Overcoming Remaining Barriers: The Pathway to Survival

Executive Summary

The foundation of child survival programming in the 1980s was immunization against the six vaccine-preventable diseases and oral rehydration therapy to control diarrheal disease. New technical interventions and program strategies were developed for the treatment of additional diseases as EPI and CDD programs were implemented. Even with effective technical solutions available, broad implementation of control programs has exceeded the capabilities of developing countries due, in part, to the inadequate training of first-line health care workers in standard case management.

Studies suggest that the continued development of individual vertical approaches for the case management of diseases would increase inefficiencies for already over-extended health systems and personnel. Resources could be better utilized by the integration of program support elements. The WHO and UNICEF have developed an algorithm for case management of sick children at first-level health facilities. The integrated management of childhood illness was identified in The World Bank's *World Development Report 1993* as one of the most cost-effective public health actions for developing countries.

Case management programs have frequently been inattentive to the development and implementation of effective support systems. Inadequacies and inefficiencies in management, supervision, training, and logistic support often limit the success of child survival programs. A more holistic, integrated approach to the management of childhood illness would represent a substantial improvement in the way that health care workers should manage patients.

BASICS, CDC, and USAID have developed a conceptual framework, the Pathway to Survival, to assist in the development and monitoring of integrated case management programs. The framework is based on two boundaries to integrated management: wellness/illness and care inside the home and care outside the home. The Pathway is divided into three areas: Case Management in the Home, Interface Between the Home and Outside Services, and Case Management Outside the Home. The framework indicates that "quality care" should be held to an accepted standard, with emphasis on quality care in the community and in the health facility.

This framework acknowledges that most care of childhood illness occurs outside of health facilities and that caretaker recognition of illness and provision of care are critical components. The Pathway facilitates the formulation of more effective national disease control policies and child survival programs. This concept forces thinking in terms of behavioral and health systems research and interventions. It is possible that further progress in child survival will be made only by adopting the approach suggested by the Pathway.

The Consultation on Child Survival

On March 7, 1996, nearly 40 representatives of USAID, BASICS (Basic Support for Institutionalizing Child Survival), and other USAID contractors, researchers, and international donor and advocacy groups, including UNICEF, The Rockefeller Fund, WHO, The World Bank, and UNDP, met to discuss achievements in child survival, review common objectives in improving child health, and explore constraints to achieving those objectives. The meeting was sponsored by USAID in cooperation with the BASICS project, and was chaired by Dr. William H. Foege, Task Force for Child Survival, Carter Center of Emory University. BASICS coordinated the Policy Advisory Group meeting as part of its role of technical leadership, technical assistance, and support to USAID missions.

In addition to members of the Policy Advisory Group, other panelists at the meeting included:

- Dr. Pierre-Marie Metangmo, Johns Hopkins Institute for International Programs
- Dr. Jacques Baudouy, Chief, Population and Human Resources Division, Middle East and North African Region, The World Bank
- Dr. Mary Eming Young, Early Childhood Development, The World Bank
- Ambassador Sally Shelton, Assistant Administrator, Bureau for Global Programs, Field Support and Research Services, USAID

Six background papers were written for the session and are presented in this series, Current Issues in Child Survival.

Papers in the Current Issues in Child Survival Series:

Review of Child Survival Funding, 1980-95, by Dr. Deborah McFarland, Emory University

Accomplishments in Child Survival Research and Programs, by Dr. Bradley Sack, Dr. Ricardo Rodrigues, and Dr. Robert Black, The Johns Hopkins University

A Recent Evolution of Child Mortality in the Developing World, by Dr. Kenneth Hill and Rohini Pande, The Johns Hopkins University

Overcoming Remaining Barriers:The Pathway to Child Survival, by Dr. Ronald Waldman, BASICS, Dr. Alfred V. Bartlett, USAID, Dr. Carlos C. Campbell, University of Arizona Health Sciences Center, and Dr. Richard W. Steketee, CDC

