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**SERVICE QUALITY ASSESSMENT
SERIES**

GROWTH MONITORING AND PROMOTION

**A REVIEW OF EXPERIENCE
IN SEVEN COUNTRIES**

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PREFACE

Since 1985 PRICOR¹ has assisted Ministries of Health and private groups in 12 developing countries² to systematically analyze the delivery of child survival services at the periphery. Depending upon local priorities, these systems analyses have examined one or more of six essential child survival interventions: oral rehydration therapy (ORT), growth monitoring, immunizations, the treatment of acute respiratory infections, malaria, and maternal care. For each intervention, the studies have analyzed service delivery and critical support systems at the periphery: in homes, at the community level, and at first-line health facilities. These systems analyses have employed direct observation and systematic quantification of task performance, using measurement instruments derived from the PRICOR Primary Health Care Thesaurus, a detailed compendium of significant health worker tasks. By documenting specific areas of strength and weakness in service delivery and support activities, the analyses enable the health manager to identify operational problems and target corrective actions more precisely. Accordingly, systems analyses have been followed, in most cases, by problem solving operations, research studies, or administrative adjustment.

This report is one of a series of PRICOR service quality assessments based on systems analyses and operations research studies. This series presents comparative reviews of results from these analyses that document multi-country program experience, using standardized task definitions and measurement techniques more precise than previously thought possible. The results add significantly to knowledge of program operations and their common problems. The objective of this report series is to identify operational problems commonly faced by primary health care and child survival programs as well as to describe solutions that PRICOR-supported district managers and supervisors have devised and tested for improved quality of care. While country programs are discussed alongside each other, the objective is not to evaluate relative performance, but rather to illustrate international variations and shared problems.

Reflecting the structure of the thesaurus, the comparative framework employed in this report on growth monitoring and promotion is organized around the following service delivery components: recruitment of the targeted population, weighing, plotting and interpreting the growth curve, and counseling and health education. Also reviewed were four essential support services for growth monitoring and promotion: training, logistics and supplies, supervision, and organization of community participation. To the degree feasible, all of the essential tasks that must be correctly performed to carry out growth monitoring and promotion are enumerated and performance variants described.

This report and others in the Service Quality Assessment Series summarize findings from systems analyses within PRICOR's comparative framework. Comments on the series are invited and should be submitted to Dr. Jeanne Newman.

¹ The PRICOR (Primary Health Care Operations Research) Project is operated by the Center for Human Services (Bethesda, MD, USA) for the United States Agency for International Development.

² Colombia, Costa Rica, Haiti, Indonesia, Niger, Pakistan (Punjab and Regi Province), Peru, Philippines, Senegal, Togo, Thailand, and Zaire.

ACKNOWLEDGMENTS

Recognition is given to the host country field staff who served as principal investigators in the country studies in Colombia, Cost Rica, Haiti, the Philippines, Thailand, Togo, and Zaire. Thanks and recognition are also extended to Dr. Jose Valadez, Harvard Institute for International Development, who led the systems analysis in Costa Rica, and Dr. Charlotte Johnson-Welch, formerly of Logical Technical Services, who led activities in Togo. Finally we express our gratitude to Dr. James Heiby, PRICOR Project Officer, A.I.D., S & T Health, whose close collaboration and intellectual input were integral to the success of this research.

EXECUTIVE SUMMARY

GROWTH MONITORING AND PROMOTION

A REVIEW OF EXPERIENCE IN SEVEN COUNTRIES

Growth monitoring/promotion is a cornerstone of primary health care. One of four technical interventions promoted by UNICEF in the early 1980s, program activities are now conducted in over 80 nations and innumerable private and public programs. Properly conducted, growth monitoring programs recruit children up to age 5 into the formal health service, identify and refer children needing special medical or nutritional care, and educate parents of both healthy and malnourished children. Growth monitoring is an important element even in developed country pediatric care and is simple enough in principle for application in such disadvantaged settings as Haiti and Zaire.

Growth monitoring ideally involves the regular weighing of children up to age 5 or 6, the recording of that weight on a growth card, the plotting of the growth curve linking weight measurements, and the interpretation of results with followup recommendations for the parents. Done correctly, it alerts health workers and mothers to faltering growth at an early stage, well before frank malnutrition becomes visible. It is also an entry point into the broader range of primary health care services. It is the one activity which brings together mothers and health workers on a routine basis.

Although over 80 countries worldwide carry out growth monitoring, skeptics believe that the contributions of growth monitoring to improvements in child morbidity and mortality have yet to be proven. Many nutrition experts who have reviewed growth monitoring programs in the field believe that the fault lies not with growth monitoring itself, but in the way it has been implemented. Recent reviews have concluded that many growth monitoring/promotion activities are poorly conducted and have discouraging results. Programs often suffer from poor field worker training, inadequate supervision, passive community participation, a focus on classification of children by nutritional status rather than an emphasis on the importance of regular growth, and a myriad of other operational problems (though actual data to back up the claims are often missing). Even without data, it is generally accepted that in order for growth monitoring to succeed as an integral part of comprehensive primary health care services, the implementation of GM/P services must be improved.

A major constraint on the strengthening of monitoring activities is that many programs lack detailed information on specific service delivery activities which need improvement. Available information is often limited to numbers of children weighed and nutritional findings. However, the process of care is usually like a "black box"--critical to eventual outcomes but virtually unknown, sometimes even to participants.

The Primary Health Care Operations Research (PRICOR) Project has developed an approach to assessing the performance of health workers in order to shed light on what goes on inside the "black box." This approach, termed systems analysis, uses a systems framework to evaluate how service delivery and essential support activities are actually being carried out. PRICOR, in collaboration with ministries of health and private voluntary organizations, carried out systems

analyses of growth monitoring/promotion activities in seven countries: Colombia, Costa Rica, Haiti, the Philippines, Thailand, Togo, and Zaire. In addition, 16 operations research studies have been or are being conducted on aspects of growth monitoring service delivery.

PRICOR's analyses focused on systematic observation of health workers as they weighed children, recorded and interpreted results, counseled mothers, and conducted educational outreach through home visits and group sessions. In addition, exit interviews were conducted in some countries to verify whether mothers understood what they had been told. Support activities— such as logistics, training, and supervision—were also reviewed, through observation, record reviews, and interviews with health workers and supervisors. In some studies, household surveys were also conducted with community members to determine general levels of health knowledge and practice.

Even though there were some differences in the types of workers observed, sampling strategies, and data collection methods among these seven systems analyses, it has been possible to identify common areas of strength and weakness in growth monitoring programs and to suggest ways in which the quality of some of the components might be improved.

Growth monitoring/promotion includes both mechanical and interpretative elements, and it is clear that workers do better with the mechanical. They should, and generally do, calculate accurate ages; they should and generally do measure correct weights; they should (but do not always) draw accurate plots linking past and present readings. The task of recruiting children and their parents for growth monitoring is also relatively mechanical once procedures have been established, but less is known about how well this works. While there was certainly scope for significant improvement in each of the programs studied, the relative strength of mechanical task performance gives hope that at least this aspect of growth monitoring/promotion has considerable potential in the primary health care context.

Optimism must, nevertheless, be tempered by recognition of two fundamental problems, which together may be difficult to remedy without firmer program design and technical support. The first fundamental problem is that small individual measurement errors cumulate into large errors in end results. The second is that most workers lacked skills, attitudes, and supportive technical standards to properly guide maternal nutritional responses.

PROBLEMS IN ACCURATE WEIGHING AND PLOTTING

Early detection and response to growth faltering can be critical in child survival, yet measurement errors in some countries may have exceeded growth, making it difficult to positively identify needy cases. As shown in Chapter 2:

- Scales in most countries were (a) of inappropriate types (66% of those in the Philippines were bathroom scales); (b) not tared before sessions (63% in Thailand and 51% in the Philippines); and (c) sometimes non-functional altogether (50% of health areas in Costa Rica).
- Children were almost never fully undressed (all countries, ranging from 0% in Thailand to 35% in the Philippines), though the proportion wearing sufficient clothing to distort results is less clear.

- Significant age inaccuracies were reported from Thailand (45%) and Togo, and may have occurred elsewhere as well.
- Growth plotting was often inaccurate (at least 45% in Thailand and in 7 of 12 areas in Costa Rica).

The possibly cumulative nature of these inaccuracies calls into question the validity of any resulting interpretations for individual children.

INTERPRETATION AND COUNSELING

Once weighing has been completed, workers must first understand the significance of both individual weights and trends over time and second interpret these results and give appropriate responsive advice to mothers. Systems analysis results, though, showed that:

- The proportion of parents told of the child's weight change ranged from nil in Haiti to 65% in Togo.
- The proportion told of nutritional status ranged from 5% in Haiti to 52% in Thailand. In Costa Rica, on the other hand, performance was judged adequate in 9 of 12 health areas.
- In Costa Rica only 30% of malnourished children, and in Zaire only 23%, were referred for supplemental feeding.
- Problems in home feeding were almost never discussed in Haiti or Thailand, but were 45% of the time in Zaire.
- Workers almost never gave age-appropriate advice about child feeding (a low of 3% in the Philippines to a high of 18% in Thailand). In Costa Rica, on the other hand, parents of 60% of malnourished children were given feeding advice.
- In every country studied, fewer than 40% of parents were told the date and time of the next weighing.
- There is little evidence of home followup from any of these programs except in Colombia, making it unlikely that workers routinely confirmed compliance with remedial advice.

In addition, observers noted (less quantitatively) the absence of standard messages for common problems and the general unavailability of remedial/rehabilitative measures other than counseling. Time available for weighing and counseling clients was often very short.

CONCLUSIONS

These findings, while largely negative, provide an occasion for improving rather than eliminating growth monitoring service delivery. Workers in most of the countries studied were found to be on the job and performing at least the mechanical tasks with reasonable facility. Scales were in place, growth cards generally available, and, most importantly, mothers in attendance. Community understanding and even active support were evident in several countries.

What can be done about the problems identified above? Clearly, those performing growth monitoring tasks, including trainers and supervisors, need to concentrate more than in the past on basic counseling and education. Trainers must ensure that workers know how as well as what to communicate and that trainees extensively practice new skills before they start work. Supervisors must direct supervisees to perform counseling tasks and must observe and guide effective performance. Managers should particularly strengthen the training and supervision of community agents because of growth monitoring's emphasis on family behavior. PRICOR-sponsored studies are now underway to address these problems.

1. INTRODUCTION: SERVICE QUALITY ASSESSMENT OF GROWTH MONITORING IN SEVEN COUNTRIES

1.1 INCREASING THE IMPACT: GROWTH MONITORING/PROMOTION IN DEVELOPING COUNTRIES

Growth monitoring/promotion is a cornerstone of primary health care. One of four technical interventions promoted by UNICEF in the early 1980s, program activities are now conducted in over 80 nations and innumerable private and public programs. Properly conducted, such a program recruits children up to age 5 into the formal health service, identifies and refers children needing special medical or nutritional care, and educates parents of both healthy and malnourished children. Growth monitoring is an important element even in developed country pediatric care and is simple enough in principle for application in such disadvantaged settings as Haiti and Zaire.

Growth monitoring, more specifically, is the regular weighing of children up to age 5 or 6, the recording of that weight on a growth card, the plotting of the growth curve linking weight measurements, and the interpretation of results with followup recommendations for the parents. Done correctly, it alerts health workers and mothers to faltering growth at an early stage, well before frank malnutrition becomes visible. It is also an entry point into the broader range of primary health care services. It is the one activity which brings together mothers and health workers on a routine, regular basis.

Although over 80 countries worldwide report carrying out growth monitoring, skeptics believe that the contributions of growth monitoring to improvements in child morbidity and mortality have yet to be proven. Many nutrition experts who have reviewed growth monitoring programs in the field believe that the fault lies not with growth monitoring itself, but in the way it has been implemented. Recent reviews¹ have concluded that many growth monitoring/promotion activities are poorly conducted and have discouraging results. Programs often suffer from poor field worker training, inadequate supervision, passive community participation, a focus on classification of children by nutritional status rather than an emphasis on the importance of regular growth, and a myriad of other operational problems (though actual data to back up the claims are often missing). Even without actual data, it is generally accepted that in order for growth monitoring to succeed as an integral part of comprehensive primary health care services, the implementation of GM/P services must be improved.

A major constraint on the strengthening of growth monitoring programs is that many lack detailed information on specific service delivery activities which need improvement. Available information is often limited to numbers of children weighed and nutritional findings. However, the process of care is usually like a "black box"--critical to eventual outcomes but virtually unknown, sometimes even to participants.

¹ Jack Reynolds and Wayne Stinson, 1991. *Lessons Learned from Primary Health Care Programs Funded by the Aga Khan Foundation, Center for Human Services, Bethesda, MD.*

1.2 ASSESSING QUALITY OF CARE: THE PRICOR APPROACH

The Primary Health Care Operations Research (PRICOR) Project has developed an approach to assessing the performance of health workers in order to shed light on what goes on inside the "black box." This approach, termed systems analysis, uses a systems framework to evaluate how service delivery and essential support activities are actually being carried out. Since much information is already available on resource inputs and outputs, the systems analysis has focused on process: how resources are transformed into services. Systems analysis examines what health workers are doing and how they are doing it. The systems analysis provides information necessary for the identification of specific service delivery problems or obstacles to the implementation of quality care. Following the systems analysis, corrective action may be taken, or if appropriate, operations research may then be used as a tool for determining what actions are best suited to strengthening these services.

Since 1985, PRICOR has worked with 12 developing countries to document and analyze primary health care (PHC) and child survival service delivery in order to identify and resolve problems through direct action or through operations research studies. Systems analyses of growth monitoring activities were conducted in 7 of the 12 countries: Colombia, Costa Rica, Haiti, the Philippines, Togo, Thailand, and Zaire. This report presents results of systems analyses in these seven countries.

1.3 THE GROWTH MONITORING SYSTEM

A system can be defined as a collection of components or subsystems that interact with one another to produce some effect that no one component could produce by itself. Figure 1.1 is a system model of growth monitoring, showing major subsystems and how they relate to one another.

Effective growth monitoring requires satisfactory task performance in service delivery, planning, supervision, training, community organization, logistics, financial management, and information/monitoring/evaluation. For service delivery alone: children must be identified and channeled into the system; parents must be motivated to ensure their child's participation; health workers must register children, prepare scales, calculate ages, weigh, plot weights on growth charts, and interpret results; they should also refer sick or malnourished children for medical attention and advise the parents of both healthy and malnourished children about proper feeding practices. Other subsystems also involve numerous tasks and subtasks. Regular evaluation and feedback into planning is also necessary.

1.4 SYSTEMS ANALYSIS METHODOLOGY

In performing systems analyses, PRICOR subdivides activity categories into observable tasks and subtasks and identifies appropriate performance indicators for steps considered critical. These activity lists and indicators are detailed in the PRICOR Thesaurus⁴ and summarized in Table 1-2. Appendix A provides additional detail.

Using the Thesaurus, PRICOR analysts developed data collection instruments to document the process of growth monitoring in seven countries. While study details differed somewhat, in each case analysts collaborated with the Ministry of Health, PVO, AID missions, and other responsible agencies to identify primary health care/child survival subsystems and geographic areas of

Figure 1-1
GROWTH MONITORING SYSTEMS MODEL

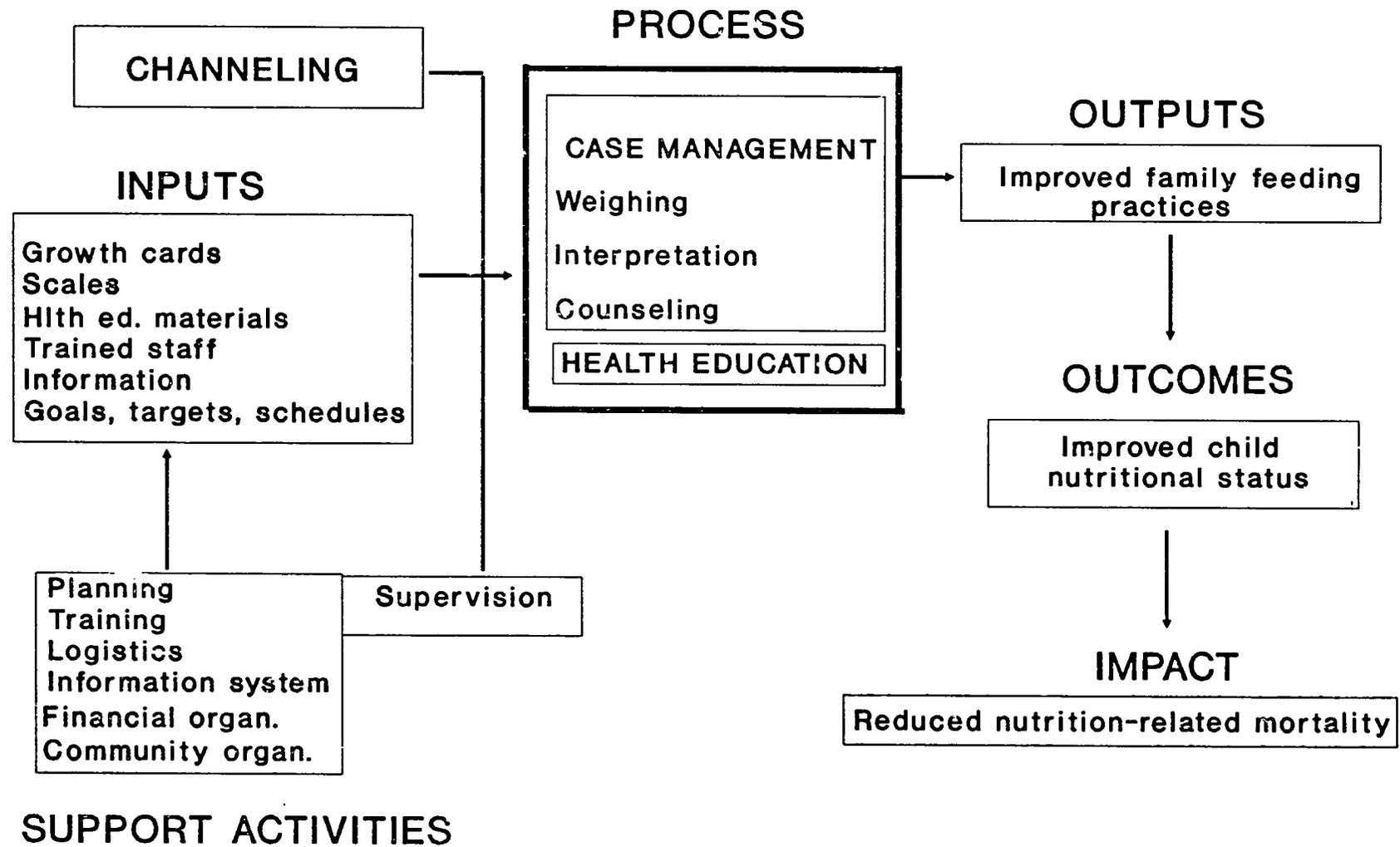


Table 1.1
PRICOR SYSTEMS ANALYSIS
TYPES OF DATA COLLECTION AND SAMPLE SIZES BY COUNTRY

COUNTRY	Colombia	Costa Rica	Haiti	Philippines	Thailand	Togo	Zaire
	OBSERVATIONS						
Weighing Sessions	-	12	6	76	7	16	18
Individual Weighings	-	120	57	937	38	56	459
Health Education Sessions	-	-	5	-	-	16	8
Home Visits	119	120	-	-	-	56	-
Supervision Encounters	-	-	-	150	-	-	5
INTERVIEWS							
Mothers (after weighing)	-	-	-	-	-	56	-
Mothers (at home)	304	-	428	-	630	56	664
Clinic-based Workers	-	-	19	20	-	8	48
Community-based Workers	97	-	40	75	-	-	56
Community Leaders	-	-	49	-	381	-	63
Supervisors	7	-	-	-	-	6	21

principal interest. Together, they developed criteria for the selection of localities for study. A sample of health facilities, generally from among the best and the poorest performing in roughly equal proportions, was then selected. Given the limitations of resources and time, no attempt was made to achieve a statistically representative sample of the whole country. It was felt that looking at the centers which perform better would identify problems, not only in those centers, but also throughout the whole system, while the performance of poorer centers would identify the range of problems needing to be addressed.

