

NUTRITION WORKS

Measuring, Understanding, and
Improving Nutritional Status

Workshop Proceedings

September 5-7, 2001
Millwood, Virginia



FAM
Food Aid Management



CORE

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Acronyms

AIN	Atencion Integral de Ninos
ARHC	Andean Rural Health Care
ARI	Acute Respiratory Infection
BASICS	Basic Support for Institutionalizing Child Survival
CDC	Centers for Disease Control
CDD	Control of Diarrheal Disease
CHWs	Community Health Workers
CI	Confidence Interval
CORE	Collaborative Resources in Child Survival Group
CS	Child Survival
CSGP	Child Survival Grants Program
CSTS	Child Survival Technical Support
DAP	Detailed Action Plan
DHS	Demographic Health Survey
DIP	Development Activity Proposal
EHP	Environmental Health Project
EOP	End of Project
EPI	Expanded Program of Immunization
FAM	Food Aid Management
FANTA	Food and Nutrition Technical Assistance
FFH	Freedom from Hunger
FFP	Food for Peace
FHI	Food for the Hungry
FSRC	Food Security Resources Center (of FAM)
GDP	Gross Domestic Product
GM	Growth Monitoring
GMP	Growth Monitoring Promotion
HA	Height-for-Age
HAZ	Height-for-Age z-score
HFA	Height-for-Age
HH/C-IMCI	Household-Community IMCI
HIV	Human Immunodeficiency Virus
HKI	Helen Keller International
IEC	Information, Education, Communication
IMCI	Integrated Management of Child Illness
IMR	Infant Mortality Rate
INCAP	Instituto de Nutricion de Centro America y Panama
INHP	(CARE's) Integrated Nutrition and Health Project
IRC	International Rescue Committee
ITN	Insecticide Treated Net
KAP	Knowledge, Attitudes, Practice
KPC	Knowledge, Attitudes, and Practices
LQAS	Lot Quality Assurance Sampling
M&E	Monitoring and Evaluation
MCH	Maternal Child Health
MEWG	The CORE Group's Monitoring and Evaluation Working Group
MOH	Ministry of Health

MPH	Masters in Public Health
MTE.....	Mid term Evaluation
MUAC	Mid Upper Arm Circumference
NCHS.....	National Center for Health Statistics
NGOs.....	Non-government Organizations
NHANES.....	National Health and Nutrition Examination Study
OR	Operations Research
ORT	Oral Rehydration Therapy
P.A.N.D.A.....	Practical Analysis of Nutrition Data
P.L. 480.....	Public Law 480
PCI.....	Project Concern International
PD.....	Positive Deviance
PDI	Positive Deviance Inquiry
PEM.....	Protein Energy Malnutrition
PRA	Participatory Rural Assessment
PRISMA.....	Translation of NGO name in Spanish: Projects in Agriculture, Rural Industry, Science & Medicine, Inc/Peru
PVC	Private Voluntary Cooperation
PVO	Private Voluntary Organization
RDA.....	Recommended Dietary Allowances
SC.....	Save the Children
SD.....	Standard Deviation
SPSS	Statistical Package for Social Science
TB	Tuberculosis
TBA	Traditional Birth Attendants
TII.....	Title II
TIPs	Trials of Improved Practices
TOT	Training of Trainers
UNC.....	University of North Carolina
UNICEF.....	United Nations Children's Fund
USAID	United States Agency for International Development
VHC.....	Village Health Committee
WA	Weight-for-Age
WAZ.....	Weight-for-Age z-score
WH	Weight-for-Height
WHO	World Health Organization
WHZ.....	Weight-for-Height z-score

Welcome and Introduction

September 5, 2001
Millwood, Virginia

On behalf of the Planning Committee, welcome to *Nutrition Works: Measuring, Understanding, and Improving Nutritional Status*, as summarized in this post-workshop report. There is tremendous need for effective nutrition programming: worldwide, while Latin America and East Asia have seen dramatic gains in fighting childhood malnutrition, overall, malnutrition remains a significant and growing problem. In 1998, 226 million children were stunted and 183 million underweight. Malnutrition is associated with the deaths of over 6 million preschool children each year. Survivors may be disabled and are vulnerable to illness. Malnutrition further severely hampers the ability of millions of children to learn. Stunting and wasting, iron and vitamin A deficiencies-- all affect national GDPs, and waste untold man/woman-years of productivity. The chronic conditions of heart disease, high blood pressure, and diabetes are also linked with the malnutrition of poverty.

The role of PVOs, governments, and operational colleagues is important to the current and future nutritional status of children. The staff of nutrition programs join and support parents and caregivers in taking responsibility for how children grow and the subsequent effects on children intellectually, on their coordination and balance, on height, and so much more. As children graduate out of Child Survival and MCH programs at the age of five, what benefits they have gained will follow them the rest of their lives, and on into their children's lives.

The three-day *Nutrition Works* workshop was intended to improve knowledge and build skills in anthropometry, nutrition measurements, and nutrition programming as a means to empower PVO staff to implement nutrition activities correctly, and to continue to make an essential difference in the world. Workshop objectives were (1) to review and demonstrate recent innovations in nutrition measurement; (2) to provide state-of-the-art techniques in nutrition measurement combined with practical and relevant tips for using the data obtained; and (3) to bring together Child Survival and Title II program staff who face common nutritional issues in their work.

Within a participatory format, participants moved from Day 1's focus on *problem identification* ("Is there a problem?" "How do we assess whether there is a nutrition problem in the target population?"), to Day 2's discussion on *problem analysis* ("What are some possible reasons why the problem exists?" "Is there variation among different segments of the target population in terms of nutritional behaviors/practices/outcomes?"), concluding on Day 3 with *problem solving* ("What can the project do to resolve or ameliorate the problem(s) identified?").

Nutrition Works has resulted from a substantial planning partnership among groups with a common vision: The CORE Group and FAM, which are two PVO representative groups, and two USAID cooperating agencies, FANTA and CSTS. Representatives of many PVOs engaged in Child Survival and Title II gave of their time and experience in both the planning stages and with presentations of methods, results, and lessons learned. Their names are listed throughout the report, with tremendous thanks.

Luis Benavente (Project HOPE) was a key participant in the organization of the workshop, serving as the chair of The CORE Group's Nutrition Working Group, with support from Victoria Graham, CORE's Manager, and Nutrition Working Group members. Excellent support came

from the members of CORE's Monitoring and Evaluation Working Group, chaired by Jay Edison (ADRA). The Child Survival Collaboration and Resources (CORE) Group (220 "I" Street, NE, Suite 270, Washington, D.C. 20002. Tel.: (202)-608-1830. www.coregroup.org) is a network of 36 PVOs experienced in USAID's Child Survival Grants Program, which work together to promote and improve primary health care programs for women and children and their communities. The CORE group is funded by the Office of Private Voluntary Cooperation at the Bureau of Humanitarian Response at the United States Agency for International Development.

Mara Russell, the Director of Food Aid Management (FAM), was an important member of the Planning Committee, helping to provide the perspective of the Title II community. Trish Schmirler, Technical Information Specialist, also took part in the planning and implementation of the workshop. FAM (1625 K Street, NW, Suite 501 Washington, DC 20006. Tel: (202)-223-4860. www.foodaidmanagement.org) is a consortium of 18 PVOs implementing USAID P.L. 480, Title II programs worldwide. FAM's role in the workshop was supported by funding from the Office of Food for Peace at the Bureau of Humanitarian Response at USAID.

Sandra Bertoli of the Child Survival Technical Support (CSTS) Project of ORC/Macro has been a key element in bringing together all organizers to increase collaboration and communication on assessing the impact of food and nutrition interventions, with support from Leo Ryan, CSTS' Project Director, and additional technical input from Michel Pacqué. CSTS (11785 Beltsville Drive, Calverton, MD 20705. Tel.: (301)- 572-0200. www.childsurvival.com) assists CS GP PVOs to increase their capacity to achieve sustainable service delivery in public health interventions, working with individual PVO grantees, the CORE Group, and USAID's BHR/PVC Child Survival office. CSTS is supported by the Office of Private Voluntary Coordination at the Bureau of Humanitarian Response at USAID.

Caroline Tanner of the Food and Nutrition Technical Assistance (FANTA) Project of the Academy for Educational Development (AED) has been a strong supporter of the workshop and a seeker of Child Survival and Title II synergies. Bruce Cogill, FANTA's Director was a workshop presenter and Paige Harrigan, provided excellent support to the workshop. FANTA (1825 Connecticut Avenue, NW, Washington, DC 20009-5721. Telephone: (202) 884-8000, www.fantaproject.org) supports USAID-funded integrated food security and nutrition programming to improve the health and well being of women and children. Funding of FANTA's participation in the workshop was provided from the Office of Private Voluntary Assistance at the Bureau of Humanitarian Response and the Office of Health and Nutrition in the Bureau for Global Programs at USAID.

Tom Davis and Irwin Shorr both contributed substantially during the planning stages and as presenters. Tom Davis also kept the workshop on target with its objectives as Workshop Facilitator.

John Howe, the CEO of Project HOPE, hosted the workshop at Project HOPE's Millwood, Virginia facility as part of his support for increased efforts in the documentation of the impact of Project HOPE's programs and participation in The CORE Group.

It is the belief of the Planning Committee that everyone benefits--but especially women and children--when PVOs managing Child Survival and Title II projects seek and find synergies between both programs, such as those realized when principles of anthropometry, survey and data use for decision-making, and application of community-based nutrition models are conscientiously implemented.

Executive Summary

Nutrition Works was designed as a venue for Child Survival (CS) and Title II (TII) programming staff to meet on common nutrition-focused themes. One area in common is the KPC methodology which has long been central to the Child Survival community, and is now being applied more frequently in Title II programming. The KPC 2000+ contains a module on anthropometry, and weight-for-age is a key indicator included in the Rapid CATCH. There is a clear interest on the part of the CORE Monitoring and Evaluation Working Group, which continues to invest time and resources on revising the KPC, that child health and nutrition projects understand the utility of measuring nutritional status (by weighing) in conjunction with other KPC survey questions relating to behaviors and practices. This workshop served as an ideal opportunity for sharing this and similar nutrition-related information with CS and TII organizations.

Utilizing a participatory format, participants moved from Day 1's focus on problem identification, to Day 2's discussion on problem analysis, concluding on Day 3 with problem solving. Examples of data presentation graphic styles developed by participants are included throughout the report. Since some of the graphics used in the report were originally created using colors, however, some subtlety is therefore lost when reproduced in black and white.

Day 1: Problem Identification - Anthropometry

A presentation of anthropometry technical issues including an introduction and basic definitions was followed by a case study on the use of anthropometry, with a view toward covering as much practical information as possible. Presentations and discussions covered GMP (surveillance/on-going, time series for one infant/child) versus surveys (one-time events in conjunction with a survey for baseline or End of Project evaluation and with different measurement of malnutrition estimated at the population level); interpretation of findings; the whys and whats of standard of cut-off points used in anthropometry; integration; and reporting. Standardization of techniques was discussed as a starting place.

Two optional evening sessions provided participants an opportunity to gain practical information and skills: a session on the EpiNut software package for analyzing anthropometry data, and a session on weighing and measuring using actual height boards and a slide presentation on field conditions, designed to explore practical issues.

Day 2: Problem Analysis – Using the KPC Survey and Other Tools for Nutrition Decision-Making

Through an introductory plenary (yet participatory) session followed by small group activities, participants practiced integrating anthropometric measurement into survey data collection in order to correlate key practices and behaviors with nutritional status, and using survey findings to plan and assess nutrition activities. Sessions reviewed the application of KPC2000+ Rapid Catch and Nutrition Modules to field programs, provided a brief overview on sampling options (LQAS, simple random sampling, cluster sampling), and included PVO presentations of experiences in collecting, analyzing, and using nutrition data. The IMCI food box was presented as a standard recently developed to measure nutritional activities in facilities and the household. A discussion of the TIPs methodology, used in developing and adapting the food box, was shared. A presentation of the AIN approach informed a discussion on AIN to follow on Day 3.

Day 3: Problem Solving – Applications of Nutrition Programming

Participatory discussion was generated around comparison of TII and CS experiences with program approaches to improving child nutrition. Case studies examined Hearth, AIN, TIPs, and credit with education methodologies in both TII and CS programs in similar contexts.

Discussions focused on why a particular program approach worked in each context, how it is being implemented, similarities and differences, use of anthropometric data, strengths and weaknesses, and any lessons learned.

Highlights of Workshop Conclusions

A list of key points and lessons learned was compiled at the conclusion of each day and overall for the workshop. Highlights included the recognition of the need to continue to standardize definitions of “standard” indices and the importance of utilizing z-scores. State confidence levels at all time. Additional clarification was provided on some of the synergy between CS and TII programs, with nutrition-focused activities being central to both programs; and with interventions for CDD, ARI, EPI, and causes of neonatal/perinatal death (CS) working in tandem with agriculture, water, and sanitation activities (TII). In summary, for better nutrition, work for better health.

There was substantial discussion on methods such as Hearth (for rehabilitation), AIN (for prevention), and TIPs (for research), which can serve as links in the IMCI toolbox. Annual and bi-annual targets need to be realistic (and may need adjustment), looking toward expected change within the program’s timeframe (e.g. five years). IMCI is not “just a health strategy,” but a health *and nutrition* strategy, and IMCI should be promoted through Title II food security programs. The cost per beneficiary should be analyzed regularly so that each project’s efficiency can be assessed. PVOs should freely borrow ideas. Benchmark by looking at the work of organizations that are having the most proven success.

Presenters and participants re-iterated how essential it is to measure project work to convince others of its value, and to make sure targets are met. Project staff are urged to use methods that help them learn what works in nutrition from the community, for example, TIPs, Hearth, credit with education, and Care Groups, focusing on contact between community people and project staff;

The nutrition program methods presented demonstrated a high degree of change in nutritional status. Nutrition works!

News Bulletin: Participants Invited to Join Nutrition Listserv

Initiated at the workshop, the Food Aid Management (FAM) Nutrition Listserv is now operating. The listserv is designed for FAM members and others in the food aid and nutrition communities to share information, ideas, research, and seek answers to technical questions. Message content includes but is not limited to: (1) nutrition programming to prevent stunting, wasting, underweight, and micronutrient deficiencies; (2) tools used for improving nutrition education (e.g., TIPs and positive deviant studies); (3) tools and methods used in the treatment and rehabilitation of severely malnourished children; and (4) anthropometry methods. Interested new members may join using the form at FAM’s website at www.foodaidmanagement.org. To see the collection of prior postings to the list, listserv members may visit the [Fam-nutrition Archives](#) at FAM’s website.

PART I: ANTHROPOMETRY

Anthropometry Use in the Context of Title II and Child Survival Programs

Presenter: Bruce Cogill is a nutritionist and Director of the USAID-funded Food and Nutrition Technical Assistance Project (FANTA) of the Academy for Educational Development (AED) in Washington, D.C.

When looking across PVO-generated data, there are a variety of reasons why there may not be clearly measured results. These include issues surrounding indicators, time periods, ways of managing data, differences in data quality, and more. These issues are part of the work of anthropometry—which seeks to improve PVO ability to report and understand change.

On March 12, 2001 a policy letter was issued by the Office of Food for Peace (FFP) and the 1995 Food Aid Food Security Policy paper was distributed within the TII community. The policy paper discusses the importance of household nutrition, increasing agricultural production, and marketing. Other child-survival-type activities, although definitely

complementary, are not generally funded by TII. The policy paper and letter list some terms and criteria that are common within the CS community, and includes the term “food-assisted child survival” initially used by Catholic Relief Services where a food supplement is included in a MCH program.

There is an increasing emphasis on the under-two age group in Title II MCHN programs as being the most responsive to interventions--while not ignoring lactating and pregnant woman, adolescent girls, and other young children. There is also an increasing emphasis on certain vulnerable areas, particularly sub-Saharan Africa, where there have been increases in the

absolute numbers of malnourished children. DAP guidance is issued annually to assist the TII PVOs in preparing proposals. FFP requires PVOs to report on at least one of two nutrition indicators for evaluation, which came out of negotiations between USAID and PVOs- either/or height-for-age (HA) or weight-for-age (WA) when nutrition activities are part of the DAP. Changes in nutritional status can be the direct result of TII interventions, and is sometimes a general proxy of general socio-economic status in the community. PVOs

are encouraged to use the very useful stunting indicator for evaluating programs and to track overall well being of a population.

There are different uses of indicators, and one challenge is to

ensure a good fit between the defined indicator and its purpose. Which age group will be selected, or other criteria, will depend on the indicator’s use as well as the context--food security, emergency, urban, etc. Showing a certain percentage point reduction can measure results and become a very useful advocacy tool, particularly for increasing investments.

There are two generic impact indicators for TII, disaggregated by gender: (1) “Decreased percent of stunted children (presented for ages 24-60 months and by gender, where stunting is defined as percent of children falling below -2 standard deviations for HA)”; and (2) “Decreased

Practical Tips from Colleagues

Some USAID missions in Africa have included a focus on food security in their strategic plans, which will hopefully trickle down to a greater emphasis on nutrition. These missions now have an avenue through which PVOs can go and ask for endorsement.
René Berger, USAID

percent of underweight children (in specified age groupings such as 12-24 months and 36-59 months and by gender, where underweight is defined as percent of children falling below –2 standard deviations for WA)”.

Results from program monitoring indicators are reported in the Annual Results Reports: these are most useful for looking at trends. The first indicator is, *“Increased percent of eligible children in growth monitoring/promotion (usually presented for children <24 months or <36 months of age, depending on the target group of the program)”*. This indicator does not look at weight gain, only if children are participating in GMP. All participants in nutrition programs are compared against the same standard reference population the international NCHS/WHO reference (WHO). A revised WHO reference will probably come out in the next two years which will be based on better representation of breastfed infants from well-off communities in developing countries.

Practical Tips from Colleagues

FANTA has produced a new resource, the Anthropometric Indicators Measurement Guide, which was designed to be used by program technical staff using the two impact and two monitoring TII indicators. It is available free, in English only, and can be adapted as needed. Users are asked to reference the source and the funder, USAID. A pdf version is available from the FANTA website: www.fantaproject.org. To remain relevant, there will be changes over time. The guide covers collection of needed data through surveys, what kinds of equipment are needed, how to compare data with references, some discussion on data analysis, an introduction to EpiNut, and other practical topics. The appendices are helpful and include calculating z-scores, selecting a sample, information on adolescents and adults.

A second indicator, *“Increased percent of children in growth promotion gaining*

weight in past 3 months (by gender and age group, will depend upon the target group of the program)” looks at detectable weight gain and utilization of the program. FANTA has sought input from the field on the realities of moving toward increased standardization in reporting.

Practical Tips from Colleagues

Well nourished children from all over the world at least until seven years of age grow quite similarly. Therefore the NCHS/WHO standard references are suitable for all populations up to age seven and use of international reference standards are appropriate in developing countries.

The 0-6 months age group is often deliberately left out of reporting since they are generally doing well, but they still should be monitored.

When speaking of the 6-59 month age group, this refers to completed months, e.g. up to 59 months and 30 days.

Tom Davis, Consultant

The use of the terms chronic and acute malnutrition is common, but participants were encouraged to use the actual anthropometric terms of underweight (for WA), stunting, (HA) and wasting (WH) for children. This will reduce confusion in reporting. In adults, a low BMI is referred to as thinness and a high BMI is overweight.

Anthropometry is important, but it needs to be seen in the context of other information as well. For example, FANTA has sought to narrow age groupings in order to make comparisons over time, identify cutoffs, standardized calculations, present data, and set targets.

USAID is using nutrition information for advocacy, and as a proxy for improvements in the overall welfare of a population.

The first five years of the “new” TII programs are just now finishing. The results

are inconclusive and it is unclear if this is because of the program implementation, individual community factors, the type of monitoring systems selected, the choice of indicator, or other reasons. As a community, TII programs still seek to

identify a realistic target for a reduction in malnutrition. More work needs to be done by the TII community with FANTA on setting realistic and appropriate targets in both underweight and stunting.

Anthropometry Overview

Presenter: Irwin J. Shorr is an experienced nutritionist, currently working as an independent consultant on anthropometric nutrition assessment and evaluation, and is a Lecturer at the Johns Hopkins University School of Hygiene and Public Health where he teaches the anthropometry component of the Nutrition Assessment course.

This presentation followed the document “Working Outline #1: Introduction to Anthropometry: Definitions, Anthropometric Measurements, Derived Anthropometric Indices, Growth References, Cutoff Points, Classification Systems” contained in the participant binder; details and clarifications from the presentation and this summary are included in this document.

Anthropometry means “body measurements”. Two important components of anthropometry are *growth*, where this overview will focus, and *body composition*. The most important measurements of growth in the context of CS and TII are height and weight of preschool-age children. Growth assessment is the single measurement that best defines the health and nutritional status of children because disturbances in health and nutrition, regardless of their etiology, invariably affect child growth. Anthropometry is very useful for measuring overall health status, not just nutritional status. The Demographic and Health Surveys Program (Measure DHS+), the largest cross-sectional survey effort of its kind worldwide, sought the best measurement of health status for their surveys, and was advised to include height and weight of preschool-age children.

Clinical, biochemical, diet, and anthropometry nutrition assessment methods all have their strengths and weaknesses. Anthropometry is rapid and reproducible,

where results can be made available quickly. Anthropometry measurements are generally easy to learn, culturally acceptable and describe health and nutritional status. Some deficiencies, however, take time to show an effect on growth. Seemingly small errors can seep into an anthropometric measurement procedure that are routine and appear simple, yet can have a great impact on how a child is classified.

Anthropometry has many uses, including population assessment, identification of target groups, nutritional surveillance, monitoring of nutritional status, evaluating program impact, involvement in emergency situations, sequential measurements, and growth monitoring of individuals. Stature, which is the proper term for the measurement of linear growth, has two components: recumbent length which is measured on children less than 24 months of age, and standing height, which is measured on children 24 months and older. The terms “height” and “length” are commonly used.

Practical Tips from Colleagues

Be sure to use either recumbent length or standing height measurement methods for the appropriate age group, since there is no algorithm that can accurately convert standing height to recumbent length data or vice versa.

Irwin J. Shorr, Consultant

“Stunting,” low height-for-age (HA), has a complicated etiology since it is an indicator of poverty. Studies have shown that where there are stunted children, they are usually members of households that are poor. Poverty is defined in an area, and can include poor access to health, water and sanitation facilities, lower household income, fewer possessions, higher infant and child morbidity and mortality, greater number of siblings, etc. KPC surveys implemented by PVOs can identify the associations of stunting with poverty in an area. To have an effect on the prevalence of stunting of preschool-age children in a population, several issues must be addressed that are related to poverty. PVOs have a particular advantage in being able to have an impact on stunting, since one of their mandates is to raise the level of living of a community in which they work where they have a long-term involvement through programs that they implement.

Practical Tips from Colleagues

Among the emergency community, the term “PEM”(protein-energy malnutrition) is being avoided, as neither wasting nor stunting are the result of only a lack of food. There are micronutrient, genetic, and environmental issues, etc. that are also important.

Caroline Tanner, FANTA

According to WHO, the terms “acute malnutrition” or “chronic malnutrition” should not be used since they infer causality. Instead, use the terms “wasting” or “stunting”, which are more observational.

Irwin J. Shorr, Consultant

Weight-for-height (WH) is a nutritional status index that reflects current malnutrition

and is particularly useful in situations where there is a food shortage, or in special situations where preschool-age children experience food deprivation, such as famine, or in refugee populations. When WH is low, a child is classified as “wasted.”

Weight-for-age (WA) is the most familiar nutritional status index, which is particularly useful for growth monitoring where serial weights are taken on a child over time. When WA is low, a child is “underweight”. On a single cross-sectional survey, a low WA cannot distinguish between stunting and wasting, since a child with a low WA either may have recently lost weight, or never attained optimal linear growth, or exhibit a combination of both.

Mid-upper arm circumference (MUAC) is another measurement that indicates current nutritional status. Since it is a nearly age-independent measurement, where the arm circumference of children in a healthy population remains fairly constant from approximately 1 – 5 years of age, it is a useful screening tool, with 12.5 cm and 13.5 cm used as cutoff points.

While MUAC is a useful screening tool, it should not be used as the sole measurement for growth monitoring of preschool-age children. At a growth-monitoring workshop sponsored by AED, it was noted that one PVO used MUAC as its only growth monitoring measurement, which was discouraged. Weight-for-age remains the most useful anthropometric nutritional status index for growth monitoring of preschool-age children.

Some useful definitions:

- **Measurement:** includes height, length, weight, MUAC, etc.;
- **Index/indices:** mathematical relationship between two measurements, or between a measurement and age; e.g., WH, HA, WA;
- **Indicator:** use or application of measurements or indices (e.g., stunting—low height-for-age, is

an *indicator* of poverty).

Rosalind Gibson (1990) identifies “Nutritional Assessment Systems” as:

- **Nutrition surveys:** cross sectional assessment of populations or groups;
- **Nutrition surveillance:** continuous monitoring of nutritional status of selected populations/groups;
- **Nutrition monitoring:** monitoring individuals, e.g. growth monitoring and promotion (GMP);
- **Nutrition screening:** assessing the nutritional status of individuals usually in emergency situations or refugee populations.

Practical Tips from Colleagues

In a study conducted by Berry and Neiberg (1991) the prevalence of wasting in a refugee camp remained high since new cases of wasted children entered the camp, but morbidity and mortality decreased through the efforts of programs; therefore, assessing other health status measurements in addition to wasting may be indicated in such situations.

Irwin J. Shorr, Consultant

Height and weight measurements mean little unless compared to a growth reference. Instead of the term “standard,” which originated from the “Harvard Standard” that was developed in 1955, the preferred term today is “growth reference”, which is used to compare measurements. The characteristics of a reference population as defined by WHO, include measurements taken from a well-nourished population with at least 200 children/age and sex group, and from a cross-sectional sample.

There have been several growth references developed. The first was the “Harvard Standard”, also known as the “Boston Standard,” the “Stuart-Meredith Standard” or the “Jelliffe Standard” since it was popularized by Dr. Derrick B. Jelliffe in his 1955 WHO Monograph, “Assessment of the Nutritional Status of the Community.” Since the children who comprised this growth reference were from an elite

population of Caucasian children in the Boston area that were predominantly bottle-fed, it is not as good a representation of the growth of children as subsequent references. The currently used NCHS/CDC/WHO reference is comprised of children from both cross-sectional surveys conducted between 1963-1974 with a better representation of ethnic groups, breast and bottle-fed children, etc., and from a longitudinal study. One of the major problems with this growth reference is that the children who comprised the 0 – 2-year-old group were from a longitudinal study of bottle-fed Caucasian children from the Fels Research Institute in Yellow Springs, Ohio. Since the reference curves were derived from two different populations [i.e., the longitudinal study for under two’s vs. the Household Examination Surveys (HES) and the National Household and Nutrition Examination Surveys (NHANES) cross-sectional surveys], there is a gap between the curves of children less than two years of age and greater than two years of age that has presented problems in evaluating child growth using this growth reference.

Another growth reference, based on more recent NHANES surveys, used improved sampling methodology and improved statistical techniques to smooth the curves. Also, an additional nutritional status index, Body Mass Index (BMI), i.e., weight-for-height², has been added to the growth reference. However, because of the high obesity problem in the U.S., much of the weight data was excluded from this growth reference (i.e., all weights of children six years and older), since, although it may be a more accurate estimate of growth in the U.S., inclusion of this data would not be an adequate comparison for the growth of children or a good promotional tool.