Trends in Health Sector Environment for Child Survival, 1980-1995, by Dr. Stanley O. Foster and Dr. Deborah McFarland, Emory University

Policy Advisory Group members:

Dr. William Foege, Executive Director, Task Force for Child Survival, Carter Center of Emory University

Dr. Tomris Türmen, Executive Director, Family and Reproductive Health, World Health Organization

Dr. Alan Andreasen, Associate Dean for Faculty, Georgetown University School of Business

Dr. Raj Arole, Comprehensive Rural Health Project, India

Richard Feachem, The World Bank

Dr. Jon Rohde, UNICEF/India

Dr. Olive Shisana, Ministry of Health, South Africa

Cataloging-in-Publication Data:

Waldman, Ronald
Overcoming remaining barriers : the pathway to survival / by Ronald Waldman ...[et al.] — Arlington, VA. : BASICS, 1996.
12 p. ; 28 cm. — (Current issues in child survival series)

"Prepared for the Senior Consultation on Child Survival held March 7, 1996, sponsored by USAID in cooperation with the BASICS Project."

1. Child health care services—Developing countries. 2. Children—Diseases—Developing countries. I. Bartlett, Alfred V. II. Campbell, Carlos C. III. Steketee, Richard W. IV. BASICS Project. V. Senior Consultation on Child Survival (1996: Washington, DC) VI. Title. VII. Series

RJ103.D44W16 1996

Overcoming Remaining Barriers: The Pathway to Survival

By Ronald Waldman, M.D., M.P.H., The Basics Project, Alfred V. Bartlett, M.D., USAID, Carlos C. Campbell, M.D., M.P.H., University of Arizona Health Sciences Center, and Richard W. Steketee, M.D., M.P.H., Centers for Disease Control and Prevention

Recent Programmatic Developments in the Management of Childhood Illness

In the 1980s, strategies to improve child survival in developing countries focused on several disease conditions that contribute to a high proportion of infant and child deaths and for which there existed effective prevention and/or therapeutic strategies. Immunization against the six vaccine-preventable diseases targeted by the Expanded Programme on Immunization (EPI) of the World Health Organization (WHO) and the control of diarrheal disease (CDD), primarily through the use of oral rehydration therapy, were the cornerstones of child survival programming.

As EPI and CDD programs were implemented, it became clear that more diseases required attention if infant and childhood mortality rates were to be maximally reduced. There were acute respiratory infections, malaria, and malnutrition. For each of these, technical interventions and program strategies were developed.

Nevertheless, even with reasonably safe and effective technical solutions available to prevent or treat all of these conditions, broad implementation of control programs aimed at reducing the toll of these diseases has generally exceeded the capability of developing countries. Today, for example, only a relatively small proportion of first-line health care workers have been adequately trained in standard case management techniques.

There is concern that even if technically sound and programmatically feasible, single disease algorithms were fully developed and implemented, they might not result in optimal management of the sick child. Recent studies have suggested that a disease-specific case management orientation may not be appropriate when clinical syndromes overlap, diagnostic resources are limited, and most children present to health care services a clinical tableau consistent with more than one acute and/or chronic condition.

In addition, the continued development of individual vertical approaches for the case management of a growing number of diseases (diarrhea, pneumonia, dysentery, malaria, measles, malnutrition, and HIV-associated illnesses) would create increasing inefficiencies in management, training, and resource utilization for already over-extended health systems and personnel. Conversely, coordination or integration of program support elements such as these could produce efficiency in resource utilization. Integration of the monitoring and evaluation of child health services is not only logical, but is becoming increasingly essential. Finally, a more holistic, integrated approach to the management of childhood illness would represent a substantial improvement in the way health care workers should manage patients.

Growing perception of the need for integration of programs and services for children in the developing world has motivated WHO and

UNICEF to develop an algorithm for case management of sick children at first-level health facilities.