PRICOR staff and counterparts developed data collection instruments to document what was actually happening in the delivery of primary health care/child survival interventions. Specific importance was attached to the systematic observation of health workers in the performance of primary health care/child survival activities and tasks.

For growth monitoring, this meant weighing and examining the child, recording and interpreting results, and counseling. (The obtrusiveness of observation may have encouraged workers to perform differently--generally better-- than normal in some cases, but this does not appear to have skewed the results presented below.) In addition, exit interviews were conducted in some countries to verify whether mothers understood what they had been told. Support activities--such as logistics, training, and supervision--were also reviewed, through observation, record reviews, and interviews with health workers and supervisors. In some studies, household surveys were also conducted with community members to determine general levels of health knowledge and practice; in some cases these interviews have also served to corroborate the research observations made in the service delivery setting and to gauge whether findings about mothers' knowledge derived from exit interviews were generally representative of the local population.

PRICOR staff and national counterparts processed and analyzed data to identify problems. The results of the systems analysis were generally presented to health officials and managers during workshops, usually in the form of frequency distributions and charts. Also during these workshops, managers identified those problems revealed through systems analysis that required corrective action. In some cases, administrative action was indicated. In others, brief, inexpensive, highly focused operations research studies were undertaken to further understand the problem and/or test alternative solutions.

1.5 SEVEN COUNTRY STUDIES OF GROWTH MONITORING

Although the seven growth monitoring systems analyses considered in this review followed the same broad methodology, there were variations in its application, depending on the structure of the specific health system being analyzed. These had effects on how data could be collected, and in some situations created difficulties for accumulating data on sufficient cases. In addition, the methodology was modified and improved as more systems analyses were carried out, and later systems analyses were able to obtain information not available in earlier systems analyses. Following are brief descriptions of the seven growth monitoring studies, organized by geographic region.

1.5.1 SYSTEMS ANALYSES IN AFRICA

Two systems analyses were carried out in Africa, both in rural settings: Zaire and Togo.

ZAIRE (1986): The systems analysis in Zaire was conducted as part of the USAID Rural Health Project. In each of four of the best rated health zones, analysts selected five health centers (staffed by nurses and auxiliary nurses): four for their estimated high performance and one for its low performance. The systems analysis team made 459 direct observations of health center weighings. They also interviewed center staff (N=48), village health workers (N=56), and members of community health committees (N=63), and interviewed mothers with children under 5 in their homes (N=664).

The National Nutrition Planning Center of Zaire has designed a standardized weight for age growth chart for use nationwide but has not otherwise established growth monitoring directives. Normally, health center teams weigh children monthly in major villages, providing also 15-minute health education talks on nutrition, ORT, and malaria prior to each session. Each child's weight is recorded on the growth chart kept by the mother. All children categorized as having first, second, or third degree malnutrition should be asked to return the following day for further instruction following well-defined protocols for education and rehabilitation. Non-attenders are to be followed up by the mama bongisa (village volunteer). Operations research studies have continued since the systems analysis in an effort to resolve identified problems.

TOGO (1988-89): In January 1988, Catholic Relief Services/Togo and the Government of Togo's Ministry of Health began a 2-year project to apply operations research to their Infant Nutrition Program. Technical assistance was provided by Logical Technical Services, through a PRICOR subagreement. Analysts collected data in four Infant Nutrition Centers (CNI) in Maritime and Plateau Regions. Maternal and staff behavior was observed, and verbal exchanges were tape recorded. Information was also collected in visits to mothers' homes, focus groups and interviews with mothers, CNI staff, and regional supervisors. In one case in this review, the data presented were derived from an operations research study after the initial systems analysis.

Growth monitoring services in Togo are provided through 83 CNIs and are composed of weighing and counseling for children under 5, health/ nutrition education lessons and food demonstrations, and distribution of PL-480 food.

1.5.2 SYSTEMS ANALYSES IN ASIA

In Asia, systems analyses of growth monitoring were conducted in the Philippines and Thailand. These analyses focused mainly on rural health services.

PHILIPPINES (1988): The Ministry of Health and PRICOR analyzed growth monitoring performance of public health nurses and rural health midwives in Rural Health Units (RHUs) and Barangay Health Stations (BHSs). The analysis team worked in Bulacan Province, chosen for its representativeness for quality and human resource levels. They observed 937 weighings and interviewed 20 public health nurses and 75 rural health midwives about training, knowledge, supervision, information systems, and logistics. Public health nurses were asked about the performance of rural health midwives whom they supervised. This estimation was then compared to actual, observed performance.

RHUs are staffed by public health nurses with 4 years' training and by rural health midwives with 2 years' training. The larger RHUs may also have a medical officer. BHSs are staffed by rural health midwives. Growth monitoring is provided at weekly "Under 6" clinics. All children are to be

registered at birth and to be weighed monthly for the first half year, then quarterly thereafter until they start school. Weight is recorded and plotted on the Road to Health card which each child should have. Malnourished children are to be referred to the supplementary feeding program. Barangay health workers are to follow up non-attenders and encourage mothers to take their children to the health units.

THAILAND (1986): In Thailand, PRICOR and the Ministry of Health assessed the performance of auxiliary nurses, junior sanitarians, and village volunteers in six districts of one province. Districts were selected by activity levels: two each for high, medium, and low activity. Researchers observed 38 weighings and interviewed 630 mothers and 381 community leaders.

The Thai Ministry of Public Health has promoted growth monitoring and nutrition since 1979 through periodic weighing clinics, parental education, and nutrition cooperatives. Adequately nourished children under 5 are weighed every 3 months, while those identified as second or third degree malnourished are weighed monthly. In cases where families have not attended, a volunteer contacts the mother to arrange a home visit. Children who have not regained growth after 3 months are referred to the health center and if necessary to the district hospital. Services are delivered primarily from tambon (subdistrict) health centers, staffed by one female auxiliary midwife and one male junior sanitarian, both of whom have high school educations and about 2 years' formal training. Illiterate village volunteers, trained for 6 weeks, obtain scales from the tambon health center, organize and conduct weighing sessions, administer revolving funds, and distribute food supplements; they also help with feeding and education. Cooperatively managed nutrition revolving funds sell locally produced food supplements to the mildly malnourished. Revenues are used, among other things, to subsidize free food for more severely malnourished children.

1.5.3 SYSTEMS ANALYSES IN LATIN AMERICA AND THE CARIBBEAN

Three systems analyses were conducted in Latin America and the Caribbean: one in peri-urban areas of Bogota, Colombia, and the other two in rural Haiti and Costa Rica.

COLOMBIA (1987): PRICOR worked with the non-governmental Fundacion Santa Fe de Bogota to conduct a systems analysis of health volunteers associated with their private health facilities in several peri-urban areas of Bogota. These literate health volunteers were community members who had received 12 days of training in health promotion, prevention, and first aid. Information on volunteer performance was collected through systematic observation during home visits (N=137), interviews with (active, semi-active, and inactive) health volunteers (N=97), and self-administered questionnaires for supervisory staff (N=7). The systems analysis team collected information on the effects of volunteer performance on knowledge of mothers in the community through a household survey of 304 mothers.

The volunteers' role in growth monitoring is to inform and educate the community about adequate nutrition, to review and interpret the growth card, to detect and refer malnourished children to nutritional rehabilitation, and to refer all children under 5 to weighing sessions. Volunteers visit homes to educate mothers on these topics and to make referrals. Some give health talks in the community. Volunteers also assist with the distribution of food supplements and with weighing sessions at some of the health facilities.

HAITI (1987-88): At the time of this study, Haiti had 20 hospitals, 94 health centers, and approximately 200 dispensaries, operating under state, private, or mixed control. In addition to fixed facilities, "postes de rassemblements" (rally posts), conducted by health agents and auxiliaries, offered outreach health education, vaccinations, and growth monitoring. Health agents monitored growth at rally posts under the direct supervision of auxiliaries. In addition to weighing and health education, the surveillance program offered supplementary feeding for children found to be at risk.

PRICOR analyzed activities at 12 facilities in 3 districts in both northern and southern Haiti during the period November 1987 to January 1988. Six growth monitoring sessions were observed. Though the study was hampered by civil unrest, the health facilities themselves were said to have been operating in what had come to be considered normal conditions.

COSTA RICA (1989): Systems analysis in Costa Rica was conducted by the Ministry of Health and the Harvard Institute for International Development under a PRICOR subagreement. Researchers employed Lot Quality Assessment Sampling (LQAS) to rapidly assess the adequacy of growth monitoring performance in each of Costa Rica's 12 health areas. MOH personnel defined adequacy to mean 95% correct performance of key growth monitoring tasks. The sample size--10 home visit observations per health area--was chosen as a function of performance standards, the level of precision necessary, and the time available for data collection. Data collection was completed in 1 day for each of the 12 areas.

MOH norms require community health workers to assess the nutritional status of all children under 6 at regular intervals using weight-for-age as an anthropometric indicator. Malnourished children are to be referred to the health center or nutrition center for further assessment. The health worker is also to provide nutrition education and to inform mothers about food supplementation programs that might be available to them.

Table 1-2 presents a comparative framework for the types of data collection and sample sizes in these seven country studies.

1.6 OVERVIEW OF THE GROWTH MONITORING COMPARATIVE REVIEW

This comparative review focuses mainly on service delivery activities (weighing and counseling). Chapter 2 analyzes observations of health worker performance, while Chapter 3 describes support for logistics, supervision, training, and community participation. These support activities provide the key inputs to service delivery activities, and are important determinants of the quality of health worker performance. Chapter 4 discusses the strengths and weaknesses of growth monitoring service delivery and support systems. Chapter 5 discusses what managers did with this information in these countries, and suggests future directions for improving growth monitoring performance.

TABLE 1.2

COMPONENTS OF THE GROWTH MONITORING SYSTEM

SERVICE DELIVERY

Channeling

Case management

- weigh child
- interpret results
- counsel parents
- follow up

Outreach education

SUPPORT SERVICES

Planning

- set growth monitoring objectives
- set targets (specify target age groups, determine desired coverage, etc.)
- develop growth monitoring strategy (policies, standards, etc.)
- develop GM procedures, budgets, workplans, etc.

Training

- plan training
- transmit key GM information and required skills using appropriate training methods
- test student competence
- evaluate training

Supervision

- plan supervision activities
- supervise service delivery and support activities (assist health workers in organizing and planning activities and tasks, identify problems and strong points, assist in resolving problems)
- evaluate supervision

Community organization

- determine desired role of community in GM activities
- establish schedules and workplans for organizing community managed activities
- organize the activities
- train workers
- monitor activities

Logistics

- plan logistic support
- store and distribute equipment and supplies

Financial management

- obtain resources budgeted for GM activities
- generate local resources (e.g., user fees)
- disburse and account for funds used for GM activities

Information system

- collect GM data (target, service delivery, and support activity data)
- conduct special KAP and coverage studies
- process the data
- report the information and use it for program purposes

2. ASSESSMENT OF SERVICE DELIVERY

As noted above, these seven systems analyses varied significantly in the types of workers observed, the sampling strategies employed, the methods by which data were collected, and the number of variables studied. Diversity hinders statistical comparability but, nevertheless, permits analysis of common strengths and weaknesses. This chapter reports findings for the case management and outreach aspects of growth monitoring, while the next reports on training, supervision, and supply logistics.

2.1 THE ELEMENTS OF GROWTH MONITORING

Effective growth monitoring requires correct performance of the following tasks:

- active channeling of target age children, especially those previously identified as "at risk,"
- accurate weighing,
- interpretation of results, based on accurate plotting, brief physical exam if indicated, and questioning of the mother,
- maternal counseling, based on results for the specific child, and
- health education and possibly home visits.

Each of these elements is closely linked to the other, and, indeed, growth monitoring is unlikely to be effective if all five are not performed with adequate proficiency. Channeling is needed to ensure broad population coverage, especially for those who may not use health services routinely and may thus be most in need. Accurate weighing and interpretation are obviously needed so that workers may correctly understand the health and nutrition status of the individual children that they see. Technically correct and easily understood counseling are essential to enable mothers to refine household feeding practices and to know when to seek expert help. And health education and outreach broaden community understanding of growth monitoring and help improve household practices. PRICOR-sponsored systems analyses looked at all five of these elements.

2.2 CHANNEL CHILDREN TO GROWTH MONITORING

Good growth monitoring coverage requires regular and near-universal participation of target-age children, and this can rarely be achieved without active recruitment by community- or facility-based personnel.

The seven analyzed programs differed in channeling procedures, hence in the types of data reported. Results were as follows:

- In Colombia, volunteers asked 96% of mothers about growth monitoring during observed home visits. All should have been advised to participate, but only 70% were.

- Four of twelve facilities observed in Costa Rica had complied with ministerial directives requiring them to maintain a register of malnourished children.
- In the Philippines, 85% of observed health facilities had a master list of local preschoolers, and 96% reported schemes to identify children due for weighing in the next period. Forty-five percent of these schemes used the outpatient notebook, while the remainder used the EPI master list, the birth registry, or some form of survey.
- In Zaire, 42% of children under 5 in the surveyed areas (counted through an annual household census) were reported to be registered for growth monitoring, ranging from 100% in Vanga to 5% in Kikimi.

Once recruited, children must have easy access to service. Accessibility and utilization were measured as follows:

- In Colombia, volunteer community workers spent over half of their time on nutrition activities, though much of this was for distributing food supplements and for what observers called "the ritual" of measuring and recording weights. The volunteers themselves rated growth monitoring as their second most important activity. One hundred percent of the study population lived within 1 mile of a facility offering growth monitoring services.
- All six PRICOR-observed facilities in Haiti had conducted at least one rally post in the month before study, and one had conducted them daily. The mean number of sessions for all facilities was 7.0 (but only 4.2, excluding the highly active facility). Each facility had weighed an average of 87 infants and 81 children aged 1 to 4 in the past month.
- Observed Zairian health centers conducted an average of 8 growth monitoring sessions per month, with an average of 50 children per session.

2.3 WEIGH CHILDREN ACCURATELY

A number of sub-tasks must be performed to ensure accurate weighing:

- Scales must be tared before each session, and balance scales must be set to 0 before individual weighings.
- Children must be undressed and properly seated on the scale.
- Workers must accurately read and record the weights.

