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GROWTH MONITORING AND PROMOTION: ISSUES AND ACTIONS

*A report of an Advisory Meeting
sponsored by the Nutrition
Communication Project of the Academy
for Educational Development in
coordination with the
Office of Nutrition of A.I.D.*

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INTRODUCTION

As part of its special program to examine issues of current interest in international development, the Academy for Educational Development (AED) sponsored a meeting of experts on growth monitoring on December 19, 1988, in Washington, DC. The participants, convened through the Nutrition Communication Project (NCP) of the Academy in coordination with the Office of Nutrition of the U. S. Agency for International Development (A.I.D.), were health care and nutrition professionals who had experienced both the promise and the problems of growth monitoring and promotion programs (GM/P). The Academy chose to discuss GM/P because it is one of the primary health care interventions that developing countries are finding difficult to carry out well. The Academy felt that GM/P is an area where fresh insights and a systematic review of problems could be particularly beneficial. The participants focused on growth monitoring as a component of child health care programs; examined the conceptual, structural, methodologic, and technologic problems of monitoring growth; considered methods of solving these problems; and recommended ways to use growth monitoring to improve child health in the developing world.

Prior to the meeting, the NCP planning committee reviewed the literature in the field and asked participants to select four major areas for discussion and analysis. Those chosen were: (1) program design; (2) community health workers; (3) communication strategies; and (4) implementation techniques and procedures. This was followed by a survey of participants who were asked to rank specific issues based on their importance for program implementation within three different service delivery contexts. The issues identified by the participants as having the highest degree of importance overall were:

- Insufficient follow-up when growth falters;
- Lack of feedback to the community;
- Poor assessment and counseling skills among field workers;
- Problems in the use of growth charts as educational tools, and;
- Low and irregular coverage of high-risk families.

The group of experts agreed that the meeting should examine these and other priority issues, with special attention given to the feasibility of addressing them in the institutional context of government health care programs.

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In the course of the meeting, the participants:

- Reviewed current experience in GM/P planning and implementation;
- Discussed major issues related to GM/P uses, objectives, expectations; design, and operation;
- Identified gaps in knowledge;
- Provided concrete recommendations to A.I.D. and NCP for policy and program formulation and short- and long-term actions needed to realize the full potential of GM/P in health, nutrition, and community development.

This document summarizes the proceedings of the meeting and is organized around the four major areas of concern described above. Issues, promising approaches, and recommendations are provided for each area.

BACKGROUND

Growth monitoring is more than a measurement tool. It is conceptualized as a preventive strategy aimed at early recognition of health problems, leading to preemptive action. It may be defined operationally as the regular measurement, recording, and interpretation of children's growth for counseling and follow-up. Growth monitoring has the potential to enable mothers to visualize growth and to offer them specific, relevant, and practical guidance so that they, their families, and their communities may act in ways to ensure their children's health and continued growth. As such, it relies heavily on the full participation of the mother and family in the recognition and correction of growth faltering.

A child's growth is a sensitive reflection of his or her nutritional status, general health, and numerous other factors in the familial, cultural, and socioeconomic environment. Growth patterns in individual children may indicate to health care providers which youngsters may be at risk for nutritionally related health problems, and growth patterns in a population are broadly related to patterns of morbidity and mortality. Thus, growth patterns can provide important information about the health of individual children and populations in general.

Unfortunately, inadequate growth may be invisible to a child's caretakers and primary health care providers. Or, if inadequate growth is perceived, it may be explained in a variety of nonhealth-related ways such as "small stature runs in the family." The first challenge of growth monitoring and promotion (GM/P) programs, therefore, is to make individual growth patterns visible, meaningful, and significant to both caretakers and health care workers. Meeting this first challenge is not enough; GM/P programs must also find ways of using growth monitoring to promote adequate growth. On the individual level, adequate growth may be promoted through counseling and demonstration, "empowerment" of caretakers, and supplementation programs. On the community level it may be promoted through outreach and educational efforts. And on the national level, promotional efforts can be made through nutritional surveillance and mass media messages.

The growth effects of ill health and poor nutrition become visible slowly, and invisibility is clearly a major barrier to prevention and treatment. Periodic growth monitoring helps to make children's growth visible to both health practitioners and parents, thus acting as a trigger for action at the earliest signs of growth faltering.

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Growth monitoring alone is not expected to produce significant changes in child growth and health. However, it sets the stage for preventive and corrective action. The action concomitant with monitoring and follow-up—particularly the educational and referral components—produce tangible results in child health and growth.

SUCCESSFUL GM/P EFFORTS

Recognizing its potential at different levels, health care planners and providers have sought ways to integrate growth monitoring and promotion (GM/P) into national and community health care systems, especially in areas of the world where growth faltering is high. There is evidence from several programs that growth monitoring can serve as a powerful tool to improve the health of individual children and families as well as to inspire community mobilization and to strengthen national health care efforts.

In **Tanzania**, the ongoing Iringa Joint Nutrition Support Project, begun in 1983 and sponsored by WHO and UNICEF, has successfully used growth monitoring as the basic strategy for primary health care delivery and for community participation in development. Administration and implementation of GM/P in the Iringa target areas is fully integrated into the health care delivery system. The Iringa approach is based on improving the capability of the community to assess and analyze nutrition problems and to determine appropriate actions. Village implementation committees are responsible for planning GM/P follow-up activities. The committees compile quarterly growth monitoring and child-death information, which they discuss with the village councils in order to plan appropriate actions.

The results of both process and impact evaluations of the Iringa JNSP are now available. They suggest that the lives of an estimated 3,000 to 5,000 children have already been saved, and severe malnutrition has dropped to one-third the level recorded when the activities started in 1984. Primarily, these improvements seem to be a result of better “social” mobilization of family and community resources rather than of specific support services provided by the program.

In **Indonesia**, the Nutrition Communication and Behavior Change Pilot Project (1977-1983, funded by the World Bank, successfully implemented GM/P as part of a broad-based communication strategy. The project enabled rural promoters to effect change through GM/P. “Action Posters” helped rural promoters persuasively convey educational messages that had been carefully developed through formative research. The promoters also effectively used weighing sessions, home visits, and traditional community meetings as educational forums. A formal evaluation of the project revealed an improved nutritional status among infants as well as significant improvements in mothers’ participation in nutrition activities; in their nutrition-knowledge scores; and in the consumption of key foods, calories, and protein (by mothers and children).

