in the principle of marketing products at prices that cover costs and provide a modest profit to the firm so that the effort is sustainable and public health objectives are met after the association with BASICS comes to an end.

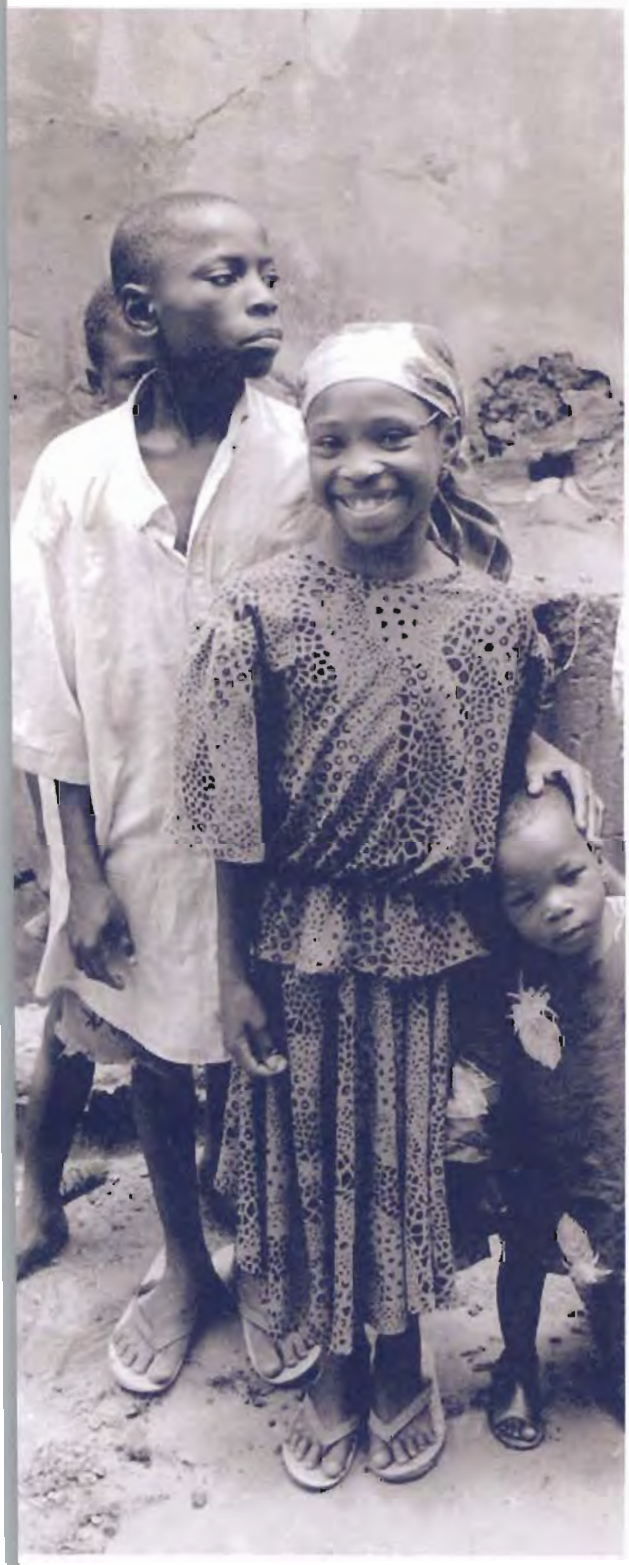
In general, BASICS contributed to the child survival effort by broadening the definition of the health system beyond the public sector and by illustrating the role played, as well as the strengths and weaknesses, of private practitioners, the commercial sector, and NGOs in child health.

Lessons Learned and Issues for the Future

The short time span of BASICS initial phase has necessitated a strong focus of energy and resources on capacity building. Structures have been put in place, projects have been implemented, and improvements in child health and survival, as a result of BASICS interventions, are becoming clear and tangible. The initial wise commitment of USAID to a large, comprehensive project has demonstrated that the synergy of such an approach has multiplied the opportunities within MOHs to become involved in new child survival activities and for MOHs to build upon existing projects.

BASICS began work in an environment of change. Health problems have changed, but at the same time possible interventions continue to expand. New vaccines are on the horizon, micronutrients are gaining acceptance, and the malaria field is looking forward to the possibility of a new vaccine and the reality of a new drug. In the midst of such technical change, the roles of WHO and UNICEF continue to change. More NGOs have entered the field. Corporations have become active in the development of public-private coalitions and USAID itself has seen profound changes in funding and areas of activity. Nevertheless, there is an increasing desire to change how child health services are delivered by integrating approaches into a more logical framework. BASICS has been pursuing a constantly moving target, but most important, from a moving foundation as well.

In the midst of this environment, the organization has accomplished



a great deal. The Pathway to Survival model focused the project and its global partners and caused them to take a fresh look at where to assign the available resources for child survival. Whether through behavior change methodologies, involvement of the private sector, the integration of nutrition actions into health programs, country-wide health policy changes, improved health worker performance, more efficient immunization programs, the positive record of BASICS is shared by all who were involved. It is clear that the international effort to promote and implement IMCI would have been much weaker without BASICS involvement.

In the following pages the BASICS project highlights some of the innovations and "lessons learned" from developing and implementing the Pathway during the past five years. This document describes just a portion of what the project has addressed.

On a grand strategic level, the lessons BASICS represents have involved partnerships. The organization focused on the refinement and application of existing projects. BASICS was designed to be transparent and accessible, not only to the health facilities and ministries of health it works with around the world, but to other agencies as well.

Perhaps the most significant strategic change in child health in the past five years has been the introduction of IMCI. When WHO formulated the IMCI concept, BASICS seized the opportunity to be part of this watershed change of approach to child survival. Rather than viewing programs in isolation, both the causes and solutions to illness and mortality would now be viewed as interdependent. This is a shift in approach that must be maintained into the future. The hallmark Pathway to Survival, BASICS conceptual model, is a strong departure from the linear, medically oriented approach of the past.

Working in 35 countries in long- and short-term capacities, the project has institutionalized its strategic vision among a wide variety of international, regional, and national, and even community, partners. In many technical areas it is clear that the innovations of the project are unlikely to be reversed, so great are their acceptance. By looking to the long-term and working with partners, BASICS has ensured a greater sustainability for the field.

Where BASICS Works

Long-term (extended in-country technical support): **El Salvador, Bangladesh, Benin, Bolivia, Cambodia, Democratic Republic of Congo, Ecuador, Eritrea, Ethiopia, Guatemala, Haiti, Honduras, Kazakhstan, Kyrgyzstan, Madagascar, Mali, Moldova, Morocco, Mozambique, Niger, Nigeria, Senegal, South Africa, Uzbekistan, Zambia, Regional Economic Development Support Office/Eastern and Southern Africa (REDSO/ESA), Regional Economic Development Support Office/Western and Southern Africa (REDSO/WCA)**

Periodic (ad hoc technical assistance from BASICS headquarters): **Ghana, Guinea, India, Indonesia, Kenya, Pakistan, Russia, Tajikistan, Turkmenistan, Ukraine, and Central America Regional Micronutrient Initiative (CARMI)**

Short-term (ongoing technical assistance from BASICS headquarters): **Angola, Armenia, Azerbaijan, Burundi, Central African Republic, Georgia, Laos, Liberia, Malawi, Namibia, Nepal, Peru, Sri Lanka, Tanzania, Uganda, Vietnam, and Zimbabwe**

Further Reading on Child Survival from BASICS

Child Survival BASICS: BASICS Framework for Action—The Pathway to Survival. 1995.

Overcoming Remaining Barriers: The Pathway to Survival by Ronald Waldman, Alfred V. Bartlett, Carlos C. Campbell, and Richard W. Steketee. 1996.

Accomplishments in Child Survival Research and Programs by R. Bradley Sack, Ricardo M. Rodrigues, and Robert E. Black. 1996.

Review of Child Survival Funding: 1980–1995 by Deborah McFarland. 1997.

The Recent Evolution of Child Mortality in the Developing World by Kenneth Hill and Rohini Pande. 1997.

Highlights (one-page summaries)

The Pathway: A Strategic Model for Child Health Activities

Further Reading on Child Survival from Other Sources

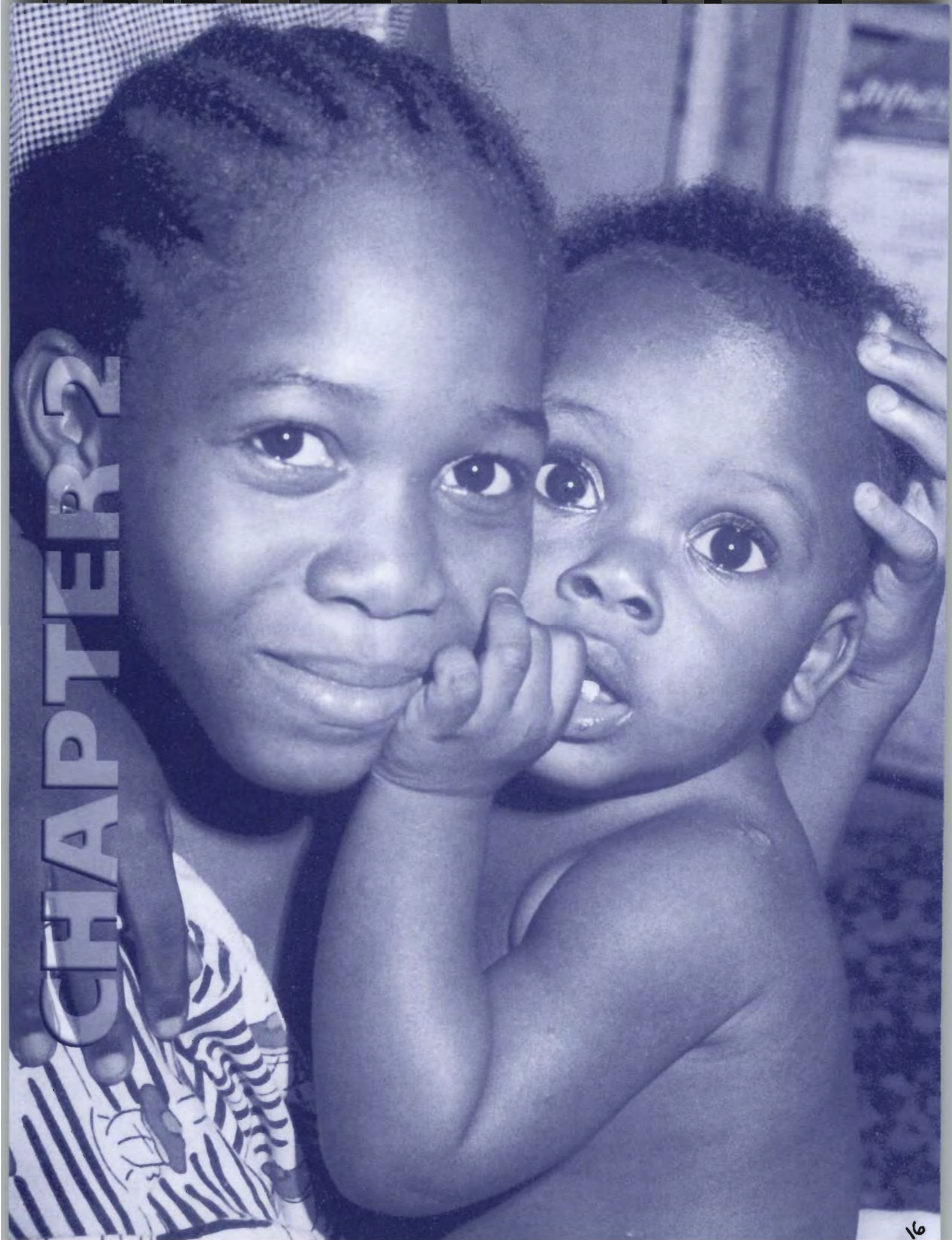
Saving Lives Today and Tomorrow: A Decade Report on USAID's Child Survival Program. Center for International Health Information. 1996.

CHD 1996–1997. World Health Organization. 1998.

The State of the World's Children 1998. UNICEF.1997.

Websites

BASICS: www.basics.org
UNICEF: www.unicef.org
World Bank: www.worldbank.org/children
World Health Organization: www.who.int/chd
Pan American Health Organization: www.paho.org


CHAPTER 2

Community Partners for Health, Nigeria

In countries throughout the developing world, rapid urbanization and growing poverty have given rise to unsanitary, crowded living conditions that, in turn, spread health problems. Dysentery, respiratory infections, diarrhea-related illnesses, and vector-borne diseases, such as malaria, dengue, and yellow fever, are on the rise. With cutbacks in international aid and increasing decentralization of health care systems worldwide, it has become increasingly important for private practitioners, nongovernmental organizations, and community-based organizations to meet the growing need for health education and services.

Many international organizations, including UNICEF, WHO, and the World Bank, have recognized that the private sector is an efficient channel in which to deliver clinical services. The private sector already serves a large and diverse clientele in developing countries, and they can often provide high-quality services without the long lines and inadequate supplies frequently found in government facilities.

BASICS employs a range of community development strategies around the globe to help build support for local health initiatives. Staff members train community health workers, facilitate collaboration between local organizations and the private sector, create educational materials, and develop microenterprise projects. Such projects are currently underway in Bangladesh, Ethiopia, Guatemala, Haiti, Honduras, India, Madagascar, Malawi, Nigeria, and Zambia.

In mid-1994, USAID and BASICS launched the Community Partners for Health (CPH) project in Nigeria. As part of BASICS Urban Private Sector Integrated Health Project, the initiative links community-based organizations and private health facilities in low-income communities

BASICS Community Strategic Vision

Develop, implement, and evaluate approaches for directly involving the community in the design and execution of child survival activities, and mobilizing community support for health.

- Achieve greater impact at the household and community levels.
- Promote BASICS package of Emphasis Behaviors.
- Work more effectively with communities on child health issues.
- Identify and promote collective action at the community level to solve or mitigate child health problems.
- Delineate and test models of community action for health that can be sustained and replicated.

The Kano Initiative in Nigeria

In late 1996, BASICS expanded the CPH project into the urban area of Kano in northern Nigeria, a predominantly Muslim area. Following preliminary research, an Urban Private Sector Inventory was conducted in early 1997 in 10 communities, covering 147 health facilities, 99 community-based organizations, and 158 patent medicine vendors. Ultimately, 116 organizations were selected for the establishment of CPH projects in five communities: Badawa, Gama, Gwale, Sheshe/Mandawari, and Yakasi.

The membership base of CPH projects in Kano differs significantly from that in Lagos. Indigenous healers, including herbalists, midwives, and barbers, are the most numerous, followed closely by patent medicine vendors. Western-style health providers, resident associations, and religious societies are limited in number. However, most CPH board members represent community organizations, while few board members are female.

The goals of the Kano CPH project are identical to those of the projects in Lagos, with two notable differences. The Kano project aims to increase the level of literacy among women by 15 percent by the end of 1998. It also places a greater emphasis on "family" rather than "female" decision-making, an approach that is more culturally acceptable in Muslim society. At this point, all five CPH projects have established their management structures, completed self-study guides, developed project proposals, and identified priorities and health objectives.

to improve both child health services and home health practices. The project responds to the growing role of private, or "entrepreneurial" medical care in Nigeria, particularly in urban centers. In 1985, more than 13 percent of all officially registered health establishments were in private hands, an increase of more than 8 percent in 3 years.

Since a military takeover of the Nigerian government in 1993, the country's economic and social conditions have deteriorated, including a steady decline in the country's gross national product. Severe cutbacks in the funding and availability of public services have exacerbated the situation. For example, in 1990, immunization coverage in Nigeria for most childhood antigens approached 80 percent, but fell to 37 percent by 1993. Thirty-six percent of children under 5 years are considered to be moderately or severely underweight. In the 1998 United Nations *State of the World's Children* report, Nigeria ranked as the 14th worst nation in terms of child mortality rates, which are (per 1,000 live births) 114 for infants and 191 for children less than 5 years of age.

In choosing to work in Nigeria, USAID and BASICS responded to a decline in international assistance to the country. In 1994, U.S. government sanctions were applied to Nigeria because of evidence of human rights violations and drug trafficking. USAID child survival programs were granted an exemption to most U.S. government restrictions.

Making Community Choices

The first step that BASICS took toward establishing CPH was to conduct the Urban Private Sector Inventory (UPSI). The survey aimed to define the size, composition, and service capacity of the Lagos urban health sector. In essence, the survey functioned as a census of the community-based organizations (CBOs) and health facilities that were under consideration for participation in the CPH project.

The UPSI, which covered thirteen communities in five local government areas, was based on a review of existing records, interviews with local citizens, and a street assessment and visual survey of facilities and organizations in various neighborhoods. After several weeks of field inventory and data analysis, target communities and potential partners were delineated. The survey identified 395 community-based organizations (such as trade and residential associations, social clubs, women's groups, and religious societies), 330 health facilities, and

> **They explained to me that there is a way that our child will not die and how to know our rights in the community. That is why we joined.**
>
> ***Member of Lagos Island CPH***

414 chemist shops/pharmacies and patent medicine vendors.

Six communities in Lagos were ultimately selected for CPH projects: Ajegunle and Amukoko in Ojo Local Government Agency (LGA), Mushin in Mushin LGA, Ward E on Lagos Island, Makoko in Mainland LGA, and Lawanson in Surulere LGA. The communities have a combined population of approximately 1 million, of which 18 percent are under 5. The six pilot initiatives had an initial outreach of approximately 250,000 people, based on organizational membership and/or current patient load. In 1996, the CPH model was expanded to four communities in the northern city of Kano.

Potential project sites in Lagos were initially screened, based on both practical factors and the interest and enthusiasm expressed for forming a CPH. Participation criteria included the existence or potential for contacts with other organizations, outreach capacity, management and operational systems, staff capabilities, membership levels, registration with the government, a non-political nature, and an emphasis on involving women. The specific capabilities of the health facilities, particularly with regard to immunizations, were also considered. Predominant representation was from religious, trade, resident associations, and allopathic health facilities, as shown in table 2.1.

After the communities were determined, BASICS staff organized focus group discussions with potential partners (identified through the UPSI) to introduce them to the objectives and goals of the CPH project, discuss health concerns, formulate potential partnerships, and choose specific project sites.

During this process, the BASICS *Pathway to Survival* model was distributed in both Yoruba (the predominant local language) and English to illustrate the interdependent roles that the home, community, and health system play in providing effective care for children. Participants expressed an understanding of the personal and professional benefits to be derived from working more closely with other organizations, sharing knowledge and experiences, and streamlining health care practices to reduce costs. Health care workers were also appreciative of the opportunity to be perceived not simply as business people but as people having something to give back to the community. The focus groups, using participatory methods, played a major role in discussions and in establishing

Table 2.1 ***Lagos Community Partners for Health***

Type of Member Organization	Number	
Indigenous health provider	5	(2%)
Western health providers	23	(10%)
Service (e.g., day care, Red Cross, Boy Scouts)	9	(4%)
Social clubs	26	(11%)
Resident associations	38	(17%)
Religious society	59	(26%)
Trade associations	71	(31%)
TOTAL	**231**	

Source: *Lagos Community Partners for Health.* BASICS 1998.

Participatory Community Assessment and Planning Approach: Building on the Strengths of Communities

For the past few years, BASICS has taken a unique approach to helping communities in Ethiopia and Zambia improve their health conditions. The Participatory Learning and Action (PLA) process involves community members in assessing problems and finding solutions. To this end, BASICS provides technical assistance and training and serves as a liaison between communities and ministries of health, the private sector, and nongovernmental organizations.

The PLA process comprises 14 communities in Zambia with a population of more than 26,000 and five communities with more than 5,000 households in southern Ethiopia. The process has four main phases, carried out by community teams and health workers:

- Building partnerships to link health professionals and communities.
- Selecting behaviors and problems that need to change.
- Exploring reasons for these behaviors.
- Developing intervention strategies.

Much of the information on health conditions in the communities is gathered through a household survey run by community volunteers and local MOH staff. Existing structures aid this process, such as neighborhood health committees in Zambia and *kebeles* (peasant associations) in Ethiopia. The survey helped identify priority problems among emphasis behaviors in maternal and child health practices: infant and child feeding, immunization, home health care, and care seeking. Public meetings among community teams identified reasons for these behaviors and possible interventions, such as building latrines to improve sanitation, promoting better nutritional habits, improving water systems, and providing better access to roads for traveling to clinics and transporting medicines.

Lay people, such as community health agents and traditional birth attendants, are trained by NGOs and government staff in the detection, treatment, and referral of fever and the most common childhood illnesses: diarrheal diseases, pneumonia, and malnutrition. These people are a crucial link to informing and mobilizing the community, to improve health practices in the home or to turn out for a national immunization day.

The community planning process builds on the strengths of individuals and existing community structures. The presence of an international organization, such as BASICS, gives community health workers greater influence and helps them to receive training or procure medical supplies and other needed equipment. BASICS also helps demonstrate to government ministries the benefits of partnering with communities to improve public health.

As with all new endeavors, it will take time to assess the actual impact of the PLA approach on health conditions, as well as on the progress of specific projects. In the meantime, the process has empowered communities to assess their health care needs, and demonstrated that, given the opportunity to speak out and learn new ways to improve the health of their children, people will respond.

community ownership of the CPH concept and process.

> **This program came to me at a point when I was thinking about what I could do for my community . . . we saw it as a better alternative to the inefficient government hospitals. We are also in love with its lofty objectives, like the credit facilities and reduced health cost.**
>
> *Member of Lawanson CPH*

In discussions with potential partners, many groups had similar concerns regarding the CPH project, including the limited supply of vaccines and other medicines available at private health facilities, the ability of the health facilities to handle additional clients, the need for special services for the poor, and the lack of knowledge among parents about both preventive and home health practices. Two central strategies were identified: increasing the capacity of local health providers and expanding community education about health care, particularly for the under 5 population. Using participatory consensus-building techniques, follow-up meetings focused on how to establish partnerships and set up operational structures and guidelines.

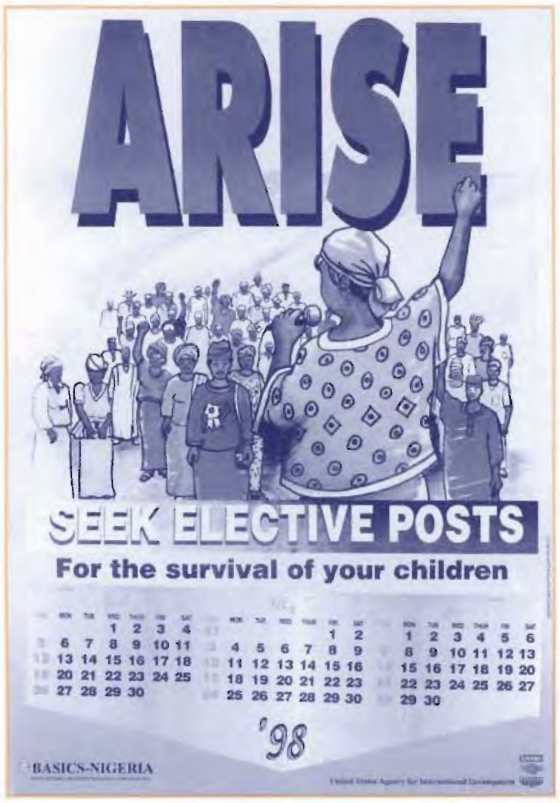
Laying the Groundwork for Understanding

All CPH projects were required to establish a Memorandum of Understanding to outline organizational goals, partner roles and responsibilities, governance values, and management structure. A unique and essential feature of each CPH is a women's Empowerment Committee. While BASICS provided a standard memorandum format and guidance throughout the process, each partnership developed a document that reflected its particular needs and objectives. The adoption and understanding of such documents—concepts unfamiliar to many participants—required lengthy discussions and the constant resolution of disagreements. However, the memorandums were ultimately recognized as valuable in enhancing the cohesion, cooperative nature; operational quality; and long-term sustainability of the projects. The memorandums also served as a basis for the constitutions required for each CPH project. The process, in turn, ensures recognition by international donor agencies.

The BASICS 10-person, all-Nigerian team held individual meetings and facilitated Workplan Development Workshops with groups from the CPH projects. These workshops allowed each participating project to design its own plan of action within the following areas of primary concern regarding child survival: diarrheal disease, malaria, acute respiratory infections, and measles and other vaccine-preventable diseases. The projects also addressed HIV/AIDS, women's reproductive health, democracy and governance, and women's empowerment. Subproject proposals that emanated from the workplans have been developed by individual CPH projects and submitted by BASICS to USAID for microcredit and income-generating activities. Continued training of CPH boards and health facility staff has facilitated skill building and the long-term sustainability of BASICS work in Nigeria.

Getting to Work

While the strategies of the CPH projects vary depending on the resources and needs of a particular community, all partnerships have two main purposes: the improvement of child health and the development of CPH



Promotional calendars, designed for the 1998 mock parliaments, emphasized the connection between health and governance.

capacities. Eight specific goals are shared by all CPH projects:

- Reduce the number of children under 5 and pregnant women who fall ill and die from malaria.
- Reduce the number of children under 5 years who suffer from diarrhea, dysentery, and dehydration.
- Reduce the number of children with acute respiratory infections.
- Increase immunization coverage among children under 2 years and improve the availability of effective, quality vaccines.
- Increase the demand for and availability of modern child spacing and family planning services.
- Increase the level of awareness of partner organizations and the community on the incidence and control of HIV/AIDS and sexually transmitted diseases.
- Ensure that the CPHs are self-sustaining and can maintain their capacities and services over time.
- Strengthen and expand the participation and role of women in decision making and leadership both in the CPH projects and the community.

In the past few years, CPH projects have taken a number of actions to achieve these goals. All of the partnerships have worked to reduce mortality from childhood diseases by increasing immunization rates in their communities. Strategies include linking with local government vaccine stores, establishing regularly scheduled immunization clinics, and participating in national and local immunization days.

Environmental sanitation projects have also been a priority, with CPH projects educating and mobilizing community members to clean up drains, ditches, and homes to reduce the causes of diarrhea, dysentery, and malaria. In September 1996, the youth leadership components of most CPH projects launched week-long public awareness campaigns on HIV/AIDS prevention, complete with condom and leaflet distribution and talks on various aspects of health. The same year, the Lagos Island CPH project trained volunteers in oral rehydration therapy and other key strategies to improve child health care. In 1997, the Lawanson CPH registered all CPH projects with UNICEF; the effort later resulted in the rapid distribution of 36,000 oral rehydration salt packages during a cholera outbreak in Lagos. In April 1998, BASICS organized a mock parliament involving CPH projects in Kano and Lagos that was attended by more than 800 women. Topics of discussion included health and nutrition practices and child survival, as well as the connections between these concerns and women's political

Table 2.2 ***Change in Patient Loads at Five Community Health Centers****

Type of Service	1995	1997	Increase
Inpatient	1,582	2,445	54 %
Outpatient	3,893	8,021	106 %

* Includes Elizir, Jas, Pine, Rikky, and Rock of Ages facilities.

Source: *Documentation Excercise: A Process Evaluation of the Lagos Community Partners for Health Programme.* BASICS 1997.

and economic empowerment, good governance, and community action.

Throughout the development and implementation of the CPH project, BASICS has primarily played the role of facilitator and guide, providing knowledge, skills training, and limited financial support. Materials, such as the BASICS information, education, and communication (IEC) packages, have been widely distributed. Training sessions have been held to expand immunization programs, ensure proper maintenance of vaccines through cold chain management, and improve health care delivery services.

Evaluating Impact

The BASICS project in Nigeria has been periodically assessed by both BASICS staff and CPH leaders. When the CPH projects were established, a guideline was put in place for boards to review their own progress. In addition, before the interventions were launched, BASICS staff facilitated CPH members to conduct a baseline capacity building exercise (CBE) to monitor progress toward their goals. By repeating this survey after training and health care education efforts were carried out, the CPH projects evaluated key concerns such as immunization, child care, family planning, and HIV/STD-related services.

Based on preliminary evaluations, it appears that the Lagos and Kano CPH projects have thus far focused primarily on process issues, such as building community unity and establishing organizational and management structures. More time will be necessary to evaluate changes, over time, in rates of immunization coverage, use of family planning services, and other indicators of success.

There are, however, several areas of significant progress. For example, prior to the CPH intervention, health facilities did not routinely provide immunizations, but they now do that as an integral part of their services. By the end of 1997, the Lagos-area CPH projects had given nearly 16,000 immunizations and more than 4,000 had been given in Kano. In addition, patient loads at many local health facilities have increased dramatically, as shown in table 2.2.

In some cases, CPH projects have gone outside their original mandates of focusing on public health and child survival. For example,adult education campaigns and financial cooperatives have been launched. This is due, in part, to the close link between health and other areas of social development. In addition, more community-based organizations than health facilities have been involved, increasing the incentive to

The Child-to-Child Project in Madagascar

As part of its work to influence health behaviors and improve child survival, BASICS has launched an initiative aimed at some of the youngest members of communities in Madagascar. The Child-to-Child project, piloted in collaboration with the country's Ministry of Education in late 1997, serves dual purposes: ensuring that children grow into adults who understand the benefits of good health practices, and expanding the knowledge of young people into other areas of society. The project is currently underway in 12 schools in the districts of Antsirabe II and Fianarantsoa II, involving approximately 500 children in grades seven, eight, and nine.

One of the first steps in the project was developing a manual to guide teachers on how to incorporate health concepts into their lesson plans. These lessons include activities that can be done in the classroom, at home, and in the community, in the areas of hygiene, vaccination, and diarrhea-related diseases (nutrition will be included in the future). Methods include music, drama, art, games, interviews, and written surveys and reports. For example, children can put on a play demonstrating the need to eradicate germs with soap and water, or learn how to improve sanitation around their homes to avoid illness. Another assignment might be to contact the mother of an infant in the village to discuss and follow a vaccination schedule.

This approach offers children an opportunity to learn about the connections between their behaviors and health and to share this information with their families and communities. As the project is evaluated and expanded, the value of children's knowledge, enthusiasm, and willingness to perform service will undoubtedly be an inspiration to communities everywhere.

focus on broad concerns. All CPH projects also face the contining need to both expand their membership base and ensure financial solvency, which requires a significant amount of time and energy to be devoted to collecting dues and organizing fundraising activities. Fortunately, some of these seemingly ancillary activities provide members with a sense of commitment to the community, and may even benefit the CPH projects, for example, when a portion of a financial cooperative's interest is given to a CPH treasury.

Long-Term Sustainability

Community-based projects in Nigeria, or elsewhere in the world, must be able to function independently if they are to be sustainable. Essential ingredients to long-term success include

- Legal status of each CPH as an independent NGO.
- Technical assistance, rather than transfer of money, on the part of donor organizations.
- Incentives, such as improved sanitation and technical assistance.
- Capacity-building training in management, finance, and child survival strategies.
- Income-generating activities that respond to the needs of the poorest in the community.
- Participatory methods of group problem solving/goal setting.

Projects will have more staying power if they are highly participatory and able to build upon a community's existing programs. Strong support from the private sector is essential.

The CPH projects in Nigeria largely meet these criteria. BASICS will continue to be involved with CPH projects in Lagos and Kano and to provide technical assistance, as needed. However, project management is now up to the partners. The long-term sustainability of the CPH projects will rest on their ability to resolve conflicts, adhere to the guidelines spelled out in the Memoranda of Understanding, and reach out to community groups and agencies working on other related issues, such as local HIV/AIDS programs, legal resource centers, and women's groups. Cooperation among the CPH projects will be equally important in order to learn from each other's successes and mistakes and to widen the scope of particular initiatives.

The CPH projects have encouraged citizens in Nigeria to identify their resources, develop their abilities, and take action in their communities. The CPH model, therefore, has positive implications not only for the future of public and child health but also for the broader task of local governance in communities worldwide. The mutual respect, recognition, and trust that characterize successful partnerships provide a solid basis for cooperation among disparate groups and individuals who are often separated by ethnic, professional, educational, or religious differences.

In addition, increased responsibility for local health concerns forms a natural bridge to other issues that are critical in urban communities, such as political organization, crime, and the environment. Once organizational structures are established and programs are made available, individuals feel encouraged and empowered to create change. A woman from Lagos summarized the impact of these efforts: "The CPH project has brought a light of hope to our community."

Other Types of BASICS Activities in the Community

In addition to the community activities that were documented in Ethiopia, Madagascar, Nigeria, and Zambia, BASICS had community- based operations in a number of other countries. In Honduras, for example, the Integrated Child Care Program (AIN) Project, described in the sidebar in chapter 8 on nutrition, involves the community directly in all efforts to improve the nutritional status of the under 3 population. Chapter 6 discusses monitoring and evaluation, and Bolivia's Mortality Surveillance Survey, which was a community-based technique to identify the cultural, behavioral, social, economic, as well as clinical, reasons why children die.

All three of the NGO activities documented by the BASICS Private Sector Working Group in chapter 5, demonstrated the value of working at the community level, including the Hearth Nutrition Model (in Haiti, Vietnam, and Bangladesh), mother-to-mother breastfeeding support (in Guatemala), the plantation-based MCH model (in Malawi), and the training of community immunizers by other community immunizers (in

Indonesia). Monitoring of private practitioners at the community level, also described in chapter 5, demonstrates an appropriate methodology to improve the quality of private health care providers. This is crucially important as policymakers start to take the entire health system into consideration, with the private practitioners, commercial sector, and NGOs all collaborating with public health facilities and authorities and contributing to the improvement of the health and nutrition status of the country's under 5 population.

Table 2.3 ***Differences between Community-Based Treatment (CBTI) and Community-Directed Treatment (CDTI)***

Elements	Community-Directed Treatment	Community-Based Treatment
Definition	CDTI is a process built on the experience of community members and thus enhances decision-making and problem-solving capacity. Activities are both in and of the community.	CBTI is a procedure wherein health providers determine the steps and the schedule to be followed. Activities are based in the community but not "owned" by the community.
Community Authority	Community exercises authority over decisions. Therefore, the community plans the distribution, decides on the method of distribution acceptable to them (e.g., central place, house-to-house), and when to distribute. Ensures sensitivity to community decision-making structures and social life.	Community does not exercise authority over decisions on project design and implementation. Project activities, such as treatment dates and procedures, are designed outside the community without any, or limited, contribution by the community.
Community Autonomy	Community is informed about the detailed tasks of distribution, but they decide who should distribute and whether such persons are strictly volunteers or should receive some compensation.	Community is told who should distribute, when to distribute, whether or not to pay distributors, and how much to pay.
Community "Ownership"	The community is the lead stakeholder in the provision of services, creating a sense of ownership, and thus enhancing the likelihood that the activities will be integrated into the community's health agenda. There is room for innovation by the community.	The community is a recipient of services within limits and rules set by the provider. There is no sense of ownership; the project is seen as foreign.
Educational Role of Health Worker	The educational role of the health worker is to communicate benefits of the program to the community and then pass on program management skills to community members.	The educational role of the health worker is to communicate the benefits of the program to the community and instructions on how to comply with procedures.
Workload of Health Worker	While start-up fieldwork may increase the immediate workload of the health worker, in the long term, an empowered community takes more responsibility for program implementation, thus reducing the health worker's workload.	The health worker's workload remains constant and high, because year after year he or she must handle all training, logistics, and outreach to every village.

Adapted from: *APCHO-WHO—Ivermectin for Onohocerciasis Control.*

Finally, in Bangladesh, BASICS implemented a slum strategy that directly linked the leaders of the communities to the NGOs and contributed impressively to the achievement of project immunization goals in the urban centers of the country.

Lessons Learned and Issues for the Future

The process involved in intervening at the community level is as important as the technical intervention itself. No matter how technically complete or sophisticated a health program is, the chances of it having an impact, and having that impact sustained at the community level, are greatly reduced if the community itself is not integrally involved in the planning, design, implementation, and monitoring of the exercise. BASICS has learned that there are methodologies and techniques that can facilitate community involvement that, in turn, can improve the chances that the community will assume ownership of

the activities, increase its knowledge regarding child care, and modify its practices, thereby reducing the probability that its infants and young children will die prematurely.

BASICS has come to distinguish between community-*based* and community-*directed* interventions. Table 2.3 differentiates between the two. All too often people refer to an intervention as "community based," which is a broad category. An immunization program can be community based, such as mobilizing villagers for a national polio vaccination campaign. However, if the outside force is withdrawn, the situation is likely to revert to pre-intervention status, and sustainability suffers. The community in such cases is largely passive.

On the other hand, with strategies like the PLA, communities are made full partners and active participants in the program, increasing the effectiveness of the programs. This strategy becomes increasingly important as serious decentralization efforts are now being implemented. Thus, the structure required before real community empowerment and action can be realized is now in place in a number of countries (e.g., Zambia and Bolivia).

In the future, we must do more to integrate the community effectively in the implementation of IMCI programs. To date, BASICS and others agencies promoting IMCI have concentrated attention and resources at the health worker and facility level. Now, the multilateral and bilateral donor agencies and NGOs promoting IMCI will have to take steps to ensure that the approach genuinely involves the community. They must utilize strategies that empower the local population, providing the means and authority to identify their most serious health problems and the most appropriate means of eradicating them.

Methodologies and techniques directly involving communities require further testing and standardization; then they must be promoted as part of IMCI to ensure that those attempting to implement IMCI have guidelines and know how to involve the community effectively. The time and human and financial resources so often spent doing the same thing again, in this case, should be spent instead on adapting and implementing known, tested, and accepted approaches of community-directed programming.

BASICS Work in Community-Level Programs

Democracy and governance training: **Nigeria**

NGO partnership grants: **Zambia**

Community health worker training: **Ethiopia, India, and Zambia**

Child-to-Child/school-to-community: **Ethiopia and Madagascar**

Participatory appraisal and planning: **Ethiopia, Honduras, and Zambia**

Community role models: **Madagascar**

Community volunteers: **Guatemala and Haiti**

Folk channels of communication: **Bangladesh and Madagascar**

Cross-sectoral alliances: **Ethiopia, Madagascar, and Zambia**

Partnerships between private sector and CBOs: **Nigeria**

Microenterprise projects: **Nigeria and Zambia**

Village health or animation committees: **Ethiopia, Madagascar, and Zambia**

Two-way referral of mothers: **Honduras**

Political support: **Bangladesh**

Collaboration with private sector employers: **Malawi, with Project HOPE**

Community-based monitoring of provider compliance: **India**

Community health festivals: **Madagascar**

Empowerment of women: **India and Nigeria**

Further Reading on Community Activities from BASICS

Community-Based Approaches to Child Health: BASICS Experience to Date by Mark Rasmuson, Naheed Bashir, and Nancy Keith, eds. 1998.

Community Partnerships for Health: Working Together to Promote Child Survival. 1999.

Nigeria Information Kit. 1999.

Highlights (one-page summaries)

Health Staff Partner with the Community for Better Maternal and Child Health in Ethiopia

Working Together for Health: Community Partnerships in Zambia

Madagascar Community-Based Health Program Provides Simple Tools that Promote Community Action

Experience Implementing the Preceding Birth Technique (PBT) to Measure Infant Mortality in Senegal and Mali

Nigeria's Community Partners for Health—Mobilizing Urban Neighborhoods and Private Clinics to Improve Services

Indigenous Private Groups Help Improve Community Health Services in India

Community Health Needs Study Guides Strategies for Ethiopia Project

Further Reading on Community Activities from Other Sources

Empowering Communities: Participatory Techniques for Community-Based Programme Development by Berengere de Negri, Elizabeth Thomas, Aloys Ilingumugabo, and Ityai Muvandi. 1998. JHU/AED/ Center for African Family Studies.


CHAPTER 3

Nutrition Advocacy in Ghana

It's no secret that child health and nutritional status are closely linked to other social and human conditions, such as poverty, education, and economic development. Recent research has clearly demonstrated that better health and nutritional status in children directly contributes to the economic and social development of a country, just as improvements in socioeconomic conditions contribute to better health.

While this fact may be evident to health advocates around the world, government officials and policymakers who control the financial resources and define political priorities must understand how important child health programs are for the development of their country.

Effective education tools can help in this process by communicating information and making persuasive arguments in support of specific interventions. In the current technological age, computer models and graphics are proving to be increasingly successful in influencing policy. Since its inception in the early 1990s, PROFILES, a data-based approach to nutrition policy development and advocacy, has been used with a variety of audiences, including policymakers, educators, and health practitioners. At the heart of PROFILES is a set of computer models that demonstrate the cost-effectiveness of proposed nutrition programs and illustrate how inadequate nutrition can impede economic and social development.

The focus on nutrition in the PROFILES program is a reflection of the growing awareness of the problem. For example, the enlightening studies of D. L. Pelletier, E. A. Frongillo, Jr., and J.-P. Habicht in 1993 provided a clear link between malnutrition and child mortality ("Epidemiologic Evidence for a Potentiating Effect of Malnutrition on Child Mortality" in the *American Journal of Public Health*). Their demonstration that more than half

BASICS Policy Strategic Vision

Promote policies and a process for their development that creates a framework for effective and efficient child health programs and reduces infant and child morbidity and mortality rates.

- Use scientific evidence as a key foundation for policy advocacy and development.
- Partner with other key international donor agencies, both multilateral as well as bilateral, to jointly support and sponsor child health-related policies that are consistent and mutually supportive.
- Adopt a broad policy perspective so that issues closely associated with child health are also taken into account when developing child survival policies.

of all child deaths from 6 months to 6 years in developing countries are associated with malnutrition has provided a firm basis for direct nutritional interventions. In a 1991 study, L. J. Haddad and H. E. Bouis found a consistent, linear relationship between stunting and productivity in agricultural laborers in the Philippines: stunted workers produced less ("The Impact of Nutritional Status on Agricultural Productivity: Wage Evidence from the Philippines" in the *Oxford Bulletin of Economic Statistics*). These and other recent studies provide convincing evidence that nutrition is not simply a desired outcome but also an essential element of development programs.

PROFILES builds on this heightened status of nutrition by enabling advocates throughout the developing world to interpret data in terms that they are interested in and can easily understand. PROFILES clearly demonstrates the connections between malnutrition and illness, disability, and mortality, as well as between nutrition and economic productivity. In this way, the program facilitates the progression from data collection to policy development, and finally to actual program implementation.

PROFILES was originally tested in Asia before BASICS was launched. After the project was underway, BASICS developed and applied the program in Ghana, Mali, Senegal, and Zambia. These efforts have created the impetus for international agencies, such as UNICEF and the World Bank, to promote nutrition programs around the world and have persuaded governments to focus on this critical area for intervention.

Charting a Course

Information is usually presented through PROFILES in a slide-show format with a predetermined sequences of screens containing graphs, tables, text, or pictures. An interactive format allows users to alter data and assumptions to illustrate the effects of a particular trend on development. Presentations often compare two different scenarios to show during a five-year period, the difference between leaving current nutritional practices unchanged and adopting new programs.

The computer programs contained in PROFILES summarize much of the current scientific knowledge about

nutritional impacts, and they calculate outcomes as a function of the size and nutritional condition of a population. Data for a given population are used to estimate and display the consequences of protein-energy malnutrition; low birth weight; improper child feeding; and vitamin A, iron, and iodine deficiencies. Several developmental indicators are charted: mortality, morbidity, fertility, health and education costs, vision, school performance, cognitive capacity, and work productivity. United Nations population models (including data on growth, age, and gender) are integrated into these calculations to project consequences up to 30 years in the future.