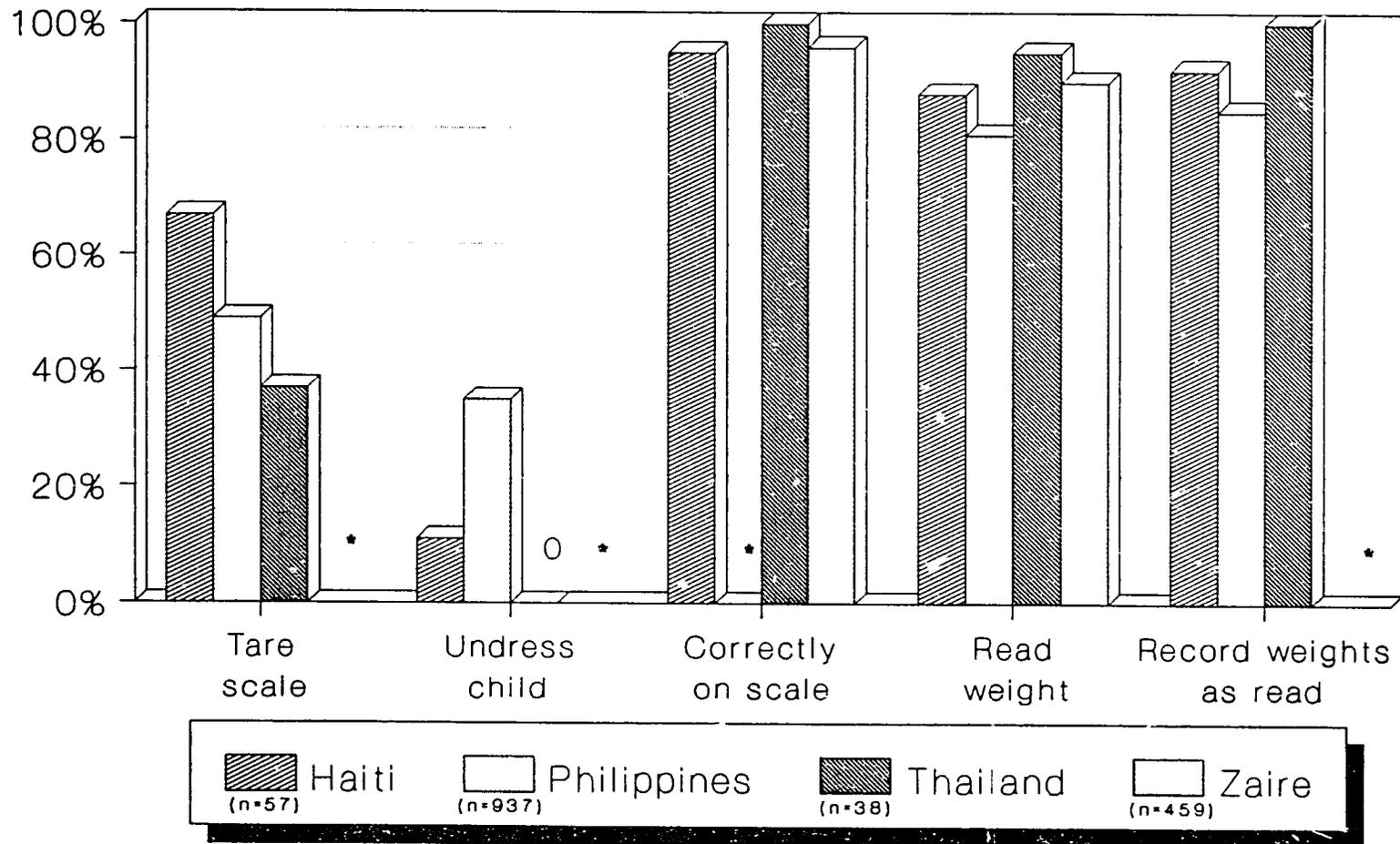
In Costa Rica, norms also required workers to weigh the child a second time.

Figure 2.1 summarizes results.

To "tare" a scale is to adjust it (using screws, if necessary) so that the balance returns to zero when the scale is empty (or carries only the weighing seat); this should be done prior to each session. Workers observed in Haiti tared four of six scales, in the Philippines 49%, and in Thailand 37%.

Proportion of Children for Whom Recommended Weighing Procedures Were Followed

Figure 2.1



* No available data

In addition to taring the scale before the session, workers using a balance scale should return the weights on it to the zero position prior to each individual weighing. This was done in 80% of observed weighings in Zaire and 82% in Haiti, but was rarely done during 8 of the 10 sessions observed in Togo. Five of six Haitian scales were checked for accuracy, but only 27% of those in Thailand. Performance was also judged inadequate in 5 of 12 clinics observed in Costa Rica.

Children were rarely undressed completely in any of the countries where we observed:

- In Haiti, for example, only 11% (all at the same facility) were fully undressed, though another 35% wore only light underwear; 22% had enough on to increase recorded weights.
- In Zaire, 75% of the children were partially clothed, including 65% wearing diapers, 53% a shirt, and 5% shoes.
- In the Philippines, only 35% were fully undressed.
- In Thailand, none of the observed children were fully undressed.
- All observed areas in Costa Rica were judged adequate, though correctness was defined as removal of shoes and heavy clothing only.

Children were almost always correctly placed on the scale: 100% of the time in Thailand, 98% in Zaire, and 95% in Haiti. Children were relatively still when measured in 92% of the Thai cases but only 23% of the Philippine ones.

Children's weights were generally read and recorded correctly. Weights were read correctly 100% of the time in Costa Rica, 95% in Thailand, 90% in Zaire, and 88% in Haiti. Performance was judged adequate in 10 of 12 Costa Rican health areas. In the Philippines, workers in 66% of observed sessions used only bathroom scales; they read them correctly 81% of the time but only to the half-kilo (1.1 pound) lines marked on the scales. Weights were recorded as read 100% of the time in Thailand, 92% in Haiti, and 85% in the Philippines.

A significant problem encountered in several countries is that seemingly minor inaccuracies in weighing and recording easily cumulate into much larger total error rates. In the Philippines, for example, weights were read correctly 81% of the time and then properly recorded for 85%; the proportion correct for both steps was, thus, only 69% (.81 X .85). Errors obviously occurred as well due to the imprecision of Philippine scales. Proportions correct for both steps were 81% for Haiti and 95% for Thailand.

In Costa Rica, where analytical measures were slightly different, workers were to:

- read the weight from directly in front of the scale (performed adequately in 10 of 12 health areas),
- read the weight aloud (8 of 12),
- record the weight immediately (5 of 12), and
- weigh the child a second time (5 of 12).

In one Zairian center, a health worker told the weight to the mother who then told a second health agent, resulting in an average 600 gram difference.

The mean duration of weighing encounters observed in Togo was 64 seconds (excluding counseling time).

2.4 PLOT AND INTERPRET GROWTH CURVE

To monitor correctly, workers must also plot and interpret the growth curve, a task which in turn requires that they:

- accurately estimate the child's age,
- locate the appropriate age and weight coordinates on the growth chart and connect them to earlier ones,
- quickly examine the child for any other signs of abnormality, if indicated,
- question the mother about child feeding and any illnesses, and
- add these findings together into an interpretation of nutritional status.

Minor errors in two or more of these subtasks can easily cumulate into larger errors.

Figure 2.2 summarizes results.

Ages were recorded clearly and apparently accurately for 94% of those weighed in the Philippines and Zaire. Performance was also judged adequate in all 12 Costa Rican health areas. Only 55% of children's ages were correctly recorded in Thailand, however, the remainder being omitted altogether (37%) or recorded incorrectly (8%). A followup study in Togo reported problems with age calculations in 6 of 10 infant nutrition centers.

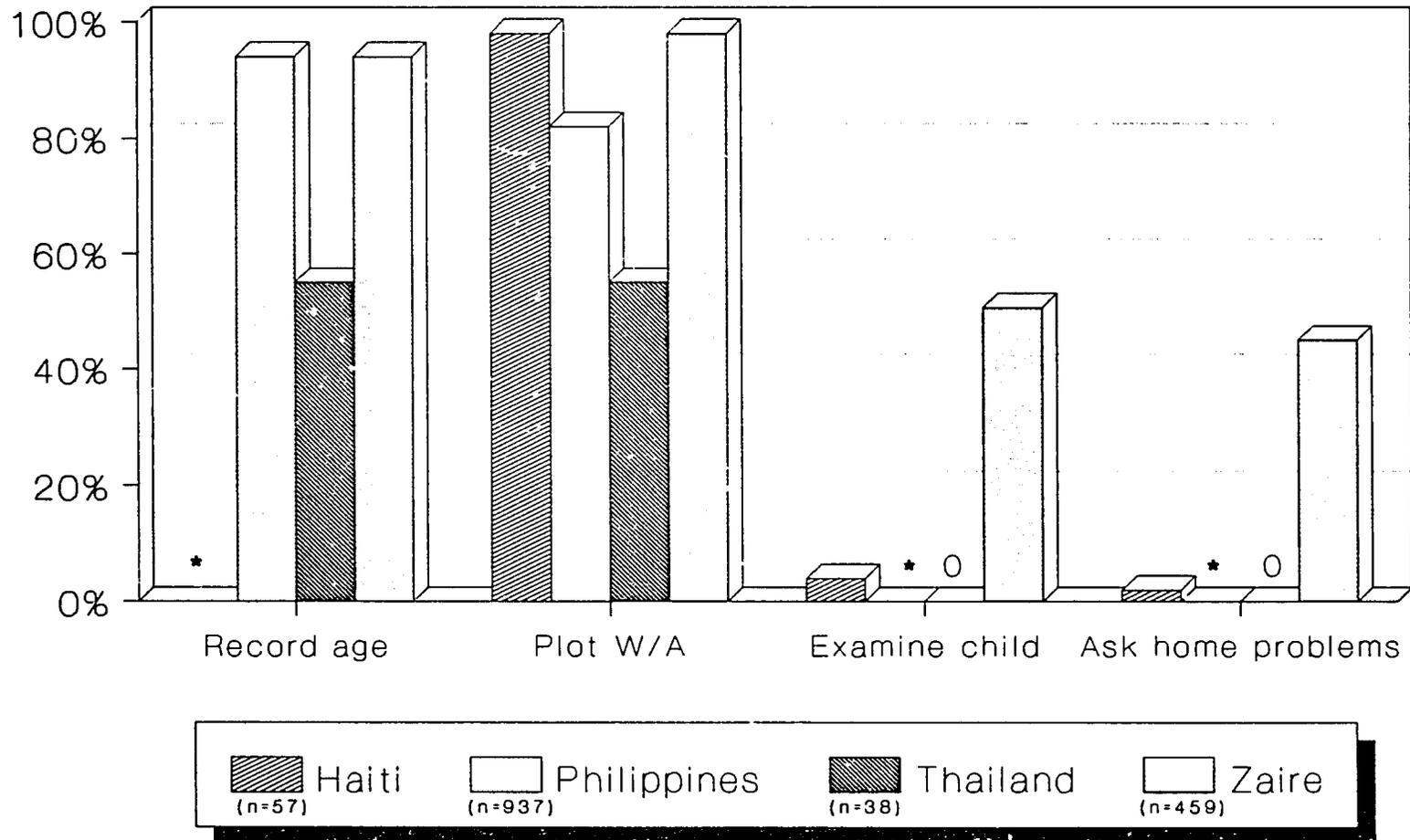
Almost all workers were observed to draw plots, except in Costa Rica where readings were often the first available. (As discussed in Chapter 3, many workers lacked a stock of growth cards.) In Haiti, 98% of weights were plotted and the growth curve drawn (though accuracy was not assessed). In the Philippines, however, 19% of observed plots were incorrect, while in Thailand at least 45% were incorrect due to the age errors mentioned above. Performance in the plotting of individual points was judged adequate in 11 of 12 Costa Rican health areas, but the drawing of the curve itself was adequate in only 7.

Workers in Haiti, Thailand, and Zaire were also observed to see whether they examined children physically as they weighed them. In Zaire, 53% did at least three of the following: looked at the child, pinched the skin, pressed a finger on the ankles or feet, touched the forehead, pulled the eyelid down to check for anemia, palpated the abdomen, or auscultated the lungs. In Haiti, only two of those observed "looked at the child," while no physical exams were witnessed in Thailand.

Only in Zaire did a substantial proportion (45%) of health workers inquire about illnesses, but even there only 22% asked about the child's diet. In Haiti, 2% of mothers were asked, and in Thailand, no one was asked.

Proportion of Children for Whom Recommended Interpretive Procedures Were Correctly Followed

Figure 2.2



* No available data

2.5 COUNSEL MOTHERS

Most managers consider growth monitoring worthwhile only if it improves parental knowledge of children's nutritional status and helps, where needed, to improve family feeding practices. To ensure that this occurs, workers must:

- tell the parent or guardian of the child's weight change,
- interpret this change in terms of nutritional status,
- refer needy children for medical or nutritional followup,
- advise parents appropriately regarding home feeding and other followup, and
- tell parents the date and location of the next weighing.

PRICOR measured the proportion of workers conveying these messages as well as the nature of the counseling techniques that were used. Figure 2.3 shows that:

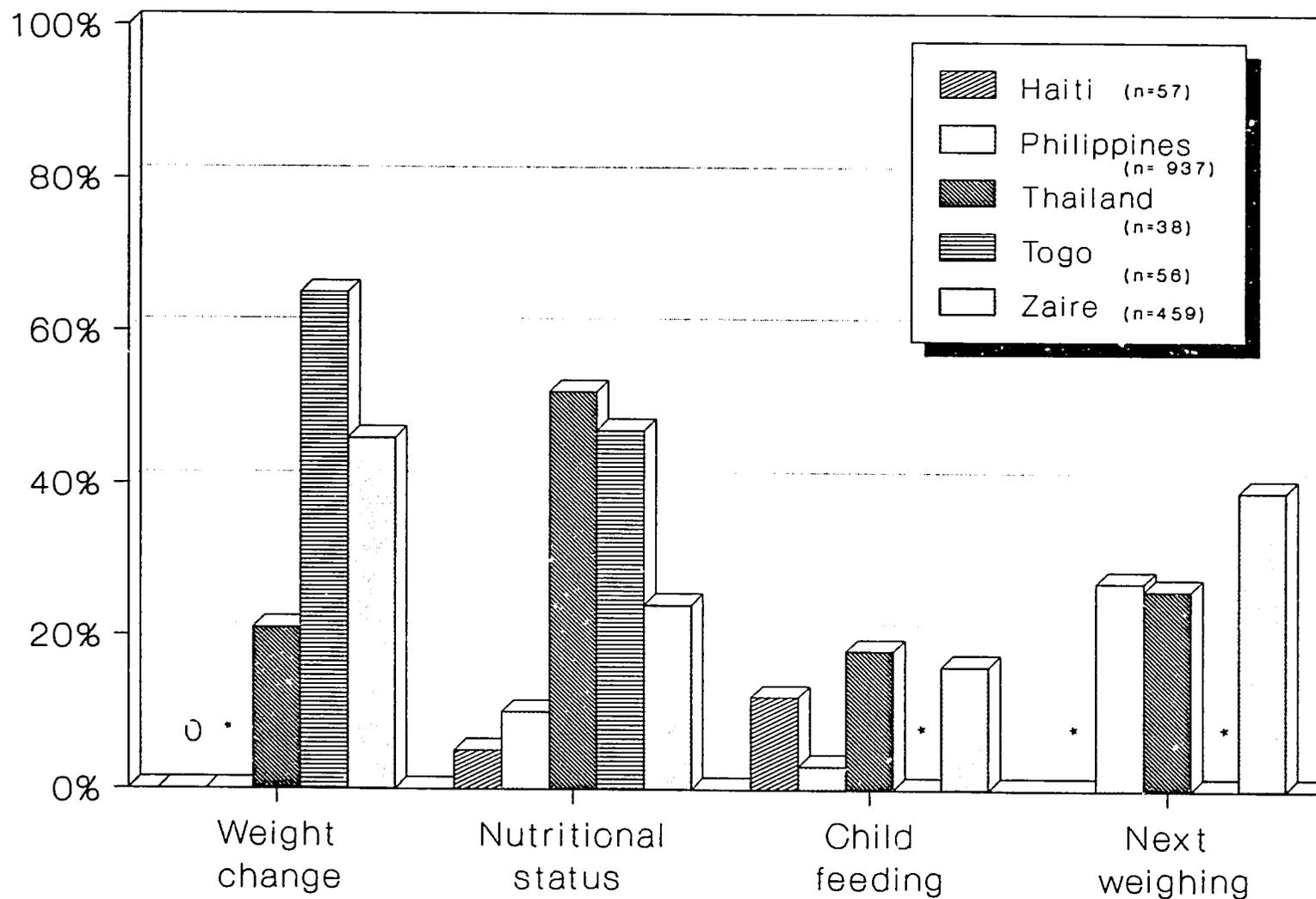
- The proportion of parents told of the child's weight change ranged from nil in Haiti to 65% in Togo.
- The proportion told of nutritional status ranged from 5% in Haiti to 52% in Thailand. In Costa Rica, on the other hand, performance was judged adequate in 9 of 12 health areas.
- In Costa Rica only 30% of malnourished children, and in Zaire only 23%, were referred for supplemental feeding.
- Problems in home feeding were almost never discussed in Haiti or Thailand, but were 45% of the time in Zaire.
- Workers almost never gave age-appropriate advice about child feeding (a low of 3% in the Philippines to a high of 18% in Thailand). In Costa Rica, on the other hand, parents of 60% of malnourished children were given feeding advice.
- In every country studied, fewer than 40% of parents were told the date and time of the next weighing.

Individual counseling was exceptionally weak in the Philippines. In only 10% of observed encounters did the health worker interpret results to the mother. For only 3% of the children weighed did the mother receive information about the child's needs for special feeding or other attention. Although 94% of children weighed were under 2 years, only 4% of mothers were encouraged to maintain breastfeeding or good weaning practices. In only 2% of observed cases did the health worker ask the mother if she had any questions about the child's status. Only one in four mothers was told when to return for the next weighing.

Workers in Zaire, Haiti, and Togo often advised mothers in the same manner regardless of the child's nutritional status. In Zaire, 56% of those whose children had gained weight were so informed, compared to 66% for non-gainers. Mothers with children below 80% weight for age were no more likely to be told their child's nutritional status than those above. Twenty-three percent of

Proportion of Observed Weighings in Which Mothers Were Counseled

Figure 2.3



* No available data

those with children below 80% weight for age and not growing were given feeding advice, however, compared to 9% for those found to be adequately nourished. In Haiti, health workers did not consistently identify children at risk and noted nutritional problems for only two of the children who had lost weight.

In Togo, workers spent an average of 50 seconds counseling each mother, with a range of 4 seconds to 2.5 minutes. Only 22% of all counseling encounters, and only 37% of those for malnourished children, lasted more than one minute. Personnel at only one of four centers were observed to tailor their advice to nutritional status.

The advice that was given may also have been inappropriate, at least in Costa Rica, where community health workers sometimes recommended meat and eggs instead of readily available and less expensive substitutes. In Togo also, observers reported that advice was often inappropriate to the locale or to mothers' interests, needs, and constraints.

In counseling mothers, workers are likely to be more effective if they use graphic techniques and if they exhibit a warm, supportive attitude. They should also confirm maternal understanding by asking questions.

In only 40% of observed encounters in Togo did workers turn the growth card to the mother and use it to explain the child's nutritional status; only 21% of mothers looked at the card. In Costa Rica, performance on this indicator was judged inadequate in 8 of 12 health areas.

In Zaire, health workers were observed smiling at 50% of the children, touching 69%, listening attentively 46% of the time, and explaining the procedures clearly to 45% of the mothers. In Togo, on the other hand, workers smiled at only 42% of mothers and often reprimanded those who had trouble following advice or whose children had not gained weight.