Another growth reference, the Euro-Growth Reference, was recently completed in 12 European countries with exclusively breast-fed children. This growth reference is intended to be more international as well as a promotional tool for breast-feeding.

Since environment plays a more important role than genetics in determining preschool-age child nutritional status using anthropometry, given an adequate environment, preschool-age children around the world should have similar growth curves. The data from several national household nutrition and health surveys support this premise. For example, the HA, WA, and WH Z-score distributions of a “special group” of children who were from a higher socioeconomic status than the survey children, were very similar in shape and location in comparison to the NCHS growth reference. The distributions of the same nutritional status indices (HA, WA, and WH) of the children who comprised the survey population, although genetically the same as the children from the “special group”, as expected, fell to the left of the “special group” and NCHS reference curves (e.g., Haiti 1978, Egypt 1977, Cameroon 1978).

Although this phenomenon has been demonstrated in many surveys worldwide, i.e., that environment plays a more important role than genetics in determining preschool-age child nutritional status; this concept is not readily accepted by all. In spite of its limitations, the NCHS growth reference has been used worldwide.

Practical Tips from Colleagues

While some populations may appear for example, tall or heavy, using one growth reference for preschool-age children still applies since environment plays a more important role than genetics in determining preschool-age child nutritional status; genetics plays a more important role in older children. This is a difficult yet important message to bring to people.

Irwin J. Shorr. Consultant

There are two applications of anthropometry for PVO programs: first, for growth monitoring and promotion (GMP) programs where preschool-age children are usually

weighed over time and change plotted on a growth chart, and second, where a cross-sectional population survey is done on a sample of preschool-age children to assess the nutritional status of a population. This data can be used to compare to the NCHS growth reference and associations made with other household or community level variables to identify the factors associated with stunting, wasting, and underweight in that population, which would give better direction to a proposed intervention program. A cross-sectional survey can be repeated sometime later after an intervention program is implemented to assess change.

There are three different types of cutoff points that can be used to identify stunting, wasting, and underweight. **Percentiles** are useful but are problematic in classifying children who fall outside the extreme centiles of the growth reference (i.e., below the 3rd and above the 97th percentiles) since they cannot be accurately classified. The **percent of median** is very useful since it provides a more precise estimate of the HA, WH, and WA of a population, particularly where stunting, wasting, and underweight are expected, which is common in developing countries. The median of the NCHS growth reference is used since it is the best comparison point in distributions of HA, WH, and WA. For example, with HA, in any population there will be a few tall children, a few short children, and the rest in-between. Since the few very tall or few very short children do not adequately represent the group, the median is selected as the comparison point. The cutoff points of <90%, <80% and <70% of reference median for HA, WH and WA to define stunting, wasting, and underweight respectively, were selected because studies have shown that significant increases occur approximately at these three cut-off points for various functional parameters, such as mortality. Therefore, these cutoff points are really not as arbitrary as it may appear.

Practical Tips from Colleagues

Stunting is very hard to “see” in an individual child, while wasting is much more visible.

Irwin J. Shorr, Consultant

The preferred method of cutoff points is **Z-score**, which is the number of standard deviation units (SD) from the reference median, which is “0” Z-score. The Z-score gives a much more precise measurement of stunting, wasting, and underweight than percentiles or percent of median. The Z-score is calculated by subtracting the reference median from the actual measurement, divided by one upper/lower SD unit of the reference for the index of concern (i.e., HA, WH, or WA).

Practical Tips from Colleagues

The use of the term “moderate” when referring to malnutrition can detract from the severity of the situation of a child at $-2SD$.

Irwin J. Shorr, Consultant

The following examples of calculations will emphasize the advantages of using Z-score over other cutoff point methods.

Calculations done by hand will yield slightly different results than computer programs (e.g., Epi Info, Anthro, etc.) since age is computed to the exact day using computer programs. Also, a computer program will automatically select the correct denominator, i.e., either the upper or lower SD unit depending on if the actual measurement is less than or greater than the reference median. Since the size of one SD unit is used, the denominator will always be positive.

Practical Tips from Colleagues

Many people are accustomed to using percentiles and percent of median in population studies; promoting the use of z-scores as the preferred method is needed.

Irwin J. Shorr, Consultant

In the first example, the weight of a girl who is 2 years 3 months is 9.8 kg. Since 12.4 kg is the reference median of girls of the same

age, the WA of the child being measured is 79.0%. According to percent of median, this child is classified as underweight, since 79.0% is less than the cutoff point of 80%. Although the girl’s WA is just under the cutoff point, calculating her WA using Z-score calculation, her WA is -2.2 Z-score, which gives a very distinct picture of the severity of her weight-for-age since the Z-score better shows where this child falls on a distribution curve of the appropriate NCHS WA growth reference. It is not clear from this statistic alone, however, how much of this low WA is accounted for by stunting, wasting or a combination of both.

In the second example, a boy with a height of 98.5 cm and weight of 13.0 kg has a weight-for-height of 84.4% of reference median (the reference median weight of a boy who is 98.5 cm is 15.4 kg). Since 84.4% is less than the cutoff point of 80%, he is not wasted. However, when calculating his WH using Z-score, his WH is -1.7 Z-score, which more clearly identifies this child’s risk, since his WH Z-score is very close to the -2 Z-score cut-off point.

In the third example, using percent of median, a 3 year 5 month old boy with a height of 93.2 cm is not stunted since his HA is 94.7%, a value that appears to be very high. However, when this boy’s HA is calculated using Z-score, the result is -1.3 Z-score, which gives a clearer picture of where this child falls in relation to the NCHS growth curve. Program staff may misinterpret HA as adequate or without risk just because it is greater than 90%.

In the final example, a boy who is 2 years 4 months old is 81.0 cm. His height-for-age is 91.1% of reference median, which means he is not classified as stunted using 90% of reference median as the cutoff point. When calculating this same child’s height-for-age using Z-score, the result is -2.26 Z-score; using this method, the child is classified as stunted! Why the difference? Which calculation and classification is correct?

Is this child stunted or not? One of the problems with percent of median is that although 90% of reference median is the cutoff point for HA where a child who has a HA below the cut-off point is classified as stunted, each age group of children actually has a different cut-off point when using percent of median. For example, the cutoff point at -2 Z-score of boys 2 years 4 months is 92.2%; for boys 3 years 5 months, it is 91.1%; for boys 4 years 4 months, it is

91.7%. Therefore, using a cutoff point of 90% for all children may create problems in properly classifying children's nutritional status—using Z-score eliminates this problem.

Practical Tips from Colleagues

Why Use Z-score?

- Z-score cutoff point always at -2 Z-score
- Different cutoff points for % of median for different ages of children
- % median and Z-score can yield different results—can cause misclassification
- Clearer interpretation of Z-score
- Misleading interpretation of % of median

Irwin J. Shorr, Consultant

Using Anthropometry: Art or Science?

Presenter: Nina Schlossman is experienced in the full spectrum of food and nutrition activities, from programs around the globe to policy, physiological, and scientific aspects. She is President and Manager of Global Food & Nutrition, Inc (GF&N), a consulting firm located in Maryland.

PVOs who were accustomed to working with the Child Survival Grants Program (CSGP) are now beginning to work with TII resources, while at the same time TII Cooperating Sponsors are adding CS components to their programs. In the U.S. there are a lot of food aid commodities, and these are often “pushed” into programs along with a desire to meet the demand and supply.

How can PVOs make decisions using the data from anthropometric studies in either program? On the TII side there are some very specific requirements on measuring impact—and this is true on the CS side as well. There is an effort now to try and harmonize some of the indicators of both programs. Some of the anthropometric tools will help in this.

In choosing indicators, it is easier to weigh than measure length: it is faster, and it is easier to standardize a spring scale. WA is very common, and is used mainly for impact. The very recent nutrition conference held in Vienna emphasized that when measuring health and nutrition, it is important to think of both under- and over-

nutrition. Under-nutrition begins in *utero*, and it is therefore important to focus on the mother before and during her pregnancy. Each year 26 million babies are born too small to lead healthy lives.

There are also 230 million pre-school age children who are stunted due to multiple causes. About 7 million stunted children a year are going to die as a result. On the adult side, 15 percent of adults are too thin to lead productive lives—their premature mortality is double that of healthy adults.

Alternatively, there is a growing problem with over-nutrition. 150 million adults are overweight. 15 million of them will die prematurely from diseases related to obesity. Over-weight is a combination of factors related to eating, exercise, and other factors. Every country has problems of under- and over-nutrition. Both conditions have public health and therefore program implications. Countries have to make nutrition programming decisions and they use anthropometric measurements just as program staff do, focusing on the same kinds of information. A PVO may be doing a survey, and read the Ministry of Planning

or Ministry of Statistics report, and find discrepancies, yet it is possible to harmonize the available information sufficiently to make decisions.

In a food security program a household is usually targeted. If a household has known food security issues, different children may be affected very differently. In families, a program may be targeting a malnourished child yet find an older sibling who is overweight. This can, for example, affect the age range targeted. Both under- and over- weight are related to sex, age, weight, and height.

UNICEF's Conceptual Framework for Nutrition Programs (see page 37) examines causes of malnutrition and potential resources. There are many causes that are outside of program control, and there are also results which are difficult to attribute. If a program selects a particular indicator, set targets, and documents a certain amount of change, how sure is it that the positive or negative change identified was attributed to the program? This requires looking at other information, looking at standardized information which allows comparison with what is happening in the project area with what is happening regionally or nationally (for example, DHS results).

Everything is relative. It is important to be able to interpret data in a way that makes sense to the context.

Some PVOs are afraid of setting targets, because they are afraid their resources will be either cut or tied to meeting these targets. That is not the fact, though. It is important to be able to figure out why things are happening, and what a program can do (or not do). In a situation like that faced in Haiti where the food security situation remains as it was 40 years ago, where 70% of families are in poverty, it is unclear what effect TII could have. Whether the program will be cut or increased ends up being more of a political decision than one based on a particular result.

There are some tools available to PVOs to strengthen their case, and everyone has similar issues in their programs. If PVOs have the "building blocks" of anthropometry, and select indicators that can be compared, they will enrich the wider understanding of the programming community. All jointly aim for the goal of improved nutrition, well-being, and health of the families with which they are working, and it is in everyone's best interest to work in complementary ways.

Different indicators and indices are appropriate for different populations. MUAC, skin fold thickness measure (subcutaneous fat), and BMI all have their limitations, and the focus of this presentation is on weight and height among children. Sometimes an indicator is selected because it is realistic, even though there may be something else theoretically more precise. PVOs know their reality.

HA shows stunting, but cannot measure a short-term change, so it is used for measuring impact by using it at baseline, mid-point and end-point over a five-year period (or sometimes a shorter period). WH shows wasting, and it is especially useful if the exact age of the child is unavailable. (There are ways to get pretty close age determinations, though). WH and WA are both more susceptible to short-term changes, and when working with the severely malnourished acute change may have more drastic consequences.

Practical Tips from Colleagues

It is not required in TII to attribute positive change directly to your program (i.e., the program "caused" the positive change). Rather, it needs to be documented that the program had a "plausible association" to the change.

Paige Harrigan, FANTA

For children, weight alone is difficult to interpret unless related to age or height. In summary, the three indices are for

measuring different situations, and it is therefore essential to determine the purpose of measuring in order to make the best selection of method. Different methods are needed if the program is trying to select populations or individuals based on risk, or if it is going to conduct screening, or if it aims to select people or populations for interventions (and needs to predict the benefit), or if it will evaluate effects of changing nutritional, health or socio-economic influences.

In the TII community, there has been some consensus among organizations about indicators, and the community is now seeing fabulous changes based on policy recommendations and through work between FANTA and PVOs, getting to indicators that are doable and measurable and which can start a process. PVOs will need to do an assessment, figure out what the problem is, choose the appropriate target, and then pick relevant indicators.

PVOs have been very involved in the choice of indicators, and this continues. With indicators, the less we know about something, the more black and white it is, the easier it is to take a stand on it. The more we know about something, the more layers there are, the more complex it is.

With the CSGP, the process of indicator development and choice is becoming much more collaborative over time, and the process is very open now. In the TII community, through FAM there has been input about how to develop their indicators. Clearly, PVOs have a lot of latitude in both programs.

Regarding the sensitivity and specificity of indicators, it is important to be able to separate out the people targeted. To select an indicator, typically there is a screening test to determine how many of the target groups are selected correctly (based on a cut-off point). PVOs want to select the right

cut-off point and adequate sensitivity; for example, those that die or those that survive. As a further example, low WH has a greater sensitivity than HA when identifying those who will die in the short term.

Anthropometric data are useful for a number of purposes. It can be used as a **screening tool** to identify individuals or groups for entry into or exit from a specific program (e.g. all children <24 months with WA <-2 SD--cut-off points are important). It can be used as **proxies**, as an outcome measure to identify social or economic inequity, food insecurity, or poverty. The World Bank conducts poverty assessment, and these tend to focus on the poorest areas: comparing PVO program results against these data sets may be more useful than even the DHS which may include urban populations. CS often targets remote areas that may not have been included in national surveys.

Anthropometric data are useful as a **monitoring tool** to provide management feedback (e.g., the percentage of children eligible for the program). Note that looking at weight gain/loss over three months is recommended since there may not be much weight gain documented in a shorter period, and children may not attend every month either.

Stunting should not be ignored, however. Even in a healthy population, 2-3% of children can be expected to be below -2SD.

Indicators can be creatively useful, for example, one used in Tajikistan measured “keeping the status quo”, in comparison to seeing a worsening situation (this was in an elderly population). When selecting an indicator, it is important also to look at issues such as geographical distribution, seasonality, and its “reasonability” in the context.

And lastly, anthropometric data are also useful as an **evaluation tool** (percent of actual change in indicator).

✦ Comments, Lessons-Learned, and Studies Around Program- and Project-level Issues

What changes (in stunting, wasting, and underweight) can be expected over a 3-5 year activity period?

The actual magnitude of these changes is difficult to determine, and each country has its own set of mitigating circumstances. Projects can get some confidence about the direction of the change, however. What is important is to look for “reasonableness” and perhaps even more importantly, be able to outline a process, rather than a set answer, designed to get at the determinants of the problem, at how tractable the problem is, and the reality of making a difference in the operating environment. The quality of a process set in motion could potentially be of greater value than meeting a set target. Projects, which seek a straight-lined prevalence, for example, 1%, change a year, are not necessarily informed or related to the operating situation. Targets can be revisited, but initial targets should be based on an assessment of the situation.

Practical Tips from Colleagues

In some cases, the sample size determines the target, for example, the KPC sample size is set for a 10 % confidence level.

To detect a change of only 1% a year in five years in CS, it is suggested to go cluster sampling in a larger sample size. The new KPC includes guidance in this method.

To cut the expected degree of change from 10% to a 5%, the sample size must be squared. To double precision, the sample size needs to be four times as large; meaning there will be four times the work.

Simon Maxwell suggested recently that in well-designed national-level nutrition programs a 1-2% annual reduction in stunting a year could be expected. The causal relationships may not be provable—and such estimates may be useful only for policy making and not necessarily for program level planning. Some TII program results have been much greater, in shorter periods and with smaller populations.

A compilation of what could be “expected” by countries or regions based off what has occurred could be useful to PVOs; CSTS or FANTA could compile this information from CSGP and TII reported data and/or the available literature.

An alternative view is that a little information can be a dangerous thing sometimes, not always that helpful. What may be most helpful is PVOs showing what their organizations have actually done, rather than aiming for a theoretical level of success. USAID does not have a “cheat sheet” that delineates expectations by country. It would be very difficult to factor in things like HIV, where the same rate of malnutrition remaining in the community may actually be a good sign. There needs to be some confidence evident that PVOs have done the research and know their target area and community.

A relevant study about this topic is Dirk Schroeder’s (Emory University) meta-type analysis on Save the Children field data looking to see what conclusions could result. (For reference information, please contact Save the Children).

Would there be a further benefit gained by focusing on children under one year of age rather than children under the age of two?

The issue of whether to focus on children under-five (up to 59 months) or under-three (up to 36 months) or under-two (up to 24 months) in nutrition programming is not so much one of a “cut-off” as it is one of ensuring that programs start with early contact with the mother and child. In developing countries, stunting tends to increase rapidly during the first year of life and can reach a peak in the 18 to 24 month range. Thereafter the stunting rates level off, yet by that time irreversible nutritional damage may have occurred. Programs should therefore move to include more comprehensive packages of preventive interventions that are needed in the first years of the child’s life. Some suggest program options should be designed to cover the period of the child during his/her time in-utero and beyond, in other words during gestation up to 24 or 36 months. Maternal nutrition is a critical factor in a child’s nutritional status in infancy and childhood and the influence will be seen in later adolescent and adult nutritional status. Some of the most sensitive risk periods occur before the 12th month, but there is a general consensus that the first 24 to 36 months of life should be focused upon in nutrition programming.

While it is generally agreed upon that the bulk of nutritional damage is done by age two, as measured by stunted growth, there are still strong nutrition and health rationales to keep children above age 24 months in nutrition programming. For example, a malnourished five-year old with ARI should not be “missed” for treatment because that child is not participating in nutrition programming. While this “older” 5 year- old may not be able to receive the full range of preventive interventions, that child does deserve treatment for the ARI and nutritional recuperation. Furthermore, all other siblings in the household should be inquired about and their situations discussed, as there is good evidence that malnutrition does run in the family. It is important to remember the inherent logic of looking at the whole picture, for example, by potentially focusing on grandmothers in some settings. For children to maintain access to interventions and program benefits after age two, one common approach is for children in the 24-59 month age group to participate in GMP less frequently, oftentimes quarterly, but not necessarily monthly, as is recommended for the under-two age group.

❖ Case Studies in Child Survival and Title II

CASE 1: Use of Anthropometry in a Project HOPE Child Survival Program

Presenter: Luis Benavente is the Associate Director for Maternal and Child Health at Project HOPE and Chair of CORE’s Nutrition Working Group.

One of Project HOPE’s Child Survival XII programs is close to the Amazon Basin, near Iquitos, in Peru. The priority area in the Huallaga Valley has about 150 communities, which used to be in a prime coca-producing area back in the 1980s. The project focuses on how the eradication of coca has impacted family income, health, and nutrition, and how this impact can be minimized. To collect anthropometric data, only a few minutes were needed at the end of a scheduled interview.

In addition to project data, a DHS was conducted in 1996 and 2000 at national, regional, and departmental levels. Additional questions were added to the KPC 2000+. Some comparison was included by measuring communities that were not yet included by the MTE.

To ensure good quality data, Project HOPE used mixed teams. Five interventions were expected to have an impact on anthropometric measurements: breastfeeding, complementary feeding, vitamin A supplements, prevention of diarrhea, and deworming. The results indicated improved documentation, goals met in reducing low HA, and proof that anthropometric data is easy to collect and analyze.

To communicate with mothers, Project HOPE used WA, and discovered that mothers found WA charts very difficult to understand. Project HOPE introduced nomograms as another tool to explain WA, and through comparing pre-and post tests on educational sessions with mothers, found no improvement in mother understanding of WA charts but significant improvement with nomograms.

Project HOPE is switching over to LQAS, and has had to change its monitoring and evaluation design. The project will be stratified into four different supervision areas (lots). Instead of an intense effort for 2-3 weeks, LQAS will be continuous, enabling information to be available for monitoring as well as evaluation purposes. Rather than keeping analysis at a very descriptive level, the data will be further analyzed by MPH students, including anticipated comparison with DHS data.

Practical Tips from Colleagues

Using staff with a TII background for Project HOPE's CS program provided a clear advantage: there was limited experience in the Child Survival community in using anthropometric measurements.

To cut down on errors, it is best to have two people taking measurements: one doing the actual measurement, and one recording results.

Some of the common micronutrient measures can be thought of as "expensive" but this really depends upon the program objectives and role that this information will play in a situational assessment. For example, a serum retinol measure (Vitamin A) may be reasonably expensive, about \$12 apiece (Project Hope measured over 300 children), yet it may be a fundamental aspect of your program. Project Hope identified a critical need to test serum retinol rates, as no serum retinol data existed in the program area. In their testing, Project HOPE found 72% prevalence of deficient serum retinol levels in the population. Hemoglobin measurement in blood is cheaper, each test costing about \$2 each (in addition to direct measurement, Project Hope also had hemoglobin levels, available from the DHS). Iodine measurement, of salt, is lower still in cost, costing less than \$1 per test (in part because the lab materials of the MOH were used).

Compliance with collection of biochemical data was very high. Project HOPE distributed cocoa enriched with iron and mothers were happy to receive some iron "back" into their diets.

Luis Benavente, Project HOPE

CASE 2: Use of Anthropometry in a Save the Children Food Security Program

Presenter: Thoric Cederstrom is the Food Security Policy Advisor at Save the Children

Anthropometry is a valuable aspect of food security programs. When children are doing well with their health and nutritionally, the program is also going well. Good data documenting results also motivates donors, and sells well with the public. Save the Children (SC) has invested in increasing its skill with anthropometry. Upcoming training with Irwin Shorr will be available for other PVOs to access, and will be advertised through FAM.

In its food security programs, SC uses anthropometry in nutritional surveys, especially when not much is known about a country or region of a country—such a case may require a full cross-sectional survey. SC often works with the CDC to design the sample frame, and for analysis. Working with the CDC can positively influence the donor community.

Practical Tips from Colleagues

The choice of sample and the sample design are areas to stress. If the design is not well thought out, the results are distorted no matter how large the sample size.

Thoric Cederstrom, Save the Children

Anthropometry is used for GMP, an essential component of TII programs. In TII, SC is committed to showing that its programs do

have a positive impact on children, documented by anthropometry. SC also uses anthropometry for program design: it is an integral part of SC's rapid food security assessment methodology.

Practical Tips from Colleagues

The Radimer Scale is described on the FANTA website where there is a document that looks at various subjective scales. It is also on the USDA website under "perceptions of hunger". The scale has also been used in Honduras and Russia for research. (Please go to www.fantaproject.org)

We need to make sure hunger perceptions are transferable across cultures. From FANTA, expect a process, a series of steps that can be used to adapt this scale to a country. FANTA is not advocating its use for program evaluation now, but is asking Cornell and Tufts Universities (with Africare and World Vision, in Burkina Faso and Bangladesh), to see if it is sensitive enough to note change over a 4-5 year period.

Note that SC has had a lot of trouble just translating the Radimer scale correctly to keep the meaning comparable across languages and cultures.

Bruce Cogill (FANTA)
Thoric Cederstrom (SC)

A UNICEF diagram was explored (see page 37) which emphasizes the multi-faceted aspects of malnutrition, where it is both a result and a cause. It is important to understand these relationships when collecting data sets, although it is difficult to gauge the relative weight of each one.

SC's survey format is continually evolving. For socio-economic data, field staff are involved in developing questions which fit the situation, meaning that the form is constantly changing.

SC is using the Radimer scale (Cornell) as a quantitative means through ten questions to understand anxieties and concerns about hunger and food security. Results have been compared with anthropometric data, showing a strong correlation between the two in the U.S.

Once SC has anthropometric data for children and a data set in EpiInfo, valuable

information can be derived. For example, overall mean z-scores for a total sample (WA, HA, WH) and the mean, SD, etc. of a SC program in Tajikistan with a sample size of 729 children can yield the prevalence of malnutrition, disaggregated by sex. EpiInfo can indicate if the prevalences are significant.

It is possible to look at urban/rural issues, and here SC found that prevalence was greater in the rural areas, contrary to the expectation. Prevalence can also be broken down by age group: SC prefers to do this in 6-month segments, but EpiInfo does it by year. With a sample size of 729, it is possible to break it down into three-month intervals.

The data in Tajikistan shows a jump in stunting at the 12-23 month age group, so if the plan is to target feeding, this data shows the need to do a feeding program with the 6-12 month age group. SC would also look at underweight and wasting, breaking down prevalence geographically.

It could be helpful for CSTS to look at completed surveys and compare the cost. Generally, it can be assumed that a baseline would be more expensive since an external consultant is often contracted to provide objectivity. In this context, \$15,000 can be cheap. It does not appear to cost that much more to add anthropometric measures to a baseline.

SC has different monitoring and evaluation indicators. SC uses national, random data for evaluation, whereas monitoring is program-related, i.e. there are two different populations being used for these functions.

Studies/references relevant to this topic:

- FANTA is looking into whether the correlation between the Radimer scale and other measures of food insecurity found in the U.S. will still hold in the developing world.
- To find out about reporting mortality, ARHC (Curamerica) has found that in some places people will not want to say much about their children and what has happened to them over the past year. It can take time for relationships to form first.
- The Emergency Nutrition Network (ENN) Field Exchange which is online at www.ennonline.net
- Laura Caulfield (LINKAGES), the INCAP data in Guatemala, and some work that SC has been doing looked at differences of length at 15 days compared to height at 3 years of age, and now as adults. One variable was, after 3 months exclusive breastfeeding, mother and baby were put on a special supplement. At 3 years, those who were short at birth had made up 3 cm (but not the complete difference), and those who were stunted at birth without supplementation did not make up height. Adults did not show a difference. These benchmarks in a research situation can be helpful even though PVOs do not normally work with the structure of these programs. Refer to: "Interventions to improve complementary food intakes of 6-12 month old infants in developing countries: Impact on growth, prevalence of malnutrition, and potential contribution to child survival 1-4". Laura E. Caulfield, PhD; Sandra Huffman, ScD; Ellen Piwoz, ScD. Food and Nutr Bulletin 1999:20 183-200.

The INCAP work in Guatemala is documented in these three articles:

- (1) Schroeder D., et al. "Age differences in the impact of supplementation on growth" J. Nutr. 1995; 125 (Suppl 1) 1060-7.

- (2) Schroeder D., et al. "Patterns and predictors of participation and consumption of supplement in an intervention study in Guatemala. Food Nutr Bulletin 1993; 14: 191-200.
- (3) Ruel MT. The natural history of growth failure: Importance of Intrauterine and Postnatal Periods" in "Nutrition and Growth" Martorrel R and F. Haschke eds. Nestle Foundation: Workshop Series Pediatric program Vol. 47. Philadelphia, 2001.

Hands-On Weighing and Measuring

Presenter: Irwin Shorr is an experienced nutritionist, currently working as an independent consultant on nutrition assessment and evaluation, and lecturing at the Johns Hopkins University School of Hygiene and Public Health on anthropometry.

This optional evening presentation followed "Working Outline #2: Anthropometry Training Issues, Personnel, Measurements and Measuring Instruments" document contained in the participant binder. Extra details and clarifications from the presentation are included in this summary.

Introduction: Rationale, Personnel, Instruments and Equipment

A justification for training in anthropometry was reviewed as well as the different types of data collection efforts (e.g., surveys, growth monitoring, etc.) and personnel (e.g., data collectors, supervisors, etc.). Different types of measuring instruments suitable for field use were reviewed; some of these instruments were on display during this presentation. Beam balance/bar scales can be very reliable, but are cumbersome and impractical for household surveys. Low-cost spring bathroom scales are unreliable, where the spring stretches over time resulting in inaccurate readings. Hanging spring dial scales have been used for decades to weigh preschool-age children up to 25 kg and have had excellent track records.