Applying Knowledge

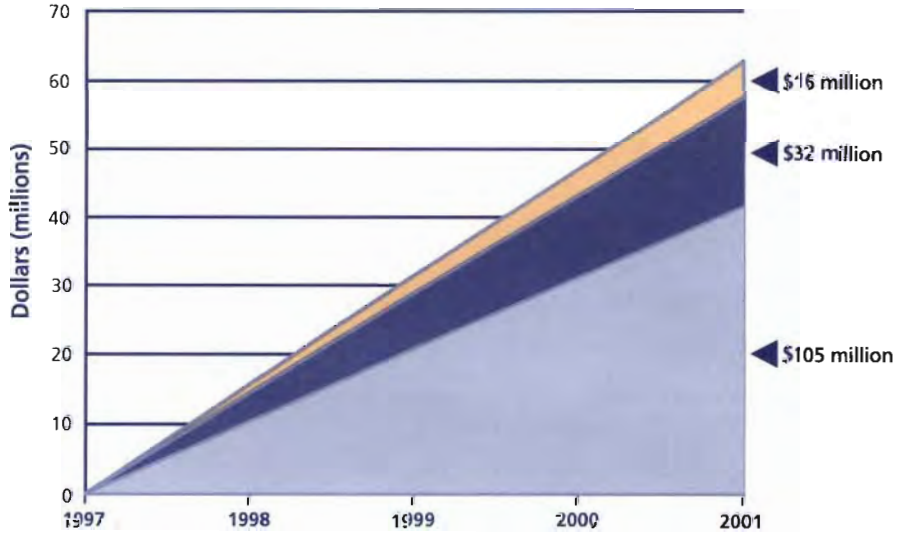
The West Africa regional staff of BASICS took initial leadership in implementing PROFILES by translating the program into French for use in the Francophone countries of Mali and Senegal. In addition, a curriculum was designed for a two-week regional workshop on PROFILES in October 1998, with representatives from several African countries.

Numerous educational activities have been initiated, including the training of both epidemiologists and computer programmers. The training was undertaken to enable domestic personnel to continuously integrate and update data, thereby ensuring the survival of PROFILES beyond the time of BASICS involvement. Such an approach also supports the trend toward decentralized health care throughout Africa by providing a cadre of professionals able to use PROFILES for planning on the district and local levels.

BASICS strongest application of PROFILES has been in Ghana. The project has taken place within the larger context of the country's Vision 2020 initiative, which aims to raise the standard of living to that of a middle class country by the year 2020. The PROFILES presentation builds on this theme by pointing out that children currently being conceived and born will enter the workforce by that time. It argues that the hope of becoming a middle class country depends on immediate investments in nutrition in order to ensure the survival, education, and productive capacity of future generations (see figure 3.1).

The PROFILES process was facilitated jointly by the Nutrition Unit of the Ministry of Health and the Center for Social Policy Studies at the University of Ghana. This effort involved a core group of technical experts and advisors. Both groups included nutrition and health professionals from a variety of government ministries, universities, and nongovernmental organizations. In 1997, these professionals participated in a workshop conducted

Figure 3.1 ***Summary of Productivity Gains***



Summarizing all the potential productivity gains over the 5-year period, Ghana is expected to gain $105 million from the reduction of iodine deficiency, $32 million from the reduction of stunting, and $16 million from the reduction of iron deficiency.

by two nutritional epidemiologists with PROFILES experience. Models, scripts, and a computer presentation were developed, as well as plans regarding overall strategy, priority objectives, and target audiences. Nutritional goals were developed, based on input from participants and on the year 2001 as the target date for reduced malnutrition, as specified in the Ghana National Plan of Action for Nutrition.

As a result of the workshop, decision makers from a wide range of government and donor agencies committed themselves to supporting nutrition-related activities. One immediate result has been the development of a new child survival strategy by the ministry of health that places improved child nutrition as its top priority, specifically citing the PROFILES presentation in its situation analysis. Following this success, the core group of technical experts and advisors has remained active, modifying and using the presentation with different audiences.

PROFILES has been used in Zambia by the National Food and Nutrition Commission, a government body responsible for policymaking, planning, and advocacy in the nutrition sector. A core/advisory group process, similar to that followed in Ghana, has been used to modify the PROFILES application. In turn, PROFILES has contributed to a presentation that is being used by donor and government decision makers to increase awareness of nutrition problems at the national level. The Zambia application may require further development to involve

Table 3.1 ***Predicted Under-Age-5 (U5) Deaths for Two Nutrition Scenarios: PROFILES Senegal Application***

Scenario	Item	1995	1996	1997	1998	1999	2000	Total
Demographic Projections	Live births (thousands)	351	357	363	369	375	381	
	U5 population (thousands)	1,441	1,495	1,548	1,598	1,647	1,701	--
	U5 deaths	29,131	29,258	29,727	30,037	30,187	30,819	--
	U5 deaths per thousand live births	83.0	80.3	78.9	77.2	75.3	74.7	--
A. No Change (Baseline)	Percent normal weight-for-age (%)	76.5	76.5	76.5	76.5	76.5	76.5	--
	Total U5 deaths	29,131	29,258	29,727	30,037	30,187	30,819	179,159
	Nutrition-related U5 deaths	10,070	10,112	10,276	10,383	10,435	10,653	61,929
B. Improved Nutrition	Percent normal weight-for-age (%)	76.5	77.8	79.2	80.5	81.9	83.2	--
	Total U5 deaths	29,131	28,699	28,598	28,327	27,895	27,894	170,544
	Nutrition-related U5 deaths	10,070	9,557	9,147	8,673	8,143	7,728	53,318
	Lives saved over scenario A	0	555	1,129	1,710	2,292	2,925	8,611

Table 3.1 shows yearly estimates of deaths for children under five years of age (U5) for two different scenarios. Scenario A (No Change) serves as the baseline, while scenario B (Improved Nutrition) estimates the impact of a hypothesized nutrition improvement program that reduces the prevalence of mild underweight by 30% and of moderate and severe underweight by 25%, each over 6 years, in a linear fashion. Both scenarios assume relative risks of death of 2.5%, 4.6%, and 8.4% for mildly, moderately, and severely underweight children throughout the 6-year period and use the Population Attributable Risk procedure to make the estimates. Scenario A assumes the United Nations (U.N.) median population projections and prevalences of mild, moderate, and severe underweight in U5 children are equal to the 1993 Demographic and Health Survey (DHS) findings of 17.3%, 05.0%, and 01.2% respectively, throughout the 6-year period. Both U5 mortality rates for each nutritional status category equals the rates implicit in the U.N. projections, dropping gradually over the period in proportion to the U.N. total U5 rate. The hypothesized program saves 8,611 lives over the 6-year period. The assumed values for relative risk are based on the results of Pelletier and colleagues (see first page of this chapter), which are reliable for children aged 6 to 59 months but not necessarily for children under 6 months of age. Thus, the estimates shown here may not be reliable because they include children aged 0 to 5 months.

more nutritionists and health professionals in the analysis and formulation of both data and results.

In Mali, PROFILES was applied in response to a growing awareness of the severity of malnutrition which resulted from the release of the 1996 Demographic and Health Survey. The survey revealed a sharp increase in the prevalence of underweight and stunted children during the past 10 years. Three nutritional epidemiologists visited Mali in 1997 to discuss various options for the application of PROFILES, and they followed up with a workshop to facilitate policy analysis. A formal computer-based presentation to key decision makers subsequently resulted in the initial development of a nationwide, 10-year nutrition investment plan.

In Senegal, PROFILES is being used to educate decision makers on nutrition problems and to foster cooperation among a variety of agencies in developing nutrition programs (see table 3.1). To broaden the reach of PROFILES, the application software was translated into French, the national language in Senegal.

Reaping Rewards

The payoffs resulting from economic development and heightened

Controlling the Spread of Malaria

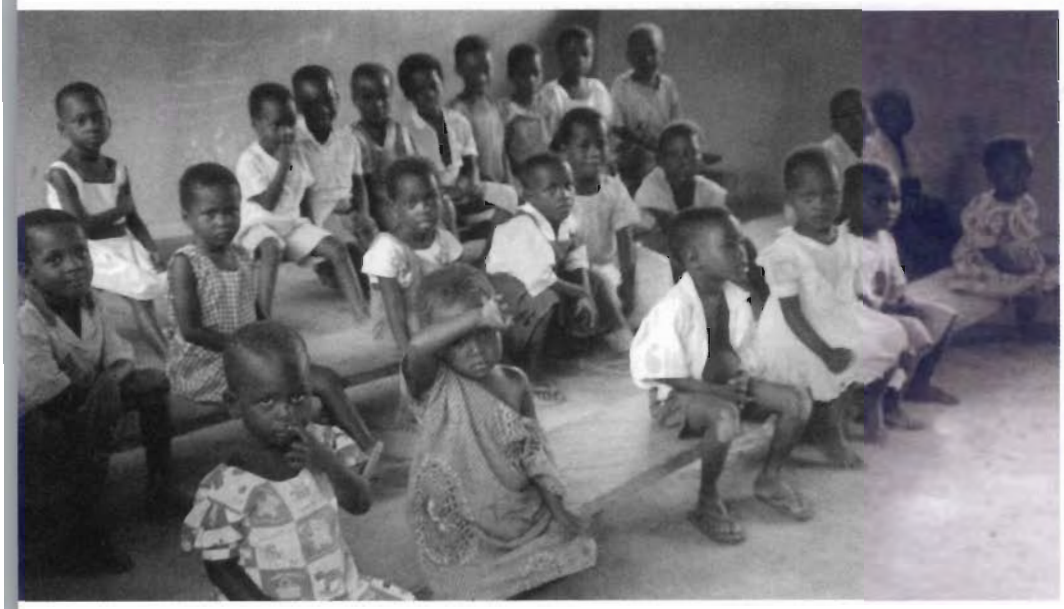
Throughout the 1990s, the understanding of malaria and strategies for its control have undergone dramatic shifts. Global trends of urbanization, decentralization of health systems, and the growing role of the private sector in health care have altered the landscape in which malaria control programs operate. In addition, increased drug resistance to chloroquine (the most common anti-malarial drug), greater recognition of the negative impact of malaria on pregnancy, and the course of HIV infection have forced the development of new tools and techniques to combat the disease. These include replacement drugs for chloroquine, insecticide-treated mosquito nets, IMCI, and methods of treating malaria outside health facilities.

BASICS has been involved in developing and promoting these new health strategies both on the international policy level and in specific countries. Under the auspices of the USAID-supported Africa Integrated Malaria Initiative (AIMI) and in collaboration with U.S.-based partners (particularly the Center for Disease Control and Prevention and the Environmental Health Project), BASICS has implemented malaria control activities in Zambia, Kenya, Benin, Nigeria, and Mozambique.

In Zambia and Kenya, BASICS has provided technical assistance to develop ways to monitor drug resistance and to use the information to improve national drug policy and delivery systems. In addition, BASICS, as the main U.S. collaborating agency, conducts formative research on caretaker response to malaria and issues of disease recognition, treatment, and compliance (also known as "community IMCI"). BASICS also coordinates AIMI activities in Zambia, Kenya, Benin, and Mozambique, particularly the management of fever-related illness. BASICS recently completed an urban malaria assessment in Lagos, Nigeria, that enabled the Community Partnerships for Health project (see chapter 2) to reduce unnecessary anti-malaria drug expenditures and to improve vector control and environmental health efforts.

BASICS has been at the forefront of forging public-private partnerships for the promotion of insecticide-treated mosquito nets by bringing together international manufacturers of insecticides and nets and collaborating partners, including the World Bank, WHO, UNICEF, the United Kingdom Malaria Consortium, and the CORE group of major NGOs. The central strategy of the project is to develop systems that are more sustainable and less donor-dependent than traditional "social marketing" projects. This approach would also facilitate better market segmentation, lower costs, and increase the availability of nets and insecticides.

BASICS participates in a number of international policy-making groups related to malaria, including the WHO Malaria Technical Advisory Group for Africa; the WHO Tropical Diseases, Research, and Training Task Force for Operational Research on Insecticide Treated Materials; a UNICEF working group to develop specifications for insecticides, nets, and other vector control materials; and the Multilateral Initiative for Malaria (MIM) to focus on drug treatment. BASICS also works with a range of USAID offices and private voluntary organizations in providing technical updates, review of project proposals, and detailed implementation plans for malaria programs worldwide.



production are often more easily understood and appreciated than the benefits of investing in health or education. In the countries where BASICS has applied the PROFILES program, policymakers have been impressed by the strong evidence of the link between nutrition and national progress. PROFILES can contribute to shifting spending and policy priorities toward a greater emphasis on nutrition. Improved health and quality of life readily become national goals when investments in children are shown to be economically beneficial.

For example, a 1994 meta-analysis study by N. Bleichrodt and M. P. Born on the effect of iodine deficiency on intelligence concludes that iodine deficiency causes an average decrease of 13.5 IQ points ("A Metaanalysis of Research on Iodine and its Relationship to Cognitive Development" in *The Damaged Brain of Iodine Deficiency*, ed. J. B. Stanbury, New York: Cognizant Communication Corporation). Most of this effect probably occurs in the offspring of iodine-deficient mothers. Thus, reducing iodine deficiency in a population can, over time, increase general intelligence, which, in turn, enhances worker productivity. Other studies have linked iron deficiency anemia to lower labor productivity. The PROFILES models capture these results and others to estimate the potential gains in worker productivity that could be achieved by reducing or eliminating various nutritional deficiencies. Thus, the application in Ghana concluded that every U.S.$100 invested in nutrition programs could result in U.S.$960 in increased productivity due to improved health, strength, and mental capacity among workers.

In the future, three factors will largely determine the impact of PROFILES on nutrition policy: credible research and data, a sufficient magnitude of estimated improvements to justify increased investments, and strong individuals and institutions capable of advocating for change. The degree to which these conditions can be met varies among developing countries, all of which face the difficult task of creating budgets and infrastructures that can satisfy the needs of burgeoning populations.

Placing nutrition and health at the center of policy and spending decisions is, therefore, more complex than simply identifying tangible costs and benefits. While PROFILES provides a strong technical tool for health advocates, resulting evidence and analysis can only be used to the degree allowed by a specific political and economic context. Nonetheless, the information and perspectives provided by PROFILES offer clear alternatives and guidance to policymakers as they move into the future.

Developing Health Systems in Eritrea

Throughout the world, agencies, professionals, and community leaders have a strong interest in improving the health and well-being of populations. They recognize the critical contribution that healthy children will make to economic and social development in the future. Yet many countries face severe budgetary constraints and have limited resources, knowledge, and training with which to develop and deliver health services. Financial constraints, civil and political unrest, resource depletion, and widespread poverty create barriers to progress for even the most willing and well-intentioned governments.

Functioning infrastructures must be in place before specific programs can be launched, for example, programs for immunization, nutrition, health training, or education. Therefore, international organizations, such as BASICS, WHO, or UNICEF, are frequently challenged not only to design and implement suitable interventions but also to assist in the development of capacity and policy. Doing so ensures that activities make a lasting contribution to health conditions in a given country.

As part of its work in 12 African countries, BASICS collaborated with the MOH in Eritrea to strengthen and expand the country's health care delivery. Launched in late 1994, the Eritrea Health and Population Project (EHP) aims to increase the availability and use of basic health and reproductive health services. This two-pronged approach reflects an understanding of the inextricable nature of maternal and child health conditions; if a mother is well nourished and has access to care, she is more likely to give birth to a healthy baby and to seek treatment for her child when needed.

Newly independent Eritrea is determined to reverse the devastating effects of a 30-year civil war that severely weakened the country's infrastructure and resources. The country has been unique in its desire to become as self-reliant as possible and to depend only minimally on foreign assistance. Government agencies and policies are being established to create a base for sustained economic growth and development that can, in turn, improve social and health conditions. To meet these goals, the MOH will have to overcome formidable challenges: high morbidity and mortality rates for women, infants, and children due to preventable causes, such as diarrheal diseases, malnutrition and micronutrient deficiencies, tuberculosis, closely spaced pregnancies, and complications during childbirth.

Today, despite these obstacles, the Eritrean mortality rate for children

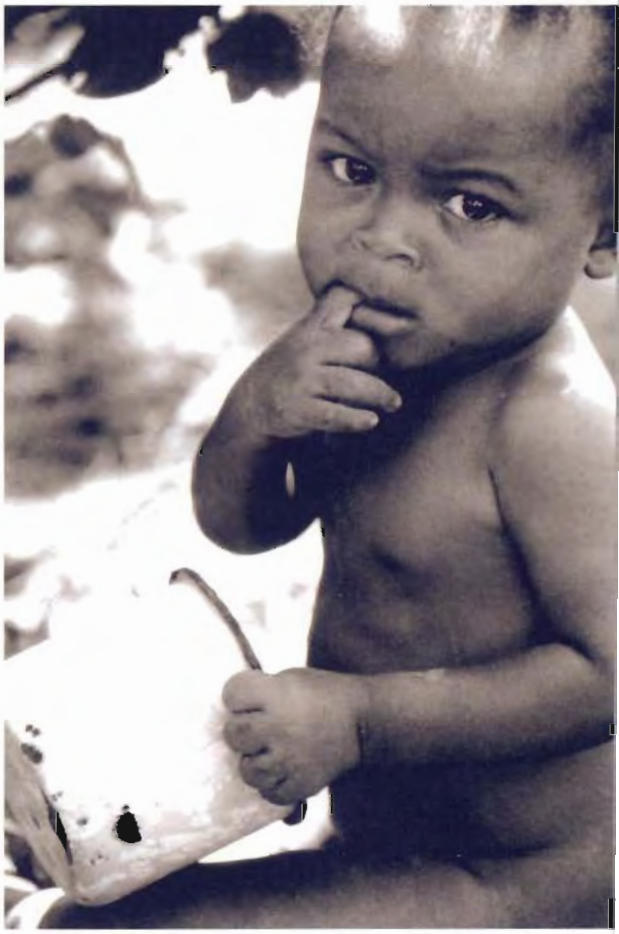
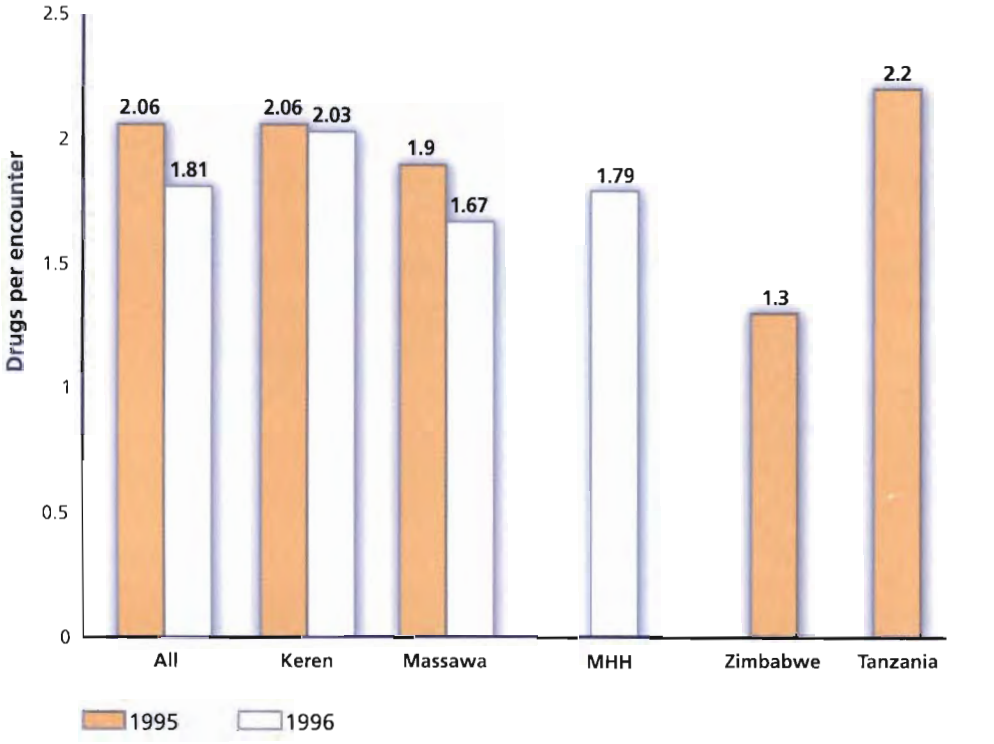


Figure 3.2 ***Average Number of Drugs Prescribed Per Encounter***



Source: MOH, 1996, 1997.

under 5 is half of what it was 40 years ago (120 deaths per 1,000 live births) according to UNICEF's *State of the World's Children 1998* report. However, this and other indicators of health are still problematic. The 1995 Eritrean Demographic and Health Survey indicates that almost 59 percent of the country's children under 5 are not fully immunized, while 61 percent are severely or moderately underweight and 38 percent suffer from stunting. In addition, the use of contraceptives is low. The current growth rate of more than 3 percent will result in a doubling of Eritrea's population in 23 years, promising more pressure on the country's fragile resources and services in the future.

Building a Foundation

In the past, standards in the Eritrean health care system have been quite limited. Integrated services have been lacking and curative services tended to be emphasized over prevention. As a result of destruction and damage caused during the war, the population of 3.2 million has access to only 15 hospitals, 35 health centers, and 113 health stations. Many facilities are poorly equipped and lack basic necessities, such as diagnostic and laboratory equipment and supplies.

To address this critical situation, the MOH designed a model for a health service system that aims to ensure intervention on several levels. Villages with a population of 1,000, select a community health agent and a traditional birth attendant who are trained in health education, in when to refer a sick child, and in basic hygiene and sanitation. They are also given supplies by the MOH for first aid, maternal and child health, and family planning services (MCH/FP). Complementing individual service providers, health stations provide integrated MCH/FP services, preventive and curative care, laboratory services, immunizations, and outreach. Health centers provide outpatient and inpatient services to populations of 50–100,000, while provincial hospitals and the national referral hospitals handle the most critical diseases and cases.

In just a few years, the Eritrean government made enormous strides in developing health policies. In 1996, the MOH collaborated with numerous international donor

organizations (such as BASICS, UNICEF, WHO, Save the Children, and the United Nations Population Fund) to establish guidelines for primary health care. These nationwide policies addressed key areas of concern, including reproductive health, nutrition, childhood diseases, and the treatment of tuberculosis and malaria.

Emphasis has been placed on information, education, and communication (IEC) campaigns to improve the knowledge and involvement of the general public in health care, systems for quality assurance of care, and the process of decentralization of health management to regional and local levels. Additional efforts have included the development of guidelines for regional planning of child survival programs, including immunization, nutrition, and reproductive health.

In 1997, one year after establishing guidelines, the Eritrean government, assisted by BASICS, tackled the establishment of a national drug policy. This effort has provided a framework for regulating and implementing drug-related treatments. Guidelines for drug procurement have also been developed, in particular the need to increase the role of the private sector in drug procurement through both national and international channels. In addition, an essential drug list was formed to help health care practitioners determine which drugs should be used and when specific drugs should be prescribed, thereby saving money and limiting unnecessary treatments.

Between 1995 and 1996, the average number of drugs per outpatient client prescribed by medical doctors in Eritrea (see figure 3.2) dropped by 12.1 percent,

Study Identifies Barriers That Impede the Poor's Access to Health Care

Health care finance systems often give the poor payment waivers and exemptions so they have access to the system. BASICS and USAID's Health and Human Resources Analysis for Africa (HHRAA) Project designed a study to help formulate policies toward equitable and better management of health care coverage in Kenya, Guinea, Ecuador, Indonesia, and Tanzania. The study pointed out that barriers continue to exist for the poor trying to effectively use waivers and exemptions.

While poverty is the main barrier to health care access, the lack of information from the government regarding waivers and exemptions worsens the situation. The study also found that where waivers and exemptions are in place, the people who need them most are often unaware of these benefits and their eligibility for them. In other instances, people who can afford to pay for health care are sometimes exempt from payment due to special or incorrect status qualifications.

Finally, existing waiver and exemption systems often require costly administrative mechanisms that place additional financial burdens on already-strapped governments, creating further disincentives to implementing and enforcing the systems.

Although the countries in the study shared a number of similar barriers, they also had some differences. For example, in Kenya, health administrators do not publicize the waiver system for fear of its abuse, partly because there is currently no adequate record keeping to monitor exemptions and waivers; in Ecuador, exemption plans create inequities because of uneven interview processes—from formal interviews with social workers to informal decisions made by a doctor; and in Guinea, few formal exemption mechanisms and inconsistent pricing policies create inequities across the board in health care access.

In Tanzania, exemptions for child, maternal-child, and elderly health services provide access for some of the poor. However, the study found that government hospitals tend to be concerned primarily with revenue rather than greater access to services, as compared to mission hospitals that traditionally charge for services but treat all patients regardless of their ability to pay. Neither government nor mission hospital staff have been trained to determine who is eligible for a waiver or exemption, so the system is not used effectively, if at all.

As in Tanzania, study researchers found that Indonesia's program does increase the poor's access to modern health care facilities, but some health care providers were resistant to the program because it meant decreased revenues.

The lessons learned from the study point out that a workable equity program must create systems that emphasize equal access to health care for the poor without creating an unmanageable financial burden for the government. In addition, record keeping and monitoring systems should be easy to maintain to ensure that the waivers and exemptions are extended to those who need them.

from 2.06 to 1.81. Assuming a similar prorated decline in the average cost of a prescription, and an outpatient population of 150,000, the outpatient departments of Eritrea's three largest hospitals achieved a combined savings of about U.S.$25,000 between 1995 and 1996. This drop in the average number of drugs prescribed is directly associated with a 94 percent compliance with the Essential National Drug Lists. Furthermore, the MOH strongly advocates rational drug use through quarterly drug information bulletins mailed to all physicians and health workers in the country. BASICS provided a technical consultant to assist with the drug policy project, which led to the development of a revised and more universally accepted national list of drugs in 1995.

Most recently, the 1998 Standard Treatment Guidelines were developed to improve the quality and consistency of care for Eritrea's population. These standards, contained in a manual to be distributed to health facilities and practitioners nationwide, ensure that any patient seeking advice on prenatal dietary habits or a child's illness, for example, will receive the same level of care and specific treatment regardless of where he or she lives.

Marking Progress

During the entire policy development process, BASICS has offered support to Eritrea through the Eritrean Health and Population Project (EHP). The initiatives described previously serve as a basis for the project, which assesses health-related circumstances, helps implement policies and guidelines, strengthens systems, and trains health workers. EHP focus areas include immunization, oral rehydration therapy, nutrition, acute respiratory infection, malaria treatment and control, family planning, pre- and post-natal care, and HIV/AIDS control. The EHP emphasizes the need to inform and involve women in health care projects, because their enhanced decision-making power both at home and in society is critical to increasing the use of services by mothers and their children.

Through the EHP, BASICS provides technical assistance to the MOH and regional and local health facilities in the four contiguous regions of Maakel, Debub, Gash-Barka, and Anseba. The EHP has the following six goals and a range of strategies to accomplish them.

- Increase the capacity of the MOH to strategically plan, develop, manage, and implement policies for the provision of child survival programs to communities. A survey of health facilities and professional capacity has been conducted, as well as reviews of health care financing and constraints on decentralization. Assistance is being provided to help regional managers develop annual health

plans. Training programs in monitoring, evaluation, and priority setting are also underway.

- Strengthen the existing Health Management Information System (HMIS) by assisting the MOH with the collection, analysis, and dissemination of public health information. Based on input from hundreds of facility-based health workers, national health indicators have been developed, as well as new forms and registers for data collection. To date, more than 900 health information officers have been trained to use these data systems, which are in use in all health facilities in Eritrea. In addition, an instruction manual on the HMIS has been written for health workers in Tigrinya (the dominant language in Eritrea). Software programs to collect health data and to register patients have also been developed and are in use by both the central government and the regions.

- Expand and improve local and national logistical systems to deliver drugs, essential supplies, and laboratory services to health workers. Medical instruments, chemicals, and supplies have been ordered through an international bidding process supervised by the Pharmaceutical Corporation of Eritrea (PHARMECOR). The MOH and PHARMECOR staffs have been trained in software programs, drug management and policy, drug quality control, injection safety, and cold chain practices to ensure the adequate storage and handling of vaccines. Other activities currently underway include the design of warehouses and the delivery and installation of equipment and supplies for a national drug quality-control laboratory.

- Build national capacity to train health workers to plan, manage, and

BASICS technical assistance to the Eritrea MOH and its departments was very impressive. It was very timely and current in terms of our technical needs. We are very satisfied. The Project personnel also guided and trained our staff in areas that were very valuable to us.

Dr. Ghirmae Tesfaselassie, Head of Office of International Cooperation, Eritrea Ministry of Health

implement integrated child health and family planning programs at the community level. A major achievement in this area has been the design and implementation of a 4-year nursing curriculum at the University of Asmara. Another milestone has been the adoption of the integrated IMCI strategy by the MOH. The training of health workers in IMCI, including the integration of IEC materials, is in progress. In addition, an analysis of health and human resources in Eritrea was submitted to the MOH, as well as reports on quality assurance techniques and nutritional status. Recommendations for the feeding of infants and children were developed.

- Support the planning, delivery, and evaluation of integrated health services through the collection of baseline data and operations research. Studies have been carried out on a number of critical subjects, including health system decentralization, doctors' prescribing practices, and practices of rural drug vendors and their clients' drug purchases. The quality of care and health logistics systems have been assessed. Research results on these and other areas will continue to contribute to the development of practice and treatment standards.

- Develop and implement IEC programs to expand the use of reproductive health services and to help caretakers improve their practices for the prevention and management of childhood illness. Members of the regional health teams have received training curricula on the use and testing of IEC materials. IEC materials and equipment have been supplied to the MOH; their staff members have received on-the-job training in their use. Workshops have also been designed to facilitate improved communication between clients and health care practitioners.

Looking Ahead

Significant progress has clearly been made in the few years since the EHP was launched, in large part because of the enthusiasm and determination of the Eritrean government. Given the initially short (3-year) time frame of the project, many goals remain unfulfilled; additional time for both implementation and follow-up will be needed to fully assess the long-term impact of the EHP. Future efforts will focus on questions of financing, decentralized planning, reporting deficiencies, design of the HMIS, and the hiring of technical assistance needed by the MOH.

Thus far, most energy and resources have been devoted to laying the groundwork for infrastructure development within Eritrea's health care system. It is the hope of BASICS that the MOH and regional and local health facilities will be able to continue to expand and improve their capabilities to evaluate health-related problems and to find innovative solutions. Strong recognition of the importance of primary care and reproductive health services will serve Eritrea well as the country's leaders and people find new ways to confront the challenges of the future.

Lessons Learned and Issues for the Future

While there are numerous approaches to policy development, BASICS concentrated on an approach that relies on the use of scientific evidence to develop child survival policy. This data-based approach has proven to be successful in several ways. The approach can be a powerful factor in the mix of considerations that influence decision makers, particularly when the information is presented in dramatic fashion by credible spokespersons. The data-based approach provides a rational targeting of resources, and it points the way to additional data acquisition and future research that can strengthen the next round of policy development.

Unlike most other approaches to policy development, the data-based approach enables all parties to the proposal to learn systematically about existing and proposed policies and their likely outcome.

BASICS has also found it advisable to involve additional sectors to support the development of effective child survival policies. For instance, in order to get support for nutrition policies, it was necessary to convince policy makers that investments in nutrition will have educational and productivity benefits for the country, in addition to health benefits.

BASICS determined that it is very important to partner with other donors, especially the multilateral agencies (e.g., WHO, UNICEF, and the World Bank). Having the support of the international experts and the organizations that have resources is invaluable when establishing and promoting child health policies. Several agencies advocating and supporting the acceptance of a new policy are much more effective than one organization operating alone. BASICS work in IMCI and with PROFILES has demonstrated this conclusion.

Future needs in support of child health issues include the development of a policy advocacy tool that can accomplish for child health what PROFILES has accomplished for nutrition. The tool will demonstrate in monetary terms the benefits of improved child health and reduced child mortality. Policy makers are typically supportive of child health programs, but having evidence that quantifies expected gains in terms of lives and financial resources saved can make their job easier and help ensure sufficient resources.

Although BASICS has worked very closely with multilateral donor agencies, there is a need to strengthen and sustain these relationships. The donors complement one another in these efforts—WHO promotes policy direction, USAID provides technical assistance and resources to test innovative approaches, UNICEF has the mandate and resources to provide supplies and equipment, and the World Bank supplies the funds to replicate and scale-up promising child health strategies. There is much to do and there are lives to be saved; child health programs must take advantage of the synergies that come from strong donor collaboration and partnerships.

BASICS Work in Policy

PROFILES advocacy activities: **Ghana, Mali, Senegal, and Zambia**

Innovative and needed health care finance reform through the Health Network Project under the Regional Economic Development Support Office (REDSO): **West and Southern Africa**

Development of a national health care financing strategy: **Ethiopia**

Development of national health care financing: **Tanzania**

Immunization-related policies: **Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, and Uzbekistan**

Integration of vitamin A: **Madagascar**

IMCI as health care policy and training: **Bolivia, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Madagascar, Nicaragua, Peru, and Zambia**

Health care financing and IMCI: **Eritrea, Ethiopia, Kenya, Tanzania, and Zambia**

Health Network Support System (HNSS) and PROFILES: **Burkina Faso, Cameroon, Cote d'Ivoire, Ghana, Mali, Niger, Morocco, Senegal, and Togo**

Further Reading on Policy from BASICS

Overcoming Remaining Barriers: The Pathway to Survival by Ronald Waldman, Alfred V. Bartlett, Carlos C. Campbell, and Richard W. Steketee. 1996.

Accomplishments in Child Survival Research and Programs by R. Bradley Sack, Ricardo M. Rodrigues, and Robert E. Black. 1996.

Review of Child Survival Funding: 1980–1995 by Deborah McFarland. 1997.

The Recent Evolution of Child Mortality in the Developing World by Kenneth Hill and Rohini Pande. 1997.

PROFILES: A Data-Based Approach to Nutrition Advocacy and Policy Development by Barton Burkhalter, Victor Aguayo, Serigne M. Diene, Margaret B. Parlato, and Jay S. Ross. 1998.

Article in press

Nutrition Advocacy and National Development: The PROFILES Program and Its Application by Bart Burkhalter, Edward Abel, Victor Aguayo, Serigne M. Diene, Margaret B. Parlato, and Jay S. Ross. 1998.

Highlights (one-page summaries)

The PROFILES Computer Model: A Tool to Build Consensus for Nutrition Strategies

Eritrea Reaches Consensus on Primary Health Care Policy: Building a Strong Foundation for the Future


CHAPTER 4

Applying Integrated Management of Childhood Illness in Zambia

Every year in developing countries, about 12 million children die before reaching their fifth birthday. Tragically, approximately 70 percent of these early deaths occur because of five preventable conditions: diarrhea, acute respiratory infection, malaria, measles, and malnutrition.

The scope and impact of these conditions could be greatly reduced through timely, relatively easy interventions. Because children often suffer from more than one of the conditions—a pattern that can hasten the onset, exacerbate the severity, and complicate the treatment of each—a single diagnosis is often insufficient. Recognition that addressing several problems simultaneously can reduce the frequency and severity of illness prompted the World Health Organization's Division of Child Health and Development (WHO/CHD), in collaboration with UNICEF, to launch a groundbreaking strategy known as the Integrated Management of Childhood Illness (IMCI) in 1995.

This approach focuses the comprehensive treatment needs of the sick child. Through a range of integrated interventions, the IMCI strategy aims not only to treat immediate symptoms but also to support growth and development. It combines improvements in overall case management with promotive and preventive interventions in key areas, such as nutrition and immunization. At the heart of IMCI is a set of guidelines that specify the steps needed to manage one or more of the five major childhood illnesses. When used by first-line health workers, the correct classification

BASICS IMCI Strategic Vision

Develop interventions that will address key factors that impact on health worker and health facility performance. Influence the agenda of other, longer-lived agencies.

- Provide technical assistance and training to senior health officials of various countries as they prepare to implement IMCI.
- Develop methods, materials, and approaches for pre-service and in-service training of health workers in the management of childhood illness, particularly focusing on front-line health workers and especially those with limited formal education.
- Develop strategies beyond training to improve the management of childhood illness, including the organization of health clinics, monitoring and supervision of health workers, health worker motivation, drug supply, and other key elements of the health system influencing the quality of care provided at health facilities.
- Improve case management practices for childhood illnesses in the home and in the community, focusing on both preventive and curative behaviors.

of illnesses result in comprehensive care for the sick child, including the combined treatment of conditions when appropriate, counseling of caretakers about home care, and referral, as required.

IMCI offers Zambia the opportunity to address many elements of health care related to children in a comprehensive, coordinated, and integrated manner. This approach is not only in line with the vision of our health reforms, but it serves the best interest of children, their families, and our nation.

Dr. Gavin Silwamba, Director General, CBOH, Government of the Republic of Zambia

According to the *1993 World Development Report* from the World Bank, following an integrated approach would have the greatest impact on the global burden of disease. Because IMCI focuses on prevention as well as treatment, it is cost effective, despite initial spending for training and reorganization of the health system. In addition, disease-specific approaches are often insufficient and waste scarce resources.

Recognizing these benefits, a growing number of multilateral and bilateral agencies and nongovernmental organizations have supported IMCI worldwide. Since the program's inception, 40 countries have introduced or begun to implement the program. The increasing appeal and applicability of IMCI have much to do with the global trend toward the decentralization of health care; the approach centers around improving the quality of services on the local level and enhancing communication between health workers and caretakers. In addition, the practice of IMCI helps health workers improve their skills in assessing and classifying the illnesses and conditions of sick children.

BASICS has been an integral part of support for IMCI in many countries. The BASICS Pathway to Survival model (see chapter 1) identifies interventions that are all related to IMCI: improving the skills of health workers, altering the health system to support effective management of childhood illness, and extending the reach of health services into even remote communities. To date, BASICS has worked with WHO and UNICEF to promote IMCI in 19 countries around the world. (See map on page 60.) Enormous strides have been made, including the establishment of national IMCI advisory groups and the training of more than 5,000 health workers in IMCI case management.

Establishing the System

Each country requires a unique combination of IMCI interventions that depend on the country's specific disease-related trends, the way that its health care system is organized, existing methods of treatment, and the goals of its decision makers. These factors guide achievement of the three central IMCI objectives: improving the skills of health workers, improving the capacity of health systems to deliver quality care, and improving the child health-related practices of families and communities.

IMCI currently centers around the training of health officials and workers. During a course in IMCI, participants learn about assessing, classifying, and treating the most common childhood illnesses, as well as the routine updating of immunizations, micronutrient supplementation, promotion of breastfeeding, and counseling to reduce malnutrition. Special attention is given to quickly identifying the sickest children by assessing for general danger signs and then correctly referring those who need specialized medical care.

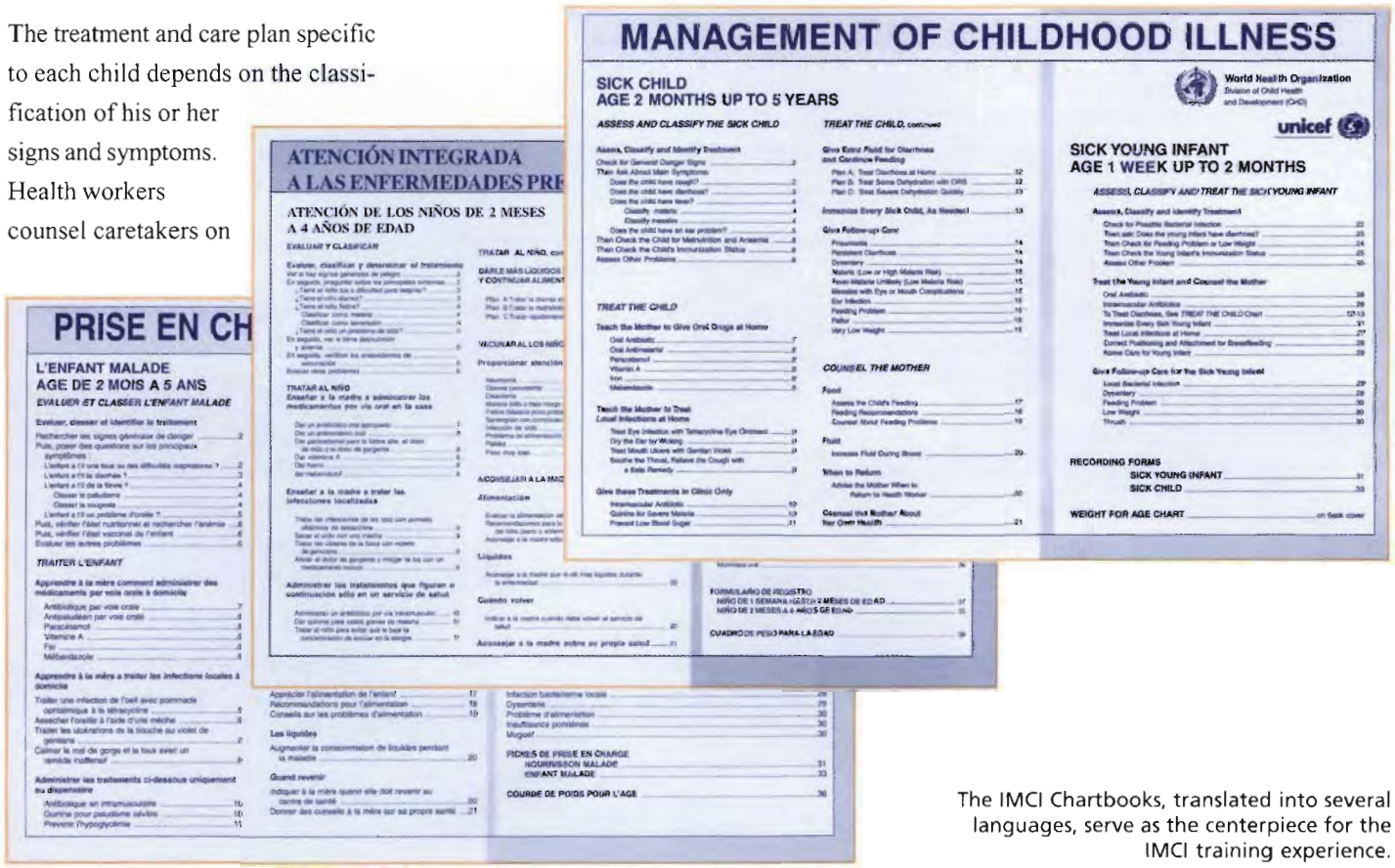
Health workers are also taught communications skills to help caretakers better treat their sick children and prevent future illness.

The IMCI process itself involves several steps, beginning with a health worker's assessment of a child's condition through a history taking, physical examination, and checking of his or her nutrition and immunization status. A color-coded written algorithm helps the health worker assess the child, classify the child's condition, and provide caretaker counseling on the child's integrated treatment and care plan.

The treatment and care plan specific to each child depends on the classification of his or her signs and symptoms. Health workers counsel caretakers on practical treatment skills, such as administering drugs, feeding practices during illness, and treating infections at home. For several classifications, caretakers are asked to return for a follow-up visit with their child on a specific date. They are also advised on how to recognize symptoms that signal when the child should be immediately brought back to the health facility.

Getting to Work

One of BASICS strongest and most successful efforts in the area of IMCI has taken place in Zambia. Following democratic elections in 1991, the Zambian government launched a plan for comprehensive health care reform. According to demographic health surveys conducted in 24 African countries, Zambia was the only country to experience an increase in under 5 child mortality between the 1980s and 1990s. Today, approximately one in five Zambian children dies before his or her fifth birthday. Many factors have contributed to this situation, including poverty, high fertility, malnutrition (exacerbated by frequent drought), increased resistance to anti-malarial drugs, and the spread of HIV/AIDS.



The IMCI Chartbooks, translated into several languages, serve as the centerpiece for the IMCI training experience.

In 1995, the Zambian government requested that USAID provide the technical leadership for the country's strategic plan for child survival. BASICS was charged with the role of addressing child health through the Zambia Child Health Project (ZCHP), a bilateral effort between USAID and Zambia. The ZCHP covers a wide range of interventions throughout the country, including IMCI.

The implementation of IMCI is not dependent on establishing new agencies or health facilities but rather on collaborating with and improving existing ones. During the orientation phase of IMCI, discussions were held with policy makers and health officials on the implications of the program for Zambia. Following those meetings, the Ministry of Health (MOH) agreed to implement the strategy.

Because IMCI matched well with overall MOH plans to decentralize and strengthen local services, the Zambian government quickly adopted the approach as the national policy that determines how sick children are diagnosed and treated.

In collaboration with international donors, such as WHO and UNICEF, as well as bilateral aid agencies, especially USAID and local NGOs, BASICS has supported the MOH in moving forward with the implementation of IMCI in Zambia. Health facility assessments (HFAs) were conducted in Copperbelt Province and in both urban and rural areas of Lusaka. The findings identify current health worker performance and critical areas for intervention. (See chapter 6 for more about the HFA process.) The information gathered on existing case management practices has contributed to the development of plans for an integrated system of health care delivery.