2.6 CONDUCT EDUCATIONAL OUTREACH

Depending on program design, workers may also provide outreach education through group sessions and/or home visits.

The Colombian volunteer program was specifically designed for outreach home visits, and was clearly the most effective of its type that PRICOR was able to observe. Activity diaries, though, showed that volunteers spent more of their time participating in weighing sessions and food distribution than in conducting home visits. Observed workers routinely completed family health records with little recognition of opportunities to educate mothers. Growth monitoring was referred to in 96% of observed home visits and the growth card requested in 83%, but mainly in both cases because the family health record required it. Volunteers reviewed most cards (though only half of the mothers had them) but commented about the child's progress only half of the time. In only 15% of the visits did the volunteer actually observe the child. About 21% of volunteers told mothers about the importance of growth monitoring, while 5% discussed feeding and 3% stimulation in the home. Volunteers asked whether mothers were breast-feeding (again, an item on the family health form) 81% of the time, but in only 7% of these cases did they explain the importance of breast-feeding for good nutrition.

PRICOR-sponsored researchers also observed group health education sessions in Zaire and Togo. In Zaire, songs (88% of observed sessions) and lectures (75) were the most common

communication techniques, followed by demonstrations, stories, role playing, and group discussions (13-25%). Health workers were observed to use appropriate language in all sessions and established contact with participants in seven of eight. Participants were questioned to verify understanding in 62% of the sessions.

In Togo, staff communication skills were found to be weak; presentations were often disjointed, and recommendations for action were either not made or were unclear. Staff rarely tried to learn what mothers already knew. Subjects of the lessons were not always appropriate for the milieu, or for mothers' interests and needs, and mothers were rarely involved in the choice of these lessons. Mothers' participation was limited to responding to closed-ended questions, although they did tend to participate more actively in the food demonstrations.

2.7 CONCLUSIONS

This chapter has reported findings from seven countries related to growth monitoring service delivery, especially weighing, interpretation, and counseling. Fewer countries provided data on channeling and educational outreach.

Major problems identified included the following:

- Workers in most countries failed to tare the scale prior to sessions or to set it to 0 for each child.
- Children were almost never fully undressed (though all but a few wore only light clothing).
- Problems with age estimation were reported from several countries, though certainly not from all.
- Seemingly minor problems in weighing and plotting in several countries may have cumulated into significant total error rates.
- Few workers examined children physically or asked mothers questions that might have helped diagnose or resolve problems.
- Almost nowhere was maternal counseling adequate in either content or style. Few mothers were told of their child's weight change or nutritional status, and even fewer were advised about routine feeding or remedial measures.
- There is little evidence of home followup from any of these programs except in Colombia, making it unlikely that workers routinely confirmed compliance with remedial advice.

In addition, observers noted (less quantitatively) the absence of standard messages for common problems and the general unavailability of remedial/rehabilitative measures other than counseling. Time available for weighing and counseling clients was often very short.

The next two chapters in this monograph explore factors that appear to contribute to these problems. Chapter 3 discusses training, supervision, and logistical support systems, while Chapter 4 explores the implications of these descriptive observations for quality of care.

3. ASSESSMENT OF GROWTH MONITORING SUPPORT SYSTEMS

Individual health workers obviously cannot perform effectively if the system of which they are a part does not support them--through well-conducted and periodically renewed training, through motivating and technically supportive supervision, and through provision of functioning scales and adequate supplies of growth cards. Worker performance may also be enhanced by community understanding and interest in growth monitoring. This chapter explores strengths and weaknesses in each of these areas, while Chapter 4 relates these findings to quality of care.

3.1 TRAINING

PRICOR analysts were unable to observe training directly but obtained proxy information by asking workers what subjects they had been taught and by assessing current knowledge. Statistics presented in Figures 3.1 to 3.3 derive from different sources, however, and must be interpreted cautiously.

Sixty-seven percent of clinic-based workers in Zaire, 72% in the Philippines, and 47% in Haiti told PRICOR that they had been formally trained for growth monitoring during the past 3 years. With the exception of Colombian volunteers (94% trained), however, most community-based workers reported much less training; only 21% of Zaire's mama bongisas and 20% of Haitian health agents reported such training.

Those trained almost universally reported instruction in basic nutrition concepts and weighing techniques. In Haiti, for example, almost all of those interviewed said they had been trained in priority topics; while in Colombia, Fundacion staff confirmed that volunteers had been taught, among other things, about the stages of growth and development, breast-feeding, key nutrition messages, and weighing techniques. Filipino workers reported similar training content, but very strikingly, only 15% said they were trained in what to tell mothers about results.

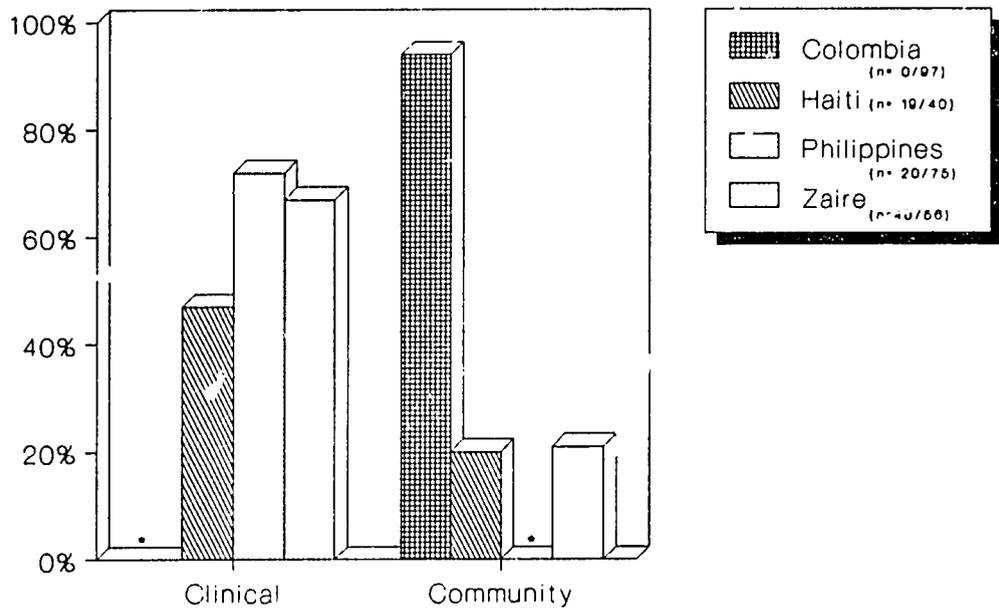
In Togo, on the other hand, program staff are trained as social workers and are assigned to infant feeding centers based on the number of persons needed rather than because of personal skills, aptitudes, or interests. Catholic Relief Services (CRS) gives growth monitoring training to those working in the centers that it supports, however. Once assigned, workers are often transferred after short intervals. Many do not speak the local language.

Only limited data are available concerning training methods. In the Philippines, half of those trained had had a day or less of instruction, and 63% remembered there being much more lecture/discussion than demonstration/practice. Proportions tested upon completion ranged from 80% in Zaire to 58% in the Philippines, with Haiti in between at about 67%. (See Figure 3.2.) Tests should assess performance as well as knowledge: in Zaire 36% of interviewed workers, but in the Philippines only 2%, remembered being tested by trainers' observation of a demonstration or role play.

Though Figure 3.3 shows that most workers currently know something of the important subjects, probe questions suggested that knowledge was often weak or superficial. Ninety percent of Colombian volunteers, for example, knew that low height and weight were symptoms of malnutrition, but only slightly more than a third knew that paleness, lethargy, and developmental

**Proportion of Clinical and Community
Workers Trained in Growth
Monitoring/Promotion in the Past 3 Years**

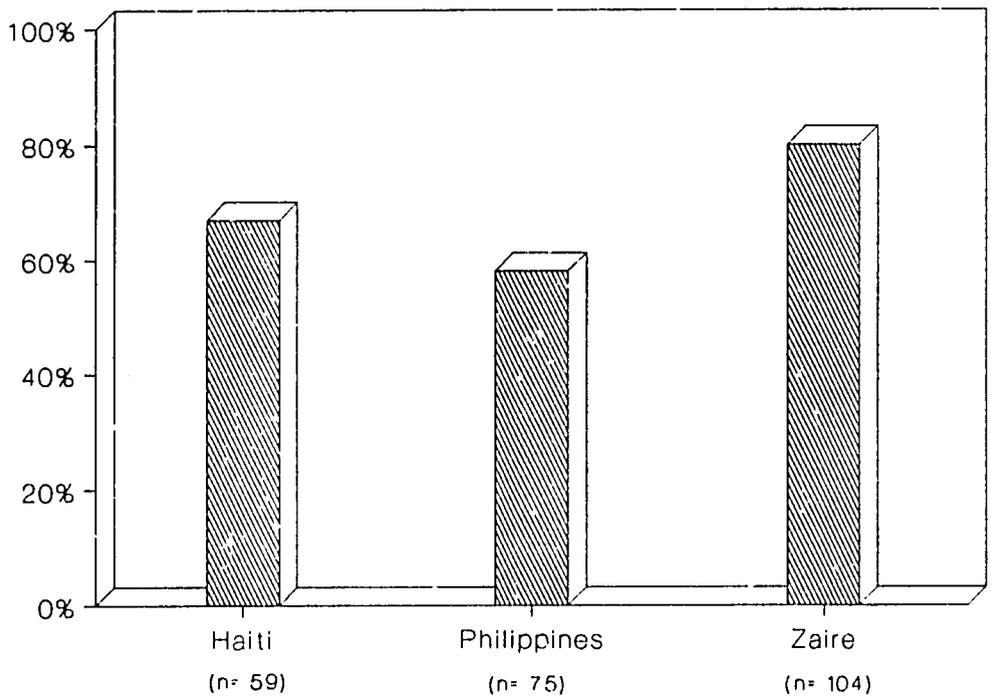
Figure 3.1



* No available data

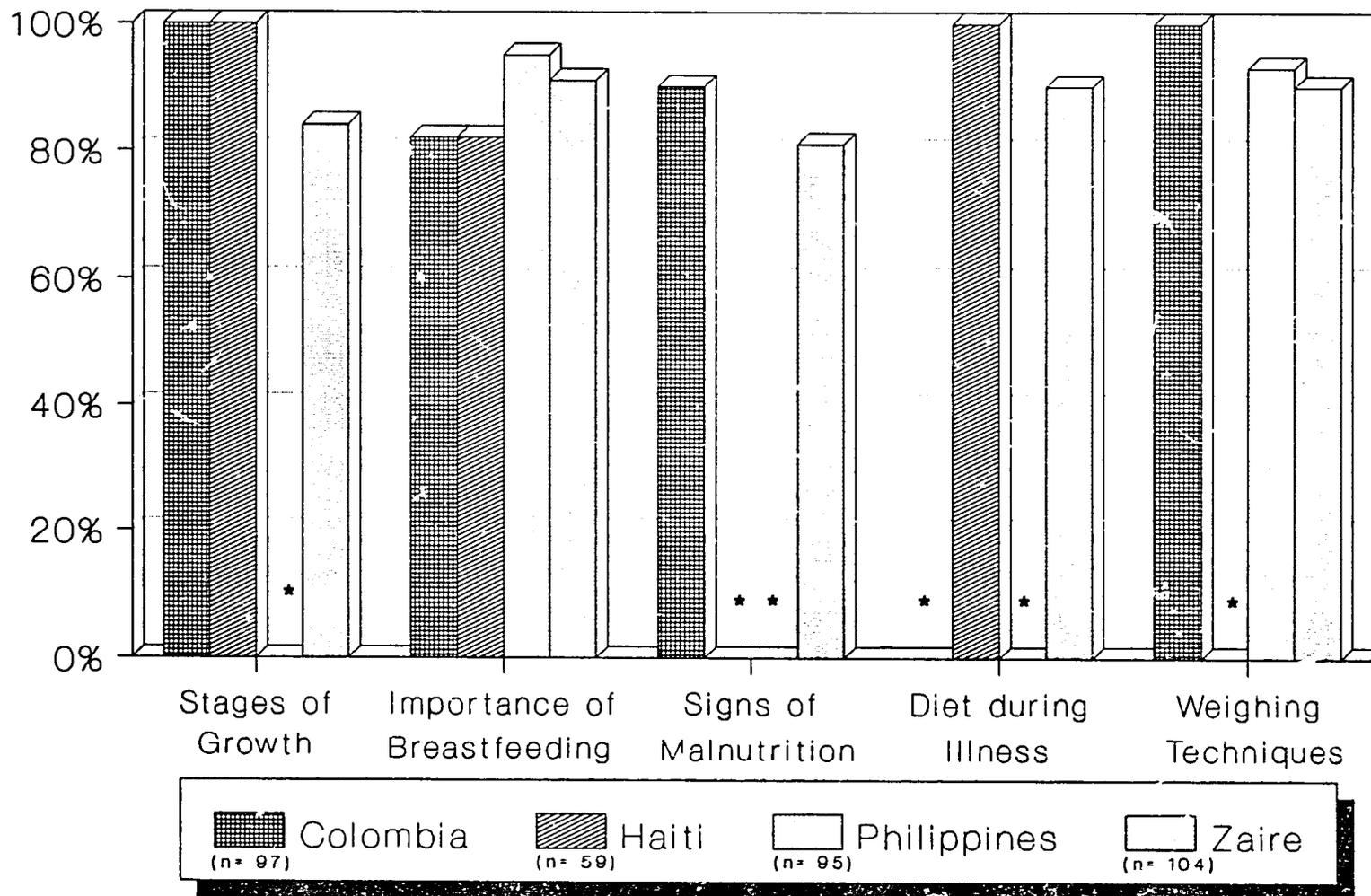
**Proportion of Interviewed Workers
Reporting Competency Tests During
Training**

Figure 3.2



Proportion of Interviewed Workers with Growth Monitoring Knowledge

Figure 3.3



* No available data

problems could also indicate problems. Only one in five volunteers mentioned getting sick easily as a danger sign of malnutrition. Fifty-two percent of Zairian health workers named four or more symptoms of malnutrition, but fewer than a third mentioned such important signs as anemia, loss of appetite, and slow development.

Data from Colombia and the Philippines, moreover, indicate important gaps between worker knowledge and observed performance. In Colombia, volunteers routinely completed family health records during home visits without recognizing opportunities to educate mothers about health. Though their knowledge is strong, they apparently lack the skills for transmitting it to mothers.

Figure 3.4 compares the proportion of Philippine workers who claim to have been trained in certain tasks to the proportions observed to perform them correctly. While results are similar for reading weights and calculating ages, they are widely divergent for certain weighing processes and for counseling on breastfeeding.

Workers in Zaire, at least, also seemed confused about growth monitoring objectives. Only a third knew that weight should be monitored to detect faltering growth before frank malnutrition appeared. A more common response was to track illness (73%) and to know if the child was in good health (67%). Fewer than half understood that the weight curve indicated the quality of growth, and only 19% knew that a child developing normally for his age was a child growing well. Only 16%, moreover, saw growth monitoring as an opportunity to do health education.

Worker knowledge about breast-feeding, on the other hand, was universally good, though some workers did not recommend its practice for a full 12 months. In Colombia and Haiti, 82% of interviewed health workers, and in Zaire 91%, recommended breast-feeding for at least 12 months. All health workers interviewed in Haiti, and 90% in Zaire, knew that breast-feeding should continue during diarrhea.

In Zaire, workers were not well versed on how to tell the child's age if the mother did not know. While about a third knew to do a physical examination or local events calendar, another third incorrectly thought one could tell by weighing the child. Only 15% would use the date of birth of other children in the village born at about the same time.

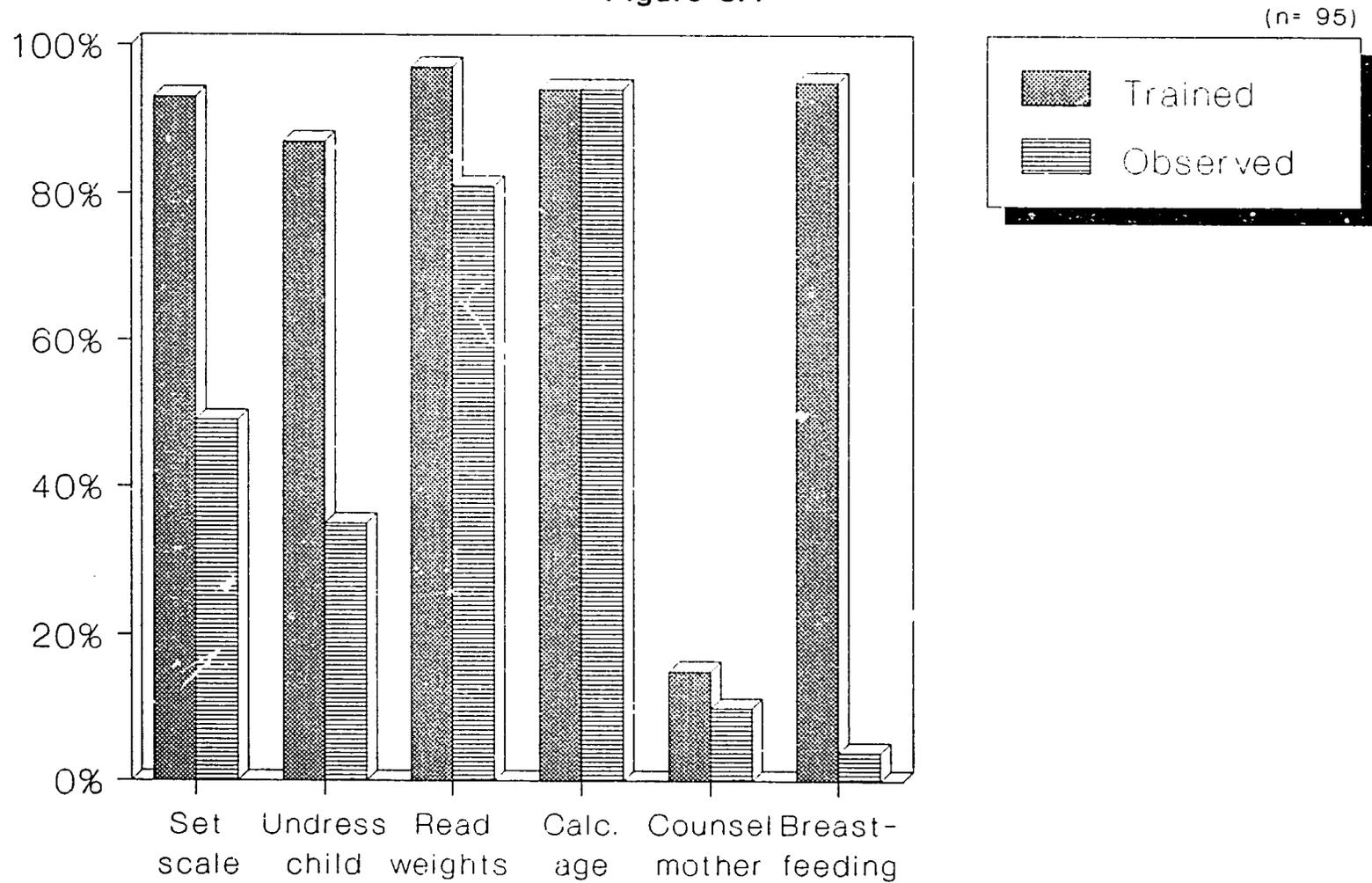
3.2 SUPERVISION

Even well-trained workers need frequent supervision to reinforce task performance and resolve inevitable field problems. Contact with more senior staff also boosts community respect for workers as well as the workers' sense of participation. Supervisors should ideally be experienced field workers, knowledgeable and appreciative of problems encountered in working at the periphery.