Training

The objective of training is to measure competently with minimal measurement error. There are four different types of measurement errors: errors due to measuring instruments, techniques or procedures, reading, or recording. Ideally, measuring instruments should be used that have a low error due to the instrument. Measurement errors due to techniques or

procedure, reading, or recording, can be addressed through training, where, with proper training and practice, these errors can be reduced.

When anthropometry is part of a survey with other components, schedule the anthropometry training during the last week of the overall training just before data collection begins.

Decide if all team members should receive anthropometric measurement training, or if only a special measurement team is the best option because of limited training time or for logistical reasons.

Training methods should be participatory, experiential, interactive, and demonstrative. It is better to train over time, for example, for part of a day for one week, rather than cram all anthropometry training into one or two days. It is important to present basic practical theory about weighing and measuring (e.g., about stunting and wasting, etc.) to increase data collectors' understanding of the measurements they will take and for their overall ownership of the survey effort. Train all participants together from the beginning of each procedure regardless of prior experience; do not

assume that prior experience means competency.

All trainees should practice measurements in groups, where trainees interchange the rolls of measurer, assistant, subject and observer. During practice sessions, mix teams and team members to ensure that everyone is comfortable working with different partners. Encourage “active” observation of techniques by participants in training, and be sure to actively observe their techniques yourself as the trainer. After teams practice a measurement procedure, it is important to have open discussions among the trainees about their experiences during practice, what mistakes they made or any special experiences they had during their practice sessions.

When adults are included in a data collection effort, it is useful to first practice measurements of height and weight on each other during training. Be sure that there is enough room available to practice weighing and measuring in a training room. After initial sessions, training should then take place in a school, day care center, or village, etc. where the teams go to a source of children for practice.

Age of children can be one of the most difficult pieces of data to collect. Accurate ages are required for the age-dependent anthropometric nutritional status indices of height-for-age (HA) and weight-for-age (WA). The age of children can be assessed through clinic records, immunization cards, growth monitoring cards, birth/baptismal records, home records, or event calendar.

Measurements

During data collection, remember that some mothers may be resistant to removing clothes from their children since it may be cold, or the mother simply may feel more comfortable having her child covered at all times. In these situations, a blanket can be weighed and the scale tared (adjusted to zero with the blanket). Then, the child can be undressed and wrapped in the blanket and

placed on the scale; the weight of only the child will appear in the display panel of a digital scale or on a hanging spring dial scale. If a scale cannot be adjusted to zero with a blanket, then the blanket should be weighed and subtracted from the weight of the child and the blanket.

For height and length measurements there is no need to undress a child; just remove bulky clothing, shoes, sandals, etc.

The importance of taking accurate measurements cannot be over-emphasized. Be aware that a small error in a measurement procedure can result in a very large error in classifying a child using the growth reference. This has particular relevance in a growth-monitoring program where the individual weights and/or heights of a child are followed over time.

Practical Experience

Participants formed groups of four people/group for training and practice of standing height. The three important positions to properly align a person for the measurement of standing height were reviewed:

Knees & Feet

Not all people’s feet should be together for the measurement of standing height or recumbent length. While standing (or lying down), some people have their knees together and feet apart, others have their feet together and knees apart, and others have both knees and feet together. It is important that a person assume the correct natural position for him/her. For example, it would be incorrect to force the feet of a person together whose feet are apart and knees together as his/her natural standing position, which would take him/her out of alignment, creating a procedural error that could result in an incorrect height measurement. Ask an older child or adult who is standing on a measuring board to place his/her feet apart and slowly bring them together until he/she feels the first contact with either his/her knees, feet or both, and to stop immediately

after contact. This will be the correct standing position for this person (knees together and feet apart, feet together and knees apart, or both feet and knees together). For a preschool-age child, the measurer can feel the child's knees and determine the correct position of the child's knees and feet for standing height or recumbent length.

Midaxillary Line

To determine the correct placement of the feet in relation to the back of the measuring board, the midaxillary line must be identified. The imaginary line drawn from the tip of the shoulder to the heel is the midaxillary line, which should be perpendicular to the floor (i.e., the base of the measuring board). There must be some contact with the measuring board for standing height, usually at least the buttocks. For older children and adults or for overweight/obese young children, this means that most of the time, the feet will be away from the back of the measuring board rather than against it when the feet are positioned according to the midaxillary line.

Frankfort Plane

To place the person's head in proper

position, the Frankfort Plane must be identified, which is the imaginary line drawn from the bottom of the orbit of the eye (i.e., the eye socket) to the hole in the ear (i.e., the beginning of the auditory canal). This line must be perpendicular to the back of the measuring board. When a preschool-age child's head is in the proper position according to the Frankfort Plane, most of the time, his/her head will touch the back of the measuring board. With an older child, an overweight/obese child, and with most all adults, there will be a space between the back of the head and the measuring board, since the circumference of the head is smaller than the circumference of the chest. Do not determine the position of the head by looking at the top of the head; use the Frankfort Plane to determine the proper head position.

The groups continued measuring height using the height boards provided and recording their measurements. Reading and recording techniques were reviewed as well as the characteristics of different types of scales on display.

Practical Tips from Colleagues

Two people are required to hold a young child in the proper position for height or length. Defining the normal, natural standing position of children is one of the essential components of height. Some children's knees meet before their feet do, and in others, the feet meet and the knees do not. Feet should not be forced together if the knees touch and feet are apart. Positioning the head according to the Frankfort Plane is essential, instead of using the crown of the head. Use the midaxillary line to determine if the person's feet should be placed against or away from the back of the measuring board. Pressing the movable headpiece down to the crown of the head can be difficult. With some hairstyles, it is advised to avoid estimating the height of the hair or interfering barrette—take the measurement and write down a comment in the space provided on a questionnaire or growth chart.

Irwin J. Shorr, Consultant

EpiNut Anthropometry Data Analysis Software

Presenter: Tom Davis is a consultant with long-term contracts with Food for the Hungry and Curamericas, experienced in planning, coordinating, implementing, and evaluating PHC, CS, and food security projects. He is presently working on FAM's TII Monitoring Toolkit.

This optional evening presentation followed the document "Analysis of Anthropometric Data Using Epi Info", organized as a series of steps. Participants had access to Epi Info and project-generated data sets to run examples.

Step #1: Look for "rounding" during measurement

Begin with a data set either in EpiInfo or imported into EpiInfo with weight, height, age, and sex of the child. The data set needs to be examined, and the data cleaned. EpiInfo can check for imprecision in reporting of measurements taken during anthropometry using "FinalDigit". If weighing was done perfectly, the final digits should be fairly evenly distributed, as there is no biological reason why one ending digit would be more common in children's weights than another.

In the sample provided however, the final digits "0" and "5" were reported about twice as often (22% and 23%) as would be expected (10%). It appears that the people weighing children were not very precise, "rounding" up and/or down to zero and 0.5 when taking weights. To ensure that what you find is not due to chance, use the Epi Table module of EpiInfo: Epi Table, Probability, Binomial: Proportion vs. Standard, and test for the most commonly found digits, with the expected percentage of 10%.

Practical Tips from Colleagues

Rounding problems are not uncommon in CS and TII program data sets and it is not recommended to throw out the original data because of this. However, any potential inconsistencies with rounding should be noted in a final report. PVOs should try, over time, to improve the precision measurement and reporting techniques.

Tom Davis, consultant

Step #2: Adding nutritional indices

The participant's example added nutritional indices to the data set (e.g. WAZ, HAZ, WHZ) by using the EpiNut module. Select indices, add to a file; then type in the drive, subdirectory, and full name of the file to which to add indices. Then hit open. Pull-down menus allow selection of variable names for age, sex, weight, and height. Variables are listed in alphabetical order. Decide if deleted records will be included (usually not). When choosing indices (z-scores, percentiles, percent of median) remember that z-score indices are the most common ones used in TII and CS programs.

EpiNut automatically flags records that appear to be measurement errors, such as extremes in z-scores that are usually due to poor measurement and are incompatible with human life, or are very rare. It is generally not advisable to modify the way records will be flagged, but if literature indicates that z-scores exceed cut-offs for flagging in your program population, these can be changed.

Choose "process" to add the indices, which will provide an indication of how many records were processed. Go into the Analysis module, read the file, and see the indices that EpiNut has added to the file.

Step #3: Clean the data

Any records that have extreme values need to be removed. Read the file with the nutritional indices added and run the Amiss1.pgm (in the same subdirectory as the main Epi Info program files). The program will set extreme values to missing so that they will not be included in the

analysis. Such changes can be saved permanently if you wish by using the Route and Write Recfile command.

Step #4: Analyze the file in EpiNut

Going out of the analysis module and back into the EpiNut module, the data can be analyzed. Choose Indices, Analyze from a file. Open your file, select the variables used for age and sex with the pull-down menus, set the age range you would like to analyze (e.g. 0 and 24, 24 and 60), and choose indices you would like to analyze. If you used cluster sampling, be sure that that is selected under the Option button, and enter the variable name used for the cluster number in the survey. If desired, changes in the cut-offs for mild and severe malnutrition can also be made, but this is not recommended since the values given are the international standards.

Once back to the other screen, hit Process to analyze the file. You will have three windows (WA, HA, WH) available. The analysis starts with z-scores, and then gives tables for percentiles and percent of median. Information is given on a number of items, including malnutrition indicators.

EpiNut assumes you used a sample of people to estimate the malnutrition levels for a larger population. Since most likely you did not include everyone in your study, the numbers given are estimates. The confidence interval (CI) gives the range in which the true number is expected to be found. A CI is given for the malnutrition indicators and the means (e.g. mean z-score). Remember that this CI is based on a design effect of 1.0, that of a simple random sample. If you used a sampling method other than simple random sampling or something equivalent (e.g. LQAS), then the CI given in this module will not be accurate. This can be corrected by using the Option button mentioned earlier and letting EpiInfo know what variable was holding the cluster number.

Most likely, you will want to determine the proportion of children underweight, wasted, stunted, and those severely underweight, wasted, and stunted, which should be reported with CI, if possible. If you compare the baseline and final results and find that the z-score has improved, and there is no overlap of the CI intervals, then the improvement is considered to be statistically significant. Otherwise, report the difference in the two numbers (for example, % change = $(\text{final/baseline} - 1) * 100$). The change in the mean z-score for a group of children (e.g. children 6-23 months of age) is sometimes used as an indicator for a project. To see what happens to the mean z-score for different age groups of children (for example, if the difference between males and females is statistically significant), see Step 6.

The Exp ASCII button allows you to send a particular table to a file that you can open up in a word processor. The print button prints the table. Hit the graph button to make a line graph (of the z-scores of the children in your data set, for example). Choose whatever nutritional index you want to graph (HAZ, for example).

Step #5: (Optional): Set variables for malnutrition manually to get accurate estimates of any malnutrition

Since EpiNut does not include children with edema when analyzing data, it is best not to show EpiNut where your edema variable is located. However, when analyzing for malnutrition in general, you will want to make sure that all children with bipedal edema are labeled as malnourished. To do this, read in the file then run the edema program. Usually this will not increase the percentage of malnourished children by much unless there is an inordinately high number of children with edema.

Step #6: (Optional): More in-depth analysis using WAZFAM, WHZFAM, and HAZFAM.PGM

To see a snapshot of children's nutritional status at different ages, run the programs

HAZFAM.PGM, WAZFAM.PGM, and WHZFAM.PGM, which give the z-score means, percentage below a given cut-off, and patterns of stunting, wasting, and underweight at different ages. (These files were provided to participants on diskette by the presenter.) INDICFAM.PGM gives selected indicators for the three indices, and analysis by gender using 2x2 tables.

Using the average HA z-scores from the output of HAZFAM.PGM you can make a graph to see what happens to height-for-age at different ages. Keep in mind that this is a snapshot (cross-section) of children's average z-scores and may reflect food availability at different time periods. It does not show how a cohort of children grow as they age, but it may be representative of that if other changes in food availability and mothers' practices have not changed significantly during the time period represented by the graph (for most graphs, the past 24 months).

Step #7: (Optional): Standardized prevalence

The standardized prevalence for the data set can also be calculated using the Utilities menu item. This represents the area of the

observed distribution by z-score which falls outside the reference distribution. Standardized prevalence is used as an indicator of malnutrition by some agencies.

Step #8: Analysis of Nutritional Data on Women: BMI

WOMENNUT.PGM analyzes height, weight, and BMI for adult women. BMI is calculated by dividing weight by height squared.

Other References

- P.A.N.D.A. (Practical Analysis of Nutrition Data): a tutorial on analyzing nutrition data using SPSS from Kenya. Available at <http://www.tulane.edu/~panda2/Analysis2/ahome.html>.
- EpiNut online manual: <http://www.cdc.gov/epiinfo/epi6man/manchp23.htm>
- To download Epi Info, vs. 6.04c: <http://www.cdc.gov/epiinfo/ei6j.htm>
- To download Epi Info 2000: <http://www.cdc.gov/epiinfo/ei2000.htm>
- WebInstall for Epi Info 2000: <http://www.cdc.gov/epiinfo/>

PART II: USING THE KPC SURVEY AND OTHER TOOLS FOR NUTRITION DECISION-MAKING

Understanding Why Malnutrition Exists

Presenter: Donna Espeut is a Research Analyst at ORC Macro, where she works for CSTS and the DHS Projects. She has played an integral role in designing the KPC 2000+ Survey and field guide, and provides technical support to PVOs engaged in Child Survival.

Correlates of malnutrition

Correlates of nutritional status identified by workshop participants include: infection (infectious disease), the status of women in the household, lack of family planning/child spacing, orphan-hood, low income, parasites/worms, lack of variety in diet, low immunization coverage, poverty (low

income), inadequate breast feeding, lack of credit, poor family food distribution, poor food habits, low level of knowledge and practice toward child feeding, poor hygiene and sanitation, inadequate access to food, conflict, poor maternal nutrition, AIDS, diarrhea, illiteracy, alcoholism, closed world view, dangerous food taboos and myths,

sub-optimal feeding practices, lack of attention or love to the child, mental illness, food insecurity, inadequate safe water supply, and a lack of potable water.

The presentation at hand focuses on survey data (a KPC 2000+ binder was distributed to participants), examining how the KPC can help obtain information on these correlates.

Practical Tips for Colleagues

While CSTS does not yet have a data analysis package (consultants like Tom Davis have developed programs for Title II and Child Survival), in the near future we would like to have this. The KPC is not a “cut-and-paste” survey, but CSTS would like to ultimately put the Rapid Catch in a more available form along with the means to be able to analyze the key indicators it contains.

Donna Espeut, CSTS

On the generated list, some of the factors where there may not be a proven link were discussed in more detail, including

- “*world view*”: how the mother thinks about her neighbors, for example, if the mother believes neighbors or others could make her child sick;
- *mental illness*: particularly depression and how depression is viewed by different economic classes;
- the strong link between *years in school* (for girls) and future malnutrition: but there is a less-clear relationship with illiteracy;
- *credit*: Timothy Frankenberger (CARE) has written about the effects of social capital, and the ability to access formal or informal credit (this may not have been subjected to peer review, but is highly regarded);
- *cost recovery/user fees*: there is debate on both sides of this issue: some believe there would be a worsening in health indicators (refer to “The bitterest pill of all: the collapse of the Africa’s Health System by Simms, C. Rowson, M. et al, Save the Children Fund (SCF), 2001; and for more detail, a study referred to in the previous

document, a study in Nigeria that found user fees increased mortality: Murray, S.F., 1996, The costs of “adjustment”: User Charges for Maternity Care, in Murray, S.F. (ed), Midwives and Safe Motherhood, International Perspectives on Midwifery, Vol. 1), while work in Guatemala, “Where there is a doctor”, showed that people using a doctor, with user fees, had a decreased cost compared to going directly to a pharmacy. Also, Pia Schneider (Pia Schneider, Francois P. Diop, and Sosthene Bucyana. March 2000. Development and Implementation of Repayment Schemes in Rwanda. Technical Report No. 45. Bethesda MD: Partnerships for Health Reform Project, ABT Associates) has also written about user fees, showing a gradient of fees and what services people would want based on fees they could afford, with the community being involved in choosing the services available for each set fee.

Participants combined the correlates into the following broad categories, for which surveys, focus group, national level surveys, and other means can be useful for obtaining information:

1. Feeding practices
2. Environment/hygiene
3. Socio-economic factors
4. Health practices
5. Infectious diseases
6. Food utilization
7. Women’s status
8. Caring practices
9. Policy issues (for example, those related to land use, user fees, etc.)
10. Food access/availability
11. Child Spacing/Family Planning

The original KPC survey developed by Johns Hopkins University had 56 questions linked to 17 Child Survival indicators. These have now been modulated so that the survey can be more easily based on each program’s needs and context.

Rapid Catch

The KPC survey includes what is termed the “Rapid Catch”. The rationale behind the Rapid Catch is that each project should consider key items consisting of 26 questions that are linked to 13 indicators.

Practical Tips for Colleagues

Projects should consider the number of hours the mother is away from home, and who (child or adult) is taking care of the child while she is away.

Tom Davis, consultant

Looking at the broad categories listed above, these areas can be answered using the Rapid Catch: feeding practices, environmental and hygiene issues, socio-economic factors, health practices, infectious diseases (while there is no module on tuberculosis, there is one on immunization—and there is one on ARI, malaria, and HIV), women’s status

(there may be quality issues of the information collected if there is a situation where men are interacting with women during data collection, yet there are some

Practical Tips for Colleagues

The former KPC had more knowledge questions than the revised version, as we felt more qualitative means were more appropriate to collect knowledge type information. Suggested questions for qualitative research are given in each section. The exception to this is the HIV module, which has more knowledge type questions. Due to its sensitive nature, much of the type of discussion revolving around HIV would not work well with focus groups.

Jay Edison, ADRA

questions relating to women’s status on employment outside the home, education, decision-making, care-seeking and who are the power-brokers inside the home, etc., and on child spacing (there are questions included on child density, spacing with the older sibling, mother’s knowledge of

methods, if is she using any methods, does she know where to go).

The category “food utilization” is not now collected in the KPC, and this would need to come from focus groups, etc. It is hard to quantify this type of information.

Caring practices is not covered in the questionnaire. Yet these areas (loving, caring, having a personal bowl for the child, role of grandmothers, etc.) are important. More study is needed to look at non-maternal caregivers.

The KPC does not contain much on policy issues (there is an area asking about water and if it is available for most of the year) or food security/food access/food utilization. Although the KPC has a focus on practice, a particular project may need more emphasis on knowledge. The KPC can adapt it as needed.

Nuts and Bolts of a KPC Survey

As a first step, identify local information needs and gaps. This entails dialogue with project staff and all stakeholders (including local PVOs and community members) who should have input into what goes into the KPC survey.

Some data needs may not be quantifiable, and for each data need, there must be consideration of whether the KPC survey is really the best way to obtain information. “Need to know” and “nice to know” are very different, and for each additional and perhaps unneeded question there will be additional time needed for training as well as bothering care-givers over items which are already very intimate. So it is essential to distinguish between what is necessary and relevant for project management and how to implement project strategy.

Some issues like gender dynamics may not be impacted by the project but may be important to consider in implementation—so this kind of information could be included in the KPC.

Keep it concise and programmatically relevant, for example, could you partner with someone who is working in this area, rather than collect the information yourself?

The KPC is often implemented at the beginning of a project to identify problems and set objectives, and then again at the end to see achievement of those objectives. It usually has 300 respondents, and therefore is not really designed to document change from beginning to final. Projects may need to consider what sample size is needed to document change. While the KPC can be used, it is best to employ a statistician to figure out the best sample size. The process can be made participatory. This is helpful in building consensus, not only just for the rigor.

Practical Tips from Colleagues

There is a formula to determine what sample size to use. In a random sample, 96 respondents will provide a 95 percent confidence level. When using clusters, the sample size is doubled, which would be 192. For Child Survival, the number was “bumped up” to 300 since not every question relates to everyone.

Tom Davis, consultant

To best document change from baseline, if not the KPC, a comparison group can show attribution to a project. The KPC can be used, but consider the sample size and precision. A 300-sample size is not sufficient to document a small change over 4-5 years. There should be sufficient “power” (e.g. respondents in the sample) to document that small of a change with decision.

The number 300 came from the 30 cluster methodology, which was widely used for EPI coverage. It is designed to be a rapid and efficient way to collect information on an area. Thirty clusters are identified, and

10 interviews conducted in each cluster, which gives a 300-sample size.

“Design effect” is another issue. There are ways to improve efficiency. Twice as large a sample size is needed in a cluster sample as in a random sample. There is a section on sampling options in the back of the binder that discusses this.

Another paper in the binder makes an assessment of PVO projects, coming to some conclusions based off KPC data. This cannot be done with statistical significance, and can only provide “directions” or “trends”. Rather than focusing on impact, look at effectiveness in achieving certain objectives and you can talk about your coverage levels of certain practices, and your outcomes as well. “Impact” can be used but with less certainty that it is your project that has achieved the change. You can also draw comparisons with other communities where you are not working, and use that information in your analysis.

Practical Tips from Colleagues

Child Survival, budgets are very tight, and we do not have enough time to do this either. If you can have both Child Survival and Title II projects together in the same area, you can use the increased funding and flexibility from the Title II to do this.

Jay Edison, ADRA

USAID would like to encourage more combining of Title II and Child Survival. There are synergies there that can be built on, and you may not need to do another KPC and/or you may find you can use Title II data. There can be more money left in your Child Survival budget for more programming.

Nitin Madhav, USAID

In Benin, Africare is using the **preceding birth technique** to measure impact on child survival.

Circe Trevant, Africare

LQAS is another sampling option for KPC surveys. Traditionally projects have used 30-cluster sampling which covers an entire project area very efficiently. If there is a need for sub-divisions in the project area (and most project do have this need), and/or there is a need or desire to monitor for high or low performance areas, then consider LQAS, which is a fancy form of stratified sampling. The sub-division could be a health facility catchment area, catchment area of a health worker or his/her team, etc. The idea behind LQAS is to see if a particular area is above or below a particular threshold. For example, if immunization coverage should be at a minimum at 60%, LQAS indicates if each subdivision meets this expectation. Resources can then be targeted more effectively.

LQAS can be used at the beginning (it is not just for project monitoring), but it requires knowing your project a bit to define subdivisions, which may be known if you are working in health facility areas. If a project has a sampling frame and is interested in sampling households, there will need to be a list of households, or of caregivers with children under the age of two, etc. Early in a project this may not be available (although there are ways to get around that).

Practical Tips from Colleagues

In Title II we have bumped up sample sizes (up to 1600), and we use similar methodology to the KPC and calculations that shows change over time. It does take a lot more time to do this, and it costs more to do this. World Vision takes three weeks for data collection, and uses four teams with a total of 30 staff to complete data collection and analysis.

Dorothy Scheffel, World Vision

The selection process must be random. There are generally 19 interviews in each subdivision, and based on these interviews the surveyor will make a judgment on whether the lot is performing at expectation. With LQAS while there will not be coverage estimates, it can be said that among all subdivisions, these “5” are performing

below expectation, or whatever number is found. When all sub-divisions are grouped together, it is possible to discuss about percentage/coverage of the whole area with precision: it just cannot be done for a particular sub-division. Something to keep in mind is that estimates with LQAS are more precise than cluster sampling for a similar size sample. If you have only 5 subdivisions then $19 \times 5 = 95$, not 300—and there would be a sample of “1” or 10% precision.

To maximize the amount of collected information, **parallel sampling** is suggested. The idea is to collect information from various members of one randomly selected household. This saves time from having to collect a randomly selected household for each type of question. Parallel sampling is discussed in the KPC field guide. To do this, one randomly selected point (household) is used. If in that one household information would be gathered related to pregnancy it could also be decided to ask additional questions to mothers in the household with children under the age of one. Parallel sampling can be used to get a lot of mothers of children of that age group. As another example, for EPI there would be questions for mothers with 12-23 months old children; at the same time some information could be collected from husbands, or mothers-in-laws.

The KPC traditionally focuses on mothers of under-twos, and this is now broadening. What is important is to target the child and whoever is his/her caregiver. So identify the under-twos, and then interview the caregiver, regardless of the relationship. A lot of projects are doing this, especially in high HIV areas. By only limiting the sample to children cared for by biological mothers a project may be eliminating a very high-risk group of children.

The KPC survey is more than a tool, it is a process designed to be participatory, to engage partners, and to use information that is gathered.

❖ History of the KPC Survey

Presenter: Jay Edison is the Health Director for ADRA, and serves as the Chair of The CORE Group's Monitoring and Evaluation Working Group.

The KPC began with Johns Hopkins University's Child Survival Support Program in the mid 1980s, born out of a need in Child Survival programs. About three years ago, the CORE M&E Working Group discussed the need to re-visit the KPC survey. Technical assistance was sought from CSTS (which has been excellent)--we can hardly give Donna Espeut enough credit, and Sandra Bertoli at CSTS. The revision has been under the direction of the KPC Review Taskforce, which is rather informal. The first year was a lot of work, going through the survey question by question, looking at the purpose of the survey and the philosophy that would stand behind it.

The survey has two major uses from its origin: 1. as a management tool and to derive information on indicators, 2. It is also being used by most agencies as a way to show results/impact. It is inadequate for this purpose as the sample size cannot show impact reliably.

The revised KPC has new subjects (HIV, malaria, nutrition) and has been modularized, so that it can be varied according to project needs. Some principles which Taskforce members kept in mind include relative simplicity, intentional formatting for hand-tabulation (computer use is not necessary although most people do use a computer). It should never be taken as-is and plugged into a project. It should be reviewed and modified to make it culturally appropriate and to fit into the unique project set of interventions.

The CORE M&E Working Group likes to hear back from people on how they use the

survey. We encourage people to experiment with the survey and use it in different ways. Some working examples of this include Olga Wolinka (WR) who developed a way in Mozambique to survey quarterly for monitoring using just some questions, thereby conducting many mini-surveys, choosing questions as the project progresses, which deal with various knowledge needs. ADRA in Zambia is taking a few of the questions each quarter and making them the subject of focus groups. There is an innovative use of the survey for project solving, developed by Bill Weiss.

Some people erroneously say, "We use LQAS, not the KPC". Organizations can use various sampling methods with the survey, including LQAS. In the updated version of the field guide, the relative advantages of the sampling methods are discussed.

The CORE M&E Working Group is pleased that FAM has become interested in the KPC. FAM was asked to give input into the nutrition portion of the survey, and this workshop evolved out of this exercise. The CORE Nutrition Working Group has been helpful in developing the nutrition module.

One of the hopes for this workshop was "convergence" between FAM and CORE. It may be helpful to look more to child health and less at child survival, regardless of the funding source. These surveys can help do that.

There are still more materials that will be added which will be on the CORE (and maybe FAM) websites shortly. It is a "continual draft". There will continue to be

a need for the KPC Revision Taskforce. For example, the Taskforce is beginning discussions on the changing pattern of families, largely due to the AIDS epidemic--the survey is based on interviewing a mother, and it may need to focus on an older sibling or other caretaker, as families may not have a mother. The survey also will need to accommodate a focus on household-community IMCI as the make-up of projects change in conformity to the IMCI model. It is becoming clear that many people are not being reached at facility levels. Projects must go beyond facilities to the family and household level. The IMCI model is evolving and its three elements (care of the child outside the facility; improving the relationship between the household and

facility; and promulgation of behavior change practices) are being documented. A very good IMCI report (“Reaching Communities for Child Health and Nutrition: A Framework for Household and Community IMCI”) can be found on the CSTS website under “documents”. We need to study how the KPC can relate to this. It is more a matter of formatting, and the emphasis is more on integrating, and treating the child as a whole person and not just a case of diarrhea, which is not so different from what PVOs are doing, just putting it in a more logical framework. The Taskforce is so grateful for the help given by Donna Espeut and Sandra Bertoli at CSTS, and the product is far beyond what we had hoped for.