In Thailand, the Ministry of Health supervises village health volunteers who use the GM/P weighing session as an opportunity to pass on knowledge about health, nutrition, and hygiene to their neighbors. The volunteers are now weighing more than 60% of Thailand's preschool children, and the data generated are used for targeting monthly home visits to malnourished children as well as supplementary feeding with locally prepared foods. Mild malnutrition has fallen to one-third and serious malnutrition to one-eighth of that measured prior to the program.

In the Dominican Republic, the USAID-funded Applied Nutrition Education Program, which ran from 1983 to 1986, linked growth monitoring to nutrition and health education provided by community volunteers. Regional supervisors were trained to organize community activities, distribute nutrition education materials, and manage the nutritional surveillance system. They also work with volunteers to monitor children's growth and provide counseling and referral services to mothers of children at risk. A communication strategy similar to that in Indonesia was implemented. Recent evaluations of this demonstration project show up to 50 percent reductions in the prevalence of child malnutrition in the 70 program communities. The results also reveal concomitant changes in child feeding and health care practices.

THE GM/P CHALLENGE

Despite the potential of GM/P documented in the successful programs reviewed here, donors as well as health care agencies in developing countries have been slow to initiate programs, and many of the programs in operation have proven problematic. It is especially true in the design and implementation of GM/P programs that important problems have emerged. Nabarro and Chinnock, for example, argue that the weighing of children is frequently a ritual conducted by field workers who are ill prepared to identify the root causes of poor growth and unable to provide follow-up or intervention [Soc Sci Med 1988;26(9):941-948]. Other health care planners have suggested that growth monitoring is an inappropriate health care technique in areas lacking the infrastructure needed for effective implementation.

Unfortunately, until recently, much of the effort to improve GM/P programs has focused on technical issues—measurement instruments and techniques, use of growth charts, the plotting and interpretation of growth patterns, record keeping, and reporting—rather than on the important issues of conceptualization, definition of objectives, program design, operational strategies, quality coverage, and effectiveness.

The Advisory Meeting in GM/P was held to begin to examine these issues and to identify promising program strategies to begin to more systematically address problems. The following report presents the insights and recommendations of a group of 24 experts with wide experience in GM/P. The Academy was privileged to have had their participation in looking at such a potentially important child survival intervention. It is clear from their collected experience that much remains to be done to improve GM/P as it is now being implemented.

AREA ONE: PROGRAM DESIGN

The design of a GM/P program lays a foundation that shapes the effectiveness of the program and affects all other components. Indeed, some of the important design issues identified by meeting participants related directly to other areas of concern—training personnel, establishing communication systems, and building in implementation procedures.

PROGRAM DESIGN: ISSUES

The issues, identified by the participants, that relate to the design of programs clustered around six major topics:

1. Objectives
2. Organization
3. Coverage
4. Follow-up and intervention
5. Growth norms and standards
6. Evaluation

1. Program Objectives

Frequently, GM/P objectives are undefined, ambiguous, or conflicting. Many issues about program objectives must be resolved before planning and implementation begin. In noting prevalent ambivalence created by unclear objectives, one participant pointed out, "There is confusion between growth monitoring and surveillance on the part of the [health] ministries, and sometimes on our own part." Therefore, the consensus of program designers about what they want and expect GM/P to do is of fundamental importance. Also, participants agreed that some type of follow-up intervention or treatment was important to GM/P. Many observed that a number of programs had no such component.

Participants identified the following as issues that should be addressed before a program is implemented:

- Will monitoring be a component of surveillance only or a first step toward follow-up and, when needed, intervention?
- Is GM/P intended to reduce mortality, halt growth faltering (in some children or in all children), or halt malnutrition?
- Will all children or only targeted children be monitored?

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- At what age should children be enrolled?
- Will children in greatest need be targeted for follow-up and intervention and, if so, what will be the nature of the intervention?
- When children are at risk and/or health problems are diagnosed or suspected, will treatment be given or referrals made?

One participant noted that a particular GM/P program “lost a lot of goodwill with the population because, they said, ‘the growth monitoring team doesn’t treat (malnutrition).’”

The objectives of a GM/P program may be determined in part by the health care system infrastructure and by other programs to which it is linked. Program planners must determine into what broader structures and programs GM/P will be imbedded or with what other programs GM/P will overlap. Planners must then address how the objectives and structures of these other programs will affect the implementation of GM/P.

2. Program Organization

Concerns on organization relate to the coordination of GM/P programs within a country or region, and to their vertical and horizontal structuring. Many organizational issues are easier to resolve when the program objectives are clearly defined.

In each GM/P program, decisions must be made about the individuals and organizations who will design and coordinate implementation. Lines of authority and responsibility for each component must be clarified; and individuals and agencies with authority for overall coordination must be identified. In some countries, confusion has arisen because there has been less than optimal coordination among private voluntary organizations (PVOs) and a lack of coordination between the PVOs and various levels of government up to and including the central level of the Ministry of Health.

The vertical organization of a GM/P program may be unclear. Planners must decide:

- Whether the administration of the program will be centralized or decentralized;
- Whether the program will be health-center based or community-based;
- Whether there will be an outreach component; and
- By what means the levels of the program will be articulated and coordinated.

Decisions must be made in the beginning about whether the program will start with local concerns and community-based organizations and be built up from those—or started at the “top” and administered down. Clearly, both solutions produce problems. Local programs may be well-adapted to local conditions, but coordinating all of them may be cumbersome and expensive,

and resources may be spread thinly. On the other hand, centrally planned and administered programs may be useful in some environments but not in others. Planners from a central agency may be theoreticians with little practical field experience.

Linkages with other organizations or systems may strengthen or weaken GM/P. One of the participants suggested, "If I were a dictator, I would start building an infrastructure that would support growth monitoring rally posts as the basis on which to provide other services." Program planners should consider whether linking GM/P to other components of a broader health care program will help meet its objectives. For example, food supplementation may increase community turnout for GM/P sessions but may decrease the program's emphasis on changing child care and feeding practices. However, GM/P programs may be linked successfully to ORT or EPI health program components or to some kinds of development projects such as agricultural development or income-generating activities for women.