Field supervision in at least two of the programs appeared to be rare. In Zaire, 41% of the health facilities and 79% of community health agents had not been visited during the 3 months prior to the survey. Over half (56%) of Filipino supervisors told interviewers that they supervised weekly, and another 33% monthly, yet only 12% of supervisees reported having had such a contact during the previous 2 weeks. By contrast, in Togo Catholic Relief Services (CRS) supervisors spend 2 weeks per month in the regions they supervise, visiting all infant feeding centers as well as the school canteen programs.

Proportion of Filipino Workers Who Were Trained to Perform Certain Tasks and Who Performed Them Correctly

Figure 3.4



In some countries, community workers are more often supervised in group meetings, at a school or health center, than in their places of work. Forty-six percent of Zairian mama bongisas had attended a group meeting during the previous 3 months. Colombian volunteers also went to central meeting places such as schools.

Observational data on supervisory performance are available only from the Philippines and are summarized in Figure 3.5. The maximum proportion who performed any of the key supervision tasks was 18%, with only 6% making any comment at all to the health worker on the technique or process of weighing. When interviewed, on the other hand, 65% of health workers reported occasional supervisory feedback; 73% said that a supervisor had at some time observed them conducting group nutrition education. Supervisors in Togo emphasized administrative procedures, especially accountability for finances and for PL-480 food.

3.3 MATERNAL AND COMMUNITY PARTICIPATION

Support of influential community leaders and groups is considered likely to increase participation rates as well as encourage better followup action to reduce malnutrition. PRICOR measured various indicators of support in Colombia, Haiti, and Thailand, but was unable to measure effects on participation and followup:

- Residents in six Haitian communities reportedly helped select growth monitoring sites. Seventy-seven percent of facility key informants said that community members gave nutrition education.
- The Colombian program was based on volunteers, suggesting high levels of public support.
- In Thailand, community volunteers reportedly conducted about a third of weighing sessions, and all of the community leaders that PRICOR interviewed had heard about weighing and knew who conducted sessions.

Analysts in Togo decided in advance that maternal participation was a key variable in growth monitoring performance and focused data collection on it. Through focus groups it was learned that mothers did not participate in management of feeding centers and had no role in organizing growth monitoring sessions. During 103 weighing encounters, mothers were observed to:

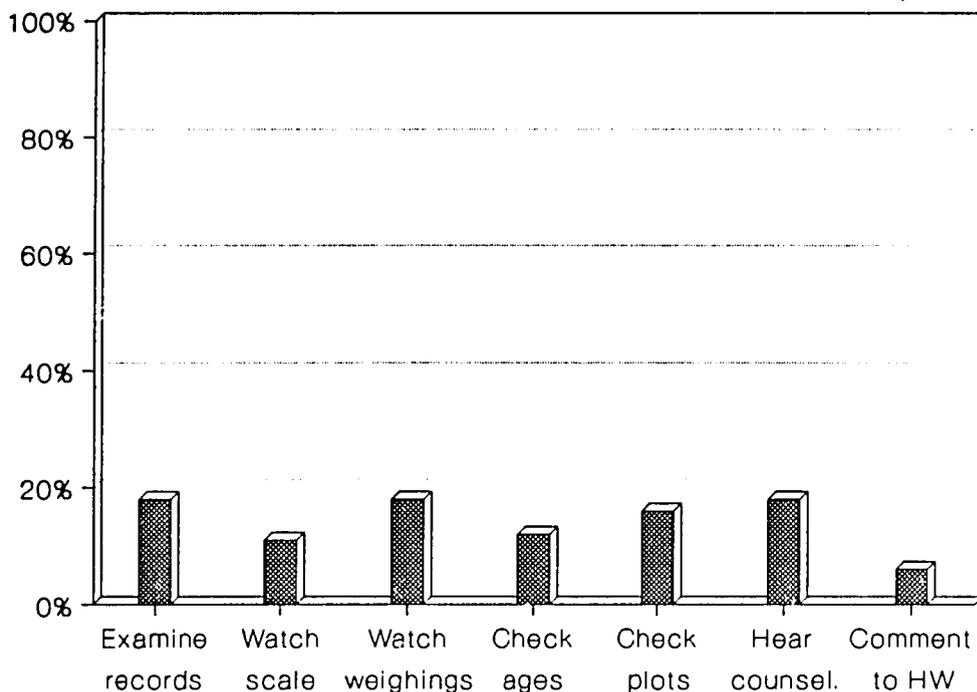
- look at the staff member (83%),
- look at the child's chart (60%),
- look at the scale while it was being manipulated (19%), and
- speak with the staff member (79%).

Mothers observed doing at least 3 of these things were defined as active participants; in only 6 of 16 observed sessions did active mothers outnumber the inactive.

Proportion of Filipino Supervisors Who Performed Key Functions

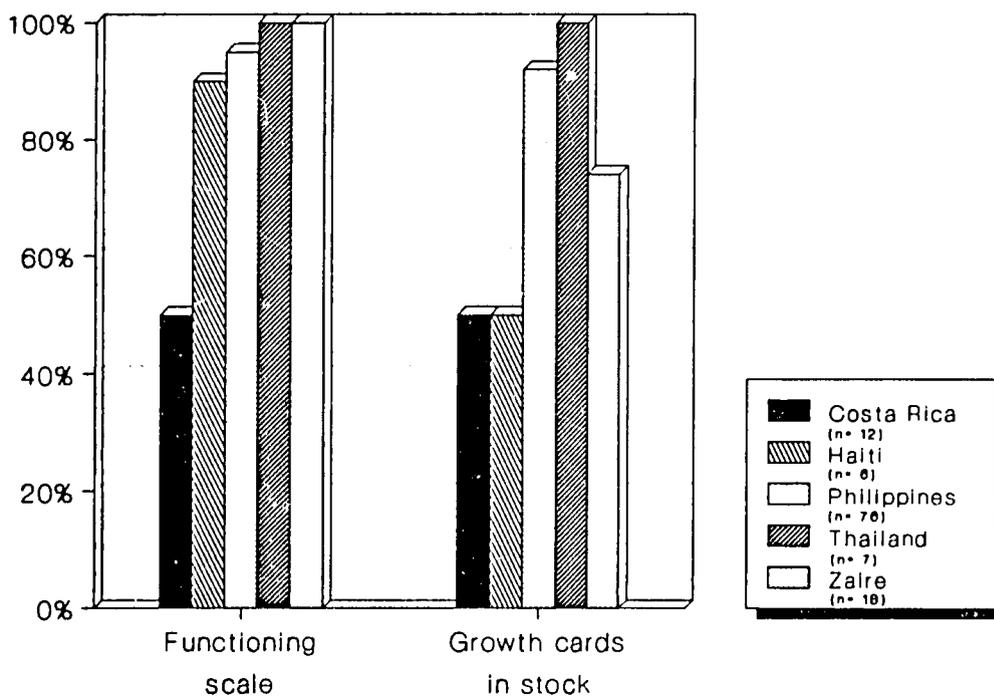
Figure 3.5

(n = 150)



Proportion of Observed Clinics Having Growth Monitoring Equipment and Supplies

Figure 3.6



3.4 LOGISTICS AND SUPPLIES

Clinics obviously must have functioning scales with which to weigh children, and they should also have a supply of growth cards for new enrollees. Figure 3.6 shows PRICOR findings in five countries.

As shown in the figure, functioning scales were found in 100% of facilities observed in Thailand and Zaire, 95% in the Philippines, and 90% in Haiti. In Costa Rica, however, only 6 of 12 observed scales were considered to be in good condition, while 66% of facilities observed in the Philippines had only bathroom scales calibrated to the half kilogram. Philippine informants reported that when scales did break, they tended to remain out of service for long periods: 2 to 6 weeks in health centers and 8 to 40 weeks in health posts.

All of the weighing sessions observed in Thailand, 92% in the Philippines, and 74% in Zaire, had growth cards in stock. Seventy-eight percent of Philippine facilities had 10 or more cards, and 60% had more than 20. The modal number of cards was 50 in Zaire, the range (for those who had them) 25 to 93. In Costa Rica, by contrast, 6 of 12 observed health areas lacked card supplies, while in Haiti, 50% of sessions either started without cards (40%) or ran out while weighing was underway.

In Thailand only one observed clinic had educational posters, and none had pamphlets, slides, or films. Only one quarter of Zaire's facilities had growth monitoring health education materials.

3.5 CONCLUSIONS

This analysis, though less detailed than that of service delivery, found common problems in the following areas:

- insufficient training for community- (as opposed to clinic-) based workers,
- workers' weak technical grasp of basic nutritional and growth monitoring concepts,
- apparently insufficient attention to practical work (and testing of practical skills) during training,
- apparent lack of attention to counseling skills during training,
- excessive attention to administrative detail and neglect of performance observation during supervision visits, and
- shortage of growth cards and appropriate scales in at least several countries.

Chapter 4 discusses how these support system weaknesses affected quality of care.

4. CONCLUSIONS: THE WEAKNESS OF COUNSELING

Growth monitoring/promotion includes both mechanical and interpretative elements, and it is clear that workers do better with the mechanical. They should, and generally do, calculate accurate ages; they should and generally do measure correct weights; they should draw accurate plots linking past and present readings. The task of recruiting children and their parents for growth monitoring is also relatively mechanical once procedures have been established, but less is known about how well this works.

As shown in Chapter 2, however:

- Scales in most countries were (a) of inappropriate types (66% of those in the Philippines were bathroom scales); (b) not tared before sessions (63% in Thailand and 51% in the Philippines); and (c) sometimes non-functional altogether (50% of health areas in Costa Rica).
- Children were almost never fully undressed (all countries, ranging from 0% in Thailand to 35% in the Philippines), though the proportion wearing sufficient clothing to distort results is less clear.
- Significant age inaccuracies were reported from Thailand (45%) and Togo, and may have occurred elsewhere as well.
- Growth plotting was often inaccurate (at least 45% in Thailand and in 7 of 12 areas in Costa Rica).

The possibly cumulative nature of these inaccuracies calls into question the validity of any resulting interpretations for individual children.

Once weighing has been completed, workers must first understand the significance of both individual weights and trends over time and second interpret these results and give appropriate responsive advice to mothers. Systems analysis results, though, showed that:

- The proportion of parents told of the child's weight change ranged from nil in Haiti to 65% in Togo.
- The proportion told of nutritional status ranged from 5% in Haiti to 52% in Thailand. In Costa Rica, on the other hand, performance was judged adequate in 9 of 12 health areas.
- In Costa Rica only 30% of malnourished children, and in Zaire only 23%, were referred for supplemental feeding.
- Problems in home feeding were almost never discussed in Haiti or Thailand, but were 45% of the time in Zaire.
- Workers almost never gave age-appropriate advice about child feeding (a low of 3% in the Philippines to a high of 18% in Thailand). In Costa Rica, on the other hand, parents of 60% of malnourished children were given feeding advice.

- In every country studied, fewer than 40% of parents were told the date and time of the next weighing.
- There is little evidence of home followup from any of these programs except in Colombia, making it unlikely that workers routinely confirmed compliance with remedial advice.

Interviews showed that many workers understood growth processes and indicators only superficially, while direct observation showed that many lacked effective counseling skills. In addition, observers noted (less quantitatively) the absence of standard messages for common problems and the general unavailability of remedial/rehabilitative measures other than counseling. Time available for weighing and counseling clients was often very short.

4.1 MOTHERS' KNOWLEDGE

Growth monitoring, it is commonly believed, can only succeed if mothers understand and fully internalize the process of growth promotion. They also, of course, must act on the advice and, on occasion, convince others to do so as well.

How effective were these sessions in changing mothers' knowledge? Data on immediate effects are only available from exit interviews in Thailand and Zaire and are surprisingly good. In Thailand, 76% of mothers leaving sessions knew their child's nutritional grade, 71% knew good feeding practices, and 90% knew the site of the next weighing. In Zaire, where 60% of mothers were told their child's nutritional status, 71% nevertheless knew (or successfully guessed) what it was; disturbingly, though, only 40% of parents whose children had remained stationary knew of this.

Interviewed at home, though, many mothers did not know the purpose of growth monitoring and could not locate their child's card. Only 22% of those interviewed in Haiti, 30% in Thailand, and 58% in Zaire could either explain the use of the growth card or identify detection of malnutrition as the major reason for using it. (In Colombia, though, 94% could do so.) In Colombia and Zaire only half, and in Thailand only 11%, of mothers saying they had growth cards could find them and show them to interviewers. In Thailand, only 3% were able both to locate the card and explain it to the interviewer.

Additional data on maternal knowledge are summarized in Figure 4.1.

These data, while perhaps not as discouraging as might have been expected, nevertheless, highlight the need to strengthen both post-weighing parental counseling and more general health education. PRICOR data do not permit formal correlational analysis, yet enough is known to explain many of the observed problems. This chapter concentrates on the accuracy, appropriateness, and style of maternal counseling as the most important immediate outcome of growth monitoring, and uses study results to explain why it is so weak.

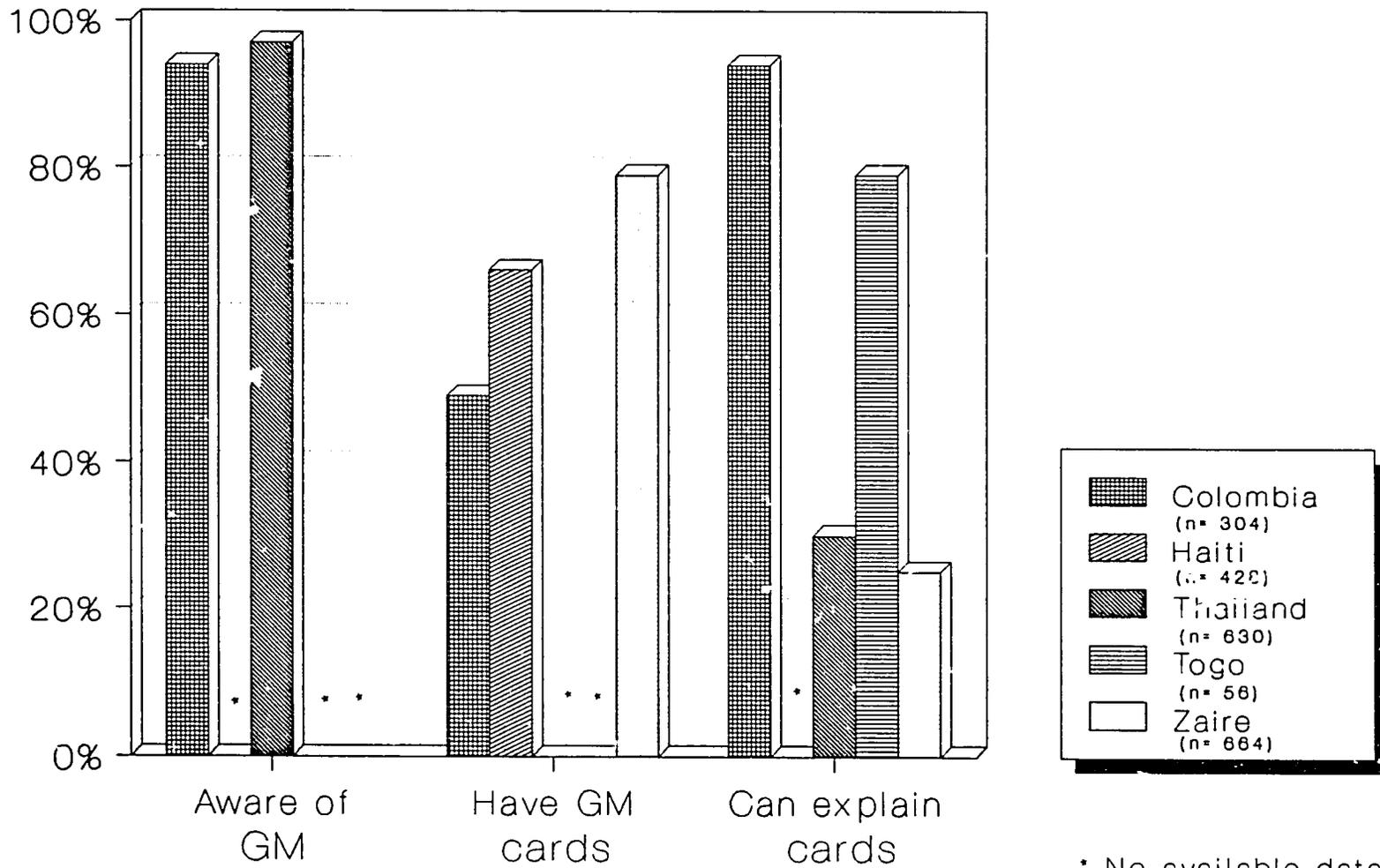
4.2 MANY FACTORS AFFECT COUNSELING

To counsel parents effectively, growth monitoring workers need:

- accurate information on individual children,

Proportion of Mothers Reporting Growth Monitoring Knowledge and Practices

Figure 4.1



- interpretative skills, based on good understanding of child growth and development,
- appropriate attitudes both toward their work and toward individual clients,
- sufficient time for weighing and counseling, and
- logistical support, including growth cards, educational materials, and access to supplemental foods.