IMCI was officially introduced in Zambia in 1996 at an adaptation workshop attended by officials from numerous areas of the MOH and the Central Board of Health (CBoH), including the maternal and child health/family planning, nutrition, malaria, epidemiology, and pharmaceutical units. Representatives from hospitals and health facilities also attended this meeting, which resulted in the establishment of an IMCI advisory group. Since then, USAID, through the BASICS project, has provided funding, technical support, and materials (such as wall chart booklets and training modules) for the introduction of IMCI-based case management. Initial project

sites have been located in rural and urban parts of Lusaka and the Copperbelt in the north, with expansion planned for rural areas of the Eastern Province.

Zambia has been a model for how the WHO/UNICEF training course can be used in other BASICS project countries implementing IMCI. The course was adapted to match local conditions. In Zambia, for example, local conditions prompted the review of existing national guidelines on malaria and nutrition. Adapted materials were also developed to train health workers and course facilitators. In addition, BASICS has produced educational materials that are used during IMCI implementation and in other aspects of the national health program, such as the Mother's Card and information for community health workers and neighborhood health committees.

To date, 300 health staff and trainers from 17 districts have completed the 11-day IMCI training course. By the end of the BASICS project in Zambia in 1999, at least another 100 health workers and managers will have been trained and four training sites will have been officially established.

In 1997, BASICS field-tested the IMCI Complementary Course in Lusaka with participants from rural areas of the Eastern Province. This course is designed specifically for health workers who are not accustomed to large amounts of reading and the extensive use of written materials in their work. Participants in Zambia included environmental health technicians and Zambian Enrolled Nurses, two cadres of health workers with minimal professional training. The Complementary Course facilitators use adult learning theory to draw out and build upon participants' current knowledge and practices.

In yet another step forward, the IMCI course is being considered for pre-service training. The Zambian General Nursing Council and the Medical Council of Zambia are exploring ways to incorporate IMCI training into their existing curricula. Field-testing of the use of IMCI in professional institutions, such as schools of nursing and medicine, may begin as early as 1999.

Results of the Effort

The overall eagerness of the MOH and the CBoH to adopt IMCI has been spurred by the need to improve fundamental, preventive methods of care. IMCI fits into this goal by providing clear standards that can be followed even when a country's resources are constrained. So far, IMCI in Zambia has had important results: the adaptation of

clinical guidelines by government agencies and an increase in the level of knowledge and skills among health workers.

Health policies have also been updated to more adequately meet international standards. For example, immunization schedules have been revised; drugs to treat problems, such as ARI and dysentery, are more widely available; and a greater number of children now receive nutritional supplementation with vitamin A and iron. It is expected that the elimination of vitamin A deficiency in Zambia will reduce mortality by 20–30 percent, thereby saving an estimated 72,000 children each year. Guidelines have been adopted in other areas, including malaria management and exclusive breastfeeding.

The initial stages of the IMCI process have been continuously reviewed to ascertain the level of progress and to allow for changes to be made. In August 1997, a panel of local and international reviewers coordinated by the CBoH conducted a one-year review of the IMCI approach in Zambia. The review concluded that the project is on course and recommended that it enter the expansion phase, during which all elements of IMCI would be stepped up, training activities would be launched in additional districts, and monitoring and evaluation would become more systematic.

A year after baseline HFAs were conducted in the Copperbelt and Lusaka, follow-up surveys sought to identify changes in health worker practices that resulted from workers' participation in the standard IMCI training course. The survey revealed that health worker clinical skills in classifying and treating child illnesses and in counseling caretakers had improved. For example, in urban health facilities in Lusaka, only 2 percent of health workers counted breaths per minute before IMCI training; that figure increased to 70 percent at three months after training and further increased to 84 percent at 11 months after training.

Also noted in the surveys was a general tendency for performance to slip somewhat after initial improvements, but to then return to a high level, as shown in table 4.1. This tendency might be explained by the fact that health centers received little technical supervision between the initial IMCI training in 1996 and early 1997. However, in February 1997 (immediately following the third survey), a supervisory skills workshop was held at which the Lusaka Urban District Health Management Team developed a plan for technical supervision. Subsequently, district staff reported visiting each health center quarterly to carry out technical supervision, including observation of sick child case management and extensive feedback to health workers.

Another possible explanation for this variation in performance is that

Table 4.1 ***Percentage of Health Worker Practices Before and After IMCI Training in Lusaka, Zambia***

Health Worker Practice	March 1996	August 1996	February 1997	May 1998
Counted breaths for child with cough	2	70	61	84
Checked skin pinch for child with diarrhea	33	55	60	61
Prescribed antibiotics for a common cold	47	15	29	16
Prescribed antibiotics for non-bloody diarrhea	45	11	30	10
Explained how to use medications	24	68	40	80
Asked about the sick child's current feeding	47	71	64	79
Advised on child's feeding	16	46	44	49
Average minutes of consultation	5.4 minutes	5.9 minutes	4.6 minutes	8.3 minutes

the number of patients visiting Lusakan health centers increased dramatically in 1997 following a decision to close the outpatient department of the capital city's University Teaching Hospital. The large patient loads that resulted contributed to pressure to reduce the duration of sick child consultations at the eight health centers; that situation could have influenced health worker performance. In addition, during the first year of IMCI, only one or two workers at each health center were trained, thereby lessening the chances for co-worker reinforcement or support for best practices. By May 1998, however, participating health centers were close to meeting their training goals, and they had strong groups of IMCI-trained health workers and on-site supervisors.

BASICS has met many challenges and unforeseen events while working to ensure that the IMCI intervention succeeds in Zambia. For example, starting in early 1998, IMCI was significantly hampered for several months by an embargo on training imposed by the MOH. Undertaken by the newly appointed minister of health, this action was intended to keep health workers at their places of employment in the field. After the

IMCI in Latin America and the Caribbean

In early 1997, BASICS and the Pan American Health Organization (PAHO) jointly launched a 5-year Regional IMCI Initiative in eight countries throughout Latin America and the Caribbean (LAC). Cooperation is currently underway with Bolivia, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Peru, and Haiti. The objective of the initiative is to promote more effective delivery of child health services in three key areas: the control of diarrheal diseases, acute respiratory infections, and malnutrition. PAHO estimates that these conditions, together with diarrhea, malaria, and measles, account for half of all deaths in children under the age of 5 in the LAC region.

National-level Interagency Coordinating Committees have been formed to provide political and technical support for this effort. Governments (except Guatemala) have adopted the IMCI strategy. Others (except Haiti and Guatemala) have organized national IMCI clinical courses and trained a large cadre of facilitators capable of replicating their new ideas and skills on the subregional and local levels. To date, more than 3,800 personnel throughout LAC have been trained in IMCI.

BASICS and PAHO have contributed significantly to the level of knowledge about childhood diseases in general and IMCI interventions in particular. In addition to course modules, a wide range of informational materials (including brochures, planning guidelines, technical documents and articles, posters, and videos) have been translated into Spanish and French. These materials have proven useful to the work of government agencies, health facilities, educational institutions, and community organizations. Similarly, the IMCI drug management assessment manual has been translated into Spanish and field-tested in Bolivia.

In an effort to broaden the reach of IMCI training, the Complementary Course for auxiliary health workers was also translated and field-tested in Bolivia in 1998. In addition, the Honduran government, with technical assistance from BASICS, has developed a 7-day IMCI course using adult education techniques. (The course is designed for nurse auxiliaries, who compose more than 60 percent of health workers delivering services to children under 5 years of age in Honduras.) Other training courses under development include one for community-level health workers, one for facilitators, and one designed for medical assistants and volunteers on communicating with mothers/caregivers.

Working closely with government officials in Ecuador, BASICS has sought to develop a national behavior change, as well as information, education, and communications strategy. Materials and methodology to carry out this plan—which aims to increase the demand and use of IMCI by families and communities—were consolidated at a workshop in early 1998. Around the same time, an evaluation and planning workshop for BASICS and PAHO staff and MOH authorities was also held in Ecuador. Earlier in 1997, national drug consultants and MOH personnel from five countries had gathered in Ecuador for a workshop to informally test the drug management assessment manual.

The first steps toward the development of a regional strategy focusing on behavior change and community health were taken during 1998, with a draft paper produced on the subject by BASICS. BASICS and PAHO have also formulated an operational research agenda for the LAC. The first study in this process—on the use of palmar pallor to assess anemia in indigenous populations living at sea level and high altitudes—was completed in 1998.

In just over a year's time, the BASICS/PAHO initiative has had a strong impact. In the immediate future, the government of Guatemala will come on board with the IMCI initiative, while national activities will be stepped up in Haiti. In the longer term, the knowledge and practices of health workers throughout the LAC region will be strengthened and the quality of life for children greatly improved.

minister had assessed the situation and established new guidelines for the operation of training by donor agencies (including BASICS), programs were resumed.

Currently, districts receiving IMCI training for their health workers are obligated to contribute either a part of the necessary funding or logistical support, such as transportation. Fortunately, this expectation has proven to be positive by simultaneously reducing the reliance on BASICS and ensuring that local governments are firmly committed to the concept and implementation of IMCI.

Reviewing the Experience

Following the first year review meeting on IMCI in Zambia, a clear training goal was established: 50 percent of health workers in urban clinics and 100 percent in rural centers who see sick children would be trained in IMCI. The degree to which this ambitious intent is fulfilled will depend on many factors, but in particular on the overall reorganization of the country's health system. IMCI was introduced during a time of sweeping health reforms by the Zambian government. Some of these changes have included the dramatic downsizing of agencies and the dissolution of technical units that were, paradoxically, central to the IMCI process (such as a decrease in members of the IMCI Advisory Group).

This trend has placed BASICS in the awkward position of providing not only financial and technical resources for IMCI, but also day-to-day administrative and logistical support. Such a situation flies in the face of the objective of national self-sufficiency desired by both BASICS and the Zambian government. It is also not sustainable in the long term. The future of IMCI implementation will therefore depend largely on the improvement of existing health systems and the strengthening of new institutions that can support the training and monitoring of health workers.

Effective and practical interventions to involve families and communities in carrying out IMCI-recommended actions will also play an important role. During the course of the ZCHP, neighborhood health committees have been formed and cadres of community health workers have been trained to work in small communities. (See chapter 2 for more on BASICS' community-based interventions.) In the months

ahead, it will be important to continue developing the skills of local workers and linking IMCI to community activities.

For example, neighborhood health committees and community health workers should be familiarized with the content and intent of IMCI; that knowledge would enable them to talk with caretakers about children's health in a more informed manner. Local committees would also be better able to appeal to government agencies to solve critical problems that compromise children's health, such as environmental pollution and a lack of transportation to health care facilities.

Another area for improvement is better procurement of drug supplies and their distribution systems. The current use of drug kits that lack drugs necessary for IMCI stymies health workers' efforts to carry out treatments recommended in IMCI guidelines; this situation, in turn, compromises the health of those children whose caretakers do seek treatment. To mitigate the problem, a drug management assessment manual and training guide—developed by BASICS, the Pan American Health Organization, and the USAID-supported Rational

Preservice Medical Education in IMCI

Training physicians and other health workers on the job through the 11-day IMCI course is costly. Therefore, a high priority is to develop appropriate IMCI curricula and teaching-learning materials for the pre-service education of health workers.

While WHO was focusing on the introduction of the 11-day course, BASICS and a committee of the Indonesian Pediatric Association began, in December 1995, to carry out the first modification of IMCI training materials for use during the basic clinical education of Indonesian medical students.

Called Pendidikan Medik Pediatri Terpadu (PMPT), or Integrated Pediatric Medical Education, the educational development effort built on the experience of leading Indonesian pediatric faculty members and BASICS technical staff who were trained in medical education of diarrhea case management some years earlier. Many of those faculty members and the BASICS technical assistant were part of the PMPT committee charged with developing the IMCI curricula for medical schools.

The committee first adapted and translated the IMCI protocol and generic training materials for Indonesia in collaboration with the national IMCI advisory committee. The committee members then developed special inserts to "bridge" the basic IMCI materials and treatment recommendations to an Indonesian physician's knowledge and skill level, and to the condition of the facilities available to them in rural health centers or, in some situations, in referral hospitals. Throughout the development process, faculty members participated in the WHO IMCI course to acquire hands-on understanding of the methods used in teaching IMCI skills and in monitoring competence of the participants. Although the committee received ongoing technical support from BASICS, most of the work was conducted independently.

The modified materials were then packaged as a book of basic readings and exercises for students. A manual for faculty members to use in facilitating student learning sessions and supervising clinical sessions, and a guide for carrying out a faculty training workshop were also developed.

Studies, conducted at six sites, looked at the types of conditions and numbers of sick children in university hospital clinics, wards, and peripheral health centers used for teaching to determine how these cases could be used in teaching situations.

In 1998, three workshops were held to introduce the materials, teaching methods, technical basis, and practical methods of IMCI to pediatric faculty members. Fourteen faculties or schools sent representatives to the workshops. A major outcome was that faculty members prepared plans to introduce IMCI teaching at their medical schools. Later in 1998, a second round of workshops was held to review the faculties' experiences in introducing IMCI and to share approaches to implementation of the IMCI teaching. A goal was set to implement the new IMCI teaching in all 14 national faculties by October 1998.

Faculty members trained in IMCI and its educational approach were enthusiastic about IMCI as a systematic approach to managing the most common childhood illnesses, although no formal evaluation of the materials and methods has been completed to date. Of particular importance is the fact that the training emphasizes aspects often inadequately addressed by teachers and students, such as screening for malnutrition and counseling mothers.

The Indonesian experience demonstrates that IMCI materials aimed at middle-level health workers can be modified for physicians, and the standard IMCI course can be successfully modified to suit the different demands of a preservice curriculum for physicians.

Pharmaceutical Management Project and initially field-tested in Bolivia—will be introduced in Zambia. This instrument will allow drug program managers to assess national and local systems and facilitate their efforts to improve drug supplies.

In addition, a functioning supervisory system must be put in place to ensure that health workers are able to correctly administer the type of care stipulated by IMCI and receive the support and advice they need to do so. The IMCI Advisory Group in Zambia faces the challenge of increasing the pool of course directors, facilitators, clinical instructors, and supervisors (in particular at the district level) while demands for training grow and domestic funding for IMCI remains limited.

Lessons Learned and Issues for the Future

The Zambia project demonstrates several important aspects of IMCI. As one of the first countries to adopt the intervention—and one where it has been supported by BASICS—Zambia has managed to document health worker performance before and after IMCI training. BASICS built on the fact that training in the areas of diarrheal diseases and ARI was offered in several project countries, including Zambia, and they chose to measure health worker performance before IMCI and then monitor it afterwards. The data gathered through baseline and three follow-up surveys are invaluable and have filled a gap in the type of information that critics and policy makers interested in IMCI have long wanted to see.

The unique, comprehensive approach of the IMCI intervention has contributed to the quality of child survival programs in specific ways. For example, the development and promotion of the clinical algorithm has provided a basis on which governments and MOHs can build an integrated child health framework. In turn, this foundation enables policy makers to form and revise health policies to incorporate best practices in sick and well-child care. The algorithm also forces the examination of a country's entire health care system to ensure that services are effectively delivered, including on the community level.

Through its work with IMCI, BASICS has learned that the adaptation of any health program is a fluid process that cannot be completed during initial meetings with key officials and policy makers. Instead, this work becomes more complete after some training has occurred and remains ongoing as a health system's ability to provide services changes. In addition, it has become clear that IMCI cannot be effectively provided in health centers if a referral network and adequate systems for supervision and drug supply are not in place. Health workers can and have been trained in the absence of these necessary supports, but the likelihood of successful application of IMCI skills is greatly diminished. The continuing success of IMCI, therefore, depends on ensuring that efforts to improve the health sector in several areas complement and reinforce each other.

In this age of decentralization, further actions in IMCI will be required in the areas of drug management at the

first level health facilities as well as at the district level. Educational efforts will focus on incorporating the IMCI material into training programs for doctors, nurses, and other health professionals.

As WHO and partners work to develop standard materials to assist the health professional training institutions incorporate the concepts and skills development, the likelihood of reaching the private sector, as well as the public sector, expands. New approaches to in-service training will continue to be developed and evaluated.

The cost of IMCI will inevitably be studied systematically to determine its effectiveness as countries that are considering adopting the approach demand information on cost benefits. These queries will complement operations research studies that are being designed and carried out in a number of IMCI countries.

The newest efforts in institutionalizing IMCI will be in examining family and community practices. There will be greater involvement of local NGOs and international PVOs to support the IMCI effort in reaching children where they live. The role of caretakers in IMCI will become more prominent as we learn how to help them recognize illness sooner, respond to it more effectively, and provide the treatments recommended by health workers. Behavior change and communications interventions designed to reinforce the messages of IMCI will be used and communities will understand more clearly what IMCI is and what it means to their children.

The future of IMCI is a hopeful one because many governments and MOHs are dedicated to providing an integrated package of health services to their populations. In a broader process that will have an impact in all countries where IMCI is applied; the content of the program will change as global trends in childhood disease shift and new research is conducted. IMCI is not a static intervention; it must be modified according to specific needs and conditions. IMCI is helpful whenever better treatment and communicative relationships among caretakers and health care workers are sought. In this sense, it is an ideal intervention for a complex and changing world, where ensuring children's health and quality of life should always be a paramount goal.

BASICS Work in IMCI

Implementation of IMCI is carried out in a phased manner beginning with introducing IMCI, moving on to preparing for and implementing initial activities in selected districts, and finally to expanding activities and geographic coverage.

The introductory phase (initiating contact with national officials to provide information, holding orientation meetings, training key MOH staff in IMCI, establishing an IMCI working group, and obtaining MOH endorsement): **Bangladesh, Cambodia, Guatemala, and Nigeria**

The early implementation phase (selecting initial districts, adapting case management guidelines and materials, training national and district level facilitators, preparing and planning at the district level, and training health workers, including following-up the course participants): **El Salvador, Eritrea, Ethiopia, Haiti, Honduras, Indonesia, Kazakhstan, Madagascar, Mali, Morocco, Nicaragua, Niger, Senegal, and Togo**

The expansion phase (strengthening district-level capacity; expanding training coverage and follow-up; improving drug availability and management, as well as monitoring and measurement of outcome indicators; and intervening to improve services at referral centers and to address needs at the family and community levels): **Bolivia, Ecuador, Peru, and Zambia**

Further Reading on IMCI from BASICS

Training materials (chart booklet, 6 wall charts, 4 facilitator guides, 7 case management modules, and training aids):

- Generic Spanish IMCI materials
- Generic French IMCI materials
- Zambia-adapted IMCI materials
  - Teacher Guides:
    - *Course Director's Guide*
    - *Facilitator's Guide for Modules*
    - *Facilitator's Guide for Outpatient Clinical Practice*
    - *Guide for Clinical Practice for Inpatient Practice*
  - Training Modules:
    - *Module 1: Introduction*
    - *Module 2: Assess and Classify the Sick Child Age 2 Months Up to 5 Years*
    - *Module 3: Identify Treatment*
    - *Module 4: Treat the Child*
    - *Module 5: Counsel the Mother*
    - *Module 6: Management of the Sick Young Infant Age 1 Week Up to 2 Months*
    - *Module 7: Follow Up*
  - Training Aids:
    - *Mother's Counseling Card*
    - *Recording Forms*
    - *Facilitators Aids*
    - *Answer Sheets for "Assess and Classify the Sick Child Age 2 Months Up to 5 Years"*
    - *Answer Sheets for Other Modules and Lists of Photographs*
- Ecuador-adapted chart booklet
- IMCI Complementary Course materials (Facilitator's Guide, Participant handbook, answer sheet booklet, Facilitator's cards)

Other materials produced (or with considerable input, editing, and/or funding of field-testing):

- *Handbook for Drug Supply Management at the First-Level Health Facility*
- *Manual for Training Supervisors for the Control of Diarrheal Disease and Acute Respiratory Infections Programs in the Central Asian Republics*
- *Rational Pharmaceutical Management Assessment Manual*

Highlights (one-page summaries)

Working Together for Health: Community Partnerships in Zambia

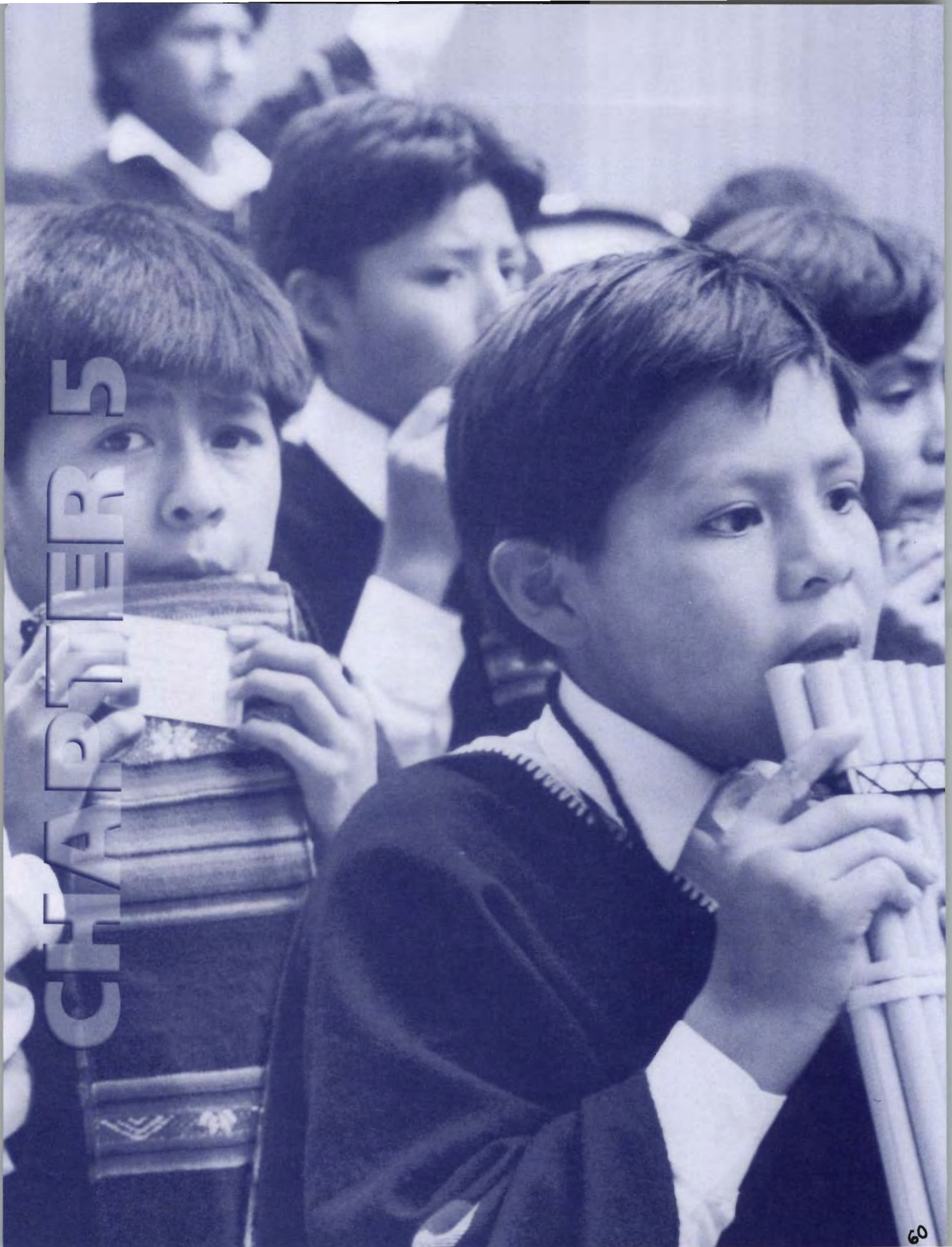
Health Facilities Prepare for Integrated Child Health Care

Zambia Integrates the Nutrition Minimum Package into its Essential Health Care Package

Task Force Shares Lessons As IMCI Moves Forward in Africa

Further Reading on IMCI from Other Sources

Supplement No 1 to Volume 75, 1997, Bulletin of the World Health Organization, "Integrated Management of Childhood Illness: A WHO/UNICEF Initiative"


CHAPTER 5

Marketing Oral Rehydration Salts in Bolivia

As populations around the world grow, so do demands for health services. Government resources are often outstripped by the expanding needs, thereby making new strategies to provide care not only desirable but imperative. One increasingly successful approach to promoting child health and survival is the formation of partnerships between the public and private sectors, which can take advantage of the complementary resources of each.

Alliances are now widespread among government agencies and private health care providers; and international, nongovernmental, and private voluntary donor organizations. Commercial enterprises are another important source of private efforts to improve child health. Parties include pharmaceutical companies, manufacturers of soap (to encourage handwashing for proper hygiene), and manufacturers of bednets (treated with insecticide to help prevent malaria). Food processing companies also become involved by enriching their products with micronutrients, such as iodine, vitamin A, and iron.

At first glance, the rise in partnerships between governments and businesses may seem surprising. Private enterprises have long been considered far more interested in profit than public welfare, yet they exhibit a remarkable level of enthusiasm for supporting social concerns. At the same time, government officials and ministries have proven willing to abandon

BASICS Public/Private Sector Partnerships Strategic Vision

Contribute to the development of health care delivery systems that will achieve an appropriate balance of the public and private sectors. Facilitate the development of functional linkages and collaboration between government and private sector entities and activities that will lead to reductions in childhood morbidity and mortality. Provide child caretakers access to a greater range of health services and commodities. Develop practical methods for working with the private sector to improve the quality, effectiveness, and long-term sustainability of both curative and preventive services.

- Improve the contribution of private health care providers to public health objectives, particularly by improving the quality of services provided by them.
- Improve efforts by NGOs and PVOs to facilitate mothers and other child caretakers in appropriate home case management, disease prevention, and care-seeking behavior.
- Develop and improve activities of the commercial sector that support public health objectives.
- Improve the performance and effectiveness of government in interacting with private providers, NGOs and PVOs, and the commercial sector to improve their contribution to public health objectives.
- Develop a global agenda and priorities for action by a range of donors and agencies that will advance understanding and build capacity to form effective public/private sector linkages related to child health.

their bureaucratic procedures and images to embrace the innovative nature of entrepreneurs.

Benefits exist for all partners. Businesses can gain opportunities to develop new products and expand their markets to pharmacists and other drug sellers, employer-sponsored health clinics, hospitals, and private practitioners, as well as to improve company image (and, in turn, profits). Similarly, over-extended public agencies stand to benefit from the financial, media-related, and communications resources of the commercial sector.

BASICS has launched several projects around the world that bring together governments (primarily through ministries of health) and commercial entities. Efforts in West Africa, Asia, and Latin America focus on ways to expand and make more efficient the production, promotion, and distribution of products that can improve child health and survival. (See map on p.74.)

In 1994, BASICS began to collaborate with PAHO and UNICEF to develop a partnership between the MOH and the private sector in Bolivia. The primary objective of this project has been to increase the availability, accessibility, and use of oral rehydration salts (ORS) throughout the country, thereby alleviating the dire impacts of diarrhea on the health and survival of children. While ORS has been available in Bolivia through the public sector for many years, infants and children continue to die from diarrhea-related dehydration. That fact prompted the MOH to find ways to expand its own limited distribution system.

Physicians, pharmacists, and parents in Bolivia often do not understand the value of a simple, easy-to-use product like ORS; instead, they promote and use more expensive antibiotics and anti-diarrheals. Pharmaceutical companies have little interest in setting up local production and marketing operations for ORS because of a perceived lack of demand and a lack of profitability compounded by the high cost of importing the raw materials needed for the product and its packaging.

In addition, a large quantity of ORS has been imported and distributed at subsidized prices by international aid programs, effectively limiting the commercial market for private ORS producers. BASICS and other international donors continue to grapple with the need to supply medicines and treatments, such as ORS, to people who cannot afford to buy them while simultaneously developing long-term, sustainable market mechanisms. Striking a balance between private sector sales of ORS packets and the free distribution of ORS by the Bolivian government is a key factor in ensuring the most widespread, effective use of the treatment as possible.

Choosing Partners

In light of these problems, establishing a public/private venture has been an enormous challenge. Economies of scale had to be created for the commercial sector while expanding the availability of ORS. To solve this supply-demand problem and other issues, a task force was established with representatives from the Bolivian MOH, PAHO,

UNICEF, and BASICS. The task force asked two marketing experts (one each from UNICEF and BASICS) and a local marketing consultant based in La Paz to assess the ORS situation in Bolivia.

The team of marketing experts initiated contact with 17 pharmaceutical and consumer goods companies to identify the best business partners for the project. Criteria used to score potential collaborators included high-production volume at low cost; national-level distribution (in both rural and urban areas); experience in direct-to-consumer marketing; sales and promotion to pharmacies, physicians, and retailers; the capability to produce ORS; and no anti-diarrheals or infant formula in their product lines.

The two companies ultimately selected were Drogueria INTI, which controls a large share of the Bolivian pharmaceutical market and produces ORS locally, and Laboratorios Alfa, a small ORS producer. The task force worked closely with the management of the companies to convince them of the value of working with the public sector and to establish common objectives. A Bolivian market research agency was also contracted to survey current

Improving Private Care in Bihar

The need to involve the private sector in improving the public's health is evident in India, where more than 80 percent of households rely on private providers. Unfortunately, the quality and scope of such care is often limited; most "village doctors," who provide the bulk of care to sick children in rural areas, lack formal training and sources for up-to-date information. In addition, the payment these local caregivers receive is for dispensing medicines; that system results in overuse of drugs and injections, as well as a lack of attention to examination techniques, counseling, and preventive measures.

This situation prompted BASICS to study approaches to improving the quality and effectiveness of the care provided by these village doctors to sick children. The study was carried out in collaboration with three local NGOs involved in rural community health in the state of Bihar. Initiated in 1995, the study team first investigated the practices of rural practitioners treating sick children, then intervened to improve these practices over a 7-month period, and finally evaluated the impact of the intervention activities.

The study was conducted in 110 villages with a total population of 54,000, 15 percent under 5. Bihar has the third highest under-5 mortality rate among Indian states and its residents are generally poor and illiterate. Common childhood health problems include acute respiratory infection, diarrhea, fever, and malnutrition.

The study applied two central strategies: a verbal case review (VCR) based on interviews with caretakers, to assess the quality of care provided by practitioners to their children on a recent consultation, and a four-part intervention methodology with INformation, FEedback, ConTracting, and Ongoing Monitoring (INFECTOM) components. The VCR's questions were based on practice guidelines developed by the World Health Organization for the Integrated Management of Childhood Illness (IMCI).

Used in pre- and post-intervention surveys, the VCR provided quantitative data on the examination, treatment, and counseling practices of the practitioners (for example, whether a village doctor counted respirations per minute in children suspected of pneumonia, weighed children to detect malnutrition, recommended immunizations to those who needed them, or treated diarrhea with ORS). Interviews and focus groups with providers were also carried out to gather additional information useful in planning the interventions. The information gathering was done primarily by community health workers (CHWs).

Results from the VCRs were then used to determine which practices and patterns should be targeted through the INFECTOM intervention. Two day-long sessions for approximately 35 private providers provided INformation on the causes and treatment of ARI, diarrhea, and fever, and FEedback on their own practices (as assessed through the VCR). The new case management guidelines were then negotiated with the practitioners, and ConTracts for those practices from the guidelines, which the practitioners could agree to perform, were signed specifically by each practitioner. A similar process was carried out during visits by the CHWs to those practitioners who had been unable to attend the sessions. During the following weeks, Ongoing Monitoring of the practitioners' progress and changed treatment methods were carried out by the CHWs using the VCR, with the results of the monitoring fed back by the CHWs to individual providers in their practices.

The intervention in Bihar proved highly effective in a relatively short time. The providers were very pleased to have up-to-date information and quickly began to apply their new knowledge, as shown in table 5. 1. They recognized the benefits of participating in the project and improving their practices—including a higher patient load and increased respect and recognition in the community. By participating in the activities, the communities involved increased their understanding of the differences between good and poor care, and their changed expectations helped to facilitate improvements in the providers' practices.

Using local standards of care and local personnel already trained to conduct simple household surveys, run meetings, and negotiate agreements, the VCR and INFECTOM can be readily adapted to widely varying local situations, varying types of private practitioners, and different types of local implementing organizations, from small NGOs (as in Bihar), to district government health units or community organizations (as in Indonesia and Pakistan). Given the increasing recognition of the critical role of the private sector and private practitioners in the health of children, these approaches offer great promise for similar successes throughout India and in other countries around the world.

Table 5.1 ***Changes in Private Practitioners' Case Management Practices (for ARI, Diarrhea, and Fever)***

Practice	Pre-Intervention (percentage)	Post-Intervention* (percentage)
Asked about care at home	44	88
Asked about child's immunization card	31	49
Asked about child's history of illness	60	93
Used a watch or timer to calculate breathing	14	71
Recommended breastfeeding	53	90
Mentioned signs to look for indicating child is getting worse	34	68
Asked mother if she had any questions	25	66
Described how to administer medicines	65	99

*The post-test was conducted after seven months of exposure to the interventions.

consumers' perceptions, attitudes, and behaviors concerning diarrhea and ORS in three different regions throughout the country, each of which comprised both rural and urban communities. Research findings helped persuade the companies to join the project. Surveys had revealed that a large, untapped market for ORS did exist; they had also highlighted a huge gap between consumer knowledge of ORS and the product's effects and actual usage. It became clear that success in reaching potential consumers would depend on the design and implementation of an effective marketing strategy.

Going to Market

Market surveys not only helped clarify the needs and attitudes of the ORS market's primary audiences—parents and health practitioners—but also assisted in developing an effective, appropriate marketing strategy with four chief components, as follows:

Product Development: Focus group discussions were held with parents of young children in rural and peri-urban areas to test preliminary visual concepts, select potential brand names, and refine the product's key message. On the basis of the preferences expressed, the ORS product was named Suero de la Vida, "Serum of Life" (SDV), and promoted as "a special oral solution that maintains and restores the strength of the child by replacing fluids lost during diarrhea." The product identity was established by its positive name, the cartoon graphic used in the packaging, and the happy promise of a child's restored health.

Price: A price sensitivity measurement study conducted in rural areas indicated that consumers were willing to pay 1 Boliviano (U.S.$0.20) for a packet of ORS. This price was unacceptably low to ORS producers who would not be able to absorb production and marketing costs without subsidies. The task force therefore agreed with ORS producers to set the wholesale price at 1.70 Bolivianos (U.S.$0.34) with the intention of allowing for reasonable profits and stimulating distributors to sell ORS.

Promotion: Task force representatives and marketing executives from the ORS producers contracted with an advertising agency to develop a communication strategy with specific messages aimed at each target audience. Sixty percent of the ad campaign budget was allocated for interpersonal communication between the companies' sales representatives and physicians, pharmacists, and retailers, with the remaining 40 percent allocated to radio, TV, and community activities designed to reach parents.

Distribution: A survey conducted to assess the attitudes and behavior of pharmacists and shopkeepers—key links in the distribution chain—

indicated that they knew about ORS but did not stock it. Large discrepancies were also found between pharmacists' reports of how often they recommended the product for treating children's diarrhea and the number of times they actually did so. This divide between reported and observed actions became a key focus of the marketing strategy. Therefore, the strategy included three facets aimed at influencing the behavior of pharmacists:

- Encouraging pharmacists to stock the product in response to aggressive sales promotions.
- Fueling consumer demand for SDV.
- Increasing the number of prescriptions filled for SDV to reinforce pharmacists' confidence in SDV.

The ORS project has aimed not only to create market changes but also to influence the behavior of consumers, health practitioners, and pharmacists. An easy-to-read and visually appealing set of preparation instructions in the ORS packets increased the likelihood of correct use of the health product. In addition, the MOH conducted training sessions for public health workers on the benefits and proper use of ORS; that training improved doctors' and nurses' knowledge of correct management of diarrhea.

Drogueria INTI and, a year later, Laboratorios Alfa, launched a similar educational effort in the private sector. The companies' sales representatives contacted scores of physicians, pharmacists, and nurses to disseminate information on ORS and to ensure that the product was available and actively recommended and prescribed (see table 5.1). The task force also initiated mass media and community activities to reach parents, increase demand for and use of ORS, and gain the support of local retailers. Efforts were also made to expand the availability of the product beyond the usual pharmaceutical channels into the popular market (in tiendas, or small shops, and among street vendors). Materials, including brochures, posters, stickers, and buttons, and other point-of-purchase materials were produced for distribution to consumers at commercial outlets. Radio and TV spots were aired nationwide (see table 5.2).

Marketing was aimed at communities nationwide, with an emphasis on urban areas and rural localities with higher population density. Certain

Packaging for the ORS product was designed to present a positive image.

obstacles had to be overcome during this process. For example, MOH officials expressed the wish for ORS distribution to be more widely expanded to rural communities, including to indigenous people in remote areas. However, they had not considered the fact that government regulations made it illegal to sell drugs anywhere but pharmacies, which are rare outside urban areas. Following discussions with private sector representatives, the MOH designated ORS as an over-the-

Table 5.2 ***Exposure to Suero de la Vida Campaign****

Factor	Level of Exposure (percentage)
Exposure through any medium	65
Exposure to: Radio	41
TV	54
Printed materials	49

* Survey group = 1,483 mothers of children under 5 years of age.

NGOs Working Together: The Hearth Model

In its work, USAID and BASICS seek to foster partnerships with NGOs. In the past, workshops were conducted for U.S.-based organizations working with child survival issues worldwide in the areas of evaluation techniques, impact enhancement, and integrated management of childhood illness. Numerous child survival programs in the developing world were brought together through grants, training, and technical assistance.

In the early 1990s, a child health program joining mothers, families, and neighborhoods to combat malnutrition was launched around the world. Dubbed the "Hearth Model" to emphasize the key changes that can occur at home, this innovative approach was initiated by the Children's Service Society and World Relief Corporation in Bangladesh, Save the Children Foundation in Vietnam, and the Albert Schweitzer Hospital in Haiti. BASICS helped the NGOs to plan, evaluate, and document the effort in Bangladesh, evaluate and document the project in Haiti, and disseminate the findings of all three projects.

The Hearth program combines decades of experiences by these and other non-governmental organizations in rehabilitating and preventing malnutrition in preschool children. Hospital-based rehabilitation of malnourished children was too expensive and unsustainable. Community-based Mothercraft Centers included mothers in the rehabilitation process, thus increasing the chances for a sustainable effect. That method still was too expensive for large-scale application. In the 1980s, Nutrition Demonstration Foyers in Haiti moved rehabilitation to the homes of community mothers and discovered that two weeks of feeding were enough to rehabilitate, and, when menus were adopted from "positive deviant mothers," other poor mothers continued such feeding in their own homes. Hearth integrates these lessons into a low-cost but effective and sustainable program that is being scaled up.

The intervention is part of a comprehensive nutrition promotion program that includes growth monitoring, micronutrient supplementation, deworming, and treatment for infectious diseases. Based on the premise that malnutrition is quick to develop but preventable, it uses affordable and nutritious local foods prepared in the home. For example, sources of protein that can be added to children's food include shrimp in Vietnam, peanuts in Bangladesh, and beans in Haiti, while locally grown vegetables provide vitamins and minerals.

The structure of Hearth projects vary depending on local needs and conditions; all rely on a core group of volunteer mothers from local communities who are trained by nutrition educators. In Haiti, the Hearth intervention begins with a week-long program that teaches volunteers about basic child nutrition and growth; it also helps them to conduct a small study on a healthy child from a poor family in their community. That child can serve as a model outcome of interventions (positive deviant). The volunteers and nutrition educators then deworm and weigh all children from 1 to 5 years of age in a cluster of 15 households. Children with malnutrition participate in a two-week feeding program run by the volunteer mothers who will serve them a single morning meal each day for two weeks.

This period is brief, but sufficient to bring about a dramatic change in a child's appetite, demeanor, and activity level. When parents see the transformation of infants and children from being listless and weak to having energy and an interest in eating, they see the value of changing nutritional habits and eagerly learn how to prepare better food themselves. Follow-up weighings are conducted at four and eight weeks after the initial feedings to determine progress in the home and to refer the child to a health facility if no progress ismade. Volunteers continue to meet monthly with mothers to discuss nutrition and health and community concerns, including breastfeeding, prevention of HIV/AIDS, and other sexually-transmitted diseases, reproductive health, and microenterprise loans for women.

With minimal cost—about U.S.$7 per person in Haiti—the Hearth program has many payoffs. Evaluation studies found that Hearth interventions rehabilitated many moderately to severely underweight children and prevented their further deterioration. For example, following the intervention in Vietnam, the percentage of children in the Hearth communities severely malnourished decreased from 23 percent to 69 percent. The Hearth program was effective in mobilizing communities and motivating mothers. The strong behavioral impact and lasting nature of the Hearth Model approach is confirmed by the absence of malnourishment among the younger siblings of children who participated in the program. Because individuals and communities must participate to have a successful hearth program, it can only succeed where resources are limited but enthusiasm and concern for future generations is high.

counter drug; that decision made the product more widely available through both shops and pharmacies.

Measuring Success

Public-private partnerships are developed with the intention of being long-term and sustainable. Companies design their social marketing strategies to boost sales of a public health-recommended product on a continuous basis. ORS matches this intent because the product can be used to treat a widespread illness that may recur frequently throughout childhood. To determine whether or not ORS use in Bolivia has increased as a result of BASICS interventions, an evaluation research was conducted by BASICS staff in conjunction with a Bolivian agency during the spring of 1998.

The evaluation research had two central goals: to measure behavior change in pharmacists and mothers, and to assess the effectiveness and impact of the SDV campaign. Baseline data attained from 1994 and 1995 surveys were compared with current information garnered from five types of research, as follows:

- A household study of 1,483 low-income mothers of children

under 5 that investigated sociodemographic factors, exposure to the SDV campaign, and knowledge and use of ORS. Results were compared to the 1994 DHS and the 1995 baseline study.

- Twelve focus groups were conducted with mothers of children under 5 in four urban and rural areas to ascertain their views of the SDV campaign and perceived benefits and problems with the product.

- A study of 194 pharmacies was conducted in which simulated clients posing as real clients ascertained how often SDV was available, how knowledgeable pharmacists were of ORS (in particular SDV), how often pharmacists recommended the product, and whether pharmacists could explain how to use it. Results were compared to the 1996 baseline study.

- In-depth interviews with 194 doctors and 72 pharmacists in six urban and rural areas gauged perceptions of ORS and SDV, recommendations about the products, perceptions of promotional materials, and consumer knowledge and behavior.

- A process evaluation consisting of interviews with SDV task force partners (MOH, PAHO, UNICEF, USAID, and the commercial ORS producers) was conducted to assess lessons learned and to evaluate the effectiveness of the campaign and the sustainability of the activity.

Evaluation results indicate that the knowledge of mothers, recommendations made by pharmacists and health practitioners on diarrhea treatment, and the overall sale and use of ORS increased as a result of the interventions. Specifically, there was an increase in both knowledge and use of ORS among mothers as compared to the1994 DHS data.

Spontaneous recognition of any type of ORS (SDV) increased from 51 percent (1995 SDV survey) to 60 percent (1998 SDV survey).

The pie chart, figure 5.1, indicates the level of mothers' knowledge about the product. Forty-three percent of mothers indicated that Suero de la Vida rehydrates children; 36 percent said that it helps cure diarrheal episodes; 5 percent stated that it restores strength; and 2 percent indicated that it saves lives.

Mothers were asked during both the 1995 baseline and the 1998 endline surveys to physically prepare the ORS solution using a packet given to them by the interviewer. Use of potable or boiled water increased by 11 percent, use of the entire packet increased by 21 percent, and 19 percent more mothers stirred the solution until completely dissolved.