3. Program Coverage

Coverage, especially of younger children, is often low and irregular. One participant noted of a GM/P program in Honduras, "Coverage is limited to places around the villages, a small area around the health center or health post. There is no outreach mechanism. The most at-risk children will not be reached and benefit from the program." An important issue for planners is how to design GM/P coverage to be both broad and consistent. Specifically, planners must deal with how to reach the children at highest risk, those who typically live in the poorest and most remote areas.

To increase program coverage, program planners may include outreach as a component of GM/P. Planners then must design a program that includes outreach activities such as door-to-door enrollment.

Participants agreed that an important issue for planners was establishing the means by which children could be enrolled in the first few months of life in order to prevent growth faltering. GM/P then becomes preventive rather than curative.

In discussing problems related to coverage, participants observed that program designers often disagree about what constitutes coverage. Is a child "covered" if weighed once? Or is a child covered if weighed once a year starting at age 3 years? How frequently should children be weighed for GM/P to be of value to them and their families?

The benefits of GM/P are long-term and subtle. In the experience of the participants, conveying the value of growth monitoring to mothers—and to field personnel—is often problematic. Methods should be established to make children's growth visible to mothers without necessarily making it *public*—in other words, mothers should be provided with vital feedback that does not stigmatize them for "failing." Program planners may also need to

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design multiple ways to make the GM/P program attractive to mothers and to provide immediate and tangible rewards to mothers who expend the time and resources to enroll their children.

4. Program Follow-up and Intervention

Participants were unanimous in arguing that monitoring has no value if children are not helped, either by broad nutrition-education efforts or by targeting high-risk children and providing their caretakers with support, information, and/or food. Effective follow-up and intervention must be designed into the program.

Program planners must determine the most effective logistics for follow-up and decide what resources are needed by field personnel (for example, transportation and equipment) to implement plans for follow-up. They must also determine the most appropriate, effective, and affordable interventions within the context of the program.

5. Program Norms and Standards of Growth

Growth norms and standards vary from instrument to instrument and program to program. Different PVOs working in the same country may use different norms and standards of adequate and inadequate growth and different definitions of malnutrition. Obviously, targeting at-risk children and intervention entry points depend on clear definitions of risk. Program planners must decide how important standardization is. If it is important, someone must have authority to decide what standards will be used and what norms are most appropriate for the population.

Measures and instruments used to determine growth must be selected for adequacy and appropriateness.

6. Program Evaluation

Evaluation of impact provides important data for funders, planners, and implementors to make well-informed decisions about how—and if—a program should be continued. Also, evaluation of impact provides information for development of programs at other sites.

Because the effects of GM/P are difficult to isolate and weigh, especially when they are part of a wider program of interventions, evaluation of impact is problematic. As a program is being designed, planners should thoroughly investigate effective methods of determining the impact of GM/P.

Program planners should learn about and adapt ideas from successful programs. A meeting participant pointed out, “We know a lot about how to conduct growth monitoring. [Of course], there are still a lot of questions and a need to fit what we know into different contexts.”

PROGRAM DESIGN:
PROMISING
APPROACHES

Participants identified the following approaches as those that have demonstrated success in GM/P programs.

Flowcharts

Decision-making flowcharts help to clarify the infrastructure into which the GM/P will be integrated.

Linkages

GM/P can be designed to link into a variety of primary health care services. In the “rally post” concept, a mother may have her child weighed and measured, immunized, and treated—and, perhaps, receive family planning—all at the same place. This encourages regular participation and uses resources efficiently. Linkages with other development activities, such as income-generating activities for women, stimulates and broadens involvement in GM/P.

A two-concept model

A two-concept model defines GM/P as either a component of surveillance or as a means to target high-risk children who need intervention. In Tanzania, for example, surveillance is conducted community-wide four times a year, but high-risk children (those who are not growing and those with third degree malnutrition) are monitored more closely, receiving monthly personal interaction with a health care provider.

Home visits

Home visits with mothers of growth-faltering children should be built into the program. Home visits are used in almost all successful GM/P programs. The cost and logistic implications of this approach to large government programs is not known.

Solid management

A program with a solid management structure at the bottom will result in well-trained and committed field workers. A program in Tamil Nadu uses growth monitoring and adequate weight gain to target children for one of three actions: (1) nutrition education; (2) feeding (for third-degree malnutrition); and (3) health referral. Such a program requires relatively little commitment from the top of the national health system and makes vertical organization relatively unimportant.

PROGRAM DESIGN:
RECOMMENDED
ACTIONS AND
RESEARCH**Actions***Define objectives clearly*

GM/P objectives must be considered within the context of the overall health care system. Analyze potential linkages with the broader health care system and with specific components within that system.

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Involve the community

Look for community organizations, educational opportunities, functional health services, general health infrastructure, and health staff workload. As one meeting participant said, “If we don’t start with what is of interest to the community and what is the basic indigenous motivation for these programs, we may lose all hope of sustainability.”

Involve people on all levels

Include external donor organizations, top-level Ministry of Health officials, health care personnel, and (especially) primary deliverers. Find ways to “sell” them on GM/P, increase their motivation, and get them committed to the program.

Obtain adequate resources

An effective GM/P program requires commitment of sufficient resources. For greatest “sustainability” of the program, obtain maximum involvement of local researchers and health care professionals.

Begin with a pilot

Before launching a national program, begin with a pilot or demonstration to find what components and organizational schemes work.

Link GM/P with health

Define GM/P in the broad context of health rather than of growth only, and use it as a base for building improved community health services. Use GM/P as the entry point for bringing high-risk families into the health system.

Cover appropriate age groups

To meet the objectives of the program, include children of appropriate ages in order to meet program goals. For example, if prevention of growth faltering is an objective, children must be enrolled as soon after birth as possible.

Define success in the context of GM/P

Determine where, when, why, and how GM/P works and does not work. Determine who is involved in those programs that are successful.

Deal with morbidity

Build referral or treatment into the program design.

Design effective training programs

Effective training programs should motivate trainers and demonstrate the value of GM/P. The training component should teach trainers how to train and supervisors how to supervise.

Design incentives for mothers

Be sure that mothers receive something besides weight information—treatment, education, activities, and so on.

