



U.S. GOVERNMENT GLOBAL NUTRITION COORDINATION PLAN 2016–2021



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Improving Nutrition with Fruit

A child eats fruit in Mozambique. Mozambican smallholder fruit farmers improve the quality and quantity of their yields through voluntary technical assistance from American farmers as part of the USAID Farmer-to-Farmer Program. The availability of high-quality fruits helps increase food security and offers nutritional options to consumers in local markets.

Front Cover Photo: CNFA

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PREFACE

We are pleased to share with you the U.S. Government 2016–2021 Global Nutrition Coordination Plan. As a global nutrition leader committed to the international development agenda, the U.S. Government implements a tremendous breadth and depth of activities relevant to international nutrition. We intend to use our considerable resources more effectively through better communication and collaboration and by consistently linking research to program implementation.

In this first U.S. Government Coordination Plan for improving global nutrition, we outline how we will use our resources most effectively in order to achieve the greatest immediate and long-term impacts on nutrition. Working together with our partners, we believe that with this Plan we can save more lives and improve the prospects of future generations of children through better nutrition outcomes.

We are in a period of renewed attention to nutrition as remarkable progress has been made to elevate nutrition goals into national plans, multi-sectoral policies, projects, and investments. There is new evidence of the crucial role of nutrition for individual and national development, which provides the scientific rationale for mobilizing significant resources for global nutrition. This is especially urgent now that most countries are facing a nutrition transition in which both under-nutrition and over-nutrition are challenging the health of their people.

In 2012, President Barack Obama emphasized the importance of nutrition to health and economic growth, “We’re going to keep focusing on nutrition, especially for young children, because we know the effects of poor nutrition can last a lifetime – it’s harder to learn; it’s harder to earn a living. When there is good nutrition, especially in those thousand days during pregnancy up to the child’s second birthday, it means healthier lives for that child and that mother. And, it’s the smart thing to do because better nutrition means lower healthcare costs, and it means less need for assistance later on.”¹ Our new Coordination Plan follows this important commitment.

The eight U.S. Government agencies that composed this Coordination Plan are at the forefront of enacting the President’s commitments to the 2025 Global Nutrition Targets adopted at the World Health Assembly (WHA) in 2012. For each of these WHA nutrition targets, better coordination and accountability will maximize U.S. Government impact. The Plan builds on U.S. initiatives, particularly Feed the Future and the McGovern–Dole International Food for Education and Child Nutrition Program, as well as contributes to our efforts in ending preventable child and maternal deaths and promoting an AIDS-free generation.

Now, with clear evidence and strong commitments, it is time to maximize our nutrition investments. This new U.S. Government Global Nutrition Coordination Plan is an opportunity to use our development, humanitarian, and diplomatic assistance in the best methods possible to prevent malnutrition and boost the potential of all citizens of the world to live healthy and prosperous lives.

1. Accessed at <http://www.whitehouse.gov/the-press-office/2012/05/18/remarks-president-symposium-global-agriculture-and-food-security>

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ACRONYMS

AMS	USDA Agriculture Marketing Service
APCA	Action Plan on Children in Adversity
ARS	USDA Agriculture Research Service
ART	Antiretroviral Treatment
ARV	Antiretroviral
AZT	Antiretroviral Agent Zidovudine
BFS	USAID Bureau for Food Security
BMI	Body Mass Index
BOND	Biomarkers of Nutrition for Development
CDC	U.S. Centers for Disease Control and Prevention
CMAM	Community Management of Acute Malnutrition
CNPP	USDA Center for Nutrition Policy and Promotion
CSO	Civil Society Organization
DCHA	USAID Bureau for Democracy, Conflict and Humanitarian Assistance
DHS	Demographic and Health Survey
DOHAD	Developmental Origins of Health and Disease
ENA	Essential Nutrition Actions
EPCMD	Ending Preventable Child and Maternal Deaths
ERS	USDA Economic Research Service
FAQR	Food Aid Quality Review
FAS	USDA Foreign Agricultural Service
FBP	Food by Prescription Program
FDA	Food and Drug Administration
FFI	Food Fortification Initiative
FNS	USDA Food and Nutrition Service
FSA	USDA Farm Service Agency
FSIS	USDA Food Safety and Inspection Service
GAFSP	Global Agriculture and Food Security Program
GAPs	Good Agricultural Practices
GFSI	Global Food Safety Initiative
GFSP	Global Food Safety Partnership
GH	USAID Global Health Bureau
GMPs	Good Manufacturing Practices
HACCP	Hazard Analysis Critical Control Points
HHS	U.S. Department of Health and Human Services
HRSA	Health Resources and Services Administration
iCCM	Integrated Community Case Management
ICHNR	Interagency Committee on Human Nutrition Research
ICN2	Second International Conference on Nutrition
IGN	Iodine Global Network
IMMPACT	International Micronutrient Malnutrition Prevention and Control Program
IYCF	Infant and Young Child Feeding
LBW	Low-Birth weight
M&E	Monitoring and Evaluation
MAM	Moderate Acute Malnutrition
MCC	Millennium Challenge Corporation
MDG	Millennium Development Goal
MEPI	Medical Educational Partnership Initiative

MFFAPP	Micronutrient-Fortified Food Aid Products Pilot
NACS	Nutrition Assessment, Counseling and Support
NCDs	Non-Communicable Diseases
NCHS	CDC's National Center for Health Statistics
NEPI	Nursing Educational Partnership Initiative
NIFA	USDA National Institute of Food and Agriculture
NIH	National Institutes of Health
N-RNCDs	Nutrition-Related Non-Communicable Diseases
OES/IHB	Department of State Office of International Health and Biodefense
OGA	HHS Office of Global Affairs
OSTP	White House Office of Science and Technology Policy
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PLHIV	People Living with HIV
PMTCT	Prevention of Mother-to-Child Transmission of HIV
POCs	Points of Contact
S/GAC	Department of State Office of the U.S. Global AIDS Coordinator and Health Diplomacy
S/GFS	Department of State Office of Global Food Security
SAFE	Solutions for African Food Enterprises
SDG	Sustainable Development Goal
SUN	Scaling Up Nutrition
TB	Tuberculosis
TWG	Technical Working Group
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
USDA	U.S. Department of Agriculture
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme
WHA	World Health Assembly
WHO	World Health Organization
WIC	Women, Infants, and Children

EXECUTIVE SUMMARY

The **U.S. Government Global Nutrition Coordination Plan** identifies concrete opportunities for greater interagency communication and collaboration on human nutrition research and programming, facilitating a stronger whole-of-government approach to global nutrition.

The U.S. Government is **committed to improving nutrition throughout the world in order to enhance health, productivity, and human potential**. Our vision is a world where, among other important impacts, childhood stunting and wasting are reduced and women's nutrition is improved, thereby saving millions of lives and realizing significant benefits to broad-based economic growth and development. Nutrition is a clear multi-sector priority that requires sustained attention in the coming years from multiple U.S. Government actors. Where resources are limited, better coordination will allow previously dispersed efforts to build upon collective lessons learned and achieve stronger results.

The U.S. Government implements a tremendous breadth and depth of activities relevant to international nutrition. **Multiple U.S. Government departments and agencies** are engaged in scaling up proven approaches to better nutrition and conducting human nutrition research, including:

- Millennium Challenge Corporation
- Peace Corps
- U.S. Agency for International Development (USAID)
- U.S. Department of Agriculture (USDA)
- U.S. Department of Health and Human Services (HHS)
- U.S. Department of State
- U.S. Department of Treasury
- White House Office of Science and Technology Policy (OSTP)

Current U.S. Government coordination on nutrition is largely based around presidential initiatives, such as Feed the Future; however, development of this Coordination Plan has helped to systematize relationships across the U.S. Government, so the agencies involved can leverage each other's knowledge and resources to accelerate progress toward shared nutrition goals. **The purpose of the U.S. Government Global Nutrition Coordination Plan is to strengthen the impact of the many diverse nutrition investments across the U.S. Government through better communication, collaboration, and linking research to program implementation.** Through coordination mechanisms, the U.S. Government will maximize its support to country-led programs, continue its global leadership and partnerships, and generate, share, and apply knowledge and evidence in the nutrition sector.

By identifying specific opportunities and mechanisms for coordination and collaboration across the U.S. Government, we expect to **accelerate progress toward World Health Assembly nutrition targets² and other U.S. Government global nutrition commitments**. This Coordination Plan identifies six technical focus areas as primary but not exclusive opportunities for enhanced multiple agency coordination: **food fortification, nutrition information systems, food safety, the first 1,000 days (pregnancy up to 2 years of age), nutrition-related non-communicable diseases, and HIV and nutrition**. Under each of these six technical focus areas, the U.S. Government will prioritize three approaches to improving coordination:

- 1) Support country-led nutrition efforts**
- 2) Promote leadership and partnership** at the global level
- 3) Generate, share, and apply knowledge and evidence** in a systematic fashion

The technical focus areas and key approaches outlined in this Plan do not describe a comprehensive landscape

2. World Health Assembly Nutrition Targets for 2025:

- 40 percent reduction in the number of children under 5 who are stunted
- 50 percent reduction of anemia in women of reproductive age
- 30 percent reduction in low birth weight
- No increase in childhood overweight
- Increase the rate of exclusive breastfeeding in the first 6 months up to at least 50 percent
- Reduce and maintain childhood wasting to less than 5 percent

of action but provide core examples of U.S. Government activities and commitments in international nutrition where a consolidation of resources may enhance results and impact.

Through this Coordination Plan, the U.S. Government holds itself accountable for **seven coordination actions**. These actions provide a backbone for collaborative U.S. Government nutrition programming and will be initiated upon Plan adoption:

1. Create a **permanent, government-wide Global Nutrition Technical Working Group** to serve as a leader and convener for action and information-sharing regarding U.S. Government global nutrition programs.
2. Release an **annual summary** of interagency progress under the U.S. Government Global Nutrition Coordination Plan.
3. Produce a **U.S. Government report** at the end of a 5-year cycle on U.S. Government contributions toward the World Health Assembly Nutrition Targets and other U.S. Government global nutrition commitments.
4. Develop a process to gather and report interagency information on annual U.S. Government nutrition **resource expenditures**.
5. Form a **U.S. Government Global Nutrition Implementation Science Sub-Working Group** that can interact with the existing Interagency Committee on Human Nutrition Research (ICHNR) and share best practices to link research to nutrition programs.
6. Make U.S. Government nutrition **data** openly available in accordance with the U.S. Government open data initiative.
7. Establish **points of contact** within each U.S. Government agency participating in the U.S. Government Global Nutrition Coordination Plan and at each international U.S. post with more than one U.S. Government agency engaged in nutrition-related programming.

