The Child Survival Collaborations and Resources Group

THE CORE Group

The Path to Maternal and Child Health

The PVO Role in Improving Iron and Vitamin A Status

May 5-7, 1998
Pan American Health Organization
Washington, D.C.

ACKNOWLEDGMENTS

On behalf of its membership, The CORE Group would like to express appreciation to the organizations providing support for this conference: USAID/Washington's Office of Private and Voluntary Cooperation within the Bureau of Humanitarian Response; its Center for Population, Health, and Nutrition within the Global Bureau through OMNI, LINKAGES, and MotherCare; the Pan American Health Organization; and Hoffman-La Roche.

Special thanks is given to the members of the CORE Group's Nutrition Working Group who willingly spent many hours in planning for this conference, and to their organizations for supporting their involvement:

Co-Chairs of The CORE Group's Nutrition Working Group
David Newberry of CARE
June Pierre-Louis of Helen Keller International

Members of CORE's Nutrition Working Group
Milton Amayun of World Vision
Susan Burger of Helen Keller International
Elise Jensen of Project HOPE
Rebecca Magalhães of La Leche League International
David Marsh of Save the Children
Judiann McNulty of CARE
Liliana Riva Clement of the International Eye Foundation
Jill Shumann of Population Services International

WELCOME

I would like to welcome each of you to the first international conference sponsored by the Child Survival Collaborations and Resources Group. It is very rewarding to have convened such a diverse group of international health experts to collectively explore strategies and develop recommendations for PVOs to reduce micronutrient deficiencies in women of childbearing age. We have represented at this conference more than 80 different organizations and 20 countries. This diversity of representation will foster an exchange rich in technical knowledge, cross-culture perspective, and program expertise.

The conference agenda has been designed by CORE's Nutrition Working Group to strengthen the capacity of participants and organizations to plan and implement high quality health programs which prevent micronutrient deficiencies, specifically vitamin A and iron, in women of childbearing age. We anticipate that this conference is to establish long-term multi-sectoral working groups that will develop practical guidelines and recommendations for micronutrient supplementation in PVO programs, explore the issues surrounding the cost and availability of micronutrient supplements, and promote sharing experiences and promising practices in program implementation.

It is our hope that this conference will inspire broad collaboration and the accomplishments of the working groups will ultimately result in the improvement of the nutritional status of women and children served by PVO programs worldwide.

Victoria Graham
The CORE Group

On behalf of the Child Survival Collaborations and Resources Group's Nutrition Working Group, we welcome you to this conference, "The Path to Maternal Health: The PVO Role in Preventing Vitamin A and Iron Deficiencies in Women of Childbearing Age." We are pleased that you have chosen to participate with us in this important event.

It is our intent that this conference will provide you with up-to-date information and recommendations for effective maternal micronutrient interventions, produce standards for PVO program implementation, identify needs for operations research, and provide the forum to develop partnership with others. In addition, we hope that this conference will foster an exchange of ideas among PVO program managers, scientists, industry, donors and others willing to network in the international public health community to improve in a sustainable way the health status of women in the underserved populations around the world.

We would like to thank our supporters, colleagues in CORE's Nutrition Working Group, and each of the speakers for their contribution and strong commitment to this effort.

June Pierre-Louis
Co-Chair, Nutrition Working Group
Helen Keller International

David Newberry
Co-Chair, Nutrition Working Group
CARE

TABLE OF CONTENTS

THE CORE GROUP - Background Information

The Child Survival Collaborations and Resources (CORE) Group is a network of 31 US-citizen-supported non-profit organizations which have received funding for Child Survival Programs from USAID's Office of Private and Voluntary Cooperation in the Bureau of Humanitarian Response. Although the member organizations are diverse in their missions, constituencies, and geographic focus, they have the common goal of improving child and maternal health in underserved populations. Through the CORE network the PVOs work together on an equitable basis to increase the effectiveness and impact of Child Survival Programs through: sharing and documenting successful methodologies and lessons learned, coordinating capacity strengthening activities, and collaborating with the donor community, international health organizations, and USAID's cooperating agencies. The CORE Group acts as a catalyst to encourage collaboration among it members and the formation of broader partnerships. The CORE Group may serve as a mechanism for securing and channeling funds to its membership.

The collective membership of the CORE Group have an extensive global infrastructure with established organizational presence in over 140 countries. Over the past 13 years the CORE Group member organizations have programmed nearly $175 million in BHR/PVC funded Child Survival funds alone, and have developed human resource competency in all areas of Child Survival including the Expanded Program of Immunization (EPI), epidemiology, community mobilization, and capacity building of indigenous non-governmental organizations (NGOs) and district level health officers.

The CORE Group provides international health and donor organizations efficient access to a network of 31 PVOs with diverse missions, funding sources, and constituents--and with the common unifying goal of improving the health of children and mothers around the world. Collectively, the CORE Group represents a vast number of under-served populations; an extensive health infrastructure composed of community health workers and committees, health posts, clinics, and hospitals; technical expertise in all child survival interventions; and access to multi-sector field programs.

In order to meet the objectives of The CORE Group network, six Working Groups have been established to address technical issues of importance to CORE Group members. The Nutrition, Monitoring and Evaluation, Reproductive Health and Safe Motherhood, Integrated Management of Childhood Illness, Quality Assurance, and Behavior Change Communication Working Groups assess the needs and interests of the membership, identify resources, explore possibilities for collaboration, coordinate capacity strengthening activities, and create products for the benefit of the collective membership. The expertise from this diversity of the membership

It is the Nutrition Working Group that has planned this maternal micronutrient conference to strengthen the capacity of its membership for enhanced approaches to maternal micronutrient, to establish partnerships, and to improve program guidelines for the incorporation of maternal micronutrient into PVO programs. Other working groups will be conducting similar capacity strengthening activities for the benefit of the network membership and other PVOs.

The CORE Group was established in June 1997 with funds from USAID/Washington's Office of Private and Voluntary Cooperation within the Bureau of Humanitarian Response. The CORE Group is hosted by World Vision.

LIST OF CORE GROUP MEMBER ORGANIZATIONS

Adventist Development and Relief Agency International (ADRA)
Africare, Inc.
African Medical and Research Foundation, Inc. (AMREF)
Aga Khan Foundation USA
Andean Rural Health Care, Inc. (ARHC)
Catholic Relief Services (CRS)
Christian Children's Fund, Inc. (CCF)
Cooperative for Assistance and Relief Everywhere (CARE)
Counterpart International, Inc.
Esperança, Inc.
Food for The Hungry International
Foundation of Compassionate American Samaritans (FOCAS)
Freedom from Hunger
Helen Keller International (HKI)
International Eye Foundation (IEF)
Islamic African Relief Agency (IARA-USA)
La Leche League International (LLLI)
Medical Care Development Inc./International Division (MCDI)
Mercy Corps International
Minnesota International Health Volunteers (MIHV)
Partners for Development
Program for Appropriate Technology in Health (PATH)
Pearl S. Buck Foundation
Population Services International (PSI)
PLAN International USA, Inc.
Project Concern International (PCI)
Project HOPE
Salvation Army World Service Office (SAWSO)
Save the Children
World Relief Corporation
World Vision

THE CONFERENCE OBJECTIVES, BACKGROUND, AND OUTCOMES

Objectives

The overall goal of the conference is to strengthen the capacity of organizations to improve maternal health and child survival in developing countries by preventing micronutrient deficiencies, particularly vitamin A and iron, in women of childbearing age. There are five conference objectives:

- Increase PVO impact through expanding the knowledge base of PVOs with regard to micronutrient research (current state-of-the-art and latest), the benefits of reducing deficiencies, available assessment tools, sources of suitable micronutrient supplements, implementation methods, and program components.
- Create consensus on standards for PVO program implementation with regard to guidelines for assessment, dosage, interval, and methodology.
- Establish and promote long-term cooperation and communication between PVO representatives and nutrition specialists, donors, and industry for the purpose of developing guidelines and providing technical support.
- Foster improved PVO identification of needed operations research and funding opportunities.
- Stimulate an interactive relationship between the private and non-profit sectors to give PVO micronutrient programs better access to effective micronutrient supplements and better knowledge of existing commercial initiatives to increase program impact.

Background

Micronutrient deficiencies are a significant public health problem to millions of women and children in over 80 countries in Southeast Asia, Africa, Latin American and the western Pacific. Despite this, there is low awareness at the policy level of the public health importance of micronutrient deficiencies (particularly iron/folate and vitamin A) in women of childbearing age in developing countries as well as recognition of the consequences in terms of maternal morbidity and mortality, infant mortality, and labor productivity. While PVO recognition of micronutrient deficiencies is growing, there are important gaps in knowledge and some controversy about the consequences of maternal micronutrient deficiencies, supplementation guidelines, the availability and cost of supplements, and the program implications.

The CORE Group is convening this conference to share the latest research and to build a knowledge base which will result in improved micronutrient programs for women and children. It is anticipated that innovative, multi-sector partnerships will be formed to achieve consensus on guidelines, standards, and methodologies for improved micronutrient programs.

Outcomes

It is anticipated that this conference will have several beneficial outcomes for the PVO community. These include:

- A post-conference report.
- A Micronutrient Advisory Council to assist in the development of program guidelines.
- The establishment of a multi-sector partnership to explore the involvement of the private sector in promoting micronutrient programs.
- The identification of operations research needs.
- Assessment of future needs for PVOs in micronutrient programming.

CONFERENCE SCHEDULE

The Path to Maternal and Child Health: The PVO Role in Improving Iron and Vitamin A Status

DAY ONE: Tuesday, May 5		
Time	**Event**	**Speaker**
7:45-8:30	Registration	
8:30-8:45	**Welcome**	Victoria Graham, The CORE Group David Brandling-Bennett, *MD*, PAHO Gretchen Berggren, *MD, MScHyg*
8:45-9:15	**Keynote** **-Introduction of speaker** **-Address**	 Kate Jones, USAID BHR/PVC Duff Gillespie, *PhD*, USAID G/PHN
9:15-10:00	**Session 1: Setting the Context - The Roles of:** **-Maternal Nutrition in Maternal/Child Health** **-PVOs & NGOs in Nutrition Programs** **-Supplementation in Micronutrient Programs**	 Miriam Labbok, *MD, PH*, USAID G/PHN Kate Dickson, *PhD*, PAHO Wilma Freire, *PhD*, PAHO
10:00-10:15	Break	
10:15-11:00	**Session 2: Life Cycle Approach to Improving Maternal/Child Nutrition**	Sandra Huffman, *ScD* LINKAGES
11:00-11:45	**Session 3: USAID Enhanced Vitamin A Effort: VITA**	Victor Barbiero, *PhD, MHS* USAID G/PHN
11:45-1:00	Lunch - on your own	
1:00-1:45	**Session 4: Iron/Folate Supplementation in Pregnant Women - Biology & Benefits**	Laura Caulfield, *PhD* Johns Hopkins University
1:45-2:30	**Session 5: Iron/Folate Supplementation Guidelines, Assessment and Indicators**	Sean Lynch, *MD* Veterans Affairs Medical Center INACG panel member
2:30-2:45	Break	
2:45-3:30	**Session 6:** **-Integration of Iron Supplementation with Safe Motherhood** **-Compliance with Iron Supplementation**	 Nancy Sloan, *DrPH*, Population Council Rae Galloway, BASICS
3:30-4:15	**Session 7: Multi-nutrient Supplementation - Biology, Benefits & Guidelines**	Usha Ramakrishnan, *PhD* Emory University
4:15-5:15	**Session 8: Field Presentations:** **-Pan American Health Organization** **-Helen Keller International** **-Project HOPE/MotherCare** **-World Vision-Canada**	 Wilma Freire, *PhD* Dale Davis Timothy Kachule Janet Marie Huddle, *PhD*
5:15-5:30	Break	
5:30-6:30	**Question &Answer Period** **Moderator: Luis Benavente, *MD*** **Project HOPE**	Open format from audience
6:30-7:30	**Evening Session: Zinc Supplementation - Biology, Benefits, Guidelines**	Roger Shrimpton, *PhD* UNICEF
7:30-	**PVO Field Collaboration Dinner**	PVO Field Participants only

DAY TWO: Wednesday, May 6		
Time	**Event**	**Speaker**
8:30-9:15	**Summary of Day 1**	Gretchen Berggren, *MD, MScHyg*
9:15-10:00	**Session 9: Vitamin A Supplementation Guidelines, Assessment and Indicators**	Keith West, Jr., *MPH, DrPH* Johns Hopkins University
10:00-10:15	Break	
10:15-10:45	**Session 10: Vitamin A Supplementation in Pregnant Women - Biology & Benefits**	Keith West, Jr., *MPH, DrPH* Johns Hopkins University
10:45-11:15	**Session 11: Integration of Vitamin A Supplementation with Safe Motherhood**	Nancy Sloan, *DrPH* Population Council
11:15-12:00	**Session 12: Vitamin A Supplementation in Lactating Women - Biology & Benefits**	Kathleen Rasmussen, *ScD* Cornell University
12:00-1:15	Lunch - on your own	
1:15-2:15	**Session 13: Panel on Availability & Cost of Vitamin A, Iron and Multi-nutrient Supplements** **Moderator: Samuel Kahn, *PhD* USAID G/PHN**	Martin Frigg, *PhD*, Sight & Life Charles Gursky, Bayer Sandra Huffman, *ScD*, LINKAGES Andy Koval, MedPharm Alberto Nilson, Hoffman-La Roche Roger Shrimpton, *PhD*, UNICEF Dan Wright, BASF
2:15-3:15	**Information Fair -** **One-on-One Consultations and Exhibits in Room C**	
3:15-3:30	Break	
3:30-6:30	**Working Group Meetings:** **A) Vitamin A Supplementation and Operations Research Group** **B) Iron Supplementation Standards Group** **C) Multi-nutrient Supplementation Standards Group** **D) Dietary Intervention & Food Fortification Group** **E) Micronutrient Advisory Council Group** **F) Iron Operations Research Group** **G) Industry Partnership Group**	
6:30-8:00	Dinner - on your own	
8:00-9:00	Evening Session: **Hookworm Control & Malaria Control**	Michael Beach, *PhD*, CDC Peter Winch, *MD, MPH,* Johns Hopkins University

DAY THREE: Thursday, May 7		
Time	**Event**	**Speaker**
8:30-9:15	**Summary of Day 2**	Gretchen Berggren, *MD,MScHyg*
9:15-9:30	**Summary of PVO Field Poster Presentations**	Susan Burger, *PhD* Helen Keller International
9:30-10:30	**Working Group Meetings:** **A) Vitamin A Supplementation and Operations Research Group** **B) Iron Supplementation Standards Group** **C) Multi-nutrient Supplementation Standards Group** **D) Dietary Intervention & Food Fortification Group** **E) Micronutrient Advisory Council Group** **F) Iron Operations Research Group** **G) Industry Partnership Group**	
10:30-10:45	Break	
10:45-12:30	**Working Group Meetings:** **A) Vitamin A Supplementation and Operations Research Group** **B) Iron Supplementation Standards Group** **C) Multi-nutrient Supplementation Standards Group** **D) Dietary Intervention & Food Fortification Group** **E) Micronutrient Advisory Council Group** **F) Iron Operations Research Group** **G) Industry Partnership Group**	
12:30-1:45	Lunch - on your own	
1:45-2:00	**Summary of Conference - A Field Perspective**	PVO Field Participant
2:00-3:15	**Working Group Presentations (10 minutes per group)** **A) Vitamin A Supplementation and Operations Research Group** **B) Iron Supplementation Standards Group** **C) Multi-nutrient Supplementation Standards Group** **D) Dietary Intervention & Food Fortification Group** **E) Micronutrient Advisory Council Group** **F) Iron Operations Research Group** **G) Industry Partnership Group**	
3:15-3:30	**Closing Statement**	David Newberry, CARE

PRESENTATION SUMMARIES

DAY ONE - Tuesday, May 5

SESSION 1

Title: Setting the Context - The Role of Maternal Nutrition in Maternal/Child Health
Presenter: Miriam Labbok, MD, MPH, USAID G/PHN

Description:
The Path to Maternal and Child Nutrition is both lifelong and intergenerational. If we look at the life cycle, it is clear that nutrition cannot be a one-time intervention. While insufficient protein and calorie consumption issues manifest themselves primarily in early childhood, micronutrient deficiencies are also commonly identified among women of reproductive age. These insufficiencies often result from a poor start , including low birth weight, insufficient breastfeeding, poor choices of complementary foods, and less than active feeding of the young child, followed by poor intake by the girl child, too early first pregnancy, pregnancies occurring while nutritional status is less than optimal, and intervals between pregnancies that are too short for recovery of nutritional status. A variety of programs address some of these issues; however, a coordinated lifelong attack on micronutrient deficiencies is necessary for both the health of mothers and the survival of their children.

Outline:
- Causes of Death in Children
- Importance of Maternal Nutrition for Health and Survival of Mother and Child
- Non-nutrition Interventions in the Life Cycle
- Programming Implications

Title: Setting the Context - The Role of PVOs and NGOs in Nutrition Programs
Presenter: Kate Dickson, PhD, PAHO

Description:
The presentation recognizes the significant role that is being played by international and national nongovernmental groups in addressing the consequences of malnutrition on growth, development and health through a variety of far-reaching, innovative and cost-effective approaches. A number of case studies will be referred to that serve as models whose results reflect the stated objectives outlined during the International Conference on Nutrition (ICN) held in Rome in December 1992; these models complement the objectives of PAHO's NGO-Government collaboration initiative in the Region of the Americas. These include Child Survival Protection and Development Programs, Micronutrient Malnutrition Programs, Nutrition Surveillance Activities and Household Food Security Programs. Reference is made to the potential impact of carefully designed public-private partnerships for health and the extent to which they can leverage not only financial capital, but also physical, technical, and managerial resources for specific programs or projects which contain both commercial and social components. The conclusion calls the participants to focus not only on their own institutional development and technical skills relating to micronutrient supplementation, but to establish a common goal which has as its overriding objective the active promotion of sustainable linkages with the governments of those countries in which they work, as well as with their counterpart NGOs and their communities.

Title: Setting the Context - The Role of Supplementation in Micronutrient Programs
Presenter: Wilma Friere, PhD, PAHO

Description:
The strategies used to combat micronutrient deficiency include food fortification, dietary diversification, and supplementation. Food fortification does not require people to change their eating habits. The added nutrient(s) is provided in the diet in low but constant amounts, so there is little possibility of intake becoming undesirably high. Compared with other intervention strategies, fortification is the most cost-effective approach to preventing micronutrient deficiency.

Dietary diversification can be achieved through small-scale community vegetable and fruit gardens, which can play a significant role in increasing production of micronutrient-rich foods. To improve micronutrient status, gardening projects must lead to increased consumption of the micronutrient-rich food produced.

Supplementation is a short-term intervention program and the fastest way of improving the iron and vitamin A status of deficient populations. While it does not correct the underlying causes of the problem, supplementation is necessary in areas of high endemia while other interventions are being developed. Supplementation can be combined with other health programs, such as national immunization campaigns, routine immunization services and prenatal care services.