Design for feedback

Plan for ongoing evaluation and feedback mechanisms that make the best use of GM/P data. Make information available to mothers, community health care planners, and personnel in the national health care system.

Implement in phases

Plan a program that can be implemented in phases when possible. Such a program can “evolve” or grow as conditions change and health infrastructures develop.

Research*Budget for research*

Allocate a certain portion of funds for research and evaluation.

Examine optimum frequency of measurement

Determine what frequency works best given the goals of the program, and consider the context of the country, region, and community.

Understand the community

Determine local concepts of growth, health, appropriate foods, and feeding practices to understand the context of GM/P. This information also provides a base from which to develop locally appropriate nutrition-education messages.

Continue to assess and refine growth charts

Make them easier to comprehend—especially by mothers—and easier to use by evaluators.

*Investigate ways to improve coverage**Find a way to motivate staff and caretakers*

Determine what constitutes motivation in a particular context, and, when possible, find cost-free incentives for staff members and mothers.

Ask how GM/P affects the community

Evaluate how maternal knowledge, attitudes, and practices are affected by the GM/P program, looking at nutrition-related and other health outcomes. Evaluations should also reveal whether communities with a GM/P program have greater participation in other child survival interventions such as immunization and oral rehydration therapy.

AREA TWO: COMMUNITY HEALTH WORKERS AND GROUPS

The preparation, commitment, and motivation of health care personnel are always critical components of effective health care programs. This is especially true of the workers on the "front lines" of GM/P programs, because if they do not conceptually accept GM/P, and know how to convey appropriate information to caretakers, the intervention is no more than the surveillance of growth.

CHWS: ISSUES

The participants identified several issues related to the training and motivation of health care personnel. Significantly, they agreed that motivation was strongly linked to training. Adequate training and demonstration of skills help community health workers (CHWs) to feel confident about their skills, enhances their prestige in the community, and improves morale and motivation. The primary issues identified by the participants were:

1. Communication, counseling, and education
2. Training sessions
3. Supervision
4. Community outreach
5. Program goals
6. Materials and technology

1. Communication, counseling, and education

The training of CHWs tends to focus on the mechanics of a GM/P program—for example, weighing and measuring. Several participants were concerned that the training currently offered does little to help CHWs develop other important skills. Program planners should devise ways to help CHWs learn to communicate effectively with individual mothers and with other community members.

Training must be relevant. The people who train the CHWs frequently have had no field experience, and they may be unfamiliar with the culture and/or community. Or, as one participant noted, "You have trainers who never have done what it is they pretend to be training people to do." Consequently, the training may be didactic and theoretic. The trainees themselves may have no opportunity for "hands-on" field experience until the training period is finished. Planners should ensure that training is realistic, experience-based, and culturally appropriate.

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Although reinforcing mothers' good efforts or good results should be an integral part of an ongoing GM/P educational effort, CHWs are generally not trained in this area. A training program should help CHWs identify and reinforce positive changes in a mother's child care and feeding practices and outcomes of those practices.

2. Training sessions

Training can be overwhelming for CHWs, because so much new information and so many skills must be learned in a short time. Long training sessions that take place outside CHWs' home communities may be inconvenient for them. GM/P programs should provide the training that workers need efficiently and effectively, without causing undue strain to the trainees.

3. Supervision

Supervision and ongoing education must be provided to CHWs. CHWs frequently finish initial training and subsequently conduct their work unsupervised and with no further formal training. A concern of program planners should be how supervision and continuing education can be provided to field personnel.

4. Community outreach

CHWs need the involvement, support, and commitment of the community and community groups such as women's organizations; however, CHWs are rarely trained to enlist community help. Planners should consider how CHWs can be trained in community-liaison skills.

Preparation for working in a GM/P program may not instill self-confidence in CHWs. Self-confidence is an important quality for health care workers—especially those who must work independently a great deal of the time. Training programs should help CHWs become confident in their mechanical, communication, and problem-solving skills.

CHWs need to be able to identify the proper culturally appropriate vehicles for offering GM/P and, when possible, to integrate GM/P sessions into traditional activities. As a part of their training, CHWs should learn to identify these opportunities and to implement the program in a culturally appropriate way.

The support of physicians and other trained health care providers should be sought. Physicians and other health care professionals may have little knowledge of and commitment to GM/P. They may understand neither the instrument (the growth chart) nor the method. In such cases, they may fail to support the efforts of the CHWs by not responding appropriately when a malnourished child is referred to them.

5. Program goals and problem solving

Goals should be realistic. CHWs may lose faith in a program based on expected outcomes that have little chance of being realized. For example, if older children (rather than infants) are targeted, and reducing the incidence of malnutrition (rather than reducing mortality) is the goal, the program may

be set up for failure. If CHWs expect to keep all or most children growing according to accepted norms rather than to keep them from falling below, say, the 75th percentile, they are likely to be disappointed and motivation may lag.

Guidelines for interactive problem solving must be set. When a child's growth falters, CHWs need to know how to identify and solve the problem with the mother or other caretaker, especially in the context of home visits.

6. Materials and technology

CHWs should be taught how to use prepared materials and available technology effectively. CHWs may come to rely on prepared materials and audiovisual technology as a replacement for dialogue with mothers. Training should help CHWs learn to use these tools effectively and appropriately.

CHWS: PROMISING APPROACHES

Participants identified the following approaches as those that have demonstrated success in GM/P programs.

Short training sessions

Trainees are less likely to be overwhelmed by short periods of training and less inconvenienced by being away from home for only a short time. Alternatively, training can take place in phases (as in the Indonesian program). This is particularly appropriate for GM/P programs that are designed to be implemented in phases. Trainees can learn the mechanics of growth monitoring first, then interpretation, dialoguing, decision making, and other intervention skills.

Trainee groups

Put teams of people in the field together—for example, at a rally post—until CHWs have acquired the skills and confidence to work independently.

Supervision

After the CHWs are in the field, build in regular supervision that is basically instructional (providing continuing education) and supportive. This provides opportunities for developing skills, such as problem solving, that are difficult to develop outside the field context.

Emphasis on successes

Show CHWs some “success stories”—for example, children in a GM/P program who have successfully recovered from growth faltering or malnutrition. This helps “sell” the program to CHWs, motivate them, and inspire confidence in their ability to make a difference.