The U.S. Government Global Nutrition Coordination Plan is meant to inform nutrition actions and does not guarantee funding levels beyond what is already planned. The Coordination Plan is not designed to provide a rigid structure to direct U.S. Government agencies into specific programming areas. This Plan is a living document that will evolve based on U.S. Government achievements and changes in the nutrition landscape, with intended updates at the end of the first 5-year period and as needed.

VISION STATEMENT FOR U.S. GOVERNMENT GLOBAL NUTRITION COORDINATION PLAN

The U.S. Government is committed to improving nutrition throughout the world in order to enhance health, productivity, and human potential. Our vision is a world where, among other important impacts, childhood stunting and wasting are reduced and women’s nutrition is improved, – thereby saving millions of lives and realizing significant benefits to broad-based economic growth and development. The expected result of this U.S. Government Global Nutrition Coordination Plan is accelerated progress toward relevant World Health Assembly targets, Sustainable Development Goals, and other U.S. Government global commitments by maximizing the impact of government actions through better coordination.

The U.S. Government has long been a leader in the effort to reduce under-nutrition around the world. Global nutrition is a priority of the U.S. Government and is the defining link between global health programs and Feed the Future, an initiative launched by President Barack Obama. The U.S. Government is a strong supporter of the Scaling Up Nutri-

tion (SUN) Movement and the 1,000 Days partnership and will continue to promote increased commitment to nutrition within the global community. The U.S. Government’s commitment to global nutrition aligns with the global commitment to end hunger and improve nutrition under the Sustainable Development Goals (SDGs). Maintaining close relationships with civil society organizations will be fundamental to ending hunger and achieving our shared nutrition goals.

Multiple U.S. Government agencies are engaged in scaling up proven approaches to better nutrition and conducting human nutrition research. The intention of the U.S. Government Global Nutrition Coordination Plan is to harness the power of the many diverse investments across the U.S. Government through better communications, collaboration, and linking research to program implementation. By embracing cross-U.S. Government partnerships and coordination, the impact of resources can be enhanced to improve nutrition worldwide.

U.S. Government Global Nutrition Coordination Plan Framework

Purpose

Improve nutrition to enhance health, productivity, and human potential

Expected Result

Accelerated progress toward the World Health Assembly nutrition targets, Sustainable Development Goals, and other U.S. Government global commitments by maximizing the impact of government actions

Action Area 1

Support Country-led Efforts

Action Area 2

Promote Leadership and Partnership

Action Area 3

Generate, Share, and Apply Knowledge and Evidence

Strengthened U.S. Government Coordination

The U.S. Government entities involved in this Coordination Plan are creating stronger relationships among agencies and improving communications around global nutrition activities both at headquarters as well as at the country level. Through better coordination, U.S. Government agencies can leverage each other's work and strengthen their collective accountability. Through better coordination mechanisms, the U.S. Government will maximize its support to country-led programs, continue its global leadership and partnerships, and generate, share, and apply knowledge and evidence to accelerate progress toward shared nutrition goals. Collectively, U.S. Government agencies intend to increase collaboration in order to help countries meet nutrition targets through nutrition-specific and nutrition-sensitive interventions.³

The U.S. Government Global Nutrition Coordination Plan Framework (see figure, page 11) lays out the expected result to be achieved through three action areas in which U.S. Government agencies can leverage each other's work and strengthen collective accountability.

"Expected result: Accelerated progress toward relevant World Health Assembly targets, Sustainable Development Goals, and other U.S. Government global commitments by maximizing the impact of government actions."

The principal goal of the U.S. Government Global Nutrition Coordination Plan is to contribute to the fullest extent possible to the **2025 Global Nutrition Targets** adopted at the World Health Assembly (WHA) in 2012:

- Increase the rate of exclusive breastfeeding in the first 6 months up to at least 50 percent
- 40 percent reduction in the number of children under 5 who are stunted
- 50 percent reduction of anemia in women of reproductive age
- Reduce and maintain childhood wasting to less than 5 percent
- 30 percent reduction in low birth weight
- No increase in childhood overweight

The Plan will also contribute to Sustainable Development Goal 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture,⁴ and is related to SDG Goal 1: End poverty in all its forms everywhere.

The U.S. Government has identified a series of actions that contribute to the achievement of the WHA nutrition targets. While ongoing U.S. Government efforts contribute to the WHA targets in numerous ways, six technical focus areas have been chosen as opportunities for multiple agency coordination for the purposes of the Coordination Plan. These six technical focus areas include: food fortification, nutrition information systems, food safety, the first 1,000 days, nutrition related non-communicable diseases, and HIV and nutrition (see Section 4 for a description of each).

The following are some of the highest impact actions proposed in this Coordination Plan, keyed to the WHA target they are expected to affect:

WHA Target: Increase the rate of exclusive breastfeeding in the first 6 months up to at least 50 percent

Key U.S. Government Actions:

- a. As part of the Ending Preventable Child and Maternal Deaths (EPCMD) Initiative, achieve optimal breastfeeding (immediate and exclusive for 6 months) in at least 28 target countries to an average exclusive breastfeeding rate of 50 percent.
- b. Ensure that breastfeeding counseling and preparation are an integral part of prenatal care guidelines and health provider training in all U.S. Government-supported maternal and child health programs, including prevention of mother-to-child transmission of HIV.
- c. Share lessons learned in U.S. experiences to reduce neonatal mortality through nutritional approaches, particularly the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), with the global Scaling Up Nutrition (SUN) Movement, 1,000 Days, and other international fora; this will include breastfeeding promotion and support.

WHA Target: 40 percent reduction in the number of children under 5 who are stunted

Key U.S. Government Actions:

- a. Promote optimal dietary diversity in children 6–24 months in the target countries of the U.S. Government global health programs and the Feed the Future Initiative. Where diet is inadequate, promote multi-micronutrient supplementation.
- b. Generate and apply knowledge and practices for mycotoxin control implemented across groundnuts, maize,

3. Nutrition-specific interventions address the immediate determinants of malnutrition. Nutrition-sensitive interventions address the underlying and systemic causes of malnutrition.

4. SDG 2 targets specific to nutrition: a). By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious, and sufficient food all year round. b). By 2030, end all forms of malnutrition, including achieving by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons.

and other susceptible crops in all Feed the Future focus countries.

- c. Provide expertise on global nutrition guidelines for pregnant and lactating women and children up to 2 years based on prenatal and birth-to-24-month dietary guidelines to be completed by the U.S. Government by 2020.
- d. Develop partnerships with country-led programs to strengthen water and food safety activities such as safe water, sanitation, hygiene, pest control, pesticide management, and protection from foodborne illnesses.

WHA Target: 50 percent reduction of anemia in women of reproductive age

Key U.S. Government Actions:

- a. Intensify micronutrient fortification efforts in West and East Africa and Central and Southeast Asia that institutionalize staple food fortification using different micronutrients and food sources, such as wheat and maize flour fortified with iron, developing fortification standards and tracking quality and consumption.
- b. Identify the relative causes of anemia⁵ in low- and middle-income countries; develop a range of safe, effective, targeted, evidence-based control measures to address nutritional iron deficiency and other nutrition-related causes of anemia; and disseminate the results in collaboration with WHO.
- c. Advocate for increased focus on maternal nutrition with national governments, including increased funding for anemia control programs.

WHA Target: Reduce and maintain childhood wasting to less than 5 percent

Key U.S. Government Actions:

- a. Strengthen Integrated Community Case Management (iCCM) with linkages to Community Management of Acute Malnutrition (CMAM) and Nutrition Assessment, Counseling and Support (NACS) screening, treatment, and referral in at least 15 countries with high levels of wasting.
- b. Strengthen data collection techniques and programs in order to obtain accurate, timely information and analysis with regard to childhood wasting and its determinants.

- c. Support local food industry production of specialized nutrition products or crops, such as fortified blended flours and lipid-based nutrition supplements, for the prevention and treatment of acute malnutrition.

WHA Target: 30 percent reduction in low birth weight

Key U.S. Government Actions:

- a. Collect and review U.S. Government evidence-based standards for maternal nutrition care and share with global health programs and Feed the Future focus countries.
- b. Support quality improvements in women's nutrition services and counseling during adolescence and pre-pregnancy and reproductive, prenatal, and postpartum care.
- c. Develop pre-service maternal nutrition modules for health provider training curricula that can be adapted to national institutions and implement within countries where the U.S. Government has health programs.
- d. Share U.S. experiences in the reduction of low birth weight and neonatal mortality through nutritional approaches with the Scaling Up Nutrition (SUN) leadership.

WHA Target: No increase in childhood overweight

Key U.S. Government Actions:

- a. Ensure closer interagency collaboration when responding to foreign government requests to learn about preventing nutrition-related non-communicable diseases (N-RNCDs) through improved nutrition.
- b. In a minimum of 20 countries, promote and support optimal infant and young child feeding practices as part of Essential Nutrition Actions and measure Minimum Acceptable Diet scores (DHS surveys).

For each of these WHA nutrition targets, better coordination and accountability will maximize U.S. Government impact. These tasks will be accomplished through the seven concrete actions laid out in Section 5 of this report (Actions and Accountability for Coordination).

5. Anemia (low level of hemoglobin in the blood leading to reduced capacity to carry oxygen to tissues and organs) has various causes; about 50 percent of cases are due to iron deficiency.

SECTION 1: CONTEXT OF GLOBAL NUTRITION

The Role of Nutrition in Global Health, Prosperity, and Human Potential

Proper nutrition is essential to overall human health and wellbeing. Good nutrition promotes the optimal growth and development of children. Malnutrition, both under-nutrition and over-nutrition, not only restricts the attainment of human potential and productivity, but also poses a high burden of social and economic consequences to individuals, families, communities, and nations. Root causes of malnutrition are complex and multidimensional, and different forms of malnutrition co-exist within many countries.