Outline:
- Food fortification
- Dietary diversification
- Supplementation
  Vitamin A supplementation: prevention of blindness, lactating women, measles
  Iron Supplementation

SESSION 2

Title: Life Cycle Approach to Improving Maternal/Child Nutrition
Presenter: Sandra Huffman, ScD, LINKAGES

Description:
A life cycle approach is needed to reduce both maternal and child malnutrition. Factors that affect low weight and height are similar to those that affect micronutrient deficiencies. Women in developing countries often consume inadequate micronutrient due to poor availability and limited consumption of micronutrient rich foods (animal products, fruits, vegetables, and fortified foods) and low caloric intakes. Minimal intakes of micronutrient lead to deficiencies in micronutrient status for many women and children, including high rates of anemia, and deficiencies in vitamin A, iodine, zinc, folic acid, riboflavin, B6, and B12, among others. Such deficiencies have important consequences for women's own health, their pregnancy outcome and their children's health and nutritional status.

Long term solutions to improve micronutrient status among women need to be promoted by, among other strategies, increasing dietary diversity to include foods rich in micronutrient, and fortifying staple foods. But until such strategies are able to function successfully, the use of multiple micronutrient supplements has been shown to be effective in improving the micronutrient status of women. However, currently available micronutrient supplements are often inappropriate for pregnant women or other women of reproductive age.

Outline:
Issues that need to be considered before PVOs should promote multiple micronutrient supplements are the following:

- Efficacy
- Nutrient levels
- Form of nutrients
- Availability
- Quality and safety
- Cost/ Supply/Delivery
- Demand /compliance
- Monitoring and evaluation

SESSION 3

Title: USAID Enhanced Vitamin A Effort: VITA
Presenter: Victor Barbiero, PhD, MHS, USAID G/PHN

Description: *Unavailable*

SESSION 4

Title: Iron / Folate Supplementation in Pregnant Women - Biology & Benefits
Presenter: Laura Caulfield, PhD, Johns Hopkins University

Description: *Unavailable*

SESSION 5

Title: Iron / Folate Supplementation Guidelines, Assessment and Indicators
Presenter: Sean Lynch, MD, Veterans Affairs Medical Center

Description:
The presentation will outline the primary role of iron and folate supplementation in combating nutritional anemia. The strengths and weaknesses of this mode of intervention will be stressed as well as the importance of viewing it as one of several nutritional and public health measures that should be integrated in a comprehensive program. The importance of a pragmatic cost effective approach to laboratory diagnosis and monitoring will be emphasized.

Outline:

- Pathophysiology of iron and folate balance:
  A brief description will be given of the physiological factors controlling the requirements for and the absorption of iron and folic acid as well the functional consequences of deficiency.
- Primary indications for supplementation:
  Discussion of the strengths and weaknesses of supplementation. The settings in which supplementation is most likely to be effective will be outlined. The importance of integrating supplementation with other nutritional and public health measures will also be discussed.
- Supplementation methods:
  The factors determining dose, frequency of administration and compliance will be discussed. The importance of defining the time of initiation and duration of supplementation will be outlined. Potential or perceived risks will also be mentioned.

Main Studies Cited

The laboratory assessment of iron status - an update. Worwood, M., Clin Chim Acta 259 3-23 (1997).

Method of assay of red cell folate activity and the value of the assay as a test for folate deficiency. Hoffbrand AV et al., J Clin Path 19: 17-28 (1966).

An evaluation of methods of screening for anemia. Stone JE et al., Bulletin of the World Health Organization 62:115-120 (1984).

Screening for anemia in pregnancy with copper sulfate densitometry. Pistorius, LR et al., Int. J. Gyn. Obst. 52: 33-36 (1996).

Yip R, Iron deficiency: Contemporary scientific issues and international programmatic approaches. J. Nutr. 124:1479S-1490S (1994).

Guidelines for the use of supplements to prevent and treat iron deficiency anemia. Stoltzfus RJ and Dreyfuss ML, International Nutritional Anemia Consultative Group. To be published (1998).

SESSION 6

Title: Integration of Iron Supplementation with Safe Motherhood

Presenter: Nancy Sloan, DrPH, Population Council

Description:

Since the initiation of the safe motherhood initiative in 1987, much emphasis has been placed on maternal anemia. Anemia is the most common nutritional deficiency in the world, and is most prevalent in pregnant women. WHO estimates that approximately 60% of women in developing countries suffer from anemia (<11 g/dl) and 7% have severe anemia (<7 g/dl). Anemia may be caused by many things, including poor diet (iron, folate, vitamin B12), impaired absorption, blood loss (menstruation, childbirth, hemorrhage), chronic infection (malaria, hookworm infections), genetic conditions (thalessemia and sickle cell) and metabolic disorders.

Many have argued that iron supplementation is cheap and effective in reducing anemia and women's risk of death. Yet, the effectiveness of iron supplementation programs has been equivocal, and the prevalence of global maternal anemia has remained virtually unchanged in the past thirty years, even in the presence of national and regional iron supplementation programs and programs where iron supplementation is integrated into prenatal care.

- *Anemia as a cause of maternal mortality - Is it?*

Many have posited that anemia is a major contributor to maternal death. The presumption that anemia is a major contributor to maternal death is based on the theories that anemia leads to oxygen starvation and depressed immune systems, and increases the risk of death in women experiencing hemorrhage. These are potentially plausible reasons, but they remain theories with inadequate supporting data. It is true that abundant data exist that indicate that maternal mortality rates are higher in countries where anemia is more prevalent (India, Bangladesh, Nigeria, etc.). The data do not indicate that anemia contributes *causally* to maternal mortality or that alleviation of anemia prevents maternal mortality.

It is important to question these assertions to avoid implementing ineffective, sweeping programs with the idea of potentially reducing maternal mortality. One problem with these assertions is that they are based on over-interpretation of the existing data. Most studies have compared the hematologic status of women *at the time of hospital admission* without taking into account women's gestation, the rationale for and timeliness of their seeking care, and concomitant conditions that affect the risk of both anemia and death. These factors are important considerations. The hemodilution (i.e., the increases in women's blood volume without a proportionate increase in the number of red blood cells) that occurs over pregnancy results in a decline of hemoglobin levels from the 20th to the 35th week of pregnancy after which fluid volume stabilizes and hemoglobin levels increase. So, accounting for women's gestation is important as women who deliver prematurely will have lower hemoglobin levels than women who deliver at term, yet premature delivery may be a consequence of other obstetric problems that increase the risk of maternal death. Women seeking emergency care may experience conditions such as postpartum hemorrhage or infection that can result in anemia and maternal death, so anemia in these women might be more common than in women presenting for normal labor and delivery. The existing studies use different diagnostic criteria and data collection procedures, incomplete and inaccurate clinical records, and often lack internal validity (i.e., they compare incomparable groups). The few reasonable data that do exist indicate that there is little relationship between anemia and maternal mortality and that it is not a causal relationship. Women experiencing hemorrhage do not require immediate supplementation, nor is there evidence that supplementation would have reduced their risk of death; they require obstetric services to reduce the bleeding and to replace blood loss. No data exist on the effects of maternal iron supplementation (as prophylaxis or treatment) to reduce maternal mortality.

- *Prevention of anemia:*

The physiologic decrease in iron stores and in hemoglobin levels in pregnant women has been shown to be partially ameliorated in controlled studies. These changes, however, have been observed under ideal conditions with high compliance and with supplemental doses that are considerably higher than those available through consumption of multivitamins (18 mg/day) or prenatal supplements (60 mg/day). Unfortunately, compliance with clinic- or community-based prenatal iron supplementation is generally quite low (10%-50%), diminishing its potential effectiveness in reducing anemia. Studies have shown that community-based distribution approaches that increase the availability of supplements are more successful than clinic-based approaches in terms of iron consumption.

Iron is stored in the body, particularly in the bone marrow, for long term future use. Longer term supplementation has greater potential than prenatal supplementation for reducing maternal anemia as the duration of iron supplementation affects anemia in direct proportion to the amount of supplement consumed. Therefore, prenatal iron or iron-folate supplementation, often initiated in the last three months of pregnancy, has limited potential to reduce maternal anemia. School supplementation before adolescence can provide girls with adequate iron reserves that can be called upon for future use when blood loss occurs in menstruation and pregnancy. Supplementation that begins in elementary schools may be a particularly successful strategy as most girls attend even a few years of elementary school, whereas many do not continue on to secondary school.

The effect of dietary strategies is also limited in countries where vegetarian diets are the norm because the absorption of iron from vegetables is relatively poor (2%-10% in vegetables compared with 10%-30% from red meat) and the quantities that would need to be consumed to reduce iron deficiency would be excessive. The iron that is most readily absorbed by the body, called heme iron, is available from fish, poultry and especially red meat. These foods also contain other elements that promote iron absorption. Vitamin C enhances iron absorption, while tea, coffee, soy protein, wheat bran and fiber reduce iron absorption.

Furthermore, not all anemia is caused by iron deficiency. Malaria and vitamin B12 and folate deficiency are also common causes of anemia that require unique treatment. Iron supplementation will not reduce this anemia. Prevention of malaria saves women's and children's lives. A variety of prevention strategies have been proposed including chemoprophylaxis, sleeping under bednets treated with insecticides and, to date unsuccessful, attempts to develop antimalarial vaccines. Treatment of malaria for pregnant women is extremely important as women can die of malarial related seizures during delivery. Hookworm disease can be prevented by wearing shoes or preventing soil contamination (by building and using latrines and animal pens, for example). Iron supplementation

will reduce anemia associated with hookworm disease and blood loss, but if not continued, will not ameliorate the recurrence of anemia due to the same underlying cause. Treatment for hookworm disease is therefore recommendable.

- *Integration or prioritization of interventions to improve women's health and save women's lives:* Recently, much attention has been placed on integrating micronutrient services and reproductive health services. The integration of services should be carefully investigated before strategies are promoted. Integrating prenatal vitamin A supplementation with ongoing prenatal iron supplementation programs may reduce the acceptability of and compliance with vitamin A supplementation as women may believe vitamin A supplements will have the same side effects as iron supplements. Integrating iron supplementation into ongoing vitamin A supplementation may increase the acceptability of iron supplements (at least for a while) as women in many countries are familiar with the benefits of vitamin A supplementation for children and in the immediate postpartum period in many countries. Vitamin A supplementation has been demonstrated to have an impact on maternal mortality. Iron supplementation has been demonstrated to have an effect on maternal hematologic status under ideal conditions using a higher dose supplement than that available in standard prenatal supplements. We need to ask ourselves where integration takes precedence over prioritization of services based on the potential benefits of such services and the severity of the consequences in the absence of such services.

- *Recommendations:*
Innovative approaches, including prolonged iron supplementation, investment in fortification, and resolution of (logistical and acceptability) problems that reduce the effectiveness of community-based iron supplementation programs require further investigation, as does the benefits and costs of integrating micro-nutrient and reproductive health services. Treatment for malaria and other conditions that cause anemia should be provided to pregnant women.

Recommendations:

- Treatment of other or concomitant causes of anemia.
- Improving iron status through food fortification.
- Prolonged community-based supplementation beginning prior to pregnancy, as early as elementary school.
- Further investigation to determine the circumstances under which integration of vitamin A and iron supplementation is most beneficial.

Main Citations:

Sloan NL, Jordan EA, Winikoff B (1992): Does Iron Supplementation Make a Difference? MotherCare Working Paper 15, Arlington, Virginia.

Bothwell TH, Charlton RW (1981): Iron Deficiency in Women. INACG, The Nutrition Foundation, Washington, D.C.

Other Suggested Readings:

Iron Supplementation

WHO (1990): Iron supplementation during pregnancy: Why aren't women complying? WHO/MCH/90, Geneva.

Galloway R, McGuire J (1994): 'Determinants of compliance with iron supplementation: supplies, side effects, or psychology?'. Soc Sci Med. 39(3) 381-390.

Utomo B, Riono P, Budiono T, et al. (1993): The alleviation of maternal anemia in Indramayu regency, Indonesia. MotherCare Working Paper 23, Arlington, Virginia.

Jordan EA, Sloan NL (1992): Prevalence of maternal anemia in developing countries. MotherCare Working Paper 7b, Arlington, Virginia.

NAS (1980): Recommended Dietary Allowances, Ninth Edition. NAS, Washington, D.C.

WHO (1992): The prevalence of anaemia in women: A tabulation of available information, second edition. WHO/MCH/MSM/92.2, Geneva.

Rush D (1997): Nutrition and maternal mortality in the developing world. Paper prepared for OMNI.

Other INACG Publications.

Safe Motherhood
WHO: Mother-Baby Package: Implementing safe motherhood in countries. WHO/FHE/NSM/91.11, Geneva, Switzerland, 1994.
Zahr CA, Royston E: Maternal mortality: A global factbook, World Health Organization, Geneva, 1991.
Maine D: "Safe motherhood programs: Options and issues," Center for Population and Family Health, Columbia University, School of Public Health, 1992.

Title: Compliance with Iron Supplementation

Presenter: Rae Galloway, MSc, BASICS

Description:

The presentation will give ten steps for improving compliance with iron-folate supplementation and justification for each step, including a brief review of results from MotherCare qualitative research on compliance, messages to improve compliance, and educational materials that have been developed to address compliance. Instruments for conducting qualitative research, trials for improved practices (TIPs), and supply studies will be handed out.

Outline:

- Ensure adequate supplies: supply problems are still the main reason why women are not taking their iron-folate pills. The "how-to's" will be discussed.
- Ensure that health workers are equipped with the right message and materials to reinforce the messages: counseling messages on the dangers of anemia, importance of taking iron-folate pills, how to take iron-folate pills, etc. will be discussed and examples of materials will be shown.
- Follow-up activities will be discussed.
- Monitoring and evaluating: indicators for each activity will be discussed.

Recommendations:

- Iron-folate supplementation programs are not working because supplies are limited.
- Women will take (and like to take) iron-folate pills in the short term (about 20-30 days) because the pills give them more energy and make them feel better.
- Only a few women stop taking iron-folate pills because of gastrointestinal side effects, although there may be some other reasons (such as fear of having a big baby) why women don't continue to take iron-folate pills.
- Health workers need to be trained on the reasons why women need iron-folate pills, how to counsel them to take iron-folate, how to manage side effects and how to follow up.
- Programs need to monitored and evaluated for changes in supplies, compliance and anemia prevalence.

Main Studies cited:

Galloway, R. and J. McGuire (1994). Determinants of Compliance with Iron Supplementation: Supplies, Side Effects, or Psychology. Soc. Sci. Med. 39(3):381-390.
(And the studies cited in that article)

Unpublished results from MotherCare qualitative research.

SESSION 7

Title: Multinutrient Supplementation - Biology, Benefits & Guidelines

Presenter: Usha Ramakrishnan, PhD, Emory University

Description:

Micronutrient malnutrition is common among women of reproductive age in many developing countries and can play an important role at various stages of a woman's life. Although most of the current efforts in the prevention and control of micronutrient deficiencies focus on the Big 3, i.e., vitamin A, iron and iodine, there is increasing awareness of the role of other micronutrient

deficiencies such as zinc, folic acid, etc. More importantly, nutrient deficiencies do not occur in isolation and the study of nutrient interactions and *multiple micronutrient deficiencies* which are common in many developing countries merits more attention from a public health point of view.

There is considerable evidence supporting the role of various single micronutrients in determining pregnancy outcomes. While some nutrients have been studied extensively (e.g., calcium, zinc) much less is known about others (e.g., vitamin B-complex). Also, there is considerable variation in the types of study design ranging from cross-sectional studies to well designed randomized placebo-controlled trials (RCTs), most of which were conducted in developed countries among women who were not deficient and therefore less likely to benefit from the interventions. Based on our knowledge of the interrelationships between iron, folic acid, zinc and vitamin A metabolism and their role in growth and development, the combined benefits of providing multinutrient supplements containing these micronutrients for women's health and pregnancy outcomes warrant immediate attention. The evidence from studies which included measures of dietary intakes of multiple nutrients, micronutrient status and/or use of multivitamin mineral supplements will be examined. To date, no studies have examined the benefits of multivitamin mineral supplements during pregnancy in developing countries where poor dietary intakes and multiple micronutrient malnutrition is common. A randomized double-blind controlled trial is currently underway in Mexico in which the effects of multiple micronutrient supplementation during pregnancy will be compared to a control group of women who receive standard iron supplements during pregnancy. Other issues related to the composition of supplements and program implementation will also be addressed.

The key conclusions of a review of the literature on the role of micronutrients on pregnancy outcomes were:

- There is strong evidence based on well designed RCTs, primarily from developed countries, that *zinc, calcium and magnesium* improve pregnancy outcomes such as birth weight, prematurity and PIH, especially in high risk groups.
- Current evidence on whether *iron* supplements reduce the prevalence of LBW and prematurity is weak. However, RCTs to answer this question are ethically unacceptable since iron supplements are the proven treatment for anemia.
- The importance of *iodine* in preventing mental retardation and cretinism is well established, but the evidence linking it to other outcomes such as LBW and prematurity is weaker, especially in the case of marginal iodine deficiency.
- The role of *folic acid* in preventing neural tube defects is well established. However, the evidence that it also prevents outcomes such as LBW and pre-term births is limited. Although conducting RCTs may be difficult to justify ethically, better designed studies with prospective data are needed, especially in deficient populations in developing countries.
- Current data, based on retrospective and a few poorly designed experimental trials, suggest a plausible role for *vitamin A* in improving outcomes such as birth weight; these findings need to be confirmed by well designed RCTs in deficient populations.
- Some studies suggest a role for the *B-complex vitamins (thiamine, B6, and B12), copper and selenium,* but very few experimental studies have been conducted to date.
- Emerging clinical evidence on the role of *vitamin C* in the etiology of PROM and susceptibility to infections needs further validation by RCTs.
- Although there is evidence of interactions among several micronutrients at the metabolic level, very little is known about the significance of these interactions for pregnancy outcomes. There is a need for well designed RCTs that will examine the role of selected nutrient interactions and *multivitamin/mineral* supplements in improving pregnancy outcomes, especially in developing countries where these deficiencies are common.

SESSION 8:

Title: Field Presentations

Presentations will be given by Wilma Freire from the Pan American Health Organization, Dale Davis from Helen Keller International, Timothy Kachule from Project HOPE/MotherCare, and Janet Marie Huddle from World Vision/Canada.

EVENING SESSION

Title: Zinc Supplementation - Biology, Benefits, Guidelines

Presenter: Roger Shrimpton, PhD, UNICEF

Description:

Evidence of zinc deficiency is judged by looking at risks and benefits at different stages of the life cycle. The spectrum of outcomes considered include death, disability and reversible dysfunction. There are sex differences in the effects of zinc deficiency at different stages in the life cycle. The risks and benefits seem greatest for males during foetal stages and infancy. The risks and benefits for females seem to be greatest during adulthood, especially during pregnancy. Considering the evidence of risks and benefits, the need for further research is discussed.

Outline:

- Introduction
- Risks at different stages of the life cycle
- Benefits for the foetus and infant
- Benefits for the young child and adolescent
- Benefits for pregnant and lactating women
- Conclusions and recommendations

Recommendations

The risks of zinc deficiency and benefits of zinc supplementation are greatest for the female during pregnancy and the male during infancy. Supplementation of populations with marginal intakes during pregnancy and infancy seems warranted.

Main Studies cited:

Sazawal, S., Black, R.E., Bhan, M.K., Jalla, S., Bhandari, N., Sinha, A., and Majumdar, S. Zinc supplementation reduces the incidence of persistent diarrhea and dysentery among low socioeconomic children in India. *J Nutr* 126(2):443-450, 1996.

Ninh, N.X., Thissen, J.P., Collette, L., Gerard, G., Khoi, H.H., and Ketelslegers, J.M. Zinc supplementation increases growth and circulating insulin-like growth factor I (IGF-I) in growth-retarded Vietnamese children. *Am J Clin Nutr* 63(4):514-519, 1996.