Pharmacists' recommendations for ORS increased from 5 percent to 19 percent, while their spontaneous recommendations of anti-diarrheals

Figure 5.1 ***Mothers' Knowledge of Attributes of Suero de la Vida***

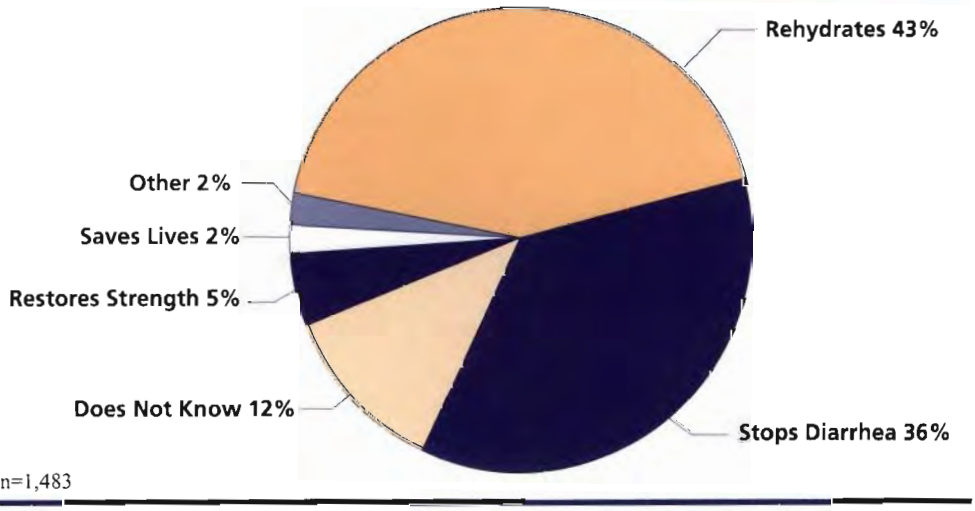


Table 5.3 ***Evaluation Results on Behavior Change of Mothers and Pharmacists: Knowledge and Practices Before and After the Suero de la Vida Campaign in Bolivia***

Knowledge/Practice	DHS 1994 (percentage)	1995 Survey (percentage)	1998 Survey (percentage)	Percentage Increase (1995–1998)
Mothers' knowledge of (all) ORS for diarrhea treatment	84	69	88	27.5
Use of ORS by mothers in last two weeks	32	--	39	--
Use among mothers who know about ORS	NA	61	74	21.3
Gap between knowledge and use of ORS (ratio)	0.39 (ratio)	--	0.45 (ratio)	--
Use of oral fluids during diarrhea	--	62	78	25.8
Spontaneous recommendation of ORS by pharmacists	NA	5	19	280
ORS market share of diarrhea treatments	--	8	19	137.5

fell from 63 percent in 1996 to 42 percent in 1998.

Recommendations by pharmacists, made after the interviewers insisted, showed a gradual increase in the recommendations of SDV when the simulated client asked the pharmacist for something less expensive (ORS in particular) or finally, SDV.

Long-Term Investing

The evaluation process enabled project partners to clearly see the results of their work, which in many instances far surpassed expectations. In just two years since launching the campaign, significant progress was made in the distribution and use of ORS—including a near quadrupling of recommendations of the treatment by pharmacists and an almost 20 percent leap in mothers' knowledge of how to correctly treat diarrhea. (see table 5.3).

Such trends provide a strong incentive to continue the collaboration between the private and public sectors in marketing ORS. The success of the SDV campaign is also a catalyst for replicating similar initiatives in other countries. The surveys and interviews conducted during the evaluation study yielded several important recommendations on how to fine-tune the SDV campaign, ensure its sustainability in the future, and apply what has been learned to new projects.

For example, a greater effort will be made to improve campaign coordination among the various partners to carry out activities more efficiently. Emphasis will also be placed on consumer-oriented promotion campaigns and on encouraging Drogueria INTI and Laboratorios Alfa to expand their distribution capacities beyond pharmacies. In addition, consumer demand and product sales in the future will require the ongoing creativity of the partners, who will need to maintain a positive, appealing image of SDV through improved flavoring.

The communications work of local NGOs will continue to play an important role in spreading the message to new families and communities about the importance of ORS and the ease of using a product, like SDV. Similarly, health professionals and pharmacists can accomplish a great deal by talking more with clients, increasing recommendations of ORS, and reducing the promotion of anti-diarrheals and antibiotics.

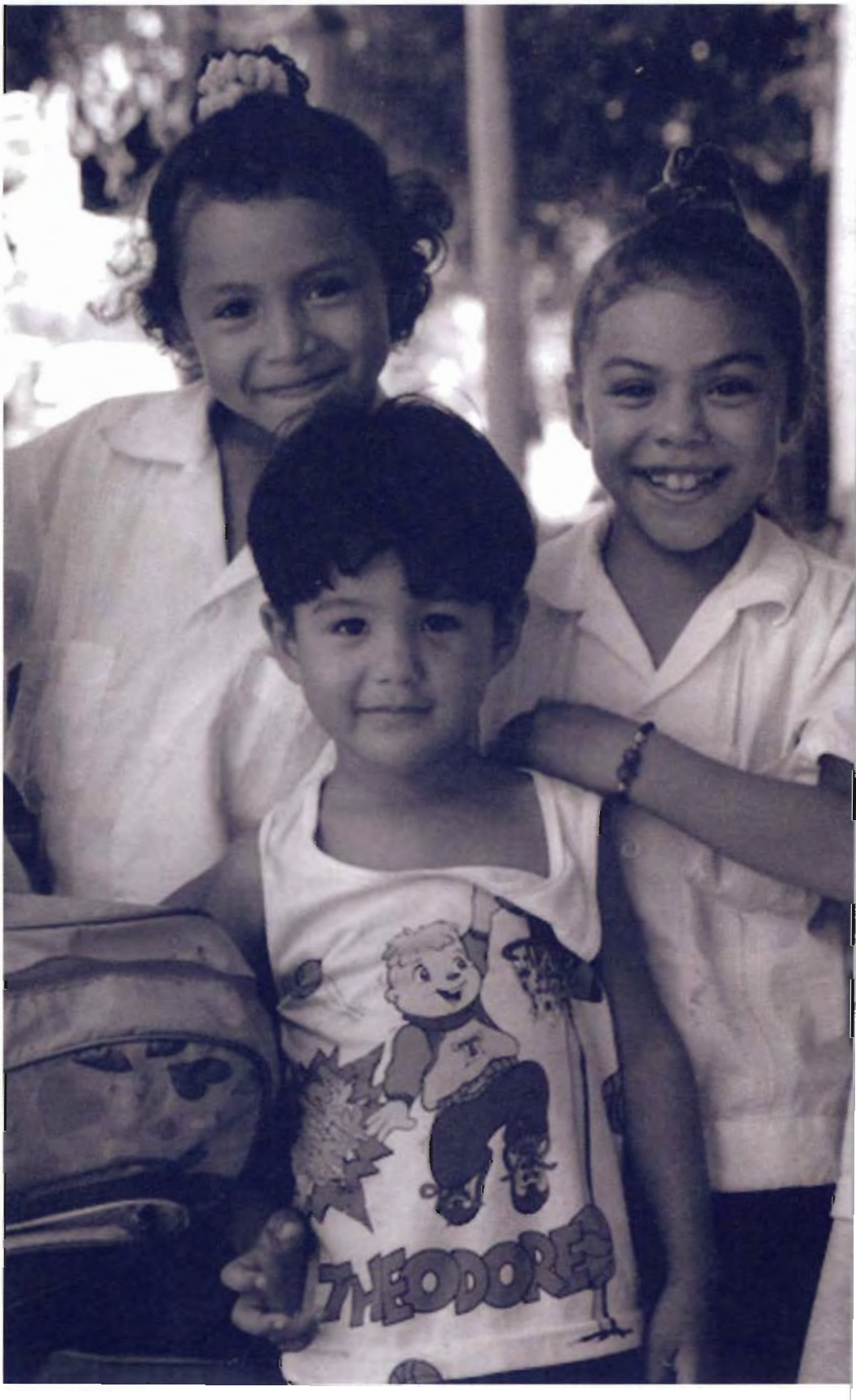
Based on the current enthusiasm and commitment of the SDV project

partners, ORS use in Bolivia will undoubtedly increase in the long term. A crucial future step for the public sector (in the form of both national- and district-level government agencies) will be maintaining support for education and promotion initiatives. BASICS and its partners can support this process by working directly with municipalities and mayors to improve the use of SDV. The private sector will also have tasks to pursue, in particular convincing wholesalers to come on board and help broaden the distribution of SDV to stores and supermarkets nationwide.

The type of public-private partnership initiated by BASICS in Bolivia is complex; it involves a range of actors, strategies, and often unpredictable market forces. Yet, every country has public institutions interested in improving public health and companies interested in increasing consumer demand for their products. With time and continued fine-tuning, public-private ventures, such as the SDV campaign, will continue to be banner examples of how to improve child health and save young lives.

Lessons Learned and Issues for the Future

The BASICS experience with the SDV campaign and with other



commercial sector partnerships provides evidence of the benefit of achieving the child survival goals that can be obtained from working with the private and public sectors. In many countries, in fact, the private sector—both private service entities and private purchasers of those services—already quanti-tatively dominates the provision of health services, drugs, and health-related products. Therefore, ensuring that such private transactions do contribute positively to the health of the population must become an important responsibility of government. However, governments in many developing countries have neither fully accepted nor mastered and implemented the skills needed for that function.

Other efforts by BASICS in the private sector have contributed to movement in this direction. Using two new assessment tools, BASICS has demonstrated that private practitioners provide the majority of care to sick children in the nine settings in five countries where these tools have been used.

One of these new tools, the verbal case review, also showed that the care provided by these private practitioners was inconsistent with standards for effective care. That demonstrated need to improve quality of care caused BASICS to develop and use a practical approach for carrying out a quality improvement intervention with private practitioners (INFECTOM). Run by various local agencies—local NGOs as well as local government health offices—the INFECTOM approach has produced demonstrable improve-ments in quality in two sites and is ongoing in three additional sites. The challenges in this area are to adapt these methods to other cultures and types of practitioners and to convince local agencies to start using them.

BASICS has collaborated with PVOs and NGOs in other ways to make apparent the role and benefits of their private contribution to health. BASICS-supported studies showed how a PVO interaction with a number of large plantations in Malawi led to a sustained child health program financed entirely by those employers; how a PVO working with local government developed an inexpensive peer training program for immunizers that led to dramatic improvements in immunization coverage; how a PVO used poor mothers with well-

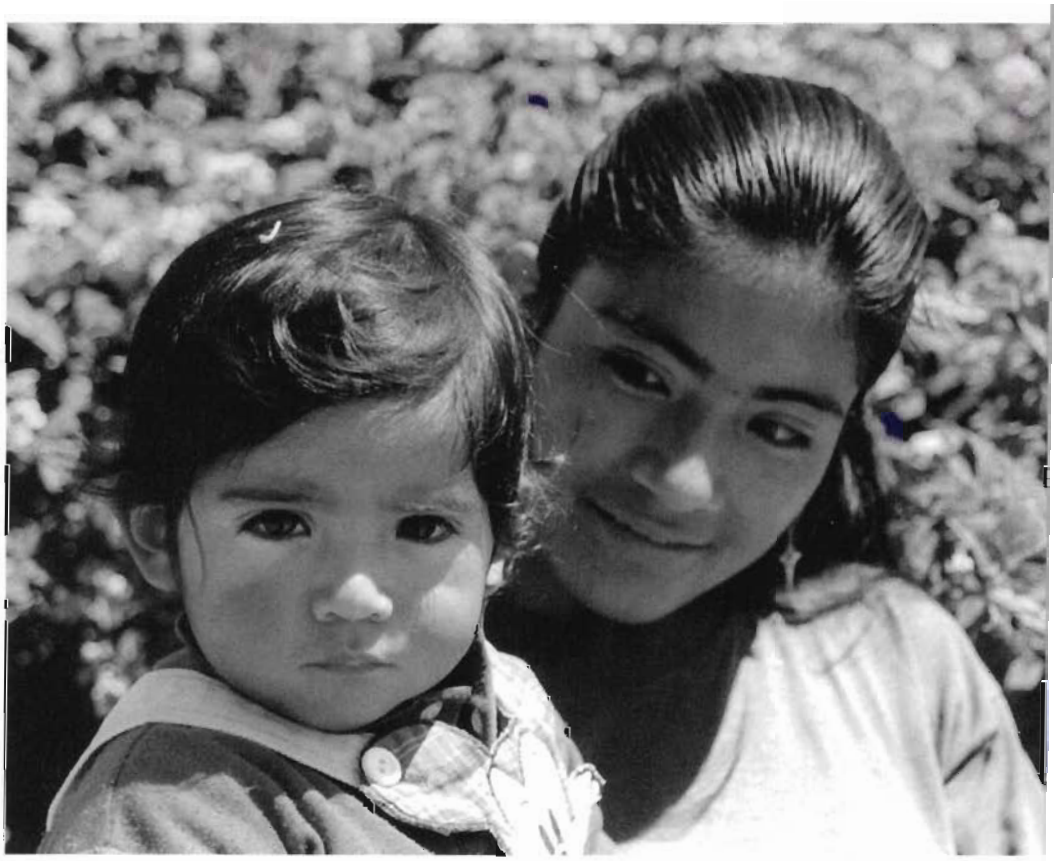
nourished children as examples for other mothers in the same community and economic group, which also had a dramatic impact on malnutrition in neighborhood children through a feeding program based on those positive examples; and how a PVO-supported women's support group managed to carry out successful promotion of breastfeeding to other new mothers in a manner sustained over many years. BASICS efforts provided ample evidence of the wealth of innovative and effective methods that PVOs and NGOs have developed. The methods need to be identified, objectively documented, and transferred to other agencies, yet remain cost effective.

All three types of private sector involvement—with commercial producers of critical health products, with private practitioners, and with PVOs and NGOs—demonstrate the importance of doing two things in the future. First, they must include the private sector along with the public sector in programming for child survival mortality-reduction goals. Second, they must develop and facilitate the adoption of practical approaches for governments to balance their efforts effectively between direct delivery of services and indirect delivery through private resources.

Government must also be able to manage and support the private sector efforts so that they become a truly cost-effective alternative to unaffordable universal public services.

The public sector must collaborate closely with the private sector and vice versa. The benefit of doing so is even more important when one takes into account the increasing difficulty the public sector faces in financing health care for the entire population. Recognizing the potential synergy of resources, the donors must do all that they can to foster and strengthen the partnership with the private sector and to encourage the MOH to make maximum use of the private capabilities and resources. In times of limited health and nutrition resources, all potential allies must be recruited and made part of the child survival team.

In the future, it will be crucial for any agency involved in child health care programming to think in terms of a health system that consists of all the components that contribute or can contribute to achieving child survival mortality-reduction goals. Neither the public nor the private health resources alone will be sufficient to accomplish the goal.



BASICS Work in the Public and Private Sector

In the commercial sector:

Increasing the accessibility and use of ORS: **Bolivia, Cameroon, Cote d'Ivoire, India, Senegal, and Togo**

Improving nutritional status through fortification of staple foods: **El Salvador, Guatemala, Honduras, Morocco, and Nicaragua**

Preventing diarrheal diseases by promoting correct handwashing: **Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua**

Preventing diarrheal diseases by chlorination and safe storage of water at home: **Bolivia and Zambia**

Preventing malaria through the use of insecticide-treated bednets and other material: **Ghana**

Among NGOs:

Work under small grants: **Bangladesh, Benin, Guatemala, Haiti, India, Indonesia, Malawi, Mozambique, and Tanzania**

Workshops: **Burkina Faso, El Salvador, and Senegal**

Technical assistance and special studies: **Honduras, Mali, and Senegal**

With private practitioners:

Assessing and improving quality of private practitioner care: **Bangladesh, Eritrea, India, Indonesia, Nigeria, and Pakistan**

Assessing effectiveness of waiver systems for the poor in privatizing health systems: **Ecuador, Guinea, Indonesia, Kenya, and Tanzania**

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Continued

Continued

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Implementation and Evaluation of a Distance Education Course in the Management of Cholera and Diarrheal Diseases by Raphael Flores, Junio Robles, and Barton R. Burkhalter. 1998.

Highlights (one-page summaries)

Handwashing Is Lifesaving

Guatemalan Breastfeeding Project Proves Effective and Sustainable

Health Worker Peer Training in Indonesia Lowers Immunization Costs, Increases Coverage

Mothers Help Improve Private Sector Provider Care for Their Children

Preventive Health Care Program for Families on Malawian Tea Estates Benefits Both Employees and Employers

The Hearth Nutrition Model: Mothers Helping Mothers

Indigenous Private Groups Help Improve Community Health Services in India

Handwashing Campaign Benefits Both Central American Communities and Soap Producers

Malawi Tea Estates and Project Hope

Study Identifies Barriers That Impede the Poor's Access to Health Care in Developing Countries

Private Sector Partnership to Build Demand for ORS in Bolivia

NGO/PVO Support Program Organized

Health Workers in Central America Learn Cholera and Diarrhea Management Through Distance Education

Further Reading on the Public/Private Sector from Other Sources

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CHAPTER 6

Building Local Capacity

As the least powerful and most vulnerable segment of society, children will always face formidable challenges. Many factors can prohibit them from growing up healthy and happy, from political strife to inadequate nutrition, to lack of access to health care. Improving child health and survival worldwide is a process without end, but one that presents many opportunities and much hope. To ensure the success of health programs, they must be continuously monitored and evaluated, which serves to identify what works, what doesn't, and how changes can be made.

Improving the quality of care provided to children and mothers at health facilities is a process requiring a number of steps. This process involves setting clear program objectives, assessing current conditions, developing and implementing program strategies, and monitoring and evaluating the impact of program strategies on health. In the past, many evaluation activities emphasized the collection of data, with little attention given to how program planning and service capacity could be improved. Until recently, studies often have taken so long to complete and analyze that information was outdated before it could be used. In addition, many programs have not routinely evaluated their cost-effectiveness, so it has not always been clear whether or not limited resources have been used wisely.

Public health planners and program managers in developing countries have recognized these limitations. The desire for more effective programs that are sustainable in the long term (combined with declining government budgets) has prompted the worldwide trend toward the decentralization of health care, from the national to the local level. As a result of this trend, there is increasing recognition of the need for new methods of

BASICS Monitoring and Evaluation Strategic Vision

Increase the capacity of developing countries to plan, implement, and sustain effective public health programs. Develop evaluation and monitoring strategies that are appropriate, feasible, and cost-effective.

- Develop, implement, and document innovative approaches to monitoring and evaluation of child survival programs in developing countries.
- Provide on-going support to country programs, ministries of health, and other partners to facilitate regular and sustained monitoring and evaluation of routine programmatic activities in developing countries.
- Develop and conduct strategies for regular monitoring and evaluation of BASICS Project activities.

planning and administering facility-based care.

Monitoring and evaluation has become a fact of life for managers of health programs; it is no longer a hit-or-miss affair nor the province of specialized external consultants.

Dory Storms, Child Survival Support Program, USAID

Simultaneously, the Integrated Management of Childhood Illness (IMCI) program, developed by WHO and UNICEF, has been adopted by an increasing number of ministries of health and program managers in developing countries.

The IMCI program is based on the fact that more than 70 percent of childhood deaths are attributable to five interrelated conditions: diarrhea, acute respiratory infections (ARI), malaria, measles, and malnutrition. Because young children can have more than one illness at the same time (malnutrition can predispose children to infectious diseases, for example), the IMCI approach, to prevent death or continued illness, promotes the simultaneous management of the five conditions.

In early 1995, BASICS launched a new monitoring and evaluation approach that seeks to improve the quality and effectiveness of care provided at low-level health facilities. The Integrated Health Facility Assessment (IHFA) focuses on the collection and use of data on the care provided to sick children when they are brought to a health facility.

The IHFA is innovative in several ways. In addition to being a tool for monitoring the management of all five major childhood diseases, it is also relatively inexpensive and can be administered quickly, which makes it more feasible for countries with limited resources.

Importantly, the IHFA focuses not only on the evaluation of existing programs but on solving local-level problems, training health care workers, and building service capacity. In this way, the IHFA also serves to prepare health care facilities—and, when widely applied, entire countries—for the implementation of IMCI programs. By mid-1998, BASICS had used the IHFA approach in 15 countries throughout Africa, Latin America, and the New Independent States (NIS). (See map on page 88.)

Taking the Test

Because the IHFA is a tool for local health planning, sampling units may include administrative regions or districts, or the catchment area for specific health projects and organizations. A central aspect of the IHFA is that it is to be carried out by the people who are most closely involved in health programs and who will ultimately have the responsibility for understanding and carrying out necessary changes. BASICS has collaborated with district-level ministry of health (MOH) teams to train local managers to collect basic information from health facilities and use it to develop and sustain effective health worker performance. This process helps district officials learn about the IHFA approach so that, in the future, they will be able to conduct monitoring on their own, using local resources.

Following training, teams consisting of a supervisor and two surveyors are formed. With the help of structured questionnaires (translated into local languages), these teams observe health workers as they manage sick children, and they interview the child's caretaker after each consultation.

> **Health workers have gained in confidence and they have started to work on their own. We have invested in people. A few people, if motivated, can cover the whole zone.**
>
> ***Zone medical officer in Eritrea***

Health workers at each facility are also interviewed. The team uses a checklist to assess the supports that are required for delivery of effective health care, including the availability of essential drugs, equipment, and supplies.

Each team visits one health facility per day—usually a small- to mid-sized health station or post—for a total of 5 or 6 days. All children under 5 years of age who come to the facility during the survey period and who are described by their caretakers as having diarrhea, fever/malaria, cough/difficulty breathing, or pneumonia are included in the study. Caretakers are given an enrollment card to ensure that children can be followed by the surveyors during all stages of treatment and in different places in the facility.

Questionnaires facilitate the collection of data on 25 indicators that summarize key assessment, classification, treatment, and counseling tasks required for the integrated management of the sick child, as well as information on the facility support required for high quality care. (The IMCI standard case management guidelines are used to define the key elements of quality care.) The following types of information are collected on the practices of health workers and health facility support systems:

- The assessment tasks completed by health staff for sick children brought to the health facility. These include evaluating nutritional status, plotting weight on a growth chart, checking vaccination cards, and investigating complaints of diarrhea, ARI, or fever.
- The proportion of sick children who received vaccinations appropriately (or were referred to another clinic) and who were treated appropriately for diarrhea, pneumonia, malaria.
- Whether caretakers had their own vaccination cards checked and were given adequate counseling by health staff on the management of their child at home. Counseling includes information on how to recognize danger signs of worsening illness, how to administer food and fluids, and how to administer treatment, including ORS.
- Whether health workers have received supervisory visits in the last six months and training in child health in the last one to three years.
- Whether health facilities have run out of essential drugs (including anti-microbials, anti-malarials, ORS, and vitamins) in the last month.

Team supervisors are responsible for checking and coding all questionnaires at the end of each facility visit. Local facility staff members enter data into an EpiInfo database each day and calculate indicators. Data are analyzed and discussed by all members of the survey teams, who develop a summary report of findings from the IHFA. In meetings and through feedback to supervisors, facility staff members are encouraged to discuss the results and try to find creative solutions to prevalent problems.

Determining Impact

In the 3 years since its implementation, the IHFA has proven to be an effective

planning, monitoring, and evaluation tool. Results from the IHFA naturally vary among countries and localities and reflect different problems and concerns. The IHFA is not a definitive judgment on the abilities of a hospital or clinic to fulfill its mandate of treating illness but rather a way to help district managers evaluate the quality of essential child care in their areas and help them plan activities, based on their assessments. By involving both managers and staff, the IHFA also strengthens local capacity for program planning.

More than any other indicator of progress, it is clear that the IHFA process has boosted the motivation of participating health practitioners and program managers. By collecting information through direct observation and communication, health workers have become more aware of their own performance, as well as the resources and limitations of their workplace. New skills and knowledge have been uncovered, and health care practitioners want to learn more. This transformation in staff involvement in understanding their own problems is an essential first step toward improving child health programs worldwide.

BASICS has reported on the use of the IHFA in 112 health facilities in four African countries (Eritrea, Ethiopia, Madagascar, and Morocco). In the sampled districts, most health workers did not regularly use an integrated or combined approach to assessing and managing or treating sick children. Some assessment and treatment tasks were done well for diarrhea, ARI, and fever, although nutrition screening was rarely conducted on sick children in areas where malnutrition is a prevalent problem. Many facilities had all the essential equipment and maintained reasonably regular schedules for supervisory visits (though the quality of this supervision was often poor). Many aspects of standard case managment, especially counseling skills, required improvement. Follow-up actions have included improving in-service training, the supervision of health workers, and clinic organization.

In all the countries where the IHFA has been applied, health staff members have developed local action plans that can be implemented using available personnel and limited financial resources. Such plans include the

Preventing Child Deaths in Bolivia

The death of a child is always tragic. Unfortunately, the complex cultural, behavioral, social, and economic factors determining childhood illness and mortality are often not understood. In 1995, BASICS worked with local health workers and communities in El Alto, Bolivia, to examine the factors leading to childhood death. The primary tool used to evaluate how and why young children die in El Alto was a community-based mortality surveillance study. Seven surveyors were hired and trained to conduct the study, which consisted of interviews with caretakers of children under 5 who had died in the past few months. Other sources of information were public and private health services. The surveyors investigated both the medical or biological causes of death (a "verbal autopsy") and the sociological aspects that led to death (a "social autopsy"). The BASICS *Pathway to Survival* (see p. 6) was applied to gauge when, how, and what type of care was sought by caretakers and to help identify gaps in the treatment process.

Child mortality rates in Bolivia have declined in recent decades, from 252 per 1,000 live births in 1960 to 102 in 1996. However, newborn deaths are still high, and progress has been particularly slow in rural areas. For example, in the town of El Alto, an area outside Bolivia's capital city of La Paz, children under 5 make up nearly 15 percent of the population. More than 70 percent of El Alto's 500,000 residents, many of whom are Aymara Indians who migrated from rural areas, live in extreme poverty. Only one-third have access to sanitary facilities or water in their homes. Consequently, malnutrition and disease are prevalent among children.

Results from the mortality surveillance survey indicated that nearly three out of four of childhood deaths in El Alto occurred during the first year of life, primarily due to diarrhea and ARI. Approximately 40 percent of mothers did not know how to recognize the signs of illnesses or when to seek help. As a result, many children were never treated, and those who were often received care that was inadequate or administered too late to prevent death. Approximately 65 percent of children died within 3 days of the onset of illness.

In numerous cases, help was sought from neighbors or traditional healers, whose treatments did nothing or contributed to a child's death. Medical practitioners were contacted only as the illness progressed or became severe. Nearly two-thirds of children who died were never taken to a public health center or hospital, despite the fact that most of El Alto's residents live in close proximity to them. In addition, most children who died had not received essential infant vaccinations.

The picture that emerges from El Alto is one of widespread, yet preventable, childhood illness and death. Both the care seeking and the types of treatment being used are inadequate. Because the majority of deaths are due to causes in the home (including inadequate nutrition, sanitation, and attention to symptoms), improvements in both health education and socioeconomic conditions are imperative. At the same time, changes in the way that medical care is administered are needed—by improving access to health services, quality of care, and trust in health care providers. Fortunately, the survey process motivated many caretakers and community members to understand their own actions and to learn more about the causes and signs of childhood illnesses. BASICS developed "El Zambo Angolita," a 52-segment radio soap opera designed to communicate information about infant and child health and disease prevention. A social marketing campaign is underway to expand the scope of the program throughout Bolivia, as well as to increase the impact of its messages.

The El Alto study inspired the development and use of this method in other countries. BASICS collaborated with Johns Hopkins University to develop a manual on how mortality surveillance studies can be used to evaluate the causes of death and care-seeking practices. Together with ministries of health, Save the Children, Mother Care, and the Centers for Disease Control and Prevention, BASICS has used the manual to train regional health planners throughout Latin America and to help district health managers in Bolivia, Guatemala, Kazakhstan, Cambodia, Mozambique, and Guinea use the manual to improve child health programs.

Table 6.1 ***Results of Health Facility Assessments in Three Central Asian Countries (CAIDP Program), 1996–1997***

Selected Indicator	Pre-Training/Supervision (Percentage 1996) Uzbekistan	Kyrgyzstan	Kazakhstan	Post-Training/Supervision (Percentage 1997) Uzbekistan	Kyrgyzstan	Kazakhstan
Practitioner Actions:						
Severity of child's disease assessed	4	3	3	86	14	18
All child's key history questions asked	12	4	15	84	28	41
Child's nutritional status assessed	42	31	9	73	33	18
Counted breaths for child with cough	42	33	68	100	87	97
Did not prescribe antibiotic for non-pneumonia ARI	44	27	41	99	84	84
Prescribed antibiotic for pneumonia ARI	17	50	63	100	80	88
Counseled Caretakers:						
On giving liquids	43	50	72	98	87	93
On feeding	63	58	52	100	65	79
On when to return	55	48	44	99	74	88
Verified understanding of treatment	37	27	31	90	62	68
Verified knowledge of at least three danger signs	36	18	6	93	77	81
Facility Supplies:						
Cotrimoxazole available on day of visit	7	41	47	80	50	65
Stock of inventory cards for essential drugs	3	8	13	65	85	15

improvement of simple clinical skills, such as assessment of nutritional conditions and vaccination status and using examination tasks (such as counting respiratory rate, looking at the ears and throat, and checking skin turgor) to better classify child illnesses. These improvements can be accomplished by providing health workers with more training and better supervision, as well as helping them develop and use checklists to monitor their own behaviors.

Other strategies that have been proposed following the use of the IHFA include further training in maternal and child health topics and changing clinic schedules to allow health staff more time to manage children and talk with caretakers. In many countries, a decision was made to adopt the IMCI approach. Another crucial element is the availability of essential drugs and vaccines through more efficient stock procurement and management. In many countries, reducing the inappropriate use of medications would help increase their availability, as well as reduce the prevalence of anti-microbial resistance that results from overuse.

While evidence of the full impact of the IHFA on the organization, expansion, and improvement of health programs has yet to be assessed in many project countries, mechanisms to do so have been put in place in Eritrea, Ethiopia, Zambia, Niger, and the NIS (Kazakhstan, Kyrgyzstan, and Uzbekistan). Results thus far are positive, as shown in table 6.1.

In addition to better health worker performance and patient care, cost savings are clear. In facilities surveyed in the three countries of the Central

Asian Republics that are the focus of table 6.1, the cost of treating pneumonia dropped 77.8 percent in Kyrgzstan, 62 percent in Uzbekistan, and more than 38 percent in Kazakhstan. Treatment costs of non-pneumonia respiratory infections fell dramatically to between 38 percent and 83 percent in these countries.

Continuing Studies

The local, inclusive nature of the IHFA makes it a relatively easy process to implement in a range of circumstances. Routine supervision of local health workers is feasible in many countries, while simple checklists and discussions can help solve many problems. However, it is possible that many districts will not be able to use the IHFA because of the need for software and databases that are often unaffordable or unattainable. Designing a mechanism for hand tallying would make the IHFA more practical and better suited to restricted economic and educational conditions in many parts of the developing world. In addition, more experience is needed on the use of local data for problem solving by health workers. Other strategies for reinforcing and sustaining health worker performance, in addition to supervisory-based strategies, will need to be tested, including self-

The Preceding Birth Technique: Experiences in Mali and Senegal

All child health programs aim to prevent the deaths of young children. Despite this, accurate and reliable measures of childhood deaths in developing countries are rarely available. The preceding birth technique (PBT) is a simple and inexpensive method for obtaining regular information on childhood mortality and for monitoring changes in mortality over time.

The PBT requires that mothers are asked about the survival of their preceding born child at the time of a visit to a health facility for a subsequent delivery, or just after a subsequent delivery. Mothers are asked three key questions:

- Have you ever been pregnant before this last pregnancy or delivery?
- If yes, what was the outcome of this pregnancy (live birth, still birth, miscarriage, or abortion)?
- If a live birth, is the child alive today?

An early childhood mortality index is then calculated by counting all the preceding born live births that died before the inquiry (the numerator), and dividing by the total number of live births—including babies that died immediately after birth (the denominator). The early childhood mortality index has been demonstrated to be an accurate and reliable measure of under 2 mortality in most developing country populations. The major limitation of the method is that it is facility-based and may not be a measure of true overall mortality in the surrounding population due to selection bias. For this reason, it is used to follow mortality trends over time, rather than estimate absolute levels of mortality.

BASICS undertook to test the PBT approach in two African countries, Senegal and Mali. In both countries, the method was tested in a 6-month prospective studies between April and September 1996. Health workers were trained to use the PBT at three possible contacts with the health facility: at the time of antenatal visits, at the time of delivery, and at the time of the first immunization visit (for BCG).

In Senegal, the method was implemented at six health facilities in four districts. The early childhood mortality index was estimated to be approximately 100 per 1,000 live births for the population coming to these health facilities. No significant differences were noted between the rates calculated, using each of the three health facility contacts.

In Mali, the PBT was implemented in 58 health facilities in the districts of Kadiolo, Koulikouro and Koutiala. The early childhood mortality index was estimated to be between 126 and 151 per 1,000 live births for the population coming to these facilities. Again, no significant differences were noted in the rates calculated using each of the three facility contacts.

The major findings of these short implementation trials were

- Health personnel in all three clinic settings (antenatal, delivery, and immunization) were able to collect PBT data from women at the time of clinic visits.
- Existing data registers can be modified to allow PBT data to be recorded.
- The early childhood mortality indices did not differ significantly by type of clinic visit.

The quality of the data collected suffered because of inadequate health worker training and supervision. This was particularly true of the immunization clinic workers, who were not as experienced in asking questions to women and children. Because BCG coverage is often relatively high in these populations, the immunization contact may be the best opportunity for collecting PBT data. For this reason, methods for improving the practices of immunization workers may deserve further attention.

Much more work needs to be done in the area of compiling and analyzing mortality data and using these data for making local program decisions. Mortality data could be used locally to identify high-risk groups within a population, to monitor changes in mortality over time, and to target high-risk groups or individuals for better outreach, or other services.

These early trials suggest that this method is feasible in developing country settings and can be effectively implemented by local health workers. More widespread testing of the approach is recommended by integrating it with routine training and supervision for other primary health care activities. Further trials will need to investigate approaches for using PBT data for decision making.

assessment, peer-based monitoring, and better use of routine data systems.

To further test and develop this approach, it will be important to expand the reach of the IHFA to additional locations. BASICS has, therefore, begun to train other international organizations in the IHFA process and to help them explore how they can customize it to fit their own projects and needs. For example, Save the Children and World Vision are currently using the IHFA in Ethiopia, and the Population Council is testing its use in Guinea and Zambia. Monitoring and Evaluation to ASsess and Use REsults (USAID's MEASURE project), which is developing new health facility survey methods for use in several countries, will incorporate an IHFA component into its work. In addition, an interagency task force (consisting of WHO, UNICEF, USAID, and the Centers for Disease Control and Prevention), currently working to develop a monitoring and evaluation approach for IMCI worldwide, will use elements of the IHFA.

Because the IHFA enables health facilities to monitor and evaluate their own progress, it is critical for the planning of sustainable, locally based child health programs. After it is adequately understood and implemented, the IHFA may ultimately lead to more targeted and suitable technical assistance, which, in turn, will help fulfill the goals of health advocates worldwide.

Lessons Learned and Issues for the Future

BASICS identified the need to develop monitoring and evaluation instruments that will enable the district-level health authorities manage their programs. As mentioned in chapter 2 on community programming, decentralization is already a reality or soon will be in many countries. Thus, increasing responsibility will be delegated to district health officials, and it is necessary to provide them with the tools that will allow them to function effectively. In addition to the IHFA described in detail in this chapter, BASICS developed and tested two other instruments that are meant for use by district health managers, namely the Mortality Surveillance Survey and PBT, also mentioned in this chapter.

BASICS also invested in the verbal case review (VCR) to evaluate the practices of private practitioners. This instrument is similar to the IHFA in that it focuses on health worker performance in diagnosis, treatment, and counseling of sick children. However, in this case, the information comes from the

caretakers themselves rather than through observation of the practitioner. The instrument was tested and validated in the vicinity of Calcutta in eastern India. It was also utilized in several other countries in the sub-continent, including India, Indonesia, Bangladesh, and Pakistan. The VCR demonstrated that it was possible to improve private practitioner health worker performance (see the sidebar in chapter 5 on BASICS experience in Bihar).

BASICS has been a staunch supporter of monitoring and evaluation (M&E) systems, not only as means to track progress to the achievement of program objectives, but also as a planning mechanism. The HFA, as explained, enables the local health officer to identify the health problems in his area of responsibility and develop ways to rectify the situation.

BASICS M&E efforts also included efforts to identify means to measure the effectiveness of the radio behavior change interventions as discussed in chapter 9 (on communication and behavior change). Radio has proven to be a cost-effective means of disseminating information and stimulating improved knowledge and even child health care modifications. Because the use of radio is likely to be increased in the future, it is important that methodologies and techniques to evaluate the effectiveness of radio and social marketing campaigns be developed, tested, and standardized.

In the future, there is a need to ensure that sufficient resources are invested in monitoring and evaluation activities. Instead of being viewed as a cost-consuming resource, which could be used for program activities, any funds expended on monitoring and evaluation should be seen as necessary to ensure the cost-effectiveness of any program.

In addition, there must be greater consensus on instruments and indicators. The donor agencies and NGOs involved in IMCI and child survival programming will have to collaborate more closely to standardize survey tools and the definition of the indicators monitored. This action will make it possible to compare the data collected by the various donors and governments. Moreover, it will enable the donors to identify a core set of indicators that all child survival programs will collect and, in the process, enable the donors to reduce some of the duplication that now exists.

BASICS Work in Monitoring and Evaluation

Community assessment and planning: **Ethiopia, Morocco, and Zambia**

Preceding birth technique: **Mali and Senegal**

Mortality surveillance: **Bolivia, Cambodia, Guatemala, Guinea, and Kazakhstan**

Integrated health facility assessments: **Benin, Bolivia, Ecuador, Eritrea, Ethiopia, Guinea, Honduras, Kazakhstan, Kyrgyzstan, Madagascar, Mali, Morocco, Senegal, Uzbekistan, and Zambia**

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Community Health Needs Study Guides Strategies for Ethiopia Project

Child Deaths in Bolivia are Preventable, Survey Shows

Eritrea Reaches Consensus on PHC Policy: Building a Strong Foundation for the Future

Bangladesh NID Process Evaluation: Learning from Experience

Health Staff Partner with the Community for Better Maternal and Child Health in Ethiopia

Health Workers in Central America Learn Cholera and Diarrhea Management through Distance Education

Analyzing the Cost-Effectiveness of Oral Cholera Vaccine: The First Step for Decision Makers

Lot Quality Assurance Sampling: Identifying Areas of Low Immunization Coverage in Urban Bangladesh

Articles

"Helping Health Workers to Plan with Communities in Ethiopia and Zambia," by Karabi Bhattacharyya and John Murray. *PLA notes.* 32:4-8. 1998.

"Community Assessment and Planning for Child Health Programs: A Participatory Approach in Ethiopia," by Karabi Bhattacharyya and John Murray. *Health Policy and Planning.* In press. 1998.

"Cost-Effectiveness of Oral Cholera Vaccine: An Analysis in Stable Refugee Populations at Risk for Epidemic Cholera and Populations with Endemic Cholera" by John Murray, Deborah McFarland, and Ronald Waldman. *Bull WHO.* In press. 1998.

"Conducting Local Rapid Assessments in Districts and Communities." *The Manager, Family Planning Management Development Project.* Management Sciences for Health, Boston, MA, Volume VII, Number 1, 1998.

CHAPTER 7

Renewal and Reform in the NIS

Enormous progress in the field of immunization has been made since the World Health Organization (WHO) initiated the Expanded Program on Immunization (EPI) 20 years ago. Thanks to the work of WHO, UNICEF, numerous other organizations, and governments worldwide, global vaccination coverage rates have increased from 10 percent in 1974 to approximately 80 percent in 1990—progress that now prevents an estimated 3 million child deaths annually.

Yet today, 2 million children around the world die each year from diseases, such as polio, measles, diphtheria, pertussis, tuberculosis, and tetanus—all preventable by vaccinations that are relatively inexpensive and straightforward to administer. With the need in the field so compelling, BASICS makes immunization a cornerstone of its work in many parts of the world, in particular Bangladesh, Africa, and the former Soviet republics. (See map, p.103.)

Soon after the Soviet Union began to break up, Resources for Child Health (REACH, a predecessor project of BASICS) launched technical assistance projects in the field of immunization and disease control in the New Independent States (NIS). In 1994, after BASICS picked up where REACH left off, work focused on Moldova and the Central Asian Republics (CAR) of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. Major additional work has been carried out in Russia and the Ukraine. The overall goal of the New Independent States immunization program is the strengthening of immunization services to reduce disease, disability, and death from vaccine-preventable diseases.

In many ways, the health system of the former Soviet Union was effective.

BASICS Immunization Strategic Vision

Contribute to the delivery and utilization of effective, efficient, and safe immunization services and the control of vaccine-preventable diseases. Emphasize mid- to long-term planning for improved management and financing (including vaccine procurement), implementation, and monitoring and evaluation.

- Increase safe and effective immunization coverage, especially among high-risk populations, through selective activities to strengthen management and planning capabilities; upgrade the quality of services to increase and sustain demand for immunization services.
- Introduce strategies to reduce morbidity and mortality due to vaccine-preventable diseases.
- Work toward ensuring the constant availability of funds and commodities required for the operation of immunization programs.

An extensive array of health facilities with well-defined catchment areas and up-to-date records on all families allowed high levels of immunization coverage and thorough follow-up on preventive and disease control measures. Vaccinations and other health services were provided free-of-charge in the public sector. However, these achievements were only possible because of heavy subsidies by the state. Under a centralized system, the ministry of health (MOH) representatives in each former republic followed policies formulated in Moscow. Variations in health conditions among the provinces (*oblasts*) regarding the incidence of specific diseases, infant mortality, and nutrition were largely disregarded when policies and strategies were formulated.

At the time of independence, the NIS inherited a functioning yet inefficient health system, but not the means to finance or improve it. More than 70 years of relative isolation had left these countries lacking in knowledge and skills required to develop appropriate policies, procure necessary supplies, manage immunization programs, and examine health data. Long-controlled, vaccine-preventable infectious diseases, such as diphtheria and polio, rapidly re-emerged, in large part because vaccines could only be obtained from abroad with scarce hard currency at high prices.

Rapid Response

In light of these conditions, the initial objective of REACH was to guide emergency humanitarian donations of vaccines and commodities in the NIS. However, it immediately became clear that the success of these efforts in the long term required an expansion of program goals to include the modernization and strengthening of immunization programs. In 1992, the REACH project initiated a technical exchange process between MOH officials throughout the NIS and international experts to revise immunization polices and practices according to WHO standards, an effort that BASICS continued.

BASICS inherited and expanded upon this work. The project introduced new concepts of program management, planning, vaccine logistics, social mobilization, and behavior change strategies to improve management information systems, and procedures for obtaining vaccines on the international market. Today, BASICS aims to foster greater effectiveness, efficiency, and self-sufficiency—ultimately helping the NIS develop structures for vaccine procurement that can serve as alternatives to traditional donor funding.

Many factors make this work challenging and difficult. For example, under the Soviet system, individual oblasts had grown accustomed to simply contacting vaccine manufacturers in Russia and having supplies shipped almost immediately. Consequently, few people at national levels had the skills or knowledge needed to obtain, properly store, and distribute vaccines, or to manage stocks. Under former regulations, it

was common to administer an excessive number of doses to children, with little attention paid to the internationally accepted immunization schedule. In addition, cold chain practices (which keep vaccines at the proper temperature during transport, storage, and use, thereby preserving their effectiveness over time) were rarely implemented. The equipment needed to do so, such as refrigerators, aged and fell into a state of disrepair.

To implement change and develop new interventions in the NIS, BASICS formulated three core program objectives:

- Build a viable national immunization program, including the revision of immunization policy, comprehensive operational planning, and more effective advocacy and donor coordination.
- Strengthen institutional capacity for implementation of national immunization programs through design of appropriate systems and training in essential management and technical skills.
- Reduce the incidence of priority vaccine-preventable diseases, diphtheria and polio, through technical support for national control programs and campaigns.