The algorithm and associated training materials are designed to facilitate the recognition and treatment of children with fever, acute diarrhea, dysentery, persistent diarrhea, acute respiratory infections (ARI), malaria, measles, and nutritional deficiencies, conditions that are responsible for more than 70 percent of disease-specific mortality in children less than five years old. In the context of health facility encounters for the treatment of sick children, this algorithm also instructs health workers to update the child's immunizations and provide counseling to the child's caretaker on nutrition practices and other areas pertinent to the current illness.

The World Bank's *World Development Report 1993* identified the integrated management of childhood illness as one of the most cost-effective public health actions for developing countries, since a large share of total global disability-adjusted life years (DALYs) could be addressed through a single programmatic intervention.

The Pathway to Survival

In addition to the importance of integrating disease management, two areas must be addressed to bring about continued and sustained improvement in child survival. The first is the strengthening of support systems. Case management programs have frequently been inattentive to the development and implementation of effective support systems. As a result, inadequacies and inefficiencies in management, supervision, training, and logistic support often limit the success of child survival programs.

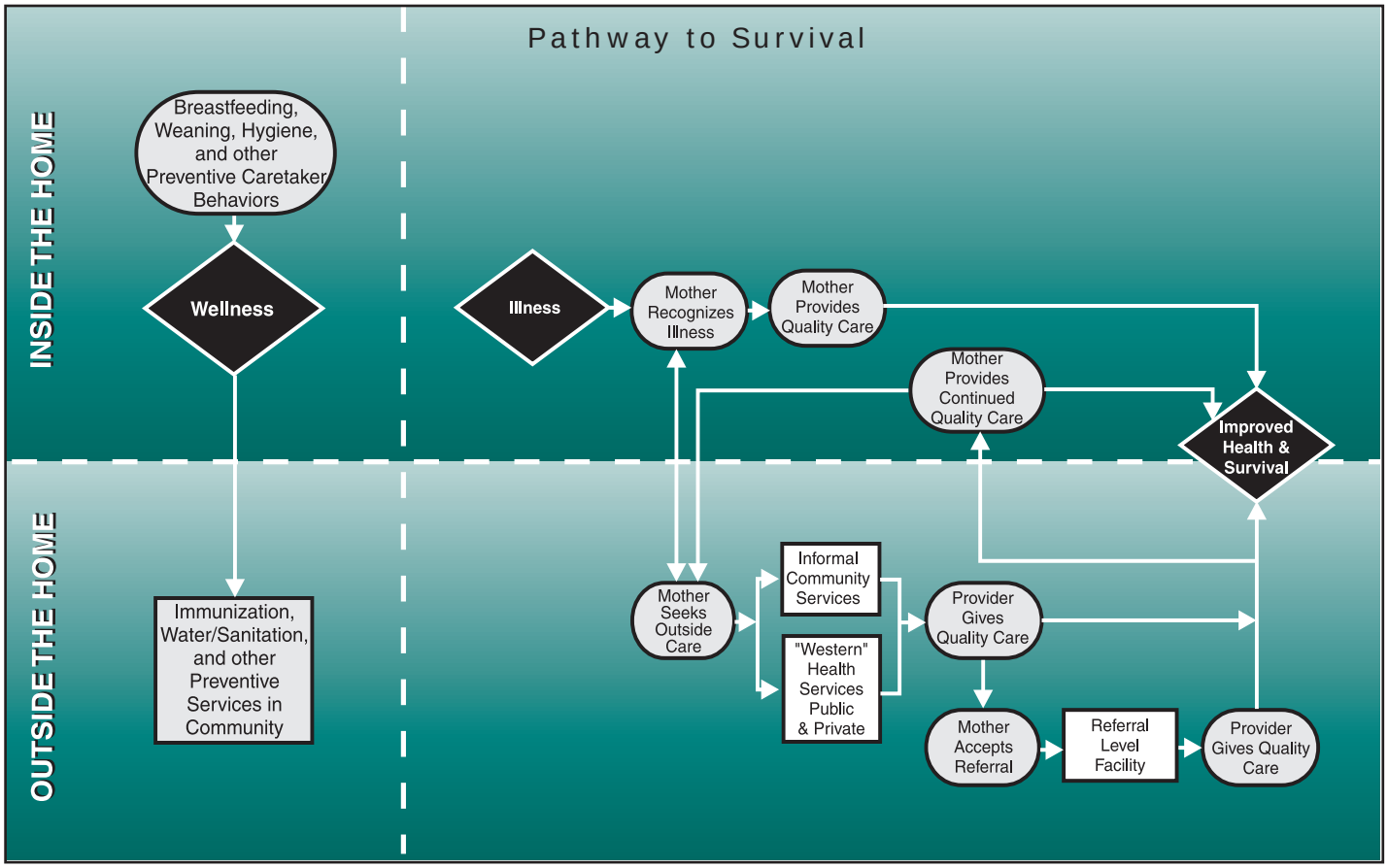
Perhaps more important, the second additional priority stems from a growing understanding that changing behaviors of both caretakers and providers is critically important for effective child survival programs. In most cultures, individuals' actions related to prevention or treatment of child illness are influenced by their perception and understanding, by community norms and other social and peer-related factors, and by circumstances and resources. Behavioral research can identify the determinants of behaviors critical to child health and survival. Such a behavioral orientation can help program planners identify the interventions required to facilitate caretakers and health workers adopting desired behaviors.