Goldenburgh, R.L., Tamura, T., Neggers, Y., Copper, R., Johnston, K.E., DuBard, M.B., Hauth. J.C. The effect of zinc supplementation on pregnancy outcome. JAMA, 1995.

Krebs, N.F., Reidinger, C.J., Hartley, S., Robertson, A.D., and Hambidge, K.M. Zinc supplementation during lactation: effects on maternal status and milk zinc concentrations. *Am J Clin Nutr* 61(5):1030-1036, 1995.

Ruel, M.T., Rivera, J., Brown, K., Santizo, M.C. & Lonnerdal, B. The impact of zinc supplementation on morbidity among young rural Guatemalan children. Faseb, J. 9, A157. 1995

Rosado, J.L., Lopez, P., Munoz, E., Martinez, H. & Allen, L.H. : Zinc supplementation reduced growth morbidity, but neither zinc nor iron supplementation affected growth or body composition of Mexican preschoolers. *Am J Clin Nutr* 65: 13-19, 1997.

Udomkesmalee, E., Dhanamitta, S., Sirisinha, S., Charoenkiatkul, S., Tuntipopipat, S., Banjong, O., Rojroongwasinkul, N., Kramer, T.R., and Smith J.C., Jr. Effect of vitamin A and zinc supplementation on the nutriture of children in Northeast Thailand. *Am J Clin Nutr* 56(1):50-57, 1992.

Walravens, P.A., Hambidge, K.M., and Koepfer, D.M. Zinc supplementation in infants with a nutritional pattern of failure to thrive: a double-blind, controlled study. *Pediatrics* 83(4):532-538, 1989.

Walravens, P.A., Chakar, A., Mokni, R., Denise, J., and Lemonnier, D. Zinc supplements in breastfed infants. *Lancet* 340(8821):683-685, 1992.

DAY TWO: Wednesday, May 6

SESSION 9

Title: Vitamin A: Guidelines, Assessment and Indicators
Presenter: Keith P. West, Jr., DrPH, Johns Hopkins University

Description:
Vitamin A deficiency is extensive and is an important nutritional determinant of disease and mortality in children and women. Use of appropriate field indicators of vitamin A status and dietary intakes, coupled with a practical understanding of the epidemiology of vitamin A deficiency, can help estimate its extent and severity, identify high risk groups, improve understanding of its underlying causes and lead to insightful, effective and (hopefully) efficient means of prevention. Impact of vitamin A programs on child survival can be estimated from coverage. Program NGOs can and do play vital roles in advancing knowledge and the practice of vitamin A deficiency prevention by addressing applied research questions under field conditions, carrying out program evaluations and reporting and disseminating results.

Outline:
- Prevalence and health consequences of childhood vitamin A deficiency
  Xerophthalmia and subclinical deficiency, and morbidity and mortality
- Purposes of vitamin A assessment
  Prevalence estimation, screening and targeting, surveillance, program evaluation and research
- Indicators of vitamin A status: Which to use and for what purpose?
  Clinical, biochemical, histologic and functional
- Dietary assessment for vitamin A: Providing clues to causes of deficiency
  Purposes, common uses and methods
- Practical epidemiology: Insights for targeting and evaluating programs
  Vitamin A deficiency by place, person and time
  Dietary, behavioral, morbidity-related and socio-economic risk factors
  Clustering: a powerful tool for program targeting
- WHO vitamin A supplementation guidelines
  Treatment: dosages, treatment and follow-up considerations
  Prophylaxis: dosages, ages to target, medical, saturated and universal delivery
- Estimating impact of vitamin A programs on child survival via coverage

Recommendations:
- Know and be able to advocate benefits of improved vitamin A intake
- View vitamin A interventions as complementary to other child survival strategies
- Consider vitamin A supplementation as part of long-term child survival strategy that includes dietary improvement and, where feasible, fortification
- Reset the vitamin A/nutrition child survival pointer at 6 months of age and older
- View low dietary vitamin A intakes as a manifestation of poor child care
- Focus dietary guidance on improving breastfeeding & complementary feeding
- Variety is the spice of life - it also provides a hedge against vitamin A deficiency
- Maintain a watchfulness for trends in status, intakes and program coverage
- Advocate programs as models for national vitamin A programs
- Work with researchers to identify gaps and key applied research questions to advance vitamin A deficiency prevention

Main Studies Cited:

Blum L, Pelto PJ, Pelto GH, Kuhnlein HV. Community Assessment of Natural Food Sources of Vitamin A: Guidelines for an Ethnographic Protocol. Boston:International Nutrition Foundation for Developing Countries, 1997.

Helen Keller International. How to use the HKI Food Frequency Method to Assess Community Risk of Vitamin A Deficiency. Vitamin A Technical Assistance Program. New York:HKI, 1993.

Helen Keller International. Vitamin A Capsule Distribution: Trends in Bangladesh. Dhaka:HKI, June 1996.

Sommer A, West KP Jr. Vitamin A Deficiency: Health, Survival and Vision. Oxford:Oxford University Press, 1996.

Sommer A. Vitamin A Deficiency and its Consequences: A Field Guide to Detection and Control. Geneva:World Health Organization, 1995.

Underwood BA, Olson JA (eds). A Brief Guide to Current Methods of Assessing Vitamin A Status. A report of the IVACG. Washington DC:Nutrition Foundation, Inc, 1993.

West KP Jr, Sommer A. Delivery of Oral Doses of Vitamin A to Prevent Vitamin A Deficiency and Nutritional Blindness: A State-of-the-Art Review. UN ACC/SCN State-of-the-Art Series Nutrition Policy Discussion Paper No. 2, June 1987 (and June 1993).

World Health Organization. Indicators for Assessing Vitamin A Deficiency and Their Application in Monitoring and Evaluating Intervention Programmes. Micronutrient Series WHO NUT/96.10. Geneva:WHO, 1996.

World Health Organization. Vitamin A Supplements: A Guide to their Use in the Treatment and Prevention of Vitamin A Deficiency and Xerophthalmia. 2nd ed. WHO/UNICEF/IVACG Task Force, Geneva:World Health Organization, 1997.

SESSION 10

Title: Vitamin A Supplementation in Pregnant Women - Biology and Benefits
Presenter: Keith P. West, Jr., DrPH, Johns Hopkins University

Description: *Unavailable*

SESSION 11

Title: Integration of Vitamin A Supplementation with Safe Motherhood
Presenter: Nancy Sloan, DrPH, Population Council

Description:
Introduction: The integration of maternal vitamin A supplementation into safe motherhood programs should theoretically be simple. Nutrition supplementation and counseling, including iron and prenatal vitamin supplementation, is a standard component of prenatal care. Yet barriers stand in the way of integrating vitamin A supplementation with safe motherhood.

Outline:

- *Safe motherhood to date - Priorities and progress:*
  The first five years following the launch of the safe motherhood initiative in 1987 were invested in advocacy and identifying the factors to avert maternal death, including:
  Prenatal care;
  Essential obstetric services, including identification, referral and management of life-threatening obstetric conditions;
  Emergency transportation and communications systems;
  Family planning services; and
  Safe abortion services.

- *Vitamin A supplementation and safe motherhood:* Family planning services have been well studied, but these services generally contribute to safe motherhood by reducing the number of pregnancies and deaths associated with them. While family planning reduces the *number* of maternal deaths, it can actually appear to increase the maternal mortality rate because the obstetric emergencies that cause most maternal deaths, are basically random events, yet those who use health services, including family planning services and services for the obstetric emergencies are the <u>least</u> likely to die from obstetric complications.

  In contrast, much qualitative and quantitative information has been collected about obstetric care and the barriers to utilizing obstetric services, but few efforts have gone beyond the descriptive to *adequately* evaluate the effectiveness of *interventions* to improve prenatal, delivery, postpartum and abortion services. The trend of descriptive research in safe motherhood is at odds with the history of controlled trials and evidence-based decisions about nutritional supplementation and may be the basis for some hesitance to integrating vitamin A and safe motherhood services. Some of those involved in safe motherhood have doubts about whether vitamin A supplementation can reduce maternal mortality and, with the scarcity of controlled studies, some have fears that donors will divert funds from essential obstetric care to focus unidimensionally on vitamin A, the "magic bullet." Still, vitamin A supplementation may actually serve to improve the trust in and utilization of other reproductive health services, including essential obstetric care and family planning, to save women's lives.

- *Operations Research:* Perhaps the greatest barrier to the integration of vitamin A supplementation and safe motherhood is the lack of a public health strategy to provide vitamin A supplementation to women who are or who may be pregnant. Unlike vitamin A supplementation for children, pregnant women cannot receive semi-annual megadose vitamin A supplementation due to its potential teratogenicity. Like iron, women's vitamin A status might best be improved by providing vitamin A supplementation to non-pregnant women of reproductive age because vitamin A is a fat-soluble vitamin that can be stored in the liver for future use. This could avoid the risk of teratogenicity, except that pregnancy is often undisclosed and frequently unrecognized (even by women themselves) in early gestation and therefore identifying women who truly are not pregnant is not so easy.

  Therefore, alternative mechanisms to provide more frequent distribution or consumption of vitamin A supplementation for women need to be tested for their safety, acceptability, and effectiveness as well as feasibility of delivery.

  Safety: There are a number of ways of giving vitamin A supplementation to women who are or potentially are pregnant. In Nepal, home visitors provided a single supplement to women each week as part of the NNIPS-2 study. This distribution system assures that women will not consume an excess of vitamin A, but is a relatively expensive and possibly impractical way to distribute vitamin A to women. In Indonesia, traditional birth attendants received iron supplements and provided pregnant women in their villages with 30 daily doses on a monthly basis. Women receiving prenatal care commonly are given a months' supply of daily iron-folate supplements or prenatal multivitamins, and may receive up to three months supply to suffice the last trimester of pregnancy. Theoretically, a three or six month supply of daily or weekly doses of vitamin A supplementation could be provided to women at prenatal care check-ups, at the semiannual or quarterly campaigns to distribute children's vitamin A supplementation, and during EPI campaigns, etc. The more infrequent distribution is, the less expensive and more feasible it is. But distribution infrequency

may present safety hazards if pregnant women take more than the recommended number of supplements on a single occasion. Because vitamin A may be teratogenic if consumed in excess it is important to evaluate the likelihood of excess consumption. Existing data on the pill-taking behavior for multivitamins, iron supplementation, oral contraceptives, antimalarials and other pills indicate this risk is minimal. Theoretically, the risk is greatest and might only present itself during or soon after the initiation of supplementation.

Acceptability and compliance: Pill-taking behavior is a key factor in its effectiveness. Compliance is affected by the supplement's acceptability, that is its lack of side effects, bad taste or dissuasive presentation and by the presence of good reactions, pleasant taste and appealing presentation. Unlike iron supplementation with a general compliance of 10%-50%, vitamin A supplementation does not have unpleasant side effects, and the familiarity with and acceptance of vitamin A supplementation in children and the knowledge of its benefits to children, and its potential to reduce the risk of maternal mortality may also increase compliance among women. Currently daily or weekly vitamin A supplements are recommended for pregnant women. Compliance with daily pill taking is generally higher than that found with weekly regimens, possibly because it is easier to remember a daily regimen but also because missing a daily dose once a week is equivalent to missing 14% of the doses whereas missing one weekly dose in a month is equivalent to missing 25% of the doses. The frequency of supply distribution can also affect compliance. Less frequent distribution may be logistically and financially easier than more frequent distribution, but may be associated with diminishing compliance over a three to six month period. The perceived importance of the supplement also influences compliance. Compliance with birth control pills is estimated around 80%-97%, and while missing a few birth control pills at the right (or wrong) time of the month can have drastic consequences, missing a few daily doses of vitamin A supplementation may not. With the exception of iron supplementation, antimalarials and birth control pills, pill-taking behavior over prolonged periods is not well documented in rural areas of developing countries (where maternal VAD is most prevalent).

Effectiveness: Effectiveness is influenced by the supplement dose, compliance, underlying vitamin A status, availability of other key nutrients such as protein and zinc, and infection, particularly parasitic infection. Because vitamin A is homeostatic, lower doses of vitamin A supplementation should be utilized more efficiently in deficient populations and may achieve similar response to higher doses in less deficient populations. Dose- or other response-tests should be conducted to estimate the effectiveness of different doses, daily or weekly supplement regimens, and monthly or quarterly distribution systems to select the lowest doses that achieve biologic response given a likely level of compliance to avoid excess intake.

Feasibility: Once these evaluations are completed, it will be important to identify feasible mechanisms of maternal vitamin A supplementation. The history of health services in this century clearly indicates that the availability of an extensive primary health care network with tangible connection to secondary and tertiary care is effective in improving health services and reducing mortality. The integration of reproductive health services, including prenatal care, obstetric care, postpartum care, neonatal, infant and child care, family planning and nutritional supplementation programs, can provide that essential primary care network that initiates and maintains women's and families' utilization of health care. This integration of services can be accomplished at the community or clinic level. Women's use of this primary care system can be initiated at any stage of the reproductive cycle - between pregnancies with family planning, during pregnancy with prenatal care provided by the TBA or nurse-midwife, or postpartum with maternal and/or infant care. Integration of these services can even begin through child vitamin A supplementation or immunization campaigns. While integration of these services is theoretically a good idea to improve overall utilization of health services, the feasibility and acceptability of these combinations of services should be assessed before integrating the services to ensure that the integration of one service is not detrimental to the other. For example, integrating vitamin A supplementation with prenatal iron-folate supplementation may reduce the acceptability of and compliance with vitamin A supplementation. Similarly, integration of vitamin A supplementation with family planning programs might reduce the acceptability of vitamin A supplementation where contraception is not

well accepted. Conversely, the integration of family planning programs into vitamin A supplementation programs might improve the latter's acceptability in areas where the benefits of maternal or child vitamin A supplementation are perceived even if there is little existing contraceptive use.

- *Recommendations:* While such evaluations are underway, it is recommended that standard prenatal multivitamins or carefully monitored vitamin A supplementation based on the recommendations of WHO and OMNI be implemented during pregnancy.

Recommendations:

- Further investigation to determine public health strategies to provide vitamin A supplementation to pregnant women.
- Nutrition counseling: prenatal clinic and community-based.
- Prenatal multivitamin supplementation (pros and cons): clinic or community-based.

Main Citations:

West Jr. KP, Khatry SK, Katz J, et al. (1997). 'Impact of weekly supplementation of women with vitamin A or beta-carotene on fetal, infant and maternal mortality in Nepal.' XVIII IVACG Abstract, Cairo, Egypt.

Maine D: "Safe motherhood programs: Options and issues," Center for Population and Family Health, Columbia University, School of Public Health, 1992.

Other Suggested Readings:

Vitamin A Supplementation

Sommer AS, West Jr KP (1996): Vitamin A deficiency, health, survival and vision. Oxford University Press, New York.

Bauerenfeind JC (1986): Vitamin A deficiency and its control. Academic Press, New York.

McLaren DS, Frigg M (1997): Sight and life manual on vitamin A deficiency disorders. Hoffman La Roche/Sight and Life, Basel, Switzerland.

Sethuraman K, Dalmiya N, Mason J, et al. (1997): Progress in controlling vitamin A deficiency. UNICEF, New York; The Micronutrient Initiative, Ottawa; Tulane University, New Orleans.

Bendich A, Langseth L (1989): 'Safety of vitamin A.' Am J Clin Nutr. 49:358-371.

WHO, OMNI (1997): Safe vitamin A dosage during pregnancy and lactation. WHO, Geneva, Switzerland.

Yamini S, West Jr KP, Wyss R, et al. (1997): 'Effect of maternal vitamin A or b-carotene supplementation on circulating retinoid levels in Nepalese women during pregnancy and lactation'. XVIII IVACG Abstract, Cairo, Egypt.

NAS (1980): Recommended Dietary Allowances, Ninth Edition. NAS, Washington, D.C.

Iron Supplementation

WHO (1990): Iron supplementation during pregnancy: Why aren't women complying? WHO/MCH/90.

Galloway R, McGuire J (1994): 'Determinants of compliance with iron supplementation: supplies, side effects, or psychology?'. Soc Sci Med. 39(3) 381-390.

Utomo B, Riono P, Budiono T, et al. (1993): The alleviation of maternal anemia in Indramayu regency, Indonesia. MotherCare Working Paper 23, Arlington, Virginia.

NAS (1980): Recommended Dietary Allowances, Ninth Edition. NAS, Washington, D.C.

Compliance and Pill Taking Behavior
Cramer JA (1996): 'Compliance with contraceptives and other treatments.' Obstet Gynecol. 88(3 Suppl): 4S-12S.
Rosenberg M (1995): 'Use and misuse of oral contraceptives: risk indicators for poor pill taking and discontinuation'. Contraception 51(5):283-288.
Salway S, Fauveau V, Chakrabarty J (1994): 'Introducing the low-dose pill to Bangladesh; issues of continuation and failure.' Contraception. 49(2) 171-183.
Hoebe C, de Munter J, Thijs C (1997): 'Adverse effects and compliance with mefloquine or proquanil antimalarial chemoprophylaxis.' Eur J Clin Pharmacol. 52 (4): 269-275.

Safe Motherhood
WHO: Mother-Baby Package: Implementing safe motherhood in countries. WHO/FHE/NSM/91.11, Geneva, Switzerland, 1994.
Zahr CA, Royston E: Maternal mortality: A global factbook, World Health Organization, Geneva, 1991.
Winikoff B, Carignan C, Bernardik E, Semeraro P: "Medical Services to Save Mothers' Lives: Feasible Approaches to Reducing Maternal Mortality," The Population Council, Programs Division, Working Paper No. 4, New York, 1991.
Fauveau V, Steward K, Khan SA, Chakroborty: "Effect on Mortality of Community-based Maternity Care Programme in Rural Bangladesh," *Lancet* 338:1183-86, 1991.
Sloan NL, Winikoff B, Arthur P, et al. "Executive summary: The safe motherhood demonstration projects." Population Council, 1998.

SESSION 12

Title: Vitamin A Supplementation in Lactating Women - Biology & Benefits

Presenter: Kathleen Rasmussen, ScD, Cornell University

Description:

This presentation will describe about what we know about the benefits for both mother and infant of supplementing the breastfeeding mothers of newborns with large doses of vitamin A. Possible disadvantages of this approach to improving the vitamin A status of these groups will be considered, and this approach will be compared to the alternative choice, supplementing newborn infants with vitamin A directly. This analysis will suggest that in areas where vitamin A deficiency is a problem in young children and breastfeeding remains nearly universal, supplementing mothers is preferable to supplementing infants.

Outline:

- Introduction
- Biology of the transfer of large doses of ingested vitamin A to the liver
- Biology of the transfer of vitamin A from the liver to the mammary gland
- Effect of providing a single large dose of vitamin A to breastfeeding women
  - Effect on maternal health
  - Effect on infant health
  - Unresolved issues - biological concerns, alternative maternal dosing strategies
- Effect of vitamin supplementation during the early neonatal period on infant health and vitamin A status
- Conclusion: Comparison of these strategies for protecting the health of mothers and their infants

Recommendations:

- In situations in which vitamin A deficiency is endemic in young children and breastfeeding is nearly universal, it is likely that maternal vitamin A status is also poor. In this situation, providing a high-dose supplement of vitamin A to the mother in the first 6 weeks postpartum will not only

improve her health, it also will improve that of her infant. This strategy poses no known risk of toxicity to a new conception because it is given before the first ovulation or to the suckling newborn, This strategy provides the suckling infant with as much vitamin A as could be obtained by direct, high-dose supplementation.