Even though significant achievements have been made in recent decades, progress in reducing malnutrition has been uneven around the world. The 2014 Global Nutrition Report found that the world overall is not on track to meet any of the six World Health Assembly (WHA) targets, despite improvements within many countries.⁶ Currently, an estimated 791 million people suffer chronic hunger (inadequate energy intake),⁷ 161 million children under 5 are stunted (low height for age), and 51 million children under 5 suffer acute malnutrition (low weight for height).⁸ Billions of people also suffer from micronutrient deficiencies,⁹ also known as “hidden hunger.” On the other hand, more than 1.9 billion adults and 42 million children under 5 are overweight or obese.¹⁰ The World Health Organization (WHO) estimates by 2025 the number of overweight and obese children under 5 will rise to 70 million.¹¹ Additionally, despite some improvements in water and sanitation, 748 million people lack access to safe drinking water, and 2.5 billion people lack access to improved sanitation, of which 1 billion people practice open defecation.¹² These can lead to a condition called environmental enteropathy, which has been associated with growth failure.¹³

Nutrition as an Emerging Multi-sector Priority

Global stakeholders are increasingly recognizing the importance of nutrition and the need to address it through multiple sectors. The Second International Conference on Nutrition (ICN2), which took place in November 2014, was a milestone event where more than 170 governments endorsed the Rome Declaration on Nutrition and the Framework for Action – committing to eradicating malnutrition.¹⁴ During the conference, the United States highlighted the need to place nutrition at the core of the Post-2015 Development Agenda, including integrating WHA targets into the Sustainable Development Goals (SDGs).

The U.S. Government recognizes the need for combined actions among the sectors of health, food safety, water and sanitation, education, early child development, gender integration, family planning, trade, and climate change to achieve long-lasting improvements in nutrition. Improving human nutrition not only requires consistent access to an appropriate diet, safe water, and a sanitary environment, but also adequate healthcare services to ensure a healthy and active life. It requires knowledge, resources, and skills for healthy living, prevention, treatment, and care for diseases affecting nutritional status, and safety net systems during emergencies and crisis situations. It also requires an agricultural system that can deliver an adequate, safe food supply on a sustainable basis. Limiting the burden posed by over-nutrition requires both treatment and prevention of the various non-communicable diseases (NCDs) that are driven by overweight and obesity. Ensuring good nutrition in the first 1,000 days of life is the foundation for reducing risk of both under-nutrition and over-nutrition and nutrition-related chronic diseases later in life.

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 14. The United States endorsed the Rome Declaration but provided an explanation of position. See <http://www.fao.org/3/a-at764e.pdf>.

Climate change is likely to result in rising temperatures and changes in weather extremes, which will have significant implications for global nutrition. Rising atmospheric carbon dioxide may lower the nutritional value of some food crops, including wheat and rice, with respect to protein and essential minerals. Increases in the frequency or intensity of extreme events associated with climate change may disrupt food distribution by damaging existing infrastructure, slowing shipments, or making storage more challenging. These impediments may lead to food damage, spoilage, and contamination, which limit access to safe and nutritious food. More information on the human health impacts of climate change is needed, including impacts on nutrient content and food safety, in order for stakeholders to prepare for such events.

Current U.S. Government Coordination

A large number of U.S. Government departments and agencies work on nutrition, each with a unique mandate (these are covered in greater detail in Section 3 and Appendix A). Current U.S. Government coordination on nutrition is largely based around presidential initiatives, such as Feed the Future, in addition to many less-formal but outstanding examples of interagency relationships. Development of this Coordination Plan has already helped to systematize relationships across the U.S. Government. In order to maximize domestic and international investments, this Plan identifies areas for greater communication and collaboration for a stronger whole-of-government approach to global nutrition.

SECTION 2: PURPOSE AND ACTION AREAS

Across the U.S. Government, various departments and agencies have a variety of missions and mandates in nutrition, all dedicated to improving nutrition both domestically and internationally. The shared purpose of U.S. Government global nutrition programs is to **improve nutrition to enhance health, productivity, and human potential** (see Appendix B for a list of illustrative U.S. Government global commitments relevant to nutrition). By identifying specific opportunities and mechanisms for coordination and collaboration across the Government, we expect to **accelerate progress toward World Health Assembly nutrition targets and other U.S. Government global nutrition commitments**.

In order to maximize the impact of its international actions on nutrition, the U.S. Government will improve coordination in three action areas. Each of the six illustrative technical focus areas described in Section 4 will be approached according to these three areas:

1) Supporting Country-led Efforts

U.S. Government policy is to support country-led and community-led policies, strategies, and processes. The U.S. Government complements and supports plans and assists in accomplishing the country's own goals.

U.S. Government agencies partner with **foreign governments, civil society organizations, private sector actors, researchers and universities, and other stakeholders** to leverage resources, promote coordinated actions, and advance country priorities. In some cases, this may require strengthening civil society organizations so that country-led initiatives are not only government-led.

U.S. Government agencies partner with a variety of global stakeholders, including:

- Foreign governments
- Civil society organizations
- Private sector actors
- Researchers and universities
- Multilateral Organizations

Building technical expertise and institutional capacity within countries is an important aspect of supporting country-led efforts, especially to ensure sustainability. Supporting country-led efforts involves **technical assistance** to national governments through advice, scholarship, and training; **capacity building** that builds a sustainable workforce and food system infrastructure, helps to create sound policies and operational strategies, and transitions programs to local ownership; **provision of resources**, including financial, human and in-kind resources to support activities that further nutrition objectives; and helping countries create an **enabling environment** that supports knowledge and evidence, trade and development, politics and governance, country capacity, and a healthy food system.

2) Promoting Leadership and Partnership

The U.S. Government needs to promote leadership within U.S. Government headquarters as well as at the country level. At the **global level**, we must lead and support global nutrition efforts and partnerships, contribute to the development of global nutrition policies and guidelines, and engage directly with other governments to promote action on nutrition. Within the **U.S. Government**, we must create stronger relationships among agencies and encourage transparency and improved communication around global nutrition activities. At the **country level, we must increase collective impact** by in-country U.S. Government offices and others working in-country through facilitating better communication and collaboration.

The U.S. Government agencies committed to this Plan will continue to engage in and promote multiple partnerships leading to coordinated nutrition efforts, not only among the various U.S. Government agencies, but also between the United States and other countries. At the country level, this involves outreach and engagement with key private and public stakeholders, including health, food, academic, science, and professional organizations and industry.

A top guiding principle for U.S. Government coordination is to empower the success of Scaling Up Nutrition (SUN) countries¹⁵ and to encourage other countries to join SUN, leading to improved nutrition outcomes. The U.S. Government intends to continue its strong involvement and engagement in SUN, via the SUN Lead Group and as a donor convener in many SUN countries. Enhancing capacity

15. <http://scalingupnutrition.org/sun-countries>

through partnerships with local institutions will support the implementation of evidence-based interventions.

3) Generating, Sharing, and Applying Knowledge and Evidence

It is U.S. Government policy to ensure that the public policy recommendations and nutrition programming developed as a result of the Coordination Plan are evidence-based, using the highest quality scientific data that is derived openly and objectively.

U.S. Government agencies have research capacity and resources across the spectrum of nutrition and nutrition-related topics. This wealth of expertise will be shared with multiple partners under the guidelines of this Plan. Relevant U.S. Government nutrition actors will more systematically share research findings, best practices, and lessons learned.

Through **monitoring and evaluation (M&E)**, U.S. Government agencies promote, develop and share M&E systems for nutrition interventions as well as contribute to the WHO e-catalog of indicators for micronutrient interventions. Through **research coordination**, we share findings, align activities, and identify knowledge gaps across the agencies in order to better leverage research results. We should promote, develop, and coordinate **surveillance systems** and share results. We can promote, develop, and use results of **national nutrition surveys** for policy formulation and program development. We can develop, share, and coordinate **technical resources** to improve program effectiveness and disseminate **best practices and lessons learned from both programming and implementation** and when possible, coordinate programs. We can also share findings on **technology and innovation** to better achieve mutual goals.

SECTION 3: NUTRITION ROLES AND ACTIVITIES ACROSS THE U.S. GOVERNMENT

The U.S. Government implements a tremendous breadth and depth of activities relevant to nutrition. Agencies whose mandates focus on the U.S. population are generating new knowledge and tools that are relevant around the world and in some cases are making international investments where globalization requires action to protect and improve the health of Americans.

Agencies with global mandates have expertise in under-nutrition and health systems but are now grappling with a rapidly changing landscape that includes non-communicable diseases and unprecedented market access to processed foods (some of which contribute to over-nutrition). Both at home and abroad, the U.S. Government prioritizes nutrition as a strategic approach to improving health, education, and economic growth.

The following agencies engage in or implement activities related to international nutrition. Appendix A provides additional detail on relevant U.S. Government programs under each of these agencies and bureaus.

- Millennium Challenge Corporation
- Peace Corps
- U.S. Agency for International Development (USAID)
 - Bureau for Democracy, Conflict and Humanitarian Assistance (DCHA)
 - Bureau for Food Security (BFS)
- U.S. Department of Agriculture (USDA)
 - Global Health Bureau (GH)
 - Agriculture Marketing Service (AMS)
 - Agriculture Research Service (ARS)
 - Center for Nutrition Policy and Promotion (CNPP)
 - Economic Research Service (ERS)
 - Farm Service Agency (FSA)
 - Food and Nutrition Service (FNS)
 - Food Safety and Inspection Service (FSIS)
 - Foreign Agricultural Service (FAS)
 - National Institute of Food and Agriculture (NIFA)
 - Office of the Chief Scientist
- U.S. Department of Health and Human Services (HHS)
 - U.S. Centers for Disease Control and Prevention (CDC)
 - Food and Drug Administration (FDA)
 - National Institutes of Health (NIH)
 - Office of Global Affairs (OGA)
- U.S. Department of State
 - Office of Global Food Security (S/GFS)
 - Office of the U.S. Global AIDS Coordinator and Health Diplomacy (S/GAC)
 - Office of International Health and Biodefense (OES/IHB)
- U.S. Department of Treasury
- White House Office of Science and Technology Policy (OSTP)

Whole-of-government initiatives that depend in part on improved nutrition to achieve their goals:

Feed the Future Initiative: The U.S. Government's global hunger and food security initiative | www.feedthefuture.gov

The U.S. President's Emergency Plan for AIDS Relief (PEPFAR): The U.S. Government's program to address global HIV and AIDS, focused on preventing infections, saving lives, and achieving sustainable control of the HIV and AIDS epidemic | www.pepfar.gov

President's Malaria Initiative (PMI): Strives to reduce the intolerable burden of malaria and help relieve poverty on the African continent and in the Greater Mekong Subregion | www.pmi.gov

Center of Excellence on Children in Adversity (CECA): Provides whole-of-government strategic guidance for U.S. Government international assistance for children | www.childreninadversity.gov

McGovern-Dole International Food for Education and Child Nutrition Program

Through the McGovern-Dole International Food for Education and Child Nutrition Program, USDA's Foreign Agricultural Service (FAS) works with private voluntary organizations and foreign governments worldwide to reduce hunger and improve literacy and primary education, especially for girls. The McGovern-Dole Program is structured around the delivery of school meals and take-home rations and focuses on primary school children. A meal served at schools reduces short-term hunger, increases enrollment and attendance, improves children's learning, and allows the food available at resource-poor homes to be stretched further. The McGovern-Dole program seeks not only an increase in children enrolling in and attending school, but also emphasizes that time spent at school will result in improved literacy and educational attainment.