Using the KPC 2000+ for Community-level Nutrition Understanding

❖ Small Group Activity

Five small groups organized around broad program focus categories worked on an exercise to use the KPC2000+ to collect information on nutrition correlates relevant to their broad categories. A case was distributed to provide background for the following tasks

Task 1:
Visually display the correlate’s relationship to nutritional status.

Task 2:
Make a list of issues related to the correlate, differentiating factors the project can influence in a limited period of time and items which might be beyond the scope of a single project.

Task 3:
Determine what issues related to the correlate could be covered in a KPC survey.

Task 4:
Look at the list of issues to be addressed in the survey. What KPC2000+ modules are

relevant? What are some indicators related to these issues? Consider differentials (e.g. by sex of the child, place of residence) that could be explored in the group’s KPC survey. Are there important questions related to the correlate that are not included in the generic KPC2000+? A KPC survey collects quantifiable information. What questions or themes related to the correlate could be explored using qualitative methods?

Practical Tips from Colleagues

ACTIONAID has a manual that links health and literacy entitled The Reflect Mother Manual (ISBN: 1 872502 44X, from ACTIONAID, Hamlyn House, Archway, London N19 5PG. Tel: 020 75617561. Fax: 020-7263-7599), which ADRA is just starting to use in eastern Zambia in its Child Survival project. Mothers develop their own learning materials. The words they learn are generated by their discussion of village mapping, etc. Mothers then write their own family health action plan--they learn to write right along with learning to read.

Jay Edison, ADRA

Groups reported back in plenary with highlights of their discussions.

Child Spacing Group:

Members discussed two indicators. They saw a need to look at the number of children under age five to get an idea of the child spacing that is happening in the family. In a short program there may not be a lot of change seen in this age group, despite wanting to change people's perception of child spacing and what people think is the ideal family size, or space between children. There is a need to ask both the mother or the husband/father, and possibly the mother-in-law, these types of questions. The group also discussed looking at socio-economic and rural/urban group differentials. Attitude questions are not included in the KPC2000+, although there is a question on contraceptive use (which should be related to this topic). Some information may better be obtained through qualitative means rather than as added questions to the KPC survey. For example, there are more effective ways to find out if people know they could obtain commodities, or find out if they have had a discussion with their husband or wife about child spacing.

Women's Health and Social Status Group:

The group wants to address women's education, since women with more limited education tend to marry earlier. The background piece of the KPC2000+ does cover this with "years of school". A potential indicator could be "percentage of women who are functionally literate" although this would have to be defined. There is a need to consider differentials including urban/rural households, if families live close to a school or not, and ethnicity. An exploration of the age of marriage and perceptions of ideal age could be added to the qualitative research list.

Infectious Disease Group:

The group looked at the indicators listed under malaria, diarrhea and HIV/AIDS, and

choose five indicators, spending most of the allotted time looking at malaria. Selected differentials included sex and age difference with who slept under treated bednets. If there is a net subsidy program in the project area for purchase of bednets for certain target groups, they would add a question to see if the bednets went to the targeted group, and if those with bednets would have been eligible for the subsidy. Qualitative issues to consider include looking at sleeping habits in the household, seasonability issues, and what kind of bed they use and how that would affect the bednet they would receive.

Water and Sanitation Group:

In terms of designing the KPC, the group looked specifically at diarrhea, ARI, malaria, and water. KPC2000+ background information is also relevant since women with more education have better health practices. The group chose some relevant indicators. Differential discussed included taking a closer look at differences in urban/rural areas in water quality, and sources of water. The group felt a good focus group topic would be "what do you do to make your water safe". There is a question in the KPC2000+ about whether the water source is available all year. Qualitatively, it would be useful to look at people's perceptions on environment and disease, and how people choose their source of water.

Infant/Child Feeding Group:

Issues of concern to the group included mother-in-law's authority, breastfeeding practices, and the result of leaving children at home while the mother is away. Relevant indicators were selected. A discussed differential was sons vs. daughters. The group looked for an index or score so the project could look at the nature and frequency of the feedings and determine the number of calories that actually get into the child. The KPC2000+ is more oriented to the quality of food, or types of food, and does not provide much sense of what the child actually ate. It would not be easy to come up with this type of information in a

quick survey format. Qualitative issues to consider include visiting the home casually before the survey to learn more about the culture, and identifying complementary foods. The qualitative questions would be asked before, rather than after, the survey. A mother may do many things, and if the focus is only on frequency the project staff may miss some of the other things she does. One suggestion given was to assign “points” for various relevant activities such as breastfeeding, holding the child during feeding, having a separate food/bowl for the child, frequency, etc. It was noted that during the first “stab” of the KPC revision

CSTS did develop a food frequency score that took into account diversity quantity, but that PVOs found this very complicated during field trials—it had a 24-hour and 7 day recall portion. This required a long time

for training interviewers, and at the end PVOs were unsure how to use the collected data. CSTS is still grappling with this kind of index measure

News Bulletin: Upcoming Book

A new, upcoming book entitled National and Regional Household Nutrition and Health Surveys: Use of Information for Program Planning, Implementation and Policy Formation will be edited by Irwin J. Shorr and Michael C. Latham.

Those interested in becoming contributors of PVO experiences can contact Irwin Shorr at ijshorr@erols.com or Michael Latham at MCL6@cornell.edu.

✚ Case Study on KPC Use

CASE 3: Partnership and the KPC: IRC’s Experience in Rwanda

Presenter: Emmanuel d’Harcourt is the Child Survival Technical Advisor for IRC.

Background

The IRC is using the KPC in Rwanda, as part of a partnership-building experience in its Child Survival project. Rwanda is mostly rural, densely populated country with a very low health status. It was devastated in the 1994 genocide which impacted conducting the KPC—among other issues, it is now hard to find qualified staff. IRC’s Child Survival project is in Kibungo near Burundi and Tanzania. Malaria is more common here. The project area has a population of 626,000, a CMR of 256/1000 (DHS 2000) and very high rates of underweight. IRC has been in Kibungo since 1994 doing health work.

The Survey (Goals, Methodology, Results)

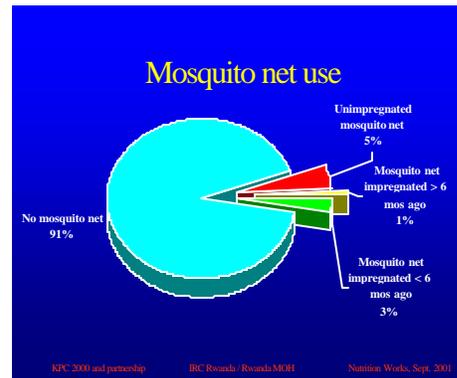
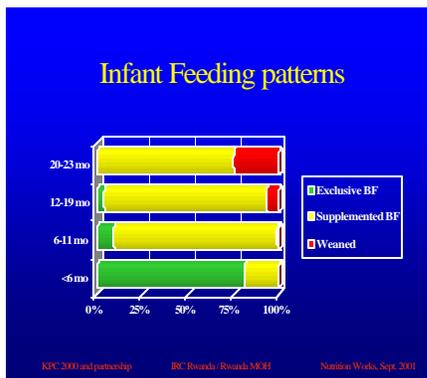
IRC wanted to obtain baseline numbers, but also to increase understanding of the program—understanding was not great before the KPC. IRC also wanted to increase MOH capacity. IRC had never conducted a KPC, and wanted the MOH to be able to learn this along with its own staff.

IRC attempted to double the sample size to 600, which was not fully successful. There were 60 clusters. The survey had questions on nutrition, immunization, childhood diseases, child spacing, maternal health and newborn care, and was developed with MOH input. It did not include

anthropometry, since a UNICEF survey had just been conducted and since IRC had such trouble finding qualified people, and it was felt (perhaps wrongly in retrospect) that collecting anthropometric measurements would put IRC “over the edge”. As the project site was very densely populated, this eased survey taking.

Results

IRC’s results show good infant feeding patterns except during illness, when families fed less or stopped feeding during some illnesses, and also cut fluids. EPI coverage was good, and there was a vitamin A campaign underway which resulted in high vitamin A levels (although routine vitamin A distribution was poor). Growth monitoring coverage was very poor. Almost no one was using mosquito nets. Some of the ways IRC presents its results in graphics form were shared.



The Partnership

IRC has many partners, including the MOH at all levels, community members, and the EU which has a huge district support program. There were both good and bad things going on in the partnerships. The proposal had been written in consultation with partners. There were some health activities underway, and IRC had been there awhile. But, the proposal had been written by a consultant, and the partners did not know the program well. People were used to large amounts of emergency funding, and IRC’s Child Survival contribution was more technical know-how and not much cash, which led to lower levels of interest.

The survey was conducted in September, but during the previous May IRC went to a CSTS workshop in Dakar along with one of the district medical officers. This gave the project a good start, with IRC willing to share the “perks” of travel with the local partner.

Prior to the survey, someone from the MOH had to help prepare a welcome and timeline for the consultant, who came for the MOH as well as for IRC. The consultant arrived in August. Instead of having the consultant make a presentation to the MOH on the KPC plans, the regional administrator made the presentation to the MOH. This completely changed the tone, having someone on the “inside” discuss what would be taking place.

IRC used a “core team concept” which involved an executive team that actually got things done, selected by the regional administrator; two central MOH people were on the core team. This ensured that the survey did not belong to IRC or the consultant, but kept the MOH equally

involved. The core team was trained, and they agreed on the questionnaire (which in turn selected the indicators and ultimately defined the program).

IRC had a problem with the sampling and in the process of working this out the core team members learned about sampling too, including an MOH staff who then taught it to his colleagues. The core team members also spent time in the field supervising the supervisors and presented data to district leaders. This resulted in the MOH regional director, upon hearing the results of the KPC, saying, “We have a lot of work to do.” After the KPC, the core team basically stayed together and became the DIP core team.

Successes

Many people were very involved, and these same people owned the results, enabling good partnership. MOH capacity was increased.

Problems

These included logistics snafus, questionable selection of surveyors and supervisors (IRC did not make these selections and there was a lot of nepotism), and tensions between the core team and surveyors and supervisors. IRC experienced great partnership with the core team (basically district level people) but not with the other levels. There was little involvement from health center level. Clearly, it is not enough to only involve the district level but projects need to involve people who are closer to the field.

Benefits of Partnership

Many benefits have been realized, from increased human resources, easier logistics, greater understanding of the program and greater acceptance of KPC results to greater participation in the DIP process. The program is more likely to be successful.

Costs of Partnership

To strengthen partnership cost time and money (but funding will ultimately be saved over time), and required compromise. As a PVO you may not have every indicator you want, and you may end up with some extra indicators as well. IRC’s KPC cost US \$18,500 or \$30 per household.

A number of key ingredients necessary for success were identified:

- 1) an approving authority (quite high up)
- 2) a “Trojan horse” –who provided essential help. IRC’s was the regional administrator
- 3) a consultant who facilitates rather than dictates
- 4) structure for team building (core team is essential)
- 5) short-and long-term reward. It is important to ask questions such as “Why would people want to do a survey?” “Will they personally learn something new?” “Will there be a financial advantage?”
- 6) willingness to compromise
- 7) fun – absolutely key when working long hours.

Some questions IRC had to ask itself, which could be relevant to other PVOs, include payment of the core team, whether the consultant’s culture of origin affects his/her effectiveness in building partnership, and whether it is always necessary to have a consultant to do a KPC.

IMCI Food Box and Food Box Adaptation Using TIPS

Presenter: Marcia Griffiths is President of the Manoff Group and is widely known for her fieldwork, technical expertise, and innovative programming in applied nutrition and social marketing.

IMCI's focus is on reducing child mortality. IMCI began as an assessment diagnosis and treatment algorithm for use in health facilities to provide integrated care centered on five causes of childhood death. With IMCI, for the first time, nutrition is getting a "seat at the table" with other MCH program units or diarrhea, ARI, measles and malaria. Because the IMCI protocol was developed for health services there continues to be a lot of discussion about what IMCI implementation means at the community level. Currently, as defined by UNICEF, IMCI in the community focuses on 16 behaviors, including several related to nutrition being included. A challenge is to ensure that work done on nutrition is relevant for both the institutional and the community levels.

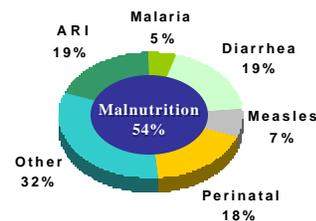
First, what is the nutrition component of IMCI? Nutrition is essential as 54% of childhood deaths are related to nutrition. David Pelletier, a researcher at Cornell, has looked at what is occurring with this 54% (participants received a handout entitled "Malnutrition and Child Mortality: Program Implications of New Evidence" published by BASICS). The most notable finding for program practitioners is that mild and moderate malnutrition, i.e. under-nutrition, is the key contributor to childhood mortality and that the risk of death increases even with mild malnutrition. (It was noted that "mild as used by Pelletier is under -2 SDs, not 1 SD to -2SDs.) The severely malnourished make up only a small percentage of those who die. The children most likely to die are those served by the PVOs.

Within IMCI as defined by WHO, three aspects of nutrition are considered: (1) diagnosis and classification of under-nutrition plus micronutrients deficiencies--which will not be covered in this presentation; (2)

treatment for severe under-nutrition, e.g. referral and supplementation -- this will not be discussed either; and (3) control of risk factors for under-nutrition, feeding practices. The detecting of feeding problems, and counseling about feeding is where the Food Box fits into the IMCI algorithm. IMCI addresses two immediate causes of under-nutrition, as summarized in UNICEF's causal model for under-nutrition: health services and feeding practices (see diagram next page).

The presentation briefly summarized

Why Nutrition?

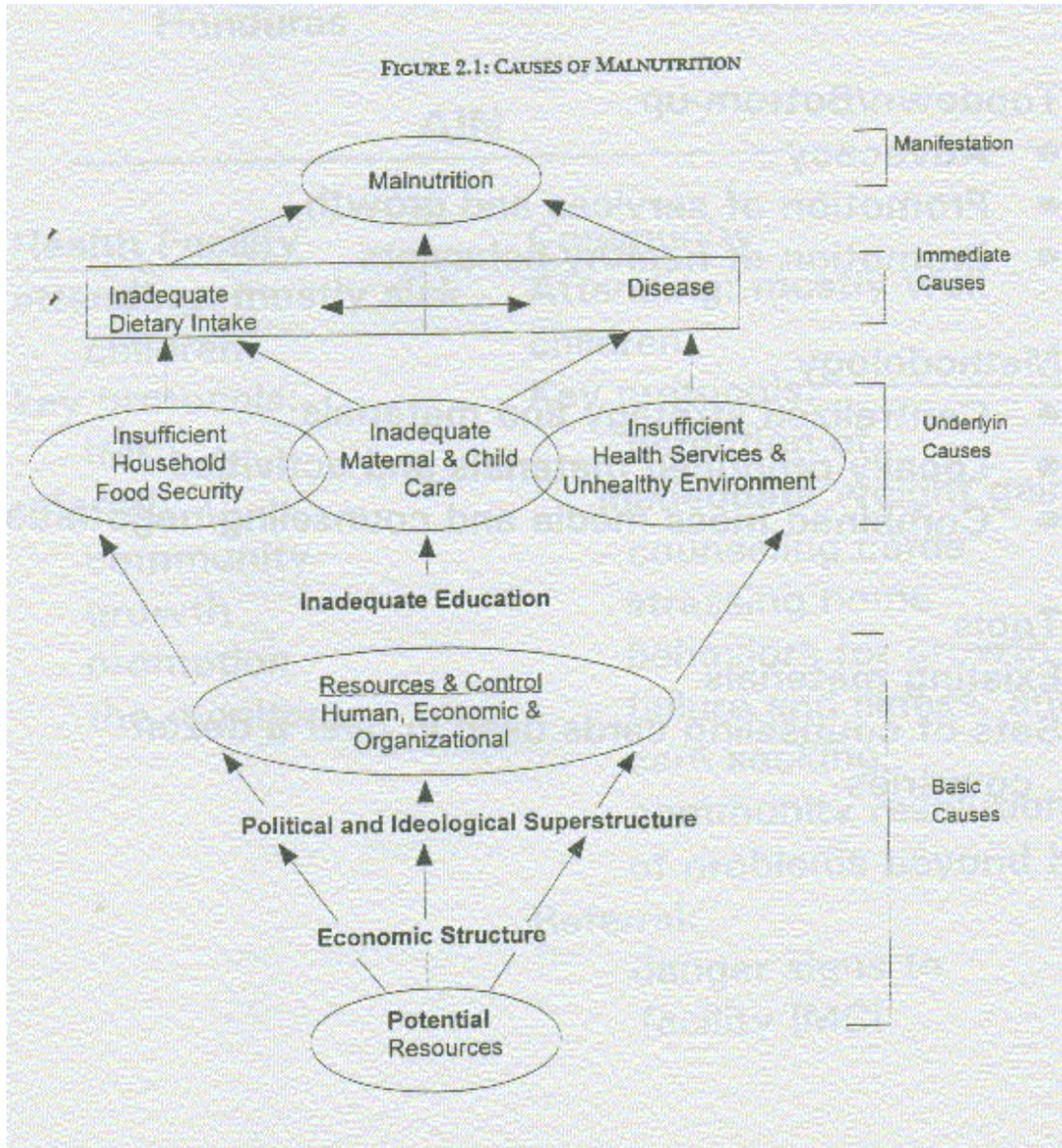


The Manoff Group

handouts in the participant binder examining two areas of the Food Box entitled "Guidelines for Evaluating Child Feeding" and "Counsel the Mother". The first page "evaluation" outlines a set of questions to be asked of the caretaker. Her answers are then compared to the "standards" for feeding outlined on page two. These standards' have to be adapted country by country. Many IMCI programs have done this intense adaptation work.

The third page of the Food Box contains specific child feeding recommendations based on common problems that cut across ages such as use of a feeding bottle.

Why Feeding Practices?



Child feeding is culturally unique experience. Additionally, an adequate outcome can be achieved in many ways (improved nutrient density, more frequent feeding, more food per meal). WHO recognized that one recommendation would not work for everyone and offers to countries a protocol for adapting the Food Box to their country context. A few of the nutritional issues for children between 6 and 24 months that need exploration at a country level are:

- The breast milk-food combination: since breast milk is nutrient dense but needs to be slowly implemented with food
 - Feeding frequency: young children's stomachs are small so they need to eat frequently
 - Food consistency/density: soups and liquids contain few nutrients because of their high water content. Often there is an oil recommendation.
-
- Quantity: small children can eat only ½-1 cup per meal;
 - Feeding mode: use of cups, spoons, or bottles and hands.

Using the table "Examples of Amounts and Frequency at Different Energy Densities by Age Group" (included in a hand-out entitled "Appendix C, Guidelines for the Dietary Analysis during TIPS") shows the potential for achieving an adequate diet using a food of varying density under the restriction of maximum serving size. Data from this table, for example shows that a 9-month old child eating a watery food three times a day cannot meet his/her caloric needs. Likewise, using the same table and looking at older children who can receive 300-350 ml/feedings, even eating 4 times a day they will not meet their caloric needs if the food is very liquid.

To summarize the key point: there is not one ideal way to feed a child. Practices are extremely locality-dependent. The important thing is to have a calorie goal (and micro-nutrient goals too) in mind, and to work with caretakers to find the critical problems and

Practical Tips from Colleagues

It has been my experience when looking at which practices seem linked to improved calorie intake, that almost always we can increase calorie consumption (with an impact on child growth) that we cannot focus on only one or two practices. Mothers seem to do "a little bit of several practices" to achieve a better diet. They might increase frequency by one time (not two), add oil sometimes, give one spoonful of rice, and do a bit of everything. We need to be open to that not look for the one ideal practice. Counseling and education must allow for many different options and choices. We cannot push just one option. While there may be some things you promote more, especially at certain ages, you need to present a variety of practices to caretakers.

Marcia Griffiths, Manoff Group

different ways they can achieve an adequate diet or caloric intake for their child.

With the range of feeding practices in mind, each page of the Food Box was reviewed. Again, the first page contains the questions for the healthcare worker to ask the caregiver to understand current practices. This is not a survey. Keep the questions simple and very tailored to the situation. These questions are designed for a nurse or doctor at a health facility. It may be important to reduce the number of questions being asked at a community level.

Questions cover breastfeeding, liquids and foods, and illness. If there is something particular already known about feeding practices in a project area, this would special aspect could be added. For example, the extent of tea drinking could be added for Kyrgystan and similar places. Whether the child lacks appetite or, uses his/her own feeding bowl may be an issues for some places.

The second page, outlining "ideal" practices is divided by the age of the child focusing on

under 24 months since the IMCI algorithm says that mothers of all children under 2 years should be counseled about feeding. The 0-6 month old age group consists of those children whose needs can be met with exclusive breastfeeding 10-12 times a day. Estimating caloric numbers can be very misleading at this age; it is better to focus on the practice of exclusive breastfeeding. However, WHO chose to divide this age group in two, with 0-4 months focused on breastfeeding only, and 4-6 months of age including the possibility of the introduction of foods. Most countries have collapsed these age categories with a single one.

The next age block is 6-12 months (some countries divide this group into two 6-8 months and 9-11). This is when food should be introduced. The emphasis remains on breastfeeding and “blanks” are provided for countries to put in appropriate “first foods” for children. Feeding frequencies are not recommended whether breastfeeding or not. (Note that among cultures breast milk is fairly consistent in its content and caloric value unless the mother is in a famine or other extreme setting.)

The next age group is 12 months-2 years. There is a range of caloric needs for these children, all above 1000 calories. Ideally, 350 calories would come from breast milk and 750 from foods. This age is where there is usually an immense calorie gap. Here the recommendation is for mothers to breastfeed before giving foods, and to give foods with higher frequency, 4-5 times/day.

Finally, there are recommendations for children over age two. In the IMCI protocol it is only the caretakers of children over 2 who are undernourished children’s caretakers who received counseling on feeding. The emphasis here is on frequency and diet quality. It is important to note that there is no mention of food consistency or quantity. WHO felt these concepts were too difficult for a counseling session.

The recommendation page contains advice about persistent diarrhea, which WHO feels strongly, needs to be part of the food box, at the clinic level. The focus is on keeping the child hydrated, and feeding to slow gut motility. There is a lot of controversy over the milk supplements.

The final page covers special needs, including how to deal with breastfeeding problems, avoiding bottles, issues related to early feeding during illness, and handling a lack of appetite.

The idea is that the Food Box recommendations can be used to assess the adequacy of what people are currently doing so that a health worker can provide more specific advice than in the past. WHO recommends adaptation of their generic guidelines as part of their protocol for country teams as they finalize their entire algorithm. There is not a country that has not needed to modify the guidance to local conditions.

The adaptation process recommended by WHO uses the TIPs (Trials of Improved Practices). Participants received the full “Trials of Improved Practices (TIPs)” protocol from “Designing by Dialogue. WHO tested TIPs extensively, and the results showed that it was a reliable easy to use method to discover how to modify practices at the country or regional level. WHO describes the method in Section D of the IMCI Adaptation Guide.

TIPs grew from commercial marketing. No company introduces a new food without first trying it in a “test” market. Likewise, nutritionists should not introduce recommendations without first trying them out with people.

TIPs reviews the relative ease or difficulty of communicating recommended practices; explores modifications needed to make recommendations more feasible and documents any actual resistance that may happen when the worker leaves a

recommendation with a caretaker to try for a week (e.g. “the greens made my child’s stools green” or “I got constipated from the iron pill”). The actual trial is developed from an initial exploration with caretakers during which positive 2nd problem practices are identified from amongst well and undernourished children’s households (the PD aspect). The new aspect here is to try the positive practices to learn, for example, how people are going to be able to bridge the calorie gap with provided instructions.

This trial process helps understand key factors such as food scarcity. Food scarcity may prevent only 5% of mothers from closing the calorie gap in some locations; in other places where food insecurity is higher maybe 25% of people, even with improved practices, cannot close the gap. In such cases, other measures may need to be introduced. TIPs helps to estimate this proportion so workers can do better program planning overall.

The sample required for TIPs is small---it is an in-depth, qualitative look (not a survey) at improving practices. When selecting sites, TIPs takes into account ethnicity, religion, location (urban/rural), and ecology. For each site, a sample of children from 4-5 age groups is drawn with at least two children in each age group in each selected site.

In a sampling plan, there could be as few as 30 families participating in 3 locations. Each location would have 4 groups of children between 0-23 months of age, 10 in each location. There could be more 6-11 month olds than other ages, for example, 4 groups of 6-11 month olds and 2 groups of other ages. In Bolivia TIPs involved 3 regions – 30 families/region or 90 children.

Many countries have adapted TIPs, including Honduras, El Salvador, Nicaragua, Ecuador, Bolivia, Zambia, Eritrea, Madagascar, Morocco, and Kazakhstan.

The adaptation of the food box using TIPs in Bolivia was reviewed. The departures from

the WHO prototype were not including the fact that Bolivia has 3 Food Boxes, one for each ecological zone. Also the reorganization of the third page in age-specific advice to make counseling easier was noted.

TIPs requires three visits to a home. The worker goes to the homes on Day One and talks, generally with the mother, about the household context and her child feeding practices, does a 24-hour dietary recall. In the evening the worker analyzes the recall, to better understand the nutrient gap and to formulate the initial recommendations. The next day, Day Two, the worker conducts the counseling visit, introduces new concepts, and negotiates with the mother to find those changes she is willing to make.

The caregiver’s trial of improved practices goes on for a week. At the end of a week the worker returns to the home, sees what the mother has done, what she liked, didn’t like, what she has told her neighbors about, etc. It has been found that mothers are so positively surprised that the health worker comes back to see them, that they are extremely open with their reactions and researchers get closer than usual to the real situation confronting families. TIPs has been used for many topics: iron, family planning, and others.

Practical Tips from Colleagues

Anywhere where there is a group that has done TIPs other organizations can benefit from the report. It is likely that TIPs may have been conducted only where IMCI was initially implemented, but many countries have conducted TIPs at a national level. Regardless the specificity of the information should be helpful in formulating the feeding advice.

Marcia Griffiths, Manoff Group

Practical Tips from Colleagues

People really do want to do better by their children, and while they may not always be successful, they will try. Through TIPs, health workers can become optimistic about what mothers can do and how much they will listen. A negotiation process takes place (“Can you feed one more spoonful of rice? Half a tortilla if it can’t be a whole one?”).

Marcia Griffiths, Manoff Group

It is important to note that this research is qualitative. Question guides (not questionnaires), are used to capture, not pre-categorize the mother’s response. Workers walk around with the mother to get a sense of what is in the house and what is going on. The rapport is established by the follow-up visits permitting more accurate information. It takes the three visits to break down some barriers and overcome false information.

Another beauty of TIPs is in the analysis. Even if workers are not skilled at research, considerable and critical information can come from tallying the trials. Noting, simply which were the most recommended practices, which could be implemented, with what modifications. Although some richness is lost by tallies alone, the key information is captured and by working on formats ahead of time to look at trials by certain characteristics such as under nutrition will help obtain more meaningful results. This is certainly better than notebooks of data no one can read. Someone also needs to sit with the interviewers and go over their work in the evenings. Trials have found that if workers

do not go home at night they will work harder on their notes in the evening.