- In situations in which vitamin A deficiency is endemic in young children and breastfeeding is not nearly universal, it is less clear that maternal vitamin A status is also poor. In this situation, trade-offs in cost, coverage and risk of adverse outcome(s) between supplementing women or their newborns become more important. This trade-off needs to be evaluated on a situation-by-situation basis.

Main studies cited:

Supplementation of postpartum women

Stoltzfus RJ, Hakimi M, Miller KW, et al. High dose vitamin A supplementation of breastfeeding Indonesian mothers: Effects on the vitamin A status of mother and infant. J Nutr 1993;123:666-675.

Roy SK, Islam A, Molla A, Akramuzzaman, Jahan F, Fuchs G. Impact of a single megadose of vitamin A at delivery on breastmilk of mothers and morbidity of their infants. Eur J Clin Nutr 1997; 51:302-307.

Supplementation of neonates

Agoestina T, Humphrey JH, Taylor GA, et al. Safety of one 52-μmol (50 000 IU) oral dose of vitamin A administered to neonates. Bull WHO 1994;72:859-868.

West KP, Jr., Katz J, Shrestha SR, et al. Mortality of infants < 6 mo of age supplemented with vitamin A: a randomized, double-masked trial in Nepal. Am J Clin Nutr 1995;62:143-148.

Humphrey JH, Agoestina T, Wu L, et al. Impact of neonatal vitamin A supplementation on infant morbidity and mortality. J Pediatr 1996; 128:489-496.

SESSION 13

Title: Panel on Availability & Cost of Vitamin A, Iron and Micro-nutrient Supplements

Description:

The panel members represent a broad range of expertise including industry, academia, and program implementation: Martin Frigg, PhD (Sight and Life), Charles Gursky (Bayer), Sandra Huffman, ScD (LINKAGES), Andy Koval (MedPharm), Alberto Nilson (Hoffman-La Roche), Roger Shrimpton PhD (UNICEF), and Dan Wright (BASF).

EVENING SESSION

Title: Hookworm Control & Malaria Control

Presenters: Michael Beach, PhD, CDC; *Peter Winch, MD, MPH*, Johns Hopkins University

Description:

This presentation will give an overview of the health impacts of malaria in pregnancy and the available interventions for preventing malaria-related morbidity and mortality in pregnant women. Although these interventions are relatively simple, they seldom have been implemented systematically. The social, cultural and behavioral issues in delivering interventions to pregnant women will be discussed, as well as approaches that have been used to address them.

Victor Barbiero, PhD, MHS

Victor Barbiero is the Chief of the Child Survival Division for the Global Bureau of the United States Agency for International Development (USAID); this division funds and oversees child survival projects worldwide. Dr. Barbiero is also a Senior Technical Advisor for child survival activities, projects and programs. In this capacity, he advises on major USAID technical child survival efforts such as Micronutrient Sufficiency (Vitamin A), Integrated Management of Childhood Illness, and State-of-the-Art Applied Research.

Previously, Dr. Barbiero worked as the Health, Population and Nutrition (HPN) officer in the USAID mission in Ethiopia (1992-1996) and as the Deputy Chief of the Population and Health (PH) office in the USAID regional office (REDSO) in Kenya (1988-1992). Before that he worked as a Public Health Advisor with the Communicable Diseases Division of the Office of Health at USAID Washington.

Dr. Barbiero conducted his fieldwork for his MHS on the Ecology of the Sahelian famine 1969-1974. His doctoral thesis was on the Transmission Dynamics of Onchocerciasis on the Firestone Rubber Plantation, Harbel, Liberia.

Michael J. Beach, PhD

Michael Beach is an epidemiologist with the Division of Parasitic Diseases at the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia. After receiving his PhD in biochemistry from Purdue University, he was a postdoctoral fellow at the University of Massachusetts before coming to the CDC in 1989.

Dr. Beach has worked on bacterial, viral and parasitic diseases and this has resulted in numerous publications and presentations in the national and international setting. As an Epidemic Intelligence Service Officer and staff member in the Parasitic Diseases Division, his international emphasis has been on the treatment and control of intestinal and filarial worm infections. He is particularly interested in integrating these treatments with new or existing public health programs in developing countries in order to maximize resources.

Domestically, Dr. Beach has been involved in the investigation of numerous outbreaks of both waterborne and food-borne parasitic diseases. He is interested in the public health threat posed by the emergence of crypto sporidium in both drinking and recreational water and wants to develop measures to reduce the risk of acquiring this infection.

Luis Benavente, MD, MS

Dr. Benavente is currently the Program Director for the Huallaga Valley Child Survival Project for Project HOPE and the Universidad Peruana Cayetano Heredia (UPCH) in Peru. Since 1994 he has been the Chief of the Office of Community Affairs at UPCH, and since 1993 he has been the Director of the Department of Public Health. Previously he served as Associate Professor of Public Health, Chief of Laboratory and Enteric Diseases and Nutrition at the Tropical Medicine Institute at UPCH. He is also an Associate at the Center for Research which is jointly supported by the National Institutes of Health and the Peruvian Ministry of Health. He is the Director of the Food and Nutrition Surveillance Bureau at the Ministry of Health.

Dr. Benavente has conducted medical and public health research in several areas, including Maternal Malnutrition, Breastfeeding, and Fertility and Infant Mortality in Peru; nutritional surveillance of several regions of Peru; and fortification of school breakfasts with heme iron. He has also published several articles and monographs concerning micronutrient malnutrition in Peru, the interrelation between breastfeeding, fertility and infant mortality in Peru, and the relationship between malnutrition and oral hygiene.

Gretchen Glode Berggren, MD, MSc.Hyg

Gretchen Berggren has her medical degree from the University of Nebraska. She received her Master's degree from the Harvard School of Public Health and a Certificate of Tropical Medicine and Hygiene from the Institute of Tropical Medicine and Hygiene in Antwerp, Belgium. She received an honorary Doctor of Science degree from the University of Nebraska College of Medicine in 1990.

Dr. Berggren was a lecturer at the Harvard School of Public Health for nine years. She has also been an invited lecturer at the Harvard Medical School, Brown University School of Medicine, and Johns Hopkins University School of Public Health. She has accumulated fifteen years of field experience in Haiti, Zaire, and Tunisia and provided consultant services in family planning, nutrition, immunization and control of infectious disease. Dr. Berggren has extensive field experience in Haiti, Zaire, and Tunisia and worked in Bangladesh, Nepal, Egypt, Honduras, Indonesia, Philippines, Tuvala, Burma, Vietnam, and Jordan.

David Brandling-Bennett, MD

David Brandling-Bennett obtained his undergraduate and medical degrees at Harvard University. He then received further training in internal medicine at Stanford and Harvard Universities. Later he became a diplomate of the American Board of Internal Medicine.

Dr. Brandling-Bennett began his career in public health when he joined the Epidemic Intelligence Service at the Centers for Disease Control and Prevention (CDC) in 1971. He completed a 2-year residency in preventive medicine at the CDC and a year's study at the London School of Hygiene and Tropical Medicine.

Dr. Bennett has devoted much of his career to work with developing countries, spending two years in Central America, three and a half years in Thailand and more than five in Kenya. During that time he was involved in research and control of tropical and vaccine-preventable diseases and in the training of epidemiologists.

Dr. Bennett joined the Pan American Health Organization (PAHO), World Health Organization (WHO) in 1989 as coordinator of the Health Situation and Trend Assessment Program. He was appointed Director of the Division of Communicable Disease Prevention and Control in 1993 and Deputy Director of PAHO in 1995.
Laura E. Caulfield, PhD

Since 1990, Laura Caulfield has been an Assistant Professor in the Division of Human Nutrition, in the Department of International Health at the Johns Hopkins School of Hygiene and Public Health. Prior to this appointment, she was a Research Associate in the same division. In this capacity she analyzed data from an NIH-funded study concerning "Early Malnutrition and Later Bone Development" among Guatemalan children. During her time at Johns Hopkins University, Dr. Caulfield has conducted numerous consultations in the area of nutrition and micronutrient nutrition. Organizations and projects that she has worked for include the Pan American Health Organization (PAHO), Catholic Relief Services (CRS), the George Washington University Medical Center, the University of Maryland, the BHR/PVC Office at USAID, the University of Minnesota, the Basic Support for Institutionalizing Child Survival (BASICS) Project, the LINKAGES Project, and the Opportunities for Micronutrient Interventions (OMNI) Project.

Dr. Caulfield has published more than forty articles, book chapters, monographs and letters in the field of nutrition. She is a technical reviewer for nutrition sections of The Johns Hopkins Family Health Guide and The Johns Hopkins Women's Health Guide. She is also a reviewer for numerous peer review journals and for foundation and government proposals. In 1993 she received the Golden Apple Award for Excellence in Teaching from Johns Hopkins University.

Dr. Caulfield received her PhD from Cornell University. She conducted her fieldwork in Rosario, Argentina at the Centro Rosarino de Estudios Perinatales (5/86-5/87).

Dale Davis

Dale Davis is Helen Keller International's Country Representative for Nepal. She has worked at both the field and central levels in Nepal for the past eight years. She has been responsible for the overall management of Helen Keller International's program activities in Nepal since 1990. Ms. Davis is a registered nurse with a BHScN degree in Health Sciences and Management. She has extensive experience collaborating with non-government organizations and other national level agencies in Nepal. Ms. Davis oversees all office management and field program activity. Her program areas include nutrition, particularly vitamin A and iron micronutrients, maternal and child health, primary eye care, prevention of blindness, and skill training for the visually impaired.

Ms. Davis is an Australian national and prior to her work in Nepal she held a variety of different nursing and clinic management positions at hospitals and clinics in Australia.

Kate Dickson, PhD

Kate Dickson joined PAHO in January 1994 first as a consultant and subsequently as a full UN officer responsible for promoting closer working ties between nongovernmental organizations and the respective governments of the Region of the Americas. In this position within the Office of External Relations, Kate has worked with official counterparts, national and international NGOs throughout the hemisphere in building a positive working environment in specific health themes ranging from gender and health, drug consumption reduction for street children, health of the indigenous, HIV/AIDS, health promotion in the urban environment, and institutional strengthening for better program delivery in diabetes and other chronic diseases. Kate is a Canadian who spent her adolescent years in Zimbabwe. As the wife of a Canadian diplomat, Kate has lived and worked in Canada, India, Romania, Guatemala and El Salvador. As a graduate of the Norman Paterson School of International Affairs at Carleton University Canada, she has worked for the Canadian Bureau for International Education, CARE Canada, the Canadian Council of International Development, UNICEF, and UNHCR.

Wilma B. Freire, PhD

Wilma Freire is the regional coordinator of the Food and Nutrition Program for the Pan American Health Organization (PAHO). She began this position in 1994 and oversees food and nutrition programming throughout the PAHO country and regional offices. Previously she was a Professor of Nutrition at the Universidad San Francisco de Quito, and Director of its Institute of Research in Health and Nutrition (1992-94). During this period, she was also a nutrition consultant to the Ecuadorean Ministry of Health, UNESCO-Ecuador and UNICEF-Ecuador. Between 1990 -1992, she was Chief of the Nutrition Unit for the Ecuadorean National Council for Development. Since 1968 Dr. Freire has worked with a variety of national and international agencies in the field of nutrition. These agencies include Mision Andina, USAID-Ecuador, Catholic Relief Services-Ecuador, the Polytechnic University and The National Planning Board.

Dr. Freire received her undergraduate degree in Nutrition and Dietetics from the Universidad Nacional at Santiago, Chile. She received her Master's degree from Tulane University in Human Nutrition and Planning and her doctoral degree from Cornell University in Human Nutrition and Epidemiology. She has authored and co-authored more than forty journal articles, monographs and other publications on the subject of micronutrients and nutrition. She has conducted over forty presentations on the subject of micronutrients and nutrition at international meetings and conferences.

Martin Frigg, PhD

Martin Frigg is employed by the Hoffman-La Roche Ltd. pharmaceutical company in Basel, Switzerland and has worked in different capacities in the Vitamin Research Department. He is the author and co-author of numerous papers in the areas of vitamins and nutrition. Since 1994 he has been the Secretary of the "Sight and Life" program, which is a humanitarian initiative created by Roche and dedicated to the fight against vitamin A deficiency.

Dr. Frigg is a Swiss citizen who was raised in the mountain canton of Grisons. He then studied biology at the University of Zurich and received his PhD there in 1970.

Rae Galloway, MSc

Rae Galloway received her undergraduate and graduate degrees in nutrition from the University of California, Berkeley and the University of Maryland, respectively. She has worked in the nutrition field for twenty years and in international development for fifteen years. She worked for a PVO based in the Fiji Islands for five years and coordinated a regional nutrition program in five Pacific Island countries. Afterwards, she worked for the World Bank for five years, specializing in micronutrients, and later at MotherCare, specializing in anemia. She is currently at the Basic Support for Institutionalizing Child Survival (BASICS) Project as the Technical Officer for Nutrition and she is also the Chair of the BASICS Nutrition Working Group.

Duff Gillespie, PhD

Duff Gillespie is Deputy Assistant Administrator for Population, Health and Nutrition for the United States Agency for International Development (USAID). Dr. Gillespie has worked in the population and health field for twenty-nine years. He has been with USAID for twenty-seven years and was Director of the Office of Population for seven years.

Dr. Gillespie received the Arthur S. Flemming award in 1977 for his pioneering operations research on community-based family planning and primary health care delivery systems. Dr. Gillespie was a recipient of Presidential Rank Awards in 1989 (Distinguished), in 1990 (Meritorious), a Superior Unit Citation in 1994, and Superior Honor Award in 1995.

Prior to joining USAID, Dr. Gillespie was with the Office of Health in the Office of Economic Opportunity (OEO) and the Center for Population Research, National Institutes of Health. He received his PhD from Washington University.

Charles Gursky

Charles Gursky works for Bayer Pharmaceuticals, and previously he worked for Miles Pharmaceuticals. Altogether Mr. Gursky has worked in the pharmaceuticals field for thirty-seven years. He has worked in the areas of pharmaceutical marketing, marketing research, new product development and contract manufacturing.

During the past three years, Mr. Gursky has worked as a consultant for the Bayer Corporation, whose home office is in Leverkusen, Germany. He is working on humanitarian aid assignments for Bayer in the area of health care, specifically in pharmaceuticals, diagnostics, and vector control. He has worked on these assignments with the United Nations, the World Bank, the World Health Organization, the United States Agency for International Development, UNICEF and numerous private voluntary organizations.

Janet-Marie Huddle, PhD

Janet-Marie Huddle is the Nutrition Officer for World Vision Canada. She provides technical input for program development, monitoring and evaluation in Africa and Asia. Before this appointment she was the project manager for the Guelph-Malawi (University of Guelph-University of Malawi) Nutrition Project in Malawi (1993-94). Prior to these positions, Dr. Huddle held different research assistant positions at the University of Guelph and with private organizations investigating different nutritional and food problems.

Dr. Huddle holds her BA in Independent Studies, a BSc in Biological Science, an MA in Political Studies and her PhD in Applied Human Nutrition, all from the University of Guelph.

Dr. Huddle's PhD field research was a study of maternal iron and zinc status among pregnant women in Malawi and the pregnancy outcomes. In addition she has authored and co-authored several journal articles concerning trace minerals and micronutrient studies in Malawi.

Sandra Huffman, ScD

Dr. Huffman works with the LINKAGES project at the Academy for International Development (AED). Her focus is on issues related to the use of micronutrient supplements among women of reproductive age in developing countries. She is also co-director of "Ready to Learn," a new center within AED which addresses problems of inadequate care, nutrition and schooling of children in developing countries.

Previously, Dr. Huffman was president of "Nurture" (the Center to Prevent Childhood Malnutrition) from 1986-1994, and prior to that was Associate Professor in International Health at the Johns Hopkins School of Hygiene and Public Health from 1980-1986. Currently she is an Adjunct Associate Professor at Johns Hopkins.

Dr. Huffman's fieldwork in nutrition programs and research has been primarily in Latin America and Bangladesh.

Kate Jones

Ms. Kate Jones has been a United States Foreign Service Officer for the last 18 years with assignments to the USAID's Regional Office in West Africa and at the USAID Mission offices of Ecuador and Boilivia. Currently, Ms. Jones is the manager of the Child Survival Grants Program offered through USAID/Washington's Office of Private and Voluntary Cooperation within the Bureau of Humanitarian Response. In this role Ms. Jones has taken steps to strengthened the collaborations among the PVOs in the grants program and between the PVOs and other organiztaions. In addition, her promotion of collaborative activities and financial support have contributed significantly to the establishment of the CORE Group.

Ms. Jones entered the international health field working for the Oregon State Epidemiologist before being bitten by the international health bug, joined the Peace Corps, and left for Nicaragua to work with village health workers and traditional birth attendants. Ms. Jones is a graduate of the UCLA school of Public Health.

Timothy Allium Kachule

Timothy Kachule is the Child Survival Program Coordinator for Project HOPE in Malawi. He has been in this position since 1996. In this capacity, he assists the Country Director in implementing the Child Survival Program in accordance with their Detailed Implementation Plan. He supervises the day-to-day project activity and all field training. He prepares monthly progress reports and monthly financial reports. Previously, Mr. Kachule was the HIV/AIDS Program Coordinator for Project HOPE from 1995 to 1996.

Before working with Project HOPE, Mr. Kachule worked for the Malawi Ministry of Health as the District Orthopaedic Clinical Officer and the District HIV/AIDS Coordinator (1992-1995) at the Mwanza District Hospital. Between 1986 and 1990, he worked as a Medical Assistant at the Dedza District Hospital.

Andrew Koval

Andrew Koval is the co-founder, co-owner, Chief Executive Officer and President of MedPharm Inc. Pharmaceutical Company. As CEO and President, he has led MedPharm from a company whose initial market was targeted to U.S.-based Private Voluntary Organizations (PVOs) that are involved in providing high quality generic drugs worldwide at a substantial discount, to a global company with diversified product lines, expanded markets and expanded customer base. MedPharm provides generic pharmaceuticals and health care products at substantial discounts to government agencies, non-government relief and development organizations, not-for-profit private voluntary agencies, the United Nations and other international organizations as well as developing country ministries of health.

Prior to Mr. Koval's co-founding of MedPharm in 1992, he had a long history of working with international development agencies. Between 1965 and 1983, he held a variety of increasingly responsible positions with Catholic Relief Services in Algeria (Program Director), Nigeria (Disaster Coordinator), East Pakistan (Disaster Coordinator), Bangladesh (Country Representative), and Egypt (Country Director). He then went on to be the MENA Regional Director for the Middle East and North Africa (1983-1987), the Director of the Africa Development Group (1985-87) and the Executive Director for the Council for International Health (1988-90).

Miriam Harriet Labbok, MD, MPH

Miriam Labbok is currently the Medical Officer, Senior Public Health Advisor, and Chief of the Nutrition and Maternal/Infant Health Division at the United States Agency for International Development (USAID) in Washington, D.C. Dr. Labbok has more than twenty years of research and program experience in population issues in preventive medicine, including family planning, breastfeeding, related nutrition and fertility, natural family planning, women's reproductive health, and maternal and child health. She conducted her research at Tulane University and the Agency for International Development in the 1970s, and at the Johns Hopkins University in the 1980s. She was an invited scientist at the Bellagio Scientific Consensus meeting in 1988 where she presented her research which built on the cross-disciplinary nature of breastfeeding and fertility, published in the 1980s in the New England Journal of Medicine and the Journal of Biosocial Science.