Attempts to improve counseling skills (the usual focus of remedial efforts) will only succeed if workers improve the accuracy of their plotting and interpretation, if the time available for weighing and counseling can be increased or reallocated, and if logistics are improved.

4.3 WEIGHING DATA ARE OFTEN INACCURATE

The first step in effective counseling is to correctly analyze a child's nutritional status, using accurate individual growth charts. Chapters 2 and 3 noted common problems:

- Scales in most countries were (a) of inappropriate types (66% of those in the Philippines were bathroom scales); (b) not tared before sessions (63% in Thailand and 51% in the Philippines); and (c) sometimes non-functional altogether (Costa Rica).
- Children were almost never fully undressed (all countries, ranging from 0% in Thailand to 35% in the Philippines), though the proportion wearing sufficient clothing to distort results is less clear.
- Significant age inaccuracies were reported from Thailand (45%) and Togo, and may have occurred elsewhere as well.
- Growth plotting was often inaccurate (at least 45% in Thailand and in 7 of 12 areas in Costa Rica).

Correct interpretation of monitoring results also requires reference to a child's previous visits and to such significant home events as illnesses and feeding practices. Regardless of a child's nutritional status, workers should perform quick developmental checks and look for obvious signs of illness or nutritional deficiency. Chapter 2 showed that these steps were rarely performed.

4.4 MANY WORKERS LACK INTERPRETATIVE SKILLS

Section 3.1 of this paper showed that few workers in any country had an adequate understanding of growth processes or of the chart, causing many to concentrate on current weight rather than growth trends for their interpretations. Many children with insufficient growth between weighings may have been missed as a result. Workers themselves do not appear to have been confident of their interpretations, since few tailored counseling to individual nutritional status.

The promotional aspects of growth monitoring require a relatively sophisticated understanding of child development and may be difficult to teach in the typically brief primary health care training course. The best training for growth monitoring/promotion is practical and applied, and actively involves trainees in the performance of key tasks. Trainees need supervised practice in the

interpretation of real-life growth patterns and in maternal counseling. Evidence, at least from Togo and the Philippines, indicates that this did not occur.

Even with good training, workers must be encouraged and supported technically through supervisory participation in weighing sessions. As shown in Section 3.2, however, only 41% of Zairian health facilities had been visited in the previous 3 months, while only 18% of Philippine supervisors performed any of the key supervision tasks during observed visits.

4.5 WORKERS' ATTITUDES DO NOT SUPPORT EFFECTIVE COUNSELING

Workers need good rapport with their clients and must see growth monitoring as an opportunity for health education and patient counseling. Workers in Togo, however, often used reprimands, even on minor administrative matters, and clearly cultivated a superior/inferior relationship with mothers. Only 16% of Zairian workers, moreover, told interviewers that they saw growth monitoring as an educational opportunity.

Apparent disinterest in counseling is almost certainly due in part to supervisors' failure to observe and encourage it and to the fact, illustrated above, that mothers did not know enough about growth monitoring to be curious about its implications for their child.

4.6 SESSION ORGANIZATION MAY IMPEDE WEIGHING AND COUNSELING

It is commonly held that large growth monitoring sessions are less effective than small ones because:

- Children may not all be weighed by the same person, contributing to variation in the accuracy of weights and growth curves.
- The long wait makes children restless; and when finally placed on the scale, their continuous writhing makes accurate reading more difficult.
- Out of haste, many children may be weighed fully clothed.
- Children's crying and general confusion impedes effective counseling.

While PRICOR found many problems, it is not clear that they were related to the size of weighing sessions. The average number of children observed ranged from under 10 in Haiti and Thailand to over 25 in Zaire. Philippine workers weighed children individually with few other families present, yet performed no better than Zairian workers in mass sessions. Zairian workers at large sessions actually counseled more mothers than did those in the Philippines.

Program or clinic organization may, however, affect the amount of time available for such key tasks as:

- weighing and examining the child,
- questioning mothers about child health and family practices,
- interpreting both the growth chart and other information about the child,
- informing mothers of these results and advising about followup action, and

- confirming maternal understanding.

While data are scarce, lack of time was a serious constraint in Togo and perhaps elsewhere. Togolese workers spent an average of only 1 minute and 56 seconds with each child, including only 50 seconds for counseling. Analysts attributed this time constraint to poor clinic organization, especially the requirement that technically trained staff distribute PL-480 food. (Distribution responsibility was subsequently transferred to mothers.) In the subsequent solution development phase, ways were found to increase individual time with clients while reducing overall session length, a step which also pleased mothers because it cut waiting time.

Time constraints in Togo also impeded effective supervision. According to the systems analysis report:

In each region, supervisors may have to visit as many as 15 CNIs and 10 school canteens. As a result, they do not have enough time to spend an entire day at each center. Given this time constraint, the emphasis of their visits has been on administrative accountability, particularly for the PL-480 food. Little, if any, time is used for observing and giving feedback to the staff in terms of the technical aspects of the program (weighing/counseling and health and nutrition education), and rarely do the supervisors interact directly with the mothers.

In Zaire, workers in one zone spent an average of only 2 minutes in total to weigh each child, interpret the result, and counsel the mother. Time constraints were also reported from Costa Rica.

4.7 WORKERS LACK PROGRAM SUPPORTS

Effective counseling requires individual growth cards, readily available for new clients, and properly completed after each weighing. Mothers should have continued access to these cards in their homes.

In fact, card supplies were inadequate in Haiti and Costa Rica, though most workers even in these programs had at least one card to use in determining where a child stood on the growth curve at a single point in time. Many mothers either had no growth card at home (Haiti and Colombia) or were unable to locate it when asked (Thailand). Mothers clearly have difficulty understanding or recalling their child's progress when cards are not available to show it.

Chapter 3 shows that many scales were either non-functional (Costa Rica) or of inappropriate types (Philippines), making accurate weighing difficult in at least these two locations.

Almost certainly a major impediment to effective counseling, in several countries at least, was the fact that workers could not refer clients as recommended because of deficiencies in support services. In Costa Rica, supplementary feeding programs suffered from milk shortages, and workers were reluctant to tell mothers that they were eligible when supplies were unavailable. Many also claimed in interviews that nutrition centers were too far from families in need and that nutrition technicians often failed to follow through on referrals. In Thailand also, supplemental feeding programs were only operational in about half of the villages. Every one of the six Haitian clinics visited had exhausted its supply of nutrition supplements.

4.8 COMMUNITY DISINTEREST MAY DISCOURAGE COUNSELING

Dependent as it is on family and community behavior, the effectiveness of growth monitoring programs is greatly enhanced by the broadest possible understanding of objectives and implementation strategies. Community leaders as well as senior technical staff need to recognize and respect the important role that mothers play in addition to the difference between ongoing growth monitoring and one-time nutritional assessment. These understandings were found lacking in most study countries, as illustrated in Section 3.3.

4.9 SUMMARY

These findings, while often negative, provide an occasion for improving rather than eliminating growth monitoring service delivery. Workers in most of the countries studied were found to be on the job and performing at least the mechanical tasks with reasonable facility. Scales were in place, growth cards generally available, and, most importantly, mothers in attendance. Community understanding and even active support were evident in several countries.

Significant work is, nevertheless, required to bring the growth monitoring message home to millions of individual mothers and to ensure that findings influence home feeding practices. Accuracy in weighing and plotting must also be improved. Chapter 5 describes some of the preliminary steps taken in this direction following systems analyses.

5.**NEXT STEPS TO IMPROVE GROWTH MONITORING**

The purpose of systems analysis is to identify, diagnose, and begin resolution of problems that impede high quality service delivery. For growth monitoring, this review found significant and widespread problems in:

- the accuracy of child weights,
- the correctness of worker interpretations (due to poor age estimation, plotting, and analysis),
- the content and style of counseling,
- the frequency of home followup,
- training content and methods,
- supervision, and
- equipment and supplies.

What can be done about these problems? Clearly, those performing growth monitoring tasks, including trainers and supervisors, need to concentrate more than in the past on basic counseling and education. Trainers must ensure that workers know both how as well as what to communicate and that trainees extensively practice new skills before they start work. Supervisors must direct supervisees to perform counseling tasks and must observe and guide effective performance. Managers should particularly strengthen the training and supervision of community agents because of growth monitoring's emphasis on family behavior.

These remedies are easy, almost facile, to suggest, but experience indicates that they may be hard to implement. How can supervision be strengthened if supervisors have no transport to take them to the field or if existing work responsibilities already exceed one person's capacity? How can counseling be improved if manpower limitations and activity schedules mandate mass growth monitoring sessions with no time for individual discussion? How can trainers strengthen worker communication skills when they themselves do not know how to communicate? Clearly, these are good suggestions, but just as clearly they will not be implemented if unadapted to field reality.

The 'how' of primary health care is often more difficult than the 'what,' and operations research has been widely used to find the answers. Operations research to refine solutions to these problems has been undertaken in Zaire, Colombia, Togo, and the Philippines. Some of the more interesting solutions that have been or are being tested are summarized in Table 5.1 and briefly described below.

5.1 WEIGHING ACCURACY

Researchers in the Philippines developed maintenance procedures for scales and prepared a manual for the staffs of Rural Health Units and Barangay Health Stations. They also prepared an in-service training module to improve workers' weighing technique. Managers also strengthened

Table 5.1
PRICOR OR Studies Related to Growth Monitoring

Country	Problem	OR Study	Results	Cost
Colombia	Lack of standardized volunteer activities in GM and nutritional rehabilitation	Analysis of possibilities and development of new approaches	New approaches partially implemented	
Philippines	Weak supervision	Development of supervisory checklists	Checklists reportedly adopted	\$10,805
	Use of inappropriate scales	Improving and maintaining scales	Maintenance guidelines developed	\$12,214
	Weak weighing skills	Improving midwives' skills in weighing and recording	Proportion of workers performing tasks correctly rose from 48 to 55%	\$10,818
	Inadequate interpretation of growth curves	Improving health worker interpretation of growth curves	Training conducted, but overall performance improved only moderately	\$9,324
Togo	Supervisors rarely verify health worker task performance	Use of supervision guide to aid supervisors during weighing and counseling sessions	Frequency of supervision reduced to permit greater time with worker during each visit	\$2,000
	Too little time spent on maternal counseling due to poor clinic organization	Session reorganization to increase time for counseling (2 studies)	Time per mother increased from 50 seconds to 2 minutes	\$3,230
	Staff do not make required home visits	Systematizing home visits to "targeted" children	Mothers reported that visits were useful, but maternal KAP did not change	\$350
	Mothers do not practice what they learn in health and nutrition education	Use of "mother visitors" to reinforce health and nutrition education through home visits	No observable difference in maternal recall of messages	\$1,260

Table 5.1
PRICOR OR Studies Related to Growth Monitoring

Country	Problem	OR Study	Results	Cost	
Zaire	Inadequate staff time for counseling mothers	Testing of 3 models for GM sessions	Session reorganization tripled counseling time but reduced session length	\$4,879	
	Inconsistent recording of weights in maternities and health centers	Analysis of reasons for inconsistency	Development of standard reporting forms and training module	\$3,669	
	Inconsistent reporting due to poor scales, calculation errors, and multiple recording and reporting forms	Test of solutions to these problems	Significant incorrect classification of children	\$6,537	
	Infrequent and poor quality supervision		Development of supervision checklists for GM and other activities (2 studies)	Correct performance of GM tasks increased from 22 to 76%	\$2,340 \$1,507
				Guidelines and manual developed	\$4,664 \$3,765
	Poor communication of GM results to mother	Adaptation of maternal advice to child's nutritional status (2 studies)	Not yet available	\$4,121	
	Poor maternal and HW understanding of link between inadequate food intake and malnutrition	Study to improve knowledge			
	Lack of intervention strategy based on child's nutritional status	Development of intervention norms based on nutritional status (2 studies)	Proportion able to explain poor growth status rose from 10 to 53%	\$2,736	
\$3,365					

refresher training in an effort to improve worker weighing skills and ability to calculate ages, but the proportion performing all tasks correctly rose only 7 points, from 48 to 55 %.

5.2 INTERPRETATION AND COUNSELING

A major problem found in most systems analyses was that workers failed to adapt counseling to children's nutritional status, either because they did not diagnose status correctly or because they did not know how to tailor advice to personal needs. Four studies in Zaire have further analyzed these problems and have developed standardized protocols for community-based followup. One study found an increase from 10 to 53 % in the proportion of mothers able to explain why their child was considered malnourished. Managers in the Philippines trained workers in chart interpretation but measured only slight improvements in worker performance.

Analysts in several countries found lack of time, partly due to poor clinic organization, to be an important constraint to accurate interpretation and effective counseling. In Togo the Ministry of Health and Catholic Relief Services reorganized clinics and arranged for mothers to distribute PL-480 food; by doing so, they doubled counseling time for the malnourished (from 50 seconds to 2 minutes) and simultaneously reduced session length. A similar result was achieved in Zaire by changing the timing of the health education session from the beginning to the middle of the overall session and by concentrating counseling on those in greatest need.

5.3 HOME FOLLOWUP

Researchers in both Togo and Zaire emphasized greater community and particularly maternal involvement as ways to increase compliance with worker nutritional advice. In Togo, researchers compared maternal retention of educational messages delivered by facility staff with those delivered by specially trained mothers; finding little difference, they opted for greater training of "mother-visitors" as the most cost-effective way to increase home followup. In Zaire, the standardized followup protocols mentioned above were developed with the help of community leaders and emphasized community-managed nutritional activities.

5.4 TRAINING AND SUPERVISION

Many studies have focused on ways to strengthen technical support for both clinical and community-based personnel. Several of the studies mentioned above promoted refresher training as the best way to improve performance, especially of weighing and counseling tasks. In Zaire, one study compared the effects of two different training strategies on worker knowledge and practices for weighing and counseling; the more costly but also more effective approach used experienced, centrally based tutors, while the alternative used regional tutors previously trained by the central tutors. In the future, a mixture of the two approaches may be used, depending on the availability of resources.

Also in Zaire, researchers developed a comprehensive supervision strategy for child survival interventions, including the following elements:

- targeted supervision schedules,
- supervision forms,

- task performance norms,
- training of supervisors,
- improved supervision "style,"
- time available,
- material available, and
- number of supervisors.

In the Philippines, both a supervision guide and an in-service training module were developed, while managers in Togo also developed a guide.

5.5 ISSUES FOR ADDITIONAL STUDY

Comparative analysis shows that growth monitoring problems are rarely confined to single programs, suggesting that managers have much to learn from each other, both about the problems themselves and about potential solutions. PRICOR developed the comparative framework embodied in the Primary Health Care Thesaurus partly to facilitate experience sharing and replicability of new approaches. The experiences recounted above represent only the first steps, however, and much more will need to be done to make growth monitoring the simple but effective child survival intervention that pilot studies show it can be.

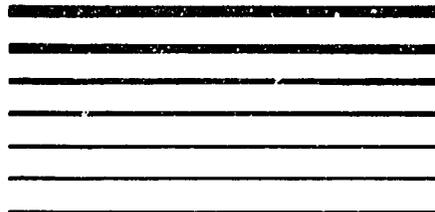
Clearly, more operations research is needed on the priority problems identified in this review and in the studies listed above. Particularly needed are studies on:

- how to reorganize session schedules and patient "flow" so that more time can be devoted to individual mothers, especially those whose children's growth is faltering;
- how to supervise and guide supervisors to pay greater attention to growth monitoring task performance;
- how to improve supervisory problemsolving skills;
- ways to more effectively employ community agents;
- methods by which simply trained workers can calculate accurate ages;
- improvement of feasible remedial measures to suggest to mothers for growth faltering;
- how to increase the frequency of supervision under conditions of severe resource constraint;
- ways to improve the frequency and technical content of refresher courses; and
- procedures to assist health workers to effectively counsel mothers according to nutritional status.

Beyond discrete studies, experience increasingly demonstrates the need for low-cost, locally maintained, quality improvement processes. Managers need simple means to identify and quickly resolve routine operational problems. They should also be able to perform simple operations research when this is the best way to devise new approaches. The new Quality Assurance Project is addressing many of these needs.