A conceptual framework that describes the essential elements of childhood illness management could serve to clarify and direct attention to the additional, non-technological improvements required for the effective delivery of child health services. Such a framework could guide the development of assessment tools, interventions, and evaluation strategies. It could serve as a matrix for collaborative program development, and it could also help to clearly define the critical areas of management of child illness that should be targeted.

Collaborating institutions (BASICS, the Centers for Disease Control and Prevention [CDC], and USAID) have prepared such a framework, the Pathway to Survival (see diagram below), to

assist in the development of integrated management programs and to facilitate dialogue with partners in development internationally. This framework is based on the identification of two critical boundaries related to integrated management of childhood illness:

- Wellness/Illness: Although prevention of childhood illness is an essential component of child survival programs, most children in the developing world will experience illness on multiple occasions. The framework deals only with the management of child illness, in which a caretaker's recognition of the need for care is the first essential step. A corollary prevention framework can be and is being developed.
- Care inside the home/Care outside the home: Care provided in the home can prevent more severe morbidity and complications, improve the health and nutritional outcome of the illness, and, in some cases, directly prevent mortality. For most children, the quality of the care they receive at home, at the onset of illness and in follow-up to contact with a health professional, is likely to be the



most important contributor to their health and survival.

- When the caretaker perceives the need for support or for care beyond his or her capability, the availability of care outside the home and the decision to seek that care are critical. Health services outside the home should provide the required skills and resources. They should provide support and appropriate advice for the caretaker in regard to continuing care of the child. They should also provide referral capability, if required. In the case of a severely ill child, the availability and quality of care outside the home are likely to substantially determine the health and survival outcome of the child.

The Pathway defines the key action steps between the onset of illness and the restoration of the health of a child, embodies the principles described above, and highlights the events occurring inside the home (above the dotted line in the accompanying diagram) and in the supporting child health services in the community and health facility (below the dotted line).

The Pathway promotes examination of the requirements for quality case management by identifying specific actions. It identifies the key determinants of those actions and the interventions that influence them. Examples of this process for the first four steps on the Pathway are found in the table on page 10. These determinants and their corresponding interventions are behavioral and programmatic. For example, determinants of quality care in the home or in the facility include, among others, the level of knowledge, motivation, and skill of the caretaker, as well as the availability of essential drugs and commodities.