In 1989, Dr. Labbok was named Director of the Breastfeeding and Maternal and Child Health (MCH) Division of the Institute for Reproductive Health, responsible for the development of the Lactational Amenorrhea Method (LAM), and in 1992, the Division was designated the first WHO Collaborating Center on Breastfeeding. Under her leadership, the Institute completed more than forty-five studies. In 1995, a second Bellagio meeting recognized the rapid progress in the development of LAM.

Dr. Labbok, a fellow of the American College of Preventive Medicine, is also a member of the Medical Advisory Board of La Leche League and the International Lactation Consultants Association. She has published more than 150 articles, chapters, books, and abstracts. She has been an invited speaker at more than 220 public health, international policy, university and scientific meetings. Her pioneering operations research in community-based family planning was recognized by USAID, and her contributions to public health were recognized by receipt of the Alumnus of the Year Award from Tulane University.

Sean Lynch, MD

Since 1988, Sean Lynch has been a professor of medicine at Eastern Virginia Medical School and he has also been Chief of the Hematology/Oncology Service at the Veterans Affairs Medical Center in Hampton, Virginia. Between 1981 and 1988, Dr. Lynch was a professor of Medicine (Hematology) at the University of Kansas Medical Center in Kansas City, Missouri. Between 1977 and 1981 he was an Associate Professor at the University of Kansas Medical Center.

Dr. Lynch was raised in South Africa and completed his medical education and training at the Department of Medicine at the University of Witwatersrand and Johannesburg Hospital. He was also a U.S. Public Health Service International Post-Doctoral Fellow in Hematology in the Department of Medicine at the University of Washington in Seattle (1969-71). He then returned to the University of Witwatersrand and the Johannesburg Hospital as a Senior and Principal Physician (Hematology/Oncology) on the joint staff until he went to the University of Kansas Medical Center in 1977.

Alberto Nilson

In 1997, Alberto Nilson became Director for Latin America of the Vitamin Division of Roche pharmaceutical company. He is also leading an international task force that is analyzing food fortification as a strategy for combating micronutrient deficiencies in developing countries.

Mr. Nilson joined the Vitamin Division of Roche in 1982 as a technical advisor for the food and pharmaceutical industries. He covered six South American countries (Ecuador, Peru, Uruguay, Chile, Paraguay and Bolivia). In 1989 he moved to Brazil to take technical and commercial responsibility for the food area for Latin America. In 1993 he also took over the pharmaceutical segment.

Mr. Nilson has considerable experience in the scientific, technologic and economic aspects of staple food fortification and supplementation in developing countries.

Usha Ramakrishnan, PhD

Usha Ramakrishnan is an Assistant Professor in the Department of International Health, at Rollins School of Public Health, Emory University. Her research and teaching activities focus on maternal and child nutrition and micronutrient malnutrition. In addition to her University responsibilities, she is involved in collaborative research projects in Mexico (a multiple micronutrient supplementation trial during pregnancy) and Guatemala (intergenerational effects of early childhood nutrition). These research projects are supported by grants from the NIH and UNICEF. Dr. Ramakrishnan is also an Adjunct Professor in Nutrition and Health Sciences at the Division of Biological Sciences, Emory University.

Dr. Ramakrishnan has authored many articles, book chapters, monographs and abstracts in the field of nutrition. She has conducted nutrition consultancies for Emory University, the World Health Organization, MotherCare, REACH, BASICS, and UNICEF. She has conducted field research in Asia and Latin America.

Kathleen Maher Rasmussen, ScD

Kathleen Rasmussen is Associate Dean and Secretary of the University Faculty at the Office of the Dean of the Faculty at Cornell University (1997). Prior to this appointment, she was the Associate Director of Graduate Affairs and the Graduate Faculty Representative (Nutrition) at the Division of Nutritional Sciences (1992-95). She has also been and continues as a Professor (1996), Associate Professor (1988), Assistant Professor (1983) and Instructor (1981) in the Division of Nutritional Sciences at Cornell.

Dr. Rasmussen received her AB degree from Brown University in Molecular Biology. She received her ScM and her ScD degrees from Harvard, both in nutrition. She holds memberships on the National Academy of Sciences Committee on Nutritional Status during Pregnancy and Lactation, its Subcommittee on Nutritional Status During Lactation, and its Committee on Scientific Evaluation of WIC Nutrition Risk Criteria. She also consults for WHO on vitamin A and pregnancy. She has given numerous presentations at national and international conferences, symposia and meetings on the subject of micronutrients and nutrition.

Roger Shrimpton, PhD

Roger Shrimpton is the Chief of Nutrition for the Programme Division of UNICEF in New York. Dr. Shrimpton joined UNICEF initially in 1984 as Nutrition Officer in Sao Luis, Maranhao, Brazil. He then served in Brasilia for two years as the coordinator for northeast Brazil. He resigned in 1987 to become a two-year Research Associate with Cornell University's Food and Nutritional Policy Programme. In 1989, he re-joined the UNICEF Brasilia Office as Senior Project Officer, Immunizations. In 1991, Mr. Shrimpton joined the Jakarta, Indonesia Office as the Senior Programme Coordinator where he remained until his transfer to New York in 1997.

Before joining UNICEF, Dr. Shrimpton worked in progressively responsible positions in developing countries. He began his international career as a VSO volunteer working as a nutritionist with the Health Inspectorate of the Province of East Java in Indonesia (1972). Later he worked in Brazil with the Amazonian Research Institute where he founded the Nutrition Department of the Tropical Pathology Division (1976-78).

Dr. Shrimpton is a British citizen. He received his Bachelor of Science degree from the University of Surrey and his Master's and PhD degrees from the University of London, all in Human Nutrition.

Nancy Sloan, DrPH

Nancy Sloan is a perinatal and nutritional epidemiologist. She is an Associate with the Population Council where she has technical responsibility for managing Safe Motherhood Demonstration Projects in Ghana, Ecuador and Vietnam. In Ecuador she managed the MotherCare study of the Kangaroo mother method for care of low birth weight infants. She also works with the community-based iron-folate supplementation program in Indonesia.

Since 1976, Dr. Sloan has worked with the evaluation of maternal, infant and child health and nutrition programs in developing countries and the United States. She has developed prevalence surveys that became the basis for national nutrition programs. She has developed and tested user-friendly assessment and program evaluation tools, including the "Helen Keller International Food Frequency Method" and the "Population Council's Situation Analysis of Obstetric Services." These methodologies are being used by non-government organizations and private voluntary organizations around the world.

Dr. Sloan has conducted fieldwork in Bangladesh, Indonesia, Vietnam, Ghana and Ecuador as well as the United States.

Keith P. West, Jr., DrPH

As of February 1998, Keith West is a full Professor in International Health and Opthalmology at the Johns Hopkins University. Previously he was an Associate Professor (1991-1998) and an Assistant Professor (1986-1991) in the same department at Johns Hopkins.

Dr. West received his BS degree in Foods and Nutrition from Drexel University (1971). He received his MPH (1979) and DrPh (1987) in Public Health and International Health, respectively, from Johns Hopkins University.

Dr. West has authored many books and journal articles, particularly with regard to the treatment of vitamin A deficiency, the epidemiology of xerophthalmia, the epidemiology of night blindness during pregnancy and lactation, interactions of zinc and vitamin A, and effects of vitamin A supplementation and food fortification. He has conducted extensive fieldwork in Nepal.

Peter J. Winch, MD, MPH

Peter Winch is an Assistant Professor in the Department of International Health of the Johns Hopkins School of Hygiene and Public Health where he teaches courses on research methods in applied medical anthropology and formative research.

Since Dr. Winch joined the faculty in 1988, he has conducted formative research for community- based disease control interventions, including the use of qualitative and quantitative methods to examine local concepts of disease transmission and prevention in various developing countries.

Dr. Winch has conducted his research in Tanzania, Egypt, Mexico, Honduras, Puerto Rico and Brazil. His work has focused on the development of effective behavior change methodologies for controlling the spread of tropical infectious diseases such as dengue hemorrhagic fever, malaria and schistosomiasis.

Daniel Wright, MBA

Mr. Daniel Wright is the product manager for fat soluble vitamins at BASF in the NAFTA region. Mr. Wright is responsible for developing strategic plans, determining pricing and for guiding product development for these vitamins both as a supplement and as a food application. He has worked with BASF for ten years in several different capacities and businesses.

Mr. Wright has a BA in economics and an MBA, both from the University of Michigan

WORKING GROUPS - Individual Assignments

Name		Working Group
Aguayo	Victor	Iron Supplementation Standards Group
Alegre	Juan-Carlos	Dietary Intervention & Food Fortification Group
Baker	Jean	Iron Operations Research Group
Baker	Shawn	Dietary Intervention & Food Fortification Group
Barrows	John	Industry Partnership Group
Benavente	Luis	Dietary Intervention & Food Fortification Group
Berger	Rene	Micronutrient Advisory Council Group
Berger	Ian	Vitamin A Supplementation and Operations Research Group
Berggren	Gretchen	Dietary Intervention & Food Fortification Group
Berggren	Warren	Iron Operations Research Group
Boy	Erick	Iron Operations Research Group
Brunkow	Kristine	Iron Supplementation Standards Group
Burger	Susan	Vitamin A Supplementation and Operations Research Group
Burkhalter	Barton	Dietary Intervention & Food Fortification Group
Bystrova	Irina	Iron Supplementation Standards Group
Capps	Jean	Iron Supplementation Standards Group
Carter	Joseph	Micronutrient Advisory Council Group
Carter	Joanne	Micronutrient Advisory Council Group
Caulfield	Laura	Iron Operations Research Group
Christian	Parul	Vitamin A Supplementation and Operations Research Group
Clement	Liliana	Vitamin A Supplementation and Operations Research Group
David	Patricia	Iron Operations Research Group
Davis	Dale	Vitamin A Supplementation and Operations Research Group
Davis	Robert	Micronutrient Advisory Council Group
Dickinson	Annette	Industry Partnership Group
Dickson	Kate	Micronutrient Advisory Council Group
Dusch	Erin	Multi-nutrient Supplementation Standards Group
Elder	Leslie	Micronutrient Advisory Council Group
Elvander	Erika	Iron Operations Research Group
Ferrus	Arsene	Micronutrient Advisory Council Group
Ferrus-Morris	Margie	Dietary Intervention & Food Fortification Group
Foote	Dotty	Multi-nutrient Supplementation Standards Group
Formal	Allison	Industry Partnership Group
Fortney	Judith	Industry Partnership Group
Free	Michael	Industry Partnership Group
Freire	Wilma	Iron Supplementation Standards Group
Frigg	Martin	Industry Partnership Group
Galloway	Rae	Iron Operations Research Group
Gaskell	Jackie	Dietary Intervention & Food Fortification Group
Gavrish	Natalia	Iron Supplementation Standards Group
Gerasimov	Gregory	Multi-nutrient Supplementation Standards Group

Goetz	Cecilia	Iron Supplementation Standards Group
Gomez	Raul	Vitamin A Supplementation and Operations Research Group
Goodrick	Lorraine	Micronutrient Advisory Council Group
Gursky	Charles	Industry Partnership Group
Haaga	John	Vitamin A Supplementation and Operations Research Group
Hageraats	Els	Vitamin A Supplementation and Operations Research Group
Hannah	Faye	Dietary Intervention & Food Fortification Group
Haroun	Mohamed	Industry Partnership Group
Harrison	Michelle	Industry Partnership Group
Henry	Annie	Multi-nutrient Supplementation Standards Group
Hoemeke	Laura	Micronutrient Advisory Council Group
Horner	Mary Ruth	Iron Operations Research Group
Howson	Chris	Micronutrient Advisory Council Group
Huddle	Janet Marie	Dietary Intervention & Food Fortification Group
Huffman	Sandra	Multi-nutrient Supplementation Standards Group
Islam	Wahidul	Iron Supplementation Standards Group
Jackson	Thad	Industry Partnership Group
Jensen	Elise	Micronutrient Advisory Council Group
Joseph	Marguerite	Iron Supplementation Standards Group
Ka	Abdoulaye	Industry Partnership Group
Kachule	Timothy	Iron Supplementation Standards Group
Kahn	Samuel	Industry Partnership Group
Khan	Omar	Vitamin A Supplementation and Operations Research Group
Kotz	Renee	Vitamin A Supplementation and Operations Research Group
Koval	Andy	Industry Partnership Group
Labbok	Miriam	Dietary Intervention & Food Fortification Group
Laine	Angelina	Vitamin A Supplementation and Operations Research Group
Lazarev	Mikhail	Multi-nutrient Supplementation Standards Group
Lutter	Chessa	Multi-nutrient Supplementation Standards Group
Lutz	Erika	Multi-nutrient Supplementation Standards Group
Lynch	Sean	Iron Supplementation Standards Group
Maberly	Glen	Iron Operations Research Group
Madubuike	Chinwe	Vitamin A Supplementation and Operations Research Group
Magalhaes	Rebecca	Dietary Intervention & Food Fortification Group
Malanick	Cheri	Micronutrient Advisory Council Group
Mannar	Vankatesh	Multi-nutrient Supplementation Standards Group
Marachev	Alexander	Iron Operations Research Group
Marquez	Lani	Multi-nutrient Supplementation Standards Group
Marriott	Bernadette	Micronutrient Advisory Council Group
Marsh	David	Industry Partnership Group
Marsh	Kristen	Dietary Intervention & Food Fortification Group
McNulty	Judiann	Dietary Intervention & Food Fortification Group
Medrek	Monica	Dietary Intervention & Food Fortification Group
Meline	Jed	Iron Operations Research Group
Metzel	Daniel	Multi-nutrient Supplementation Standards Group
Middleberg	Maurice	Industry Partnership Group
Moore	Judith	Industry Partnership Group

Mortensen	Brigitte	Dietary Intervention & Food Fortification Group
Mullins	Jolene	Iron Supplementation Standards Group
Nager	Donna	Multi-nutrient Supplementation Standards Group
Newberry	David	Iron Operations Research Group
Nilson	Alberto	Industry Partnership Group
Obias	Nancy	Vitamin A Supplementation and Operations Research Group
Ohri	Bonnie	Micronutrient Advisory Council Group
Okada	Ted	Vitamin A Supplementation and Operations Research Group
Overton	Jennifer	Iron Operations Research Group
Owade	Manasse	Multi-nutrient Supplementation Standards Group
Parvanta	Ibrahim	Iron Operations Research Group
Paulomi	Raiji	Dietary Intervention & Food Fortification Group
Petroni	Ivo	Industry Partnership Group
Pierre-Louis	June	Iron Supplementation Standards Group
Pope	Blaine	Iron Operations Research Group
Quimby	Charlotte	Micronutrient Advisory Council Group
Ramakrishnan	Usha	Multi-nutrient Supplementation Standards Group
Rasmussen	Kathleen	Vitamin A Supplementation and Operations Research Group
Rauch	Margie	Iron Supplementation Standards Group
Rice	Amy	Vitamin A Supplementation and Operations Research Group
Robinson	Paul	Vitamin A Supplementation and Operations Research Group
Rosales	Alfonso	Vitamin A Supplementation and Operations Research Group
Roy	Krishna	Industry Partnership Group
Rush	David	Iron Operations Research Group
Scheplyagina	Larisa	Iron Operations Research Group
Schwethelm	Bettina	Micronutrient Advisory Council Group
Seims	La Rue	Micronutrient Advisory Council Group
Shamombo	Brenda	Multi-nutrient Supplementation Standards Group
Shelyayev	Rudolph	Iron Supplementation Standards Group
Shrimpton	Roger	Multi-nutrient Supplementation Standards Group
Shulman	Susan	Iron Operations Research Group
Shumann	Jill	Multi-nutrient Supplementation Standards Group
Sloan	Nancy	Vitamin A Supplementation and Operations Research Group
Smith	James	Dietary Intervention & Food Fortification Group
Soto Aguirre	Enrique	Iron Supplementation Standards Group
Starbuck	Eric	Vitamin A Supplementation and Operations Research Group
Stone-Jimenez	Maryanne	Multi-nutrient Supplementation Standards Group
Tanner	Caroline	Iron Supplementation Standards Group
Tobing	Sharon	Dietary Intervention & Food Fortification Group
Tomashek	Kay	Iron Supplementation Standards Group
Trumbo	Paula	Iron Operations Research Group
Turner	Elizabeth	Industry Partnership Group
Urdaneta	Carmen	Multi-nutrient Supplementation Standards Group
Valadez	Joseph	Iron Operations Research Group
Van den Boogaart	Paula	Vitamin A Supplementation and Operations Research Group
Vyas	Darshana	Multi-nutrient Supplementation Standards Group
Wainwright	Emily	Multi-nutrient Supplementation Standards Group

Whittaker	Paul	Iron Supplementation Standards Group
Wilbur	Steve	Micronutrient Advisory Council Group
Wind	Alonzo	Iron Supplementation Standards Group
Wollinka	Olga	Micronutrient Advisory Council Group
Wright	Dan	Industry Partnership Group
Wyville-Staples	Pamela	Vitamin A Supplementation and Operations Research Group
Zafar	Imran	Dietary Intervention & Food Fortification Group

WORKING GROUPS - General Assignments

Several conference working groups will be formed to address technical guidelines and program approaches for the PVO Role in Improving Iron and Vitamin A Status:

A) Vitamin A Supplementation and Operations Research Group
B) Iron Supplementation Standards Group
C) Multi-nutrient Supplementation Standards Group
D) Dietary Intervention & Food Fortification Group
E) Micronutrient Advisory Council Group
F) Iron Operations Research Group
G) Industry Partnership Group

GROUP A - VITAMIN A SUPPLEMENTATION AND OPERATIONS RESEARCH WORKING GROUP

Vitamin A Supplementation and Operations Research Group

Moderators: Susan Burger, Helen Keller International
Lily Clement, International Eye Foundation

Group will generate:
A. Guidelines to:
1. Identify safe, acceptable, effective mechanisms of maternal vitamin A supplementation:
    a) Safety of capsule-taking behavior at initiation of supplementation
        i) Number of capsules to give
        ii) Use of warning labels
        iii) Counseling messages
    b) Compliance or acceptance of vitamin A supplements
        i) Daily supplementation
        ii) Weekly supplementation
    c) Effective distribution system for vitamin A supplements
        i) Frequency of distribution to women: daily, weekly, monthly visits
        ii) Level of field personnel needed to distribute supplements
2. Identify feasible mechanisms of maternal vitamin A supplementation
    d) Community-based distribution
        i) TBAs, CBDs
        ii) Campaigns such as Polio, Measles or Micronutrient Days
    e) Clinic-based distribution:
        i) Ante- and post-partum care
        ii) Growth monitoring/well child
        iii) Immunization visits

B. Recommendations:
1. For current practices based on the best available evidence.
2. For operations research.
3. For a review process for operations research.
4. For setting timeline and/or review process to determine "final guidelines" based on new/future operations research.