On the Frontier

Among the many legacies of the Soviet era was a record-keeping system with excessive amounts of unnecessary data. Beginning in 1994, BASICS began to work with the MOH in Kyrgyzstan to streamline the country's health management information. Epidemiologists and pediatricians from national, oblast, and *rayon* (district) levels were brought together to assess record systems and practices, to find ways to improve the monitoring of immunization services, and reduce the quantity of unused information being reported. Ultimately, records were revised and training manuals and monitoring tools were developed. After a successful one-year trial, the MOH implemented the new system nationwide in August 1997, and is currently working on expanding it to include disease surveillance.

The Soviet medical system had also created an administrative and practical divide between child health care and disease prevention and control. To bridge this gap, BASICS has provided technical and financial assistance to establish centers for immunoprophylaxis in Kyrgyzstan and Tajikistan. These centers bring together pediatricians and epidemiologists to coordinate management and implementation and to formulate policies on disease control and prevention.

With an eye to the implementation of such policies, BASICS initiated the development of inclusive national immunization plans in the five CAR countries and Moldova. The plans are tailored to the countries' diverse situations, incorporate WHO immunization standards, and promote more cost-efficient services. A major step has been to revise and streamline vaccination schedules and contraindication policies. BASICS has also worked with MOHs to organize seminars with medical faculty and health professionals to discuss current WHO recommendations and practices in Western countries.

To help modernize health policies and practices, BASICS has facilitated the translation into Russian of more

Expanding Immunization in Urban Bangladesh

Bangladesh is an encouraging example of how quickly child health can improve once adequate financial and human resources are mobilized. Through a governmental Expanded Program on Immunization (EPI), the proportion of Bangladeshi children fully immunized by age 12 months increased from 2 percent in 1985 to 51 percent in 1997. However, the persistent gap in health coverage between rural and urban areas, and the higher rates of disease and infant mortality in the urban slums, have long been concerns for government officials, health organizations, and international agencies. (See table 7.1.)

Poverty, landlessness, and unemployment in rural areas have forced many people to migrate to cities, where 23 percent of Bangladesh's 120 million people now live. Half of the urban residents are classified as poor and many live in unsanitary, overcrowded conditions that foster the development and spread of disease. In response to these conditions, USAID launched an urban EPI project in 1988 and BASICS took over the effort in 1994. The program had the following goals:

- Assist the government of Bangladesh to improve and sustain EPI delivery systems in cities and selected municipalities, with special emphasis on the urban poor.
- Assist cities and towns to assume an ownership role in planning, coordinating, implementing, and monitoring urban child health services.
- Strengthen child survival service delivery and the introduction of IMCI, in coordination with the government of Bangladesh.

The primary program strategy is to assist the government of Bangladesh in its efforts to expand coverage among the urban poor, including disease surveillance; supply of and demand for immunizations; and capacity building among local governments, cooperatives, and city corporations. Specifically, BASICS has helped map areas and identify available health resources, organized coordinating committees and task forces among service providers and health ministries, assessed the behavior and knowledge of populations regarding child health services, and implemented communication interventions to increase demand for vaccination.

These strategies have proven so successful that immunization coverage in urban areas now exceeds the average national rate. Successful National Immunization Days (NIDs) have been held for the past three years, with the result that most eligible children have been vaccinated against polio. In addition, the number of health posts filled in urban areas has nearly doubled since 1996, while all of the 84 municipalities involved in the BASICS program have taken concrete steps toward financial sustainability of local EPI recurrent cost. More than 1,200 officers and numerous field workers have been

Table 7.1 *Main Achievements in Bangladesh Urban EPI Project*

Indicator	1994 (percentage)	1997 (percentage)
1-year-olds with measles vaccination in slums (Dhaka)	46	61
NID polio coverage in urban areas	81 (1995)	96
Reported non-polio acute flaccid paralysis cases in urban areas vs. expected	13	73
Municipalities fully paying for local EPI recurrent cost	32	95
Municipalities employing a medical officer	6	51
Filled posts of health staff in municipalities	26	44

trained in conducting thorough, sensitive disease surveillance and appropriate response methods, while BASICS information, education, and communication campaigns have taught the peoople of Bangladesh to recognize and report cases of acute flaccid paralysis, neonatal tetanus, and measles in their communities.

Still, segments of the urban population, particularly those living in slum conditions, remain in dire need of child health services. To identify those areas where a higher number of children and mothers are not immunized, BASICS adapted and applied the Lot Quality Assurance Sampling (LQAS) survey method. This approach helps managers identify geographical areas or "lots" with unacceptable immunization coverage. As a result, supervision can be focused on low coverge areas. The LQAS has been implemented in five Bangladeshi cities: Khulna, Chittagong, Rajshahi, Dhaka, and Syedpur.

Under BASICS supervision, field workers from local NGOs have been trained in LQAS methodology and interview techniques, and databases have been developed to identify the location of immunization services in slums. Areas identified as severely lacking in immunization coverage have been targeted for intensified program activity, including stepped-up vaccination sessions, social mobilization, and communication with health workers. In the future, the greatest challenge for domestic and international agencies alike will not only be expanding health services to more people, but also improving the living conditions that affect the health and survival of women and children.

than 200 technical and educational documents related to immunization and child health. WHO Russian-language training manuals and case-management charts, as well as simple, inexpensive leaflets with key health messages and treatment instructions related to diarrhea, acute respiratory infection (ARI), and breastfeeding have also been translated into Kazak, Kyrgyz, and Uzbek. This information has been reproduced in large quantities and distributed in health facilities by physicians and *feldshers* (community health workers), and in settings related to immunization, well-child, and prenatal care, as well as in maternity homes and during social mobilization campaigns.

One of the greatest challenges in developing sustainable immunization programs in the NIS is the ability of countries to procure adequate supplies of high-quality vaccines. The Moldovan experience demonstrated the need for standardized training and reference materials on vaccine procurement. BASICS conducted vaccine finance and procurement training in Moldova in 1996 for MOH officials, who learned how to conduct a vaccine tender and bid on the international market. In collaboration with Program for

By focusing on policies, practices, and capacity building, [BASICS has] strengthened the system and helped to restore effective immunization services with improved efficiency, which can be afforded by the countries themselves.

Dr. Mario Grassi and Dr. Sieghart Dittmann, World Health Organization/European Regional Office

Appropriate Technology in Health (PATH), BASICS has also developed a *Vaccine Procurement Manual*, which presents information on how to navigate the complex process of vaccine procurement, including information on purchasing options and procedures, writing vaccine specifications, and ensuring quality products.

The experience gained on the ground resulted in another customized training tool and reference guide for use by MOH staff. *Safe Vaccine Handling, Cold Chain, and Immunizations: A Manual for the New Independent States,* written in Russian and English, with contributions from WHO and UNICEF, provides essential information on the proper use, handling, and storage of vaccines and the maintenance of cold chain and injection equipment. In addition, BASICS has provided technical assistance on cold chain management, refrigerator repair and maintenance, and vaccine logistics to each of the CAR and Moldova.

Many of the interventions already discussed have focused on the long-term, structural transformation of outdated, inefficient immunization systems. However, BASICS has also responded to immediate needs. Starting in 1994, BASICS provided technical guidance to several CAR on the implementation of mass campaigns to rapidly bring diphtheria and polio epidemics under control. In 1996, a BASICS-assisted campaign on oral rehydration in Dzambul oblast in Kazakhstan distributed 11,500 leaflets (at a total cost of less than $500) to families with young children in all areas, including remote steppe communities. The campaign mobilized pediatric and obstetric facilities, schools, police, transport workers, and the media to inform parents of the dangers of diarrhea and dehydration in children and the importance of oral rehydration therapy and other forms of home care.

BASICS has provided technical, financial, and administrative support to organize NIDs for the eradication of poliomyelitis in Kyrgyzstan and Tajikistan, including training workshops, technical assistance to help MOHs develop strategies for delivering services and informing the public about NIDs, and assistance in the production of televised public service announcements. Together with WHO, UNICEF, and MOHs, BASICS has also contributed regionally to the development of diphtheria control strategies, in particular during an epidemic in Moldova in 1994–1997.

Understanding Change

As stated by one Russian participant at a BASICS seminar, health professionals in the former Soviet republics are "awakening as if from a long sleep." The changes that have occurred throughout the NIS in recent years, as well as the impact of BASICS interventions, must therefore be viewed within the context of the enormous effort and resources needed to leave entrenched systems and inefficient methods behind. Because of this dramatic shift, past approaches and standard operating procedures often have to

Supporting Diphtheria Control in the NIS

Diphtheria in the Soviet Union was controlled for almost 30 years following the implementation of childhood immunization in the late 1950s. In 1990, a diphtheria epidemic swept through the former Soviet Union, spreading from the Russian Federation to the Ukraine in 1991, and to 14 of 15 of the NIS by 1993–1994. With the dissolution of the Soviet Union, rates of child immunization coverage fell when sources of vaccine and funding were disrupted.

Population movements and crowding are thought to have provided the opportunity for the diphtheria organism to gain a foothold and spread widely among unimmunized cohorts, particularly adults. WHO declared an international public health emergency and, together with UNICEF and the IFRC, launched a major public appeal for financial support to control the epidemic. More than 200,000 cases have occurred in the NIS since the start of this epidemic.

BASICS began diphtheria control efforts in 1994 to contain the spread of diphtheria in several NIS countries, particularly Moldova and Russia. BASICS participated with the European Regional Office of WHO (WHO/EURO) in the design of a joint strategy for diphtheria control. BASICS also identified and translated into Russian key materials and articles (a few dating from the 1930s when diphtheria was the leading infectious cause of child mortality in the U.S.) to provide the scientific underpinnings for the WHO policy pronouncements, especially on such unfamiliar topics as the treatment of contacts with antibiotics. BASICS, with WHO and CDC, also prepared a document, *Planning and Conducting Diphtheria Mass Immunization Campaigns*, which was translated by WHO/EURO into Russian.

As a result of concerted national and international action, diphtheria incidence in the NIS was reduced from a high of over 50,000 cases in 1995, to 20,000 in 1996, and 7,000 in 1997, with an estimated 100,000 cases and 12,000 deaths averted. (See table 7.2.) BASICS provided intensive technical support to Moldova, which experienced the shortest epidemic in the NIS. Through coordinated donor support, a diphtheria mass immunization campaign, rapid case identification, antibiotic prophylaxis, and supplementary immunization of contacts in clusters of infection, the epidemic was quickly contained.

In Russia, BASICS primary mandate was to assist the MOH to modernize methods of public health communications. Starting in 1996, the project used the raging diphtheria epidemic as the opportunity to apply new communications approaches to raise immunization coverage among adults. Incidence fell from approximately 36,000 cases in 1995, to 14,000 cases in 1996, and 4,000 in 1997. These successes in Moldova and Russia will be published in a *Supplement to the Journal of Infectious Diseases* in 1999.

The key lesson learned in the control of the diphtheria epidemic was that the early implementation of well-recognized control measures (vaccination of children, boosters to adults, bacteriological screening and treatment, rapid epidemic response, etc.) was crucial to effective diphtheria control. Delays in applying these measures, often resulting from slow provision of essential supplies and national/international commitment, must be avoided in future outbreaks. In the international context, early and effective donor support and coordination at technical and operational levels are essential for successful epidemic control.

Table 7.2 *Decrease of Diphtheria Incidence in NIS, 1995–97*

	Diphtheria Incidence (Cases)			Percentage
Country	**1995**	**1996**	**1997**	**Decrease 1995–1997**
Kazakhstan	1,106	455	162	85.4
Kyrgyzstan	704	412	291	58.7
Tajikistan	4,455	1,464	723	83.8
Turkmenistan	87	80	38	56.3
Uzbekistan	639	160	34	94.7
Moldova	418	97	49	88.3
Russia	35,652	13,604	4,057	88.6
Total	**50,425**	**20,215**	**7,192**	**85.7**

Source: WHO/EURO

be "unlearned" before new methods appropriate to changed circumstances can be adopted.

Even with this caveat in mind, the progress made throughout the NIS in the field of child health has been impressive. Throughout the CAR and Moldova, immunization schedules and contraindications policies have been streamlined, thereby realizing great savings and achieving higher coverage without sacrificing effectiveness. A variety of innovative solutions to common problems are also being found in the areas of policy, national planning, creation of new management structures and information systems, cold chain processes, and modern methods of public health communications.

As health officials learn to negotiate in the international market, the price of vaccines has dropped. For example, using funds made available by the Ministry of Foreign Affairs in Japan, Moldova was able to acquire hepatitis B vaccine and syringes at less than 90 cents per dose; the country has since purchased other vaccines on the international market, at favorable prices, with its own funds.

Dramatic, rapid changes have been made possible by the work and collaboration of international agencies and domestic health officials and organizations. The results of BASICS contributions to these efforts are tangible, as illustrated in table 7.3, which provides a snapshot of annual savings in vaccines and syringes due to streamlined immunization schedules. Additional savings were achieved in each year by reducing the number of individual contacts with the health system to complete the immunization schedule.

In addition, following another BASICS seminar in 1997, Uzbekistan further revised its immunization schedule, resulting in annual savings of another U.S.$400,000 from vaccine and syringes. As a result of similar BASICS seminars in Moldova and the CAR, all of the countries now save U.S.$1.25 million annually in vaccines and related supplies.

Also, because of BASICS recommendations, Kyrgyzstan now includes the monitoring of contraindications as part of the country's health management information system. Within one year, the country had reduced the number of children deemed ineligible for immunizations due to contraindications from 17 percent to 5 percent, thereby increasing timely coverage.

The positive effects of BASICS technical assistance are also clearly identifiable. For example, within a few months of launching a diphtheria control campaign in Moldova in 1995, 80 percent coverage in 7 to 10 year-olds (the most vulnerable population) and 52 percent coverage of people under 60 years of age had been achieved.

To help exchange information on immunization and other health

Table 7.3 ***Annual Cost Savings (U.S. Dollars*) Due to Revision of Immunization Schedules After Seven MOH/USAID (BASICS)/WHO Policy Seminars, 1992–1995***

Country	Date of Seminar	Current Cost per Fully Immunized Child (0–16 years)	Annual Savings Due to Revision of Earlier Immunization Schedule	Savings as a Percentage of Earlier Budget
Uzbekistan	12/92	4.46	$119,000	3.8
Kyrgyzstan	12/92	4.32	40,000	6.7
Turkmenistan	6/93	4.08	73,000	11.9
Tajikistan	6/93	3.91	161,000	15.6
Kazakhstan	6/95	3.60	246,000	16.5
Moldova	11/93	3.08	107,000	33.5
Georgia	11/93	3.91	58,000	15.6
Total			**$804,000**	

*Assumes UNICEF prices. Table excludes the significant savings due to fewer contacts with the health system.

concerns, BASICS aided in developing Russia's first public health Internet address (http:\\www.medlux.ru). The "Medicine for You" website provides the latest MOH and other technical documents, access to the international marketplace for health-related merchandise, clinical information on medications, and communication with other health professionals. Local users in Moscow can also access a directory to match needed medications with a pharmacy location.

Looking Ahead

The integrated nature of past policies, practices, training, supplies, logistics, management, and monitoring must be appreciated to arrive at a valid diagnosis of current problems and to identify appropriate solutions. When it comes to the former Soviet Union, international partners have been forced to rethink and tailor their approaches to immunization and vaccine-preventable disease control. A "cookie cutter" approach that applies solutions learned in other settings will not work in the NIS, where health authorities have just begun to think critically for themselves and to recognize the need to achieve consensus and public support in a rapidly evolving, pluralistic society. Donors have had to do their homework carefully to counter the healthy scepticism of entrenched minds, so that in the haste to achieve health reform, the countries do not unintentionally lose positive aspects of their previous system.

Many projects developed by BASICS and its partner agencies can be successfully expanded and replicated in other localities throughout the NIS. For example, the additional translation of policies, guidelines, tools, job aids, and background documents into Russian and national languages is a critical element in the education and training of health officials and professionals. For example, the materials selected and translated by BASICS on vaccine safety, post-vaccination complications, and medical contraindications have been widely used in all the NIS.

The *Vaccine Procurement Manual* will be useful throughout the NIS, as well as elsewhere in the world. Fortunately, since the original draft was used in Moldova, interest in expanding the manual's reach has been expressed by the WHO and the International Center for Childhood and the Family. These partners consider the manual to be a potential model for developing

countries throughout the world on how to negotiate for quality vaccines at affordable prices on the international vaccine market.

The job of reform in the NIS, while well under way, is far from complete. International partners will need to continue to provide MOHs, centers for immunoprophylaxis, and local health workers with technical, moral, and, in some cases, financial support. Technical experts should be brought together to resolve critical problems and design coordinated strategies, including policies to reduce the resource constraints and poor management of vaccine stocks that often stymie immunization programs and disease control efforts.

Targeted activities will also be necessary, such as vaccine labeling in Russian and other national languages (i.e., with Cyrillic lettering);

improved monitoring of the conditions of vaccine and equipment shipments; the development of specifications for vaccine transport materials, such as domestically produced cold boxes; and the assurance of safe injection and disposal practices.

The health and social benefits, as well as the cost savings, of efforts to prevent childhood diseases are readily apparent to both international agencies and officials and health professionals in the NIS. BASICS has helped expose the NIS to modern ideas and approaches, as appropriate from both developed and developing countries, to help them "redevelop" within their means to sustain past gains. However, the future success of the programs that have been initiated by BASICS and others will depend on the continued allocation of local government resources amid the restructuring of health systems. This complex process will fortunately be imbued with the eagerness of people throughout the NIS to learn, change, and find new ways to improve their lives and those of future generations.

Future Challenges

Donations of vaccine and cold chain equipment to the NIS were not enough to respond to a complex man-made public health disaster which began to unfold in slow motion, starting in the early 1990s. Recognizing this, USAID initiated through its REACH (1992–1994) and subsequent BASICS (1994–1998) projects a technical exchange process not only to respond to the immediate emergency but also to strengthen and modernize the immunization service so as to reduce future dependence on external support. With some variations from country to country within the NIS, depending on need and opportunity, BASICS has provided a balanced and comprehensive package of technical assistance, encompassing policy reform, program planning and management, vaccine procurement, training, cold chain and logistics, public health communications, data management and monitoring, and translation and adaptation of key documents.

The collapse of the Soviet Union has challenged donors to "think outside the box" to arrive at a valid diagnosis and an appropriate course of action. Unlike most developing countries in which USAID normally works, the NIS has a highly developed system of preventive health care, well-developed infrastructure, a literate population, and skilled health staff. In the NIS, as elsewhere, BASICS has provided technical guidance in recognizing the integrated nature of past policies, practices, training, supplies, logistics, management, and monitoring. In this process, BASICS has encouraged the empowerment and coping skills of well-qualified host nationals and has worked together with other partner agencies to advocate sustainable long-term solutions.

Public health disasters can be anticipated, prepared for, and even averted. The public health crisis in the NIS is far from over. The re-emergence of infectious diseases, such as diphtheria, tuberculosis, typhoid, cholera, malaria, poliomyelitis, anthrax, and others is an early warning of the impending collapse of the public health infrastructure and the absence of alternative methods of organizing

and financing health services to meet the needs. The public health infrastructure is extremely fragile and requires increased support from the host governments and partner agencies. The job is not done. The start that REACH and BASICS have made will need to be continued, by interntional agencies that recognize the economic, political, and humanitarian arguments of investing in programs of primary prevention.

Lessons Learned and Issues for the Future

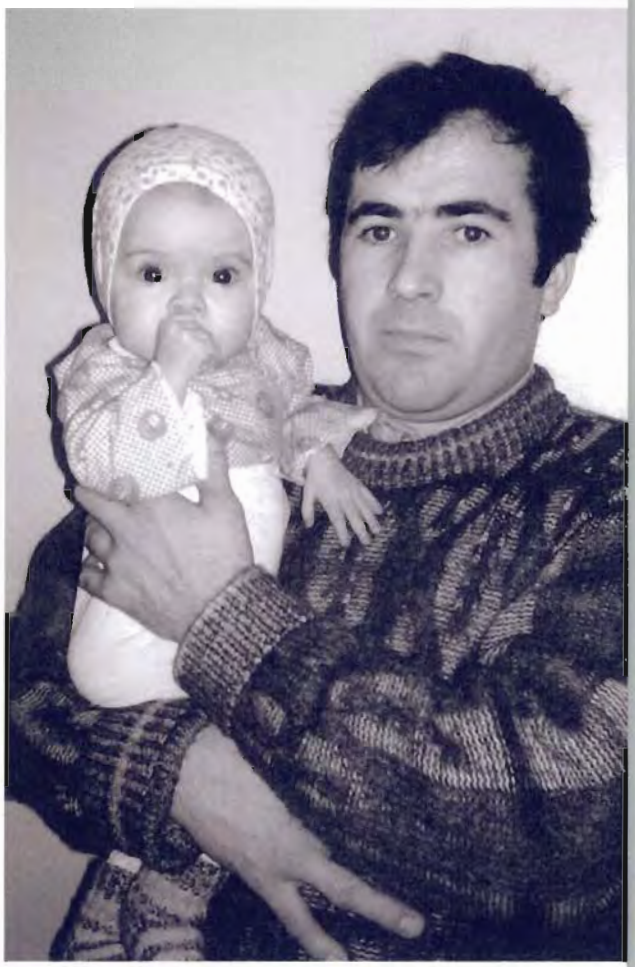
BASICS has learned that immunization programs, to be effective, require considerable technical skill to build capacities and develop strong systems. This approach must be constantly balanced against pressure for short-term improvements that relate only to a single disease. While disease control is the objective of immunization, the challenge is to try to achieve that objective in a sustainable manner that promotes the building of local management capacity. BASICS has learned that long-term program sustainability requires three pragmatic field-based strategies that stress system strengthening, disease control, and financial/commodity support.

Improve the delivery of routine EPI services. Children and women must be immunized in as complete, effective, efficient, and timely a way as possible. Issues of access, quality, and efficiency must be addressed. Depending upon country needs, activities should involve such topics as training, supervision, monitoring and disease surveillance, upgrading cold chain and logistics management, improving the interaction between health workers and caretakers, reducing missed opportunities for immunization, and improving planning and management.

Introduce strategies to reduce morbidity and mortality from EPI target diseases. National governments require technical support to address EPI disease targets for polio, measles, and neonatal tetanus in a manner consistent with country priorities and systems strengthening. Assistance is often needed for advocacy, social mobilization, planning, logistics management for campaigns, high-risk population identification, evaluation, and research.

Ensure the continuous availability of required funds and commodities for EPI. Donors must work at country, regional, and global levels and coordinate with global partners to develop and implement strategies to assist countries in developing long-term immunization plans. These plans identify resource needs and funding sources, mobilize private and public sector partners to contribute to the delivery of immunization services, and help ensure a sustainable supply of vaccines.

Despite its relative maturity, immunization programs in many countries are surprisingly fragile



and have remained rather static since the early 1990s. Despite a global renaissance in vaccine research and development, most poor countries with the greatest need have been unable to incorporate new vaccines, even though the introduction of just two of the "new" vaccines—against hepatitis B and haemophilus influenzae type B—could prevent an additional 1.5 million deaths each year. Sustained funding to introduce these and newer vaccines will need to be secured, and the capacity to deliver the immunizations improved.

Immunization and other preventive services must remain effective, accessible, and utilized by all segments of the population during and after the process of health sector reform, which has begun in many countries. Decentralization has resulted in a shift of functions that were previously centralized and necessitates local-level advocacy, training, MIS, and others. Central staff who are required to support the technical quality of decentralization, have been decimated. Integration of services at the central and regional levels has resulted in changes that, if not properly managed, pose a risk to the effectiveness of immunization. Moreover, approaches for reaching high-risk populations are needed in each country. Innovative ways of providing services in slums, over-coming institutional barriers, creating demand among the urban poor, enlisting political support, and monitoring local immunization performance all need further attention.

Global initiatives, such as polio eradication, neonatal tetanus, and measles control/elimination, will need to be translated and customized at country level into efforts that are epidemiologically sound, operationally and programmatically realistic, socially acceptable, and affordable. A balance will be needed to ensure that disease reduction goals are met without sacrificing the need to ensure longer-term development and sustainability of the immunization services. Global disease reduction initiatives will need to be deliberate in their approach at country level to realize their potential to strengthen the capacity of all levels of the health system to plan, conduct social mobilization and surveillance, and mobilize resources.

Attention is needed at global and country levels to ensure safe immunization and injection. Decision makers at all levels must be made aware that it is not enough just to give injections—they must be safe, as well. This is not easy to sell, as improving injection safety may not be perceived by policy-makers as advancement toward a public health goal but rather just a requirement for additional resources.

There is a need for countries and major international agencies to formulate a more coordinated and integrated approach to the development and delivery of well-child and sick-child health services at health facility and community level. Nutrition, immunization, and IMCI programs and approaches can mutually support each other and act more effectively in synergy. It is important to identify the programmatic linkages to facilitate effective and coordinated action. The areas of synergy, overlap, divergence, and potential for programmatic opportunities and linkages need to be better appreciated in the design and development of comprehensive health services.

BASICS Work in Immunization

Assessment (determining how BASICS, USAID, and other partners might become more involved in support of the national immunization program): **Bolivia, Ghana, Namibia, Niger, Senegal, and Tanzania**

Cold chain and logistics (strengthening vaccine transport, storage, handling, and forecasting of requirements, as well as the routine management, maintenance, and replacement of equipment): **Ethiopia, Ghana, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, and Uzbekistan**

Community and public/private partnerships for health: (creating lasting partnerships between neighborhoods and private providers for development, including immunization services): **Nigeria**

Coordination (improving the routine coordination among all partners for support of the national immunization program): **Haiti**

Cost-effectiveness study (demonstrating the utility of local data to identify gaps and weaknesses in the immunization program to improve management and operations): **Moldova**

Diphtheria control (providing operational, management, epidemiological, policy, and training support for the control of the diphtheria epidemic in the NIS): **Armenia, Azerbaijan, Georgia, Moldova, Russia, Tajikistan, and Ukraine**

Disease surveillance (designing new methods for implementing disease surveillance of vaccine-preventable diseases in urban areas in Bangladesh and at sub-district level in Uganda): **Bangladesh and Uganda**

IEC/public health communications (introducing and applying modern methods of IEC/public health communications for routine immunization and special disease control initiatives): **Bangladesh, Kyrgyzstan, Madagascar, Russia, and Ukraine**

Immunization program review (participating in international multi-agency reviews of the national immunization program): **Bangladesh, Eritrea, Ethiopia, and Zambia**

Injection safety (assessing the safe use and disposal of syringes/needles within the health system, and reviewing policy options): **Eritrea**

Introduction of Vitamin A (developing a manual with WHO for the incorporation of vitamin A into immunization programs and testing the manual): **Benin**

Long-term sustained measles control (preparing position papers for partners and designing field methods): **Zambia**

Continued

Management (advising on national structures for improved management of the national immunization and disease control program): **Kazakhstan, NIS, and Uzbekistan**

Medical education and curriculum reform (introducing key policy documents, tools, and reference materials, translated into Russian, on vaccine safety, medical contraindications, and post-vaccination complications for incorporation into medical education): **Kazakhstan, Russia, and Uzbekistan**

Monitoring and health management Information system (developing improved methods and systems for routine local-level monitoring of the immunization program): **Bangladesh, Kyrgyzstan, and Ukraine**

National planning/program design (participating in the planning and development of the national immunization program): **Niger and Uzbekistan**

Policy reform (updating and customizing immunization policies within the local context of health sector reform, including decentralization, integration, and privatization of services): **Kazakhstan, Kyrgyzstan, Madagascar, Uzbekistan, and Zambia**

Polio eradication and system strengthening (providing support for cold chain and logistics, and social mobilization and disease surveillance for national polio immunization campaigns in the context of overall strengthening of the routine immunization system): **Bangladesh, DR Congo, Eritrea, Ethiopia, Guinea, Kazakhstan, Kenya, Mozambique, Nepal, Nigeria, Russia, Tajikistan, Turkmenistan, Uganda, Uzbekistan, and Zambia**

Refrigerator manufacturer assessment (assisting a refrigerator factory to bring to market a freezer that meets international specifications for vaccine storage): **Moldova**

Service delivery strategies in urban slums (improving access, utilization, and quality of routine immunization services in urban slums): **Bangladesh**

Supply management (developing a computerized system for the management of vaccine stocks and other consumables at national level): **Morocco**

Training/training materials (developing training manuals and performance guidelines for health staff responsible for immunization): **Haiti, Kazakhstan, Mali, Morocco, and South Africa**

Vaccine procurement assessment (assessing the system for procuring vaccines for the national immunization program): **Moldova and Morocco**

Vaccine procurement capacity-building (developing capacity for conducting a procurement exercise of quality vaccine at competitive prices on the international market, including financing and contracting mechanisms): **Moldova and Zimbabwe**

Further Reading on Immunization Activities from BASICS

Child Survival BASICS: Challenges in Immunization. 1996. (Also available in French and Spanish.)

Using Early Childhood Booster Doses to Maintain the Elimination of Neonatal Tetanus by Robert Steinglass. 1998.

The Polio Eradication Initiative: Monitoring Service Delivery During National Immunization Days and Assessing the Local Capacity to Strengthen Disease Surveillance by Mark Weeks, Rebecca Fields, Carl Hasselblad, Rose Macauley, and Robert Steinglass. 1998.

Process Evaluation of the First National Immunization Day in Bangladesh by Karabi Bhattacharyya and Rokeya Khanam. 1998.

Evaluation of Immunizer-Training-Immunizer Program in Maluku, Indonesia: An On-the-Job Peer Training Approach to Improving the Performance of Health Workers by J. Stephenson Robinson, Barton Burkhalter, Barbie Rasmussen, and Ristianto Sugiono. 1998.

Strengthening Capacity in Public Health Communication for Diphtheria Control: A Case Study of the BASICS Program in Russia by Mark Rasmuson, Naheed Bashir, Robert Steinglass, Alexandra Murdoch, Nancy Keith, Lyndon Brown, Raisa Scriabine, and Paul Olkhovsky. 1998.

EPI Update 33: Using National Immunization Days to Deliver Vitamin A with WHO. 1998

Highlights (one-page summaries)

Moldova Health Ministry Officials Learn to Procure Own Vaccines

Using Indicators to Monitor the Sustainability of Immunization Programs

Balancing Science and Practice for Immunization in Russia and the U.S.: The Novgorod Seminar

"Medicine for You" World Wide Web Page Launched in Russia

Bangladesh NID Process Evaluation: Learning from Experience

PSAs Help Stem Diphtheria Epidemic in Moldova

Eliminating Polio in Africa: BASICS Role in the Global Effort

Health Worker Peer Training in Indonesia Lowers Immunization Costs, Increases Coverage

Cost-Effectiveness of Oral Cholera Vaccine: A First Step for Decision-Makers

Lot Quality Assurance Sampling: Identifying Areas of Low Immunization Coverage in Bangladesh

Cold Chain and Vaccine Procurement Manuals Assist NIS to Control Disease Effectively

Selected Trip Reports

Report on a MOH (Kazakhstan), WHO (EURO), and USAID (BASICS) Seminar on Child Immunization Policies, Practices, Supplies, and Policy-Setting in Kazakhstan, 31 May–3 June 1995. No. 330.

Seminar on Balancing Science and Practice for Child Immunization in Russia and the U.S.A., Novgorod, Russia, 17–19 September 1996. No. 406.

Nationwide Implementation of a Management Information System for Immunization: The Kyrgyz Republic, 9 May–8 June 1996. No. 288.

Diphtheria Control in the Republic of Moldova, 29 April–19 May 1997. No. 983.

Updating Immunization Policy Within the Context of Health Sector Reform. 16 February–14 March 1998. No. 1012.

CHAPTER 8

Fighting Malnutrition with MinPak

For decades, nutrition was given less credence than other health-related interventions, such as immunization, sanitation, or the training of doctors. The subject was long perceived as simply a result of poverty and was, therefore, addressed separately from other issues. Fortunately, in the early 1990s, David Pelletier of Cornell University took existing studies on nutrition and repackaged them to show more clearly the strong link between all forms of malnutrition and child mortality.

As a result, awareness of the positive impact that proper nutrition can have on all other aspects of child health has spread and the fight against malnutrition is becoming a key component of integrated health programs. This shift has been rooted in the proven effectiveness and relatively inexpensive nature of nutrition programs. For example, exclusive breastfeeding for about six months (rather than using breastmilk substitutes, such as formula and dried milk powder), and ingesting adequate amounts of micronutrients, such as iron, iodine, and vitamin A, can ensure a child's healthy growth and strengthen resistance to disease.

To help promote nutrition in health services, BASICS has developed a "Minimum Package" (MinPak) of nutrition interventions. BASICS helped define the components of the approach in 1996 in partnership with the USAID-funded OMNI (Opportunities for Micronutrient Interventions) and LINKAGES (Improving Nutrition and Reproductive Health) projects (implemented by John Snow, Inc., and the Academy for Educational Development, respectively) and in collaboration with WHO and UNICEF. Many of the MinPak recommendations are similar to those contained in documents, such as the World Summit for Children charter and the International Conference of Nutrition guidelines,

BASICS Nutrition Strategic Vision

Raise nutrition programming to equal importance with other efforts that reduce the incidence and prevalence of childhood diseases that can lead to mortality. Integrate nutrition components in all child survival programs, when appropriate.

- Develop, introduce, and evaluate integrated approaches for prevention and treatment of childhood malnutrition.
- Incorporate and institutionalize effective behavior change and communication components with respect to young child-feeding behavior in child survival programs.
- Test and promote widespread use of methods that inform and persuade decision makers at all levels of the importance and feasibility of reducing malnutrition.

and they have demonstrated to be among the most cost-effective and feasible strategies to improve child health worldwide (see figure 8.1).

In 1997–1998, BASICS launched MinPak projects in Benin, Eritrea, Madagascar, Senegal, and Zambia. (See map, page 116.) MinPak is not a free-standing program; instead, it is designed to fit into existing maternal and child health activities at the facility and community levels. It comprises a set of priorities that can change nutrition-related policies, knowledge, and practices. (See chapter 3, section 1, on BASICS work to develop nutrition policy.) Importantly, such actions can be taken with little or no drain on limited family incomes or interuption of health worker duties. In essence, MinPak helps show how certain basic steps can make an enormous difference in improving the nutrition of infants and children, and in the long-term health status of an entire nation.

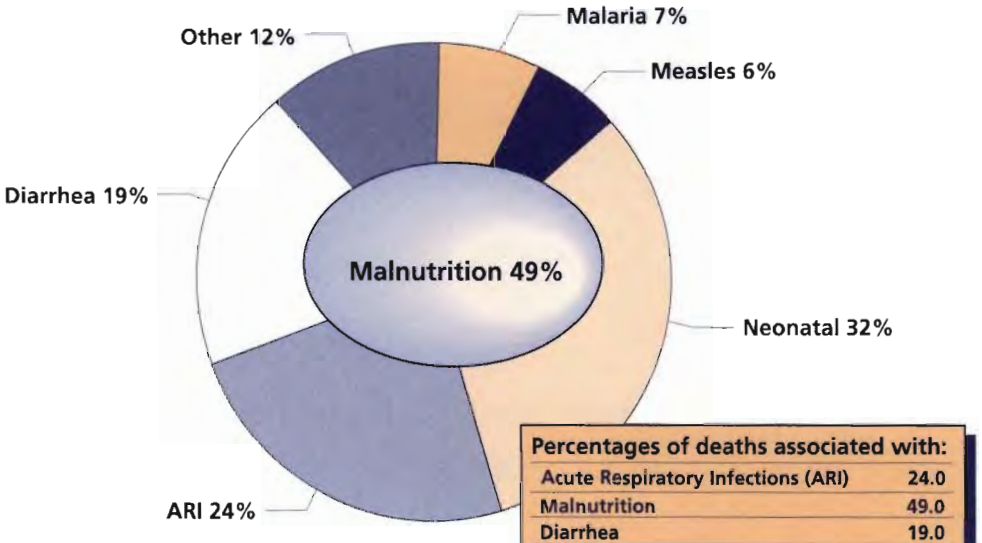
Naming the Elements

MinPak identifies six priority actions that can be taken by caretakers and family members who are responsible for what and how children and pregnant women eat. Health care facilities are critical players because they provide essential services and micronutrient supplements, while health workers give individuals appropriate information and counseling. Local and national policymakers also play an important role by supporting and promoting both nutrition, in general, and the specific interventions of MinPak, as well as by integrating them into official health policies and guidelines.

An integrated approach, such as MinPak, is more effective and less costly than the adoption of individual interventions. The natural connection between different nutritional interventions (such as giving vitamin A to breastfeeding women to correct deficiencies in themselves and their children) means that more than one problem can be addressed at the same time. In addition, policymakers and health providers find it more convenient to apply information and guidelines across the board, rather than in a piecemeal fashion.

The MinPak program has an overall goal of ensuring that at least 80 percent of households in communities at high risk for child health problems practice the six priority behaviors. These behaviors can be implemented at several points throughout a child's early life to ensure a mix of preventive and curative services: when prenatal and maternity care is given, following delivery and during the postpartum period, during postnatal checks,

Figure 8.1 ***Distribution of 10.4 Million Deaths of Children Less Than 5 Years Old in All Developing Countries, 1995***



Source: World Health Organization. 1998.

during immunization contacts, and at the time of well-baby and sick-child visits. In addition, special initiatives outside the health field, such as fortifying foods with micronutrients, can help increase coverage of MinPak components.

Each of the MinPak elements has particular benefits and avenues for intervention, as described below:

- ***Exclusive breastfeeding to about 6 months of age.*** Exclusive breastfeeding gives infants immunological protection, provides them with the ideal source of energy and nutrients, and prevents contamination (and subsequent infection) from other fluids or foods. Breastfed infants are 65 to 90 percent less likely to develop vitamin A deficiency and are 14 times less likely to die from diarrhea than those infants who are not breastfed at all. In addition, breastfeeding suppresses fertility and facilitates better spacing of children; those consequences, in turn, have positive implications for maternal and child health. To establish good breastfeeding practices, mothers should be counseled before and after delivery about the importance of breastfeeding and its frequency and duration; furthermore, mothers should be helped to manage any breast-feeding problems after delivery, should they arise.

- ***Appropriate complementary feeding starting at about 6 months with continued breastfeeding until 24 months of age.*** After about 6 months of age, an infant's immune and digestive systems are developed enough to accept foods without harm. While breast milk cannot provide all nutrients for older infants, it still remains an important complementary nutrition source because of its high proportion of fat, calcium, protein, vitamin A, and other nutrients. Health workers play an important role in helping caretakers ensure that children eat frequently and receive age-appropriate quantities and types of food. Such counseling is also essential to addressing taboos against certain key foods.

- ***Adequate vitamin A intake for women, infants, and young children.*** USAID-funded research in the 1980s found a strong correlation between vitamin A deficiency and childhood mortality. Recent studies have concluded that a single dose of vitamin A given to women shortly after childbirth, and every six months for children 6–59 months, results in both a significant improvement in their health status and reduced severity of childhood diseases and deaths. Health workers can provide dietary counseling to pregnant women and mothers of young children to improve their intake of vitamin A-rich or fortified foods, and they can give vitamin A capsules to new mothers and small children. Official policies can also encourage the consumption of the nutrient. For example, requiring food manufacturers to fortify commonly used products, such as sugar, with vitamin A (as has been done in Zambia) is a proven method of improving child health.

- ***Adequate nutritional care of sick and malnourished children.*** Appropriate and

adequate nutrition when a child is sick can help prevent the onset of other diseases and reduce the likelihood of death. For example, giving vitamin A to children with measles has been shown to reduce mortality from the disease by almost two-thirds. During an illness, appetite decreases just when nutritional needs are greatest, and children often become unable to digest food or absorb vital nutrients even after they recover. Health workers and caretakers need information to understand how ongoing and recuperative feeding and sufficient fluids are essential to a child's continued recovery. When a child is malnourished the correct protocols for rehabilitating the child need to be followed. After recovery, appropriate and adequate amounts of food and micro-nutrients need to be given to ensure continued growth and to prevent relapse.

- ***Adequate iron intake.*** Iron deficiency anemia is the world's most common nutritional deficiency; it primarily strikes children under 3 years of age and pregnant and lactating women. Anemia in mothers results in a predisposition to stillbirths, low birth weights, and early infant mortality. Anemic women are also less able to care for children or perform heavy physical tasks because of their weakened state. Regular supplementation during pregnancy with ferrous sulphate tablets combined with folic acid, and iron drops given to small children, are effective and immediate ways to prevent anemia. It is also possible to fortify flour with iron to ensure that mothers and children receive this critical mineral.

- ***Regular use of iodized salt by all families.*** Iodine deficiency is the greatest single cause of brain damage and mental retardation among children worldwide. It is also widely associated with stillbirths, fetal deterioration, and impaired cognitive function in children. Caused by a lack of iodine in soil, and consequently in locally grown foods, the syndrome can be prevented through the use of iodized salt. This low-cost, effective intervention is underway worldwide and has already resulted in lower rates of iodine deficiency-related disorders throughout Africa, Asia, and Latin America. National policies ensure the production or importation of iodized salt, while community education and mass media campaigns encourage its purchase and consumption.

Putting the Pieces Together

MinPak was first developed and introduced in Africa. USAID has made funding and resources available throughout the continent, while BASICS ongoing child survival activities have provided a strong context for the approach. For example, the implementation of the IMCI initiative (see chapter 4) supports particular components of MinPak. The way in which MinPak

has been applied varies from country to country depending on available health care structures, resources, and conditions. Efforts have been strongest in Madagascar, Senegal, and Zambia.

In mid-1996, BASICS introduced MinPak in Madagascar. A BASICS assessment in the country had revealed high rates of stunting, anemia in pregnant women, and vitamin A and iodine deficiencies. Some programs in MinPak-related areas already existed, such as limited distribution of iron tablets and breastfeeding counseling at hospitals. UNICEF and the World Bank were supporting salt iodization and monitoring projects. In addition, the government of Madagascar had just adopted the IMCI approach, thereby paving the way for nutrition interventions and the strengthening of MinPak.

The initial strategy adopted in Madagascar was to provide technical assistance to the Ministry of Health (MOH) and local health teams to develop MinPak activities in two districts, Fianarantsoa and Antsirabe. Health workers were trained in breastfeeding, growth promotion (including adequate feeding of the young child), and improvement of vitamin A, iron, and iodine status. Key infant and child feeding messages were broadcast on district radio stations, while district and community health workers received counseling cards on these subjects (for example, how to advise families to use iodized salt). Together with OMNI, LINKAGES, and UNICEF, BASICS has also helped develop a nutrition work plan to support the MOH, district health offices, and private organizations in implementing nutrition activities.

Existing national policies provided the starting point for the promotion of MinPak in Senegal. When BASICS started its work with MinPak in 1997, legislation mandating the iodization of salt by manufacturers was in place and both breastfeeding and iron/folate supplementation programs were operating nationwide. However, the impact of these policies was limited and sporadic, with health services reaching only half of the Senegalese population. In addition, the prevalence of malnutrition was very high. BASICS chose to focus on improving capacity to provide health care and increasing the demand for and quality of nutrition services in the target districts of Sokone and Koungheul.

The central strategy for implementing MinPak in Senegal was first developed at a workshop attended by regional and district health workers and representatives from selected private organizations. The capabilities of community health workers have been strengthened through the

development of training guides and programs and the establishment of supervisory contacts. Another approach has been to provide health workers with protocols and job aids to help integrate the MinPak interventions into their activities. Materials on infant feeding, the use of iodized salt, and vitamin A were identified and reproduced, while posters describing MinPak components and actions were created. Counseling cards with key child nutrition messages were also developed and distributed to both district health agents and community health workers.

A few months after MinPak was applied in Senegal, all health workers in both focus districts had been trained in implementing the priority interventions and in communication and counseling techniques. Nutrition services have increased since the intervention was initiated, with breastfeeding counseling and micronutrient supplements now widely available at health centers. In the district of Koungheul, community groups already involved in breastfeeding have begun to implement MinPak by developing an action plan for home visits by health workers, community discussions, and the dissemination of information. More broadly, BASICS now supports the MOH in expanding the coverage and scope of MinPak through the incorporation of growth promotion at the community level. Dubbed PAIN (Paquet d'Activités Intégrées de Nutrition), French for "bread," the new program is being initiated in 15 districts throughout Senegal.