The Pathway is divided into three distinct areas:

1. Case Management in the Home

When illness occurs, several of the critical steps necessary for restoring child health must be taken in the home. These include recognizing the need for treatment, providing appropriate treatment in the home, seeking additional appropriate care when necessary, providing continued care after receiving outside assistance, and recognizing the need for further care-seeking if the child's condition worsens. These steps may differ in complexity and required action for different disease syndromes. For example, the recognition of diarrhea is relatively simple and the appropriate case management (increased fluids and continued feeding) frequently may be provided in the home. In contrast, recognition of acute lower respiratory infection may be more difficult. The appropriate management (antibiotics) may require initially seeking care outside of the home but, subsequent to the visit, ongoing care should be provided in the home.

When illness occurs, the critical determinant of a desirable outcome is whether the caretaker recognizes the illness as one requiring care in time for that care to be effective. The principal public health actions available to strengthen the case management of illness in the home include adapting case management content to the

circumstances and capabilities of the household, providing effective information to the caretaker, and ensuring access to necessary drugs, commodities, and when necessary, to trained providers.

2. Interface Between the Home and Outside Services

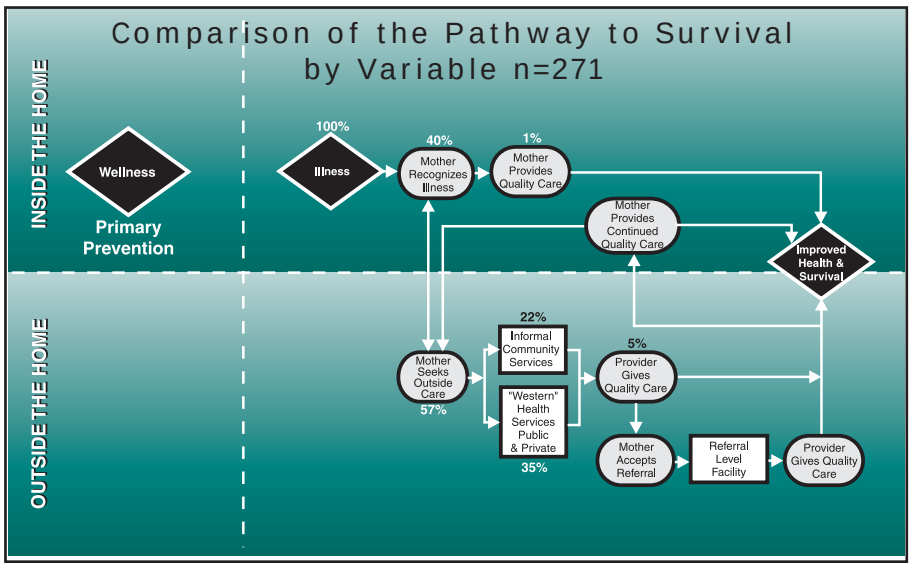
Two critical steps relate home care to outside-the-home care (the horizontal dotted line in the diagram is crossed in two different places). These steps are seeking outside care and providing continued care after the outside-the-home consultation.

The behaviors required will vary according to the disease. For all diseases, however, the public health actions available to influence these behaviors include defining indications for seeking outside care, providing effective information through improved communications strategies, ensuring the availability of drugs and supplies for continued treatment, and improving the relationship between health services and communities/families.

3. Case Management Outside the Home

Increasing access to high-quality disease management outside the home must be a basic objective of child survival programs. For severely ill children, such care can be the critical determinant of survival. Outside-the-home health services are many and varied, and the framework recognizes this diversity by indicating broad divisions of community and health facility services. In the community, there may be a formal sector (physicians, nurses, pharmacists, community health workers, and drug sellers) providing Western-oriented services and, in the informal sector (traditional healers, local sages, fakirs, and so on), providing traditional or hybridized treatments and advice. Similarly, diversity may exist in health facilities, with government (public) and non-government (private) facilities and health workers existing in close proximity. Research on health care-seeking behavior has shown that mothers often use multiple services in the course of a single illness episode. While acknowledging this diversity, the framework indicates that "quality care" should be held to an accepted standard, such as that promoted by the WHO/UNICEF "sick child" algorithm.