Members:
Ian Berger, InFOCUS
Parul Christian, Johns Hopkins University
Dale Davis, Helen Keller International/Nepal
Raul Gomez, International Eye Found./Honduras
John Haaga, Population Reference Bureau
Els Hageraats, Medical Care Development Inc.-Mozambique
Omar Kahn, Johns Hopkins University
Renee Kotz, American Red Cross
Angelina Laine, Project HOPE/Haiti
Chinwe Madubuike, Quality Assurance Project
Nancy Obias, P. S. Buck Foundation/Philippines
Ted Okada, Food For The Hungry International
Kathleen Rasmussen, Cornell University
Amy Rice, Johns Hopkins University
Paul Robinson, Foundation of Compassionate American Samaritans
Alfonso Rosales, Salvation Army World Service Office
Nancy Sloan, Population Council
Eric Starbuck, USAID/BHR/PVC
Paula Van den Boogaart, CARE/Haiti
Pamela Wyville-Staples, USAID/G/PHN

Iron Supplementation Standards Group

Moderator: June Pierre-Louis, Helen Keller International

Group will:

1. Identify effective ways to advocate for iron supplementation programs.
2. Decide under what conditions to assess iron deficiency.
3. Prioritize target groups for supplementation and treatment vs. preventive programs.
4. Identify mechanisms to ensure iron supplies and delivery systems to achieve high coverage.
5. Provide counseling messages.
6. Define indicators to monitor compliance and advise on how to collect these data.

Members:

Victor Aguayo, LINKAGES
Kristine Brunkow, Pearl S. Buck Foundation
Irina Bystrova, Women & Family Center/Russia
Jean Capps, USAID/BHR/PVC
Wilma Freire, Pan American Health Organization
Natalia Gavrish, American International Health Alliance/Russia
Cecilia Goetz, Minnesota International Health Volunteers
Wahidul Islam, CARE/Bangladesh
Marguerite Joseph, Africare, Inc.
Timothy Kachule, Project HOPE/Malawi
Sean Lynch, Veteran Affairs Medical Center
Jolene Mullins, Minnesota International Health Volunteers/Uganda
Margie Rauch, Abt. Associates
Rudolph Shelyayev, International Foundation for Mother and Child Health Care/Russia
Enrique Soto Aguirre, Helen Keller International
Caroline Tanner, Aga Khan Foundation
Kate Tomashek, Centers for Disease Control
Paul Whittaker, Food & Drug Administration
Alonzo Wind, Medical Care Development Inc.

Multi-Nutrient Supplementation Standards Group

Moderator: Jill Shumann, Population Services International

Group will:

1. Outline the justification for multiple nutrient supplements.
2. Provide practical "how-to"recommendations for implementing a supplementation project.

Members:
Erin Dusch, MotherCare
Dotty Foote, Program Against Micronutrient Malnutrition
Gregory Gerasimov, Program Against Micronutrient Malnutrition/Russia
Annie Henry, Adventist Development & Relief Agency/Haiti
Sandra Huffman, LINKAGES
Mikhail Lazarev, Molecular Devices & Technology/Russia
Chessa Lutter, Pan American Health Organization
Erika Lutz, LINKAGES
Vankatesh Mannar, Micronutrient Initiative
Lani Marquez, Quality Assurance Project
Daniel Metzel
Donna Nager, Population Council
Manasse Owade, CARE/Kenya
Usha Ramakrishnan, Emory University
Brenda Shamambo, Salvation Army World Service Office/Zambia
Roger Shrimpton, UNICEF
Maryanne Stone-Jimenez, LINKAGES
Carmen Urdaneta, World Space Foundation
Darshana Vyas, Counterpart International
Emily Wainwright, USAID/G/PHN

Dietary Intervention and Food Fortification Group

Moderator: Judiann McNulty, CARE

Group will:

1. Produce decision tree which addresses whether micronutrient deficiencies can be alleviated through consumption of locally accessible or fortified foods.

2. Develop compendium of information which shows the contribution of dietary consumption of available foods and/or fortified foods to micronutrient needs.

Members:

Juan-Carlos Alegre, Project HOPE
Shawn Baker, Helen Keller International/Niger
Luis Benavente, Project HOPE/Peru
Gretchen Berggren, Ret.Faculty, Harvard SPH
Barton Burkhalter, BASICS
Angela Churchill, Peace Corps
Margie Ferris-Morris, FMA
Faye Hannah, Salvation Army World Service Office
Jackie Gaskell, Population Services International/Pakistan
Janet Marie Huddle, World Vision - Canada
Miriam Labbok, USAID/G/PHN
Rebecca Magalhães, La Leche League International
Kristin Marsh, USAID/G/PHN
Monica Medrek, Center for International Health Information
Brigitte Mortensen, BASF Corporation
Raiji Paulomi, World Water
James Smith, USDA
Sharon Tobing, ADRA/Haiti
Imran Zafar, Population Services International

Micronutrient Advisory Council Group

Moderator: Elise Jensen, Project HOPE

Group will:

1. Define of roles and responsibilities for a permanent advisory group to PVOs to improve the technical aspects of micronutrient activities.

2. Formulate strategies for institutionalization of such a group given the voluntary nature of its members.

3. Design the structure of the council.

4. Create process for interaction with PVOs.

5. Develop process for accessing industry and academic expertise.

Members:

Rene Berger, Center for International Health Information
Joanne Carter, RESULTS
Joseph Carter, Medical Care Development Inc.
Robb Davis, Catholic Relief Services
Kate Dickson, Pan American Health Organization
Leslie Elder, MotherCare
Arsene Ferrus, FOCAS/Haiti
Lorraine Goodrick, Feed the Children
Laura Hoemeke, Africare
Chris Howson, National Academy of Science
Cheryl Malanick, USAID/G/PHN
Bernadette Marriott, National Institutes of Health
Betty Meyer, Christian Children's Fund
Bonnie Ohri, USAID/ENI/DGSR/HRHA
Charlotte Quimby, American College of Nurse Midwives
Bettina Schwethelm, Project HOPE
La Rue Seims, International Medical Corps
Steve Wilbur, OMNI
Olga Wollinka, World Relief Corporation

Iron Operations Research Group

Moderator: Rudi Horner, Helen Keller International

Group will:

1. Identify operations research needed to fill knowledge gaps with regard to iron programming issues.
2. Provide recommendations to PVO program managers on how to more effectively utilize operations research resources.
3. Summarize funding opportunities and application procedures for operations research.

Members:

Jean Baker, LINKAGES
Warren Berggren, Ret.Faculty, Harvard SPH
Eric Boy, Institute of Nutrition of Central American and Panama
Laura Caulfield, Johns Hopkins University
Patricia David, Population Reference Bureau
Erika Elvander, Dept of Health & Human Services
Rae Galloway, BASICS
Glen Maberly, Program Against Micronutrient Malnutrition
Alexander Maruchev, Family Planning Center-Savior's Hospital/Russia
Jed Meline, USAID/G/PHN
David Newberry, CARE
Jennifer Overton, Catholic Relief Services/Kenya
Ibrahim Parvanta, Centers for Disease Control
Blaine Pope, Program Against Micronutrient Malnutrition
David Rush, Tufts University
Larisa Scheplyagina, International Foundation for Mother and Child Health/Russia
Susan Shulman, Population Services International
Paula Trumbo, International Life Sciences Institute
Joseph Valadez, PLAN International USA

Industry Partnership Group

Moderator: Thad Jackson, INMED-International Medical Services for Health

Group will:

1. Create mission statement of partnership through establishing goal, assessing needs, and evaluating expectations of all partners.

2. Develop strategy of partnership.

3. Describe mechanism of partnership between PVOs and industry by creating a team which includes pharmaceutical companies, nutrition specialists and PVO representatives.

4. Formulate an operating procedure for the mechanism by describing the primary tasks of the partnership team and by addressing sustainability issues. Evaluate and finalize operating procedures and set a timeline for future collaborations.

Members:

John Barrows, International Eye Foundation
Annette Dickenson, Council for Responsible Nutr.
Michael Free, Program for Appropriate Technology in Health
Allison Formal, Schein Pharmaceuticals
Judith Fortney, Family Health International
Martin Frigg, Sight & Life
Charles Gursky, Bayer Corporation
Mohamed Haroun, Islamic African Relief Agency
Michelle Harrison, Johnson&Johnson Corporation
Abdoulaye Ka, Africare
Sam Kahn, USAID/G/PHN
Andy Koval, MedPharm
David Marsh, Save the Children
Maurice Middleberg, CARE
Judith Moore, BASICS
Alberto Nilson, Hoffman-La Roche
Ivo Petroni, Hoffman-La Roche
Krishna Roy, Population Council
Elizabeth Turner, SUSTAIN
Dan Wright, BASF Corporation

LIST OF PARTICIPANTS

Ms. Sirad Abdirahman
International Health Policy / Student
George Washington University
3100 South Manchester
Apt. 233
Falls Church, VA 22044
T: 703-379-1617
F: 202-994-0900
E-mail:
abdis@gwis2.circ.gwu.edu

Mrs. Lynn Adrian
International Development Intern
USAID
1300 Pennsylvania Avenue, N.W.
Washington, DC 20523
T: 202-712-5784
F: 202-216-3404
E-mail: ladrian@usaid.gov

Dr. Victor Aguayo
Profiles Coordinator / LINKAGES Project
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
T: 202-884-8813
F: 202-884-8977
E-mail: vaguayo@aed.org

Juan-Carlos Alegre
Program Manager / Peru
Project HOPE
HOPE Center
Millwood, VA 22646
T: 540-837-2100
F: 540-837-1813
E-mail:
jcalagre@projhope.org

Sigrid Anderson
Chief, Family Planning Services Division
Office of Population
USAID Office of Population
Ronald Reagan Building
Washington, DC
20523-3600
T: 202-712-5851
E-mail: sanderson@usaid.gov

Ms. Jean Baker
Director, LINKAGES Project
Academy for Educational Development (A.E.D)
1255 23rd Street, N.W.
Washington, DC 20037
T: 202-884-8845
F: 202-884-8977
E-mail: jbaker@aed.org

Mr. Shawn Baker
Regional Director for Africa
Helen Keller International
B P 11.728
Niamey
Niger
T: 227-75.33.14/15
F: 227-75.33.13
E-mail: keller@intnet.ne

Dr. Victor Barbiero
Chief, Child Survival Division
USAID
Population, Health & Nutrition Center
1300 Pennsylvania Avenue
Washington, DC
20523-3700
T: 202-712-1283
F: 202-216-3702
E-mail: vbarbiero@usaid.gov

Mr. Kevin Baron
Legislative Associate
Coalition for American Leadership Abroad
2101 E Street, N.W.
Washington, DC 20039
T: 202-944-5519
F: 202-338-6820
E-mail: colead@afsa.org

Mr. John Barrows
Director of Programs
International Eye Foundation
7801 Norfolk Avenue
Bethesda, MD 20814
T: 301-986-1830
F: 301-986-1876
E-mail: info@iefusa.org

Dr. Michael Beach
Epidemiologist
Centers for Disease Control and Prevention
Chamblee 102 1315 / NCID
Mail Stop F22
1600 Clifton Road N.E.
Atlanta, GA 30333
T: 770-488-7763
F: 770-488-7761
E-mail: mjb3@cdc.gov

Dr. Luis Benavente
Program Director / Peru
Project HOPE
Health Sciences Education Center
Millwood, VA 22646
T: 540-831-2100
F: 540-837-1813
E-mail:
jcalegre@projhope.org

LIST OF PARTICIPANTS

Dr. Luis Benavente
Program Director
Project HOPE
Av. Honorio Delgado 430
Lima-31
Peru
T: 511-482-0302
F: 511-482-4353
E-mail: lbe@upch.edu.pe

Dr. Ian Berger
President
InFOCUS
327 Tealwood Drive
Houston, TX 77024
T: 713-468-3040 /
512-992-0122
F: 713-468-7704 /
512-992-0122
E-mail: rady@ibm.net

Mr. Rene Berger
Health Policy Analyst
Center for International
Health Information
1601 N. Kent Street
Suite 1014
Arlington, VA 22209
T: 703-524-5225
F: 703-243-4669
E-mail: rberger@cihi.com

Dr. Gretchen Berggren
Retired Faculty -
Harvard School of Public
Health
14455 Preston Road
Dallas, TX 75240
T: 972-726-9971
F: 972-726-0404
E-mail:
wgberggren@juno.com

Dr. Warren Berggren
Retired Faculty -
Harvard School of Public
Health
14455 Preston Road
Dallas, TX 75240
T: 972-726-9971
F: 972-726-0404
E-mail:
wgberggren@juno.com

Dr. Erick Boy
Medical Officer /
Micronutrients Unit
Coordinator
Institute of Nutrition of
Central America & Panama
Km 6 1/2 Carretera
Roosevelt, Zona 11
Guatemala City
Guatemala
T: 502-471-9912
F: 502-473-6529
E-mail: eboy@incap.org.gt

Dr. David Brandling-Bennett
Deputry Director
Pan American Health
Organization
Pan American Sanitary
Bureau - World Health Org.
525 23rd Street, N.W.
Washington, DC
20037-2895
T: 202-974-3000
F: 202-974-3608

Ms. Bryna Brennan
Chief, Office of Public
Information
Pan American Health
Organization
525 23rd Street, N.W.
Washington, DC 20037
T: 202-974-3457
F: 202-974-3143
E-mail: brennanb@paho.org

Ms. Kristine Brunkow
Health Programs Director
Pearl S. Buck Foundation
P.O.B 181
Perkasie, PA 18944-0181
T: 215-249-0100
F: 215-249-9657
E-mail: psbf@voicenet.com

Dr. Susan Burger
Nutrition Director
Helen Keller International
90 Washington Street
New York, NY 10006
T: 212-943-0890
F: 212-943-1220
E-mail: sburger@hki.org

Dr. Barton Burkhalter
Technical Officer
B A S I C S
1600 Wilson Boulevard
Suite 300
Arlington, VA 22209
T: 703-312-6819
F: 703-312-6900
E-mail: bburkhal@basics.org

Dr. Irina Bystrova
Woman and Family Center
Birth House No. 2
151 Proletarka
Tver 170001
Russia
T: 7-0822-42-3651 /
420729

Ms. Ann Cagigas
L.L.L.I. Leader / Liaison
La Leche League International
8104 Orville Street
Alexandria, VA 22309
T: 703-780-6317
F: 703-780-1680
E-mail: acagigas@erols.com

Mrs. Alisa Cameron
Independent Contractor
Boston University
214 13th Street, S.E. #3
Washington, DC 20003
T: 202-546-5477
F: 202-546-5477
E-mail: bjoly@erols.com

LIST OF PARTICIPANTS

Jean Capps
Child Survival Technical Advisor
USAID / BHR / PVC
1300 Pennsylvania Avenue, N.W.
Room 7.06-072
Washington, DC 20523
T: 202-712-1458
F: 202-216-3041
E-mail: jcapps@usaid.gov

Dr. Joanne Carter
Legislative Director
R E S U L T S
236 Massachusetts Avenue, N.E.
Suite 300
Washington, DC 20002
T: 202-543-9340
F: 202-543-7512
E-mail: carter@action.org

Mr. Joseph Carter
Director
M C D I
1742 R Street, N.W.
Washington, DC 20009
T: 202-462-1920
F: 202-265-4078
E-mail: mcdi@mcd.org

Dr. Laura Caulfield
Assistant Professor
Johns Hopkins University
615 N. Wolfe Street
Room W2041
Baltimore, MD 20904
T: 410-955-2786
F: 410-955-0696
E-mail: lcaulfie@jhsph.edu

Ms. Lisa Childs
PVO / NGO Fellow
Center for Population Health & Nutrition
USAID Office of Population
Ronald Reagan Building
Washington, DC
20523-3600
T: 202-712-5849
E-mail: lchilds@usaid.gov

Ms. Francoise Chome
Manager, Micronutrient Programs
SUSTAIN
1400 16th Street, N.W.
Box 25
Washington, DC 20036
T: 202-328-5177
F: 202-328-5175
E-mail:
fchome@sustaintech.org

Dr. Parul Christian
Asst. Scientist
Div. Human Nutrition
Johns Hopkins University
615 N. Wolfe Street
Room 2041
Baltimore, MD 21205
T: 410-955-1188
F: 410-955-0196
E-mail: pchristi@jhsph.edu

Ms. Angela Churchill
Health Program Specialist
Peace Corps
1990 K Street, N.W.
Washington, DC 20520
T: 202-606-3278
F: 202-606-3298
E-mail:
achurchill@peacecorps.org

Dr. Patricia David
Senior Policy Analyst
Population Reference Bureau
1875 Connecticut Avenue, N.W.
Suite 520
Washington, DC
20009-5728
T: 202-939-5408
F: 202-328-3937
E-mail: pdavid@prb.org

Dale Davis
Representative, Nepal
Helen Keller International
P.O. Box 3752
Kathmandu
Nepal
T: 977-1-480232/480921
F: 977-1-480234
E-mail:
hki@hkipc.wlink.com.np

Dr. Robert Davis
Health Technical Advisor
Catholic Relief Services
209 West Fayette Street
Baltimore, MD 21201-3443
T: 410-625-2220
F: 410-234-3189
E-mail:
rdavis@catholicrelief.org

Mr. Paul Del Ponte
Partner
IssueSphere
1100 Connecticut Avenue, N.W.
12th Floor
Washington, DC 20036
T: 202-452-6500
F: 202-452-6502
E-mail:
paul_delponte@41mod.com

Dr. Annette Dickinson
Director-Scientific & Regulation Affairs
Council for Responsible Nutrition
1300 19th Street, N.W.
Washington, DC 20036
T: 202-872-1488
F: 202-872-9594
E-mail: annette@crnusa.org

LIST OF PARTICIPANTS

Dr. Kate Dickson
N G O Liason Officer
Pan American Health Organization
Office of External Relations
World Health Organiation,
525 23rd Street, N.W.
Washington, DC
20037-2895
T: 202-974-3470
F: 202-974-3607
E-mail: dicksonc@paho.org

Mr. George Dines
Senior Advisor, International Health Affairs
Health Resources and Services Administration
5600 Fishers Lane, Parklawn Building
Room 14-14
Rcokville, MD 20857
T: 301-443-6152
F: 301-443-7834
E-mail:
gdines@hrsa.dhhs.gov

Dr. Sambe Duale
Research Manager
Sara Project, Tulane University
1255 23rd Street, N.W.
Suite 400
Washington, DC 20037
T: 202-884-8809
F: 202-884-8701
E-mail: sduale@aed.org

Dr. Florence Durandin
Health Sector Coordinator
CARE / Haiti
92, Rue Gregoire
Petion-Ville
Haiti
T: 509-57 5358/89/97
E-mail:
carehaiti@pap.care.org

Ms. Erin Dusch
MotherCare Project / John Snow, Inc.
1616 North Fort Myer Drive
11th Floor
Arlington, VA 22209
T: 703-528-7474
F: 703-528-7480
E-mail: erin_dusch@jsi.com

Dr. Anbarasi Edward Raj
Research Associate
Department of International Health
School of Hygiene
615 North Wolfe / Johns Hopkins University
Baltimore, MD 21205
T: 410-955-3928
F: 410-614-1419
E-mail: aedward@jhsph.edu

Ms. Leslie Elder
Nutrition Technical Advisor
MotherCare
J S I 1616 N. Fort Meyer Drive
11th Floor
Arlington, VA 22209-3100
T: 703-528-7474
F: 703-528-7480
E-mail: leslie_elder@jsi.com

Ms. Ericka Elvander
International Program Officer
International & Refugee Health
Department of Health & Human Services
5600 Fishers Lane / Parklawn 18-90
Rockville, MD 20857
T: 301-443-9426
F: 301-443-0742

Mr. Daniel Epstein
Press Officer
Pan American Health Organization
525 23rd Street, N.W.
Washington, DC 20037
T: 202-974-3459
F: 202-974-3143
E-mail: epsteinb@paho.org