In Guatemala there are four Title II PVOs using TIPs, and an IMCI process has started at the national level. As part of the IMCI initiation, the PVOs were involved in a TIPs trial on the child-feeding component. They came back later with ideas on how to integrate indicators into the Title II portfolio. The trial was very successful.

The Red Cross shared their experience in using TIPs in Nagorno Karabakh (Armenia). It is felt that the food box is much better now than it would have been without having done TIPs trials, even though the MOH ended up running the trials themselves.

TIPs was used in Honduras to do research on nutrition, and then that output was used to adapt the food box, opposite of what usually happens.

The physical pages in the food box algorithm have not been used much in GMP, although in the majority of countries that have gone through the TIPs process, results have been used to develop materials for community-based growth promotion and counseling cards. The food box itself tends to remain in the health services as part of the health chart.

It is important to have the same guidelines as the MOH. Projects also have to consider how to implement this in a reasonable way so that MOH staff are not overburdened with both their work and ours: both should be integrated. It is ideal if TIPs foodbox teams have both PVO and MOH members on them. WHO has been open and embracing to local changes to the food box.

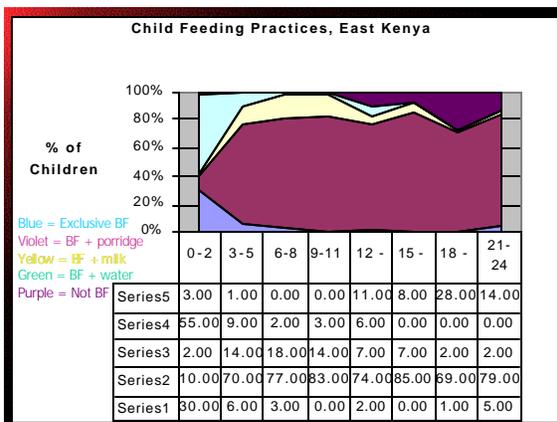
Analyzing and Presenting KPC Data

Presenter: Tom Davis is a consultant with long-term contracts with Food for the Hungry and Curamericas, experienced in planning, coordinating, implementing, and evaluating primary health care, CS, and food security projects. He is presently working on FAM's TII Monitoring Toolkit.

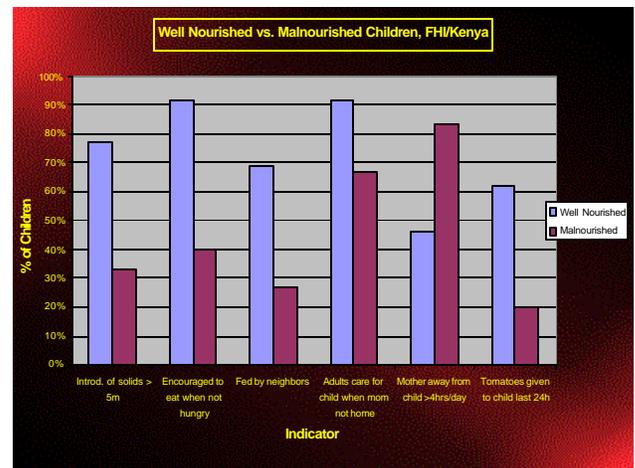
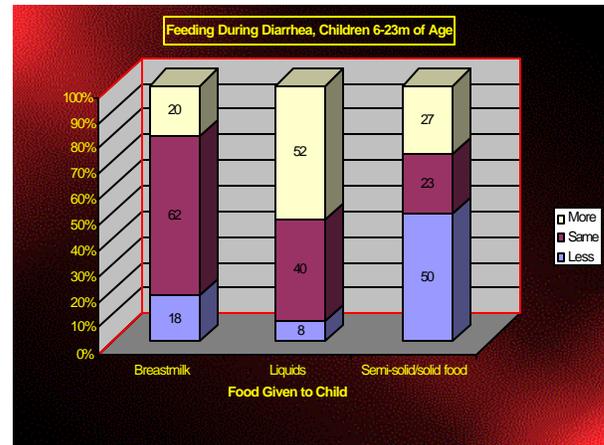
The presentation will focus on expanding analysis skills with KPC data. Examples of the kinds of useful information which can come from KPC data include how mothers feed children at different ages; exclusivity of breastfeeding; feeding of children with infections; household eating patterns; what health staff are doing with a mother and child (did they catch the malnourished child?); gender studies of malnourished children or how children are fed when they are ill; were they supplemented with vitamin A; did pregnant women receive iron, folic acid, post-partum vitamin A, iodized salt, etc.; coverage of deworming; contact with health workers; participation in GMP; etc.

Data can be shown graphically in a variety of ways. P.A.N.D.A. (Practical Analysis of Nutrition Data, found at http://www.tulane.edu/~panda2/Analysis2/a_home.html), is an on-line tutorial that explains how to construct a variety of graphs, and to analyze nutrition data using SPSS. Some examples follow:

Example 1: 2x2 Table



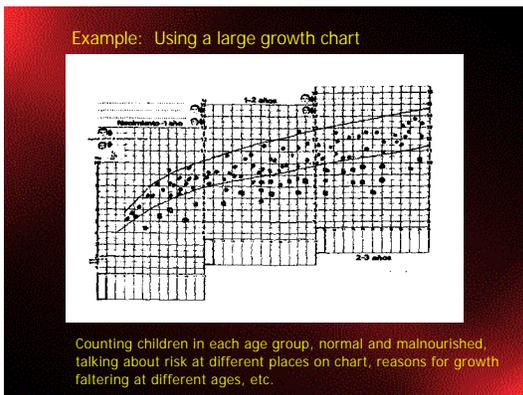
Example 2: Paired Bar Data



Example 3: Stacked Bar Chart

Participants shared examples of how they in turn shared information back to the community with the purpose of providing feedback, promoting analysis at the community level, and obtaining commitments. Examples included HIS bulletins, colorful comic strips, master Road to Health card (plotting all children in a location—refer to the following example), using a plate of red and green balls to calculate percentages during LQAS, using stones to represent well-nourished and malnourished children during PRA-type activities, using tortilla or cassava charts (or other local materials to represent pie charts) to represent children receiving vitamin A supplements, examining the capacity of a canoe and spaces occupied in the canoe to look at children’s needs. Many felt the use of colors to be important.

Example 4: Community Growth Chart



Useful data sources to compare with the KPC include:

- DHS (often disaggregated by regional and district level)
- Other local surveys
- MOH statistics
- MOH objectives or standards
- PVOs own project objectives
- Reported national data
- WHO/UNICEF objectives or standards (every December a State of the World Report is published, with tables in the back).

EXPOSURE (+ = male)	DISEASE (death)	
	+	-
+	1,329	338
-	109	316

Using Two by Two Tables

The purpose of **2x2 tables** is to explore associations between exposure to risk factors and disease or other outcomes. They are helpful for seeing relationships between two variables, for example, being male associated with malnutrition.

Participants looked at a video from the ActivStats program used to teach biostatistics, around the Titanic theme, which was used to develop 2x2 tables looking at the significance of relationships between gender and survival on the Titanic.

Odds Ratio measures the odds or chances of a disease being present when the odds are absent. On EpiInfo version 6, this is found under “tables 2x2”: enter the data and the program analyzes the table.

For an odds ratio of 11.5, the true ratio is between 8.83 and 14.73. It is relatively significant because it does not include the number “one”. If the Odds Ratio is less than one, exposure is associated with a lack of disease (i.e., exposure may be protective). If the Odds Ratio is greater than one, exposure is associated with the disease (i.e., exposure may be damaging). If the 95% confidence interval *includes* 1.0, then the relationship is *not* significant. If the 95% confidence interval *does not* include 1.0, then the relationship *is* significant. While an Odds Ratio can be calculated on a computer using Excel, it is not simple.

Setting up 2x2 tables

Participants practiced setting up 2x2 tables which looked at “exposure” and “disease”. Be sure and state good behavior or characteristics as positive exposure, e.g. having no milk teeth cut in cultures where this is common would be considered a positive exposure.

Participants examined an example from FHI in Kenya. Positive deviants were listed as mothers with children with WAZ >1, while children with WAZ <-2 were listed as malnourished. Despite very small sample sizes being interviewed, valuable information can be learned. Interviews indicated that both mothers of malnourished and positive deviant well-nourished children had factors in common and dissimilar factors. An odds ratio can determine if these dissimilar relationships are significant.

It was noted that just because there is a statistically significant odds ratio, causality is not proven-- only that there is a relationship. Of course, knowing a behavior is, for example, 16 times more likely to be associated with a child that is well nourished, would provide a programming direction.

Examples of variables that would be placed on top in the “disease” column include diarrhea, malnutrition, underweight, etc. “Exposures” to be put on the left side of the table could be finishing primary school, mother’s age > 25, number of children under age five, child spacing (there are enough questions on the KPC to do this); main language spoken, child’s gender, exclusive breastfeeding, number of feedings per day, etc. These need to be either “yes” or “no” variables, so data may need to be re-categorized to see how things affect it. Try to express the “exposure” as something positive (for example, children who received more or the same amount of food during a diarrheal disease episode).

For continuous data, determine an average for that kind of data. For example, if looking at the time the child spends away from the mother, select a cut-off based on the average, which may be 4 hours.

Confounding is another area to watch for, but Epi Info can take care of this.

Start working in the field with KPC data. Begin looking at local data with local communities: then begin thinking about this type of analysis.

Addressing Malnutrition: An Overview of Community-based Strategies To Improve Child Nutritional Status

Honduras: The AIN Community Experience

Presenter: Vicky de Alvarado works with BASICS in Honduras.

With an IMR of 42/1000, the AIN project area in Honduras has one of the highest rates in Central America, although mortality is decreasing. The malnutrition tendency in children under age five has not changed in three decades, and has not kept pace with the mortality decrease. High mortality, morbidity, and malnutrition remain. Malnutrition, measured at 39%, greatly contributes to mortality.

The MOH introduced AIN, an integrated approach with nutrition and childcare actions, which utilizes gaining weight as the indicator of well being of children. AIN began at the institutional level in health centers. At first, coverage was very slow. Children came late. Malnutrition was not detected on time, although the desire was to take action at the first point the child was not growing well. In fact, children were already severely malnourished before coming to the clinic.

AIN goes to the community to see what is happening there. Training began with monitors and volunteers. MOH and USAID requested BASICS to help systematize the process began at the institutional level, and expand the strategy to a national level.

At this point in AIN, the community workers and clinic workers know who is not growing well, and what is being done with them. Many materials have been developed.

Activities began with a manual to train monitors, which includes what they have to do at the community level, and a guide on training institutional level workers. Then, laminates for counseling containing technical content and using an algorithm were developed. Nurses at health centers use one to counsel groups of mothers with similar problems.

Then, to help the mothers to calculate the expected minimum weight; AIN developed a laminated table, to determine adequate and inadequate growth. There is also a community-level record of children in the community under age two (basically a growth card), which covers breastfeeding, immunization, etc.

When monitors had adequate skill in nutrition and prevention areas, then and only then did AIN introduce a second phase which harmonized with IMCI strategy, identified danger signs of illnesses, explained how to treat dehydration from diarrhea, and how to supplement children with vitamin A and iron. Through experience, AIN learned that if we first introduce the illness treatment, workers like to do this and end up only doing this in the community, and consequently do not give much importance to the prevention part.

Training has helped monitors learn how to conduct home visits. They visit mothers when the child does not grow well for two months. They learn how to counsel

mothers, and to conduct good referrals to the health center.

Capacity building activities (in terms of training and supplying materials) were accomplished through MOH personnel, who acted as trainers of the community monitors. The implementors were also the MOH. The monitors were motivated with a diploma after training, an ID card, free consultations at the health center, and a sharing experience party at the end of the year.

As a process indicator, AIN has borrowed from the Indonesian health system, looking at all children under age two; those that come to monthly meetings; all children growing adequately; and children who are growing inadequately.

AIN found in one community that after four months in the program adequate growth increased from 39% to 91%.

Well-organized programs like AIN strengthen communication between the community and formal health structure. Time and effort spent on organizing and systematizing the program really pays off. This collaborative effort between the ministry, BASICS, USAID and NGOs, field staff, and monitors, strengthened the program organization. Integrated

community-based child health programs strengthen grass-roots democracy.

Programs like AIN provide a content and link to the community to make health reform effective.

New health areas are expanding, and AIN is going to the national level with the help of NGOs. It has been institutionalized politically: the ministry is asking all organizations involved in child health to apply this strategy to guarantee sustainability once they leave the country (since many NGOs come and apply different models which are not known by the health officials).

AIN has worked very closely with NGOs to share experiences. The strategy is being well accepted. This maximizes efforts on behalf of children. Organizations working with AIN in Honduras include Mercy Corps (MC), Catholic Relief Services (CRS), World Vision (WV), CARE, World Relief (WR), UNICEF, and the Inter-American Development Bank (IDB) and many others, all involved in supporting the MOH with the AIN strategy.

BASICS has developed a video on the AIN program.

Hearth/Positive Deviance

Presenter: Donna Sillan is a consultant with many years' experience in CS growth monitoring and nutrition. She has made Hearth programming a specialty, and recently wrote The Hearth Nutritional Model Using the Positive Deviance Approach, An Implementers Handbook.



The word "Hearth" is close to the word "heart".

The foundation of Hearth rests on anthropometry. Many GMP programs just weigh children with little or no promotion or

follow-up interventions. Hearth is a follow-up to GMP.

Current childhood malnutrition can be alleviated quickly, affordably, and sustainably. The first goal is to rehabilitate. The second goal is to sustain the rehabilitation. The third goal is to prevent future malnutrition among all children born in the community. Hearth is a community-based program to reduce malnutrition. It is conducted over two weeks by volunteer mothers. Mothers prepare an energy-rich/calorie-dense meal and snack and feed these to their malnourished children. The “price of admission” is a daily contribution of the specific positive deviant (PD) food identified through the positive deviance inquiry (PDI).

PDI is a self-discovery process to discover what neighbors are doing today. It encompasses an “aha” situation, where people discover that the answer to malnutrition or whatever problem is being investigated, lies within their community.

There is a PD process that informs Hearth. PD looks at three categories of behaviors associated with malnutrition: food, health seeking, and caring behaviors.

The PD process can be applied to many different situations, for example, FGM. Jerry Sternin (SC) is now using PD with Hewlett Packard on corporate issues.

PDI is a qualitative inquiry. Using the 2x2 tables recently discussed, positive deviants are mothers who are normal and poor, compared with those who are malnourished and poor. It is useful to include a child from a rich family in the inquiry too, to show that wealth does not mean a child will necessarily be well nourished. The PDI is used in 6-7 families, where the team should spend some time. It is important to be there around mealtime to see what mothers and other family members are doing.

Practical Tips from Colleagues

It is important to train the volunteer mothers in PDI, and not rely on project staff to do this.

Always use local foods for Hearth feeding session. You do want to make sure there are local alternatives to food aid for when the food aid is no longer available.

Donna Sillan, consultant

PDI is best done by village volunteers who are going to implement Hearth, and not program staff. They then discover what people in their community are doing. It is really valuable to have the Hearth volunteers do the PDI themselves.

Hearth is very community specific: one PDI cannot be used across the board. Programs must consider different groups of mothers, based perhaps on religion, ethnicity, caste, habits, or belief in certain taboos. The groupings should be small and very specific to the particular community.

Mothers provide the menus using a pyramid, food square, three food groups, or whatever is relevant to the country.

Attending mothers come for 12 days with one day off in the middle designed to see if she can continue the program successfully at home. If Hearth is scheduled a couple of times a week instead of daily, it just does not have such a quick rehabilitative effect, where parents are so surprised at the result of providing the food. It is a large commitment in terms of time and people.

A food survey table is prepared by going to the market and seeing what is available and what is the cost. Participants looked over a worksheet for Ethiopian-based menus, considering what could come up if there will be 600-800 calories per session with 20-30 grams of protein.

Practical Tips from Colleagues

Have a snack food ready for the children to stimulate their appetite and keep them interested while the food is being prepared.

Donna Sillan, consultant

During the Hearth session itself, the mother has to bring something to contribute. This is important, or she may not think she can really make the difference for her child. In Vietnam it was found that shrimp obtained free of cost from the rice paddies worked as a PD food; in Mozambique it was a *marula* nut that was available. The mother should bring the PD food.

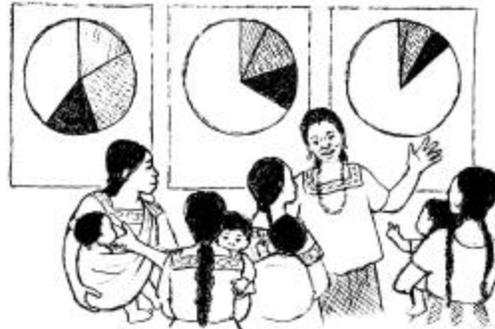
Along with food, there needs to be water as there are messages included about hygiene. The timing of the Hearth also needs to be scheduled so that it acts as an extra meal, e.g. it should not be scheduled at the mealtime. This is somewhat inconvenient, but it needs to be scheduled between meals and not be a meal substitute.

It has been seen over and over that mothers are in disbelief that their children can add this food to their regular schedule, but once the Hearth program gets past the initial anorexia of the malnourished children, and gets the “group feeding effect” going where children eat in part because they see other children eating, it does work.

The main input to a Hearth program is human resources. It is very training- and supervisory-intensive in the beginning. In other ways it is less expensive than going to a hospital or rehabilitation center, and the location where the Hearth is held is free of charge.

Evaluation of the effectiveness of Hearth involves anthropometric, with a weigh-in and weigh-out. Failure to grow is considered weight gain of less than 200 gm. Overall, there should be a 400 gm gain before a second rotation. Adequate growth is considered between 200-300 gm, with catch-up being more than 400 gm during

the first rotation. It generally takes more than one rotation for Hearth to work well.



The pie/cassava chart can illustrate to the community how the group or child's nutritional status changes over time. This is an important aspect to encourage ownership, and for helping the community to realize that things can change.

In Hearth, caring behavior and feeding practices change and are sustained. In the future, the next younger sibling benefits from the new behavior being practiced, and there is no more malnutrition.

In Hearth, “knowledge, attitudes, practice (KAP)” is actually “practice, attitudes, knowledge (PAK)”. Mothers practice the behavior, their attitude changes over the two-week period, and their knowledge grows after that. In Hearth, first “do it”, and demonstrate that change can happen. Seeing is believing, and then mothers can come to an understanding about why.

Hearth's nutritional impact has been positively demonstrated in a number of countries. In Egypt malnutrition dropped from 47% to 13 % in 6 months with no changes occurring in the control – and there are other excellent results documented in Haiti, Guinea, Bangladesh, Vietnam, Mali, Nepal, and other places. In Vietnam, Hearth was wildly successful using a control study. The success indicators were:

- (1) Nutritional status at the beginning of the program with comparison to nutritional status figures one year later.
- (2) Declining hospital admissions (less conventional malnutrition interventions and more Hearth-based solutions being used).
- (3) Declining overall nutrition-related mortality of children.
- (4) Declining mortality of younger siblings of children who have been through Hearth, as compared to the overall age-specific mortality rate.

The Vietnam program eradicated very severe malnutrition from 3% to 0%; eliminated 90% of severe malnutrition; and improved overall nutritional status 0.3Z, using the PD food of small shrimps.

The context of the Vietnam study area included 45% of all children <5 years of age malnourished (WAZ < -2), with growth faltering occurring at 8-9 months of age. During 1990-1992 in four pilot communes in Tinh Gia District (total population 20,000), subsequent evaluation showed severe malnutrition decreased from 36% to 4% after two years, and in a 1993-1995 phase in 10 expansion communes (total population 80,000) later evaluation showed that severe malnutrition decreased from 28%

Practical Tips from Colleagues

A problem was recently faced by mothers in Haiti so poor they were having trouble bringing their contributions. This was resolved with the help of a dry ration distribution program on-going in the area, which enabled mothers to bring local foods, as a "gift exchange". In Hearth, it is important that mothers learn to use the local foods. Combining the Hearth with the dry ration program still maintained the purity of the Hearth concept of using local foods, by keeping the dry ration at home.

Gretchen Berggren, consultant
(GB helped originate the Hearth approach in Haiti in the 1960's.)

to 4% after 12 months. Even with scale-up, they did not lose their results.

A study using multivariate analysis took place to explore sustained results which prevent malnutrition, which looked at sibling pairs in Hearth and comparison communes, each with younger siblings born after Hearth activities took place. The WAZ for younger children was statistically significantly, as was MUAC for both older and younger children. Mothers had internalized the behavior and were able to prevent malnutrition in the future. A handbook is now being prepared with support from The CORE Group. It has been written and will be published soon.

The presentation then moved into a question and answer/discussion period. Some highlights:

- Haitian PD mothers (but please do not label them as PD mothers) wanted to join the Hearth. It was found that inviting PD families took away some of the stigma of having only the malnourished children together. In Tanzania, mothers of malnourished children were embarrassed to be singled out. In Haiti, involving PD mothers turned out to be very positive.
- Hearth activities are currently on going in many countries. Some examples include MCI's work in Jakarta, Indonesia, where MCI is interested in submitting a proposal for operations research in doing Hearth in a Food For Work (FFW) area and a non-food aid area.
- Donna Sillan is interested in learning about doing Hearth in food-assisted projects.
- In terms of maternal malnutrition, Hearth is a great methodology to bring pre-natal mothers together to learn to eat for their pregnancies, dealing with iron, getting tetanus toxoid, and other health education on prenatal care.

- In Vietnam, the project area was set up as a “Living University”, for the district level MOH to come and learn from it. The word will spread if malnutrition is being wiped out.
 - Vietnam may be a PD country/setting, as people there are generally used to central planning, there are so many very quantified people, and it is basically a classless society of highly disciplined people.
 - If considering selecting either TIPs or Hearth in a context, realize that these are just different orientations. Hearth looks at what communities are doing today. It is not bringing in an outside, best practice. The answer lies within the community. Many people find this approach very attractive. TIPs looks at best practices, which is a bit different orientation.
 - It is important to preserve the self-discovery process. Project staff may discover the same finding in another village, but it is important to allow the people involved in both villages to make that discovery themselves: this strongly supports the behavior change aspect. If
- the self-discovery process is taken away and staff just start teaching mothers what they have learned somewhere else, the process just is not as effective.
- If a PD food does not become apparent during the PDI process, realize that there is always some kind of PD aspect to be discovered. Rather than a particular food, it could be a behavioral difference (hand washing, fingernail cutting, getting immunized). In addition to that, Hearth is bringing children together to get calorie dense food. This may actually be the normal diet, yet intensified. PDI will always find something that the PD the parents are doing differently. If staff and mothers cannot find any PD practices, review in the SC manual lists some areas where PDI may not work: for example, if PDI team members are just sitting around asking questions and not observing a PD mother feeding the child, etc. Portion size can be missed and may not be on a questionnaire. Also the caring, loving reaction among family members is hard to quantify and can make a huge difference in the context of malnutrition.

PART III: APPLICATION OF COMMUNITY NUTRITION MODELS

❖ Improving Nutritional Status and Application of Community Nutrition Models in the Field in Title II and Child Survival Contexts

CASE 4: Infant/Child Feeding Modules (Freedom from Hunger)

Presenter: Robb Davis is the Senior Technical Advisor, Maternal and Child Health, at FFH.

Many credit programs have had great success in lifting people out of poverty. Combining credit with health is even more successful.

FFH does not conduct CS or Title II programs: its approach is a little different. “Credit with Education” is an integrated package of credit services (group-based, solidarity lending, village

banking) to groups of women, who repay on a weekly basis or every two weeks. The same person who delivers the credit service delivers health education as well through a dialogue-based session. As an example of health education, an assignment given to the women between loan payments could be to pick a child and observe him/her being fed. What was he/she eating? What was the texture of the food being eaten? Who was feeding the child? Mothers coming together after completing the assignment would see a visual aid to show the progress of a child's development, and how their eating needs change, with a discussion about the critical period when foods other than breast milk are added.

As a visual lesson, three volunteer participants took the role of mothers at a session. The first volunteer represented children at an age when they are not able to fully seal their lips. The food that is eaten, if it is too thin, will come out. The first volunteer drank water without sealing his lips, then was fed yogurt, demonstrating that if children are fed a thin gruel there may not be adequate nutritional value consumed. The second volunteer represented children at an age when the tongue can only make front to back movements, and had to try to chew this way without using his tongue to hold food in place. It became clear that it is hard to break down solid pieces of food with only this tongue movement, helping to demonstrate the need for food of a soft consistency. The third volunteer showed how children of a certain age move their teeth. Unlike adults who grind their teeth in a circular motion, small children do not use rotary chewing. Chewing without this skill proved to be difficult. The lesson was visually clear that food needs to be appropriate for the child's age. In an actual health education session, women would talk about their experience. They would then do another assignment, to observe again a child, this time looking at the adult interaction with the child during the feeding. They would then discuss their observation, during the next session on "active feeding". Some important aspects of adult learning are planned for in this way.

Practical Tips from Colleagues

How many times have you seen a facilitator break a group of women up into small groups in the field? It is mostly passive listening. Often times the women do not want to go into small groups, and you have to lead them and let them know they have "permission" to do this.

Robb Davis, FFH

FFH considers key principles and practices of adult learning in the design of modules. Each session is held up the light of these principles. While it is hard to design for some aspects such as respect and affirmation, it is possible to design in relevance, engagement, and the cognitive, affective and psychomotor aspects. For example, how do you talk to a 60 year old grandmother about breastfeeding? In this case, the first section of the breastfeeding module may be to show the grandmothers something relevant, perhaps telling

them a story about the mother-in-law who told one daughter-in-law to breastfeed, and one to bottle feed. Talk to them about the advice they give. Try to build relevance through talking about their role in the subject. Try to give women in groups an opportunity to talk about their opinions after they hear the provided recommendation to talk about what they did or what is typically done in their location after hearing the recommendation. This is when there is a sharing period, and a dialogue follows.

The psychomotor level is important--to have people actually do things. The affective level is also difficult, but it is effective to involve emotions. You can do this by sharing stories.

FFH's education approach and modules include several characteristics.

- FFH actively trains field agents who are delivering the modules.
- Modules are group-based, to draw on the strength of a group that meets weekly or biweekly (it could be adapted for a monthly group).

- They are designed to create dialogue among the mothers, not with the teacher.
- Field agents constantly ask participants to compare recommendations with what is being done in their local area. The women may have practices which are inconsistent with the recommendations being made. FFH immediately moves into discussing what they could do to adopt the recommendation.
- The health education is rapid: most sessions are about a 30 minutes.
- Some groups have some men, but it is overwhelmingly women.
- FFH only works through local partners.
- The topic is not just discussed one week and left, it is reviewed over a 7-12 week period. For example, the breastfeeding module has seven 30-minute sessions. The child feeding module is 8 sessions.

FFH modules are consistent. The first of the module is a learning session guide and whatever resource materials needed to present the material (which can be photocopied). Field agents are busy people and they do not have time to design and figure out the best activity to include, so this is provided for them. They are not technical experts, although they do get training in a classroom setting. Each module has a trainers guide, a full trainers packet, which is a full set of instructions for 2-3 days of training depending on the training topic. A toolkit with handouts, flipcharts/overheads, etc. is also included. All modules are translated into French and Spanish. FFH has also translated modules into Haitian Creole and Tagalog, and more of these translations are anticipated.