The government of Zambia showed an early commitment to addressing the problem of malnutrition by the establishment in 1967 of the National Food and Nutrition Commission, one of the first technical agencies on nutrition in the world. Limited activities have been implemented to encourage breastfeeding and salt iodization, and efforts to increase vitamin A intake through supplementation and sugar fortification have recently been initiated. Nonetheless, malnutrition continues to be widespread and requires more consistent, broad, and effective interventions.

During Zambia's recent health sector reform process, a Central Board of Health (CBoH) was established in the mid-1990s to focus on curative, preventive, and promotional strategies to address health problems. CBoH guidelines include the six MinPak recommendations and a discussion on how these recommendations can be integrated into both existing primary health care programs and the evolving Zambia Child Health Plan (operated in collaboration with BASICS).

As in other countries where MinPak is being implemented, the Zambian MOH has not treated the program as a separate intervention, but has integrated it fully into existing health services. Commitment to doing so is high because of ongoing health reform efforts that aim to improve the quality of care and outreach services on the district and community levels. (See chapter 2 on the importance of community-based efforts.) Neighborhood Health Committees (NHCs), composed of community leaders and health workers, have been charged with the task of adapting national health guidelines—including those contained in MinPak—to local needs. The NHCs

collect information from households, meet to develop interventions, and work with health care volunteers. Many have also formed Nutrition Clubs for local residents to exchange ideas and information on nutritional practices.

Effective Packaging

Changing the behaviors of caretakers, families, and communities is essential to improving the nutritional status of a population. The MinPak program spurs this process by defining a tangible role for the health sector and concrete measures that it can take to help households and communities adopt beneficial nutrition habits. In each of the three African countries where the ministry of health has applied MinPak, the intake of vitamin A, iron, and iodine has improved over a short period of time. Although these activities will take longer to fully assess and to reach the coverage goal of 80 percent, gains have also been made in breastfeeding counseling and delivery of micronutrient supplements.

Because of MinPak, many specific interventions have been integrated into existing health services and at various points of contact with patients. As mentioned previously, efforts

Promoting Nutrition in Honduras

BASICS provided technical assistance for a project in Honduras aimed at improving the health and nutritional status of young children by using growth promotion as the entry point in the community. Initiated and organized by the MOH and local health centers, theAtencion Integral a la Niñez (AIN) or Integrated Focus on the Child, helps families understand the importance of good health and nutrition during the early years of their children's lives. By bringing together families and health workers, AIN facilitates community-wide interest in health and nutrition. In the long run, this integrated approach has a positive impact on addressing other areas of concern, such as disease prevention and hygiene.

The development of AIN has been spurred by recent national health sector reform that has given regional and local authorities more responsibility for health services. AIN is currently operational in nine areas supported by USAID. Two communities per health center have been enrolled in the program with the goal to attain full national coverage in 5 years.

The AIN motto states simply that "Boys and girls who grow sufficiently are healthy, and boys and girls who don't grow sufficiently are sick." Based on this assumption, AIN aims to detect childhood health and nutrition problems in their initial stages and to take actions to prevent further deterioration. A child's growth is the primary indicator used because low weight and poor growth often signal a number of concerns, including inadequate food intake and illnesses, such as diarrhea or parasites. In addition, because problems related to low weight tend to develop around 6 months of age and peak at 18 months, early and consistent intervention is critical.

AIN is structured around a group of volunteers, or monitoras, who work in their communities to measure the growth of children under 2 years of age. Three monitoras are assigned to a group of 20-25 children. They begin by measuring baseline weights of children and setting target weights. The monitoras then make a series of monthly visits to measure progress and to discuss with caretakers how they can ensure that a child obtains adequate nutrition and attains satisfactory growth.

In a 5-day course, potential monitoras are taught counseling techniques, how to recognize inadequate growth rates and the signs of malnutrition, and how to use counseling cards on nutritional guidelines adapted for the Honduran setting. Manuals provide detailed instructions on conducting weight surveys and filling in charts, how to counsel the caretaker to feed the child, as well as recommendations for follow-up visits and questions to ask caretakers at follow-up. Simple tools such as a scale, pens, and weight charts, facilitate the practical work of monitoras.

In the course of a year, children are weighed eight or nine times by the monitoras. Personal relationships and direct communication with caretakers allow monitoras both to gain crucial information on household conditions and a child's particular situation and to offer support, counseling, and solutions to problems. The early detection of problems benefits the monitoras—and consequently the health sector as a whole—by helping them to prevent serious illness and infant and child mortality in their communities.

The underlying premise of the AIN approach is that direct participation by families and communities in the health care of their children evokes new knowledge, attitudes, and practices. In turn, this new awareness influences feeding habits and energy intake, and ultimately results in increased growth, improved nutritional status, and healthier, happier young lives.

outside health care systems—such as fortification of food products with micronutrients or media campaigns—have also been initiated to increase coverage.

MinPak has not been operational long enough to facilitate a definitive assessment of its impact. While clear examples of progress exist, it is too early to judge the impact of MinPak as a complete package or as an intervention separate from overall health reform efforts. Nonetheless, the implementation of MinPak has clearly been critical to placing nutrition in the spotlight. MinPak presents the issue of nutrition in such a way that the subject and its implications can be addressed in a systematic manner. After key areas are identified and explained, the development of a clear vision and strategies can occur.

By establishing priorities and limiting activities to a selected set of interventions, MinPak has helped focus health resources more efficiently. In addition, the process of assessing MinPak has prompted discussion with donors and MOHs around the world on how to continue reducing the incidence and severity of malnutrition. Thanks to MinPak, attention in many countries has shifted away from simply treating and rehabilitating malnourished children to preventive actions and the integration of nutrition interventions into a range of health services. For example, before the introduction of MinPak in Senegal, no clear protocols existed on when vitamin A should be taken; four months after the initial intervention, vitamin A coverage in one district surveyed had grown from 0 to 20 percent.

MinPak has helped policymakers and health workers be more results-oriented and has provided a tangible role for the health sector in supporting households and communities to adopt nutrition-related practices. The number of health managers with knowledge about nutrition interventions and of community-based organizations using MinPak has increased significantly. In the long run, this interest and commitment will result in the more rational use of health resources and a nationwide capacity to improve nutrition.

Lessons Learned and Issues for the Future

BASICS will continue its work in the selected African countries to promote gains in coverage, with the aim of attaining (and sustaining) coverage in MinPak interventions for 80 percent of the relevant population. Opportunities abound for applying MinPak in other countries and locations as well. USAID has committed to making the program one of the three main components of its child survival efforts (together with immunization and the integrated management of childhood illness). In addition, UNICEF, WHO, the World Bank, and private organizations, such as Save the Children, have endorsed MinPak and supported field activities. This participation is crucial because of the global reach of these organizations and their ability to simultaneously initiate MinPak interventions while maintaining other nutrition activities.

Collaboration among international donors and other organizations will continue to be essential in fully implementing MinPak. In the future, memoranda of understanding, joint development guidelines, and other instruments to formalize cooperative efforts will be needed. In addition, the necessary procurement and distribution of micronutrient supplements and other supplies will depend on the expansion of international sales and assistance agreements, and improved logistical systems. The widespread fortification of food products is another crucial step that will require increased cooperation with the private sector.

The MinPak experience has demonstrated that efforts must be made to develop a social and economic context within which specific nutrition-related interventions can be adopted. This process depends on adequate and efficient financing for health services, as well as greater attention to specific local conditions and needs. Suitable infrastructures, including health care and food distribution and delivery systems, are also essential. Improved communication among government institutions, health facilities, and private organizations will also be key to strengthening the role of nutrition in health care.

More specifically, MinPak has shown that the adoption of protocols (on the use of micronutrient supplements, for example) into national health policies can significantly increase coverage of nutrition interventions. Health workers clearly benefit from treatment guidelines and the availability of educational and training materials, which can improve their knowledge, skills, and practices. The need for closer cooperation among nongovernmental organizations and community groups and leaders has also become evident. These groups can spur significant improvements on the local level by seizing unique opportunities to promote nutrition, such as the distribution of vitamin A as part of national immunization day activities.

The full integration of nutrition messages and practices into health care is a relatively new strategy but one that has proven successful through the application of MinPak in selected countries in Africa. Ultimately, the progress made in nutrition programs rests on the recognition by a range of people concerned with health care, from individuals to governments to international agencies, that what we feed our children today determines their well-being tomorrow.

BASICS Work in Nutrition

PROFILES analysis (an interactive software package, intended for policy makers, that allows nutritionists to tailor the benefits of addressing malnutrition to their country setting): **Bangladesh, Ghana, Mali, Senegal, and Zambia**

IMCI food box (feeding recommendations that are tailored to the country setting and based not only on locally available foods but also on the practices that mothers are willing to adopt when feeding their children): **Benin, Bolivia, Burkina Faso, Cote d'Ivoire, Ecuador, Eritrea, Guinea, Honduras, Kazakhstan, Madagascar, Mali, Mauritania, Morocco, Niger, and Zambia**

Minimum package of nutrition behaviors (MinPak) introduction (a set of six cost-effective interventions that can be easily integrated into health contacts at facilities and in the community): **Benin, Eritrea, Madagascar, Senegal, and Zambia**

Community growth promotion (a focus for health and nutrition activities in the community; because poor growth in young children is a proxy for health and nutrition problems; early detection of growth faltering or underweight can be used to prevent a serious decline in health and nutrition status): **Honduras, Nigeria, Senegal, and Zambia**

Other activities: **Bangladesh, Benin, Cambodia, Eritrea, Ethiopia, Ghana, Guatemala, Honduras, Kyrgyzstan, Madagascar, Mali, Morocco, Mozambique, Niger, Pakistan, Russia, and Uzbekistan**

Further Reading from BASICS on Nutrition Activities

Child Survival BASICS: Nutrition. 1998. (Also available in French and Spanish.)

Improving Child Health Through Nutrition: The Nutrition Minimum Package by Tina Sanghvi and John Murray. 1997. (Also available in French, Spanish, and Portuguese.)

Malnutrition and Child Mortality: Program Implications of New Evidence. 1995. (Also available in French and Spanish.)

Sustainability of a Community-Based Mother-to-Mother Support Project in the Peri-Urban Areas of Guatemala City: A La Leche League Study by Irma Ch. de Maza, Maritza M. de Oliva, Sandra L. Huffman, Rebecca S. Magalhaes, Maryanne Stone-Jimenez, and Barton R. Burkhalter. 1997.

The Hearth Nutrition Model: Applications in Haiti, Vietnam, and Bangladesh by Olga Wollinka, Erin Keeley, Barton R. Burkhalter, and Naheed Bashir, eds. 1997.

Large-Scale Application of Nutrition Behavior Change Approaches: Lessons From the Field by Margaret Parlato and Renata Seidel, eds. 1998.

Deseño por Diálogo. 1998.

Program Review of Nutrition Interventions in District Health Services: A Checklist by Tina Sanghvi, Serigne Diene, John Murray, and Rae Galloway. 1998.

Highlights (one-page summaries)

The Hearth Nutrition Model: Mothers Helping Mothers

Zambia Integrates the Nutrition Minimum Package into its Essential Health Care Package

Guatemalan Breastfeeding Project Proves Effective and Sustainable

The PROFILES Computer Model: A Tool to Build Consensus for Nutrition Strategies

Large-Scale Communication Strategies Enforce Nutrition Messages in West Africa

Delivering a Minimum Package of Nutrition Services in Senegal

Further Reading on Nutrition from Other Sources

EPI Update 33: Using National Immunization Days to Deliver Vitamin A with WHO. 1998

CHAPTER 2

Using Radio to Promote Key Health Behaviors

BASICS work in behavior change has helped developing countries implement programs that use multiple channels of communication to promote healthy behaviors in families and communities. Among those channels are health workers who communicate clearly and sympathetically with their clients; community groups that mobilize support for health programs, and mass media programs that entertain their audiences while disseminating key health messages. These and other channels have been used in BASICS country programs to create an entire environment in which individual behavior change is supported and made easier.

While radio is only one component of this larger systematic approach to change, it has been one of the most important tools for BASICS by using radio in new, innovative ways.

During the past five years, there has been an upsurge of interest in the role of radio in development communication. In Africa and around the world, transistor radio ownership is increasing. There has been an explosion in the number of privately owned radio stations as democratic reforms loosen restrictions on the press. In Mali, for example, more than 70 new community radio stations have begun operations within the past five years. Health workers and other development specialists have been quick to see the proliferation of radios as an opportunity to communicate messages to even remote populations.

Radio listenership is high and is increasing in developing countries. In West Africa, approximately 80 percent of men and more than 50 percent of women report listening to radio with some regularity. The medium thus has great potential to reach both men and women with health information. Radio can be used to deliver messages that raise awareness about specific health

BASICS Communications and Behavior Change Strategic Vision

Ensure that effective Communications and Behavior Change components are included in all child health programs.

- Integrate behavior change into the larger process of child survival program planning, from identification of problems in behavioral terms through effective interventions and measurement of clear indicators of change.
- Create a supportive environment for behavior change at both national and community levels, combining health communications targeted at individual caretakers with community action, organizational change, and policy advocacy strategies.
- Make health providers and health systems more behavior- and consumer-oriented, organizing services to meet community demand and helping individuals successfully prevent illness and care for sick children in their homes.

Saving Lives with Emphasis Behaviors

BASICS has developed the "emphasis behaviors" approach for public health programs that want to improve child health but do not have the resources to conduct extensive background research or to implement large and complex programs. It has already been demonstrated that using the 16 caretaker behaviors has an impact on public health. Caretaker behavior can be improved and still remain cost effective. BASICS uses the behaviors as a starting "menu" in helping countries focus their behavior change programs. The BASICS publication *Emphasis Behaviors in Maternal and Child Health: Focusing on Caretaker Behaviors to Develop Maternal and Child Health Programs in Communities* outlines the technical justification for the choice of these 16 behaviors and a simple process that countries can follow in choosing priorities according to their specific health situation.

Reproductive Health Practices: Women of reproductive age need to practice family planning and seek antenatal care when they are pregnant.

1. **For all women of reproductive age, delay the first pregnancy, practice birth spacing, and limit family size.**
2. **For all pregnant women, seek antenatal care at least two times during the pregnancy.**
3. **For all pregnant women, take iron tablets.**

Infant and Child Feeding Practices: Mothers need to give age-appropriate food and fluids.

4. **Breastfeed exclusively for about 6 months.**
5. **From about 6 months, provide appropriate complementary feeding and continue breastfeeding until 24 months.**

Immunization Practices: Infants need to receive a full course of vaccinations; women of childbearing age need to receive an appropriate course of tetanus vaccinations.

6. **Take infant for measles immunization as soon as possible after the age of 9 months.**
7. **Take infant for immunization even when he or she is sick. Allow sick infant to be immunized during visit for curative care.**
8. **For pregnant women and women of childbearing age, seek tetanus toxoid vaccine at every opportunity.**

Home Health Practices: Caretakers need to implement appropriate behaviors to prevent childhood illnesses and to treat them when they do occur.

Prevention

9. **Use and maintain insecticide-treated bednets.**
10. **Wash hands with soap at appropriate times.**
11. **For all infants and children, consume enough vitamin A to prevent vitamin A deficiency.**
12. **For all families, use iodized salt.**

Treatment

13. **Continue feeding and increase fluids during illness; increase feeding after illness.**
14. **Mix and administer ORS, or appropriate home-available fluid, correctly.**
15. **Administer treatment and medications according to instruction (amount and duration).**

Care-Seeking Practices: Caretakers need to recognize a sick infant or child and need to know when to take the infant or child to a health worker or health facility.

16. **Seek appropriate care when infant or child is recognized as being sick (i.e., looks unwell, not playing, not eating or drinking, lethargic or change in consciousness, vomiting frequently, high fever, fast or difficult breathing).**

behaviors, increase learning, change behavior, and save lives. Effective radio programming can lead to an increase in health care utilization in the communities where health interventions are being implemented, especially when broadcasts from a community station bring the message home in familiar local terms.

Recently, broadcasters, specialists in the health community, and government officials have expressed a renewed interest in the medium. In April 1998, for example, USAID and the Voice of America (VOA) co-sponsored a first-of-its-kind international conference on broadcasting and child survival; the conference brought together a wide spectrum of health officials from developing countries, aid agencies, and international broadcasters to advocate for greater attention to and higher quality of child health broadcasting. As a result of such meetings, new strategic alliances are being formed to create, test, and implement new approaches to enhance radio's effectiveness.

BASICS has contributed to this movement in health communication through several innovative programs. As the technical platform for its radio work, BASICS has developed the

"emphasis behaviors" approach (see sidebar). Building on this platform, BASICS has taken the following actions:

- Partnered with an international radio broadcaster (VOA) to promote health issues and deliver targeted messages to listeners in Latin America, Central Asia, and Russia.
- Developed a state-of-the-art radio drama in Bolivia to reach rural audiences with entertaining messages about more rapid careseeking for pneumonia and other major childhood illnesses.
- Designed tailored radio production workshops in West Africa to increase the quantity and quality of radio programming for child survival and to strengthen regional and national partnerships for long-term health communication planning.

Partnership with an International Broadcaster

In 1996, BASICS provided funding and technical guidance for a VOA reporter to interview Quechua and Aymara Indians in Bolivia, as well as doctors, health care officials, and cabinet ministers. The information gathered was used to develop a 10-program radio series on maternal and infant mortality. In addition to increasing awareness of child survival issues in the Bolivian population, the programs sought to motivate local media to serve their communities with public service radio programming.

The radio series, which was broadcast on numerous national and local stations throughout Bolivia during the summer of 1997, focused on a wide range of problems, analyzed their causes, and presented possible solutions. Topics that normally receive little public attention and are often controversial were openly discussed, including traditions that compromise a child's health, family planning, abortion, tips to improve communication between doctors and caretakers, child abuse, and reasons why caretakers sometimes refuse to use hospitals. The final program in the series featured an interview with the Bolivian president on the country's high infant and child mortality rates and the government's new health plan, which offers free medical exams and hospitalization to mothers and to infants with respiratory, diarrheal, and other childhood diseases.

A strong component of the series was its frank and often shocking testimony from Bolivian women and children on abuse, hunger, neglect, and illness. Listeners also heard the perspectives and proposals of health experts, government officials, and politicians. Taken together, these diverse views presented a balanced picture of the problems and health concerns that

Combining International Broadcast with Local Rebroadcast

As in Bolivia, public health authorities in Kazakhstan face high rates of major childhood diseases. Teaming up with VOA for a second time, BASICS sponsored a reporter's trip to Kazakhstan to develop radio programs on current child health issues. Using information gathered in meetings with officials from the MOH, local health workers, mothers, and children, the reporter prepared a seven-part series of 6-minute programs titled "Improving Child Health in Kazakhstan." The programs featured in-depth discussions on several key topics, including diarrheal disease, acute respiratory illness (ARI), breastfeeding, and immunization.

VOA and its affiliates broadcast the programs throughout Kazakhstan in August 1997, while several radio stations in the Dzhambul oblast (region) broadcast them twice a day during most of October. Plans to rebroadcast the series on 62 additional stations in the region are underway. In addition, all program tapes and Russian-language transcripts will be made available to Kazakhstan's MOH and to BASICS for dissemination in other targeted areas.

A BASICS team traveled to Kazakhstan in late 1997 to evaluate the impact of the VOA radio broadcasts. The team conducted eight focus groups with mothers of children under 5 years of age. The mothers reviewed the segment of the broadcast on ARI and then discussed the quality of the program and provided information on how and where they received health-related information. The team also conducted interviews with MOH staff who had been involved in making the programs. This research revealed that, despite a limited radio audience in Dzhambul, both mothers and MOH staff viewed the programs as high quality and useful. They believed that radio could be used more extensively to promote health issues.

"Illness Narrative" from Bolivia Mortality Study Used in El Zambo Angolita

My son began to get sick more or less around the end of last November with diarrhea. I gave him home remedies, bought some herbs from the women, and he got better. Later I had him "shaken" just a little. My friends told me that because he had fallen, the earth had "gotten" him. He recuperated, but he wasn't growing. He had cold hands and feet, and at the end he also forgot how to walk.

When I became 'unpregnant' of this child, the midwife told me the child was going to die. He was born feet first with his gaze to the ground. The midwife told me that we had to change his "luck."

I neglected this child. I have three children. The child that died was the second. I don't live well with my husband. I had to go out and work to get food for my children, that is why I had to leave my son with my little brother. He didn't grow. He didn't talk. They told me my son was *orejado* and with *larpha*. He must have gotten sick when I was pregnant and I saw some dead animals or people. I cured him with what they told me, and I thought he would get better. I took him to the cemetery and I washed him with graveyard dirt.

So time went by. For me, my son was normal. I had to take care of my youngest daughter also. Later, before carnival, my mother died. I was with great sorrow. But my husband was happy with his drinking. We fought. We didn't have money. Because of our sorrow we forgot about my son. Two days before he died he worsened. On May 25 in the afternoon I wrapped him with some herbs that his father got from Villa San Antonio to warm him up. We wrapped him in a black cloth with some leaves covering his whole body. My son talked to me and it seemed that he was getting better. I didn't understand what my son was telling me. We gave him tea in spoons and I went out of the room to tell my sister he was better, and she told me to have faith in the Lord. I went to see him and he was already dead.

— Blademir's Mother

needed to be addressed. The program proved so popular that local newspapers published extensive stories based on the radio scripts, and a number of health organizations requested copies of the tapes for broadcast to rural populations, including one that has translated all 10 programs into Quechua and Aymara (the central indigenous languages in Bolivia).

The BASICS/VOA radio project represented the first of its kind involving an international health project with an international radio broadcaster. The major goals for BASICS were to set up a partnership with an international broadcaster, to encourage reporters to cover child health and survival issues, and to create a mechanism to facilitate this kind of collaboration for other countries. The experience not only disseminated important health information to the audiences it reached in each country, but also, and perhaps more importantly, served a critical advocacy function within the VOA. The success of the approach helped VOA reposition itself as more of a humanitarian broadcast institution and to take a leadership role on child health issues with other international broadcasters, as evidenced by VOA's co-sponsorship of the Broadcasting for Child Survival conference in April 1998.

Innovation in Radio Drama

Officially launched in Bolivia on July 16, 1997, the radio drama El Zambo Angolita (EZA) was designed to reinforce child health practices at the household and community levels and to improve care seeking for sick children under 5. Based on the findings of a mortality survey that BASICS conducted in El Alto, Bolivia, in 1996 (see chapter 6), this weekly 50-episode series followed the life of a fictitious Bolivian soccer star who lost his little sister to a preventable childhood disease.

The drama combined the following three powerful instructional elements into radio education for the first time:

- True stories, in the words of the parents of children who had died from a childhood illness, taken from "illness narratives" gathered in the mortality study (see sidebar).
- An interactive component in each episode, in which the narrator quizzes listeners about the key health messages, including danger signs of pneumonia, timely care seeking, benefits of breastfeeding, care of newborns, and nutrition.

- The entertainment component, or the melodramatic story of El Zambo.

Broadcast to Altiplano Valle Sur, Chiquitanía Centro, and Valles Crucenos health districts, El Zambo Angolita was aired on 12 stations of the ERBOL (Educación Radiofónica de Bolivia) radio network with sponsorship from UNICEF. To support the program, thousands of promotional posters and brochures were distributed to health facilities and in public meeting places to encourage listeners to tune in to the radio series. The effort was supported by local Catholic priests, health workers, literacy groups, and community organizations, all eager to foster support for EZA. In addition, the director of a national sports academy, known for involving troubled and disadvantaged children in soccer, arranged a tour of junior soccer teams in the EZA broadcast areas to play local teams for the promotion of EZA and to use soccer stars to record promotional messages. The series also received national attention and was featured in at least 15 newspaper articles.

A survey of 859 households, completed in May 1997, provided a profile of the target population and yielded baseline data on the knowledge, attitudes, and practices of mothers of children under 5 on a number of health issues. In August 1998, a follow-up survey was conducted and analyzed to compare changes in knowledge and behavior among segments of the population who were exposed to the broadcasts with those who were not.

Already, however, some important lessons have been learned about the process of developing a successful radio drama of this kind.

- A design document is an essential first step in the creation of a serial drama. It is used as a project blueprint for everyone working on script writing, production, promotion, management, and evaluation.

Colorful posters promoted the radio drama.

- Radio stations are more willing to broadcast radio dramas without charging for air time when (1) they are contacted through personal visits, (2) the production of the series is completed, and (3) assistance is provided to them to attract private sponsors or advertisers.
- Even a good quality radio serial requires adequate media channel selection and broadcast scheduling to ensure that it reaches its target audience. Research data on listenership patterns of the target audience needs to be available when finalizing a media plan and broadcast schedule.

- Building appropriate partnerships makes a big difference in the success of a radio drama series. International, national, and local partners can contribute credibility, technical assistance, financial backing, and logistics for the implementation of the project. Community-based groups and organizations are valuable allies for the promotion of the series and reinforcement of the health messages at the local level.

Building Teamwork between Radio and Health Personnel

BASICS has worked since early 1997 to train approximately 100 radio and health services representatives throughout West Africa on the effective use of radio in improving health conditions for children. A series of 2-week workshops have focused on introducing a new radio format to the region: short, creative spots designed to deliver frequent, targeted health messages in local languages.

The specific objectives of this regional training initiative have been to increase participants' skill levels, to provide a forum for radio and health personnel to develop working partnerships, to increase the use of radio for broadcasting child survival messages, and to strengthen regional health communication networks. Participants at the workshops have analyzed existing research findings to guide message development; written, produced, and translated spots into local languages; pretested spots for specific target audiences; and designed simple means of monitoring and evaluating their programs.

Two of the workshops, held in Ouagadougou (1997), were regional programs implemented in collaboration with the Family Health and AIDS Project. Drawing participants from Benin, Burkina Faso, Cameroon, Cote d'Ivoire, Mali, and Togo, the programs focused on family planning and AIDS themes, as well as child survival. National workshops were held in Senegal (1997) and Mali (1998), and a subnational workshop was held in Benin (1998).

BASICS collaborated with WHO's Child Health Division in planning the training curriculum and has used the 1995 WHO/UNICEF/ USAID *Guide for Using Radio Spots for CDD Programmes* as a main teaching resource. On the basis of experiences in these workshops, BASICS is now developing complementary materials that are more applicable to the West

African context. The materials include guidance on translating scripts and programs into African languages; effective use of local musicians, comedians, and storytellers; and creating a participatory training process.

> **Radio is too important a topic for it to be left in the hands of journalists, and health is too important a topic for it to be left in the hands of health services personnel.**
>
> ***Yaya Drabo, IEC Regional Advisor, BASICS***

To follow up on its training efforts, BASICS has continued to provide support to workshop participants. In Mali, for example, BASICS is working with a group of community radio stations in three regions to plan and evaluate a campaign on maternal and child nutrition. The evaluation, completed in late 1998, includes both an assessment of the impact of the training on workshop participants and before-and-after surveys to determine knowledge and behavior change that results from the broadcast of the spots.

Already, workshop participants in Senegal have reported some significant results in terms of institutionalization of the workshop techniques.

- RTS, the national radio station in Senegal, has incorporated focus groups and other qualitative research techniques from the workshops into the station's training program.
- RTS and Sud-FM, a private station, have developed radio spots of their own in support of vaccination, worldwide breastfeeding week, oral rehydration days, and a MOH campaign to fight a bilharziosis epidemic.
- RTS has also commissioned semiannual listenership studies to help target and shape messages, doubled air time devoted to health, and employed linguists to ensure accurate translation of messages into local languages.
- A Senegalese workshop facilitator who is a faculty member of the Dakar-based communications school, ISSIC, has created a course in radio spot development at the school.

The Price of Partnership and Success

BASICS work with radio in Bolivia, Kazakhstan, West Africa, and other countries has demonstrated the power of the medium to make a difference in the health and well-being of children. It has also yielded important information about the costs of successful partnership and programming.

Securing financing for broadcast time is a major concern of radio stations that BASICS has worked with, especially in West Africa. Post-training evaluations from the project's regional workshops indicate that insufficient material and financial resources are viewed as significant obstacles by both radio and health personnel. Small community radio stations, in particular, voiced frustration with donor and MOH expectations for free broadcast time. Donors are actively supporting the establishment of independent radio stations, yet at least some radio stations are wondering how long they must broadcast "for free" in order to "pay off" donor contributions.

While free public service broadcasting of health messages is an ideal to be promoted and a reality in some developing countries, in many countries, projects and organizations interested in accessing radio time may have to establish a financial

This VOA/BASICS project has a great potential for mutual benefits. . . Often many international media, including the VOA, concentrate on the "big news makers," forgetting the population that is only mentioned in the news as one more statistic.

Zulima Palacio-Villegas, VOA reporter

relationship with the stations. Direct payment for air time is one option. Even when payment is required, radio stations are frequently willing to give discounted rates to social programs. For example, the MOH in Mali negotiated a nominal rate with the national radio station, ORTM, for broadcasting nutrition messages developed at training workshops sponsored by BASICS.

Another option is program sponsorship by either the commercial sector or the donor community. In Mali, the SOMARC Project, UNICEF, and the Panos Institute have all sponsored programs with social objectives on both private and public radio stations. Sponsorship arrangements can be made directly with individual radio stations or, as BASICS did in Bolivia and Mali, through radio station associations or membership organizations. A third option is in-kind compensation—provide equipment or materials that radio stations in developing countries often find in short supply.

In larger countries with more donor activity and more competitive media environments, programs with similar objectives may be able to pool their media funds and negotiate long-term contracts with the media through a single media buying unit, thereby offsetting high costs of air time and making even prime broadcast time more affordable to small buyers.

Production quality is a second important aspect of cost concerns. Health programs on the radio must have a high production value to increase their appeal and competitiveness. High quality, relvant programs are much more likely to be broadcast by media outlets without charge, during prime-time viewing hours. If programs are of substandard quality, there is little chance that stations will air the program at times when viewership is highest.

Finally, research and evaluation are integral components of radio interventions and must be added to radio program budgets. Formative research is used to improve program content and administration, while evaluation research is conducted to measure program impact on sustained behavior change.

Important questions to answer through formative research are coverage (geographic coverage of the radio stations that will broadcast the programs) and listenership (percentage of the target audience that listens to radio and listening times). Formative research can also help improve the message content of programs through pretesting (for example, to determine if health themes are appropriately blended into the story line) and provide feedback to planners on whether the frequency of broadcasts is sufficient to ensure that the audience is exposed to them. Evaluation of whether a series of radio programs has changed audience knowledge, attitudes, and behaviors is complicated but increasingly necessary to justify the investment. Following are some evaluation design considerations.

Lessons Learned and Issues for the Future

This chapter has focused on one particular aspect of BASICS work in communication and behavior change—

the innovative use of radio as a health communication tool. In addition to those lessons already cited, the major conclusions from this experience may be summarized as follows.

Radio, because of its pervasive global reach, is a potentially powerful and cost-effective medium for health communication. A number of studies have documented the contribution of radio to effective health communication programs, and evaluation studies by BASICS in Latin America and West Africa are expected to add to the knowledge of how particular radio formats—the EZA drama in Bolivia and radio spot campaigns in Mali and Senegal—influence the knowledge and behavior of listeners.

Good radio, however, is not cheap. High-quality programming that broadcasters are willing to put in prime-time, and that attracts the attention of audiences, requires investment. Investment is also required in the infrastructure to produce high-quality programming. There is a critical need, particularly in Africa, for investment in training and equipping local broadcast institutions if they are to play the important role they could play in effective health communication.

These factors make evaluation all the more important. It is essential—to justify greater investment—to carefully evaluate, document, and disseminate the results obtained from radio experiences. Besides documenting the impact and cost-effectiveness of different formats, communicators need to know more about what creative elements (drama, humor, fear) are most effective in different cultural settings and how "dose-effect relationships" influence structuring of radio campaigns—that is, what magnitude of effects on audience knowledge and behavior can be achieved by different doses or "bursts" of media activity.

From a global program and an organizational perspective, resource mobilization looms as the greatest challenge in the near future. There is an urgent need to continue to support and build international broadcasting networks that link organizations like the VOA and the BBC with international health organizations like UNICEF, WHO, and BASICS. These networks offer important advocacy opportunities for child health at the global level, and, when linked to media organizations in developing countries, they are a source of critically needed training and production resources.

Options for Evaluating Radio Impact

Is there a population not exposed to the intervention that is nearly equivalent in characteristics to the exposed population? If so, a nonequivalent control group design may be used to compare two nearly equivalent populations before and after the intervention.

Can data collection begin before the intervention (for example, at selected sentinel sites)? If so, time series design that measures trends before and after the intervention can be used.

If a time series design cannot be implemented, a pre- and post-test design may be used by applying the same questionnaire (usually a KAP survey) before and after an intervention in the exposed population. Questions on exposure may be added to the endline questionnaire. Baseline (pre-program results) may be compared against endline (post-program results).

Partnerships with the private commercial sector should also be actively sought to sponsor child health programs at the national and regional levels.

In spite of enthusiasm for the medium, however, radio should never be used or evaluated as an isolated communication tool. Radio works best and has its

greatest effects when it is combined with other instructional elements, particularly with strong community-based interpersonal communication efforts. While this chapter has focused on BASICS work in radio, the project's focus in its country programs has been on behavior change through strategies that combine radio and other media with other multiple communication channels.

A number of BASICS country programs illustrate the effective use of multichannel strategies. The Madagascar program, for example, has made innovative use of radio by bringing radio producers into communities to record and then broadcast health skits performed by local drama groups. But, the program has also employed an extensive array of other communication interventions: counseling cards used as teaching aids by both health workers and community volunteers, diplomas that recognize a family's completion of its child's immunization schedule, a child-to-child program operating out of community schools, and networks of respected parents and "friends of health" who serve as community role models.

Early results from the Madagascar program, in terms of increasing immunization coverage and other program outcomes, are very encouraging. But, as in the case of BASICS work in radio, further experience is required to evaluate the impact and to identify which of the community models that BASICS has explored yields the best balance of tangible results and long-term sustainability. As the picture becomes clearer, successful community models should be scaled up in countries where they have been introduced, and the models should be introduced into more countries.

The vision that has driven the Madagascar program is the same vision that BASICS advocates: creating supportive environments for behavior change. It is the vision that should continue to animate health communication programs in the future. In this vision, well-planned radio and other mass media strategies are integrated with effective community approaches, as in Madagascar. Combined, these "social technologies" become as important a part of any child health program as the medical technologies involved; they are the key to the acceptance and participation of the people they are meant to serve.

BASICS Work in Behavior Change

Comprehensive behavior change programs: **Bangladesh, Bolvia, Madagascar, and Russia**

Social mobilization for polio, diphtheria, and other immunization programs: **Bangladesh, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, and Russia**

Formative research studies: **Bangladesh** (disease surveillance), **Ecuador** (health worker communication), **Ethiopia** (community demand), **Guatemala** (physician performance), **Kazakhstan** (ARI and diarrhea), **Kenya** (febrile illness), **Madagascar** (nutrition), **Russia** (immunization), **Senegal** (nutrition), **and Zambia** (febrile illness)

Development and evaluation of community-based strategies: **Ecuador, Ethiopia, Guatemala, Haiti, Honduras, India, Madagascar, Morocco, Nigeria, and Zambia**

Training in communication and behavior change methodology: **Benin, Bolivia, Eritrea, Ethiopia, Mozambique, Niger, and Russia**

Further Reading from BASICS on Behavior Change Activities

Sustaining Health Worker Performance in Burkina Faso by Karabi Bhattacharyya, Lonna Shafritz, and Judith A. Graeff. 1997.

Emphasis Behaviors in Maternal and Child Health: Focusing on Caretaker Behaviors to Develop Maternal and Child Health Programs in Communities by John Murray, Gabriella Newes Adeyi, Judith Graeff, Rebecca Fields, Mark Rasmuson, René Salgado, and Tina Sanghvi. 1997.

Gender Bias in Health Care Among Children 0–5 Years: Opportunities for Child Survival Programs. A Review Paper Prepared for the BASICS Project by Kathleen M. Kurz and Charlotte Johnson-Welch. 1997.

Child Survival BASICS: Behavior Change in Child Survival—Three Guidelines for Increasing Impact. 1996. (Also available in French and Spanish.)

Highlights (one page summaries):

"Emphasis Behavior" Messages Promote Positive Behaviors to Improve Children's Health

Innovative Radio Programming in Bolivia Focuses on Child Health Messages

In the Developing World, Young Boys Receive Better Health Care than Girls, Study Indicates

PSAs Help Stem Diptheria Epidemic in Moldova

"Medicine for You" World Wide Web Page Launched in Russia

Creative Radio Soap Opera Delivers Health Messages to Save Children's Lives

West Africa Hears Good News on the Radio

Madagascar Community-Based Health Program Provides Simple Tools that Promote Community Action

Health Staff Partner with the Community for Better Maternal and Child Health in Ethiopia

IEC Forums Bring Health Communication to Mozambique

Large-Scale Communication Strategies Enforce Nutrition Messages in West Africa

Further Reading from Other Sources on Behavior Change Activities

Radio Guide: A Guide to Using Radio Spots in National CDD Programmes, WHO/USAID/UNICEF. 1994. (English and French)

A Tool Box for Building Health Communication Capacity. AED. 1995. (Also available in English, French, Spanish, and Portuguese.)

Communication for Health and Behavior Change by Judith A. Graeff, John P. Elder, and Elizabeth Mills Booth. AED/Jossey Bass. 1993.

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Improving Interpersonal Communication Between Health Care Providers and Clients by Berengere de Negri, Lori DePrete Brown, Orlando Hernandez, Julia Rosenbaum, and Debra Roter. URC/Quality Assurance Project. 1997.

Learning to Listen to Mothers: A Trainers' Manual to Strengthen Communication Skills For Nutrition and Growth Promotion, Jane Vella and Valerie Ucccellani, AED/Nutrition Communication Project. 1993.

Websites

The Communication Initiative: www.communit.com

The Journal of Health Communication: www.aed.org/jhealthcom

CHAPTER 10

Instituting Health Reform Worldwide

Of the more than 30 governments that BASICS worked with between 1993 and 1998, nearly all were reforming and reorganizing their health sector. BASICS, teamed with host country and international partners, played a critical role in shaping and implementing health reforms by supporting the development of key policies and working with counterparts to develop new strategies to improve child health. Through its long-term country programs, BASICS also helped strengthen the support systems that are critical to delivering effective services and are, themselves, a common target for health reform.

No two countries approach the reform of their health sectors in exactly the same way. In the 1990s, countries, including Zambia, Ghana, Uganda, and Bolivia, embraced radical reforms that affected almost every aspect of their public health systems. Other countries, Madagascar and Senegal, took a cautious, step-by step approach, working on one set of reforms or one aspect of their health system at a time. While reforms varied from country to country, most reforms included one or more of the following elements that affected BASICS work.

Minimum package of essential care. Many governments have clearly defined the services they will provide, based on an epidemiological analysis of disease burden and the likely cost-benefit of various intervention strategies. Minimum packages of care are a government's guide to achieving a sustainable mix of preventive, promotive, and curative services. Once adopted, they help allocate scarce human and financial resources and influence national policies related to all aspects of primary health care.

Decentralization. In the late 1980s and early 1990s, most national health ministries began decentralizing to the district or municipal level. As a result, responsibility for the management and support of health services shifted to the local level, and District Health Management Teams (DHMT) became a common feature of most health systems,

even those with few qualified personnel at the district level. A small number of countries (Bolivia, Uganda, and the Philippines) took a more radical step of devolving budget and management responsibility to local government officials who, while charged with supervising DHMTs, are outside the Ministry of Health (MOH) chain of command.

Community ownership and support. Governments have created community health boards, established locally managed cost-recovery and revolving drug schemes and, in a few cases, provided funding in their regular budgets for community-initiated health projects. Community partnerships with the public health sector are also possible, but they are not well defined or operational in most countries.

Integration. To varying degrees, reformers have combined at least some aspects of the previously single-purpose child survival programs, including the Expanded Programme on Immunization (EPI), the control of diarrheal disease (CDD), and the acute respiratory infection (ARI) programs. In settings where integration has occurred, health providers may have assumed new multipurpose roles and, for greater efficiency, some support systems may have merged.

Health sector financing. Reformers have experimented with different sector-wide financing alternatives, including national health insurance, managed care, cost-sharing, and the privatization of health facilities. In a few cases, partnerships with the commercial private sector have also been established to increase the availability of low-cost health products, like oral rehydration solution (ORS), and to reduce government subsidization. In the 1990s, a number of countries and international assistance agencies also pioneered a "basket" or pooled funding approach to break down the walls between donor-supported projects and to encourage a single reform agenda.

Long term, it is hoped that these reforms will increase efficiency, access, quality, and use of health services. Short term, depending on how they are conceived and implemented, sector reforms may have both positive and negative implications for child health services.

Decentralization, cost recovery, and community involvement have

increased the possibility of local investment in child health services. Local health boards and committees, in some settings, now raise funds to purchase supplemental drugs and supplies, support clinic outreach, provide emergency transport, and support other community improvement projects. But, the demand for qualified staff at the district level has outstripped the supply in many countries, leaving vacant or only partially filled district posts, and health facilities and communities without the guidance and support they need to play an effective role in the health system.

Integration has also produced mixed results. While holding the promise of increased efficiency, in some settings, integration has caused initial instability in well-established programs like EPI and CDD, and has threatened the quality and coverage of the critical services they support.

Reform Policy: Maintaining a Focus on Child Survival

In most countries, when reform begins, a wealth of information and experience is vested in the "vertical" or single-focus child survival programs. Dedicated program staff, many with 15–20 years experience perfecting their specific interventions, have valuable knowledge and experience to share. But, if their programs are targeted for reorganization, as they often are, these technical leaders may not be consulted or they may resist rather than fully participate in the reform process.

A similar problem arises for countries when decentralization and the integration of vertical programs result in the "downsizing" of staff at the central MOH. If this occurs early in the reform process, and specialized technical staff are reassigned nationwide to meet the needs of newly empowered regions and districts, few experienced professionals may be left at central level to participate in the ongoing policy debate and redesign of critical support systems.

BASICS provided technical assistance and promoted the participation of national and international child health specialists on reform teams in many countries. By focusing on the quality and utilization of services, and on the behaviors that promote health and survival, BASICS helped maintain a focus on child health throughout the complex reform process.

BASICS influenced reform policy by—

Collecting and using data on child health for national decision making. BASICS and its partners encouraged and supported periodic program reviews for EPI, CDD, ARI, Integrated Management of Childhood Illness (IMCI), and nutrition. BASICS introduced standardized tools, such as the Health Facility Assessment and various household and community surveys (described in earlier chapters), and developed the counterparts' ability to use these tools at the country and regional level. BASICS also supported a

number of special studies to inform essential drug policies and health care financing policies in Zambia, Mozambique, Tanzania, Ethiopia, Eritrea, and elsewhere. The information compiled from the studies was used to inform and influence key decision makers.

Supporting policy formulation. BASICS formed and participated in national working groups that ultimately changed health policies and programs in many countries. In Eritrea, for example, working groups developed national primary health care, drug treatment; information, education, and communication (IEC); and other important policies. Across Latin America, Asia, and Africa, working groups adapted the IMCI package, modified policies, and supervised IMCI training activities. In other settings, working groups revised national malaria policies, developed health management information systems, and debated health care financing policy. Planners and working groups were involved in studies of special interest and the results were translated into action. BASICS also employed a promising regional network approach that linked decision makers across countries and influenced key child health policies related to reform. Through regional network activities, lessons learned in one setting were shared with decision makers grappling with similar problems and choices in a different setting.

Adapting, testing, and demonstrating child health interventions that are reform sensitive. BASICS, CDC, Eritrean Health and Population Project (EHP), and others established and studied the feasibility of an integrated strategy for malaria control in pilot districts of Kenya, Benin, and Zambia. BASICS, WHO, PAHO, and UNICEF introduced the IMCI training package across the regions, and they are now experimenting with community IMCI in various countries. BASICS, with host country counterparts in countries including Honduras, Ecuador, Nigeria, Ethiopia, Zambia, Madagascar, and Senegal, developed training packages for preventive care that encourages community action—nutrition, immunization, sanitation, and behavior change. In each case, BASICS and its country counterparts learned important lessons in real-life service delivery settings, under

A Regional Health Financing Initiative in East and Southern Africa

The Health Network, a project of the USAID REDSO for East and Southern Africa, used a variety of innovative techniques to stimulate the sharing of ideas, approaches, tools, manuals, technical expertise, and "best" and "worst" practices. Supported by BASICS, the network's first series of activities were built upon the successful Kenya Health Care Financing Project (a USAID bilateral project that ended in 1996), in response to the intense interest of countries across the region in health financing and their felt need to perfect and bring pilot schemes to national scale.