Dr. Arsene Ferrus
Program Manager
F O C U S
Rue Borno #41
Petionville
Haiti
T: 509-57-5962
E-mail: focashaiti@aol.com

Ms. Dotty Foote
Project Coordinator
Program Against Micronutrient Malnutrition-P.A.M.M
Department of International Health
Emory University, 1518 Clifton Road, N.E 7th Floor
Atlanta, GA 30322
T: 404-727-5543
F: 404-727-4590
E-mail:
dfoote@sph.emory.edu

Mrs. Allison Formal
Director, Humanitarian Aid
Schein Pharmaceutical
1427 Mayhurst Boulevard
McLean, VA 22102
T: 703-790-8592
F: 703-790-3309

Dr. Judith Fortney
Corporate Director of Scientific Affairs
Family Health International
P.O.B. 13950
Research Triangle Park
Durham, NC 27709
T: 919-544-7040
F: 919-544-7261
E-mail: jfortney@fhi.org

LIST OF PARTICIPANTS

Dr. Michael Free
V.P. Senior Advisor for Technology
P A T H (Program for Appropriate Technology In Health)
4 Nickerson Street
Seattle, WA 98109
T: 206-285-3500
F: 206-285-6619
E-mail: mfree@path.org

Dr. Wilma Freire
Coordinator
Pan American Health Organization
Food and Nutrition Program
World Health Organization,
525 23rd Street, N.W.
Washington, DC
20037-2895
T: 202-974-3505
F: 202-974-3682
E-mail: wilmafr@paho.org

Dr. Martin Frigg
Sight & Life
P.O.Box 2116
4002 Basel
Switzerland
T: 41-61-691-22-53
F: 41-61-688-19-10
E-mail:
martin.frigg@roche.com

Rae Galloway
B A S I C S
1600 Wilson Boulevard
Suite 300
Arlington, VA 22209
T: 703-312-6800
F: 703-312-6900
E-mail: rgallowa@basics.org

Ms. Jackie Gaskell
Nutrition Advisor / PSI Pakistan
Population Services International
Bungalow No.1-A Street No.8
Sector F-8/3
Islamabad
Pakistan
T: 92-51-854-126
F: 92-51-264-436
E-mail:
psi@isb.comsats.net.pk

Dr. Natalia Gavrish
O B G Y N Dept.
St. Petersburg Sokolov Medical Center
4 Kuttury St.
St. Petersburg
Russia
T: 7-812-558-9035
F: 7-812-558-9893
E-mail: sokol@infopro.spb.ru

Dr. Gregory Gerasimov
Project Coordinator, Russia Program Against Micronutrient Malnutrition
P.O.Box 24
Moscow, 103001
Russia
T: 7-095-299-7596
F: 7-095-299-7596
E-mail:
g.gerasim@g23.relcom.ru

Dr. Duff Gillespie
Deputy Assistant Administrator
USAID
Population, Health and Nutrition
320 Twenty-First Street, N.W.
Washington, DC
20523-3600
T: 202-712-4120
F: 202-216-3404

Ms. Cecilia Goetz
Program Officer
M I H V
122 West Franklin Avenue
Suite 110
Minneapolis, MN 55404
T: 612-871-3759
F: 612-871-8775
E-mail: cgoetz@mihv.org

Dr. Heather Goldman
Office Director
USAID / India
B-28 Qutab Institutional Area
New Delhi 110016
India
T: 91-11-6865301
F: 91-11-6868594
E-mail: hgoldman@usaid.gov

Dr. Raul Gomez
Country Director
International Eye Foundation
P.O.Box 5138
Tegucigalpa M.D.C.
Honduras
T: 504-232-683
F: 504-232-683
E-mail:
ief-hon@david.intertel.hn

Mr. Walter Gonzalez
Health Consultant
Independent Health Consultants
14103 Yorkshirewood Drive
Silver Spring, MD 20906
T: 301-460-4506
F: 301-460-4506
E-mail: walgon@aol.com

Ms. Lorraine Goodrick
Health Specialist
Feed the Children
P.O.B 36
Oklahoma City, OK 73103
T: 405-945-4070
F: 405-942-4168

Ms. Victoria Graham
Manager
The C O R E Group
220 I Street, N.E.
Suite 270
Washington, DC 20002
T: 202-608-1800
F: 202-543-0121
E-mail:
vgraham@worldvision.org

Mrs. Cintia Guimaraes
Social Sector Specialist
Inter-American Development Bank
1300 New York Avenue N.W.
Washington, DC 20577
T: 202-623-1669
F: 202-623-3174
E-mail: cintiag@iadb.org

Mr. Charles Gursky
Pharmaceutical Division
Bayer Corporation
64 Mount Pleasant Drive
Trumbull, CT 06611
T: 203-459-9185
F: 203-459-9185
E-mail:
charles.gursky.b@bayer.com

Dr. John Haaga
Director, M E A S U R E Communication
Population Reference Bureau
1875 Connecticut Avenue, N.W.
Suite 520
Washington, DC
20009-5728
T: 202-939-5414
F: 202-328-3937
E-mail: jhaaga@prb.org

Mr. Edwin Hedvall
Program and Administration Officer
International Eye Foundation
7801 Norfolk Avenue
Bethesda, MD 20814
T: 301-986-1830
F: 301-986-1876
E-mail: ehedvall@iefusa.org

Mrs. Els Hageraats
Training Coordinator / Nurse Trainer
M C D I / Mozambique
1742 R Street, N.W.
Washington, DC 20009
T: 202-462-1920
F: 202-265-4078
E-mail: mcdi@mcd.org

Faye Hannah
Program Consultant
The Salvation Army World Service Office
615 Slaters Lane
Alexandria, VA 22313
T: 703-684-5528
F: 703-684-5536
E-mail:
faye_hannah@salvationarmy.org

Dr. Mohamed B. Haroun
Medical Desk Officer
I A R A - U.S.A.
201 E. Cherry
Columbia, MO 65203
T: 573-443-0166
F: 573-443-5475
E-mail: iaraharoun@aol.com

Ms. Paige Harrigan
Food Aid Management
300 I Street, N.E.
Washington, DC 20002
T: 202-544-6972
F: 202-544-7065
E-mail:
pharrigan@foodaid.org

Dr. Michelle Harrison
Executive Director
Johnson & Johnson Institute for Children
410 George Street
New Brunswick, NJ 08901
T: 732-524-2132
F: 732-524-5058
E-mail:
mharris@corus.jnj.com

Dr. Annie Henry
Director, C.S. Project
ADRA / Haiti
Diquini 63, Carrefour
B P 11196
Port-Au-Prince, Haiti
T: 509-34-1035/41-006
F: 509-34-0191/3115
E-mail: adrapap@ach2.net

Ms. Laura Hoemeke
Health Care Program Manager, Francophone Africa
Africare
440 R Street, N.W.
Washington, DC 20001
T: 202-328-5347
F: 202-387-1034
E-mail:
lhoemeke@africare.org

Dr. Mary Ruth Horner
Deputy to the President
Helen Keller International
90 Washington Street
New York, NY 10006
T: 212-943-0890
F: 212-943-1220
E-mail: rhorner@hki.org

Ms. Linda Horton
Director, International Policy Staff
Office of Policy, Food & Drug Administration
5600 Fishers Lane
Room 15-74
Rockville, MD 20857
T: 301-827-3344
F: 301-443-9606

LIST OF PARTICIPANTS

Dr. Chris Howson
Executive Director
Board on International Health
Institute of Medicine,
National Academy of Science
2101 Constitution Avenue, N.W.
Washington, DC 20000
T: 202-334-2427
F: 202-334-3861

Dr. Janet-Marie Huddle
Nutrition Director
World Vision Canada
6630 Turner Valley Road
Mississanga, Ontario
Canada L5N-254
T: 905-821-3033
F: 905-821-1825

Dr. Sandra Huffman
Research Coodinator
LINKAGES
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
T: 202-884-8700
F: 202-884-8977
E-mail: shuffman@aed.org

Dr. Wahidul Islam
Program Coordinator
CARE / Bangledesh
G.P.O Box 226
Dhaka 1000, Bangladesh
T: 880-2-814-195
F: 880-2-814-183
E-mail: carebang@bangla.net

Mr. Roberto Iunes
Health Specialist
Inter-American Development Bank
1300 New York Avenue, N.W.
Stop# E-0803
Washington, DC 20577
T: 202-623-2456
F: 202-623-3173
E-mail: robertoi@iadb.org

Dr. Thad Jackson
Executive Vice President
I N M E D
45449 Severn Way
Suite 161
Sterling, VA 20166
T: 703-444-4477
F: 703-444-4471
E-mail:
inmed@ix.netcom.com

Ms. Sandra Jacob
Graduate Student
George Washington University
12109 Spriggs Request Court
Bowie, MD 20721
T: 301-390-8198
E-mail:
jacobm@gwis2.circ.gwu.edu

Mrs. Mary Anne Javed
Program Manager / Health
Christian Children's Fund
2821 Emerywood Parkway
Richmond, VA 23229
T: 804-756-2787
F: 804-756-2718
E-mail: maryja@ccfusa.org

Elise Jensen
Program Specialist
Project HOPE
Health Sciences Education Center
Millwood, VA 22646
T: 540-837-2100
F: 540-837-1813
E-mail:
ejensen@projhope.org

Kate Jones
USAID
BHR/PVC/CS
1300 Pennsylvania Ave., NW
Washington DC 20523
T: 202-712-1444
F: 202-216-3039
E-mail: kjones@usaid.gov

Ms. Marguerite Joseph
Health Program Manager, Southern Africa
Africare
440 R Street, N.W.
Washington, DC 20001
T: 202-328-5342
F: 202-387-1034
E-mail:
mjoseph@africare.org

Mr. Adboulaye Ka
Health Program Intern
Africare
Africare House
440 R Street, N.W.
Washington, DC 20001
T: 202-462-3614
F: 202-387-1034

Timothy Kachule
Project Coordinator
Project HOPE / Malawi
Health Sciences Education Center
Millwood, VA 22646
T: 540-837-2100
F: 540-837-1813

Dr. Samuel Kahn
Senior Health & Nutrition Advisor
USAID
Office of Health & Nutrition
1300 Pennsylvania Avenue
Washington, DC 20523
T: 202-712-0785
F: 202-216-3702
E-mail: skahn@usaid.org

LIST OF PARTICIPANTS

Ms. Anindita Kar-Roy
Graduate Research Assistant
Dept. of Microbiology & Immunology
University of Maryland, Baltimore
655 W.Baltimore Street,
Bressler Res Bldg. 13001
Baltimore, MD 21201
T: 410-706-0269
F: 410-706-2129
E-mail:
akarroy@umaryland.edu

Ms. Laura Kearns
Health & Population Officer
USAID
R R B 3.06
Washington, DC 20523
T: 202-712-4692
F: 202-216-3702
E-mail: lkearns@usaid.gov

Prof. Omar Khan
Center for Communication Program
Johns Hopkins School of Public Health
111 Market Place
Suite 310
Baltimore, MD 21202
T: 410-659-6149
F: 410-659-6266
E-mail: okhan@jhuccp.org

Dr. Marge Koblinsky
Director, MotherCare
John Snow, Inc.
1616 N. Fort Myer Drive
Arlington, VA 22209
T: 703-528-7480
F: 703-528-7474
E-mail:
marge_koblinsky@jsi.com

Ms. Renee Kotz
Associate International Health Programs
American Red Cross
2025 E Street, N.W.
3rd Floor
Washington, DC 20006
T: 202-728-6636
F: 202-728-6404
E-mail:
kotzr@usa.redcross.org

Andy Koval
MedPharm
1776 K Street, N.W.
Suite 700
Washington, DC
20006-2304
T: 202-452-7996
F: 202-452-6041
E-mail:
medpharm@erols.com

Dr. Miriam Labbok
Chief, Nutrition and Maternal / Infant Health
USAID / G / PHN / HN / NMH
R R B 3.7.54
Washington, DC
20523-3700
T: 202-712-4915
F: 202-216-3702
E-mail: mlabbok@usaid.gov

Angelina Laine
Project Coordinator / Haiti
Project HOPE
Rue 12 Q No. 88
Cap-Haitian
Haiti
F: 509-62-1634

Mr. Mikhail Lazarev
President
Molecular Devices and Technology
22/1 Timura Frunze Sta.
Moscow 119021
Russia
T: 7-095-248-5575
F: 7-095-248-3717

Dr. Ann Levin
Health Economist
Partnerships for Health Reform
4800 Montgomery Lane
Suite 600
Bethesda, MD 20814
T: 301-215-5907
F: 301-652-3916
E-mail:
ann_levin@abtassoc.com

Ms. Cynthia Lewis
Program Associate for Women's Health
American International Health Alliance
1212 New York Avenue, N.W.
Washington, DC 20005
T: 202-789-1136
F: 202-789-1277
E-mail: cynthia@aiha.com

Ms. Teresa Lozeau
Program Associate
SUSTAIN
1400 16th Street, N.W.
Box 25
Washington, DC 20036
T: 202-328-5180
F: 202-328-5175
E-mail:
tlozeau@sustaintech.org

Ms. Mary Lung'aho
Sen.Tech.Adv. Emergency Health/Nutrition
Catholic Relief Services / LINKAGES Proj
Program Quality & Support Department
209 West Fayette Street
Baltimore, MD 21202-3443
T: 410-625-2220
F: 410-234-3189
E-mail: mlungaho@aol.com

LIST OF PARTICIPANTS

Dr. Chessa Lutter
Advisor
Pan American Health Organization
525 23rd Street, N.W.
Washington, DC 20037
T: 202-974-3871
F: 202-924-3682
E-mail: lutterch@paho.org

Ms. Erika Lutz
Program Associate
LINKAGES Project
1255 23rd Street, N.W.
Suite 400
Washington, DC 20009
T: 202-884-8080
F: 202-884-8977
E-mail: elutz@aed.org

Dr. Sean Lynch
Veteran Affairs Medical Center
100 Emancipation Drive
Hampton, VA 23667
T: 757-722-9961
F: 757-728-3187
E-mail: lynch.sean_r@hampton.med.va.gov

Ms. Chinwe Madubuike
Quality Assurance Analyst
Quality Assurance Project
7200 Wisconsin Avenue
Suite 600
T: 301-941-8443
F: 301-941-8427
E-mail: cmadubuike@urc-chs.com

Ms. Rebecca Magalhaes
Director, International Action and Development
La Leche League International
1400 N. Meacham Road
Schaumburg, IL
60173-4840
T: 849-519-7730
F: 847-519-0035
E-mail: rmagalhaes@llli.org

Ms. Cheri Malanick
V I T A Coordinator
USAID
1300 Pennsylvania Avenue, N.W.
Washington, DC 20523
T: 202-712-0648
F: 202-216-3702
E-mail: cmalanick@usaid.gov

Dr. Alexander Marachev
Director of Family Planning Center
Saviour's Hospital
17-10 Federativniy St.
Moscow
Russia
T: 7-095-301-1502
F: 7-095-301-1502
E-mail: moskva70@glas.apc.org

Dr. Thomas Marchione
Nutrition Advisor
USAID / BHR / PVC
1300 Pennsylvania Avenue, N.W.
Washington, DC 20523
T: 202-712-1645
F: 202-216-3385
E-mail: tmarchione@usaid.gov

Ms. Lani Marquez
Senior Quality Assurance Advisor
Quality Assurance Project
7200 Wisconsin Avenue
Suite 600
T: 301-941-8443
F: 301-941-8427
E-mail: cmadubuike@urc-chs.com

Dr. Bernadette Marriott
Director Office of Dietary Supplements
Office of Disease Prevention / NIH
9000 Rockville Pike
Bethesda, MD 20892
T: 301-435-2920
F: 301-480-1845

Dr. David Marsh
Child Survival Specialist
Epidemiologist
Save the Children
54 Wilton Road
Saugatuck / Westport, CT
06880
T: 203-221-4145
F: 203-221-3799
E-mail: dmarsh@savechildren.org

Ms. Kristen Marsh
Program Advisor Nutrition & Health
USAID / Nutrition & Maternal Health
G / PHN / HN / NMH
3.07-075 M, 3rd Floor, R R B
Washington, DC
20523-3700
T: 202-712-1042
F: 202-216-3702
E-mail: kmarsh@usaid.gov

Dr. Judiann McNulty
Deputy Director, Children's Health
CARE International
151 Ellis Street, N.E.
Atlanta, GA 30303
T: 404-681-2552
F: 404-577-1205
E-mail: mcnulty@care.org

Ms. Monica Medrek
Health Policy Analyst
Center for International
Health Information
1601 N. Kent Street
Suite 1014
Arlington, VA 22209
T: 703-247-5896
F: 703-243-4669
E-mail: mmedrek@cihi.com

Mr. Jed Meline
USAID
G / PHN
Ronald Reagan Building
Washington, DC
20523-3800
T: 202-712-1833
F: 202-216-3227
E-mail: jmeline@usaid.gov

Mr. Dan Metzel
4829 W. Seminary Avenue
Richmond, VA 23227
T: 804-264-9114
F: 804-264-9114
E-mail: mishenge@juno.com

Ms. Betty Meyer
Washington Representative
Christian Children's Fund
1400 16th Street, N.W.
Suite 120
Washington, DC 20036
T: 202-462-2161
F: 202-462-0601
E-mail: ccfwash@ccfusa.org

Dr. Maurice Middleberg
Director, Health and
Population Unit
CARE International
151 Ellis Street, N.E.
Atlanta, GA 30303
T: 404-681-2552
F: 404-577-1205

Ms. Judith Moore
Technical Officer
B A S I C S
1600 Wilson Boulevard
Suite 300
Arlington, VA 22209
T: 703-312-6860
F: 703-312-6900
E-mail: jmoore@basics.org

Mrs. Margie Morris
Food Security & Nutrition
Analyst
FMA
6407 Lyric Lane
Falls Church, VA 22040
T: 703-642-2536
F: 703-642-2536
E-mail: fma@dc.net

Mrs. Birgitte Mortensen
Technical Service Manager,
Nutritionist
B A S F Health & Nutrition
A/S
Malmparken 5
2750 Ballerup
Denmark
T: 45 4473 0145
F: 45 4473 0102
E-mail:
birgitte.mortensen@basf-bhn
.dk

Ms. Beth Anne Moskov
Population Health &
Nutrition Officer
USAID
6110 Aura Court
Falls Church, VA 22041
T: 202-712-5053
E-mail: bmoskov@usaid.gov

Ms. Jolene Mullins
Project Director
Minnesota International
Health Volunteers
P.O.Box 897
Masaka
Uganda 55404
T: 256-41-272438
F: 256-41-234252
E-mail: mihv@starcom.co.ug

Ms. Donna Nager
Program Associate
Population Council
One Dag Hammarskjold
Plaza
New York, NY 10017
T: 212-339-0602
F: 212-755-6052
E-mail:
dnager@popcouncil.org

Ms. Sarah Nark
Program Associate
SUSTAIN
1400 16th Street, N.W.
Box 25
Washington, DC 20036
T: 202-328-5178
F: 202-328-5175
E-mail:
snark@sustaintech.org

Ms. Erica Neale
The C O R E Group, W.V.R.D
220 I Street, N.E.
Suite 270
Washington, DC 20002
T: 202-608-1800
F: 202-543-0121
E-mail:
eneale@worldvision.org

Mr. David Newberry
Senior Advisor for Children's
Health
CARE International
151 Ellis Street, N.E.
Atlanta, GA 30303
T: 404-681-2552
F: 404-577-1205
E-mail: newberry@care.org