FFH also has an adult learning practices principles primer, which it developed with input from Global Learning Partners. FFH can arrange for similar training through The CORE Group (contact Robb Davis for information).

FFH designs generic modules, so it includes an adaptation guide for the local context. This would help, for example, a local partner institution which is usually not a health institution, but a bank or similar credit organization. Modules can then be adapted to the local context.

FFH has developed a simple checklist for supervisors, and this is also in the module.

FFH makes its materials available to PVOs and other organizations, but they want to have appropriate training, going out with the materials. So while they are happy to give out their materials, training is also provided to avoid having the materials ending up as lectures.

FFH's credit approach is standard, similar to that of the Grameen Bank (Bangladesh). Programs are sustainable, most within three years: FFH's Philippine program was sustainable within 18 months, paid for by interest on loans.

It is not difficult to convince most Credit Unions to include health as they, and most of the NGOs have a social mandate. Clients also want health education. FFH is also actively working to convince the broader micro-finance community

Practical TIPS from Colleagues

TII and health programs are often working side by side with agriculture. Consider doing more de-worming of adults. A good reference on this is Latham, Michael. (1983) Dietary Health Interventions to Improve Worker Productivity in Kenya. *Tropical Doctor*. 13:34-38. High worm loads are associated with a diminished with ability to do productive work. FFH was conducting some PD focused work in agriculture, and noted that the amount of work accomplished each day differs widely. PD farmers do hours more daily work in weeding, and work regularly. FFH found that productivity was much less in those with anemia. In the reference, workers doing roadwork were dewormed, and their productivity was measurably increased. It would be interesting to do a similar study with agriculture, and to measure this. Consider this in your DAPs!

that health and business education is worthwhile for clients while costing the institution little.

Loans are self-targeting because of their size. Loan sizes may start as low as \$25 and grow over time. Wealth women are simply not interested in loans of this size.

There is no food distribution included in the programs. If there are regular groups of women coming together for education, and if sessions are facilitated by an educator, FFH believes these modules could have much value added. FFH has been working with FANTA about monitoring and evaluation.

In summary, the process itself matters. Adults need to be engaged.

CASE 5: Hearth/Positive Deviance (Africare)

Presenters: Circe Trevant works as Africare's Health Program Manager for the Francophone Region. She has an inter-disciplinary public health background. Judy Bryson is Africare's Director for Food Development. Malick Diara is the Director of Africare's Health Unit. He is a medical doctor with public health training.

Hearth in a Child Survival Project Setting

Africare's Child Survival Project in the Dabola Prefecture of Guinea includes a Hearth component (called "foyer") applied in the same way presented earlier by Donna Sillan, covering a 12 day period and including deworming and vitamin A supplementation along with focused IEC messages. These messages included breastfeeding, food hygiene, hand washing, promotion of a varied diet, adequate portion size, and active feeding. Basic interventions which constitute the overall Child Survival Program are: malaria chemo-prophylaxis for mothers during pregnancy, use of mosquito nets, taking feverish children to a health facility, reproductive health, immunization, and diarrhea case management.

In Dabola, Africare has worked in 38 districts from 1998 to this year, with a total of 998 children participating in Hearth in 7 Hearth cycles. In each of the 64 Hearth sites there is a "model mother". The major results (e.g. at follow-up at 1 month, 2 months, and 1 year post-Hearth) have been excellent. At the 1-month follow-up of all cycles averaged together, catch-up and regular growth combined was 78%. At the 2 month follow-up the average was 84%.

Africare takes three anthropometric measures as part of its nutrition intervention: stunting (HA) looking at changes in z-scores, <2 and <3 in each category (boys, girls, both); similar measures for wasting; and similar measures for underweight. Baseline and final measures are compared. Of the three measures, there were some significant changes in underweight.

Practical Tips from Colleagues

In Guinea, it is working to have both male and female awareness of child feeding practices.

Circe Trevant, Africare

The means for the project focused more on practice than knowledge. With the Hearth model mothers come together, receiving messages, doing demonstrations, and feeding the children. These practices were reinforced by community leaders who assisted with

Hearth sessions, along with husbands and health agents. Mothers adopted better feeding practices in variety, portions, and size. Other NGOs have come to see what is happening and have adopted Hearth. The USAID mission has also written up the experience.

As an example of the IEC messages, participants looking at the “varied diet” module, which is broken down into appropriate feeding for different age groups (6-9 months, 9-12 months, 12-18 months), along with the number of meals per day which are recommended.

As a next step in Guinea, UNICEF wants Africare to work with them on a proposal to scale up Hearth to a national level, so that all the districts will adopt the Hearth model.

Hearth in a Title II Project Setting

Africare has Hearth activities in Mozambique that are part of a TII program. There is no food distribution in this 100% monetization program.

In the beginning of the Mozambique Hearth experience, Africare provided local foods for the Hearth. But, after the first pilot round in 1998 this was dropped upon realization that it is very important that mothers understand that they have foods in their own homes that they can use to feed their children properly.

One of the main differences between the two Africare Hearth programs (CS and TII) is in their structure. TII allows Africare to scale up its experience and involve many more children. In its TII program, Africare is working with 60 villages. In each community there is a food security committee (a sub-committee of an existing Development Committee) that involves both men and women. Africare went through a process with these committees, identifying food security challenges and developing action plans.

Africare does one Hearth program a year but in all 60 communities at the same time. There is a very close connection with the MOH in the district, which is co-opted to come and provide deworming, immunization, and vitamin A interventions. When the EOP was conducted, it was found that 87% of the MOH staff had participated in a Hearth activity, which was found to be a very useful way of engaging the MOH in an activity which they considered to be very positive.

The program has grown annually from the first pilot activity in 1998 when there were 109 children, to the second round a year later with 180, then 2100 children in 2000. It is expected that there were even more children involved this year, but since the Hearth activities are conducted in July/August, the report has not yet been received at Africare’s headquarters.

The participants reviewed some photos of the setting where Hearth takes place.

Africare uses a combination of teaching mothers to cook foods that are good for their children, and passing on hygiene and other messages that are part of an overall nutrition intervention. Mothers are actively engaged in actually doing what is being recommended.

Prior to beginning Hearth, Africare had a nutrition activist in each village, but to increase sustainability, Africare ended up phasing out these paid positions. While participation dropped initially after this, it picked up again as people realized the program’s benefit. Africare also had 180 model mothers (*maman lumieres*) each of whom worked with five other mothers as a quasi-support group. The model mothers had been identified by the nutrition activists as mothers who had been taking good care of their children. They had been trained in initial IEC materials, and have never been paid. This program has also phased out.

Africare shared data on their program, which included moderately or seriously malnourished children, plus nearly a third of children recruited because they were showing growth faltering even though they were above the <-2 SD cut-off. Weights were taken over a three-month period: once in beginning, then at the end of the first month, and then at the end of the second and third months after the program. Africare uses WA z-scores.

In the TII program, weighing is pervasive in the villages. Africare is able to know on a monthly basis what is happening with the children. All of Africare's messages are keyed to the child's growth along its age curve. If Health participants missed three days, they were considered dropouts.

Africare had some problems previously with data collection and the project will have a much clearer ability to show what is happening with the current group as compared to prior year's participants, as the field staff have recently been trained in data cleaning, etc. The previous problem centered on the way information was recorded and uncertainty if the same child was being followed, requiring special follow-up to ensure that it was. Africare was able to follow up and find all the children, but there were mistakes, meaning that some data was flagged.

For the 2-4th rounds of Health in Mozambique, contributions were provided completely by the community. However, FFP would like to see its food resources used directly to feed malnourished children. In Africare's experience it has not found that distribution was that helpful for malnourished children.

In Africare's CS and TII programs, agricultural productivity and nutrition are linked. Nutrition activities are provided at the village level through the existing village Food Security Committee structure, and men are engaged.

Practical Tips from Colleagues

Laura Caulfield prepared a paper on community-based feeding, and found a point of reference, looking across a number of countries. Refer to "Interventions to Improve Complementary Food Intakes of 6-12 Month Old Infants in Developing Countries: What Have We Been Able to Accomplish?" Laura Caulfield, Sandra Huffman, and Ellen Piwoz. *Food and Nutrition Bulletin*. 1998.
Robb Davis (FFH)

Africare has changed from model mothers to model families in its new DAP, so that it includes having fathers talking to other men about the need to take care of children. Africare has kept track of deaths, and there has not been a great percentage of mortality. What was obvious was a significant amount of improvement, even though this improvement cannot be expressed with exact statistical reliability. Nevertheless, a trend can be seen.

Africare has conducted two population-based surveys in Mozambique. The WA of under-fives has dropped from 36% to 23% of moderately and severely malnourished children over a three-year period. Africare also had a sample that showed the importance of linking nutrition with agricultural productivity. In this study, 20 villages had oil production without a nutrition program and there was no nutritional improvement documented in these villages.

The session concluded with a discussion period. Some highlights and comments:

- Since children are cycling in and out of the Health session, the rate of catch-up growth seems quite slow. In a rehabilitation program, there are very strict guidelines on catch-up growth, which should be about 5 gm a day. In Health, catch-up growth is much lower as would be expected in a community setting.

- The summer is not the best time for the children in Mozambique: this is when families are starting to plant again. It is not the height of the hunger season, but stocks are getting run down.
- It often takes more than one Hearth for the concepts to stick, and it was suggested that Africare plan on doing more than one Hearth a year in its next DAP period. Africare also has ongoing activities all year in addition to the annual Hearth.
- Africare, with its food resource being monetized, achieved great coverage. If Africare were moving actual food commodities, the program would be very much more expensive.
- Hearth adds additional calories, and the parents are expected to add the rest of needed calories through normal meals.
- A catch-up gain of 5 gm a day would be 60 gm in 12 days, but in Hearth we expect much more.
- PVOs should continue to collect more population-based data, to see the broader picture of who died, who gained weight, and who lost weight, providing a better demonstration of Hearth and the general population.
- It is essential to delve into the data so that the effectiveness of Hearth projects can continue to be documented.

News Bulletin: Collecting Case Studies

The CORE Group's Monitoring and Evaluation Working Group is collecting case studies on community health information systems in order to document what has been done, and to share information with organizations seeking to develop such systems. A guide has been developed to help with this process ("Community Health Information Systems Guide for Case Studies"). Those interested in obtaining the guide, or in participating, can contact Jay Edison (ADRA), the Chair of the MEWG.

CASE 6: IMCI (Project HOPE)

Presenter: Luis Benavente is the Associate Director for Maternal and Child Health at Project HOPE and Chair of CORE's Nutrition Working Group.

The presentation focused on food and nutrition indicators for children age 6-36 months in Project HOPE's Child Survival program in Peru. In this program, HOPE failed in trying to improve children's iron status by developing an iron-rich food that could be produced locally, although it was well accepted. Normally PVOs do not get so involved in food technology. A major problem was that IMCI specifications say supplements should go to "pale children", and only children with severe anemia are pale. Other children with anemia did not qualify.

HOPE is adapting the generic c-IMCI materials for the Amazon basin. CARE will do this for the highlands of Peru.

While HOPE failed in its objective, it did reduce the prevalence of sub-clinical vitamin A deficiency. Coverage of vitamin A supplementation was increased, along with the consumption of vitamin A-rich foods, especially those from animal sources.

Dealing with iodine deficiency was not in HOPE's DIP, but the MOH wanted HOPE to approach micronutrients from a broad perspective, so it was included. HOPE was able to decrease the number of samples of table salt, which were iodine-deficient (but HOPE did not look at iodine in urine).

Regarding anemia, the MOH has now changed its criteria, and anemia is now ceasing to be a public health problem in the area.

HOPE used cluster sampling, and the following graph shows the lines of confidence. So far there is just a partial improvement, and HOPE wants to do more.

HOPE's data from growth monitoring sessions was analyzed using WH and z-scores. Three age-specific cohorts from GM sessions were analyzed. As expected, WH decreased with age, then recovered (which will happen if there is an intervention or not).

When examining HA, the z-scores go down and there is no recovery, yet HOPE's results show less than the expected reduction. HOPE is still working to improve this indicator, but there is some success shown here.

HOPE works with PRISMA, a TII group that has helped them with software, evaluation designs, and training. PRISMA has an interest list and other resources that helped HOPE to share its information with the scientific community, with USAID, and others. Please refer to <http://www.prisma.org.pe/pl480/index.html> for more information (note, this site is in Spanish).

Passive feeding turned out to be a problem. Nearly a third of what is in the child's bowl was not eaten. HOPE is using TIPs to explore this. HOPE is also using a modified Hearth-type approach, doing cooking demonstration using foods that have been shown to be successful to help with micronutrient deficiencies. For example, animal liver was prepared so spicy it was fit only for adults and HOPE is introducing other ways of preparing animal liver so that it is fit for the child.

There is a little overlap with PRISMA regarding distribution, but PRISMA and HOPE are basically in different areas, yet share information.

The presentation concluded with a discussion on "multis" and micronutrients in general. Some highlights:

- Nutraset in France is a source of zinc in Ecuador that can be dissolved in water. UNICEF is now working on a formulation so that we could "hit" everything in the way of micronutrients. (Tom Davis, consultant)
- Sprinkles are a great intervention. Sprinkles are a powder consisting of iron (ferrous fumarate), ascorbic acid, and may also include other micronutrients, which comes in small one-dose sachets that are "sprinkled" into children's food. It was devised by Zlotkin et al at the University of Toronto with support from the OMNI project. (Caroline Tanner, FANTA)
- Some of the issues with iron or zinc will still be there with a "multi", including packaging, supply, etc. (Erin Dusch, HKI)

- There is no consensus on what is a “multi”. Studies do not compare the same thing. The UNICEF concept is based on the U.S. RDA. The iron is only 30 mg while 60 mg is needed for pregnant women. This is not a perfect solution. The problem is compliance—and that goes beyond the vitamin itself. (Zeina Sifri, HKI)

CASE 7: TIPs Use (CARE)

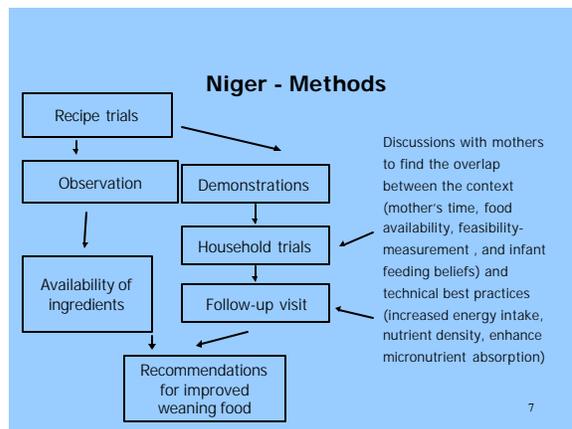
Presenter: Alden Dillow is the Program Associate for Nutrition at CARE.

TIPs as a tool, or consultative research method, can be applied in many settings besides IMCI. CARE has been introducing TIPs into some of its projects. For example, in Niger, TIPs was used to determine an appropriate weaning food recipe for children aged 6-24 months.

There are six key steps in using TIPs: (1) conduct behavioral analysis through formative research; (2) draft preliminary diet change recommendations; (3) develop a research methodology (this could be a 24- hour recall, or feed back forms); (4) train a field team; (5) test preliminary feeding recommendations by counseling and negotiating at a sample of households, and returning to the households for feedback; and (6) revise recommendations based on the trial results for development of a wider behavior change strategy.

In general, TIPs requires a relatively small sample size, involves the target population in what they can do, refines behavior change approaches, and identifies resistance points and motivating factors to make the intervention more accepted. CARE has used TIPs in three settings, projects and approaches: in its Niger CS project between 1995-1998, where CARE added peanut oil to porridge for children 6-24 months; in its India INHP project (TII, beginning in 1995 and on-going) which includes micro-nutrients, and in its Tajikistan USDA program with flour and oil distribution which began in 2000 and is on-going, which offers five behavior change options for reducing anemia.

Niger: In Niger, CARE used TIPs to improve the nutritional status among 20,000 children. Formative research yielded some experience within the MOH and Peace Corps which had been promoting enriched foods but the ingredients were reported to be expensive and the recipes difficult to prepare. CARE first wanted to do recipe trials, and to do this they chose different streams: first, observing households with a second stream doing demonstrations in houses with



household trials of recipes and follow-up visits to see what households could accomplish. CARE looked for technical best practices in regards to mothers' time, food availability, how well mothers could measure, and infant feeding beliefs. This yielded recommendations for an improved weaning food. CARE ended up adding one tablespoon (measured using bottle caps) of locally produced peanut oil to *fura*, the local porridge. CARE trained CHWs and health personnel in the recipe, and husbands were asked to buy the oil through health education. The project offered small loans for peanut oil

manufacture. The innovation was diffused through demonstrations and other means.

If results are based on recall, they can be hard to measure. Over a period of two years, in the project area results moved from 0 to 44% of respondents who reported they had implemented the intervention in the past 24 hours. 72% surveyed also said children accepted it well and that it was easy to prepare.

CARE found that including fathers was useful. TIPs inspired genuine support from TBAs/CHWs, engaged the community in research (taste tests, recipe trials, and listening), and supported oil production. Mothers were very straightforward in reporting their successes and failures.

India: In India, CARE field-tested approaches to improve maternal nutrition in 88,500 total population within its TII project, which has a beneficiary population of 10.3 million in 900 blocks. The availability for scale up was great.

Formative research resulted in a listing of different methodologies which showed that pregnant/lactating women were consuming fewer calories than they needed, due to a lack of appetite and, among those pregnant, a desire to restrict fetal growth, Iron and beta-carotene intake was poor, and there was a reported high prevalence of night blindness and anemia.

There were 32 women included in the TIPs trial, each of whom was given four options-- iron distribution, more vitamin A-rich foods, more healthy snacks, and increasing *saag* (green leafy vegetable) intake, of which they would chose one and try it for 21 days. CARE then conducted feedback on the feasibility (24 hour recall). The overall project included among its interventions supporting gardening, cultural events and song competitions, community health funds, community kitchen gardens, wall writing and other communication materials, training of TBAs, and strengthening of women's groups.

In India, the CHWs were trained in counseling along with iron distribution, and this was made part of their ongoing work. There were some results (anecdotal) that seemed to contradict the desire to restrict fetal growth, although this is not clearly documented.

The results were impressive over three years. Some lessons learned through TIPs include that suggesting small changes ended up being more feasible. CARE worked to address the barriers to behavior change identified through the TIPs methodology. Whole families were targeted.

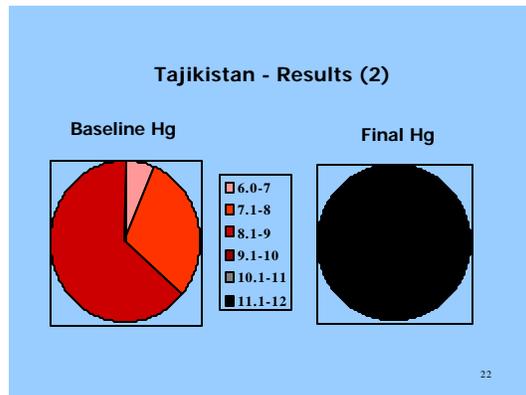
Tajikistan: The two previous examples have utilized data based on dietary recall, but in Tajikistan CARE is using serum retinol levels. CARE's TII program in Tajikistan seeks to reduce anemia among pregnant/lactating women in a 50,000 population. There is quite low consumption of iron sources, low consumption of iron absorption enhancing foods, and lots of tea drinking. Neither women nor doctors knew that anemia could be prevented.

CARE looked at causes of anemia through a study, and then analyzed seven possible behavior changes of which women would try any two of their choice for a week. 50 women were involved. CARE then promoted four behaviors that the women had chosen. CARE trained a TOT, prepared materials, and worked with the women. A baseline and final survey were conducted seven months apart. CARE used a strict OR protocol.

In terms of results, all women adopted at least one of the behaviors. One surprising large change turned out to be increased use of tea alternatives (e.g. rose hip tea).

Blood samples were collected one month before and seven months after the start of the TIPs trial. The number of women with hemoglobin levels in poor ranges decreased.

During the ensuing discussion on the results, it was suggested by a participant that the average at baseline and final could be calculated, which was found to be a useful idea. Another useful idea



was to do a frequency distribution. Although there were some outliers, these probably would not skew the numbers.

Other suggestions discussed included treating severe cases and excluding these from the study. For pregnant women, it was noted that women would still have to take an iron supplement: relying on diet alone would not result in adequate iron.

CARE found that one of the most important factors turned out to be support from family

members and neighbors: positive results can come in a short period of time.

CARE's experience leads to some general conclusions about TIPs use. TIPs can be applied in a variety of PVO programming settings. TIPs is a particularly useful method when time and data collection are limited. It offers doable steps to nutrition behavior change programs. TIPs makes it possible to pinpoint both effective educational methods and feasible behaviors for improving nutrition.

CARE worked with Linkages in India. Judiann McNulty (CARE) worked on the trials in Niger and Tajikistan.

CASE 8: Care Groups (World Relief and FHI)

Presenters: Melanie Morrow is World Relief's Child Survival Specialist, with a specialty in health communication, using the Care Group methodology in CS. Adugna Kebede technically supports the FHI TII program in Mozambique. Tom Davis, a consultant, works regularly with Food for the Hungry. He helped transfer the Care Group methodology to FHI's TII project after learning about the concept from World Relief.

Background and Results from CS in Mozambique

The Care Group methodology leads to behavior change including change in nutrition behavior, at a low cost per beneficiary. Care Groups are a community-based strategy developed by Dr. Pieter Ernst of World Relief/Mozambique, and it has spread from there. The focus is on building teams of 10 volunteer women who work with their neighbors. Care Groups begin by organizing women with children under age five, or WRA identified by a census, into groups of 10-15. One volunteer is responsible for visiting the 10-15 households within her "block". 10-15 volunteers (each visiting 10-15 households) form a Care Group.

Project promoters (literate leaders) support the Care Groups. There may be 15 promoters in each district. Each promoter supports about 8 Care Groups, or about 10,000 mothers.

Care Groups meet every two weeks (or monthly). Their promoter records verbal reports of vital events and shares local statistics.

During a Care Group meeting there is a verbal reporting of vital events and illnesses, a discussion of what has been reported, and challenges they may have faced, with an emphasis on encouraging one another. Pictures, songs, and dance aid education. The promoter uses a large picture, and smaller versions of the picture are provided to be used for household-level education with mothers. There is a recap of the week's key message. Sometimes there is some role-playing before visiting mothers. Meetings usually last about two hours.

Every volunteer visits her households between Care Group meetings. She conducts education for mothers and grandmothers, replicating what was done for her in her Care Group meeting. They also work on current concerns of individual households, as well as the message of the month. Volunteers can go to their respective promoter for input in difficult situations. There is also collaboration with the MOH for activities including EPI, vitamin A distribution, GM, deworming, etc.

Care Groups can be used for more than nutrition, and World Relief has used them for many interventions including breastfeeding, Hearth, immunization, control of diarrheal disease, ARI, malaria, HIV/AIDS, child spacing, birth preparedness across its various CS projects.

Care Group turnover is very low. In World Relief's first CS in Mozambique, during four years there was a 5.3% dropout, with about half leaving the area, and half having died. The 10-15 household load is light enough that other volunteers could cover the gap of dropouts.

Volunteers are not paid but they have received items such as a scarf, t-shirt, and/or skirt over a four-year period. In Malawi, volunteers received free health care. In all countries volunteers receive prestige and support.

Promoters are paid workers. They live in the communities where they work, training and supervising up to eight different Care Groups. Over a two-week period, they generally cover eight Care Groups. They may provide distribution of some services, for example vitamin A capsules or iron, depending on MOH policy. They have relationships with village leaders, help VHCs, and document progress through surveys, etc.

In World Relief's second CS project in Mozambique the Care Group concept was expanded with the addition of new kinds of Care Groups. World Relief added pastors and gave them health messages to share with their congregations. They also started grannies Care Group, which meets once a month with a granny trainer. While grannies are not expected to make household visits, World Relief wants them to feel included and realizes their role in the decision process of the family.

World Relief's second CS in Mozambique had a slow start with the bad floods that disrupted it in the beginning, but many targets have been met by the MTE point, and some targets will need to be set higher. Some results highlights include:

- In a recent survey 100% of volunteers had been seen in the past two weeks;
- There has been a good net increase in the 0-35 month old children weighed at least once during last three months after a dip due to the flooding

- Of those identified as malnourished whose mothers were to receive nutrition counseling, 95% have done so.
- 95% of malnourished children received nutritious food/enriched porridge, determined during a quarterly survey.

Participants looked over selected results of the project, including mothers/children who have just completed a Hearth cycle, looking at what happened during the two weeks of Hearth and two weeks at home in terms of additional weight gained (catch up growth). Oil was provided by the CS project. A study has shown that peanuts worked even better than oil in supporting catch-up growth.

Although World Relief has not formally begun its maternal care intervention yet-- promoters are, however, already sharing messages about this. Close to 90% of children with diarrhea were treated with ORT, and provision of extra food following diarrheal episodes has risen from 20% to more than 70%. World Relief is also working with the MOH so now every village has a health post, e.g. CS is providing better access to treatment, and is realizing earlier treatment-seeking for fever.

Quarterly surveys also show some declines: ITN use for under-fives is decreasing after an initial big increase. While World Relief is communicating that people should use their ITN year-round, families are not using them during the dry season when there are fewer mosquitoes.

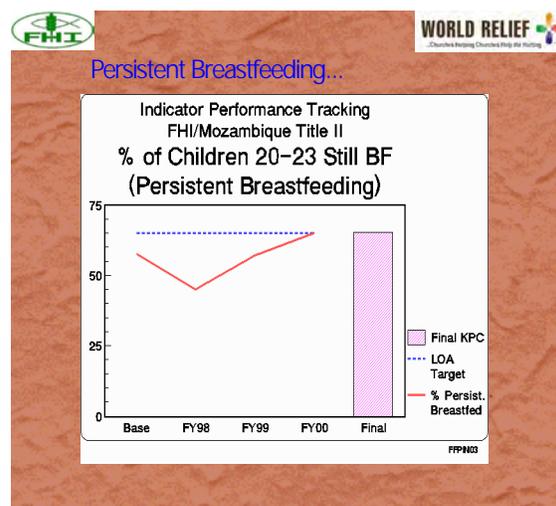
Care Groups are reporting on deaths in households. There has been a decrease in deaths from malaria, due to ITN use (with seasonal peaks in April/May). There has been an increase in deaths from malnutrition, most likely because people were previously unaware of the impact of nutrition on mortality and attribution is being better understood now.

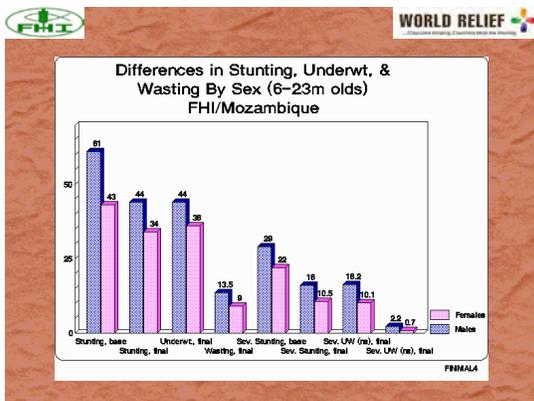
World Relief has been careful to phase-over responsibilities from the paid promoter (who will be withdrawn at the end of the project), to the Care Group leader and VHC to promote sustainability. The first phase Care Group had reported that they would continue with their work, and one year later more than 90% were still doing home visits, providing a strong potential for sustainability.