The stated aim of the regional financing initiative was to facilitate the development and implementation of local, national, and regional strategies to improve the availability and quality of health services through improved policies and mechanisms to finance those services.

The network used study tours, regional seminars, focused technical assistance, south-to-south collaboration, and other creative approaches to encourage the development of national health care finance policies, cost sharing policies and tools, and facility-based insurance schemes.

Health policy development: In the early 1990s, Kenya was the only country in the region with a national health care financing policy approved by its MOH. But, with network support, a number of national financing policies were developed and adopted. The Ethiopian MOH developed a health financing strategy document, presented it to the Council of Ministers and, in 1998, it was adopted by the House of People's Representatives, the equivalent of Parliament. With network input, the Uganda MOH also developed a national health financing strategy. Although never officially adopted as policy, this document served as a point of departure for the drafting of cost sharing manuals for government facilities, the development of an insurance program with the Protestant and Catholic NGO hospitals, and technical assistance to address the issue of hospital autonomy. The Mozambican MOH is embarking on a series of meetings and studies that will also culminate in a national health financing plan.

Cost sharing: In the early 1990s, many countries in East and Southern Africa began to express interest in developing or improving their cost sharing programs, including MOHs in Ethiopia, Malawi, Tanzania, Mozambique, and Uganda. In response, in 1994, REDSO/ESA sponsored a regional seminar on cost sharing in Kenya. During the seminar, the theory behind user fees was presented, practical examples were given, and field visits were made to facilities in Kenya where the user fee program was operational.

This sparked interest in several country teams, particularly the Tanzanians who subsequently adopted Kenya's cost sharing approach and implemented it nationwide. Ethiopia was also keen to develop its own cost sharing system and, after attending the cost sharing seminar and participating in a follow-on study tour within Kenya, the Ethiopian MOH prepared a plan to improve its cost sharing program. With technical assistance from the network, this plan was expanded into a larger multi-year health financing strategy for Ethiopia's health sector.

The Ugandan MOH was also interested in a new cost sharing strategy, but its cost recovery system is different than Kenya's. Cost sharing is the purview of the districts in Uganda, not the central level, and the MOH plays only an advisory role. Staff of the MOH worked with the network advisors to develop cost sharing implementation manuals and to plan an assessment of a pilot effort in one hospital. This system is now operational in Uganda, nationwide. More recently, the network assisted the MOH in Mozambique in designing a pilot user fee program for one hospital.

Facility-based health insurance: Health insurance program development in the region is another example of how ideas, when they land on fertile ground, can find widespread acceptance. When a mission hospital in Kenya ran into problems with the pre-payment scheme it developed with a local insurance company, the hospital turned to the Kenya Health Care Financing Project for help. A number of managed care–type interventions, including controls on enrollment and utilization, and improved claims processing, proved successful.

As improvements were being implemented at the Kenyan hospital, other countries in the region became interested in the model. In response, the network organized a regional seminar on health insurance that was attended by participants from Kenya, Zimbabwe, Uganda, Ethiopia, and Tanzania. Elements of the Kenyan model have been adapted and implemented by mission hospitals in Uganda, Tanzania, and Ethiopia, with support from other national and international agencies, including DFID and the Protestant and Catholic Medical Bureaus in Uganda; the Evangelical Lutheran Church and German Lutheran Church in Tanzania; and the SNNPR, and USAID in Ethiopia.

The network collaborated with other donors and USAID projects on a number of the activities mentioned earlier. The network set the agenda, provided the stimulus to begin activities, and then assisted interested parties to seek local or international support to continue. The network also attempted to bring USAID and the international donor community closer together, with some success. The World Bank, for example, collaborated with the network in implementing the Uganda user fee program and co-sponsored the regional meeting on health finance.

different types and levels of reform, before taking new child health strategies to scale.

Documenting the effects of sector reform on child health programs and services. BASICS helped decision makers in many countries measure their health system's child health performance before, during, and after specific reforms and intervention strategies. Working hand in hand with the WHO/Global Programme on Vaccines and Immunization, BASICS also documented the positive and negative effects of sector reform on immunization programs in countries as different as Zambia, in Africa, and Kyrgyzstan, in the Newly Independent States. Results from these special studies are meant to influence global strategies to support immunization programs worldwide.

In four of BASICS long-term countries—Zambia, Ethiopia, Eritrea, and El Salvador—project staff and consultants participated early in the planning and implementation of national health sector reform. This early and constant technical input has produced reforms that are internally consistent, technically sound, and confirmed by experience in other settings. When complete, the reform process in these countries should result in efficient public health systems with improved utilization and coverage, and quality child health services.

Strengthening Training Systems

Integration often calls for massive retraining efforts to transform family planning, immunization, sanitation, and other single-purpose field workers into health providers capable of delivering a complete package of care. This is a daunting

task, one that most governments are not prepared to undertake.

IMCI training uses technology that can successfully upgrade skills in the management of a number of childhood illnesses, previously treated one at a time. The overwhelmingly positive response to IMCI by many governments is due, at least partly, to the fact that it fits well with reform. IMCI meets "felt needs" for greater integration of services, more efficient training, and improved health worker performance. But, IMCI is neither a complete solution to integration nor is IMCI sustainable unless overall training capability is strengthened, and more efficient and less costly training alternatives are developed.

When MOHs decide to integrate health care services, most go beyond the management of childhood illness to the integration of most or all maternal and child health services. This type of integration requires complicated training decisions about who should be trained, in what skills, for how long, where, using what training methods. When these decisions are made, child health and training experts should participate in the decision making.

El Salvador: Building a Strong Foundation for Health Sector Reform

In El Salvador, after a generation of civil war, key politicians, policy makers, and health system managers are cooperating in a comprehensive health sector reform that encompasses policy change, legislation, restructuring of the health system, and improvements in service delivery. The USAID Mission, PAHO, the Inter-American Development Bank (IDB), and the German aid agency, GTZ, are supporting the reform efforts.

In early 1998, the MOH asked USAID to help with the stalled reform effort and USAID turned to BASICS. BASICS identified a core group of health planners and practitioners from Honduras, Colombia, and Paraguay, who had experience with reform and the decentralization of health services. This group worked with the MOH, the presidentially appointed National Health Commission, and the Sub-Committee on Health of the national legislature. From the outset, USAID and BASICS attempted to establish consensus with the key leaders on what health reform would mean for El Salvador, to define the key issues, and to engender collaboration and agreement on how to proceed.

The MOH was clear from the start that it wanted a "Salvadoran model" to emerge. The National Health Commission produced a health reform white paper that outlined the required legal, structural, and resource commitments. The National Assembly's Sub-Committee on Health studied the rich health reform experience in Latin America, and they reached out to link with new partners in the executive branch, medical profession, and country's universities.

A series of health reform advocacy and consensus workshops were organized. Case studies from Canada, Costa Rica, Colombia, Honduras, and Paraguay were analyzed. Focus groups, consisting of health staff, local officials, NGOs, and ordinary citizens, were organized around the country to compile input and ideas on reform issues, such as universal health insurance. Study tours were arranged for joint teams to visit several Latin American countries to observe firsthand the health reform experience.

The MOH wanted its staff and local officials empowered to operate in a decentralized health system. To achieve consensus and support, the MOH began an internal process to define the health delivery structure and the health care services package it would contain. They carefully examined access, quality of care, cost-sharing, drug supply, logistics, and new roles for the MOH, local health staff, elected officials, and NGOs. The MOH carefully bridged traditional intra-ministerial barriers between central and provincial staff, between public health and hospital specialists, and among technical staff, planners, and administrative specialists.

With USAID support, the MOH embraced IMCI as its national child health care strategy and a core element of its essential health care package. Working with technical consultants from BASICS, the MOH took steps to link IMCI at the facility level with the country's extensive network of public and NGO-supported volunteer community health workers (CHW). To date, hundreds of health staff have received clinical skills training. The MOH and NGOs are developing a new CHW IMCI training course, based on generic materials and produced by PAHO and BASICS. The course will increase CHW capacity to treat and refer cases of prevalent childhood disease, including pneumonia, diarrhea, and malnutrition. Community organization and behavior change interventions at the community and household levels are part of the approach.

El Salvador's plan for health reform has the right components: a bipartisan political consensus and mandate, an enabling legal and legislative framework, an essential package of services and performance standards, new cost-sharing methods, and a new public-private partnership. Crucial to the initial advances of 1998 was the time invested by USAID and BASICS to engender collaboration and cooperation among the key stakeholders. Politicians, policy makers, and health specialists now speak the same language of reform: equal access, quality services, and accountability to the people. For USAID and BASICS, their success is that child health care will be rooted in the new health services structure.

BASICS and its national and international partners (WHO/ PAHO, UNICEF, MOHs, and PVO/NGOs) worked in 25 countries in Asia, Africa, Latin America, and the Newly Independent States to introduce and develop capability in IMCI training. In many of these countries, including Bangladesh, Ethiopia, Eritrea, Zambia, Bolivia, and South Africa, BASICS also supported training in a more comprehensive package of preventive and curative care.

- In Ethiopia, BASICS technical assistance revamped the community health training program and strengthened the Southern Nations, Nationalities and Peoples' Region (SNNPR) regional training institution. In neighboring Eritrea, BASICS and other international partners strengthened the national nursing school by supporting the development of a new nursing curriculum and, collaborating with a U.S.-based university, training the school's nurse tutors.

- In Bangladesh, BASICS coordinated the development of national Child Health Guidelines and developed a new, integrated training package for paramedical workers. Six Bangladeshi nongovernmental organizations (NGO) workers were trained and are available to provide future training to NGO and government health workers.

- In Zambia, BASICS and other USAID and international partners helped Zambia's Central Board of Health develop a completely new, integrated training curriculum for Primary Health Practice, which includes content on IMCI, nutrition, immunization, malaria, family planning, maternal health, HIV/AIDS, TB, and community partnership.

- In Bolivia, BASICS provided technical support to three regional training sites where both IMCI and integrated Primary Health Care (PHC) training are now provided on a fee-for-service basis to government and NGO health workers.

- In South Africa, BASICS and INTRAH/Prime worked with the MOH and the Eastern Cape Provincial Health Office to develop a distance education training program for community nurses. The program objective was to upgrade primary health care skills without taking trainees from their posts for lengthy training workshops.

Decentralizing Management

Transforming national priorities into local action. During decentralization, key functions are delegated to district health offices and, in some cases, to local governments. To achieve national health goals through district action, a special effort must be made to ensure that all district health teams are familiar with national health policies and that they are aware of the most cost-effective alternatives for delivering key services. National policies must be standardized and then transformed into guidelines and planning tools that district managers can use. To perform their new functions, district health staff require management training and continuous support from regional and national health offices.

When health reform is launched, a technical assistance organization like BASICS can play a key role by helping district managers develop reference materials and training. Working with the MOH in numerous countries, including Zambia, Eritrea, Ethiopia, Bolivia, Madagascar, and Senegal, BASICS developed guidelines and other useful tools for preparing district health plans and training of DHMTs. The inclusion of technical child health content in annual planning guidelines proved to be particularly important. Experience in Zambia demonstrates this point.

Zambia's 1992 decentralization act empowered local health boards and DHMTs to plan and manage health services. In 1995, the MOH produced an annual guide for district planning, but this guide focused almost exclusively on financial planning. In early 1997, working with BASICS and its other partner organizations, the MOH developed the country's first *Integrated Technical Guidelines for Primary Health Care* for use by front-line health workers. The document detailed the technical basis and national norms for all PHC services, including child health. Simultaneously, a technical supplement to the annual planning guide was produced. While the technical guidelines presented the content of national policy, the new planning supplement helped each DHMT assess its own health situation, prioritize problems, and select service delivery options. Since 1997, Zambia's Central Board of Health has used this set of tools successfully to guide and influence DHMT planning.

Training district health management teams. BASICS supported the training of DHMTs in almost all its long-term country programs. Different methods were used in each setting, including formal classroom training, annual and strategic planning workshops, and participation in district-level studies of health facility performance and household behavior.

Planners at all levels face health needs that outstrip available resources, but this is particularly difficult for inexperienced DHMTs and facility managers. In creating realistic annual health plans, planners must be encouraged to target their investments to the population groups at greatest risk of illness and death. In child health, this may mean that certain services are routinely provided at all sites, while other services must be delayed or provided only in certain geographic areas or to certain target groups. At the district level, it may also mean favoring primary health care instead of curative and referral health services. Under the best circumstances, these are difficult choices. It must be recognized at all levels that it is impossible, with existing health sector resources, to meet all needs

Eritrea: On-the-Job Training in District Planning and Management

In 1995, when BASICS began working in Eritrea, none of the country's six regions had health plans. During the following three years, BASICS supported the MOH effort to decentralize and strengthen health planning and management by providing training and direct technical assistance to regional and district managers and their national level supervisors. For this purpose, the Strengthening of District or Regional Health Management Teams (SDHMT or SRHMT) approach, originally developed by WHO, was adopted. Particularly well suited for Eritrea, the approach requires limited human resources at the regional and local health facility levels.

The SRHMT approach is based on principles of ownership, teamwork, repetition, incremental learning, and mutual support, requiring all members of the health team to become actively involved in the identification, analysis, and solution of problems.

The first step in the planning process was a preparatory meeting at the regional level to familiarize the heads of units coordinating malaria control, environmental health, and TB/HIV with the concept and principles of SRHMT. Then, in BASICS-supported workshops, regional and facility level managers analyzed existing health data, identified problems, set priorities, and developed objectives and action plans. Key principles of planning, budgeting, and coordination were reinforced through practical field experience, and continuous supervision and feedback were provided.

Emphasis was placed on training individual workers and creating health teams. At the sub-regional level, teams consisted of an administrator, a regional public relations officer, and heads of health centers and health stations. At the facility level, teams were composed of health workers, village administrators, and representatives from village assemblies, women and youth associations, and other community-based organizations.

Health teams were encouraged to prepare realistic plans by defining actions that they could expect to achieve with the human and material resources available. This proved more difficult than expected, as there is a natural tendency to want to do more than is feasible. The realistic strategy adopted in Eritrea was to focus each team on selecting and developing a plan to address its top one or two health problems for that year.

By the end of BASICS involvement in 1998, all six health regions had developed and carried out their health plans for each of the two prior years.

for all people; this is key to ensure that DHMTs and national governments set and reach child health goals in the years to come. BASICS training for district managers focus on assessing health needs, setting priorities, and planning with the community.

Strengthening Health Management Information Systems (HMIS)

A participatory approach to HMIS development. Health sector reform may require that countries thoroughly revise their national HMIS, which, at a minimum, should be collecting timely data on health service utilization, reportable diseases, and availability of drugs and supplies. During the reform process, the need for up-to-date, streamlined, and thorough information at all levels of the health care system is a powerful incentive to improve a country's HMIS.

BASICS advisors provided direct technical assistance in developing a new HMIS for the governments of Eritrea, Zambia, Ethiopia, Madagascar, Kyrgyzstan, Kazakhstan, and Ukraine. HMIS development and roll-out reached the national level in three countries (Zambia, Eritrea, and Kyrgyzstan). BASICS contributed its expertise in child health in the use of routine HMIS data for health planning and decision making, and in the design and computerization of information systems.

Designing or redesigning an HMIS provides an important opportunity for building consensus and training managers on the job. In the process of selecting health indicators, for example, inconsistencies or omissions in national policies arise and can be corrected. District, regional, and national managers, mobilized to discuss their information needs and perspectives, frequently help planners define not only what they will communicate, but also how they will communicate with each other in the future.

In its HMIS work, BASICS placed the greatest value on using data at its point of origin. Those most likely to make changes in their day-to-day work, changes that will result in improved child health services, were involved from the beginning to the end in HMIS design. The sidebar on Kyrgyzstan explains this approach.

National HMIS development in Zambia and Eritrea. Since 1996, BASICS has assisted the

governments of Zambia and Eritrea in the complete redesign, computerization, and introduction of their national HMIS. Both systems are integrated and designed to meet the needs of highly decentralized health systems. The systems, however, are quite different.

Zambia's HMIS required the dismantling of numerous vertical systems and development of a new, more streamlined system to meet the needs of a rapidly changing and integrated, and decentralized health system. Composite indicators, self-assessment techniques, supportive supervision, and other quality assurance approaches were incorporated into Zambia's HMIS.

Eritrea's new HMIS is much simpler. A newly independent country when BASICS started work in 1995, Eritrea was emerging from 30 years of war. Its health system was weak but fully integrated, so dismantling an old system was not a problem. Eritrea was seriously constrained, however, by a lack of human and material resources outside the capital, Asmara; this was important when the decision was made to keep the system simple.

Compiling and attempting to make sense of the massive quantities of data generated by any national HMIS is a complex process. When developing an integrated HMIS, it is important to use a finite number of indicators to monitor and evaluate the health system's performance. The items of information collected and the information flow must also be streamlined and simplified. This process can be frustrating for global and national program managers who, under the single-purpose child health programs of the past, collected much more information on each intervention than is possible with an integrated HMIS.

While the negotiation and selection of a smaller set of indicators can be difficult, it clearly encourages managers at different levels of the health system to determine their critical needs. It also forces them to ask how much information they can legitimately require already overburdened front-line health providers to collect, and it pushes them to find better ways to use periodic facility and community studies and structured supervisory visits, and to supplement information from routine HMIS reports.

BASICS successfully assisted the two MOHs in Zambia and Eritrea in computerizing their national

Kyrgyzstan: The Successful Design of an HMIS Module

BASICS worked with Kyrgyzstan to develop a data collection and monitoring approach that was designed to improve management and self-assessment by district and health facility managers. Instead of trying to reform the entire MIS at once, the MOH started with immunization. A working group was appointed to define needs, revise record-keeping procedures, and develop monitoring tools. This group represented all the disciplines concerned with child health and child health services, including national and local epidemiologists, pediatricians, and medical supervisors.

To streamline record-keeping and reporting, the working group defined only four key indicators for the service delivery level:

- DPT3 coverage rates
- Contraindication rates for DPT vaccine
- Vaccine usage for DPT vaccine
- Refrigerator temperatures

Next, they consolidated several reporting forms into a single page and developed monitoring tools that made it easy to calculate and graph each indicator by hand. Training manuals for health workers at local, supervisory, and district levels were also produced. The work emphasized self-monitoring by the front line health worker, and the training package included both supervision and self-assessment checklists.

After a successful year-long trial in one district, the MOH implemented the revised HMIS for immunization services nationwide. Introduction of the immunization module alone resulted in a national reduction in the frequency of "prescribing" contraindications from 20 percent to less than 5 percent and a 50 percent reduction in vaccine wastage. In the future, the MOH of Kyrgyzstan plans to use this process to improve the other modules of its national HMIS.

Giving health workers the epidemiologic skills to monitor their own work not only improves the quality of the data they provide, it is also a source of pride and an incentive for high performance. This approach to the design of information systems and their components can be applied to improve monitoring and information for any health service.

Zambia: Adding Supportive Supervision and Self-Assessment to HMIS

From early 1996 through 1998, BASICS advisors worked closely with Zambian health authorities, DHMT, DANIDA, WHO, and USAID's Quality Assurance Project to design, field-test, and introduce a new nationwide HMIS. The system integrates key indicators from previously vertical child health programs. It also goes further to help managers and supervisors identify and solve problems together. Several Quality Assurance (QA) tools were built into the system to trigger data analysis and make HMIS data immediately applicable to program planning.

Assessment, Analysis, and Action (AAA) guidelines introduce a problem-solving process based on HMIS indicators. AAA guidelines are used by health facility staff and DHMT members during regular supervision sessions. They prescribe a cycle of actions, with the results from each action becoming the focus for the next. Six steps lead from assessment, to analysis, to action, as shown in figure 10.1.

Quarterly self-assessment is another key element in Zambia's new HMIS. This exercise has health center managers and community leaders, through their Neighborhood Health Committees, compare the services their teams actually provide to those that were planned. Service delivery indicators are compared to health needs (catchment population, expected pregnancies, expected deliveries, and children under 1 year) and factors that affect the supply of services (human resources, drug supplies, service utilization, and staff performance). After problems are identified during the quarterly self-assessment, solutions can be developed and implemented, with or without a supervisor.

Supportive supervision is one of the principal topics covered during the HMIS training of DHMT and provincial staff. Training for supervisors in the AAA guidelines, and in the principles of self-assessment, coaching, and mentoring, are key to the success of the new HMIS.

DHMT, health facility staff, and Neighborhood Health Committees in Zambia's 72 administrative districts have been trained to use the new HMIS. Now fully operational across the country, and computerized at national and district levels, the new HMIS allows health facility staff and supervisors to set their own targets and to identify and correct performance problems at the local level.

HMIS and training a staff to maintain them. Computerization is of increasing interest to host-country governments and, as the hardware and software become more accessible and easy to use, it is a growing option, even at the district level.

While a redesigned HMIS is a positive start, it will not ensure effective information management over time. After an HMIS is in place, supervisors and facility managers need further training and supervision to encourage and help them use the HMIS data. They also need supplementary tools—checklists, simple surveys—to supplement routine data from the HMIS. "Quality of care" is a good example of an indicator that is not easily obtained from an HMIS. Finding a tool that routinely gauges quality of care could have a major impact on child survival in the future.

Supervision and Quality Assurance

Supervision has traditionally been a weak area in public health programs. In many countries, designated supervisors receive little training or they have been trained to focus only on a single intervention, such as immunization, family planning, or diarrheal disease. Supervisors may be less qualified or experienced than the people they supervise and, therefore, unable to judge or influence their performance. Transportation and other necessary supports for supervision are also consistently weak. Finally, even when supervision takes place and problems are detected, frequently supervisors do not provide enough systematic feedback or follow-through.

Reformers often try to rectify this situation by integrating supervision and instituting new supervisory requirements. Supervisors in most countries are expected to have technical competence in a wider range of interventions than ever before. Depending on the degree of integration, a single supervisor may be responsible for several areas at once. Maternal child health supervisors, for example, may need to work with family planning, case management of sick children, antenatal care, growth monitoring, and immunization. After many years of single-purpose programming, few supervisors have this training. Decentralization has exacerbated the problem because the number of inexperienced supervisors requiring training and support in multiple health care interventions has also increased dramatically.

In this environment, BASICS worked with in-country counterparts and international partners to streamline supervisory systems, train supervisors, and continually encourage the more active, consistent, and effective supervision of health workers.

Activities in this area include—

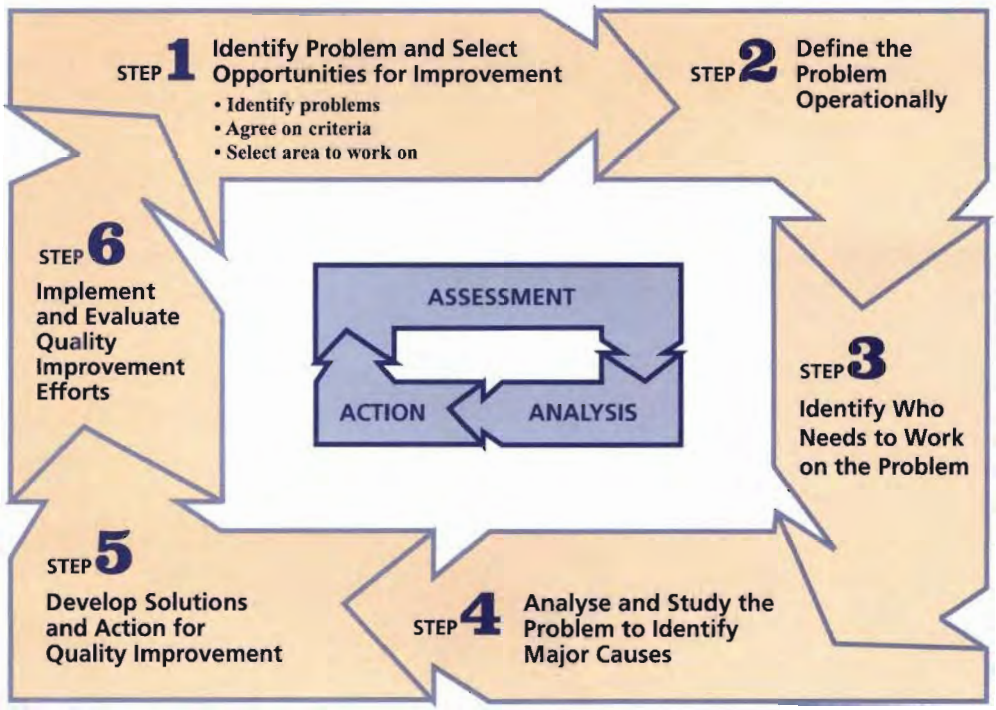
Standardized, integrated checklists for use during supervisory visits were developed in almost every country where BASICS worked. Supervisors received help designing and using these checklists that, based on national norms and standards for performance, are intended as a guide to the many components of primary care.

Quality assurance initiatives were facilitated by BASICS in Zambia, Niger, Cambodia, Kyrgyzstan, and Ukraine to reinforce the training and supervision of health workers. The USAID/REDSO East and Southern Africa Health Network, with support from BASICS, AVSC, JHPIEGO, and other USAID projects, also supported quality of care workshops and consensus building across that subregion. Techniques included the development and monitoring of locally appropriate performance standards; the training of supervisors in supportive supervisory methods (coaching, mentoring, and problem solving); and the introduction of self-assessment tools that providers and facility managers can use to measure their own performance.

Operational research and local problem-solving initiatives were supported through training and small grants from BASICS in Cambodia, Ethiopia, and other countries. Investment in small locally developed projects not only encouraged the discovery of appropriate solutions for entrenched problems, it also motivated managers and supervisors to take more initiative to improve their programs.

Supervision, and alternatives to traditional supervision, like quality assurance, are critical to sustain health provider performance after training. The Zambia case study shows the dramatic impact that supportive supervision can have on IMCI knowledge and skills. It is followed by a description of BASICS experience working with USAID's Quality Assurance Project, introducing IMCI after "quality teams" were formed and the principles of quality assurance were adopted by a regional health office and several of its satellite districts.

Figure 10.1 ***Assessment, Analysis, and Action: AAA Guidelines, Quality Assurance Problem Solving Applied to HMIS Data***



Zambia: Supportive Supervision of IMCI

In 1997–1998, BASICS once again demonstrated through operations research in Zambia that supportive supervision is an effective way to improve the quality of child health care. Prior to this intervention, the supervision of clinical care workers was typically infrequent and unstructured. Supervisors rarely observed health workers while they were examining patients and, in the absence of a checklist, key aspects of care were often overlooked. Instead, supervisory visits focused primarily on administrative issues.

In response, BASICS worked with Zambia's Central Board of Health (CBoH) to introduce an integrated checklist that structures supervision and focuses the supervisor's attention on the quality of services being provided. Using the checklist, district supervisors visit each health center in their area every quarter and use the IMCI section (see chapter 4) to observe and evaluate one or more health workers.

The steps yielded dramatic improvements in health worker performance, as illustrated in figure 10.2. For example, according to a baseline survey (March 1996) in Lusaka, only 2 percent of health workers were counting respiratory rate in children presenting with cough or difficult breathing. A survey in August 1996 found that following training, this figure had increased to 70 percent. Six months later, however, performance had deteriorated to 64 percent, but it rose again to 84 percent in the third follow-up survey (May 1998) because supportive supervision, emphasizing the use of checklists, was introduced.

Indicators related to counseling (explaining how to give medications and making inquiries on feeding practices) and the rational use of drugs showed similar trends. Before training, practitioners prescribed antibiotics for common colds in 47 percent of cases, a figure that dropped to 15 percent six months after training. A year after training, the improper prescription of drugs again climbed to 30 percent, but with more frequent supervision and the use of checklists, this level declined again to 15 percent. The same trends were evident in the treatment prescribed for non-bloody diarrhea cases.

Lessons Learned and Issues for the Future

BASICS contributed to positive, often dramatic, improvements in child health, worldwide. However, there is work to do in every developing country to strengthen the systems that support child health services. USAID's continuing support, through projects like BASICS, and the monitoring, shaping, and support of health sector reforms could make an important difference to child health and survival.

The following issues will require particular attention in the future:

Maintaining adequate child health expertise in the reformed health system. If reorganized health systems are to contribute to improved child survival, more attention must be paid to staffing each level of service with appropriately trained managers and supervisors. When decentralization and integration policies are pursued together, as they often are, an MOH may be completely restructured. Downsizing at the central level is common, but, when downsizing is too drastic or too fast, it can be very disruptive. Where an urgent need exists for technical guidance and oversight of newly decentralized functions, too often professionals are not available to meet that need. The same is true at the regional level.

Moving technical support as close to the periphery as possible and integrating planning, supply, and information systems across programs makes sense. But, even when reformers allocate sufficient positions for child health program specialists at the regional and district levels, the positions are sometimes difficult to fill with qualified candidates. Too few child health specialists, covering too many decentralized units, leaves inexperienced managers without adequate support, and leaves a newly decentralized health system without the senior and mid-level staff it needs to guide and monitor service delivery and health status.

The solutions to these problems are not simple, but answers must be found for reformed health systems to meet child health goals.

Studying, refining, and avoiding the unintended consequences of sector reform. To avoid false starts, disappointing results, and a reformed

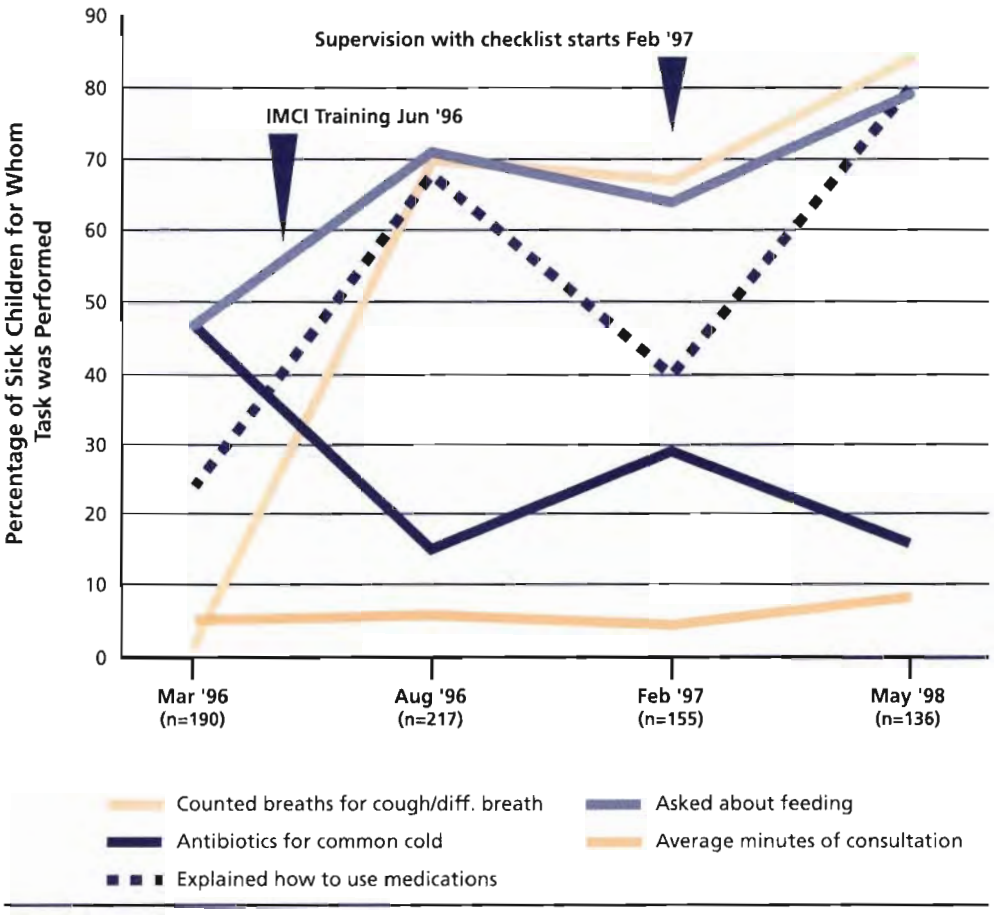
health system that fails to meet priority child health needs, careful consideration must be given to the details of each reform. If experienced and influential child health programmers are included when reforms are planned, the reforms are more likely to have a solid technical basis. More often than not, however, reforms are planned in haste without investing the time required to thoroughly understand and anticipate their consequences.

The impetus to rationalize the provision of health care, streamline support systems, increase cost sharing, and move decision making to the local level is logical, but making these changes is not a simple process. Responsible decisions about what elements of care, training, supply, and oversight to delegate to the lower levels of the health system, for example, cannot be made without giving careful attention to the technical and programmatic issues affecting each child health intervention. The same is true when decisions are made about the integration of services and support functions, how user fees will be charged and applied, and many other aspects of reform. Technical expertise and attention to details are critical.

After a reform is in place, using operations research and other forms of systematic inquiry, every country should continually examine the aspects of the reform that are working and not working. When unintended consequences of a given reform threaten to undermine the delivery, quality, or use of health services, immediate corrective action must be taken. Here, too, it is important to pay attention to the details.

Developing more integrated training options. Before embarking on an integrated training strategy, planners should consult with both training and child health program experts who know, from their own experience, what it will take to achieve desired skill levels. BASICS worked in a number of countries to develop training capacity and upgrade health worker skills in integrated care. Both IMCI and more comprehensive primary

Figure 10.2 ***Survey Findings from Eight Lusaka Health Centers Three Months Before and 2, 8, and 22 Months After IMCI training***



Niger: Applying Quality Assurance before Introducing IMCI

Clinical skills training is essential, but it is not all that is needed to successfully implement IMCI. Without support systems in place to deliver clinical services, health workers often return to their facilities to face shortages of essential drugs and inadequate technical support and follow-up. A joint program, which began in 1997 and carried out by USAID's Quality Assurance Project (QAP) and BASICS in Niger, pilot-tested a new approach for introducing IMCI—starting with quality assurance interventions to strengthen critical support systems before clinical IMCI training begins.

In Niger, the QAP/BASICS program first focused on reviving a defunct district supervisory system by re-establishing and training teams of supervisors. The concept of "coaching" was emphasized to retrain supervisors—who typically employed a traditional, authoritarian style of supervision—as mentors proficient at using a supportive, problem-solving approach.

To support the district supervisors, the joint program introduced and tested two important supervisory tools: the Rapid Health Worker Performance Assessment (RPA) and the Integrated Supervisory Check List. Early results show that these tools are valuable not only for structuring and guiding the supervisory visit but also for generating needed data and providing feedback to health workers and managers.

The results of an initial baseline study conducted in the program areas showed substantial deviation from established clinical norms. With this information, the health workers and their supervisors worked to improve their performance. By October 1998, when a final assessment was conducted using the RPA supervisory tool, significant improvement on many performance indicators was noted, as shown in table 10.1.

The joint QAP/BASICS program also worked to improve the availability of essential drugs and strengthen local cost recovery. Ample evidence exists that cost recovery has improved, and the improvement is having a significant impact on the availability of essential drugs. In all program areas, a recent evaluation showed that there were fewer stock-outs and higher average monthly consumption rates in 1998 than in prior years. Even though cost recovery has been associated, at least initially, with a drop in health facility utilization rates, this trend is now reversing. Many health facilities had a strong recovery in utilization as their clients became familiar with the cost recovery system and realized that it was increasing their access to essential drugs.

By first applying quality assurance techniques to improve supervision and drug supply, Niger was prepared for the introduction of IMCI training. The adaptation process started in mid-1998, and by February 1999, the first group of health workers in two early-use districts was trained in the IMCI clinical course. As a result of the joint QAP/BASICS program, they returned home to practice in health facilities that were stocked and effectively supervised. Niger's innovative approach to combining quality assurance and IMCI implementation could be beneficial for many countries.

care training packages were developed and used.

IMCI training is one way to combine courses, but it does not cover all child health content and it is still costly. IMCI expansion depends on increasing the efficiency of the standard training strategy to improve its effectiveness. BASICS continues to work with its partners to develop and introduce more cost-effective training approaches, such as shorter IMCI courses and customized courses for different levels of health workers. BASICS is also collaborating with UNICEF, WHO/PAHO, MOHs, and PVO/NGO partners to develop and test community-based, IMCI-compatible training courses.

Beyond IMCI, when countries need to train large numbers of primary care providers, they often resort to "quick and dirty" training courses that cover all subjects. These courses are a low-cost alternative to the multiple, single-purpose training programs of the past; although less expensive at the start, the results are usually disappointing. This is particularly true when trainees need clinical and interpersonal communications skills, because this type of skill development has special requirements: more time for practice than is possible in a short course, special training sites that are not likely to be available without additional investment of time and resources, and trainers who are well trained.

BASICS has developed integrated primary health care training packages with some success, but there is still much to be done. Planners need

criteria to determine the most cost-effective training options under different circumstances and they need training packages, beyond IMCI, that they can adapt and use.

Making global program guidelines fit newly decentralized and/or integrated health systems. When BASICS worked with WHO/GPV to assess the impact of decentralization on the well-established EPI in several countries, one of the most important findings was that standard program review materials could not be used without extensive adaptation. The traditional approach to an EPI program review (i.e., working through national program managers), may no longer work in countries that have truly integrated their health care systems across programs and decentralized management and cost-recovery to the regional, district, and local levels. Other commonly used program support materials may also be outdated in the current reform environment. A revised approach is needed, not only for EPI, but for other globally supported child health programs. However, while many child survival leaders recognize the need for a more reform-friendly approach, some worldwide disease control initiatives in immunization are designed with the very specific objectives of reducing morbidity and mortality of selected diseases and interrupting transmission of the causative agent. Such efforts tend to focus greater attention than before on single-purpose delivery systems within already-vertical programs rather than deliberately building integrated systems that address a range of health problems.

Improving the supply of drugs. IMCI training is improving health worker knowledge and skill, but too little has been done to strengthen other systems that must be in place for providers to apply their newly acquired skills for the care of sick children. A trained health provider has little purpose unless the appropriate pharmaceuticals are available. Likewise, vaccines are quickly rendered useless if they are handled by individuals with no training in cold chain management and limited access to functioning cold chain equipment. BASICS has trained officials of several governments in international tender and bid procedures, and worked with USAID's Rational Pharmaceutical Management project to train district managers in forecasting and handling drugs and supplies. In the future, more work is needed in this area.

Developing tools that measure the quality of child health services. HMIS and supervision systems can provide useful information about services, including data on the number of trained providers per facility, patient load, the use of pharmaceuticals and vaccines, and disease burden. However, these systems have been disappointing in their capacity to measure provider performance on indicators of service quality.

Table 10.1 ***Effect of Communicating the Discrepancies Between Health Worker Performance and Child Health Standards—Konni District, Niger***

Indicator	May 1997 (Baseline) n=138	June 1998 (RPA) n=41
Percentage of mothers counseled for danger signs	38%	83%
Percentage of mothers counseled for treatment of their sick child	70%	73%
Percentage of children having their nutritional status checked	7%	45%
Percentage of children having their vaccination status checked	41%	65%

Refining Reforms: Learning What Not to Decentralize

Immunization is a good example of a program that should not be integrated or decentralized without bringing the experience and knowledge of immunization experts to bear.

Successful immunization efforts require that—

- Low cost, high-quality vaccines are available in sufficient quantities to achieve coverage targets.
- Vaccines are carefully handled from point of origin to point of use and, to prevent deterioration, cold chain equipment is available.
- Trained "immunizers" are available when and where they are needed and the quality of their work is monitored.
- Communities are mobilized to attend immunization sessions.
- Strategies chosen to deliver immunization services (outreach, fixed sites, outpatient clinics, and others) produce the widest coverage for the least cost.

Additionally, the transmission patterns of infectious diseases, such as diseases prevented by vaccination, require ongoing attention by regional and central levels of the government.

Responsibility for meeting most of the conditions in the previous bulleted list has been and can be successfully decentralized. However, two functions, in particular, should never be delegated below the central or regional level: procurement of vaccines and procurement of cold chain equipment.

When communities and districts purchase these items, the risk of acquiring ineffective vaccines and inappropriate and defective equipment is increased, and the important economy of scale that bulk purchasing offers is lost. Nonetheless, reformers in some countries have initially moved budget and purchase authority for one or both of these items from national to local levels, only to reverse this after a period of poor results. The same transfer of purchasing authority, followed by poor results, has been true in relation to other child health pharmaceuticals.

In this situation, the risk of impotent vaccines can be minimized by controlling procurement of critical commodities. This has been done in some countries by retaining budget and purchasing authority over critical items like vaccine and cold chain equipment at the national level. In other countries, budget has been decentralized to the district or municipal level as specified by decentralization policy, but purchasing authority has remained centralized. In this second case, DHMTs use their budget items to requisition key items for immunization and other child health services from a national or regional store.

Either solution satisfies all concerned, by protecting the quality of the commodity, keeping the cost low, and allowing districts to use their budget allocations to meet locally defined needs for immunization.

Measuring adherence to diagnostic and treatment protocols, standards for cold chain management, and counseling guidelines require direct observation, highly competent supervisors, and adequate time. When supervisors have the time and skills to assess quality of care, important benefits result. When this is not possible, a more systematic application of the quality assurance methods described earlier could be one solution. BASICS has also observed excellent results from periodic health facility assessments that measure the quality of provider performance through direct observation. If the price of such an assessment could be reduced and the tools successfully adapted for its use at the district level, this strategy could be an important alternative to more frequent supervisory visits.

Teaching and learning new ways of working (teams, working groups, task forces).

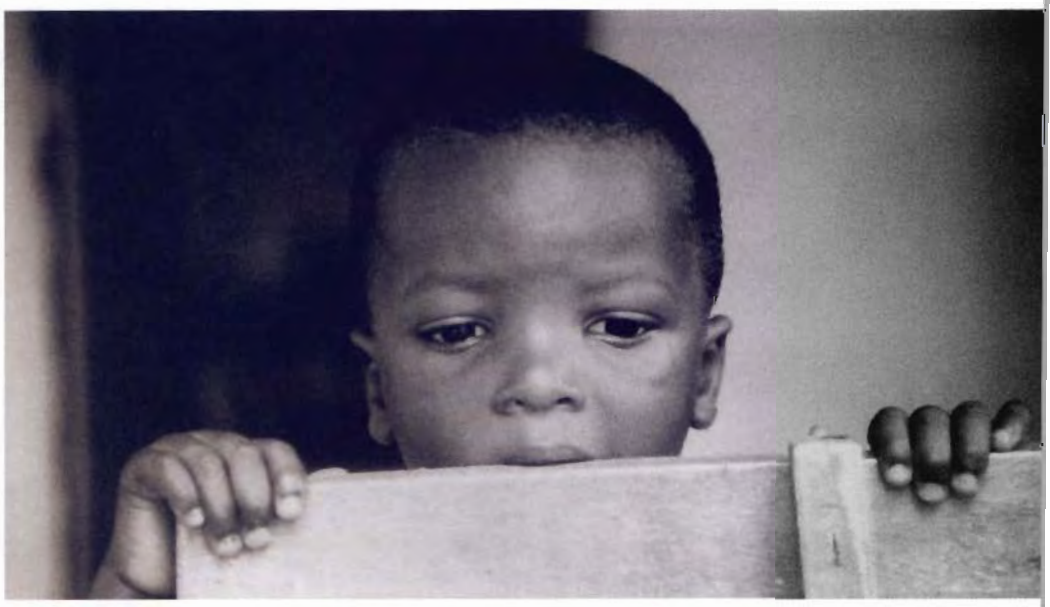
Decision making in a truly integrated and decentralized system is, by definition, more complicated than in a single-purpose child health program. In an integrated system, before any action takes place at the national level, analysis and agreement may be required from child health specialists, as well as any number of cross-cutting divisions or units, all working under different directors, with different mandates and different budgets. The application of sound programmatic judgement is desirable, but when there is an urgency to act, and limited child health technical expertise is available, lines of responsibility can be blurred and other divisions (procurement and supply, training, IEC, personnel, HMIS) may bypass technical child health experts.