Quality care in the community: If the child is attended in the community, the provider must provide quality services with the participation of the caretaker. The combination of care by the community health worker and ongoing care by the caretaker will often lead to improved health. In instances where improvement does not occur, referral from community providers to facilities may be required. The definition of quality care will vary by the type of provider, with each type of provider aware and respectful of the limits of his or her case management capabilities. The relevant public health actions include training, supervision, incentives, community participation, commodity support, information education, and communication (IEC), and monitoring and evaluation.



Quality care in the health facility: For the child seen at a facility, the health worker must provide quality care, including effectively advising the caretaker. The combination of facility treatment and subsequent home care lead to improved health and survival of the child. The health worker may recommend follow-up for the child, and must effectively communicate indications for seeking additional care if the child's condition worsens. In the case of severe illness, the health worker may refer the child to a higher-level health care facility. In this case, the caretaker must have access to that facility and must act on the referral. Referral facility staff must be trained, motivated, and able to provide quality care.

This framework for integrated management of childhood illness acknowledges that most of the care of childhood illness occurs outside of health facilities, and that caretaker recognition of illness and provision of care are critical components of the pathway to survival. In addition, the framework recognizes that the pathway involving health facility services may be used more heavily by children with severe illness and that for these children quality care, follow-up, and referral by health workers are also critical. Consequently, the Pathway must be examined in its entirety, with the intention of addressing the most critical constraints to improved child health and survival. The framework can, at the international level, facilitate the formulation of more effective national disease control policies and child survival programs.

Conclusion

One of the most attractive features of the Pathway to Survival is that it can be used as a quantitative tool for measuring problems in home care, health care-seeking behavior, primary and secondary health care delivery, patient counseling, and caretaker compliance. A recent Pathway study in Bolivia identified more than 250 childhood deaths. Researchers interviewed mothers to determine the sequence of events that preceded each death. Although problems were discovered all along the Pathway, most deaths were attributed to inappropriate care-seeking behavior. In the table on page eight, Comparison of the Pathway to Survival by Variable, it can be seen that, when all 271 deaths were considered, 40 percent of mothers recognized the severity of the child's illness, 1 percent provided appropriate care in the home, 58 percent sought outside care, and so on. Identification of the determinants of these behaviors will allow for the design and implementation of appropriate and corrective interventions. The point is that if, for example, 75 percent of childhood deaths can be attributed in this way to poor care-seeking behavior, programs that are allocating 75 percent of their resources to training professional health care providers are not necessarily addressing the right problems.

The Pathway has proven to be a robust tool to date. It answers the question, "What do children die from?" differently from the answers that led to vertical, disease-specific programs, and forces us to think more in terms of behavioral and health systems research and interventions. Given that technological advances have helped bring about a reduction of under-five mortality rates from 250/1000 to 50/1000 per year, it is very possible that, in most parts of the world, further progress will be made only by adopting the kind of approach suggested by the Pathway.

Pathway from Illness to Survival

Critical Point	Determinants	Interventions
1. Caretaker recognizes problem	Knowledge (caretakers and community supporters)	Effective communication: a. Content b. Strategy c. Capabilities
2. Caretaker provides quality care	Definition of appropriate care	Technical definition of appropriate home treatment of principal child illnesses and of resources required
	Knowledge	Effective communication: a. Content b. Strategy c. Capabilities
	Availability of required drugs/commodities	Assessment of availability of resources required and identification of options for increasing availability in home/community
	Decision to provide appropriate care (versus non-care or other care)	a. Effective communication b. Reinforcement c. Facilitation/removal of obstacles
3. Caretaker seeks care outside the home	Knowledge: a. Recognition of need for additional care b. Where to seek help c. What is appropriate care	Effective communication: a. Content b. Strategy c. Capabilities
	Access	Identification of options to increase access to appropriate care: a. Organize existing services to facilitate access (hours, services available at one time, patient flow) b. Expand existing services c. Provide appropriate care through alternate channels (private/community [formal/informal])
	Decision to seek appropriate care (versus non-care or other care)	a. Analysis of determinants of decisions regarding care-seeking (cost, perceived quality, cultural/social, previous experience) b. Development/implementation/evaluation of interventions
4. Health worker provides quality care	Knowledge/skill	Effective training/practicum for integrated management of childhood illness (IMCI) suitable to needs and capabilities of different categories of primary health worker (community, public health facility, private health facility)