Beginning in 2012, USDA ensured that the McGovern-Dole projects included funds and activities to build the capacity of teachers' knowledge base and pedagogy skills, strengthen educational materials and curricula, and improve the physical learning environment. Each McGovern-Dole project must demonstrate that it furthers two strategic objectives: (1) Improved Literacy of School-Age Children and (2) Increased Use of Health and Dietary Practices. The McGovern-Dole Program directly helps to meet the U.S. Government goals of alleviating poverty and affirming its commitment to childhood education and nutrition globally.

Core activities include: provision of school meals such as breakfast, a mid-morning snack, and take-home rations for school children and other beneficiaries; training of community members and parents to reinforce the value of school-based nutritional interventions; teacher training; health interventions, including supplemental vitamins and regular de-worming; school infrastructure crucial to delivering education and clean food including water supply and sanitation; and cooperation with regional and national governments to leverage McGovern Dole investments as building blocks to promote nationally-owned and operated, self-sustaining school feeding programs.

An estimated 40 million infants, children, pregnant and lactating women, and school community members have received benefits over the 10 years since the McGovern-Dole Program's inception in 2003. In fiscal year 2015, USDA provided \$202 million in U.S. agricultural commodities and support to about 2.5 million beneficiaries in 7 developing countries.

SECTION 4: COLLABORATIONS FOR ENHANCED GLOBAL IMPACT

The following six technical focus areas have been identified as opportunities to improve the global impact of U.S. Government investments related to nutrition. These focus areas do not describe a comprehensive landscape of action but provide core examples of U.S. Government activities and commitments in international nutrition where a coordination of resources may enhance results and impact. In this section, each technical focus area is briefly addressed, with a concise table that lists top priorities under the three action areas (see Section 2) prioritized under this Plan.

Appendix C provides additional detail on each of these technical focus areas, including further problem justification, a summary of current U.S. Government activities, and discussion of coordination opportunities. The content in Appendix C serves as an expanded version of the content found here in Section 4.

Six technical focus areas:

1. Food Fortification
2. Nutrition Information Systems
3. Food Safety
4. The First 1,000 Days

Food Fortification

Action Area	U.S. Government Activity
Support country-led efforts	<ol style="list-style-type: none"> 1. Support regional fortification efforts that institutionalize mass food fortification using different micronutrients or food sources such as wheat flour fortified with iron. 2. Provide technical assistance and capacity-building for country-led food fortification and processing. 3. Support production of locally produced, specialized nutrition products or crops, such as fortified blended flours and lipid-based nutrition supplements, for the prevention and treatment of malnutrition. 4. Strengthen government regulatory control systems for fortified processed foods.
Promote leadership and partnership	<ol style="list-style-type: none"> 5. Review current standards in Codex Alimentarius and ensure that standards that have been developed under the food fortification initiative are consistent. 6. Identify linkages with food safety investments to ensure adequate guidance and resources available for safe, effective food and crop fortification.
Generate, share, and apply knowledge and evidence	<ol style="list-style-type: none"> 7. Hold annual meetings among the inter-agency partners to review and share current research, national fortification survey findings, new dietary guidance and promising results from global food fortification activities. 8. Collaborate with other U.S. Government interagency technical groups such as the Interagency Committee on Human Nutrition Research.

5. Nutrition-Related Non-Communicable Diseases (N-RNCDs)
6. HIV and Nutrition

I. Food Fortification

Food fortification is defined by WHO and FAO as “the practice of deliberately increasing the content of an essential micronutrient, i.e. vitamins and minerals (including trace elements), in a food, so as to improve the nutritional quality of the food supply and to provide a public health benefit with minimal risk to health.” Fortification programs may be designed for the general population or for specific groups, such as young children or displaced populations. A number of U.S. Government agencies contribute to advancing food fortification efforts by providing leadership and partnership and by generating the scientific evidence and knowledge on dietary needs and food fortification to support country-led efforts. As the largest donor of in-kind food, the U.S. Government actively works to improve the quality and efficiency of fortified food commodities.

The U.S. Government footprint in food fortification and processing is critical to advancing health and nutrition globally. In addition to the specific examples listed in the table below, identifying linkages to other interagency committees, such as the Interagency Committee on Human Nutrition Research,¹⁶ can help to strengthen the knowledge base that informs food fortification initiatives.

16. The ICHNR aims to improve coordination and increase the effectiveness and productivity of federal agencies engaged in nutrition research.

Nutrition Information Systems

Action Area	U.S. Government Activity
Support country-led efforts	<ol style="list-style-type: none"> 1. Develop partnerships with country-led surveillance programs to strengthen data gathering and sharing. 2. Provide technical assistance and capacity-building for data collection processes, especially in SUN countries. 3. Form collaborations on food composition databases with additional countries.
Promote leadership and partnership	<ol style="list-style-type: none"> 4. Contribute to the global efforts to develop standard data collection procedures and reporting standards for producing internationally comparable indices of nutrition status and programs. 5. Review current U.S. Government nutrition surveillance technical assistance and funding activities to understand potential areas of collaboration.
Generate, share, and apply knowledge and evidence	<ol style="list-style-type: none"> 6. Review and delineate the current strengths, weaknesses, and gaps in nutrition surveillance knowledge. Develop a research agenda based on the findings to be delivered to the U.S. Interagency Committee on Human Nutrition Research. 7. Develop platform standards to share nutrition datasets from CDC, USAID, and USDA.

2. Nutrition Information Systems

The U.S. Government has ongoing nutrition surveillance and data management efforts that systematically collect, analyze, and disseminate data regarding nutritional status and nutrition programs in order to inform policy and programmatic decisions that lead to improvements in the global nutrition status of a population. U.S. Government agencies support nutrition surveillance systems by providing technical assistance, conducting research, and compiling, distributing, and assessing comprehensive, high-quality food composition data. These activities bolster countries' efforts to create food and health systems, provide input for program management, and collect and disseminate vital information for global use.

As the leader in nutrition surveillance, the U.S. Government can support data collection processes in Scaling Up Nutri-

tion (SUN) countries, audit current U.S. Government nutrition surveillance technical assistance, and fund activities to understand potential areas of collaboration. To strengthen nutrition surveillance systems, the U.S. Government can support efforts that establish common indicators and cutoffs and share nutrition datasets. Finally, the U.S. Government can share and apply knowledge and practices in nutrition and health-related surveillance systems, nutrition policies, and programs administration through in-country capacity building.

3. Food Safety

Foodborne illness is a major cause of morbidity and mortality, as well as chronic and acute malnutrition, in low-income countries with inadequate food safety systems. Food safety challenges have an economic impact, potentially limiting the income of those in the food supply chain, due

Food Safety

Action Area	U.S. Government Activity
Support country-led efforts	<ol style="list-style-type: none"> 1. Provide technical assistance and capacity-building on country-led food safety programs around Good Agricultural Practice, Good Manufacturing Practices, and Household Food Safety Handling. 2. Develop partnerships with country-led programs to strengthen food safety activities such as water, sanitation, pest control, and pesticide management. 3. Support private sector leadership in implementing food safety monitoring programs such as traceability, auditing systems, and analytical services.
Promote leadership and partnership	<ol style="list-style-type: none"> 4. Ensure coordination and consistency with other international fora in strengthening national food regulatory control systems. 5. Continue active U.S. involvement and leadership in Codex Alimentarius activities while encouraging participation by low- and middle-income countries. 6. Support countries in the development of national food safety regulatory bodies and implementation of science-based food safety standards.
Generate, share, and apply knowledge and evidence	<ol style="list-style-type: none"> 7. Provide open access to food safety education and training materials from FDA, CDC, USAID, and USDA, preferably at a single website. 8. Generate and apply knowledge and practices for mycotoxin control.

The First 1,000 Days: The Synergy in Addressing Maternal and Infant Nutrition

Action Area	U.S. Government Activity
Support country-led efforts	<ol style="list-style-type: none"> 1. Collect, review, and share U.S. Government standards for female adolescents and women's nutrition care; support quality improvements in women's nutrition services and counseling. 2. Develop and share pre-service maternal nutrition modules for health provider curricula that can be adapted to national institutions. 3. Support quality improvements in access and delivery of reproductive, prenatal, and postpartum services and counseling in more than 20 countries. 4. Identify, test, and begin rollout of at least two new maternal nutrition interventions. 5. Scale up proven approaches to reduce maternal anemia through maternal and child health programs. 6. Promote optimal infant and young child feeding practices as part of Essential Nutrition Actions.
Promote leadership and partnership	<ol style="list-style-type: none"> 7. Advocate with global partners for increased resources for maternal nutrition. 8. Share U.S. lessons learned from nutritional approaches to reduce low birth weight and neonatal mortality, particularly WIC with SUN leadership. 9. Establish an inter-agency technical working group on anemia to improve and monitor the performance of collaborative efforts.
Generate, share, and apply knowledge and evidence	<ol style="list-style-type: none"> 10. Identify the causes of anemia and develop safe and effective control measures and disseminate the results in collaboration with WHO. 11. Link with ICHNR and the ICHNR National Nutrition Research Roadmap to ensure global nutrition issues are considered and results are channeled to U.S. Government agencies for programming. 12. Distribute forthcoming dietary guidelines for pregnancy and birth-24 months through partners.

to losses associated with recalls, spoilage, and damaged brand value. Thus, robust national food safety frameworks will not only result in healthier populations, but also will provide countries with easier access to the global markets and therefore stronger economies.

Many U.S. Government-supported health and food security programs seek to strengthen food safety systems writ large and/or to improve household food safety practices, including food handling, hygiene and at home food storage. Through this Coordination Plan, the U.S. Government commits to collaborating on food safety programs and sharing food safety expertise and education materials to meet the following key goals: 1) reduce diarrheal illness; 2) reduce exposure to mycotoxins; and 3) support countries on the strengthening of their national food safety regulatory frameworks. These activities will be focused in countries where U.S. entities have existing programs in order to maximize impact.