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Actions

Consider cultural context

Develop culturally appropriate messages, methods, and strategies for selecting and recruiting CHWs, helpers, and volunteers. Use indigenous human resources. For example, recruit through existing women's groups. Analyze and learn the dialoguing techniques of traditional healers, who frequently are highly skilled communicators. Learn from and involve successful grandmothers and other respected persons.

Recruit the best communicators

Teach dialoguing and problem-solving skills using, for example, role playing and pilot or demonstration projects.

Provide solid training in GM/P

Provide trainees with a solid base in all components of GM/P—mechanics, communication, and problem solving. As one meeting participant pointed out, "Training for competence develops confidence."

Study child feeding patterns

Have trainees visit households of children who are growing well and those of children who are not growing well. (The households should be matched for parity of the mother and socioeconomic status.) Trainees can analyze the two types of households and draw conclusions about what feeding and child care practices may be most successful in that community.

Ensure understanding of growth charts

Train workers to select and facilitate focus groups of mothers to discuss their understanding and misunderstanding of growth charts.

Conduct collaborative workshops

Involve representatives of the Ministry of Health and PVOs, other local health care professionals, community leaders, and CHWs. Give all participants the information they need to understand and appreciate the prevention and intervention potential of GM/P. Stress that the program will succeed only if everyone invests in it.

Research

Develop operational research projects on training and supervision

Gather baseline data in areas in which new programs are to be instituted. Introduce the program in components or phases. Teach CHWs the necessary skills for each component in phases. Examine parameters of program effectiveness at each step.

AREA THREE: COMMUNICATION STRATEGIES

The theme of the importance of communication in GM/P programs was established in previous discussion. Several vertical and horizontal channels of communication are crucial to the success of GM/P programs. Directives, instructions, and messages flow down through the health care structure or from PVOs through the CHWs to the communities. Sometimes messages reach the targeted community or communities directly from the “top” of the health care system via mass media, bypassing the vertical structure and the CHWs. Information—data, evaluations, outcomes, and problems—also flow up from the “front lines” to the government and PVO planners and supervisors, providing them with important feedback. Finally and perhaps most importantly, there are nonvertical channels of communication such as the all-important channel between CHWs and mothers and other important figures in the care and feeding of children. Participants at the meeting chose to focus on issues within two broad types of communication in GM/P: communication between CHWs and caretakers and communication between the GM/P program and the community.

COMMUNICATION: ISSUES

Issues related to communication between CHWs and caretakers include:

1. Dialogue
2. Messages
3. Growth Charts
4. Caretakers and other influentials
5. Counseling

Issues related to communication between the GM/P program and the community include:

6. Community outreach
7. Promotion

1. Dialogue

Participants identified dialogue between the CHW and the mother as a crucial area in GM/P. Two primary questions highlighted this point. First, how can CHWs alert mothers to problems in their child’s growth without reprimanding or scolding them—that is, how can CHWs build positive feedback into their communication with mothers? Second, can more time be designed into a GM/P program for counseling—perhaps three times as much as for weighing?

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2. Messages

GM/P personnel need inexpensive methods to generate simple, accurate, and culturally and situationally appropriate messages to (1) encourage mothers' participation; (2) convey concepts about growth that may be new to mothers; and (3) counsel mothers to care for and feed their children more successfully.

Messages should be tailored for each age group. Messages should be generated that are appropriate for children of different age categories. Segregating the target audience not just in terms of caretaker and community members but also as to age of child is an important activity for program planners.

Techniques should be developed to use canned messages effectively. Prefabricated or "canned" messages are frequently provided to CHWs to use in educating mothers. Participants felt that these messages sometimes supplant or interfere with individual counseling. On the other hand, the messages may help CHWs who have not been trained in effective counseling and educational techniques. Program planners, administrators, and CHWs should investigate ways to use these messages effectively. CHWs who want or need to use them should learn to modify or adapt them for use with different mothers with different kinds of problems.

3. Growth charts

The growth chart is frequently used as the focus of the interaction between CHW and mother. Using growth charts and focusing on numbers (weights) may not be a culturally appropriate way to convey adequate child growth. As with many modern health techniques, it places a barrier between the mothers and CHWs. The CHW needs to show the mother that she understands her problems. Furthermore, growth charts may not be the best counseling tool when weighing is infrequent. Thus, program personnel may need to investigate more effective ways to use growth charts in communicating with mothers. Also, they may need to seek alternatives to the growth chart for monitoring their children's progress.

4. Caretakers

All influentials should be targeted. Counseling is often targeted only to a child's mother. However, other people in the household—father or grandmother, for example—may be at least as involved in buying food and caring for and feeding the child as the mother. Key decisions about what foods and what quantities of foods are made available to the household and to the child may be made by the husband/father. Therefore, mothers may not be able to implement the care and feeding recommendations of the CHW. It is important that a GM/P program recognize this and develop ways to identify and involve other household members whose cooperation is critical.

5. Counseling

Anticipatory counseling should be included in a GM/P program. In the experience of several participants, counseling tends to be reactive rather than proactive—focusing on a child's growth and health only after problems have emerged. Anticipatory counseling should be devised that advises a mother about weaning and weaning foods before growth faltering begins.

An appropriate time and place for counseling should be created. A crowded, busy weighing session is generally a poor place for counseling.

6. Community outreach

CHW messages should be reinforced. Messages from CHWs may not be perceived as authoritative. Improving their self-confidence as well as their prestige in the community is critical. Backing up their messages with radio and print messages can be helpful.

The community should be informed about the program. The community in which a GM/P program is implemented is not always informed about the nature of the program, program outcomes, and changes in the program (for example, the addition or elimination of food supplements). A regular pattern of communication to the community and feedback from the community may generate more local interest in and support for the GM/P.

7. Promotion

The messages that mothers receive about GM/P may not necessarily convince them of the program's efficacy. Planners must devise ways to promote GM/P to mothers, selling them on its potential and encouraging them to enroll their infants early.

COMMUNICATION:
PROMISING
APPROACHES

Participants identified the following approaches as those that have demonstrated success in GM/P programs.