New ways of working collaboratively within health systems must be found and new skills in facilitation, negotiation, and problem-solving will be required. The institutionalization of multidivisional task forces, work teams, or resource groups that cut across divisions and administrative levels might be a solution. Better definition of the relationships between newly created ministry divisions and the individuals assigned to them might also produce positive results. Staff, especially senior managers, will need orientation and training in consensus-building and team management. Facilitation and negotiation skills will be the key to individual success in any integrated or decentralized health system.

Applying quality assurance techniques and stimulating local initiative. At the core of decentralization is the belief that those who are closest to the delivery of health services are best suited to organize and manage them. However, with decentralized systems and an increase in new managers, it is foolish to just hope they will be able to perform their new jobs.

To be effective, managers need training, adequate support, and regular supervision. The assessment of their own practices in relation to local needs is central to good performance. Managers can be encouraged to find ways to harness local initiative in health care and to motivate teams of health workers. However, few guidelines, manuals, or training programs currently exist to teach motivational or problem-solving skills. This is an area that USAID projects could pursue in the future, by ensuring that a common quality assurance approach is used and taught across its many projects.

Evaluating the impact of health sector reform on child health. To date, the attention of national reformers has focused almost exclusively on building the foundation for a strong and sustainable health system. There has been no systematic study and there is no tested methodology for studying the impact of health sector reform on child health services or child survival. Indicators tracked somewhat inconsistently from country to country and organization to organization relating to program outputs, which are the number of health workers trained and the numbers of services provided. While important for tracking, these are not enough. It is time to evaluate the major structural, fiscal, and administrative changes from sector reform in the context of the health system's overall performance and contribution to measurable improvement in the health status of each country's population. To do this, the host country and international partners working on health sector reform and child health must first agree on indicators that measure public health outcomes and then put systems in place to measure and track the outcomes, over time.



BASICS Work in System Strengthening

Support for Decentralization: **Bolivia, Cambodia, El Salvador, Eritrea, Ethiopia, Indonesia, Madagascar, Mali, Niger, Senegal, South Africa, and Zambia**

Strengthening integrated training programs and institutions, including IMCI: **Bolivia, Cambodia, Ecuador, Eritrea, Ethiopia, Guatemala, Honduras, Indonesia, Madagascar, Nigeria, Peru, and Zambia**

Technical Assistance to develop new Health Management Information Systems: **Eritrea, Ethiopia, Guatemala (NGOs), Kazakstan, Kyrgyzstan, Ukraine, and Zambia**

Technical Assistance to influence Health Care Financing: **El Salvador, Ecuador, Ethiopia, Eritrea, Guinea, Indonesia, Kenya, Mozambique, Tanzania, and Uganda**

Further Reading on System Strengthening from BASICS

Use of an Integrated Health Facility Assessment for Planning Maternal and Child Health Programs: Results from Four African Countries by John Murray and Serge Manoncourt. 1998.

Community Assessment and Planning for Maternal and Child Health Programs: A Participatory Approach in Ethiopia by Karabi Bhattacharyya, John Murray, Wondimu Amdie, Mengistu Asnake, Mulugeta Betre, Paul Freund, Tekleab Kedamu, Workenesh Kereta, and Peter Winch. 1998.

Immunization and Health Reform: Making Reforms Work for Immunization, by Rachel Fielden and Ole Frank Neilson. Geneva: World Health Organization/ Global Programme on Vaccines and Immunization, in cooperation with BASICS and DANIDA. (Available from WHO/GPV, Geneva.) April 1998.

Using Data for Decision Making: A Case Study of Developing a Health Management Information System in Zambia by Central Board of Health/Zambia, supported by BASICS/USAID/Zambia.

Results of Health Care Financing Studies in Ethiopia by Logan Brenzel. 1999.

Evaluation of the REDSO/ESA Health Network by Gerard Bowers, Margaret Gachara, and James Setzer. 1998.

Selected Trip Report

Lessons Learned from Approaches to Improve the Case Management of Sick Children in a Quality Assurance Environment in Niger. 1998. No. 977.

BASICS Highlights (one-page summaries)

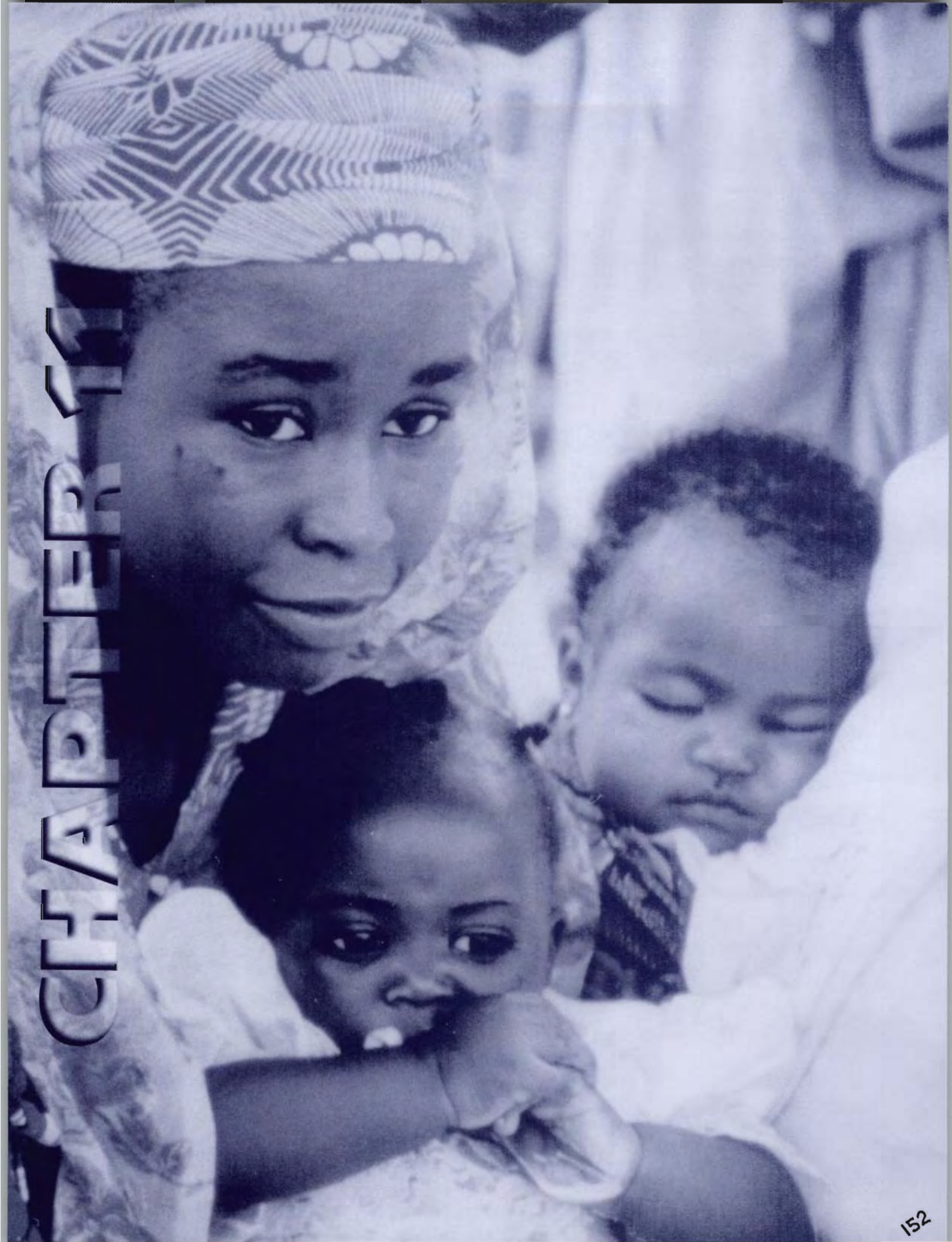
Working Together for Health: Community Partnerships in Zambia

Eritrea Reaches Consensus on Primary Health Care Policy: Building a Strong Foundation for the Future

Health Facilities Prepare for Integrated Child Health Care

Further Reading on System Strengthening from Other Sources

Integrated Technical Guidelines for Front Line Health Workers. Central Board of Health/Zambia. May 1997.



CHAPTER 11

Future Considerations in Child Survival

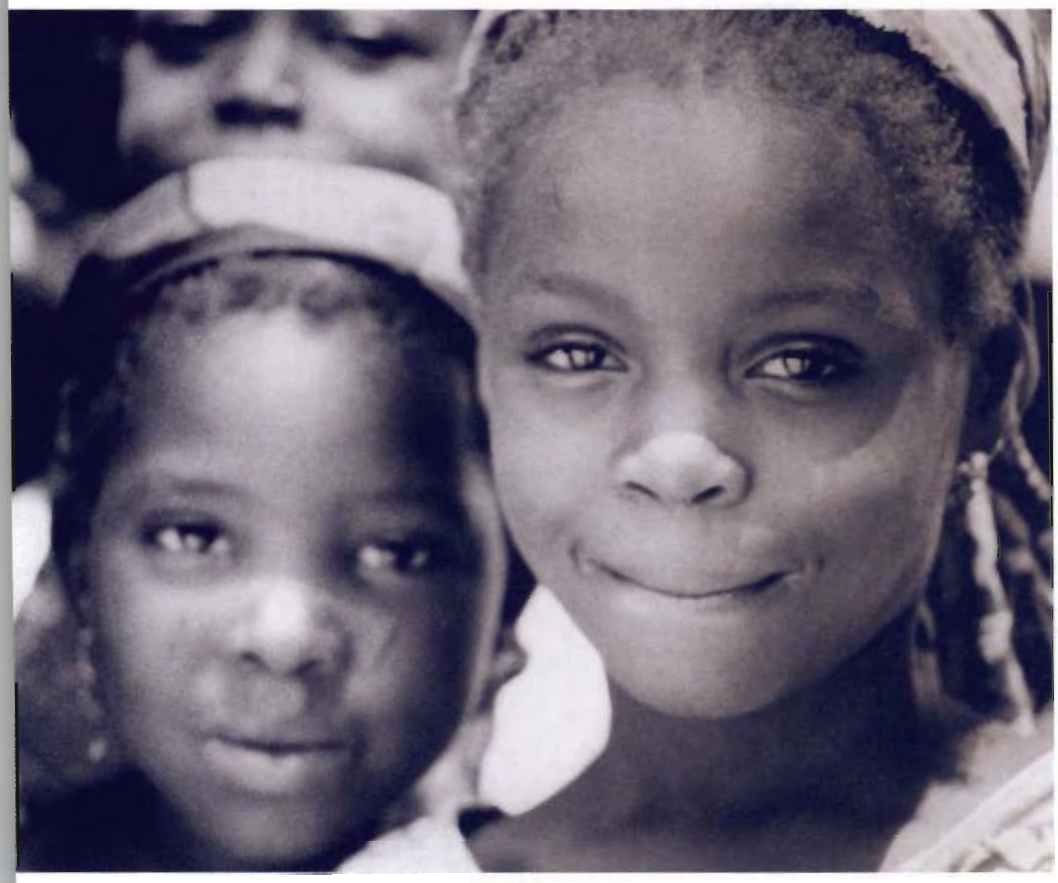
What priority investments should be made in child health for the coming decade?

- Is the child survival package of interventions still appropriate for the problems facing us in the decade ahead, or do we need different technologies?
- If we solve the problems in the health system, would child health improve more than if we continue the current investment in technology?
- Would an investment in broader concerns, such as female literacy and empowerment, community education, or food supply, have broader benefits and be more efficient in the long term than continuing the more narrowly focused child survival interventions?
- Would a bottom-up, multisectoral, community-driven approach—urged by many PVOs—be more sustainable and effective in the long term?
- Even if new approaches are more effective, would donors be motivated to make the ongoing commitments that broader development initiatives require?
- Does the donor support of a technology-oriented child survival approach indicate a short-term view and a need for quick results that will satisfy constituents, or does their support indicate a belief in the appropriateness of the strategy?
- Is the recent and increasing support for emergency relief efforts another indicator of donor reluctance to deal with the complexities of local systems and extended capacity development?

The Changing Health Care Environment

During the past ten years, changes in the political, social, and economic environments strongly influenced decisions about health services.

Because of the inefficiencies in highly centralized and subsidized health systems, decision makers in numerous countries attempted to reform the health system. The reforms focused on decentralizing health service planning and



management, and recovering costs for services and drugs through user fees. Donors, who support the reforms, endorse them for their efficiency. Nevertheless, for even a basic minimum package of services—including most technologies aimed at child survival—attention has shifted away from quality and technical effectiveness in favor of economic and financial advantages.

Shrinking resources for central technical units directing programs, such as immunization, make it harder to mount the training and management efforts needed to ensure effectiveness in, for example, cold chain, vaccine, or drug logistics. The competition for resources between preventive services (immunization or breastfeeding promotion) and curative services, particularly in hospitals, has intensified with the shift in decision making to the local level (where special interests may influence local decision makers). At the same time, cost recovery efforts create barriers for the poor who need services. Equity considerations have been dealt with through fee waivers and exemptions for poor families or target populations (see sidebar in chapter 3), but this strategy is not always successful.

Another change in the health environment is the recognition that chronic adult illnesses, including cardiovascular disease, diabetes, and cancer, are increasing and must be recognized in developing countries as economic conditions improve and as people live longer. As David Gwatkin of the World Bank noted recently, recognition of this epidemiologic transition has tended to ignore the fact that the poor (especially children) continue to suffer from the pretransition problems of infectious illnesses and malnutrition. Today, the burden of morbidity and mortality in children far outweighs the health problems of adults, and yet the shift in focus to adult health suggests a reallocation of resources to meet the health problems of adults, not children.

A shift in resources toward expensive adult services, which dominate health budgets in developed countries, will probably create a greater inequity of services for the poor and a continued failure to reduce the higher infant and child mortality rates of poor families.

In many developing countries, a collapsing economy adds additional stress to the health system. While the process has been gradual in Africa, 1998 brought an acute crisis in many apparently strong countries in Asia—Indonesia, Thailand, and Malaysia. These countries are facing severe shortages of public and private resources that, in some cases, are already causing increased malnutrition in children. Public services have nearly collapsed in the former Soviet Union and they are threatened in China.

Advances in medical services made during the past two decades are dissolving in a matter of months, while the potential for self-sufficient, sustainable services to ensure child health has all but disappeared. While economic recovery has started in some countries, in many countries the development of health services has been set back by at least a decade. Donors do not know how to respond to situations when families are newly unable to pay for child health services and government resources must increasingly be used to provide salaries instead of services.

The net result of these and other changes is greatly increased competition for resources both in the public and private sectors, coupled with additional challenges to those trying to maintain the technical quality and effectiveness of child health services.

As decision making shifts from the central to the local level, the number of officials making technical and resource allocation decisions will increase dramatically. These officials need data to make decisions, new skills to analyze and apply that data to manage child health programs, and objectivity, based on data, to overcome the temptation to redirect efforts and resources away from established child survival services.

The new environment requires different inputs than those currently used in child survival programming—inputs directed toward health system strengthening and capacity development at peripheral levels, rather than specific interventions and projects. Determining what proportion of child health resources to allocate for these divergent objectives is a critical question that the child survival community must face in the next decade. Decision makers may need to expand their horizons and look to other services, individuals, and sectors that can deliver health services, especially when public health systems are facing reduced resources.

Current Problems in Child Health

Despite a dramatic drop in infant and child mortality, a significant percentage of the population of even successful countries continues to suffer and die from problems that are part of the Integrated Management of Childhood Illness (IMCI). Children are not covered by lifesaving preventive services, including immunization, vitamin A supplementation, and adequate child feeding. It is important to stay focused on the established child survival efforts.

There are significant child health problems that need attention and should be part of the agenda for the next decade.

- **Perinatal and neonatal deaths** are closely linked to several factors: health of the mother during the pregnancy; use and effectiveness of antenatal care; detection and management of complications during labor and delivery;

Table 11.1 *Newborn Deaths in Developing Countries (1993)*

Cause of Death	Proportion of All Newborn Deaths (percentage)
Birth asphyxia	21.1
Birth injuries	10.6
Neonatal tetanus	14.1
Sepsis	7.2
Pneumonia	19.0
Diarrhea	1.5
Prematurity	10.3
Congenital anomalies	11.1
Others	5.1
TOTAL	**100.0**

Source: *Mother-Baby Package: Implementing Safe Motherhood in Countries.* WHO 1994.

immediate post-partum management of problems, such as asphyxia or low birth weight in the newborn; and the parents' and practitioners' detection and management of illness in the month following birth (particularly the tendency of parents to delay consultation for problems during this period). Simple, effective technological methods for managing problems are available, but they have received inadequate attention by child survival programs. Skilled services are often not available at the birth location. Finally, complex and intense structures of cultural beliefs influence the family's behavior during the birth of a child. In many countries, neonatal mortality is 60 percent or more of all infant mortality and 25 percent of total mortality. To improve child survival, we must reduce perinatal death (see table 11.1).

- **Malaria** still causes a significant number of child deaths in many developing countries, particularly in Africa. The widespread emergence of resistance to chloroquine, the standard drug of the past, has made treatment less effective and more costly, with accompanying increases 5.5 times the expected number of deaths. Experts are starting to recognize the impact of malaria on pregnancy and the resulting intrauterine growth retardation and increased risk of vertical, HIV transmission and its insidious impact on anemia. The World Bank estimates that malaria causes a 1 percent deficit in gross domestic product for endemic African countries. New technologies and approaches are being developed; the challenge is to incorporate them in a large scale, sustainable way.

- **HIV/AIDS** is present in 15 percent or more mothers in many developing countries. Mothers and fathers who die from AIDS leave large cohorts of orphans who suffer from poor care, malnutrition, and diseases that accompany malnutrition (see figure 11.1). AIDS also causes a significant number of child deaths. HIV has made exclusive breastfeeding—usually an effective way to prevent infection and malnutrition—risky for mothers with this disease and for their children.

- **Tuberculosis (TB)**, now linked to AIDS, is becoming a serious problem for children. Like malaria, TB has developed resistant organisms, making treatment more difficult and expensive. If there are minimal resources, detecting TB in children, particularly in areas

with widespread malnutrition from non-TB causes, is diagnostically difficult.

- **Drug-resistant organisms** are beginning to complicate the management of the most common child infections, including malaria, diarrhea, and acute respiratory illness (ARI). Detecting emerging resistance and identifying patients carrying resistant organisms, are growing challenges for the child survival community. Additional challenges must be met as drug resistance spreads: paying for and supplying the expensive new drugs to treat resistant strains, developing practical clinical protocols that consider the possibility of resistance, and developing and delivering new vaccines to prevent the illnesses.

Ongoing efforts are being made to develop cost-effective and workable ways to deal with these problems, even as we try to improve more traditional child survival approaches. In the decade ahead, it is critical to expand both basic and operations research to ensure the success of these efforts.

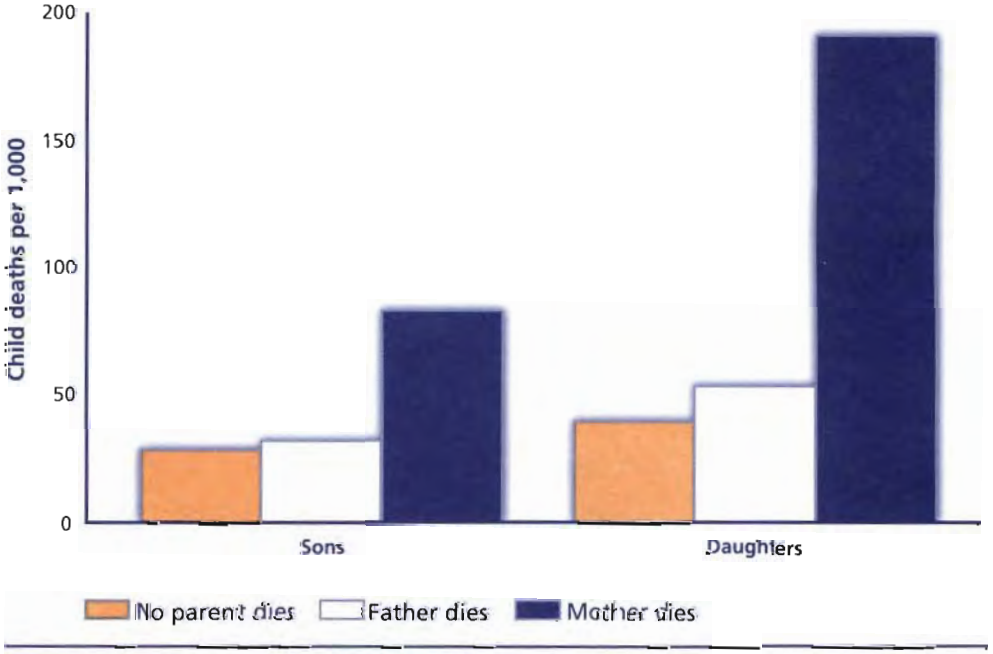
Studies must consider the possibility that interventions directed at gender issues, education and empowerment of women, income and agriculture improvement, democracy building, and other fundamental broad develop-ment concerns may be equally effective or more effective in overcoming perinatal health problems as the biomedical child survival approach. In addition, broad developmental programming promises substantial other non-health benefits that should be considered in cost-benefit analysis and program decision making.

Child Survival Interventions

Hard work remains if we are to enhance the effectiveness of current child survival approaches and improve the technologies and their delivery. As experts and practitioners use the newest technical innovations to save lives, it is clear that a social dimension is part of the global effort. To continue progress, the art and science of child survival must be integrated, especially during a time of change.

USAID's objective to increase the use of effective, improved, and sustainable child health interventions sets targets for higher rates of coverage, an increased use of methods by providers and families, and sustainability of the intervention. To improve sustainability in today's environment of limited resources,

Figure 11.1 ***What Happens to Children When Their Mother Dies***



Source: *Mother-Baby Package: Implementing Safe Motherhood in Countries.* WHO 1994.

cost-effectiveness must be improved. These goals apply to several areas:

Immunization: BASICS' three main goals have been to improve the coverage and quality of routine immunization services, to introduce disease control and surveillance activities consistent with strengthening routine systems, and to work to ensure the continuous availability of essential resources for immunization—material, financial, and human.

Despite the relative success of immunization, the system for routinely delivering and sustaining this cost-effective intervention in developing countries is fragile, subject to inconstant financing and political commitment. No single plan is likely to resolve the intractable problems that still remain after 25 years of program development.

To address the challenges of effective cold chain management, protection of the hardest-to-reach high-risk groups, and a sustained commitment and interest in this basic service, perseverance must be coupled with both innovation and a sufficient level of resources. Global approaches to disease control, currently focused on polio eradication (with measles elimination being considered), need to be tailored to work within local communities—both to be successful and to ensure that success is not gained at the expense of longer-term development and sustainability of immunization and other health services.

The changing landscape of country health systems, donor policies, and vaccine technology presents new challenges and opportunities. Health sector reform, still evolving, emphasizes integration, decentralization, and self-financing. The management of immunization services is being de-institutionalized and re-institutionalized in a new context, with the consequences not fully known. The situation must be carefully monitored and adjustments made to ensure that efficiency does not come at the expense of effectiveness.

New vaccines can reduce childhood mortality from pneumonia and diarrheal disease. Yet, experience during the past decade with the hepatitis B vaccine introduction indicates that it will be a challenge to increase the investments in vaccines by both developing and developed country governments. Approaches, which are coordinated and creative, need to maximize the benefit of immunization as a child survival intervention.

We need policies and strategies for customized, integrated, and innovative

solutions for the variety of disparate constraints facing the immunization program, in various settings. By exploiting potential linkages and forging new alliances, we can make gains. There is a continuing need to concentrate on developing strong and competent routine immunization systems that can sustain past accomplishments and ensure future gains, such as including new vaccines.

Countries and international partners must be flexible enough to formulate a more coordinated and integrated approach to the development and delivery of well-child and sick-child health services at the health facility and community level. Nutrition, immunization, and IMCI programs and approaches can mutually support each other and act more effectively together. We also need to develop and test mechanisms for cost-effective linkages.

IMCI: Following an era when single disease or vertical intervention programs may have been overemphasized, integrating interventions around the encounter of a sick child with a provider has been a powerful impetus for improvement efforts. In a number of countries, BASICS played a critical role in testing IMCI practices and evaluating the related training course developed by WHO, particularly in Zambia (see chapter 4). A range of IMCI-related tools were developed to facilitate implementation, identify problems, and launch alternative approaches, for example, the complementary IMCI course for less-literate health workers.

IMCI's value is widely accepted. Countries clamor to launch the program; completed activities appear to be successful. However, the program has just started. Even in countries with the most active effort, such as Zambia, training has covered only a small percentage of all the providers who are treating sick children at the primary level. How to reach all of them with the 11-day WHO course continues to challenge MOHs.

BASICS, WHO, and UNICEF recognize that a great deal of work must be done if the IMCI initiative is to succeed in additional countries. In the next few years, they will work to improve clinical quality through IMCI training and improve health systems that support trainees and their activities, particularly course components (supervision and drug logistics, and health promotion and behavior change activities at the community level).

Collaboration and partnership between organizations and participants at the international, national, and local level are critical to meeting the challenge. NGOs should be completely involved in the implementation of IMCI at the community level. Private practitioners, who provide most of the care to sick children, need to actively participate to reach the

appropriate quality of care coverage for populations. A broad consensus would bring strength to the IMCI initiative.

However, coordination and partnership are not easy to achieve. A collaboration may be the "slowest common denominator." At a strategic level, not all organizations attach the same importance to IMCI, which may compete with other priorities. At the operational level, some participants may think that one or more components of the initiative are overemphasized while their priorities are neglected.

Fortunately, there is agreement that IMCI includes the major biomedical causes of mortality in children, that it is an appropriate combination of preventive and curative care, and that its approach is not too top-down. IMCI is also appealing to MOHs searching for high-quality, relevant technical content to deliver through their newly reformed health systems.

A careful study of IMCI's impact after it is implemented under true field conditions would help identify realistic expectations for the approach. Experience suggests that barriers to effective IMCI implementation exist at every phase (i.e., training, managing routine drug supply, supervision, local training of additional health workers needed for support, and modification of clinic routines to accommodate the more time-consuming IMCI procedures). An effectiveness evaluation could set relative priorities within programs, suggest where important problems are likely to be, and include comprehensive cost estimates for full-scale implementation.

More important, evaluation would provide data on anticipated improvements in health and mortality from IMCI. A future challenge will be to determine the proportion of funds that should be spent on IMCI and other curative programs. The estimated funds could be compared to funding for children after they are sick; or for preventive efforts, such as immunization, that were taken to national scale, produced high levels of coverage, and proved their effectiveness in reducing morbidity and mortality in actual field delivery systems.

Nutrition: One of BASICS' major achievements is the addition of a

full-fledged nutrition component to traditional child health programs (see chapter 8). The disciplinary separation between the health and nutrition communities has always been difficult to overcome, but the incorporation of nutrition interventions into health programs like IMCI has given nutrition experts unusual access to policymakers in MOHs. At the same time, development of the minimum package of nutrition interventions by BASICS crystallized practical and effective actions that can be understood by both policy makers and clinically oriented health officers.

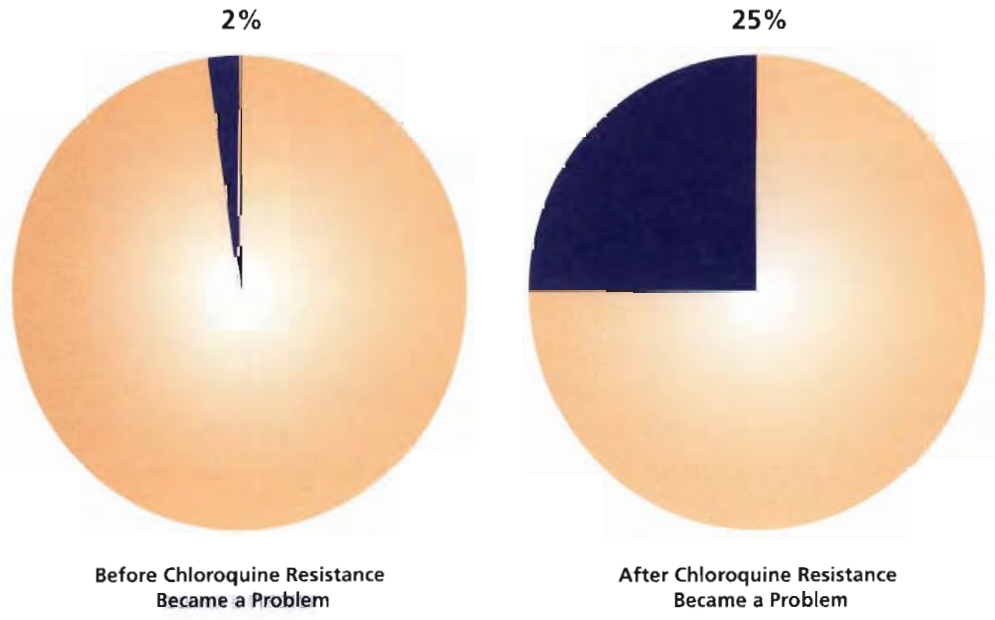
A number of countries have launched large-scale micronutrient supplementation programs, often in conjunction with mass vaccination campaigns. The longer-term success of nutritional efforts, however, depends on reaching mothers who are making decisions about breastfeeding or what to feed their children. Communication, involvement with communities, and behavior change for caretakers and families are the key activities, and, currently, the activities are not an important part of most health systems. IMCI includes nutrition, but the counseling component of the IMCI clinical protocol, the heart of its nutritional content, is the last topic on the 11-day training agenda and the least effectively performed in post-training assessments in Zambia and Indonesia. Busy practitioners, pressed for time, do not give counseling the attention it requires and deserves.

An enormous gap exists between recognizing the importance of malnutrition and fully integrating nutrition into the thinking and programming of health officials and providers. In the coming decades, major donors and international agencies must make a commitment to narrow this gap in nutrition interventions.

Malaria: The tools and strategies for controlling malaria and the epidemiological pattern of the disease have changed profoundly in the 1990s. Malaria control programs had to adjust to the widespread resistance to chloroquine (the primary malarial treatment), improved recognition of malaria's impact on pregnancy and the course of HIV infection, urbanization, decentralization of health systems, and increased importance of the private sector (see figure 11.2). The primary approach to malaria is still to treat malaria cases.

New tools for treatment are available: replacement drugs for chloroquine, administering drugs in new and less technically

Figure 11.2 ***Child Deaths Due to Malaria***



Source: Kevin Marsh, *Lancet,* Vol. 352, September 19, 1998.

demanding ways (e.g., artesunate suppositories), and recognizing that treatment outside health facilities is both feasible and beneficial. Systems are still needed to monitor malaria drug resistance, as are collaborative mechanisms that rapidly incorporate the information into national drug policies, treatment guidelines, and delivery systems. This would ensure that effective drugs are available where they are needed, including drugs for the treatment of severe and complicated malaria cases in areas where referral is not possible.

There is no public health intervention without behavior change, and it is wise to invest in carrying out the necessary behavioral research.

De Zoysa et al. 1998. 76:127–133.

Controlled efficacy field trials have demonstrated that insecticide-treated mosquito nets (bednets) can reduce all-cause mortality in children by 20 percent. The challenge is to make this simple, inexpensive technology widely available in a sustainable and efficient manner. BASICS has facilitated public/private partnerships between insecticide and mosquito net manufacturers and key international agencies (WHO, World Bank, UNICEF, the U.K. Malaria Consortium, and a group of private voluntary organizations through CORE). The partnerships have the potential to make this technology widely available through self-sustaining programs, which, in turn, could decrease donor dependency and increase the possibility of moving bednet technology from small-scale studies of effectiveness to national and regional coverage in areas of high malaria risk. Ongoing support will also be needed for this work and for the reorientation of national program strategies to educate the caretakers about the treatment of their sick children outside health facilities. There should also be better response to changing patterns of drug resistance so currently available technologies can be used to their full potential.

Behavior change and community involvement: During the past two decades, the adoption of new health behaviors has been critical to the success of child survival efforts. Yet, the lessons learned about how to produce behavior change and the resources required continue to receive inadequate attention, in part because managers of these activities are often medical persons, unfamiliar with the science and effective practice of behavior change.

Training courses are often designed using techniques that ignore fundamental principles of adult learning, treating experienced health workers like novices and ignoring the follow-up needed to ensure implementation. In addition, the counseling of mothers by health workers consists of commands instead of discussions. Too often, the first component of treatment protocols, like IMCI, is omitted when time is limited. Despite widespread recognition that the beliefs and behaviors of mothers must be understood prior to designing behavior-related messages in communications programs, frequently the messages are formulated by men sitting around conference tables in national health ministries and launched without critical testing of their acceptability or effectiveness.

BASICS made communication and behavior change a standard component of child survival programs. The project promoted a comprehensive approach to behavior change, which includes individuals, health workers, and communities, using appropriate methods to identify principal determinants of behaviors related to child health and nutrition, selecting appropriate methods and channels for communicating the behaviors to caretakers, and modifying the inputs, based on continuous monitoring of the results. New tools and training strategies to build local capacities were developed, in particular, a planning guide focused on key behaviors proven to have a strong impact on child and maternal health.

While many countries have used this guide to prioritize and plan local programs, substantial gaps remain between the knowledge and practice of desirable behaviors. In addition, few programs have mounted effective, large-scale behavior change efforts. Work is needed to reorient child survival programs away from the health system and health workers and toward the family and community.

More resources and a longer timeframe are needed for communities to mobilize and engage in these efforts. Behavior change strategies involve multiple channels. Schools, community organizations, and the mass media, as well as health workers, are needed to plan and sustain long-term changes. The focus of health worker training will also need to include two-way communication and adequate follow-up.

Child spacing and maternal health: In the late 1970s, UNICEF recognized the positive and well-demonstrated impact on the health and mortality of infants already born when the infant's mother delays her next pregnancy. Consequently, the use of contraceptives and family planning were included in its list of priority child survival technologies. In practice, however, there has been little or no direct link made between child health activities and family planning efforts.

One exception to this rule is the aggressive promotion of exclusive breastfeeding, in part because it delays menstruation and, therefore, delays pregnancy. Both MOHs and health facilities separate family planning and child health programs. When the focus is on

parents with completed families, the efforts fail to recognize the benefits for the infant when there is adequate spacing prior to the next birth. Integrating child health and family planning activities, both in their implementation and in the minds of parents, are important objectives for the future.

Mother-oriented actions like antenatal care and maternal nutrition also have a powerful effect on the health and development of the fetus and newborn. Only about 50 percent of mothers receive antenatal care and the care is usually substandard. Unfortunately, these actions are often structurally and functionally separated in health services.

Opportunities are often missed during sick-child or well-child encounters to carry out maternal health-related activities or immunization of mothers to prevent maternal tetanus and neonatal tetanus in a subsequent birth.

Integration of these services is critical but alone they are not sufficient. Those involved with child health must also improve the number and quality of antenatal care visits. Ignoring the health of a fetus is irrational, yet this is often the approach to child health.

Concerns about antenatal care must be addressed through joint strategic planning by the ministry units and the development of integrated service delivery activities. This may require operations research testing of case management and patient flow protocols to ensure that the encounters occur even during busy clinic sessions. Antenatal activities could also be combined with preventive encounters with well children, such as immunization or weighing and growth promotion. Child health teams could be responsible for the nutrition of the mother: iron deficiency and other influences on low birth weight, deworming, malaria treatment, and socially transmitted diseases (STD). Postnatal care, a critical time for both the mother and baby, is not routinely given, even though most of the maternal and neonatal deaths occur during the first week after delivery.

To improve child health statistics, maternal health must receive attention before and after delivery. These concerns have been beyond the scope of work for most child health workers but, to ensure that newborns are as healthy as possible, they must become priorities.

HIV/AIDS and other emerging infections: In some countries, in high transmission areas, HIV rates for pregnant women are 25 percent or above. Children born with HIV die at an alarming rate. It is unlikely that either palliative treatment or pharmaceutical methods of preventing HIV transmission from mother to child will be affordable in developing countries. If breastfeeding (a conduit for HIV transmission) is discontinued, the risk of death from diarrhea or other infections will increase.

The prevention of HIV infection in women may be the most cost-effective approach to improve child health, and it may be the correct strategy

for child health-related activities. Yet, the effectiveness of current approaches to HIV prevention have been disappointing. AIDS has the potential to set child survival back to worse conditions than during its inception in the 1970s. Hard work is needed to develop new approaches.

Critical Infrastructure—Policy, Planning, and Management

Efforts to develop or improve the technologies of child survival often draw attention away from the system components and capacity, which are critical to delivering them. Correcting this deficiency is essential to the USAID Results Package, which emphasizes increasing access, improving quality, and sustaining impact through improved efficiency.

The objectives demand attention at various areas of activity. Information exists from other fields about how to improve quality of services, but the full range of methods are only now being applied to child health. Processes are still comparing standard and current practices. Many organizations have not incorporated the team approach, which has been so successful in sustaining quality improvement efforts.

Obtaining data by monitoring population-based outcomes and delivery processes are basic to effective management, as is responding to that data to correct documented shortfalls and implementation problems. Immunization was the first intervention to use information effectively, but curative child survival components also need to follow their example. Policy issues and choices are particularly critical in an environment of severely limited resources. Indonesia, in its current state of economic collapse, is a telling example. Effective monitoring revealed an insidious rise in the malnutrition of mothers and children, a problem that must be reversed by policies that balance health services and access to food.

A balance between technologies and broad policy, planning, and management processes will need to maximize child health benefits and balance development inputs through a range of service delivery and infrastructure options. There will be a special premium on engaging a different set of experts and pursuing a broader agenda of intermediate objectives. For example, information systems and policy and operations research activities are needed to give decision makers objective data that can be used to make choices between specific child health activities and broader relief or development efforts (for example, female education, food security, or income generation).

Choices should be made based on their potential impact for both child health and other social objectives. Corrective activities, focused on management, will be adopted to respond to failures in either processes and coverage, or

outcomes and impact. As health systems decentralize, the capacity and desire to plan and manage in response to child health data must be conveyed to a much larger cadre of decision makers, operating at provincial, regional, or district level. To help them make appropriate decisions, and to meet child survival objectives, resources intended for child health may be diverted to managerial and policy capacity development. Financial, informational, logistical, and human resource systems will require closer attention.

A narrow focus on interventions is counterproductive if child health is to be improved. Child health projects must extend their purview and expertise to include system strengthening activities and the inclusion of management experts to address these new realities. When the success of donor inputs is measured, indicators of system functioning in policy, planning, operations research, and management must be considered Paying substantial attention to the critical infrastructure of policy and planning (and the managers who select health and broader development activities and effectively deliver them) is an inescapable priority for the future. This approach requires different skills and manpower leadership, and management skills and manpower, than those currently prevalent in the child health development effort.

To make this shift, numerous components must change.

Providing the information needed: To ensure objective and appropriate decisions and actions, priority should be given to structures and activities that provide useful information and strengthen infrastructure. A variety of cost-effective, information-related activities are needed, including the following:

- Routine information and reporting systems that limit data to critical and usable indicators. Speed of reporting and effective analysis of data should also be increased so it can be applied, for example, using local monitoring data to manage immunization activities. Critical indicators must be developed for specific interventions, such as monthly coverage rates that trigger an immediate response if the rates are low.

- Ad hoc management research, where the recognition of problems trigger targeted, but limited, data gathering, and help diagnose problems or identify possible solutions. Later, more demanding operations research can

examine, at a higher level of statistical validity, the choices between delivery approaches and why they succeed or fail.

- Policy research, requiring concerned policymakers to be involved earlier than with usual operations research, and that tailors its data to the specific policy options available to the decision maker. The PROFILES intervention (see chapter 3) describes how nutrition data can be assembled and combined with economic development data so providers can easily understand the connections between child health and economics.

- Evaluation research that can validate conclusions from routinely reported data and provide both the stimulus and basis for a reconsideration of strategic and operational choices.

- Cost research that provides information about the cost of activities and can facilitate decisions being made on the basis of both cost and effectiveness. The economists' involvement in child health will increase in importance in the coming decade, in particular, the design of data collection and analysis for research and assistance, using the data to ensure that decisions made about child health are realistic.

To facilitate the research, tools need to be developed and disseminated. BASICS has already standardized methods to ensure the quality of the methods and resulting data, and to allow comparison between different delivery areas and countries. The Health Facility Assessment tool for IMCI evaluation (see chapter 6) is a good example of these efforts.

Donors will need to actively collaborate in monitoring and evaluating ongoing programs. Collaboration will demand consensus on a set of core indicators related to major intervention activities, as well as sharing the responsibility and funding for data collection on a country-by-country basis. The current situation, with each donor sponsoring its own indicators and data collection, duplicates field activities and does not allow for comparison across projects or countries. DHS surveys, although conducted infrequently, are a good example of mutual collaboration.

Using information for action: Strengthening the capacity of policy makers, planners, and managers to use the available information is equally important. Activities to ensure that data are used effectively include asking decision makers to determine the data to be collected; developing ways to analyze and present data so the decision maker is led, almost inescapably, to management action; and providing training on how to integrate data-based decision making into daily and weekly schedules.

These activities should include not just health specialists, but also financial personnel, to ensure the consideration of critical issues related to cost recovery and equity. Methods to integrate choices across sectors should also be developed and related to benefits broader than child health, for example, improved female education. This will place child health objectives on a higher level

and ensure that they are considered by societal leaders. With decentralization, the number of decision makers that require informational support increased dramatically.

Critical policy and planning issues:
Other general development issues affect decision making in child health, and they should be considered for the future. As donors and governments try to strengthen critical infrastructures, there will be important challenges for policy, planning, and management efforts, including the following:

- Adapting child health interventions to a complex, rapidly expanding, urban environment with special problems and sources of care.
- Integrating child health with development efforts in a range of sectors.
- Striking an appropriate and cost-effective balance between efforts aimed at health services and providers, and efforts geared toward communities and families. (The recent attention paid to community aspects of IMCI is a visible manifestation of this issue.)
- Taking on the challenges of pre-service education (basic medical and nursing education) to improve the knowledge and skills of providers upon graduation, rather than waiting until they are on the job.
- Scaling-up interventions with a limited scope of activities or population covered to meet the challenges of integration with other health services. This would also extend program reach to larger populations and less personally manageable delivery systems.
- Achieving sustainability within the limited finances and capacity of local areas, even if this requires a reduced level of sophistication for the services to be provided. A key part of this process is the development of methods to involve communities in decision making, which would, in turn, ensure greater support for health programs.
- Developing partnerships, in particular deciding who can most appropriately carry out child health-related activities. Partnerships can be formed between donors who plan jointly but divide responsibilities, between government divisions,

or between government and the private sector (NGOs, private practitioners, and the commercial sector). It is inevitable that all types of partnerships must be pursued as ministries face both their resource limitations and their realization that, to improve child health, information from other sectors is critical.

Making Choices

Improving child health depends on strengthening and extending child survival interventions based on technology, while simultaneously considering the changing environment where these efforts must occur. Evolving and, in some cases, new, child health problems must be considered, with critical infrastructure and health system issues, including the private sector. Is continuing the focus on a few effective child health interventions still appropriate, or should we try to change the child survival strategy of the past 20 years?

Specific actions will ultimately affect the prevention, recognition, referral, and treatment of child illness (see the Pathway to Survival). However, additional effort should be made to strengthen the infrastructure and to link the interventions with other health-related areas and development activities. To accomplish this goal, a wider range of partners must join child survival efforts, and more attention must be paid to supporting structures, partners, and activities than in the past. Multilateral agencies—WHO, UNICEF, and USAID—continue to be important because they generously contribute policy, equipment, and technical assistance.

The Pathway to Survival framework for action has moved child survival forward. The Pathway helped identify gaps in capability, which led to improvements in the available strategies and tools. BASICS experience with the tools has identified the need for interventions aimed more broadly at the systems and the environment where child health exists, which is critical for progress in the future.

The strategies and challenges ahead, while different from those of the past, are now clear. With more than 30,000 children under the age of 5 dying every day, there is much work to be done.