4. The First 1,000 Days: The Synergy in Addressing Maternal and Infant Nutrition

The U.S. Government recognizes the critical 1,000-day window of opportunity from the start of a woman's pregnancy to her child's second birthday. The right nutrition during the first 1,000 days not only has a profound impact on child growth, development, and mitigation of disease risk, but also it can protect maternal health. Focusing U.S. Government food and nutrition efforts to develop and implement evidence-informed interventions targeting this critical window can have lasting benefits across the life

cycle and a powerful, lasting effect on a country's stability and prosperity. While the U.S. Government consistently supports efforts with regard to infant and young child feeding, maternal nutrition has received inadequate attention and warrants greater collaboration across U.S. Government investments and support. The following activities have been identified as strategic opportunities to increase the impact of U.S. Government assistance in targeting the 1,000 days:

1. Increase capacity to carry out effective maternal nutrition programs during reproductive, prenatal, and postnatal care, especially in relation to anemia prevention and treatment, adequate dietary quality, and weight gain during pregnancy, counseling on breastfeeding during the prenatal period, maternal nutrition during lactation, and addressing the special challenges of adolescent pregnancies.
2. Help push the WHA target for a "50 percent reduction of anemia in women of reproductive age" by joining forces with WHO and other global partners to identify the causes, translate the findings on causes to interventions, and use this information in ongoing country programs to improve the control of anemia.

5. Nutrition-related Non-communicable Diseases

Improving impact on nutrition-related non-communicable disease is particularly important in light of increasing evidence that unhealthy diets are key contributors to many non-communicable diseases, which are increasing signifi-

Nutrition-related Non-communicable Diseases

Action Area	U.S. Government Activity
Support country-led efforts	1. Closer interagency collaboration when responding to foreign government requests to learn about preventing N-RNCDs through improved nutrition.
Promote leadership and partnership	2. Facilitate an interagency network on global NCDs to identify areas for coordinated progress, including nutrition.
Generate, share, and apply knowledge and evidence	3. Expand nutrition-related NCD content of U.S. Government surveys and surveillance tools, in support of WHO global monitoring framework on NCDs.

cantly around the world. In 2013, the World Health Assembly endorsed a “Global Action Plan for the Prevention and Control of Non-communicable Diseases 2013–2020” with a target to achieve “a 25 percent relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases.” Three-quarters of all people who die from NCDs, and 80 percent of those who die prematurely, live in the developing world.

Nutrition-related non-communicable diseases (N-RNCDs) represent a unique opportunity and challenge for the U.S. Government. The U.S. Government does extensive work on nutrition-related NCDs domestically, and this expertise represents a tremendous asset to tap for global benefit. At the same time, limited resources mean that the U.S. Government is unable to address nutrition-related NCDs writ large. However, there are strategic opportunities to increase the global impact of U.S. Government programs by improving collaboration across agencies. These include improving responsiveness to foreign government requests to learn about preventing NCDs through improved nutrition, establishing an Interagency Global NCDs Network, and increasing the data available about nutrition-related NCDs.

Current U.S. Government activities to address non-communicable diseases generally fall into three categories: participation in global discussions, health systems strengthening, and research and data. The table above identifies strategic opportunities to increase the impact of U.S. Government assistance in addressing nutrition-related NCDs. As an initial goal, the U.S. Government aims to improve responsiveness to foreign government requests to learn about preventing NCDs through improved nutrition. Currently, agencies respond but do not always coordinate with other agencies to ensure that all relevant expertise is offered to the requesting country. In the future, agencies will facilitate a whole-of-government response, as appropriate, for foreign governments who request such assistance.

6. Nutrition and HIV

The relationship between nutrition and HIV is complex and reciprocal. HIV and associated co-infections (e.g., tuberculosis, malaria, enteric infections) have a negative impact on nutrition through the suppression of appetite, elevation of energy needs associated with infection, and impaired nutrient absorption and metabolism. Conversely, malnutrition can have an impact on HIV disease progression via impaired immune response and reduced efficacy of antiret-

Nutrition and HIV

Action Area	U.S. Government Activity
Support country-led efforts	<ol style="list-style-type: none"> 1. With any expansion of NACS, ensure cohesion with national nutrition strategies (e.g., CMAM/IMAM); integration of NACS within national nutrition strategies; link to SUN/1,000 Days at country level. 2. Add capacity building for NACS broadly as a systems approach, including pre-service and in-service training and strengthening of QA/QI and M&E. 3. Where NACS is implemented, provide technical assistance and training for nutrition screening and referral at community level and nutrition assessment at the clinic level.
Promote leadership and partnership	4. Links with SUN/1,000 Days; WHO, UNICEF & World Food Programme (WFP); Global Fund to Fight AIDS, Tuberculosis and Malaria; invitation of key stakeholders to participate in the NACS Community of Practice.
Generate, share, and apply knowledge and evidence	5. Highlight NACS implementing countries; evaluation of effectiveness of core approach and variants and share widely lessons learned through NACS Community of Practice Learning Platform.

rovirals (ARVs) and other drug treatment. Malnutrition also increases the risk of co-infections due to impaired immune response. Further, many of the countries most impacted by HIV are characterized by high rates of malnutrition and food insecurity, limited access to clean water and sanitation, high rates of other endemic infections (e.g., tuberculosis, malaria, enteric infections), and inadequate access to quality healthcare. This complex scenario demands a concerted effort from generation of evidence-informed guidance for care and treatment to strategies that fully integrate and implement that guidance within the health, food, and socioeconomic systems of these countries.

In individuals with HIV infection, prompt initiation and adherence to antiretroviral treatment (ART), along with treatment of associated infections, is key to preventing malnutrition. When malnutrition is present, therapeutic or supplementary feeding should be provided, in conjunction with ART and management of co-infections.

The U.S. President's Emergency Plan for AIDS Relief (PEPFAR), the U.S. Government's program to address global HIV and AIDS, focuses on preventing infections, saving lives, and achieving sustainable control of the HIV and AIDS epidemic. Nutrition Assessment, Counseling and Support (NACS) represents PEPFAR's comprehensive approach to nutrition and related interventions in the context of HIV infection. NACS provides a broad framework encompassing nutritional interventions for HIV-infected adults and children, including HIV-infected pregnant and breastfeeding women and their infants. The U.S. Government sees an opportunity to increase the scope of NACS for people living with HIV to encompass more fully the complete array of nutrition-specific and nutrition-sensitive programming through a cohesive, unified framework. Through this expansion, coordination with established nutrition service mechanisms will be critical, and U.S. Government agencies can identify their comparative advantage and strategic opportunities to support this system.

SECTION 5: ACTIONS AND ACCOUNTABILITY FOR COORDINATION

One of the intentions of the U.S. Government Global Nutrition Coordination Plan is to improve U.S. Government coordination processes to maximize the nutrition results achieved with limited resources. This section lays out agencies' commitments to make the interagency Nutrition Technical Working Group permanent, regularly share progress on coordination with stakeholders, and link research with policy, programs, and global nutrition initiatives related to accountability and implementation science.

The U.S. Government Global Nutrition Coordination Plan is meant to inform nutrition actions and does not guarantee funding levels beyond what is already planned. The Coordination Plan is not designed to provide a rigid structure to direct U.S. Government agencies into specific programming areas. This Plan is a living document that will evolve based on U.S. Government achievements and changes in the nutrition landscape with intended updates at the end of the first 5-year period and as needed.

In order to maximize the impact of this Coordination Plan, the U.S. Government agencies engaged in global nutrition will do the following:

- 1. Create a permanent, government-wide Global Nutrition Technical Working Group (TWG).** The group will be a forum for sharing information, best practices, and new issues regarding U.S. Government nutrition programs. Membership will consist of technical advisors from U.S. Government offices engaged in global nutrition programming, including field office representation to incorporate country-level perspectives. It will meet at least three times each year and will create sub-groups to work on specific tasks. Civil society organizations and other stakeholders will be invited to one working group meeting each year.

The Secretariat for the TWG will rotate annually among participating U.S. Government agencies; a senior official of that agency will serve as the convener for annual meetings and any other events. As an initial action, the TWG will develop Terms of Reference, including a clear statement of purpose of the TWG and a process for monitoring and reporting progress on the Coordination Plan.
- 2. Release an annual summary of interagency progress under the U.S. Government Global Nutrition Coordination Plan.** This summary will focus on progress in coordination efforts over the previous year, targets of opportunity, priorities and plans for the coming year, and success stories from the previous year. Certain areas of focus may be highlighted for coordinated work among U.S. Government agencies. This information will be shared at the annual information-sharing meeting with stakeholders.
- 3. Produce a U.S. Government report at the end of a 5-year cycle on U.S. Government contributions toward the World Health Assembly Nutrition Targets.** The report will highlight U.S. Government nutrition investments and commitments toward achievement of the WHA 2025 Nutrition targets. The U.S. Government supports the Nutrition for Growth 2013 Compact, and this report will demonstrate commitment to tracking results. This process will be linked to the extent feasible with the Global Nutrition Report.
- 4. Develop a process to gather and report interagency information on annual U.S. Government nutrition resource expenditures.** U.S. Government agencies report annual expenditures in different formats, and it is challenging to extract international nutrition commitments from primarily domestic agencies. A process to assemble financial data for global nutrition spending from all U.S. Government agencies will be developed in order to report disbursements annually across agencies. This is an important step demonstrating U.S. Government transparency in resource allocations.
- 5. Form a U.S. Government Global Nutrition Implementation Science Sub- Working Group that can interact with both the existing Interagency Committee on Human Nutrition Research (ICHNR) and the new International Society for Implementation Science in Nutrition.** This Working Group will share best practices to link research to nutrition programs. One of the important actions of this Coordination Plan is to link domestic and international research communities, share new research findings, and translate evidence into practice. The TWG will determine the terms of reference and prevent duplication of effort.
- 6. Make U.S. Government U.S. nutrition data openly available.** For example, the CDC's National Center for Health Statistics (NCHS) makes data from various ongoing national surveys under its health and nutrition surveillance system available to researchers through datasets in the public domain. In addition, links off of the NCHS webpage allow individuals to receive quick statistical summaries on selected health parameters. Similar analyses are available from CDC's website.