Summary growth charts

In the Dominican Republic, community interest in GM/P was generated by the use of community summary growth charts. Information was shared, especially, at the beginning of the program, at 6-month intervals, and when changes were introduced.

Alternatives to a growth chart

In Indonesia, weight gain was used as proxy for health status. In another program, a child's appetite was used as a cue to nutritional health. These may be viewed as alternatives to growth charts.

Linkages

Linking communication about growth monitoring with other kinds of nutrition education (about weaning, for example) can produce a strong program. The monitoring sessions (times of weighing) provide a number of points at which appropriate messages about feeding and weaning can be delivered.

COMMUNICATION:
RECOMMENDED
ACTIONS AND
RESEARCH

Actions

Allocate adequate resources to a program

Resources must be allocated in the beginning to develop a strong communication component. As one participant said, "To implement growth monitoring without communication can be a disservice."

GROWTH MONITORING AND PROMOTION

Structure the logistics of the GM/P program to ensure adequate time for counseling when mothers bring children in for weighing.

Encourage positive messages

Encourage CHWs to make messages to mothers generally positive and encouraging, rather than scolding and judgmental. Be sure that CHWs are trained in skills relating to interacting and dialoguing with mothers.

Ensure that messages are culturally appropriate

Prepare messages that are tailored both to the cultural milieu and to various characteristics of the children, such as age and feeding stage. Make messages anticipatory—for example, preparing a mother to wean her child before his or her growth falters. If effective, these messages strengthen the prevention aspect of the GM/P program.

Design efficient management

Allow sufficient education and counseling time while taking care not to overburden the CHWs.

Develop a communication strategy

The strategy should include three components: individual counseling, group discussion, and—through such channels as the mass media—community education.

Research

Investigate alternatives to growth charts

Determine whether an alternative to growth charts should be used to convey weight gain to mothers—leaving the charts as a diagnostic tool for CHWs.

Investigate simple and inexpensive ways of generating GM/P messages

Ways of conveying messages to mothers and communities should be built into the strategic planning of the program. Also determine the best and most effective “set” of messages to achieve the goals of the GM/P program—including those relating to family planning, immunization, and oral rehydration therapy.

Identify the community’s objectives for the GM/P program

Develop a system for providing feedback to the community relative to those objectives.

Identify the best opportunities for educational input

Educational input should be scheduled at various points throughout the GM/P process.

Investigate different ways of evaluating outcomes

Because more malnourished children may survive to be enrolled in a successful GM/P program, investigate ways of evaluating the success of the GM/P using outcomes other than the decreasing prevalence of malnutrition.

AREA FOUR: IMPLEMENTATION—PROCEDURES AND TECHNIQUES

In the context of GM/P implementation, the complexity and inappropriateness of techniques and tools were of overriding concern. Participants agreed that the CHWs must have techniques and tools that are meaningful, dependable, and relatively easy to use. GM/P procedures are complex and time consuming. Participants addressed the issue of how they might be simplified and still remain adequate and accurate.

IMPLEMENTATION: ISSUES

The discussion of GM/P implementation centered on these issues:

1. Community participation
2. Incentives
3. Weighing
4. Charts
5. Assessments

1. Community participation

Participation in a GM/P program may be low. Participation figures of about 10% of those eligible are not uncommon. Methods should be devised to increase participation—through affordable and effective outreach programs, for instance.

2. Incentives

Mothers and other family members consider the effort and cost of bringing children to the clinic or weighing post against the perceived benefits of participation. Frequently they decide that participation is not worth the time, effort, or expense. Therefore, the programs must find ways of demonstrating the benefits of participation. Participants of this meeting raised several questions, including the following: What kinds of incentives—including money and gifts—can be offered to encourage participation? How can a family's investment of time and money be minimized?

3. Weighing

Evaluate alternatives to weighing. Weighing the children tends to be perfunctory, even ritualized. Frequently, it is seen as unimportant. Determine what can be done to help CHWs understand the significance of the process. Can the weighing process and its results as expressed, for example, on growth charts be used more effectively as educational tools? Might alternative measures such as arm circumference be as effective as weighing to achieve GM/P objectives? Can mothers' subjective impressions of weight gain be used? What is the optimal frequency for weighing?

GROWTH MONITORING AND PROMOTION

Scales tend to be unreliable, vulnerable, and difficult to maintain. Accurate and reliable scales are expensive. Consider whether a scale should be of a traditional and familiar vintage or whether it should be a sophisticated tool that, among other functions, helps to educate mothers about such concepts as weight and growth.

4. Charts

Growth charts may or may not work well in a community. People may understand the concept of growth but not its mathematic-visual representation. Growth charts, according to some participants, should be used primarily as a diagnostic tool by health workers. Participants suggested that the growth charts be redesigned if they are to be used as an educational tool with mothers. One participant noted that "Growth charts are supposed to be a communication tool. Now we have a communication tool that is unintelligible to mothers." Program planners and administrators should determine what kinds of existing charts work best and under what conditions. Some participants suggested that attractive—even sophisticated—charts may be perceived as more valuable and important than very simple ones. A question was raised about whether programs should allocate more resources to educate mothers to understand the charts.

The determination and plotting of children's ages tends to be inaccurate; methods of improving the accuracy of the process should be devised.

5. Nutritional assessment

The assessment of a child tends to be based solely on his or her current nutritional status rather than on growth. Participants raised the issue of the parameters on which assessment should be based.

IMPLEMENTATION: PROMISING APPROACHES

Participants identified the following approaches as those that have demonstrated success in GM/P programs.

Group discussions with individual interaction

When a number of mothers are waiting to be seen at the same time, managing a GM/P session becomes more complex. A program that combines group discussions with brief individual interactions may make the GM/P session more efficient.

Age information before weighing

CHWs can reduce errors in plotting charts if children's ages are filled in before the weighing sessions.

Separation of malnourished and nonmalnourished children

This may help target counseling and make implementation of counseling and follow-up more efficient. In Haiti, three techniques were used: (1) Children were compared to chickens—the more a chicken weighs the more it is worth; (2) Mothers of children not growing well were sent to a special corner to receive intensive counseling; and (3) Malnourished children were referred to

a health center and received food supplements. Supplements were given again only to those children whose weights improved. (This technique works only where participation is very high, including among those mothers whose children are in greatest need.)