Care Groups in TII in Mozambique

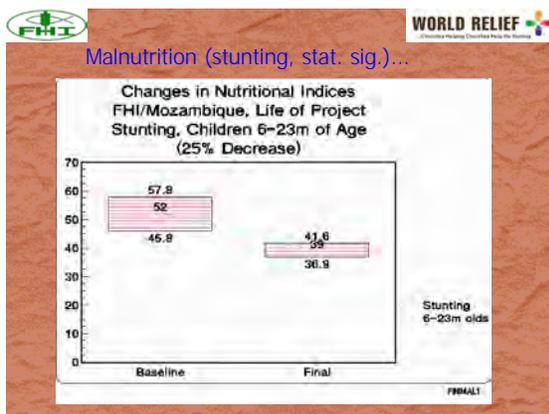
Very recent KPC data looked over a five-year period of FHI's TII monetization project in Mozambique. A few indicators were presented along with examples of how FHI presents its data in graphic form.

While breastfeeding is universal, there continue to be problems with exclusivity and persistence. The TII project has documented a change from 56% to 65%. As an example of data presentation, the line graph aspect of this example is based on monitoring, and the bar graph on the final evaluation KPC. They are similar although the bar graph includes a newly entered district, which lowered some results. Additional examples of FHI data presentation include the line and bar graphs on the following page.





Highlighting additional FHI results, for EPI, FHI does not provide vaccine but facilitates a mobile team along with increasing awareness to mothers. There has been a decline in the prevalence rate of diarrhea. At the final evaluation, FHI found a significant difference in stunting, and severe stunting, from the baseline. There are sex differences in stunting, underweight, and wasting, with more male children affected than female children. The reason for this is not yet identified. FHI used HA Z score at its baseline and final.

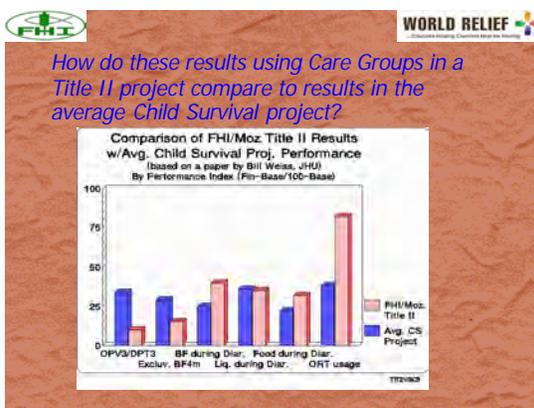


As an interesting point, the CS and TII programs were compared, and it was discovered that the CS program performed better, looking at average performance.

The cost per beneficiary per year was \$4.50. This includes women and children under age five, but does not include some of the technical supports.

Care Group Success

Some of the reasons Care Groups are successful were discussed. The unit of work is a neighborhood, an important point. Also, social support is increased so fewer incentives are needed. Dropout rates are lower, reducing training costs. A lot happens outside of meetings. There are strong social reasons for remembering messages. Community tasks are light. Care Groups know their households and are invested in them. Finding defaulters is easy. The strategy also allows for a more efficient use of higher trained staff.



For monitoring and evaluation activities, there are oral reports on specific households. Optionally, the promoter can documents household results in registers, or an MCH calendar can be used to collect household data (this will be included in an expansion of the FAM Monitoring and Evaluation Toolkit shortly).

Leaders of Care Groups send a monthly report to their respective health post.

Every 3-6 months a mini-KPC consisting of about 10 questions is conducted with about 10% of mothers. Community leaders are briefed on the results. The knowledge of Care Group members is evaluated through oral quizzes. Graduation requires 50% correct answers by the entire group. Stronger Care Group members are paired with weaker ones to facilitate this.

Once a Care Group has been monitored, it is not monitored again until all groups have been included. Groups are picked randomly for monitoring.

By using Care Groups in CS and TII, knowledge and practice levels are boosted (and CS does a lot with coverage). Care Groups help to systematize equitable access. Care Groups can improve program measurability.

From their data, FHI knew a lot one year into their project. For example, a drop in breastfeeding among the 20-23 month age group was noted, due in part to being pregnant again and fear that continued breastfeeding would harm the unborn child. So FHI worked on this by looking at some women who did continue breastfeeding into their pregnancies.

Practical Tips from Colleagues

Doing less more often is a good strategy where there is little free time for women and low literacy. Every day volunteers can visit one home.

Tom Davis, consultant

Other health promotion activities can be piggybacked on the Care Group model.

Practical Tips from Colleagues

FFH recommend starting savings groups with these kinds of groups. FFH saw some great things with this in Nepal where groups were taught basic literacy and in the process noted that women want a safe place to save money. Such an opportunity gives women ways to manage their money and lend it to each other. Training on women's rights can also be added. These activities can sustain groups like this over the long term.

Judith Justice is doing a large study in Nepal, which will be useful to PVOs working with volunteers. The results are not yet out. Contact Robb Davis who will be obtaining the results as soon as they are available.

Robb Davis, FFH

Care Groups can provide an ideal structure for implementing Hearth and other PD approaches.

The cost per beneficiary can be decreased through the use of volunteers.

While technically the Care Group methodology is not IMCI since it does not follow the official protocols, once all interventions have been phased in members could deal with them as a whole in an integrated manner. What is really needed is to apply the appropriate jargon.

It was noted that World Relief's project manager works one day a week at the district hospital, so this is not seen as a competitive program to the MOH.

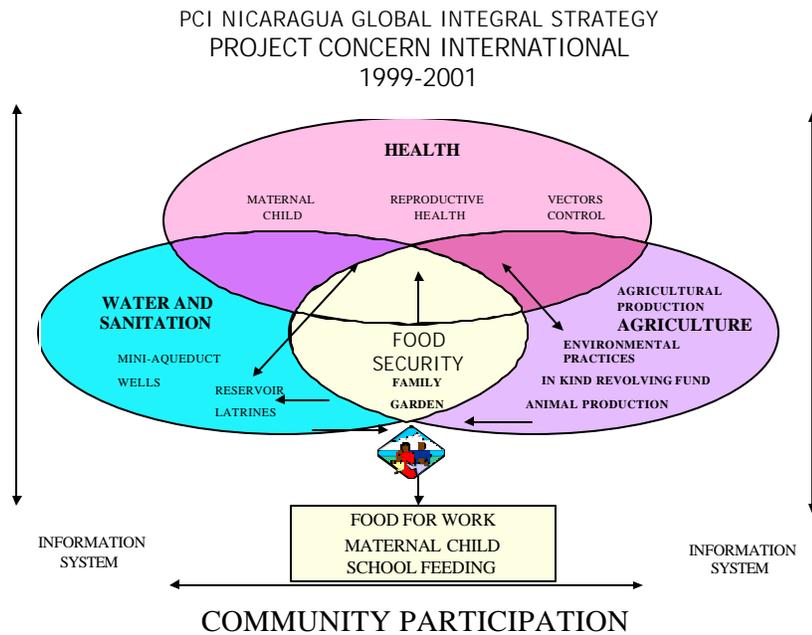
News Bulletin: Toolkit Available

"A Review of Health & Nutrition Project Baseline Research Methods of Title II-Funded PVOs" by Patricia Haggerty, 2000, FAM M&E Toolkit is available online. For an MS World download, go to <http://www.foodaidmanagement.org/mne3.htm> To view the entire toolkit, go to <http://www.foodaidmanagement.org/MandEToolkit.html>.

CASE 9: AIN/IMCI Community Implementation Progress (PCI).

Presenter: Leonel Arguello works for PCI.

PCI developed a framework in 1999 to put more projects into their selected project site.



PCI began working with a TII MCH, and then added a CS project and were able to obtain more funds for water/sanitation, house building, education, and school feeding. PCI tries to mix all interventions with lots of community participation, using a community information system enabling communities to have enough information to take concrete steps, avoiding vertical programs.

First, PCI established coordination at various levels: department level (including with Prosalud, BASICS II, and HOPE); the municipal level with the MOH and NGOs, and the community level with health units, health volunteer workers, etc.

The MOH knew they could not follow-up weight control themselves every month. The MOH was in charge of weighing, and they were doing supplementary feeding which was probably overly optimistic in terms of what they could accomplish. This was solved by giving the population skills to conduct weighing by themselves.

Then Hurricane Mitch came, the program stopped, and PCI began a food program.

The food program's focus is on problem solving, detecting early signs of weight decrease/growth faltering. The focus is more on the trend more than a single weighing. Personal and family counseling is provided within people's own reality, rather than by giving generic advice. Advice needs to be specifically related to the way a mother feeds her children. By knowing the family better PCI staff can help improve the child's health better.

First, staff review the child’s card for EPI and growth, then do a WA classification. Then, taking into account the resources available, staff try to motivate and counsel the mothers, both at the weighing session and at home visits conducted by health volunteers. The follow-up is most important. If a mother is doing well and told so, she will do better. If she is not doing well, this may be missed without follow-up. BASICS helped PCI with this concept.

The project area includes 18 MOH-staffed health units, and health volunteers and PCI staff in 24 communities, who work with mothers and fathers of under-twos. They began with mother’s clubs three years ago, and added a father’s club at their request. Most of the project’s focus is on women, and so much weight is put on what flows to their children. Rather than trying to avoid men because they are “so difficult” (and thinking that from the mother benefits will go straight to the child) PCI works to be more gender equitable.

Communities are selected; volunteers are selected; training on mapping, conducting the baseline and Salter scale management takes place; and a baseline is completed. Results are presented. MOH, volunteers and PCI make commitments, which are not necessarily written—people’s word are honored.

At the second stage, PCI trains in child evaluation using specific tools, e.g. an action guide, nutrition counseling, a table of expected weight gain, and a conversion table (kg to pounds).

At the third stage, there is training in information systems and session monitoring.

The project’s very satisfactory results to date were then shared with participants.

PCI is trying to make nutrition a social value, where this does not exist now. Each community should feel proud about the number of children who are gaining weight appropriately. Junta pour salud!

Determining Guiding Principles in the Use of Title II and Child Survival Resources in Addressing Malnutrition

Small Group Activity:

Choosing from the presentations on TIPs, AIN, PD/Hearth, credit with education, and care groups, participants went into small groups to discuss one case from the plenary in which both TII and CS resources are being used. Discussions were to focus on methodology, what resources are used, and how well TII and CS complement each other in addressing nutrition. Groups came back into plenary with lists of promising elements from their selected strategies which others could use even if they do not adopt the methodology wholesale.

TIPs Group:

Promising elements:

- | | |
|--|--|
| <ul style="list-style-type: none"> • TIPs identifies barriers and facilitating factors; • TIPs provides confidence in the behavior change strategy due to its “mini-pilot” nature; | <ul style="list-style-type: none"> • TIPs starts with trials of practices, a concept which can be applied to many intervention areas and health worker behaviors; • TIPs leaves room for mother’s options (e.g. in Tajikistan mothers had four choices); |
|--|--|

- TIPs is a good investment. Minimal cost yields useful direction. While staff do have to go out to households, they can work with a small sample.
- Reiteration and repeated contact are very attractive elements.

Possible uses/revision:

- TIPs can be used to revise messages at mid-term;
- TIPs could be useful between conducting the KPC and doing the DIP/DAP;
- TIPs can be used at different stages of implementation and with wide variety of audiences. It can be adapted quite a bit, although it cannot really be “cut” into smaller chunks;
- Negotiation is an integral aspect of TIPs. Programs could start doing more negotiation with mothers, as well as providing more options for choice.
- Asking mothers in groups to come up with something that they can try and promote as a group, rather than only as individuals, is a potential revision. People do not tend to make decisions in a vacuum.

Hearth Group:

Promising elements:

- PD can be used to find key behaviors, and apply them to existing infrastructure. For example, in a project now being planned for Armenia, PD could be used to identify good education techniques. While within the FSU there are not many community groups, it may be possible to apply hearth within the visiting nurse framework.
- PD involves doing local research.

Possible use/revisions:

- There is still a need to use local foods for the feeding sessions, but food aid could be used to target malnourished children at the household level to complement this.
- Hearth could be integrated with CS via the educational sessions (e.g., for ORT, mosquito nets, etc.)

- Mothers in general, or specifically pregnant mothers, could be targeted for use with the PD methodology.
- If there is a food shortage, like in Haiti, a Hearth project could do a “gift exchange”, keeping donated commodities at home, and thereby making it possible for mothers to bring their own gift of local foods to the Hearth session.
- PD can be applied to agriculture, gardening, sexual practices, etc. There are PD people who are able to lead lifestyles that keep them free of problems that plague others in their community. Another successful example was SC’s work using PD to decrease female circumcision in Egypt.
- PD could be applied to communities, not just individuals.
- PD could be combined with Appreciative Inquiry to find out what people have done right.
- There can be “PD NGOs”.
- There can be PD families where men are highly involved in caring for children.
- PD has been used in agricultural projects. Participants can contact Dave Evans (devans@fhi.net) for information on the PD agriculture trials.

AIN Group:

Promising elements:

- An important element is to have a manageable size group for each volunteer. In PCI, there were 3 per community, to account for dropouts and other reasons.
- Frequent personal contact was important between volunteers and supervisors.
- Involving the community to solve problems together.
- Some competition between mothers who were seeing their children’s weights being put up...a bit of peer pressure too, both helped make it work.
- PCI was able to build in some sustainability to that communities can do the work even when their CS program ends.

- In Honduras, the point was made in yesterday's presentation that demand was increased for services from the MOH in both women and the community). AIN was more than what was coming down from the top but what people would demand themselves. Once this begins, it is not likely that demands will stop, which is good.
- AIN built up gender equity by including men.
- The MOH is not necessary to implement AIN, but MOH involvement can be an important advocating tool.

Possible uses/revisions:

- PCI wanted to use Title II to fund AIN activities yet were unable to do this, but they were able to find CS funding for this.

Care Groups Group:

Promising elements:

- repetition of social interventions (similar to TIPs);
- the community nominates the volunteer mother;
- use of mini-KPCs;
- the whole community is motivated by the small groups;
- demand-driven topics;
- easily understandable messages;
- messages are sustainable and targeted to people who are not necessarily literate;
- like AIN, the small groups used are more sustainable;

- training is done at the community level.

Possible uses/revisions:

- ways to emphasize more solidarity among these groups, leading to a very motivational outcome.

Credit with Education Group:

Promising elements:

- applies basic principles of non-formal education (having a dialogue, use of small groups);
- having a grid and other small tools to improve teaching methods—some of these elements could be included in a check list;
- use of lesson plans- many PVOs in CS probably do not have formal lessons plans for the messages they plan to promote; yet this would probably improve the health education they provide.

Possible uses/revisions:

- teaching nutrition in groups outside of health groups (e.g. credit, agriculture, extension, literacy, or existing groups in the community);
- using LQAS for assessing knowledge and practice changes;
- using Child Survival groups for promoting savings, which could be a motivation for people to join the group. This could end up becoming a sustainable financial incentive to keep a health group together.

PART IV: Workshop Conclusions

Tom Davis provided a wrap-up and closure to the workshop, highlights of which are summarized here. Elements have been brought together from mini-summaries at the close of days one and two.

Summary of Lessons Learned:

- **Borrow ideas**
- **Measure your work**
- **Focus on scale**
- **Learn from communities**
- **Focus on contact**

During the first day, highlights included a stronger than ever recognition to standardize definitions of “standard” indices. (For example, a WAZ between -2 and -3 is considered “moderate malnutrition” by most PVOs, WHO, and USAID but sometimes called “mild malnutrition” in some health studies (e.g., Pelletier’s work). The importance of use of z-scores (over percentiles) was stressed. The purposes for different reference standards were reinforced. Nevertheless, it is clear that the magnitude of improvement coming from nutrition indices will always be difficult to predict. TII projects need to continually improve the rigor of their evaluation methods in order to advance the knowledge base of successful methods using TII resources.

More work is needed to understand when to use anthropometric each index. Participants agreed that it would be useful examine changes in anthropometry and nutritional status with different types of interventions.

On day two, participants reviewed the application of statistics including two-by-two tables. Some of the synergy between CS and TII programs was clarified, with nutrition-focused activities being central to both programs; and with interventions for CDD, ARI, EPI, and causes of neonatal/perinatal death (CS) working in tandem with agriculture, water, and sanitation activities (TII).

Methods/concepts/strategies such as Hearth (for rehabilitation), AIN (for prevention of malnutrition), and TIPs (for research) serve as links in the IMCI toolbox.

Working off of the material of day one, presentations also emphasized the need to use appropriate indices for different groups, as well as to ensure which age groups are most appropriate for each type of program. TII projects’ health staff should consider nutrition interventions for other non-traditional beneficiaries, like deworming farmers to decrease iron deficiency and improve productivity and yield. In both programs, it is important to re-verify initial data and sampling. Also, emergency and non-emergency needs/indices need to be distinguished, as do geographic contexts.

In TII, rations can be linked to recovery.

The needs of overweight children also need to be addressed, not only the rehabilitation of severely malnourished children, which remains a difficult task. Along with this, maternal and adolescent nutrition are emerging issues.

The participation of the elderly needs to be continually assessed for each context.

Annual and bi-annual targets need to be realistic (and may need adjustment), looking also toward expected change within the program's timeframe (e.g. five years).

Day three looked across the workshop as a whole. IMCI is not "just a health strategy," but a health *and nutrition* strategy. IMCI should be promoted through Title II food security programs.

As resources shrink for programming, the cost per beneficiary should be analyzed regularly so that each project's efficiency can be assessed. When data on indicators are presented, data on cost per beneficiary should be presented as well.

Multiplier models, like Care Groups, can lead to rapid changes in knowledge, practice, coverage, and nutritional status in a sustainable, low-cost way. Clearly, PVOs should freely borrow ideas. FHI in Mozambique took the Care Group concept from World Relief, for example. Benchmark by looking at the work of organizations that have the most proven success.

As movement is made towards use of daily multivitamins, it is important that: (1) problems with compliance are resolved, and (2) the multivitamin used is country-specific. Many multivitamins are based on RDA for the U.S., and do not respond to the needs of individual countries. Absorption rates of nutrients should also be taken into account (e.g., use of zinc sulfate rather than zinc oxide).

More should be done to promote foods that enhance the absorption of iron, the consumption of iron rich foods, suggest alternatives to foods that tend to block iron absorption (e.g., alternatives to tea). These messages can be quite complicated however, in the case of tea, rather than counseling women not to drink any tea (which may not be a successful strategy) it is the sequencing that should be stressed. In other words stress that it is best not to consume tea at meal time, but that tea could be enjoyed after the meal, after the food has had time to digest.

As repeated each day, measure project work to convince others of its value, and to make sure targets are met. State confidence levels at all time.

Focus on scale. Small is beautiful. Large programs -- like the body -- should have extensive use of smaller units of production ("cells") and promote quality relationships between the project staff and those units.

For better nutrition, work for better health.

Use methods that help PVOs learn what works in nutrition from the community. TIPS, Hearth, credit with education, and Care Groups all do this successfully, focusing on personal, high frequency, relationship-building, high quality contact between people in project communities and project staff members.

The levels of malnutrition seen now have the potential to one day be only a bad memory, as seen with the history of eradication of smallpox. PVOs were thanked for being committed to working to eliminate malnutrition.

In summary, the nutrition program methods presented have demonstrated a high degree of change in nutritional status. Nutrition works!

Annex A: Nutrition Resources

Food Security Resource Center (FSRC) Selected Bibliography of Resources

Visiting or Ordering Resources from the FSRC

The FSRC is open to the public 9 a.m. - 5 p.m., Monday through Friday, and contains over 8,000 resources relating to child survival, food aid, food security, nutrition, and health. Visitors are requested to call and make an appointment before visiting for specific research. This bibliography encompasses only selected resources. Additional topic-specific resources may be available; contact the Technical Information Specialist to make a research request. Visitors may also search the FSRC's library database on site. Document orders or research requests can be made by telephone, fax, email, or regular mail. Turn-around of research requests and document orders is typically eight days or less. Each resource is assigned an FSRC call number. Please refer to this number when ordering a document.

Cost Recovery Charges

Cost recovery charges apply to all orders. Extra copies are distributed at no charge. When a resource exists on-line, the web site address will be given at no charge in lieu of a hard copy unless otherwise requested.

\$0.15/copied page

\$1.50 flat handling fee for shipped orders

\$ Postage at cost for shipped orders

Payment

Payment may be made by check to *Food Aid Management* or in cash, and must be made in \$US. Itemized invoices for each order are enclosed with the documents, or may be e-mailed to the requester. Credit cards are not accepted.

How to Order

For information, call 202-223-4860. Send your request by e-mail, fax, or regular mail to:

Trisha Schmirler, Technical Information Specialist, Food Aid Management, 1625 K Street, NW, Suite 501, Washington, DC 20006 USA. Email: tschmirler@foodaidmanagement.org. Fax: 202-223-4862.

Resources Online

Many of the electronic resources below require the Adobe Acrobat Reader software. This software is free and may be downloaded from www.adobe.com/products/acrobat/realstep.html.

ANTHRO: Software for Calculating Pediatric Anthropometry. 1999. Centers for Disease Control and Prevention (CDC). Version 1.02. <http://www.cdc.gov/nccdphp/dnpa/anthro.htm>

ANTHRO software can be used by health professionals to compare the growth of individual children with the growth patterns of a large reference population of the same age and sex. ANTHRO is based on the 1978 NCHS/CDC/WHO growth reference. It requires the sex, height, weight, and age of children to calculate normalized anthropometric z-values, percentiles and percent-of-median. It can use dBase files for batch processing and has an anthropometric calculator. The hardware requirements, user's manual, and actual software may be downloaded for free from the above-referenced web site.

Anthropometric Indicators Measurement Guide. 2001. *Cogill, Bruce; FANTA Project; USAID.* 96p. FSRC #N.A..

Part of the FANTA Project's Title II Indicator Guide series, the release of this document is imminent on the FANTA web site at <http://www.fantaproject.org>. The guide is intended to assist Title II program managers in selecting indicators and cutoffs for monitoring and evaluating programs. Concise chapters discuss indices, data collection (including detailed reviews of equipment needed and weighing and measuring procedures), data analysis and relationship to international growth references. Appendices include information on assessments of adults and adolescents, and measurement standardization.

Design and Implementation of Nutrition Surveys (excerpt from the MICAH Guide). *Micronutrient and Health (MICAH); World Vision Canada.* 137p. FSRC #7624.

<http://www.foodaidmanagement.org/mne3.htm> (in the "Online Documents" section).

Focuses on design and implementation of nutrition surveys. Includes chapters on per-survey issues (resources, level of aggregation, time, cost, baseline surveys); questionnaire design (requirements, questionnaire options, pre-testing, interviewer instructions); choosing a sample (sampling concepts, probability sampling, sample size, population demographics, distribution issues); data collection (logistics, selecting and training field workers, data processing); and conducting the field work..

Hearth nutrition model: Applications in Haiti, Vietnam, and Bangladesh. 1997. *Wollinka, Olga; Keeley, Erin; Burkhalter, Barton R.; BASICS; World Relief.* 111p. FSRC #6896.

<http://www.basics.org/Publications/Hearth/hearth.htm>

The Hearth nutrition model was introduced in Haiti, Vietnam and Bangladesh in the early 1990s and aims to alleviate childhood malnutrition. The focus is on energizing volunteer mothers to rehabilitate malnourished children using local, affordable, nutritious foods for two weeks; the visible change in the children is a powerful motivator for mothers to continue good feeding practices.

Implementing and Evaluating Nutrition Interventions for Managers of PVO Child Survival Projects: a Guide to Manuals, Guidebooks, and Reports. 2000. *Wagman, Jennifer A.; Winch, Peter J.; Johns Hopkins University, USAID.* 190p. FSRC #7690.

<http://www.childsurvival.com/documents/CovTitleSml.pdf>

This guide reviews some of the existing manuals for increasing the capacity of PVOs to prevent nutritional problems by implementing intervention programs. It will assist would-be users to select manuals most appropriate to their needs. It is assumed that the reader is already familiar with the major nutritional problems found in low-income countries and the interventions available to address them. Ordering information is also included.

Indicators to Monitor Impact of Nutrition Programs (excerpt from the MICAH Guide). *Micronutrient and Health (MICAH); World Vision Canada.* 66p. FSRC #1236.

<http://www.foodaidmanagement.org/mne3.htm> (in the "Online Documents" section)

The MICAH guide was prepared to help standardize the monitoring and evaluation of micronutrient programs, and is based on UNICEF's *Practical Handbook for Multiple Indicator Surveys*. The guide addresses the differences between process and outcome/impact indicators, defines core micronutrient indicators, and discusses selection of indicators for various types of programs. It includes a list of data sources, levels of monitoring indicators, methodologies for indicators, international micronutrient deficiency standards, and tables for indicator calculation.

KPC 2000+ Questionnaire. 2000. *Child Survival Technical Services (CSTS); CORE Monitoring & Evaluation Working Group.*

<http://www.childsurvival.com/kpc2000/kpc2000.cfm>

The latest version, the KPC2000+, includes new and updated modules, as well as the Rapid CATCH (Core Assessment Tool on Child Health). There is also a Tabulation Plan for calculating key child health indicators. Modules may be individually downloaded in Microsoft Word, WordPerfect, or Adobe Acrobat PDF.

Practical Analysis of Nutrition Data (PANDA)

<http://www.tulane.edu/~panda2/>

Interactive learning package being developed by Tulane University with the support of UNICEF. Online modules cover analysis, micronutrients, emergencies, and food security issues.

Review of Health and Nutrition Project Baseline Research Methods of Title II Funded PVOs. 2000. Haggerty, Patricia. *Food Aid Management (FAM) Monitoring & Evaluation Working Group. 63p. FSRC #.*

<http://www.foodaidmanagement.org/mne3.htm> (in the "Online Documents" section)

This report reviews methods and tools available for conducting baseline surveys and evaluations of Title II MCHN programs and describes how these tools can be used in various settings, taking into account availability of guidance and questionnaires and constraints normally faced by PVOs in the field. It includes synopses of methods for supplementing baseline data. Appendices address MCHN indicators and list references and useful web sites.

A Simple Guide to Using Multilevel Models for the Evaluation of Program Impacts. 2001. Angeles, Gustavo; Mroz, Thomas A.; *MEASURE Evaluation Project; USAID.*

<http://www.cpc.unc.edu/measure/publications/workingpapers/wp0133ab.html>

The purpose of this essay is to help researchers investigating the impacts of health, family planning, and nutrition programs understand the importance and relevance of using multilevel analysis in their empirical evaluations of the programs' impacts. The above link references the document abstract, from which the full online version may be downloaded in Adobe PDF.

United Nations University Press – Full Text Online. *United Nations University Press, var.*

<http://www.unu.edu/unupress/food/foodnutrition.html>

Full texts of food and nutrition-related books by the International Nutrition Foundation (INF) and International Dietary Energy Consultative Group (IDECCG) as well as numerous others published by UNUP. A broad range of technical and operational topics are addressed.

World Health Organization (WHO) Publications Catalog – Nutrition, deficiency diseases. 1991 – 2001.

<http://www.who.int/dsa/cat98/nut8.htm>

Online catalogue provides abstracts of selected WHO publications.