- 7. Establish points of contact.** The TWG will name a point of contact within each U.S. Government agency participating in the U.S. Government Global Nutrition Coordination Plan and at each international post with more than one U.S. Government agency engaged in nutrition-related programming. These points of contact (POCs) will serve as the points of communication with the U.S. Government Technical Working Group. This will be particularly important for coordinated support for country-led nutrition efforts and for dissemination of research findings.

APPENDIX A: U.S. GOVERNMENT AGENCIES OPERATING IN INTERNATIONAL NUTRITION

Agencies and Bureaus	Primary Functions	Role in Global Nutrition
Millennium Challenge Corporation (MCC)	MCC is an innovative and independent U.S. Government agency working to reduce global poverty through economic growth. The agency provides time-limited grants and assistance to countries that demonstrate a commitment to good governance, investments in people, and economic freedom.	The Indonesia compact to reduce poverty includes a project to reduce and prevent low birth weight, childhood stunting, and malnourishment of children in project areas. The project targets approximately 7,000 villages in provinces where rates of stunting and low birth weight in infants and children up to 2 years of age are higher than national averages.
Peace Corps	The Peace Corps sends Americans abroad to tackle the most pressing needs of people around the world. The Agency works in collaboration with partner organizations and uses cutting-edge technologies and well-tested best practices to enhance impact.	Peace Corps volunteers work and live in communities to build capacity for sustainable change in disease eradication, food and nutrition security, and other global challenges.
U.S. Agency for International Development (USAID)	USAID partners to end extreme poverty and promote resilient, democratic societies while advancing our security and prosperity.	USAID's Multi-Sectoral Nutrition Strategy 2014–2025 seeks to improve nutrition to save lives, build resilience, increase economic productivity, and advance development. The Strategy's multi-sectoral approach addresses both direct and underlying causes of malnutrition and links humanitarian assistance with development programming to help build resilience to shocks in vulnerable communities. USAID works with partners to scale up effective, integrated nutrition-specific and -sensitive interventions, programs, and systems across humanitarian and development contexts.
Bureau for Democracy, Conflict and Humanitarian Assistance (DCHA)		Brings together the wide-ranging technical expertise and global operational capabilities essential to crisis prevention, response, recovery, and transition efforts, including coordination of U.S. Government humanitarian assistance in response to international disasters and provision of emergency food assistance and multi-sectoral development food assistance programming to address underlying causes of hunger
Bureau for Food Security (BFS)		Global food security, including agriculture production and nutritional status, especially of women and children; supports nutrition element of Country Investment Plans; leads the Feed the Future Initiative
Global Health Bureau (GH)		Child and maternal health and nutrition; HIV and AIDS; infectious diseases; population, family planning and reproductive health; and health systems strengthening.
Department of Agriculture (USDA)	USDA's mission is to provide leadership on food, agriculture, natural resources, rural development, nutrition, and related issues based on sound public policy, the best available science, and efficient management. Its vision is to expand economic opportunity through innovation, helping rural America to thrive; to promote agriculture production sustainability that better nourishes Americans while also helping feed others throughout the world; and to preserve and conserve the Nation's natural resources.	

Agencies and Bureaus	Primary Functions	Role in Global Nutrition
Agriculture Marketing Service (AMS)	Commodities and inspections, agricultural market information systems	Technical support and hemispheric collaboration with national institutions to improve the transparency of agriculture markets, in support of rural development and food security
Agriculture Research Service (ARS)	Research on linking foods and/or food production, nutrition, and human health	Research on nutritional needs, diet, and health outcomes in developing countries; development of crops fortified in critical nutrients; and development and maintenance of food composition and consumption datasets.
Center for Nutrition Policy and Promotion (CNPP)	Works to improve the health and well-being of Americans by developing and promoting dietary guidance that links scientific research to the nutrition needs of consumers.	Technical assistance around nutrition science (Nutrition Evidence Library), nutrition guidance (Dietary Guidelines), diet quality index (Healthy Eating Index), and consumer education (MyPlate)
Economic Research Service (ERS)	Economic and social science research on issues related to food, agriculture, the environment, and rural development	Research and analysis on global food security and development
Farm Service Agency (FSA)	Provides America's farmers with a strong safety net through the administration of farm commodity and disaster programs	Purchase commodities for international food assistance programs, ensuring food specification, timely delivery, and quality and sanitation of all food aid products are met. Technical support on food manufacturing, food aid specifications, and agricultural commodities markets.
Food and Nutrition Service (FNS)	Hunger safety net for nutritionally at-risk, expecting mothers, infants, children, and low-income individuals	Lessons learned from implementation of the Women, Infant, and Children's Nutrition Program (WIC) and other U.S. domestic programs are shared with other national governments.
Food Safety and Inspection Service (FSIS)	Ensures commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged	U.S. Codex Office works with international committees on international food safety, labeling, laboratory methods, and certification standards.
Foreign Agricultural Service (FAS)	Facilitates trade and international cooperation, promoting U.S. agricultural exports and global food security.	Research and dissemination on global supply and demand, trade trends, and market opportunities. Food aid. Ag development and trade and scientific capacity building and exchange programs. McGovern-Dole International Food for Education and Child Nutrition Program
National Institute of Food And Agriculture (NIFA)	Funds agricultural science, e.g., food security and hunger, climate change, sustainable energy, childhood obesity, and food safety	Funds agricultural extension activities, including those related to food security
Office of the Chief Scientist (OCS)	Scientific prioritization and coordination across USDA	OCS supports the Department's international scientific engagements.
U.S. Department of Health and Human Services (HHS)	HHS is the U.S. Government's principal agency for protecting the health of all Americans and providing essential human services, especially for those who are least able to help themselves.	
U.S. Centers for Disease Control and Prevention (CDC)	CDC is charged with protecting the public health of the nation by providing leadership and direction in the prevention of and control of diseases and other preventable conditions and responding to public health emergencies.	The International Micronutrient Malnutrition Prevention and Control (IMMPaCt) Program works with global partners to contribute CDC skills and resources to eliminate vitamin and mineral deficiencies among vulnerable populations throughout the world. CDC provides technical assistance for population based surveys and to build institutional capacity for epidemiology and public health data collection.

Agencies and Bureaus	Primary Functions	Role in Global Nutrition
Food and Drug Administration (FDA)	FDA oversees all domestic and imported food (except meat, poultry, and egg products) sold in interstate commerce and promotes improved nutrition and food safety.	FDA participates and exercises leadership in all committees of the Codex Alimentarius in order to develop science-based international food safety, nutrition labeling and other pertinent food standards consistent with that provided by corresponding U.S. regulations and laws.
National Institutes of Health (NIH)	NIH supports biomedical and behavioral research domestically and abroad, conducts research in its own laboratories and clinics, trains promising young researchers, and promotes acquisition and distribution of medical knowledge.	Each of the 27 Institutes and Centers constituting the NIH engages in research and translational activities intended to support efforts to improve health globally. With coordination by the Fogarty International Center, NIH supports basic, clinical, and applied research and training on the full range of issues associated with improved understanding of the role of diet and nutrition in health promotion and disease prevention particularly in low- and middle-income settings throughout the world. NIH support U.S. and foreign research, training and capacity development throughout the developing world.
Office of Global Affairs (OGA)	OGA promotes the health and well-being of Americans and of the world's population by advancing HHS's global strategies and partnerships and working with U.S. Government agencies in the coordination of global health policy.	
U.S. Department of State	The Department of State assists the President, through the Secretary of State, in formulating and executing the foreign policy and relations of the United States of America.	
Office of Global Food Security (S/GFS)		Guides diplomatic efforts to advance the U.S. global hunger and food security initiative objectives, with a particular focus on major donor and strategic partner countries as well as multilateral institutions such as the G7 and G20 Group of 7, the U.N. General Assembly, and the Committee on World Food Security. Leads the U.S. Government's diplomatic engagement in multilateral fora. S/GFS also supports the 1,000 Days Partnership and the Scaling Up Nutrition Movement.
Office of the U.S. Global AIDS Coordinator and Health Diplomacy (S/GAC)		Guides diplomatic efforts to advance the U.S.'s global health mission to improve and save lives and foster sustainability through a shared global responsibility. Leads implementation of the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), the U.S. Government's program to address global HIV and AIDS, focused on preventing infections, saving lives, and achieving sustainable control of the HIV and AIDS epidemic.
U.S. Department of Treasury	Responsible for promoting economic prosperity and ensuring the financial security of the United States.	International Programs include representation to and funding for Multilateral Development Banks; and overseeing the U.S. contribution to the Global Agriculture and Food Security Program (GAFSP).
White House Office of Science and Technology Policy (OSTP)	OSTP's mandate is to advise the President and others within the Executive Office on the effects of science and technology on domestic and international affairs.	OSTP is authorized to lead interagency efforts to develop and implement sound science and technology policies and budgets and to work with the private sector, state and local governments, the science and higher education communities, and other nations toward this end.