Critical Point	Determinants	Interventions
	Motivation: a. Current practices	a. Identification of current practices and their determinants
	b. Client/community expectations	b. Effective communication; community participation
	c. Health system expectations (norms/standards)	c. Development of norms/standards based on IMCI
	d. Incentives	d. Monitoring/reward for appropriate practices (public sector) Establish supportive practice environment (management) Identify incentives for appropriate practice (cost recovery and retention; subsidies, loan guarantees, duty exemptions, etc.[private sector])
	e. Reinforcement	e. Job aids; supervision (public sector); problem identification and resolution (effective management); educational counter-referral; demand creation
	f. Oversight	f. Supervision and alternatives (public sector); regulation (private sector); community participation
	Availability of essential drugs and supplies	Identification/testing of reliable demand-responsive supply approaches to support IMCI practice; possible options: a. Public health system b. Local cost recovery c. Private channels (direct to health worker/facility; indirect to locations in the community)
5. Referral	Access	a. Increase access to referral facilities b. Identify components of referral level treatment (or alternative treatment) that can be shifted to primary health facility level if necessary
Caretaker accepts referral	Perceived need (condition of child warrants referral)	Effective communication: a. General and within community (understanding of treatment required for serious child illness) b. By health worker at time of contact
	Caregiver/community experience and impressions of referral facility (perceived quality)	Identification and improvement of aspects of referral services determining perceived quality (interpersonal relations, availability of drugs and commodities, etc.)

continued on page 12

Critical Point	Determinants	Interventions
	Cost (time/resources)	Client-centered approach to recommending and providing referral services
Referral facility staff provide quality care	Technical content	Definition of technical IMCI content and resources required for referral level
	Knowledge/skill Motivation: a. Current practices b. Client/community expectations c. Health system expectations (norms/standards) d. Incentives e. Reinforcement f. Oversight	Effective training/practicum a. Identification of current practices and their determinants b. Effective communication; community participation c. Development of norms/standards based on IMCI d. Monitoring/reward for appropriate practices (public sector) Establish supportive practice environment (management) Identify incentives for appropriate practice (cost recovery and retention; subsidies, loan guarantees, duty exemptions, etc. [private sector]) e. Job aids; supervision (public sector); problem identification and resolution (effective management); educational counter-referral; demand creation f. Supervision and alternatives [public sector]; regulation [private sector]; community participation
	Availability of essential drugs, supplies, and equipment	Identification/testing of reliable demand-responsive supply approaches to support IMCI practice; possible options: a. Public health system b. Local cost recovery c. Private channels (direct to health worker/facility; indirect to locations in the community)
6. Caretaker provides continued quality care compliance/follow-up care-seeking	As for "Caretaker provides quality care" (number 2 above), plus: Effect of health worker advice on continued care	Definition of ICMI advice to be given to caregivers Development and reinforcement of effective communication/counseling skills among health workers

BASICS (Basic Support for Institutionalizing Child Survival)

A USAID-funded project administered by the Partnership for Child Health Care, Inc.
Partners: Academy for Educational Development (AED), John Snow, Inc. (JSI), and Management Sciences for Health (MSH)

1600 Wilson Boulevard, Suite 300 ■ Arlington, VA 22209 USA ■ Phone: 703-312-6800 ■ Fax: 703-312-6900
Internet: infoctr@basics.org