Home visits

In Tanzania, it was determined that the follow-up of malnourished children was more effective in home visits.

A broader scope

Addressing the poverty of the families may provide incentives for GM/P participation *and* demonstrate that poverty is the root of children's health problems. In Indonesia and Haiti, for example, links to credit unions were created. In Haiti, a "groupement communautaire" system was organized around a number of small groups of women, each beginning with one woman with a malnourished child. Women enlisted other women—friends and relatives—all of whom who were required to pass a "child survival" test to join. These women formed an investment group or credit union, compiling money for food or other purchases or activities. Such a program breaks down the isolation of women, encourages them to deal with their poverty, and integrates them into wider social and economic activities and institutions.

IMPLEMENTATION: RECOMMENDED ACTIONS AND RESEARCH

Actions

Make the program attractive and prestigious

As much as possible, use good equipment and uniformed personnel. Obvious simplicity may make the program seem unimportant.

Acquaint mothers and other caretakers with the quantified concepts of the program

Such knowledge may be empowering.

Provide as many scales as possible in accessible places

Teach mothers how to use scales and encourage them to weigh their children themselves regularly and often.

Research

Build in a period of trial-and-error operations research

Use trial and error—not necessarily formal research—to develop a community-based learning experience. Thus, members of the community can be involved in setting the objectives of the program and planning its implementation.

GROWTH MONITORING AND PROMOTION

Evaluate the effectiveness of GM/P

Use a defined population of registered children to determine effectiveness of the program. Consider the following: (1) effectiveness of monitoring processes; (2) attendance; (3) the achievement of priorities such as increasing enrollment of very young children; (4) morbidity; (5) nutritional status; and (6) mortality.

Investigate monitoring techniques other than weighing and charts

Also, continue to develop better scales and simpler, more effective charts.

Continually evaluate the program

Evaluations allow the program to evolve as new techniques are adopted and new community situations arise.

SUMMARY

The value of growth monitoring has been questioned by some health care planners. Some believe that because it requires regular and ongoing activity, it has inherent weaknesses that make it unworkable in some environments. Other health care planners point out that, unlike interventions such as immunization, GM/P is too context-specific. Its “fit” with the culture and the community make both design and implementation problematic. Still others believe that, in concept, GM/P should work but, because it is in the hands of relatively untrained and uncommitted health care workers, implementation is difficult.

However, the consensus of the meeting participants was that growth monitoring has potential as an important component of health care and nutrition programs—especially in areas of the world where growth faltering is common. In the best of circumstances, growth monitoring allows CHWs to screen all children in their catchment area, identify those at risk for malnutrition and its sequelae, and provide their families with preventive counseling. Even under less-than-ideal circumstances, growth monitoring allows CHWs to identify many of the children who are already malnourished and treat them or refer them for treatment. Thus, the effectiveness of nutrition care may be increased through GM/P, because relevant messages and appropriate interventions can be targeted to the “neediest” people at the most critical times.

Nevertheless, serious problems do exist in GM/P. Participants identified the most significant problem areas, which are summarized below.

- *Objectives* of GM/P may not be clearly defined. Different people or organizations may have different agendas and objectives for the programs. If the objectives are ambiguous, confusing, or conflicting, designing effective strategies and tactics is difficult and evaluation useless.
- The vertical and horizontal *organization* of a program and its articulation with other private, public, and community structures may be unclear.
- *Coverage* may be infrequent and inadequate to help the children at highest risk, and follow-up and intervention may be weak or nonexistent.
- Norms and growth *standards* may be poorly defined or inappropriate for the setting.
- The *training* of CHWs may be inadequate or overwhelming and therefore fail to promote motivation and self-confidence.

GROWTH MONITORING AND PROMOTION

- *Communication* with mothers and other family members may be negative and judgmental rather than positive and educational. Growth charts may or may not facilitate this interaction. Other culturally appropriate symbols may be more effective at helping mothers understand the nature and significance of growth.
- *Communication* between the GM/P program and the health care system and between the program and the community may be poor or non-existent.
- *Weighing and measuring* of children may be perfunctory, inspiring neither the health care worker nor the mother. Furthermore, little counseling may take place to guide feeding behavior of mothers of children whose growth is faltering.
- *Measurement tools* may be old, inadequate, unreliable, or inappropriate for the context.

Several fundamental recommendations emerged from discussions of the most significant problems.

- The effectiveness of a GM/P program may be enhanced if its *linkages* with other components of the health care system are anticipated and planned. All the actors in the program should be represented in the planning—PVOs, the Ministry of Health, middle-level health care personnel, CHWs, and community members. The program may be part of a larger health care “package” of programs including immunization, family planning, and oral rehydration therapy. Although research has yet to be done, there seems to be a synergistic effect in offering these programs together. (Some meeting participants, on the other hand, were concerned that these linkages “medicalize” the GM/P program and cause it to lose its community base.)
- The program design should include a phase of *trial-and-error operational research* that has several purposes: to clarify the nutritional status of the community, to discover the cultural context and community infrastructures into which the program must fit, and to try out training and implementation procedures and technique for effectiveness. The program then should be designed to enroll children when they are very young (before growth falters). Attempts should be made to achieve maximum coverage that reaches those at greatest risk, and to provide incentives to mothers, fathers, and other family members.
- Implementation of a GM/P program is in the hands of people who may have little formal education in health care. Therefore, an *effective training program* is essential. Adequately trained personnel will be confident of their skills, will be perceived as authorities in the eyes of the community, and will be motivated to maintain a high standard of professionalism. A good training program does not overwhelm the trainees and is of use to them when they go into the field.

Effective communication is essential to a successful program. Vertical channels of communication keep CHWs from being isolated and unsupported in their efforts. Good communication channels also serve to inform key top-level

health care administrators about what is happening in the field. Certainly, communication between the CHWs and mothers and other caretakers is one of the most significant components of a GM/P program. CHWs must be trained to be good communicators—to deliver appropriate, correct, and understandable messages; to dialogue with mothers; and to *listen* to mothers. Prepared messages and materials may be useful, but CHWs should learn how to use them properly and to adapt them when necessary.