APPENDIX B: ILLUSTRATIVE U.S. GOVERNMENT GLOBAL COMMITMENTS RELEVANT TO NUTRITION

- The Global Health Initiative, officially completed in 2014, provided a lasting, integrated approach to unify the U.S. Government's activities in fighting communicable diseases and supporting international health advances.
- The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) is the U.S. Government's program to address global HIV and AIDS, focused on preventing infections, saving lives, and achieving sustainable control of the HIV and AIDS epidemic. Controlling the Epidemic: Delivering on the Promise of an AIDS-Free Generation documents PEPFAR's progress and unveils the program's strategy for working with partners to achieve an AIDS-free generation. PEPFAR has moved from the emergency response phase that brought HIV prevention, treatment, and care services to millions to the sustainability phase, where PEPFAR worked with partner countries among other partners to address the epidemic. The program is now in Phase 3 (2013-present) and is focused on transparency and accountability for impact, as well as accelerating core interventions for epidemic control. PEPFAR is investing resources strategically and geographically to reach populations at greatest risk with evidence-based programs.
- Feed the Future is the U.S. Government's global hunger and food security initiative, transforming lives toward a world where people no longer face extreme poverty, under-nutrition, and hunger. To achieve this, Feed the Future agencies (USAID, USDA, Department of State, Peace Corps, MCC, and others) work hand-in-hand with partner countries to develop their agriculture sectors and break the vicious cycle of poverty, hunger, and under-nutrition. Our assistance is helping to: Increase agricultural productivity and generate opportunities for economic growth and trade in developing countries; boost the harvests and incomes of rural smallholder farmers, who are the key to unlocking agricultural growth and transforming economies; improve agricultural research and development and get existing, proven technologies to more people; increase resilience to prevent recurrent crises and help communities better withstand and bounce back from crises when they do happen; and improve nutrition. Our goal is to reduce the prevalence of poverty and the prevalence of stunted children (a measure of under-nutrition) each by 20 percent in the areas where we work.
- The Global Agriculture and Food Security Program (GAFSP) (<http://www.gafspfund.org>) is an innovative multi-donor trust fund housed at the World Bank that has allocated about \$1.4 billion to 30 low-income countries since 2010 to support their efforts to improve food security for smallholder farmers and their families.
- The U.S. Government Action Plan on Children in Adversity (APCA) (PL 109-95) is a whole-of-government strategy for helping children. Its goal is to achieve a world in which all children grow up within protective family care and free from deprivation, exploitation, and danger.
- The United Nation's Millennium Development Goals (MDGs) range from halving extreme poverty rates to halting the spread of HIV and AIDS and providing universal primary education, all by the target date of 2015.
- The U.N. is working with governments, civil society, and other partners to build on the momentum generated by the MDGs and carry on with an ambitious post-2015 development agenda through integration with the new Sustainable Development Goals (SDGs). U.S. Government leadership has been crucial for formulation of the SDGs and will be key to their implementation. The 2030 Agenda for Sustainable Development includes SDG 2: "End hunger, achieve food security and improved nutrition and promote sustainable agriculture."
- The New Alliance for Food Security and Nutrition is a shared commitment to achieve sustained and inclusive agriculture-led growth in Africa.
- 1,000 Days is an initiative and partnership within U.S. business, government, and civil society communities to promote targeted action and investment to improve nutrition for mothers and children in the first 1,000 Days.
- The Second International Conference on Nutrition (ICN2), held in November 2014, was a high-level inter-governmental meeting that focused global attention on addressing malnutrition in all its forms. The two main outcome documents - the Rome Declaration on Nutrition¹⁷ and the Framework for Action - were endorsed by participating governments at the conference, committing world leaders to establishing national policies aimed at eradicating malnutrition and transforming food systems to make nutritious diets available to all.

17. The U.S. endorsed the Rome Declaration but provided an explanation of position. See <http://www.fao.org/3/a-at764e.pdf>.

APPENDIX C: EXISTING AND POTENTIAL U.S. GOVERNMENT COLLABORATION UNDER SIX ILLUSTRATIVE TECHNICAL FOCUS AREAS

I. Food Fortification

Preventing micronutrient deficiencies through food fortification became a global focus during the 1990s when international attention was drawn to finding ways to eliminate major deficiencies in micronutrients such as iodine, vitamin A, and iron. WHO and FAO define food fortification as “the practice of deliberately increasing the content of an essential micronutrient, i.e., vitamins and minerals (including trace elements) in a food, so as to improve the nutritional quality of the food supply and provide a public health benefit with minimal risk to health.”¹⁸ Programs may be designed for the general population (**mass fortification**) or for specific groups, such as young children or displaced populations (**targeted fortification**).

A number of U.S. Government agencies contribute to advancing food fortification efforts by providing leadership and partnership and generating the scientific evidence and knowledge on dietary needs and food fortification to ultimately support country-led efforts. FDA is the represen-

tative U.S. Government agency for the WHO/FAO Codex Committee on Nutrition and Foods for Special Dietary Uses, and the General Principles for the Safe Addition of Nutrients to Foods, both important policy initiatives that support safe food fortification.

CDC established the International Micronutrient Malnutrition Prevention and Control (IMMPaCt) Program to enable national governments, food industries, and civil society organizations to successfully implement fortification and supplementation interventions in order to eliminate vitamin and mineral deficiencies (with a focus on iron, vitamin A, folate, zinc, and iodine).¹⁹ IMMPaCt provides technical assistance to other U.S. Government agencies and external partners such as USAID, WHO, UNICEF, GAIN, and the Micronutrient Initiative. IMMPaCt also sits on the board of directors or on management committees of other U.S. Government-supported projects such as the NIH-funded BOND project, Iodine Global Network (formerly ICCIDD GN), and the Food Fortification Initiative.

Action Area	Activity	U.S. Government Agency
Support country-led efforts	<ol style="list-style-type: none"> 1. Support regional fortification efforts that institutionalize mass food fortification using different micronutrients or food sources, such as wheat flour fortified with iron. 2. Provide technical assistance and capacity-building for country-led food fortification and processing. 3. Support production of locally produced, specialized nutrition products or crops, such as fortified blended flours and lipid-based nutrition supplements, for the prevention and treatment of malnutrition. 4. Strengthen government regulatory control systems for fortified processed foods. 	<ol style="list-style-type: none"> 1. CDC, USAID 2. CDC, USAID 3. USDA, USAID 4. USDA, USAID, FDA
Promote leadership and partnership	<ol style="list-style-type: none"> 5. Review current CODEX standards and ensure that standards which have been developed under the food fortification initiative are consistent. 6. Identify linkages with food safety investments to ensure adequate guidance and resources available for safe, effective food, and crop fortification. 	<ol style="list-style-type: none"> 5. CDC, FDA 6. All
Generate, share, and apply knowledge and evidence	<ol style="list-style-type: none"> 7. Hold annual meetings among the inter-agency partners to review and share current research, national fortification survey findings, new dietary guidance, and promising results from global food fortification activities 8. Collaborate with other U.S. Government interagency technical groups, such as the Interagency Committee on Human Nutrition Research. 	<ol style="list-style-type: none"> 7. All 8. All

18. WHO, FAO. Guidelines on food fortification with micronutrients. Allen, L., de Benoist, B., Dary, O., Hurrell, R., editors. Geneva: WHO; 2006

19. <http://www.cdc.gov/impact/index.html>

The Iodine Global Network (IGN), with CDC and USAID as members of the board, is the leader for iodine nutrition.²⁰ The IGN supports and catalyzes global and national iodine programs. Its focus is on universal salt iodization as the most cost-effective and sustainable solution for prevention of iodine deficiency disorders. USAID also provides annual support to UNICEF's regional work on salt iodization.

CDC funds and coordinates the global secretariat of the Food Fortification Initiative (FFI),²¹ a public-private network that aims to expand fortification of wheat, maize, and rice globally. Since its creation in 2002, FFI has contributed to the growth in the number of countries mandating fortification from 33 to 79. While USAID and USDA are partners of the FFI, this is a potential area for strengthened collaboration to leverage U.S. Government resources.

As the largest in-kind donor of food aid to vulnerable populations around the world, the U.S. Government actively works to improve the quality and efficiency of food aid. Following the recommendations from the USAID-commissioned Food Aid Quality Review (FAQR) in 2011, several changes have been made to U.S. Government food aid, including the formulation of new fortified blended foods and upgrades of the vitamin and mineral premixes used in the fortified commodities, as well as increased diversification of approaches.²² The FAQR led to the establishment of an interagency technical committee (USDA, USAID, NIH, and FDA) to oversee all technical aspects of government interests in the food aid agenda. The committee meets regularly with WFP, UNICEF, and other stakeholders to ensure the harmonization of commodity specifications, formulations, and the quality and safety of specialized nutrition products. In addition, USAID is supporting a public-private partnership, Solutions for African Food Enterprises (SAFE), working with the Partners for Food Solutions (General Mills, Cargill, Buhler, and DSM), to assist food processors in Africa to produce more nutritious foods meeting quality and safety standards for treatment of acute malnutrition and for commercial markets.

In FY 2012, USDA supported projects under the Micronutrient-Fortified Food Aid Products Pilot (MFFAPP). This pilot aims to test the delivery and use of new micronutrient-fortified food aid products used in direct feeding programs to address nutrient deficiencies in specific populations (school-aged children, children under 5 years of age, pregnant and lactating women, and infants) served under the McGovern-Dole International Food for Education and Child Nutrition (McGovern-Dole) Program. USDA's six MFFAPP pilots tested a fortified poultry-based spread, a lipid-based nutrient supplement, a fortified dairy paste, fortified rice, and three new fortified blended foods in five countries. At the conclusion of the pilots, all new products will be closely examined for cost effectiveness, nutritional value, and quality assurance. FAS is collaborating with USAID and

the Farm Service Agency to evaluate new options for the commodity list.

The U.S. Government footprint in food fortification and processing is critical to advancing health and nutrition globally. With each U.S. Government agency dedicating resources to improve the nutritional value of foods worldwide, there are multiple opportunities to leverage both resources and knowledge to improve current and future efforts. In addition to the specific examples listed in the table on page 32, identifying linkages to other interagency committees, such as the Interagency Committee on Human Nutrition Research, can help to strengthen the knowledge base that informs food fortification initiatives.

2. Nutrition Information Systems

The U.S. Government has ongoing nutrition surveillance and data management efforts that systematically collect, analyze, and disseminate data regarding nutritional status and nutrition programs in order to inform policy and programmatic decisions that lead to improvements in the global nutrition status of a population. Government agencies, working in collaboration and separately, support nutrition surveillance systems by providing technical assistance, conducting research, and compiling, distributing, and assessing comprehensive, high-quality food composition data. These activities bolster countries' efforts to create food and health systems, provide input for program management, and collect and disseminate vital information for use around the world.