LIST OF PARTICIPANTS

Ms. Lisa Nichols
Senior Health Policy Analyst
Center for International Health Information
1601 N. Kent Street
Suite 1014
Arlington, VA 22209
T: 703-247-5895
F: 703-243-4669
E-mail: lnichols@cihi.com

Mr. Alberto Nilson
Latin American Manager
Produtos Roche, Q.F.S.A.
Av. Eng Billings, 1729
05321-900 Sao Paulo, S P
Brazil
T: 55-11-8194519
F: 55-11-8194980
E-mail:
alberto.nilson@roche.com

Dr. Maureen Norton
Senior Technical Advisor
Center for Population Health & Nutrition
USAID Office of Population
Ronald Reagan Building
Washington, DC
20523-3600
T: 202-712-1334
E-mail: mnorton@usaid.gov

Ms. Nancy Obias
Program Director
Pearl S. Buck Foundation
5/F Prudential Bank Building
#1377 A. Magini Cor. Sta. Monica
Ermita. M. Manila 1000
Philippines
T: 632-5220195 / 632-5257292
F: 632-5260270
E-mail:
psbfco@globe.com.ph

Ms. Bonnie Ohri
Senior Health Advisor
USAID
1300 Pennsylvania Avenue
ENI / DGSR / HRHA
Room 5.07.001
Washington, DC
T: 202-712-1018
F: 202-716-3011
E-mail: bohri@usaid.gov

Mr. Ted Okada
Director, Washington Office
Food for the Hungry International
9705 Commonwealth Boulevard
Fairfax, VA 22032
T: 202-547-0560
F: 202-547-0523
E-mail: ted@fhi.net

Mrs. Jennifer Overton
Head Health & Nutrition Unit
Catholic Relief Services
Box 49675
Nairobi, Kenya
T: 254-2-741355
F: 254-2-741356
E-mail:
crskenya@form-net.com

Mr. Manasse Owade Nyantom
Field Health Supervisor-Project Officer
CARE Kenya
P.O. Box 606
Siaya
Kenya
T: 0334-2171/211384
E-mail:
caresya@net2000ke.com

Mr. Adnan Ozair
Information Analyst
Center for International Health Information
1601 North Kent Street
Suite 1014
Arlington, VA 22209
T: 703-247-5885
F: 703-243-4669
E-mail: aozair@cihi.com

Mr. Ibrahim Parvanta
Public Health Nutritionist
Centers for Disease Control and Prevention
M S K-25
4770 Buford Highway, N.E.
Atlanta, GA 30341
T: 770-488-5865
F: 770-488-5473
E-mail: ixp1@cdc.gov

Ms. Dionne Patz
Consultant, Regional Program on AIDS / STD
Pan American Health Organization
525 23rd Street, N.W.
HCA / HCP
Washington, DC 20037
T: 202-974-3872
F: 202-974-3695
E-mail: patzdione@paho.org

Ivo Senff Petroni
Pharm. and Cosmetic Industry Coordinator
Produtos Roche, Q.F.S.A.
Av. Eng Billings, 1729
05321-900 Sao Paulo, S P
Brazil
T: 55-11-8194520
F: 55-11-8194980
E-mail:
ivo.petroni@roche.com

Ms. Cynthia Phillips
Public Health Student
2615 42nd Street, N.W.
Apt. 305
Washington, DC 20007
T: 202-337-1341
E-mail:
phil0093@tc.umn.edu

Dr. June Pierre-Louis
Nutrition Manager
Helen Keller International
90 Washington Street
New York, NY 10006
T: 212-943-0890
F: 212-943-1220
E-mail: jpierre-louis@hki.org

Dr. Ellen Piwoz
Nutrition Advisor, S.A.R.A Project
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
T: 202-884-8816
F: 202-884-8701
E-mail: epiwoz@aed.org

Ms. Frances Plunkett
Population Specialist
World Bank
1818 H Street, N.W.
Washington, DC 20003
T: 202-458-0312
F: 202-522-1772
E-mail:
fplunkett@worldbank.org

Ms. Charlotte Quimby
Senior Technical Advisor
American College of Nurse-Midwives
102 Grantham Mountain Road
Meriden, NH 03770
T: 603-469-3205
F: 603-469-3800
E-mail:
cquimby@cyberportal.net

Ms. Paulomi Raiji
Research Assistant
World Water for All
3511 Davenport Street, N.W.
Apt. 202
Washington, DC 20008
T: 202-686-0867
F: 301-948-2242
E-mail: praiji@ctisinc.com

Dr. Usha Ramakrishnan
Assistant Professor
Department of International Health
The Rollins School of Public Health
Emory University, 1518 Clifton Road, N.E.
Atlanta, GA 30322
T: 404-727-1092
F: 404-727-1278
E-mail:
uramakr@sph.emory.edu

Dr. Kathleen Rasmussen
Professor, Division of Nutritional Science
Cornell University
111 Savage Hall
Ithaca, NY 14853-6301
T: 607-255-2290
F: 607-255-2290 / 1033
E-mail: kmr5@cornell.edu

Ms. Margie Rauch
Senior Analyst
Abt Associates / Partnerships for Health Reform
4800 Montgomery Lane
Suite 600
Bethesda, MD 20814
T: 301-718-3186
F: 301-652-3916
E-mail:
margie_rauch@abtassoc.com

Ms. Liliana Riva Clement
Child Survival Coordinator
International Eye Foundation
7801 Norfolk Avenue
Bethesda, MD 20814
T: 301-986-1830
F: 301-986-1876
E-mail: lily@iefusa.org

Dr. Paul Robinson
Health Program Director
F O C U S
P.O.B. 428760
Cincinnati, OH 45242
T: 513-621-5300
F: 513-621-5307
E-mail: focashq@aol.com

Dr. Alfonso Rosales
Health Program Consultant
Salvation Army World Service Office
615 Slaters Lane
P.O.B. 269
Alexandria, VA 22313
T: 703-684-5528
F: 703-684-5536
E-mail:
arosales@usn.salvationarmy.org

Krishna Roy
Program Manager
The Population Council
4201 Connecticut Avenue
Suite 408
Washington, DC 20008
T: 202-237-6456
F: 202-237-6458
E-mail: kroy@pcdc.org

Dr. David Rush
Professor of Nutrition
Community Health & Pediatrics
Tufts University
68 Foster Street
Cambridge, MA 02138
T: 617-547-8467
F: 617-556-3344
E-mail: rush@hnrc.tufts.edu

LIST OF PARTICIPANTS

Ms. Maria Pia Sanchez
Senior Program Officer
M S H
165 Allandale Road
Boston, MA 02130
T: 617-524-7799
F: 617-524-2825
E-mail: msanchez@msh.org

Dr. Maria Rochelle Sanchez-Collantes
Co-Director
Sacred Heart Foundation Health Projects
5109 Knickerbocker Drive
Box 5
Alexandria, VA 22310
T: 703-924-1511

Prof. Larisa Scheplyagina
Director of Ecological Programs
International Foundation for Mother & Child Health
Noviy Arbat 5
Moscow 21019
Russia
T: 7-095-290-33-10
F: 7-095-290-33-63

Dr. Rosemary Schleicher
Research Chemist
National Center for Environmental Health
Centers for Disease Control and Prevention
4770 Buford Highway, N.E.
Mailstop F10
Atlanta, GA 30350
T: 770-488-4424
F: 770-488-4541
E-mail: zwa5@cdc.gov

Dr. Bettina Schwethelm
Director M C H Programs
Project HOPE
Health Sciences Education Center
Millwood, VA 22646
T: 540-837-2100
F: 540-837-1813
E-mail:
bschwet@projhope.org

Ms. La Rue K. Seims
Regional Director (Nairobi)
International Medical Corps
3714 Calvert Street, N.W.
Washington, DC 20007
T: 202-625-0594
E-mail:
seims@worldnet.att.net

Ms. Brenda Shamambo
Nutritionist / Outreach Program
The Salvation Army, Chikankata Hospital
P. Bag 5-2
Mazabuka
Zambia

Dr. Almaz Sharmanov
Health Specialist
Macro International
11785 Beltsville Drive
Calverton, MD 20705
T: 301-572-0816
F: 301-572-0999
E-mail:
sharmanov@macroint.com

Prof. Rudolf Shelyayev
Head, Ivanovo Affiliation
Int'l Foundation for Mother & Child Health Care
8 Engel'sa St.
Ivanova 153000
Russia
T: 7-0932-325042
F: 7-0932-329055
E-mail: hazarov@chat.ru

Dr. Roger Shrimpton
Chief, Nutrition Section
U N I C E F
3 United Nations Plaza
Nutrition Section T A - 24 A
New York, NY 10017
T: 212-824-6368
F: 212-824-6465
E-mail:
rshrimpton@unicef.org

Ms. Susan Shulman
Assistant Program Manager
Population Services International
1120 19th Street, N.W.
Suite 600
Washington, DC 20036
T: 202-785-0072
F: 202-785-0120
E-mail:
sshulman@psiwash.org

Ms. Jill Shumann
Child Survival Coordinator
Population Services International
1120 19th Street, N.W.
Suite 600
Washington, DC 20036
T: 202-785-0072
F: 202-785-0120
E-mail:
jshumann@psiwash.org

Dr. Nancy Sloan
Associate, International Programs Division
Population Council
One Day Hammarskjold Plaza
New York, NY 10017
T: 212-339-0601
F: 212-755-6052
E-mail:
nsloan@popcouncil.org

Dr. James Smith
Research Chemist
U.S. Department of Agriculture
Building 307
Room 226
Beltsville, MD 20705
T: 301-504-8383
F: 301-504-9456

Ms. Sara Smith
M P H Candidate
George Washington University
2300 41st Street N.W.
#305
Washington, DC 20007
T: 202-965-2927
E-mail:
sjsmith@gwis2.circ.gwu.edu

Mr. Enrique Soto Aguirre
Coordinador Teenico H K I
Mexico
Helen Keller International
Venustiano Callanza #815
C.P. 31000 Por Centro
Chihuahca
Mexico
T: 52-14-29-3300
F: 52-14-29-3300
E-mail:
hkimex@buzon.online.com.
mx

Ms. Kristen Spangler
Program Associate
SUSTAIN
1400 16th Street, N.W.
Box 25
Washington, DC 20036
T: 202-328-5180
F: 202-328-5185
E-mail:
kspangler@sustaintech.org

Ms. Mary Ellen Stanton
Senior Reproductive Health
Advisor
USAID
1405 Cola Drive
McLean, VA 22101
T: 202-712-4208
F: 202-216-3702
E-mail: mstanton@usaid.gov

Dr. Eric Starbuck
Fellow
USAID / BHR / PVC
R.R.B 7.06-082
Washington, DC
20523-7600
T: 202-712-5252
F: 202-216-3039
E-mail: estarbuck@usaid.gov

Dr. Patricia Stephenson
Maternal Health Advisor
USAID
Health & Nutrition G / PHN /
NMH
Room 3.07.044 3rd Floor R R
B
Washington, DC
20523-3700
T: 202-712-0989
F: 202-216-3702

Ms. Maryanne Stone-Jimenez
Training & Community
Coordinator
LINKAGES & La Leche League
1255 23rd Street, N.W.
Washington, DC 20037
T: 202-884-8367
F: 202-884-8977
E-mail: mstone@aed.org

Ms. Anna Takaku
Volunteer Program
Coordinator
Sacred Heart Foundation
Health Projects
2127 Guilford Road
Apt. 301
Hyattsville, MD 20783
T: 301-445-4337
E-mail:
atakaku@wam.umd.edu

Ms. Caroline Tanner
Health Programs Consultant
Aga Khan Foundation U.S.A.
3330 19th Street, N.W.
Washington, DC 20010
T: 202-293-2537
F: 202-785-1752

Dr. Christopher Taylor
Bacterial Diseases Program
Officer
National Institute Allergy
Infect. Dis. N.I.H
6003 Executive Boulevard
S L R 3801
Bethesda, MD 20892
T: 301-435-2877
F: 301-496-8030
E-mail: ct18m@nih.gov

Mrs. Sharon Tobing
Technical Advisor
ADRA / Haiti
11807 N. Lincoln Avenue
Beltsville, MD 20705
T: 301-937-7806
F: 301-680-6370
E-mail: stocking@erols.com

Dr. Kay Tomashek
E.I.S. Officer, International
Emergency & Relief
C.D.C, IERHP / NCEH
4770 Buford Highway, N.E.
Atlanta, GA
T: 770-488-4466
F: 770-488-7829
E-mail: kct9@cdc.gov

Ms. Natalie Tomitch
Program Officer for Russia
and NIS
Fogarty International Center
National Institutes of Health
31 Center Drive (M.S.C
2220) Room B2 C11
Bethesda, MD 20892
T: 301-496-4784
F: 301-480-3414
E-mail: tomitch@nih.gov

Dr. Paula Trumbo
Associate Director
International Life Sciences
Institute
1126 16th Street, N.W.
Washington, DC 20036
T: 202-659-0789
F: 202-659-3617
E-mail: ptrumbo@ilsi.org

Ms. Elizabeth Turner
Executive Director
SUSTAIN
1400 16th Street, N.W.
Box 25
Washington, DC 20026
T: 202-328-5180
F: 202-328-5185
E-mail:
lturner@sustaintech.org

LIST OF PARTICIPANTS

Ms. Carmen Urdaneta
International Program Associate
World Space Foundation
1730 Rhode Island Avenue, N.W.
Suite 1200
Washington, DC 20000
T: 202-861-2273
F: 202-861-6407
E-mail: curdaneta@worldspace.org

Dr. Joseph Valadez
Health Programs Coordinator
PLAN International
3260 Wilson Boulevard
Arlington, VA 22201
T: 703-807-0190
F: 703-807-0162
E-mail: valadezj@plan.geis.com

Mr. George Vary
Executive Director
American Zinc Association
1112 16th Street, N.W.
Suite 240
Washington, DC 20036
T: 202-835-0164
F: 202-835-0155

Mrs. Darshana Vyas
Senior Public Health Specialist
Counterpart International
1200 18th Street, N.W.
11th Floor
Washington, DC 20036
T: 202-296-9676
F: 202-296-9679
E-mail: dvyas@counterpart.org

Ms. Emily Wainwright
Child Survival Advisor
USAID
G / PHN / HN / Child Survival
R R B 3.07-045
Washington, DC 20523-3700
T: 202-712-4569
F: 202-216-3702
E-mail: ewainwright@usaid.gov

Dr. Keith West
Associate Professor, Hygiene & Public Health
John Hopkins University
Division of Human Nutrition
615 North Wolfe Street, Room 2041
Baltimore, MD 21205
T: 410-955-2061
F: 410-955-0196
E-mail: kwest@jhsph.edu

Dr. Paul Whittaker
Supr. Research Chemist
F.D.A
200 C Street, S.W.
Washington, DC 20204
T: 202-205-4377
F: 202-205-4758
E-mail: pvw@cfsan.fda.gov

Steve Wilbur
O M N I
1616 Fort Myer Drive
Arlington, VA 22209-3100
T: 703-528-7474
F: 703-528-7480
E-mail: steve_wilbur@jsi.com

Dr. Peter Winch
Assistant Professor
School of Hygiene and Public Health
Johns Hopkins University / International Health
615 N. Wolfe Street
Baltimore, MD 21205
T: 410-955-9854
F: 410-955-7159
E-mail: pwinch@phnet.sph.jhu.edu

Mr. Alonzo Wind
Senior Program Officer
M C D I
1742 R Street, N.W.
Washington, DC 20009
T: 202-462-1920
F: 202-265-4078
E-mail: mcdi@mcd.org

Ms. Olga Wollinka
Child Survival Program Specialist
World Relief
P.O.B. W R C
Wheaton, IL 60189
T: 630-665-0235
F: 630-665-4473
E-mail: worldrelief@compuserve.com

Mr. Dan Wright
Product Manager, Human Health
B A S F Corporation
3000 Continental Drive, North
Mt. Olive, NJ 07828-1234
T: 973-426-5385
F: 973-426-5381
E-mail: wrightdg@basf.com

Ms. Pamela Wyville-Staples
G / PHN IDI
USAID
R R B 3.04-072 A
Washington, DC 20523
T: 202-712-4625
E-mail: pwyville-staples@usaid.gov

Dr. Stella Yu
Epidemiologist
Maternal & Child Health Bureau
5600 Fisher Lane
18 A-55
Rockville, MD 20847
T: 301-443-0695
F: 301-443-4842
E-mail: syu@hrsa.dhhs.gov

Mr. Imran Zafar
Program Manager
Population Services International
1120 19th Street, N.W.
Suite 600
Washington, DC 20036
T: 202-785-0072
F: 202-785-0120
E-mail: izafar@psiwash.org

LIST OF OGANIZATIONS

Abt Associates / Partnerships for Health Reform
Academy for Educational Development (A.E.D)
Adventist Development & Relief Agency (ADRA)
Africare
Aga Khan Foundation U.S.A.
American College of Nurse-Midwives
American International Health Alliance
American Red Cross
American Zinc Association
B A S F Corporation
B A S I C S
Bayer Corporation
Boston University
CARE International
Catholic Relief Services
Center for International Health Information
Centers for Disease Control and Prevention
Christian Children's Fund
Coalition for American Leadership Abroad (COLEAD)
Cornell University
Council for Responsible Nutrition
Counterpart International
John Hopkins University
Food & Drug Association
Family Health International
Feed the Children
Ferris-Morris Associates (FMA)
Fogarty International Center - National Institutes of Health
Food Aid Management (FAM)
Food for the Hungry International
George Washington University
Health Resources and Services Administration
Helen Keller International
Hoffman-La Roche (Produtos Roche, Q.F.S.A.)
I slamic African Relief Agensy (IA R A)
I N M E D
Independent Health Consultants
InFOCUS
Institute of Nutrition of Central America & Panama(INCAP)
Inter-American Development Bank
International Eye Foundation
International Foundation for Mother & Child Health
International Life Sciences Institute (ILSI)
International Medical Corps
International Foundation for Mother & Child Health Care
IssueSphere
Johns Hopkins University
Johnson & Johnson, Institute for Children

LIST OF OGANIZATIONS

La Leche League International
LINKAGES Project
M edical Care Development Inc. (MCDI)
M innesota International Health Volunteers (MIHV)
Macro International
MedPharm
Molecular Devices and Technology
MotherCare
National Center for Environmental Health
National Institute Allergy Infectious Diseases - National Institutes of Health
Opportunities for Micronutrient Interventions (OM N I)
Pan American Health Organization
Partnerships for Health Reform
Peace Corps
Pearl S. Buck Foundation
PLAN International
Population Council
Population Reference Bureau
Population Services International
Program Appropriate Technology (PATH)
Program Against Micronutrient Malnutrition (PAMM)
Project HOPE
Quality Assurance Project
R E S U L T S
Sacred Heart Foundation Health Projects
Salvation Army World Service Office (SAWSO)
Sara Project
Save the Children
Saviour's Hospital
Schein Pharmaceutical
Sight & Life
St. Petersburg Sokolov Medical Center
SUSTAIN
The C O R E Group
U N I C E F
U.S. Department of Agriculture
USAID / Bureau of Humanitarian Response / Private Voluntary Cooperation
USAID / Global Bureau / Center for Population, Health, Nutrition
Veteran Affairs Medical Center
World Bank
World Relief Corporation
World Space Foundation
World Vision - Canada
World Water for All