No GM/P program should be etched in stone at the outset. The flow of information through the system and the feedback provided by the workers in the field should inform all the actors about what is working and not working and what new situations are arising in the communities. Regularly scheduled district meetings can help to provide a forum for this exchange of information. Thus, the program can adapt and evolve to meet a changing environment.

Little effort and few financial resources have been directed toward addressing existing shortcomings. But one of the participants at the AED Advisory Meeting exhorted health care planners to look positively at GM/P programs:

Please don't apologize for growth monitoring as if it were a failure. Why not present it for the advantage that it is: [GM/P provides] an opportunity that the "magic bullets" [e.g., immunization and oral rehydration therapy] don't—to actually enter into the development process and to show that growth is, in fact, a summary measure of health. There is a great opportunity to use growth as a rallying point for broader-based, more integrated development.

QUOTES FROM PARTICIPANTS

Dr. Norge Jerome

“I think it is salient to any new approach or relevant approach to growth monitoring, to look at indigenous systems—people’s own notions of what growth is, how they evaluate whether children are growing—and then incorporate these into the program design.”

Dr. Jose Mora

“Coverage [in Honduras] is limited to places around the villages, a small area around the health center or health posts. There is no outreach mechanism. So, the most at-risk children will not be reached and benefit from the [GM/P] program. In addition, growth monitoring is continually implemented as a surveillance measure without much being done to improve the situation of the child, without nutrition education, and without any feedback, education, or communication with the mother.”

“It may be that they [PVOs working in the least needy areas of Honduras] feel that growth monitoring may work only under certain conditions and that the poorest regions, the poorest communities, are not the best setting to undertake successful growth monitoring activities.”

“It is very likely that growth monitoring with no education is of no use at all.”

Dr. Claudia Fishman

“What can she [the mother] take away from what I consider to be the most precious and overburdened encounter...which is that exchange between the health worker and the mother?...What other points of entry do we have besides this one encounter?”

Dr. Joe Wray

“There are a lot of situations in which people are concerned about the mother feeling stigmatized with the label applied to her child.”

Dr. Charles Teller

“One nurse up in the mountains asked a mother why there were no red yarns [indicating growth faltering] on her chart, [because] we could see that some of her children’s growth had been faltering, and she said, ‘It really hurts me to put the red yarn, because, in the past, the mothers said this was an evil omen and the child was going to die.’”

GROWTH MONITORING AND PROMOTION

Dr. Antoine Augustin

"In addition to assessing why a particular child might be losing weight, we might also ask which mothers in the community have children with malnutrition....You might find that it is not necessarily food availability or even feeding behavior; it might have to do with some aspect of maternal behavior which may not be necessarily related to socioeconomic status."

"The growth monitoring program, in addition to being a tool for dealing with individual children, should also have as an objective to deal with malnutrition as a whole within a given community."

"Could we design a lowest-common-denominator growth monitoring program that even a moderately motivated health worker could successfully carry out?"

Dr. Gretchen Berggren

"Maybe the lowest common denominator isn't to weigh every child every month or bimonthly [but to weigh them] quarterly. The mothers are more willing to do that, especially if something else is offered at the growth monitoring session—from medicine to prenatal consultations to vitamin A. [Only] 10% to 20% of kids need to be specially followed and weighed monthly. That is something that the medium-motivated health worker might be willing to do."

"There is confusion between growth monitoring and surveillance on the part of [health] ministries and sometimes on our own part."

"[The GM/P program] lost a lot of goodwill with the population because they said the growth monitoring team doesn't treat [medical problems]."

"It was only when mothers actually participated in the two- to three-week rehab workshops where they rehabilitated their own children and they saw that 18-month-olds who had lost the ability to walk could walk again that the communities began to...believe that food could make a difference in those children."

"We need to document the statement made here today that training for competence develops confidence."

Dr. Kenneth Brown

"I think any program design has to begin with an articulation of the objectives of the program."

"The first thing you have to do is figure out where you are in the context of a broader health program."

"If we don't start with what is of interest to the community and what is the basic indigenous motivation for these programs, we may lose all hope of sustainability."

"Another advantage of field-based follow-up training is that it becomes not only a training session but also a problem-solving session."

Dr. Michael Latham

"We are building in failure by seeing so much effort put on children at the the wrong stage....So age of enrollment becomes absolutely critical....It has to be started at a younger age when preventive measures [are] possible."

Fr. C. Capone

"We have redefined growth monitoring as having this objective: to assess the condition and the progress of the child with respect to growth, nutrition, and health."

"The growth chart is more sensitive than the thermometer and more sensitive than the stethoscope. It's a first-class clinical tool."

"The children who are at highest risk are the newborns, who are in perfect normal nutritional health. They are at a higher risk of dying within a year than the 2-year-old who has severe malnutrition."

"The growth charts are supposed to be a communication tool. They were designed for the workers, not for the...mothers. Now we give the mothers a communication tool which is unintelligible."

Dr. Lucas Hendrata

"One area of communication which is not well explored in growth monitoring is the communication of [the concept of] growth itself."

Mr. Serigne M'Baye Diene

"We need one growth chart in a country so we can standardize the messages."

Ms. Nancy Pielemeier

"Are there perhaps other, more culturally acceptable ways [besides using growth charts] to convey the idea of growth to mothers?"

Dr. Roy Miller

"...A more personalized view of what I heard here through my filter during today's session...is that more than any of the other health interventions or even agricultural interventions, growth monitoring promotion is still one in which there are incredible questions rather than answers."

Ms. Marcia Griffiths

"One of the biggest problems we have encountered is the lack of self-confidence of the workers....I know of very few training systems that try to do anything to increase people's level of self-confidence."

GROWTH MONITORING AND PROMOTION

“Growth monitoring is in fact your best tool to deliver the right message to the mother when she needs it.”

“People [in Indonesia] are now thinking about going back to P.K.K., which is the women’s organization, to run the community posts and bring them back into the community.”

“I think we know a lot about doing growth monitoring. I am not saying there aren’t still a lot of questions and a need to fit what we know into different contexts.”

“What I think distinguishes growth monitoring is that it is a decision-making tool. Immunization, oral rehydration, child feeding are not decision-making tools. They are the action component. And what makes growth monitoring difficult—and the reason it needs to be very context-specific—is that we are asking people to make some decisions based on the results.”

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