PRICOR

**PRIMARY
HEALTH CARE
THESAURUS**



VOLUME I

Growth
Monitoring/
Promotion
Service
ACTIVITIES

*Version 1.2
May 1, 1988*

CENTER FOR HUMAN SERVICES

**Primary Health Care Operations Research Project
Supported by the U.S. Agency for International Development**

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GROWTH MONITORING/ PROMOTION SERVICE DELIVERY ACTIVITIES, TASKS AND SUBTASKS

- 1. CHANNEL CHILDREN UNDER 5 (OR OTHER AGE PER LOCAL POLICY) TO GROWTH MONITORING SERVICES**
 - 1.1 IDENTIFY CHILDREN UNDER 5 (OR OTHER AGE PER LOCAL POLICY)**
 - 1.1.1 SEEK TO IDENTIFY CHILDREN UNDER 5 (OR OTHER AGE PER LOCAL POLICY) AT CLINIC SESSIONS**
 - 1.1.2 SEEK TO IDENTIFY CHILDREN UNDER 5 (OR OTHER AGE PER LOCAL POLICY) DURING HOME VISITS**
 - 1.1.3 MAINTAIN RECORDS WHICH IDENTIFY CHILDREN UNDER 5 (OR OTHER AGE PER LOCAL POLICY)**
 - 1.2 RECRUIT CHILDREN UNDER 5 (OR OTHER AGE PER LOCAL POLICY) (SEE GROWTH MONITORING/PROMOTION: SERVICE DELIVERY-3. MOTIVATE/EDUCATE MOTHERS AND OTHER COMMUNITY MEMBERS REGARDING GROWTH MONITORING**
 - 1.3 DIRECT CHILDREN UNDER 5 (OR OTHER AGE PER LOCAL POLICY) TO WEIGHING SESSIONS**
 - 1.3.1 DIRECT CHILDREN UNDER 5 (OR OTHER AGE PER LOCAL POLICY) IDENTIFIED AT CLINIC SESSIONS TO WEIGHING SESSIONS**
 - 1.3.2 DIRECT CHILDREN UNDER 5 (OR OTHER AGE PER LOCAL POLICY) IDENTIFIED DURING HOME VISITS TO WEIGHING SESSIONS**
 - 1.3.3 EXPLAIN WHEN AND WHERE TO GO FOR GROWTH MONITORING SERVICES DURING GROUP NUTRITION EDUCATION SESSIONS (SEE GROWTH MONITORING/PROMOTION: SERVICE DELIVERY-3.2.1.8 EXPLAIN WHEN AND WHERE TO GO FOR GROWTH MONITORING SERVICES)**
- 2. PROVIDE GROWTH MONITORING**
 - 2.1 PREPARE EQUIPMENT AND SUPPLIES**
 - 2.1.1 TARE SCALE TO 0**
 - 2.2 MONITOR CHILDREN'S GROWTH**
 - 2.2.1 CALCULATE CHILD'S AGE**
 - 2.2.1.1 Record child's birthdate**
 - 2.2.1.2 Count the number of months since child's birthmonth and record in appropriate place on card**
 - 2.2.2 WEIGH CHILD**
 - 2.2.2.1 Set scale to 0**
 - 2.2.2.2 Remove child's clothing**
 - 2.2.2.3 Place child correctly on scale**

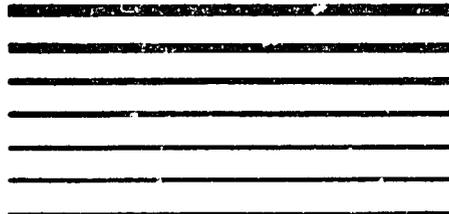
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- 2.2.2.4 Read scale indicating child's weight
- 2.2.3 PLOT CHILD'S WEIGHT PER TYPE OF CARD (LOCALLY DETERMINED)
 - 2.2.3.1 Point child's age on card
 - 2.2.3.2 Point child's weight on card
- 2.2.4 COUNSEL MOTHER (SEE GROWTH MONITORING/PROMOTION: SERVICE DELIVERY --
3.1 PROVIDE INDIVIDUAL COUNSELLING TO MOTHERS OF CHILDREN ATTENDING
GROWTH MONITORING SESSIONS)
- 2.3 REFER CHILDREN
 - 2.3.1 REFER SICK/MALNOURISHED CHILD FOR MEDICAL ATTENTION
 - 2.3.2 REFER MALNOURISHED CHILD FOR NUTRITIONAL REHABILITATION
- 2.4 FOLLOW UP NONATTENDERS
- 3. MOTIVATE/EDUCATE MOTHERS AND OTHER COMMUNITY MEMBERS
REGARDING GROWTH MONITORING
 - 3.1 PROVIDE INDIVIDUAL COUNSELLING TO MOTHERS OF CHILDREN ATTENDING
WEIGHING SESSIONS
 - 3.1.1 INTERPRET CHILD'S PROGRESS TO MOTHER
 - 3.1.1.1 Tell mother whether child has gained weight, lost weight or stayed the same
since last weighing
 - 3.1.1.2 Tell mother the nutritional status of the child
 - 3.1.1.3 Ask mother how her child has been doing at home and if he/she has had any
problems since last weighing
 - 3.1.1.4 Use growth card to explain to mother how her child is growing
 - 3.1.2 TRANSMIT KEY GROWTH MONITORING MESSAGES
 - 3.1.2.1 Make recommendations per local policy regarding child feeding and care per
child's age, growth monitoring results, and what mother has said regarding
her child
 - 3.1.2.2 Tell mother when to take child for next weighing
 - 3.1.3 USE APPROPRIATE INDIVIDUAL COUNSELLING TECHNIQUES
 - 3.1.3.1 Ask mother questions about recommendations made to determine her
understanding
 - 3.1.3.2 Ask mother to repeat when she should take child for next weighing
 - 3.1.3.3 Ask mother if she has any questions
 - 3.2 PROVIDE OUTREACH NUTRITION EDUCATION
 - 3.2.1 TRANSMIT KEY NUTRITION MESSAGES

- 3.2.1.1 Explain importance of good breastfeeding and weaning practices
- 3.2.1.2 Explain which locally available foods constitute a balanced diet for children
- 3.2.1.3 Explain how to feed children during illness
- 3.2.1.4 Explain the importance of gaining weight as an indicator of health
- 3.2.1.5 Explain the relation between food consumption and growth
- 3.2.1.6 Explain causes for non-growth
- 3.2.1.7 Explain the purpose of growth monitoring
- 3.2.1.8 Explain when and where to go for growth monitoring services
- 3.2.2 USE APPROPRIATE HEALTH EDUCATION TECHNIQUES AND MATERIALS
 - 3.2.2.1 Demonstrate preparation of weaning foods
 - 3.2.2.2 Ask questions of and respond to questions from attendees
 - 3.2.2.3 Use visual aids in transmitting key messages



PRIMARY HEALTH CARE THESAURUS



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GROWTH MONITORING/ PROMOTION PLANNING ACTIVITIES, TASKS AND SUBTASKS

- 1. ASSESS OUTPUTS, EFFECTS (COVERAGE) AND IMPACT OF CURRENT GROWTH MONITORING/PROMOTION ACTIVITIES UTILIZING INFORMATION SYSTEM, MONITORING AND EVALUATION INFORMATION**
- 2. SET GROWTH MONITORING/PROMOTION OBJECTIVES AND TARGETS**
 - 2.1 SPECIFY TARGET AGE GROUP(S)**
 - 2.2 DETERMINE DESIRED GROWTH MONITORING COVERAGE**
 - 2.3 SET QUANTITATIVE AND DATED GROWTH MONITORING TARGETS**
- 3. DEVELOP GROWTH MONITORING/PROMOTION STRATEGY**
 - 3.1 DEVELOP GROWTH MONITORING/PROMOTION POLICIES**
 - 3.1.1 DEVELOP RECOMMENDED WEIGHING SCHEDULE**
 - 3.1.2 DEVELOP POLICIES ON GROWTH STANDARD AND GROWTH CARD TO BE USED**
 - 3.1.3 DEVELOP POLICY ON ELIGIBILITY**
 - 3.1.4 DEVELOP POLICIES ON REFERRAL AND FOLLOW-UP OF MALNOURISHED CHILDREN**
 - 3.1.5 DEVELOP POLICIES ON INCENTIVES FOR GROWTH MONITORING**
 - 3.2 DEVELOP GROWTH MONITORING/PROMOTION PROCEDURES**
 - 3.2.1 DEVELOP PROCEDURES FOR CHANNELLING CHILDREN TO GROWTH MONITORING/PROMOTION SERVICES, INCLUDING OUTREACH NUTRITION EDUCATION**
 - 3.2.2 DETERMINE SITES FOR WEIGHING SESSIONS**
 - 3.2.3 DETERMINE FREQUENCY OF WEIGHING SESSIONS**
 - 3.2.4 DEVELOP STANDARD WEIGHING PROCEDURES**
 - 3.2.5 DEVELOP STANDARD PROCEDURES FOR COMPLETING GROWTH CARDS**
 - 3.2.6 DEVELOP STANDARD PROCEDURES FOR COUNSELLING MOTHERS**
 - 3.2.7 DEVELOP PACKAGE OF KEY NUTRITION MESSAGES**
 - 3.2.8 DEVELOP REFERRAL PROCEDURES**
 - 3.3 DEVELOP BUDGET FOR GROWTH MONITORING/PROMOTION ACTIVITIES**

- 3.4 DEVELOP GROWTH MONITORING/PROMOTION WORKPLANS AND SCHEDULES**
 - 3.4.1 IDENTIFY SPECIFIC STAFF TO CONDUCT GROWTH MONITORING/PROMOTION ACTIVITIES**
 - 3.4.2 PROVIDE LOGISTIC SUPPORT FOR GROWTH MONITORING/PROMOTION ACTIVITIES**
- 4. COMMUNICATE GROWTH MONITORING/PROMOTION PLAN**

GROWTH MONITORING/PROMOTION TRAINING ACTIVITIES, TASKS AND SUBTASKS

- 1. PLAN GROWTH MONITORING/PROMOTION TRAINING**
 - 1.1 ASSESS GROWTH MONITORING/PROMOTION TRAINING NEEDS**
 - 1.2 SET OBJECTIVES AND TARGETS FOR GROWTH MONITORING/PROMOTION TRAINING**
 - 1.3 SELECT GROWTH MONITORING/PROMOTION TRAINING MATERIALS AND METHODS**

- 2. TRAIN HEALTH WORKERS IN GROWTH MONITORING/PROMOTION TASKS**
 - 2.1 TRANSMIT KEY GROWTH MONITORING/PROMOTION INFORMATION AND REQUIRED SKILLS PER TRAINEES' GROWTH MONITORING/PROMOTION TASKS**
 - 2.1.1 TEACH STAGES OF GROWTH AND DEVELOPMENT OF CHILDREN**
 - 2.1.2 TEACH IMPORTANCE OF BREASTFEEDING**
 - 2.1.3 TEACH PROPER WEANING PROCEDURES**
 - 2.1.4 TEACH SIGNS AND SYMPTOMS OF ACUTE MALNUTRITION**
 - 2.1.5 TEACH PACKAGE OF KEY NUTRITION MESSAGES**
 - 2.1.6 TEACH DIETARY MANAGEMENT OF ILLNESS**
 - 2.1.7 TEACH WEIGHING TECHNIQUE**
 - 2.1.8 TEACH PLOTTING TECHNIQUE**
 - 2.1.9 TEACH HOW TO INTERPRET AND USE GROWTH CARD FOR EDUCATING MOTHERS**
 - 2.1.10 TEACH IMPORTANCE OF TELLING ALL MOTHERS OF CHILDREN ATTENDING WEIGHING SESSIONS HOW THEIR CHILDREN ARE GROWING**
 - 2.1.11 TEACH IMPORTANCE OF TELLING ALL MOTHERS OF CHILDREN ATTENDING WEIGHING SESSIONS WHEN AND WHERE TO RETURN FOR NEXT WEIGHINGS**
 - 2.1.12 TEACH USE OF COUNSELLING AND HEALTH EDUCATION TECHNIQUES AND MATERIALS**
 - 2.1.13 TEACH PROCEDURES FOR CHANNELLING CHILDREN TO GROWTH MONITORING SERVICES**
 - 2.1.14 TEACH PROCEDURES FOR MAINTAINING WEIGHING RECORDS AND REPORTING GROWTH MONITORING/PROMOTION INFORMATION**

 - 2.2 USE APPROPRIATE TRAINING METHODS**
 - 2.2.1 DEMONSTRATE REQUIRED GROWTH MONITORING/PROMOTION SKILLS**
 - 2.2.1.1 Demonstrate weighing technique**

- 2.2.1.2 Demonstrate plotting technique
- 2.2.1.3 Demonstrate counselling and health education
- 2.2.2 ASK QUESTIONS OF AND RESPOND TO QUESTIONS FROM TRAINEES
- 2.2.3 USE VISUAL AIDS IN TRANSMITTING KEY MESSAGES
- 2.2.4 PROVIDE OPPORTUNITIES FOR TRAINEES TO PRACTICE REQUIRED GROWTH MONITORING/PROMOTION SKILLS
 - 2.2.4.1 Provide opportunities for trainees to practice weighing children
 - 2.2.4.2 Provide opportunities for trainees to practice plotting children's weights
 - 2.2.4.3 Provide opportunities for trainees to practice counselling mothers
 - 2.2.4.4 Provide opportunities for trainees to practice providing group nutrition education
- 2.2.5 GIVE TRAINEES WRITTEN, INCLUDING PICTORIAL, REFERENCE MATERIALS ON GROWTH MONITORING/PROMOTION
- 2.3 TEST COMPETENCE OF HEALTH WORKERS IN GROWTH MONITORING/PROMOTION TASKS
 - 2.3.1 TEST TRAINEE SKILL IN PLOTTING CHILDREN'S WEIGHTS BY OBSERVING WHETHER THEY CORRECTLY PLOT CHILDREN'S WEIGHTS (IN WEIGHING SESSIONS OR IN ROLE-PLAY EXERCISES)
 - 2.3.2 TEST TRAINEE KNOWLEDGE OF KEY NUTRITION MESSAGES (LOCALLY DETERMINED) BY: (1) OBSERVING WHETHER THEY CORRECTLY TRANSMIT KEY NUTRITION MESSAGES (IN WEIGHING OR GROUP NUTRITION EDUCATION SESSIONS OR IN ROLE-PLAY EXERCISES); OR (2) ADMINISTERING WRITTEN OR ORAL TESTS OF KEY NUTRITION MESSAGES
- 3. EVALUATE GROWTH MONITORING/PROMOTION TRAINING
 - 3.1 TEST COMPETENCE OF TRAINEES IN GROWTH MONITORING/PROMOTION TASKS (SEE GROWTH MONITORING/PROMOTION-2.3 TEST COMPETENCE OF TRAINEES IN GROWTH MONITORING/PROMOTION TASKS)
 - 3.2 ASSESS HEALTH WORKER GROWTH MONITORING/PROMOTION TASK PERFORMANCE (SEE GROWTH MONITORING/PROMOTION: SUPERVISION; INFORMATION SYSTEM, MONITORING AND EVALUATION)
- 4. MAINTAIN GROWTH MONITORING/PROMOTION TRAINING RECORDS AND REPORT GROWTH MONITORING/PROMOTION TRAINING INFORMATION (SEE GROWTH MONITORING/PROMOTION: INFORMATION SYSTEM, MONITORING AND EVALUATION)

GROWTH MONITORING/PROMOTION SUPERVISION ACTIVITIES, TASKS AND SUBTASKS

1. PLAN SUPERVISION ACTIVITIES

- 1.1 ASSESS SUPERVISION NEEDS**
- 1.2 SET SUPERVISION OBJECTIVES AND TARGETS**
- 1.3 IDENTIFY AND TRAIN SUPERVISORS**
- 1.4 DEVELOP SUPERVISION SCHEDULE AND WORKPLANS**
- 1.5 PROVIDE LOGISTIC SUPPORT FOR SUPERVISION ACTIVITIES**
- 1.6 COMMUNICATE SUPERVISION SCHEDULES AND RESPONSIBILITIES**

2. SUPERVISE GROWTH MONITORING/PROMOTION SERVICE DELIVERY AND SUPPORT ACTIVITIES

- 2.1 ASSIST HEALTH WORKERS IN ORGANIZING AND PLANNING GROWTH
MONITORING/PROMOTION TASKS**
 - 2.1.1 SET OR COMMUNICATE GROWTH MONITORING TARGETS**
 - 2.1.2 DEVELOP GROWTH MONITORING/PROMOTION WORKPLANS**
 - 2.1.3 DEVELOP OR CLARIFY STANDARDS FOR GROWTH MONITORING/PROMOTION
PERFORMANCE**
- 2.2 IDENTIFY GROWTH MONITORING/PROMOTION SERVICE DELIVERY AND
SUPPORT PROBLEMS AND STRONG POINTS**
 - 2.2.1 ASSESS ATTAINMENT OF GROWTH MONITORING TARGETS, IF PRESENT, AND/OR
FREQUENCY OF GROWTH MONITORING/PROMOTION SERVICE DELIVERY ACTIVITIES**
 - 2.2.1.1 Assess attainment of growth monitoring targets by: (1) reviewing service
delivery facility records to obtain data on the proportion of children weighed;
or (2) conducting sample household growth monitoring coverage surveys**
 - 2.2.1.2 Assess frequency of weighing sessions by: (1) reviewing service delivery
facility records to obtain data on the number of weighing sessions held; (2)
interviewing community leaders and members about the frequency of
weighing sessions; or (3) asking health workers about the frequency of
weighing sessions**
 - 2.2.1.3 Assess occurrence and frequency of channelling activities by: (1) observing
whether records identifying children under 5 (or other age per local policy)
and/or "high risk" children are maintained; (2) observing whether health
workers identify children under 5 (or other age per local policy) and/or "high
risk" children during clinic sessions and/or home visits and whether they
direct these children to sources of growth monitoring services; (3) reviewing
service delivery facility records to obtain data on the number of home visits
made and/or group nutrition education sessions held; (4) interviewing
community leaders and members about the frequency of group nutrition
education sessions; or (5) asking health workers about the occurrence and
frequency of channelling activities.**

2.2.2 ASSESS QUALITY OF GROWTH MONITORING/PROMOTION SERVICE DELIVERY ACTIVITIES

- 2.2.2.1** Assess whether health workers weigh children per standard procedures by observing health workers weigh children (in weighing sessions or in role-play exercises)
- 2.2.2.2** Assess whether health workers correctly plot children's weights on growth cards by: (1) observing health workers plot children's weights (in weighing sessions or in role-play exercises); or (2) reviewing previously plotted growth cards for correctness
- 2.2.2.3** Assess whether health workers correctly interpret children's growth by observing health workers counsel mothers (in weighing sessions or in role-play exercises)
- 2.2.2.4** Assess whether health workers counsel mothers individually about their children's growth statuses by: (1) observing health workers counsel mothers (in weighing sessions or in role-play exercises); or (2) interviewing mothers leaving weighing sessions to determine whether they know their children's growth statuses
- 2.2.2.5** Assess whether health workers tell all mothers of children attending weighing sessions when and where to take children for next weighings by: (1) observing health workers counsel mothers (in weighing session or in role-play exercises); or (2) interviewing mothers leaving weighing sessions to determine whether they know when and where to take their children for their next required weighings
- 2.2.2.6** Assess whether health workers refer sick and/or malnourished children by observing health workers provide growth monitoring (in weighing sessions or in role-play exercises)
- 2.2.2.7** Assess whether health workers follow up non-attenders by: (1) reviewing health worker records to obtain data on the proportion of nonattenders followed up; (2) interviewing health workers about the frequency of follow-up; or (3) conduct sample household surveys to determine the proportion of non-attenders followed up
- 2.2.2.8** Assess whether health workers effectively provide outreach nutrition education by: (1) observing health workers provide outreach nutrition education (in group nutrition education sessions, in home visits, or in role-play exercises); or (2) interviewing mothers leaving group nutrition education sessions and/or after home visits to determine whether they know key nutrition messages