FSRC Print Resources on Nutrition (General)

Child Growth and Nutrition in Developing Countries: Priorities for Action. 1995. Alderman, Harold, ed.; Pelletier, David, ed.; Pinstrup-Andersen, Per, ed.; *Cornell University. 447p. FSRC #6221.*

This study reviews existing knowledge of nutritional improvement and analyses the constraints impeding the flow of technical information into action. A number of different approaches are discussed, including community and state responses.

Nutrition Essentials: A Guide for Health Managers. 1999. *BASICS; UNICEF; USAID; WHO.* 250p. FSRC #7674.

This guidebook provides health managers and practitioners with (1) current nutrition protocols and guidelines, (2) technical reasons for focusing on certain nutrition outcomes and interventions, (3) checklists that can be adapted locally for program planning, training, supervision, and evaluation, and (4) new ideas to solve common problems.

Preventing Micronutrient Malnutrition: A Guide to Food-Based Approaches. 1997. *FAO; International Life Sciences Institute (ILSI).* 105p. FSRC #7549.

This manual for policy makers and program planners discusses food-based approaches to combating micronutrient malnutrition and provides guidelines for policy makers in the implementation of these strategies. Includes sections on increasing small-scale (e.g., gardening programs) as well as commercial production of micronutrient-rich foods, maintaining micronutrient levels in common foods (improved storage, food safety, and preparation), plant selection and breeding, food fortification, and communication strategies.

Rapid Assessment Procedures for Nutrition and Primary Health Care: Anthropological Approaches to Improving Programme Effectiveness. 1987. *Scrimshaw, Susan C.M.; Hurtado, Elena.* 70p. FSRC #4215.

This guide discusses practical anthropology for health programs, describing and providing advice for using anthropological methods; preparing for and conducting focus groups; selection, training, and supervision of field workers; data analysis; and suggesting an outline for reporting findings. Appendices provide data collection guides for communities, households, and primary health care providers. A bibliography and list of participants from workshops where the original field guide and subsequent revisions were discussed are also included.

Research Methods in Nutritional Anthropology. 1989. *Pelto, Gretel; Pelto, Pertti; Messer, Ellen.* 201p. FSRC #997.

This book discusses methodologies for studying key aspects of nutrition in individuals, families, and communities. It addresses studying determinants of food intake, strategies for field research, procedures for analyzing energy expenditure, time-allocation analyses, cultural patterning and group-shared roles in the study of food intake, and elementary mathematical models and statistical methods for nutritional anthropology.

Scaling Up, Scaling Down: Overcoming Malnutrition in Developing Countries. 1999. *Marchione, Thomas J., ed.* 292p. FSRC #7728.

The book contains four case studies of grassroots nutrition and health programs that have scaled-up along the dimensions of culture, quantity, function, organization and power. It reviews cost-effective methods and approaches for gathering critical information for program design and evaluation. Finally, it presents overviews of capacities needed to best facilitate scaling up.

Understanding Nutritional Data and Nutritional Indicators. 2000. *Maxwell, Daniel.* 8p. FSRC #8051.

This paper is intended to address the questions of definitions and interpretations of different kinds of nutritional data, and to alert program managers to potential uses of nutritional data for targeting, monitoring or evaluation, and pitfalls in the interpretation of nutritional data.

FSRC Print Resources on Anthropometry

Anthropometric Survey Manual. 1998. *Tuli, Karunesh; Davis, Robb; Catholic Relief Services (CRS).* 162p. FSRC #7699.

This manual was developed to assist CRS's Field Offices engaged in Food Assisted Child Survival activities respond to USAID/BHR/FFP's requirement that result reports include anthropometric data from population based surveys. While the manual is designed to guide Field Offices in this specific type of programming, it also provides an array of useful information and resources for all those conducting population-based anthropometric surveys.

Assessing the Nutritional Status of Children: An Introduction to Anthropometry, Theory, Measurement Procedures, and Data Analysis. 1998. *Shorr, Irwin J.; Tuli, Karunesh; Save the Children.* [100]p. FSRC #328 This notebook contains material from a workshop held October 19-21, 1998 in Washington, DC. Topics discussed include: introduction to anthropometry theory; anthropometry training issues, measurements, and measuring instruments; introduction to anthropometric data entry and using Epi Info.

Assessing the Quality of Anthropometric Data: Background and Illustrated Guidelines for Survey Managers. 1994. *Kostermans, Kees; World Bank.* 47p. FSRC #1009.

This paper discusses quality control of anthropometry. Anthropometric measurements are among the very few observational data in a survey full of interview data and because the rate of malnutrition in a developing country may be considered as a comprehensive indicator for its standards of living.

Comparative Utility and Field Implications of Anthropometric Indicators for the Assessment of Malnutrition in Developing Countries. 1993. *Sapir, Debarati G.; Fortuin, M.* 24p. FSRC #906.

This paper is intended to assist nutrition field workers by contributing toward easier and less error-prone data collection. It evaluates the performance of non age-based indicators in their capacity to identify high-risk children to minimize field measurement errors, and describes the fluctuation of sensitivity and specificity at different cut-off points to help management and planning in nutritional programs. Anthropometric data are drawn from a survey in the Eastern States of Bihar and West Bengal, India that measured children under 5 years of age in 1,200 households.

Food Security in Developing Countries: Measuring malnutrition. 1990. *Payne, P.R.* FSRC #6292

The nutritional condition of an individual can be measured either in terms of outcomes or inputs. A review of the methods of measurement in common use for these two approaches is followed by an account of the problems of interpretation of these in the light of contemporary ideas about the causes of growth faltering in children. Provided these problems are recognized, nutritional indicators can play a useful role in assessing overall food and health situations.

How to Weigh and Measure Children: Assessing the Nutritional Status of Young Children in Household Surveys. 1986. *Shorr, Irwin J.; National Household Survey Capability Programme; Department of Technical Co-operation for Development and Statistical Office; United Nations* 113p. FSRC #5088.

This manual explains how to weigh and measure children. The measurements that are presented are standing height, recumbent length, weight, and mid-upper arm circumference. Mid-upper arm circumference is not a core measurement for cross-sectional surveys but is included as a supplementary measurement as it is particularly useful for screening purposes.

Measuring Change in Nutritional Status: Guidelines for Assessing the Nutritional Impact of Supplementary Feeding Programmes for Vulnerable Groups. 1983. *World Health Organization (WHO)*. 102p. FSRC #5086.

These guidelines are intended to assist countries receiving food aid in measuring changes in nutritional status and modifying the scope and organization of supplementary feeding programs based on these measurements. The book covers selection of indicators, methodology, data collection and sampling, and analysis and interpretation. Appendices provide standardization procedures for data collection, a review of statistical sampling, and reference data for weight and height of children.

FSRC Print Resources on KPC Surveys

KPC Survey Instructions. *Food for the Hungry International*. 56p. FSRC #6951.

Food for the Hungry's adapted KPC survey and questionnaires provide guidance on how to conduct the survey as well as sample worksheets.

Marsabit Title II Food Security/Health & Nutrition: Knowledge, Practice and Coverage Baseline Survey Report. 1998. *Food for the Hungry/Kenya*. 18p. FSRC #7945.

This report summarizes the results of a KPC survey that was carried out by FHI/Kenya in Marsabit District. The objectives of the survey were to obtain information on the knowledge and practices of the mothers of children under two years of age, in relation to the project objectives set by FHI/Kenya in their Title II Development Activity Proposal. The appendices include questionnaire. The survey used a cluster sampling design.

Survey Trainer's Guide: PVO Child Survival Project Rapid Knowledge, Practice and Coverage (KPC) Surveys. 1997. *PVO Child Survival Support Program; Johns Hopkins University, School of Hygiene and Public Health*. 20p. FSRC #7238.

Guide developed to help standardize the implementation of PVO Child Survival Rapid Knowledge, Practice and Coverage (KPC) surveys in the field. Intended primarily as a reference tool for people who have received training the Rapid KPC Survey. Emphasis on analyzing and using data collected in the survey, including providing and receiving feedback from the community as well as from local and national health organizations.

FSRC Print Resources on Community Programs

Community-Based Approaches to Child Health: BASICS Experience to date. 1998. *Bashir, Naheed; Keith, Nancy; Rasmuson, Mark; BASICS*. 65p. FSRC #7117.

BASICS' work is primarily at the national and district levels providing technical assistance and support to ministries of health, with a focus on health facilities. This report examines their experiences in community-based projects in 10 developing countries, and recommendations for future activities.

Designing a Community-Based Nutrition Program Using the Hearth model and the Positive Deviance Approach: A Field Guide. 1998. *Sternin, Monique; Sternin, Jerry; Marsh, David; Save the Children*. 85p. FSRC #7719.

The guide provides an overview and details the planning and implementation of community nutrition programs using the Hearth model. Key steps include feasibility assessment, preliminary steps in the community, situation analysis, positive deviance inquiry (PDI), program design informed by the PDI, and common additional elements for an integrated nutrition program. Recommendations are based experience with successful positive deviance-informed integrated nutrition programs in Vietnam, Egypt, Nepal, Mozambique, and many other countries.

Impact of Credit with Education on Mothers' and their Young Children's Nutrition: Lower Pra Rural Bank Credit with Education program in Ghana. 1998. *McNelly, Barbara; Dunford, Christopher; Freedom from Hunger.* 85p. FSRC #7819.

This report presents the results from evaluation research designed to test hypotheses of positive program impact on children's nutritional status, on their mothers' economic capacity, women's empowerment, and mothers' adoption of key child survival health/nutrition practices.

The Use of Care Groups in Community Monitoring and Health Information Systems. 2000. *Welch, Rikki.* 12p. FSRC #8068.

This article provides an overview of experience in Mozambique and discusses the key components of the approach—from establishing the block system and the structure of Care Group meetings, to recruiting, training, and testing volunteers. It outlines the administrative structure of the Care Groups in Mozambique, reviews quality assurance measures that have been implemented to monitor their success, and discusses the relative advantages of Care Groups in comparison to the management of individual volunteers.

Annex B: Binder Contents and Handout References

Day One:

“Nutrition Works: Measuring, Understanding, and Improving Nutritional Status; Anthropometry”. Irwin J. Shorr. September 5, 2001. Topics (Working Outlines): Introduction to Anthropometry (17 pages); Training Issues (23 pages); Quality Control and Standardization Testing (15 pages); Understanding Measuring Instruments (6 pages); Measurement Procedures (copy missing).

“How to Weigh and Measure Children. Assessing the Nutritional Status of Young Children in Household Surveys. Annex 1: Summary Procedures”. National Household Survey Capability Programme. United Nations, Department of Technical Co-operation for Development and Statistical Office, New York, 1986. (24 pages)

Day Two:

“Performance of Private Voluntary Organizations in Increasing Population Levels of Child Survival Behaviors and Knowledge in Developing Countries”. William M. Weiss, Dory Storms, Peter J. Winch. April 29, 1998. (15 pages)

“Integrated Child Health and Nutrition Programming in the Community: The Success of AIN in Honduras”. Marcia Griffiths. (2 pages)

“Trials of Improved Practices (TIPs). TIPs: A Method for Testing Program Recommendations and Adapting the IMCI Food Box.” Excerpt from “Designing by Dialogue: A Program Planners’ Guide to Consultative Research for Improving Young Child Feeding”. Kate Dickin, Marcia Griffiths, Ellen Piwoz. SARA/HHRAA/USAID, June 1997. (28 pages)

“Brief for the World Summit on Children. Promoting the Growth of Children and the Education of Families and Communities”. (4 pages)

“Background Materials for the Positive Deviance/Hearth Nutrition Model”. Prepared for the Nutrition Works: Measuring, Understanding and Improving Nutritional Status Workshop September 5-7, 2001, by Donna Sillan. (7 pages)

Day Three:

“The Power of Integration”. Christopher Dunford, President, Freedom from Hunger. (1 page)

“Introduction to the Freedom from Hunger Education Curriculum”. (7 pages).

“The Use of Care Groups in Community Monitoring and Health Information Systems”. Rikki Welch, CSTS. (12 pages)

“Care Groups: A Methodology for Sustainable Improvements in Nutritional Status”. FHI, World Relief. (18 pages)

Presenter Biographies. (2 pages).

Handouts:

“Analysis of Anthropometric Data Using Epi Info”. Tom Davis. (11 pages)

Anthropometric Indicators Measurement Guide. Bruce Cogill, FANTA. June 2001. (96 pages)
Binder: KPC 2000+ Toolkit. Knowledge, Practices, and Coverage Survey, Tools and Field Guide. The CORE Group, CSTS. Revised October 2000. Contents: (1) Rapid CATCH (Core Assessment Tool on Child Health) + tabulation plan; (2) guidelines for writing a KPC survey report; (3) KPC2000 survey modules; (4) sampling resources; (5) list of additional resources; (6) KPC2000 Field Guide.

“Anthropometry and Title II and Child Survival Programs.” Bruce Cogill, FANTA Project. September 5, 2001. CORE/FAM Workshop “Nutrition Works: Measuring, Understanding, and Improving Nutritional Status”. (2 pages)

“Appendix C: Guidelines for the Dietary Analysis during TIPs”. (7 pages)

“CARE’s Experience Using the Trials for Improved Practices (TIPs) Methodology for Nutrition Behavior Change”. Alden Dillow. (4 pages)

“Community Health Information Systems Guide for Case Studies”. The CORE Monitoring and Evaluation Working Group. Contact Jay Edison, chair. (3 pages)

“Counsel the Mother”- Kazakhstan (3 pages), Indonesia (3 pages), Madagascar (3 pages), Niger (3 pages), Generic (3 pages)

“Feeding Recommendations During Sickness and Health” – Philippines (1 page), Uganda (1 page), Morocco (1 page), Honduras (3 pages), Bolivia’s Altiplano Region (3 pages)

Food and Nutrition Technical Assistance Project (FANTA) Brochure

“Malnutrition and Child Mortality: Program Implications of New Evidence”. Basic Support for Institutionalizing Child Survival (BASICS), Nutrition Communications Project (NCP), Health and Human Resources Analysis for Africa Project (HHRAA/SARA). September 1995. (7 pages)

“National and Regional Household Nutrition and Health Surveys: Use of Information for Program Planning, Implementation and Policy Formation” (list of presentations). Symposium at the 17th International Congress of Nutrition, Vienna, Austria, August 27, 2001, planned and organized by Irwin J. Shorr. (1 page)

“Nutrition Resources: Implementing and Evaluating Nutrition Interventions for Managers of PVO Child Survival Projects: A Guide to Manuals, Guidebooks, and Reports.” Jennifer A. Wagman, Peter J. Winch, editors. Department of International Health, Johns Hopkins University, School of Hygiene and Public Health. April 2000. On the reverse: list of relevant documents at CSTS available from their website as of September 4, 2001. (1 page).

Positive Deviance Hearth: A Sustainable Community Solution to Malnutrition brochure. The CORE Group.

“Small Group Exercise: Using the KPC2000+ to Collect Information on Nutrition Correlates”. Donna Espeut. (4 pages)

“The Shorr Portable Height/Length Measuring Boards”. Shorr Productions. (6 pages)

“Use of Anthropometry in KPC Surveys. Case Study of Project HOPE’s Child Survival XII in Peru”. (7 pages)

“Using Knowledge, Practices, and Coverage (KPC) Surveys to Plan, Monitor, and Evaluate Food Aid Projects. Donna Espeut, CSTS. Food Forum (FAM), Issue 56, 2nd Quarter 2001. (5 pages)

“Using Lot Quality Assurance Sampling to Assess Measurements for Growth Monitoring in a Developing Country’s Primary Health Care System”. Joseph J. Valadez, Lori Diprete Brown, William Vargas Vargas, David Morley. International Journal of Epidemiology Vol. 25, No. 2, 1995. (Available from NGO Networks). (7 pages)

“Worldwide Timing of Growth Faltering: Implications for Nutritional Interventions”. Roger Shrimpton, Cesar G. Victora, Mercedes de Onis, Rosangela Costa Lima, Monika Blossner, Graeme Clugston. Pediatrics Vol. 107 No. 5 May 2001. (7 pages)

No title. Summary of “Performance of Private Voluntary Organizations in Increasing Population Levels of Child Survival Behaviors and Knowledge in Developing Countries”. William M. Weiss, Dory Storms, Peter J. Winch. April 29, 1998. (15 pages), in the binder. (4 pages)

Registered Attendees (name, organization, email address). (1 page)

Nutrition Works: Measuring, Understanding and Improving Nutritional Status Feedback Forms

Annex C: Workshop Agenda

DAY ONE AGENDA

September 5, 2001	Activities
8:00 – 9:00 am	❖ Registration of participants and handout of materials
9:00 – 9:30 am	❖ <i>Welcome by CORE and FAM Representatives</i> ❖ <i>Introduction/Review of Workshop Purpose – Tom Davis</i> ❖ <i>Introduction of Day 1 Session Facilitators – Tom Davis</i> ❖ <i>Logistics Review</i>
9:30 – 9:45 am	❖ <i>Review of Day 1 Agenda and Objectives – Tom Davis</i>
9:45 – 10:00 am	❖ <i>“Concerns/Issues” Exercise (participants express any issues or concerns about the Day 1 agenda they would like to see addressed; these are compiled by facilitators on overhead transparencies to be addressed in the discussion session later in Day 1) – Tom Davis</i>
10:00 – 10:30 am	❖ <i>Brief overview of the use of how anthropometry the context of Title II and Child Survival Programs - Bruce Cogill</i>
10:30 – 11:00 am	❖ BREAK
11:00 – 12:30 pm	❖ <i>Definitions, Growth Reference, Cut-Off Points, Classifications, Common factors that can lead to error, and Survey Components (training, equipment, quality control, etc.) – Irwin Shorr</i>
12:30-12:45	❖ <i>Discussion</i>
12:30 – 2:00 pm	❖ LUNCH
2:00 – 3:30 pm	❖ <i>Use of Anthropometric Data Presentation – Nina Schlossman & Bruce Cogill</i> What anthropometry can and can not tell us assessment/program evaluation/monitoring; Use of anthropometric data in different contexts: GMP, surveys, surveillance, and KPC Data Analysis, Interpretation, and Reporting <ul style="list-style-type: none"> ▪ Interpretation of common indicators (Wt/age, ht/age, wt/ht, adequate monthly weight gain) ▪ Factors that may affect results and findings in data analysis: geographic/regional, seasonal, political, cultural, age, gender ▪ Report writing - Relating data gathered and previous research to report submission ❖ <i>Panel Discussion & Interactive Q&A – led by Tom Davis</i> <ul style="list-style-type: none"> ▪ What changes can be expected over a 3 – 5 year activity (in stunting, wasting, and underweight) ▪ How to assess Catch-up Growth (Growth Faltering) in monitoring. ▪ Age of Children (measuring children under 2 versus those above 2).
3:30 – 4:00 pm	❖ BREAK
4:00 – 5:00 pm	❖ <i>Case Studies: Examples of How Anthropometric Data is used in Child Survival & Title II</i> <ul style="list-style-type: none"> ▪ <i>Use of Anthropometry in Child Survival – Luis Benavente</i> ▪ <i>Use of Anthropometry in Food Security - Thoric Cederstrom</i>
5:00 – 5:45 pm	❖ <i>Open Discussion (free-flowing among all participants, to address issues from the morning “Concerns/Issues” exercise and any others which have arisen) – moderated by Tom Davis</i>
5:45 – 6:00 pm	❖ <i>Conclusions & Closing – Tom Davis</i>
September 5, 2001	Optional Evening Activities
7:00 – 9:00 pm	❖ <i>Optional Evening Session I: Hands-On Weighing and Measuring – Irwin Shorr</i> ❖ <i>Optional Evening Session II: EpiNut Anthropometry Data Analysis Software – Tom Davis</i>

DAY TWO AGENDA

September 6, 2001	Activities
8:30 – 8:45 am	❖ <i>Review of Day One Accomplishments & Overview of Day Two Activities – Tom Davis</i>
8:45 – 9:30 am	❖ <i>Understanding Why Malnutrition Exists – Donna Espeut & Tom Davis</i> <ol style="list-style-type: none"> 1. Group brainstorming session on key factors related to child nutritional status 2. Sources of nutrition-related information
9:30 – 10:45 am	❖ <i>Using the KPC2000+ to Highlight and Understand Nutrition Problems in the Community—Part I – Jay Edison, Donna Espeut, Emmanuel D’Harcourt</i> <ol style="list-style-type: none"> 1. Purpose of Knowledge, Practices, and Coverage (KPC) surveys 2. Overview of the <i>KPC2000+</i>, including the <i>Rapid CATCH</i> 3. Nutrition-related topics and indicators covered in the <i>KPC2000+</i> 4. Key issues to consider when conducting a KPC survey
10:45 – 11:00 am	❖ BREAK
11:00 – 11:45 am	❖ <i>Using International Standards to Assess Nutrition Practices: the IMCI Food Box & TIPS – Marcia Griffiths</i>
11:45 – 1:00 pm	❖ <i>Using the KPC2000+ to Highlight and Understand Nutrition Problems in the Community —Part II (small group exercise)</i> Participants will divide into small groups, each group focusing on one of the nutrition-related factors identified during the brainstorming session. Small groups will complete a set of tasks aimed at building their capacity to explore the relationship between a specific correlate and child nutritional status using the <i>KPC2000+</i> .
1:00 – 2:00 pm	❖ LUNCH
2:00 – 3:00 pm	<i>Small Group Presentations to Plenary – Emmanuel D’Harcourt</i>
3:00 – 4:15 pm	❖ <i>Analyzing and Presenting KPC Data – Tom Davis</i> <ul style="list-style-type: none"> ▪ Hand tabulation vs. computerized ▪ Graphical presentation of KPC data ▪ Comparing KPC data with data from other sources ▪ Packaging KPC results for Project Communities and Other Stakeholders ▪ Using Two-by-Two Tables to analyze KPC data
4:15 – 4:30 pm	❖ BREAK
4:30 – 5:45 pm	❖ <i>Addressing Malnutrition: An Overview of Community-based Strategies to Improve Child Nutritional Status</i> <ul style="list-style-type: none"> ▪ AIN – Vicki de Alvarado ▪ Hearth/Positive Deviance – Donna Sillan
5:45 – 6:00 pm	❖ <i>Wrap-up – Tom Davis</i>
6:00 – 7:00 pm	❖ DINNER
7:30 – 9:30 pm	❖ <i>SOCIAL EVENT</i>

DAY THREE AGENDA

September 7, 2001	Activities
8:30 – 8:45 am	<ul style="list-style-type: none"> ❖ <i>Review of Day Two Accomplishments – Tom Davis</i> ❖ <i>Introduction of Day Three Agenda – Tom Davis</i>
8:45 – 9:45 am	<ul style="list-style-type: none"> ❖ <i>Presentations to Plenary: Improving Nutritional Status and Application of Community Nutrition Models in the Field in Title II and Child Survival Contexts</i> <ul style="list-style-type: none"> ▪ <i>Infant/Child Feeding Modules/Freedom from Hunger – Robert Davis</i> ▪ <i>Positive Deviance/Hearth Model – Judy Bryson & Malik Diara, Africare</i>
9:45 – 10:05 am	❖ BREAK
10:05 – 12:05 pm	<ul style="list-style-type: none"> ❖ <i>Presentations to Plenary: Application of Community Nutrition Models in the Field in Title II and Child Survival Contexts</i> <ul style="list-style-type: none"> ▪ <i>TIPS – Alden Dillow, CARE</i> ▪ <i>IMCI – Luis Benavente, Project HOPE</i> ▪ <i>Care Groups – Melanie Morrow, World Relief & Tom Davis, Food for the Hungry International (FHI)</i>
12:05 – 1:20 p.m.	❖ LUNCH
1:20 – 2:00 pm	<ul style="list-style-type: none"> ❖ <i>Determining Guiding Principals in the Use of Title II and Child Survival Resources in Addressing Malnutrition (Small Group Exercise) – led by Tom Davis</i> <ol style="list-style-type: none"> a. The group will be divided into 4-6 small groups b. The group will discuss one case from the plenary presentation in which both Title II and Child Survival Resources are being used to address malnutrition in a particular country setting. They will discuss what methods are used, why both Child Survival and Title II Resources are used, and how well they compliment one another in addressing malnutrition. c. The small groups will then discuss each case & answer a set of discussion questions. d. Each group will present their findings to the plenary. ❖ <i>The facilitator will summarize the discussions, identify cross cutting themes & use this to guide a discussion on identifying guiding principals – Tom Davis</i>
2:00 – 2:45 pm	<ul style="list-style-type: none"> ❖ <i>Summary of Presentations - Groups</i> ❖ <i>Agreement Reached on Guiding Principals</i>
2:45 – 3:00 pm	❖ <i>Overall Workshop Conclusions & Close – Tom Davis</i>

Annex D: Workshop Participants

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Publications

INDICATOR GUIDES

- ❑ **Agricultural Productivity Indicators Measurement Guide**
Disken, Patrick (1999)
- ❑ **Anthropometric Indicators Measurement Guide**
Cogill, Bruce (2001)
- ❑ **Food for Education Indicators Guide**
Del Rosso, Joy and Bergeron, Gilles (2001)
- ❑ **Food Security Indicators and Framework for Use in the Monitoring and Evaluation of Food Aid Programs**
Riely, Frank; Mock, Nancy; Cogill, Bruce; Bailey, Laura and Kenefick, Eric (1999)
- ❑ **Infant and Child Feeding Indicators Measurement Guide**
Lung'aho, Mary (1999)
- ❑ **Measuring Household Food Consumption: A Technical Guide**
Swindale, Anne and Ohri-Vachaspati, Punam (2000)
- ❑ **Sampling Guide**
Magnani, Robert (1999) *Available in French and Spanish*
- ❑ **Water and Sanitation Indicators Measurement Guide**
Billig, Patricia; Bendahmane, Diane and Swindale, Anne (1999)

REPORTS

- ❑ **Building Household Food Security Measurement Tools From the Ground Up**
Wolfe, Wendy and Frongillo, Edward (2000)
- ❑ **Credit with Education: A Promising Title II Microfinance Strategy**
Dunford, Christopher and Denman, Vickie (2001)
- ❑ **Enhancing the Nutrition Quality of Relief Diets: Workshop Proceedings**
(April 28-30, 1999)
- ❑ **HIV/AIDS: A Guide for Nutrition, Care and Support**
Rajabiun, Serena; Cogill, Bruce and Fosse-Seumo, Eleonore (2001)
Available in French

-
- Improving the Nutrition Impacts of Agriculture Interventions: Strategy and Policy Brief**
Bonnard, Patricia (2001)

 - Increasing the Nutritional Impacts of Agricultural Interventions**
Bonnard, Patricia (1999)

 - Improving the Use of Food Rations in Title II Maternal/Child Health and Nutrition Programs**
(Draft 1999) *Available in Spanish*

 - Potential Uses of Food Aid to Support HIV/AIDS Mitigation Activities in Sub-Saharan Africa**
(2000)

 - Report of the Food Aid and Food Security Assessment: A Review of the Title II Development Food Aid Program**
Bonnard, Patricia, Haggerty, Patricia, Swindale, Anne, Bergeron, Gilles, and Dempsey, James (2002)

 - Towards the Development of a Child Feeding Index**
Ruel, Marie and Menon, Purnima (2000)

TECHNICAL NOTES

- Credit with Education and Title II Programs**
Reid, Helen (2002)

- Title II Evaluation Scopes of Work**
Bonnard, Patricia (2002)

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