2.2.3 ASSESS QUALITY OF GROWTH MONITORING/PROMOTION SUPPORT ACTIVITIES

- 2.2.3.1** Assess whether health workers are adequately maintaining weighing registers by reviewing registers for completeness and correctness of information

2.3 ASSIST IN RESOLVING GROWTH MONITORING/PROMOTION SERVICE DELIVERY AND SUPPORT PROBLEMS IDENTIFIED**2.3.1 PROVIDE IMMEDIATE FEEDBACK ON GROWTH MONITORING/PROMOTION PERFORMANCE**

- 2.3.1.1** Praise or otherwise reward good growth monitoring/promotion performance
- 2.3.1.2** Advise or instruct health workers how to improve poor growth monitoring/promotion performance

2.3.1.3 Provide direct assistance in performing growth monitoring tasks

2.3.2 TAKE FOLLOW-UP ACTION ON GROWTH MONITORING/PROMOTION PERFORMANCE

2.3.2.1 Provide or arrange for formal growth monitoring/promotion in-service training

2.3.2.2 Provide reference materials on growth monitoring/promotion

2.3.2.3 Refer persistent growth monitoring/promotion performance problems to higher-level supervisors

2.3.2.4 Apply sanctions for poor growth monitoring/promotion performance, if applicable

2.4 MOTIVATE HEALTH WORKERS (SEE GROWTH MONITORING/PROMOTION: SUPERVISION - 2.3 ASSIST IN RESOLVING GROWTH MONITORING/PROMOTION SERVICE DELIVERY AND SUPPORT PROBLEMS IDENTIFIED)

3. EVALUATE SUPERVISION OF GROWTH MONITORING/PROMOTION SERVICE DELIVERY AND SUPPORT ACTIVITIES

3.1 ASSESS FIRST-LEVEL SUPERVISOR SUPERVISION TASK PERFORMANCE

3.2 ASSESS HEALTH WORKER GROWTH MONITORING/PROMOTION TASK PERFORMANCE (SEE GROWTH MONITORING/PROMOTION: SUPERVISION, INFORMATION SYSTEM, MONITORING AND EVALUATION)

4. MAINTAIN SUPERVISION RECORDS AND REPORT SUPERVISION INFORMATION (SEE GROWTH MONITORING/PROMOTION: INFORMATION SYSTEM, MONITORING AND EVALUATION)

GROWTH MONITORING/ PROMOTION COMMUNITY ORGANIZATION ACTIVITIES, TASKS AND SUBTASKS

- 1. PLAN COMMUNITY-MANAGED GROWTH MONITORING/PROMOTION ACTIVITIES***
 - 1.1 DETERMINE DESIRED COMMUNITY ROLE IN CONDUCTING GROWTH MONITORING/PROMOTION ACTIVITIES**
 - 1.1.1 DECIDE ON DESIRED ROLE FOR UNSALARIED COMMUNITY MEMBERS AND/OR HEALTH WORKERS
 - 1.1.2 DECIDE ON DESIRED ROLE FOR COMMUNITY ORGANIZATIONS
 - 1.1.3 DECIDE WHETHER OR NOT TO SEEK COMMUNITY-MANAGED RESOURCE GENERATION FOR GROWTH MONITORING/PROMOTION ACTIVITIES (SEE: GROWTH MONITORING/PROMOTION: FINANCIAL MANAGEMENT)
 - 1.2 ESTABLISH SCHEDULES AND WORKPLANS FOR ORGANIZING COMMUNITY-MANAGED GROWTH MONITORING/PROMOTION ACTIVITIES**
 - 1.2.1 IDENTIFY SPECIFIC STAFF TO ORGANIZE COMMUNITY-MANAGED GROWTH MONITORING/PROMOTION ACTIVITIES
 - 1.2.2 PROVIDE LOGISTIC SUPPORT FOR ORGANIZING COMMUNITY-MANAGED GROWTH MONITORING/PROMOTION ACTIVITIES
- 2. ORGANIZE COMMUNITY GROWTH MONITORING/PROMOTION ACTIVITIES**
 - 2.1 DEVELOP COMMUNITY MOTIVATION AND CAPACITY TO PARTICIPATE IN OR UNDERTAKE GROWTH MONITORING/PROMOTION ACTIVITIES**
 - 2.1.1 ASSESS LOCAL INTEREST IN GROWTH MONITORING/PROMOTION ACTIVITIES
 - 2.1.2 EXPLAIN GROWTH MONITORING/PROMOTION OBJECTIVES AND STRATEGIES
 - 2.1.3 IDENTIFY EXISTING OR ESTABLISH NEW COMMUNITY ORGANIZATIONS THAT CAN PARTICIPATE IN OR UNDERTAKE GROWTH MONITORING/PROMOTION ACTIVITIES
 - 2.2 DEVELOP JOINT PLAN OF ACTION FOR COMMUNITY/HEALTH SYSTEM COOPERATION IN PLANNING, CONDUCTING AND MONITORING/EVALUATING GROWTH MONITORING/PROMOTION ACTIVITIES**
 - 2.2.1 PLAN GROWTH MONITORING/PROMOTION SERVICE DELIVERY ACTIVITIES
 - 2.2.1.1 Obtain community suggestions and/or decisions regarding health system growth monitoring/promotion service delivery activities

*The term "community-managed growth monitoring/promotion activities" refers to growth monitoring/promotion service delivery and support activities carried out by unsalaried community members and/or health workers. It does not refer to the utilization of growth monitoring/promotion services by community members, e.g. to having children weighed or to attending health education sessions. The specific growth monitoring/promotion activities to be undertaken by the community will depend on local policy, although some common community-managed activities have been listed here.

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- 2.2.1.2 Plan community-managed channelling activities, including outreach nutrition education
- 2.2.1.3 Plan community-managed weighing sessions
- 2.2.1.4 Select community members for training as unsalaried health workers
- 2.2.2 PLAN COMMUNITY-MANAGED RESOURCE GENERATION FOR GROWTH MONITORING/PROMOTION ACTIVITIES (SEE GROWTH MONITORING/PROMOTION: FINANCIAL MANAGEMENT)
- 2.3 TRAIN UNSALARIED COMMUNITY MEMBERS AND/OR HEALTH WORKERS IN GROWTH MONITORING/PROMOTION SERVICE DELIVERY TASKS
 - 2.3.1 TRAIN UNSALARIED COMMUNITY MEMBERS AND/OR HEALTH WORKERS IN GROWTH MONITORING/PROMOTION CHANNELLING TASKS, INCLUDING OUTREACH NUTRITION EDUCATION
 - 2.3.2 TRAIN UNSALARIED COMMUNITY MEMBERS AND/OR HEALTH WORKERS TO CONDUCT WEIGHING SESSIONS
- 2.5 ORGANIZE COMMUNITY-MANAGED RESOURCE GENERATION FOR GROWTH MONITORING/PROMOTION ACTIVITIES
- 3. MONITOR COMMUNITY-MANAGED GROWTH MONITORING/PROMOTION ACTIVITIES
 - 3.1 MEET REGULARLY WITH COMMUNITY LEADERS AND MEMBERS TO ASSESS DEGREE AND EFFECTIVENESS OF COMMUNITY-MANAGED GROWTH MONITORING/PROMOTION ACTIVITIES AND TO ASSIST IN RESOLVING PROBLEMS
 - 3.1.1 MONITOR COMMUNITY-MANAGED GROWTH MONITORING/PROMOTION SERVICE DELIVERY ACTIVITIES
 - 3.1.2 MONITOR COMMUNITY-MANAGED RESOURCE GENERATION FOR GROWTH MONITORING/PROMOTION ACTIVITIES

GROWTH MONITORING/ PROMOTION LOGISTIC SUPPORT ACTIVITIES, TASKS AND SUBTASKS

Growth Monitoring/ Promotion Equipment and Supplies (Scales, Growth Cards)

- 1. PLAN GROWTH MONITORING/PROMOTION LOGISTIC SUPPORT ACTIVITIES**
 - 1.1 DEVELOP POLICY ON QUANTITY OF GROWTH CARDS TO BE ORDERED OR ISSUED**
 - 1.2 DEVELOP PROCEDURES FOR PROCURING GROWTH CARDS**
- 2. PROCURE GROWTH MONITORING/PROMOTION EQUIPMENT AND SUPPLIES**
 - 2.1 ESTIMATE REQUIREMENTS FOR GROWTH MONITORING/ PROMOTION EQUIPMENT AND SUPPLIES**
 - 2.2 SECURE AND DISBURSE FUNDS FOR GROWTH MONITORING/ PROMOTION EQUIPMENT AND SUPPLIES, IF APPLICABLE**
 - 2.3 ORDER OR BE ISSUED GROWTH MONITORING/PROMOTION EQUIPMENT AND SUPPLIES**
 - 2.4 COLLECT OR RECEIVE GROWTH MONITORING/PROMOTION EQUIPMENT AND SUPPLIES**
- 3. STORE AND MAINTAIN GROWTH MONITORING/PROMOTION EQUIPMENT AND SUPPLIES**
 - 3.1 MAINTAIN SCALES IN WORKING ORDER**
 - 3.2 STORE GROWTH CARDS IN A DRY PLACE**
- 4. DISTRIBUTE GROWTH MONITORING/PROMOTION EQUIPMENT AND SUPPLIES**
 - 4.1 RECEIVE ORDERS FOR OR ISSUE GROWTH MONITORING/ PROMOTION EQUIPMENT AND SUPPLIES**
 - 4.2 DELIVER GROWTH MONITORING/PROMOTION EQUIPMENT AND SUPPLIES**
- 5. MAINTAIN INVENTORY AND EQUIPMENT RECORDS FOR GROWTH MONITORING/PROMOTION EQUIPMENT AND SUPPLIES (SEE GROWTH MONITORING/PROMOTION: INFORMATION SYSTEM, MONITORING AND EVALUATION)**

GROWTH MONITORING/PROMOTION FINANCIAL MANAGEMENT ACTIVITIES, TASKS AND SUBTASKS

- 1. SECURE RESOURCES FOR GROWTH MONITORING/PROMOTION ACTIVITIES***
 - 1.1 OBTAIN RESOURCES BUDGETED FOR GROWTH MONITORING/PROMOTION ACTIVITIES**
 - 1.1.1 OBTAIN FUNDS BUDGETED FOR GROWTH MONITORING/PROMOTION ACTIVITIES
 - 1.1.2 OBTAIN ALLOCATED EQUIPMENT AND SUPPLIES FOR GROWTH MONITORING/PROMOTION ACTIVITIES (SEE GROWTH MONITORING/PROMOTION: LOGISTIC SUPPORT)
 - 1.1.3 FILL OFFICIALLY SANCTIONED STAFF POSITIONS
 - 1.2 GENERATE LOCAL RESOURCES FOR GROWTH MONITORING/PROMOTION ACTIVITIES**
 - 1.2.1 PLAN LOCAL RESOURCE GENERATION FOR GROWTH MONITORING/PROMOTION ACTIVITIES**
 - 1.2.1.1 Develop policy on user and/or social financing for growth monitoring/promotion activities
 - 1.2.1.2 Develop procedures for user and/or social financing for growth monitoring/promotion activities
 - 1.2.1.2.1 Establish fee schedules for weighings
 - 1.2.1.2.2 Establish sales prices for growth cards
 - 1.2.1.2.3 Ensure indigents equal access to growth monitoring services
 - 1.2.1.2.3.1 Determine who is eligible for sliding scale or exemption
 - 1.2.1.2.3.2 Set sliding scales
 - 1.2.1.2.4 Develop other community and/or social financing mechanisms for growth monitoring/promotion activities
 - 1.2.2 COLLECT LOCAL RESOURCES FOR GROWTH MONITORING/PROMOTION ACTIVITIES**
 - 1.2.2.1 Collect user fees for weighings and sales receipts for growth cards per local policy and procedures
 - 1.2.2.2 Receive other community resources for growth monitoring/promotion activities

*We recognize that, in many instances, service delivery facilities do not obtain or generate funds for growth monitoring/promotion activities. Instead they receive material resources (scales, and growth cards) and human resources (personnel). This chapter covers financial management and its use will not be appropriate if finances are not managed at the service delivery facility level. The management of material resources is covered in the Logistic Support chapter of the Thesaurus. Personnel management is not covered in a single chapter, but is touched upon in the Training and Supervision chapters.

**2. DISBURSE AND ACCOUNT FOR FUNDS FOR GROWTH MONITORING/
PROMOTION ACTIVITIES**

2.1 USE FUNDS FOR INTENDED PURPOSES

**2.2 MAINTAIN ACCOUNTS LEDGER (SEE: GROWTH MONITORING/PROMOTION
INFORMATION SYSTEM, MONITORING AND EVALUATION)**

GROWTH MONITORING/PROMOTION INFORMATION SYSTEM, MONITORING AND EVALUATION ACTIVITIES, TASKS AND SUBTASKS

- 1. COLLECT GROWTH MONITORING/PROMOTION DATA**
 - 1.1 COLLECT DATA ON SIZE OF GROWTH MONITORING/PROMOTION TARGET POPULATION**
 - 1.2 COLLECT GROWTH MONITORING/PROMOTION SERVICE DELIVERY DATA**
 - 1.2.1 MAINTAIN CLIENT RECORDS (SEE GROWTH MONITORING/PROMOTION: SERVICE DELIVERY -- 1.1.3 MAINTAIN RECORDS WHICH IDENTIFY ALL CHILDREN UNDER 5 (OR OTHER AGE PER LOCAL POLICY))**
 - 1.2.2 MAINTAIN GROWTH MONITORING OR WEIGHING REGISTER**
 - 1.2.2.1 Record children's ages**
 - 1.2.2.2 Record children's weights and/or nutritional statuses**
 - 1.2.2.3 Record referrals made (by destination)**
 - 1.2.3 MAINTAIN ACTIVITIES RECORDS**
 - 1.2.2.1 Record number of weighing sessions held**
 - 1.2.2.2 Record number of group nutrition education sessions held**
 - 1.2.2.3 Record number of home visits made**
 - 1.3 COLLECT DATA ON GROWTH MONITORING/PROMOTION SUPPORT ACTIVITIES**
 - 1.3.1 MAINTAIN PERSONNEL RECORDS**
 - 1.3.2 MAINTAIN TRAINING RECORDS**
 - 1.3.3 MAINTAIN SUPERVISORY RECORDS**
 - 1.3.4 MAINTAIN INVENTORY AND EQUIPMENT RECORDS**
 - 1.3.4.1 Record information on growth cards**
 - 1.3.4.1.1 Record quantities received**
 - 1.3.4.1.2 Record quantities distributed**
 - 1.3.4.1.3 Record current stock levels**
 - 1.3.5 MAINTAIN ACCOUNTS LEDGER**
 - 1.3.5.1 Record growth monitoring/promotion receipts**
 - 1.3.5.1.1 Record funds received from higher levels**
 - 1.3.5.1.2 Record monies collected for growth monitoring services and supplies**
 - 1.3.5.2 Record funds disbursed for growth monitoring/promotion activities**

1.3.5.3 Record current balances

- 1.4 CONDUCT SPECIAL GROWTH MONITORING/PROMOTION KAP AND COVERAGE STUDIES AND NUTRITION SURVEILLANCE STUDIES**
- 2. PROCESS GROWTH MONITORING/PROMOTION DATA**
 - 2.1 VERIFY/VALIDATE GROWTH MONITORING/PROMOTION DATA COLLECTED**
 - 2.2 CODE GROWTH MONITORING/PROMOTION DATA**
 - 2.3 FILE GROWTH MONITORING/PROMOTION DATA**
 - 2.4 TABULATE GROWTH MONITORING/PROMOTION DATA**
 - 2.4.1 TABULATE NUMBER OF CHILDREN UNDER 5 WEIGHED MONTHLY BY AGE CATEGORY AND BY NUTRITIONAL STATUS**
 - 2.4.2 TABULATE NUMBER OF CHILDREN UNDER 5 REFERRED MONTHLY FOR NUTRITIONAL REHABILITATION AND FOR MEDICAL CARE BY NUTRITIONAL STATUS**
 - 2.5 ANALYZE GROWTH MONITORING/PROMOTION DATA**
 - 2.5.1 CALCULATE GROWTH MONITORING COVERAGE RATE***
- 3. REPORT GROWTH MONITORING/PROMOTION INFORMATION**
 - 3.1 PREPARE REQUIRED GROWTH MONITORING/PROMOTION REPORTS**
 - 3.2 TRANSMIT REQUIRED GROWTH MONITORING/PROMOTION REPORTS**
 - 3.3 RECEIVE FEEDBACK ON GROWTH MONITORING/PROMOTION INFORMATION REPORTED (SEE GROWTH MONITORING/PROMOTION: SUPERVISION)**
- 4. UTILIZE GROWTH MONITORING/PROMOTION INFORMATION**
 - 4.1 UTILIZE INFORMATION FOR IDENTIFYING GROWTH MONITORING/PROMOTION SERVICE DELIVERY AND SUPPORT PROBLEMS AND STRONG POINTS (SEE ALSO GROWTH MONITORING/PROMOTION: SUPERVISION)**
 - 4.2 UTILIZE INFORMATION FOR PLANNING GROWTH MONITORING/PROMOTION ACTIVITIES (SEE GROWTH MONITORING/PROMOTION: PLANNING)**

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*See Growth Monitoring/Promotion: Service Delivery--2.a for definition of growth monitoring coverage rate.