A number of U.S. Government agencies, including CDC, USAID, and USDA work extensively on nutrition surveillance systems through the development of U.S. Government- and country-led nutrition surveys and access to accurate food composition data. Along with providing country-level technical assistance on the design and implementation of nutrition surveys, CDC creates and distributes survey toolkits that provide practitioners with spreadsheets, checklists, sample questionnaires, and indicators to establish and monitor malnutrition programs. USAID operates the Demographic and Health Survey (DHS) program, which gathers, analyzes, and distributes representative data on population, health, and nutrition through surveys in over 90 countries. For nutrition, the DHS routinely collects anthropometry, anemia, infant feeding, vitamin A, and some biomarker data. USDA-ARS supports nutrition surveillance systems by developing and disseminating tools such as the AMPM automated method for collecting dietary intake information; USDA also supports country-specific, food-composition databases through the National Nutrient Database for Standard Reference, which provides foundational nutrient composition data. To increase access to these data, USDA-ARS is currently creating a single database system that will provide nutrition information across categories and years; efficiently transfer data to applications outside

20. <http://www.iccid.org/>

21. <http://www.ffinetwork.org/index.html>

22. http://pdf.usaid.gov/pdf_docs/PNADZ842.pdf

Action Area	Activity	U.S. Government Agency
Support country-led efforts	<ol style="list-style-type: none"> 1. Develop partnerships with country-led surveillance programs to strengthen data gathering and sharing. 2. Provide technical assistance and capacity-building for data collection processes, especially in SUN countries. 3. Form collaborations on food composition databases with additional countries. 	<ol style="list-style-type: none"> 1. CDC, USAID 2. CDC, USAID; USDA 3. USDA
Promote leadership and partnership	<ol style="list-style-type: none"> 4. Develop standard data collection procedures and reporting standards for producing internationally comparable indices of nutrition status and programs. 5. Review current U.S. Government nutrition surveillance technical assistance and funding activities to understand potential areas of collaboration. 	<ol style="list-style-type: none"> 4. CDC, USDA, NIH, USAID 5. All
Generate, share, and apply knowledge and evidence	<ol style="list-style-type: none"> 6. Review and delineate the current strengths, weaknesses, and gaps in nutrition surveillance knowledge. Develop a research agenda based on the findings to be delivered to the U.S. Inter-agency Committee on Human Nutrition Research. 7. Develop standard platforms to share nutrition datasets from CDC, USAID, and USDA. 	<ol style="list-style-type: none"> 6. All 7. CDC, USAID, USDA

of the USDA; and link with other databases such as those maintained by other U.S. Government agencies, other countries, the food industry, and international organizations like the FAO's InFoods database.

These surveys and databases rely on standardized nutrition indicators to provide accurate, comparable data. NIH and USDA are both conducting research projects that will establish standards for nutritional status indicators. The Biomarkers of Nutrition for Development (BOND) project, created by NIH, harmonizes the processes for making decisions about what biomarkers for essential nutrients are best for use in research, program development and evaluation, and the generation of evidence-based policy. USDA-ERS is constructing research on food basket indicators that can link representative food baskets for different regions to food prices and incomes for improved monitoring and analysis. USDA also supports economic and social science research on issues related to nutrition surveillance for global food security, specifically around availability, access, utilization, and stability.

U.S. Government agencies work in collaboration on guidelines for program implementation and the development of dietary guidelines in support of nutrition surveillance systems. In 2012, as part of a seven-member taskforce formed by the Global Nutrition Cluster, CDC, USAID, and others published Moderate Acute Malnutrition: A Decision Tool for Emergencies, which provides programmatic guidance on when to implement prevention and treatment programs for moderate acute malnutrition in humanitarian emergencies. NIH is currently conducting research that supports HHS and USDA's development of dietary guidelines for the

prenatal period and children birth to 24 months, a first step towards improving nutrition surveillance for this vulnerable population. However, there are additional opportunities for collaboration among these agencies.

One way to improve U.S. Government collaboration around nutrition surveillance is to help countries develop and coordinate their national health surveillance systems. As the leader in nutrition surveillance, the U.S. Government can support data collection processes in SUN countries, audit current U.S. Government nutrition surveillance technical assistance, and fund activities to understand potential areas of collaboration. To strengthen nutrition surveillance systems, the U.S. Government can support efforts that establish common indicators and cutoffs and share nutrition datasets. Finally, the U.S. Government can share and apply knowledge and practices in nutrition and health related surveillance systems, nutrition policies, and programs administration through in-country capacity building.

3. Food Safety

Food safety is a global public health issue that intersects food security and nutrition. Compromised food safety threatens the health of millions of individuals annually regardless of economic status; however, people in lower-income countries with inadequate food safety systems are at greater risk. Food safety challenges have an economic impact, potentially limiting the income of those in the food supply chain, due to losses associated with recalls, spoilage, and damaged brand value. Thus, robust national food safety frameworks not only will result in healthier populations, but also will provide countries with easier access to the global markets and, therefore, stronger economies.

Action Area	Activity	U.S. Government Agency
Support country-led efforts	<ol style="list-style-type: none"> 1. Provide technical assistance and capacity-building on country-led food safety programs around Good Agricultural Practice, Good Manufacturing Practices, and Household Food Safety Handling. 2. Develop partnerships with country-led programs to strengthen food safety activities, such as water, sanitation, pest control, and pesticide management. 3. Support private sector leadership in implementing food safety programs, such as traceability, auditing systems, and analytical services. 	<ol style="list-style-type: none"> 1. USAID, USDA, FDA 2. USAID, USDA, FDA 3. USAID, USDA
Promote leadership and partnership	<ol style="list-style-type: none"> 4. Ensure coordination and consistency with other international fora in strengthening national food regulatory control systems. 5. Continue active U.S. involvement and leadership in Codex Alimentarius activities while encouraging participation by low- and middle-income countries. 6. Support countries in the development and implementation of food standards and food safety national regulatory bodies. 7. Support participation in Codex Alimentarius activities by low- and middle-income countries. 	<ol style="list-style-type: none"> 4. USAID, USDA 5. USDA, FDA 6. USAID, USDA 7. USDA, FDA, USAID
Generate, share, and apply knowledge and evidence	<ol style="list-style-type: none"> 8. Provide open access to food safety education and training materials from FDA, CDC, USAID, and USDA, preferably at a single website. 9. Generate and apply knowledge and practices for mycotoxin control. 	<ol style="list-style-type: none"> 8. FDA, CDC, USAID, and USDA 9. USDA, USAID

Foodborne diarrheal illness is a major cause of morbidity and mortality, as well as acute malnutrition, and contributes to chronic under-nutrition. Globally, there are an estimated 800,000 deaths per year from food and waterborne diseases, mostly in children under 5. These are mostly from diarrheal diseases caused by viruses, parasites, and bacteria. Some pathogens and toxins can result in chronic illnesses; for example, consumption of aflatoxin, a mold toxin sometimes found in staple foods (e.g., corn, peanuts) is associated with liver cancer, child stunting, and poor immune function.

The realities of the modern global marketplace add substantial challenges to food safety. Varying food safety control systems and complex supply chains introduce greater risk of contamination, spoilage, and adulteration. Countries must design and implement robust food safety systems, taking into account science-based standards such as those of the Codex Alimentarius, in order to mitigate risks and participate fully in the global marketplace.

To address global food safety concerns, U.S. Government agencies are partnering with foreign government agencies and organizations to strengthen global regulatory capacity; develop and harmonize science-based regulatory standards; increase awareness of the importance of

regulatory systems within the broader economic development context; and share and analyze information and data globally to enhance regulatory decision-making.²³ FDA has published an International Food Safety Capacity-Building Plan that provides a strategic framework for its international food safety activities.²⁴ In addition, FDA, USDA, and EPA serve on the U.S. delegations to each of the committees of the Codex Alimentarius for the United States, which establishes international food safety standards.

Initiatives such as the Global Food Safety Partnership (GFSP) and the Global Food Safety Initiative (GFSI) as well as Feed the Future are implemented to build capacity in food safety to ensure that the global food supply is wholesome and nutritious. As part of this effort, USAID, FDA, and USDA strive to build capacity in low-income countries where systems are most at risk. Capacity building activities include: education in the use of Good Agricultural Practices (GAPs), for example the use of safe, less toxic agricultural inputs (e.g., pesticides, fertilizers); pest management; Hazard Analysis Critical Control Points (HACCP); Good Manufacturing Practices (GMPs); and building laboratory capacity. In addition, U.S. Government interventions focus on the development of regulatory enabling environments that monitor domestic and internationally traded food.

23. <http://www.fda.gov/AboutFDA/ReportsManualsForms/Reports/ucm298576.htm>

24. <http://www.fda.gov/food/guidanceregulation/fsma/ucm301708.htm>

USAID, USDA's Agricultural Research Service (ARS), and USDA's Foreign Agricultural Service (FAS) are engaged globally to reduce aflatoxin contamination through Feed the Future. For example, in Africa, the U.S. Government has partnered with the International Institute for Tropical Agriculture, the Bill & Melinda Gates Foundation, and the Partnership for Aflatoxin Control (PACA) to implement activities targeting the extent and spread of mycotoxin contamination in several crops and agro-environments. ARS has developed a safe and natural biological control technology to reduce pre-harvest aflatoxin contamination in maize and groundnuts. This technology is used in the United States and has been successfully piloted in Nigeria, where it has reduced aflatoxin contamination by up to 99 percent. It is currently being developed for several African countries.

Many Peace Corps and USAID-supported health and food security programs seek to improve household food safety practices, including food handling, hygiene, and at home food storage. These programs jointly promote essential water, sanitation and hygiene (WASH), food and environmental hygiene, and improved nutrition through community and facility-based counseling and education. They also seek to increase access to a safe water supply and availability and affordability of essential commodities to facilitate food hygiene and storage practices (e.g., water treatment products, soap, hand-washing stations, and improved canning and drying for fruits and vegetables).

USDA's Food Safety and Inspection Service (FSIS) regulates meat, poultry, and egg product safety, certifies product for export, inspects imported product, and verifies that countries are eligible to export to the United States. In achieving these goals, FSIS works closely with partner federal agencies, industry, foreign governments, and a wide variety of stakeholders to protect public health and encourage strong, evidence-based food safety policies around the world.

Through this Coordination Plan, the U.S. Government commits to collaborating on food safety programs and sharing food safety expertise and education materials to meet the following key goals:

- Reduce diarrheal illness in those countries where U.S. entities are working.
- Reduce exposure to mycotoxins in those countries where U.S. entities are working.
- Support countries where U.S. entities are working on the strengthening of their national food safety regulatory frameworks.

Food safety education materials are available at the links below. While all are in English, many have been translated into other languages as well.

- FoodSafety.gov (<http://www.foodsafety.gov/>)
- USDA Healthy Meals Resource Library (<http://healthymeals.nal.usda.gov/resource-library/food-safety>)
- USDA National Agricultural Library Food Safety Research Information Office (<http://fsrio.nal.usda.gov/>)

4. The First 1,000 Days: The Synergy in Addressing Maternal and Infant Nutrition

The U.S. Government recognizes the critical 1,000-day window of opportunity from the start of a woman's pregnancy to her child's second birthday. Although proper nutrition is essential throughout the life cycle, right nutrition during the first 1,000 days not only has a profound impact on child growth, development, and mitigation of disease risk, but also it can protect maternal health. Focusing U.S. Government food and nutrition efforts to develop and implement evidence-informed interventions targeting this critical window can have lasting benefits across the life cycle and a powerful, lasting effect on a country's stability and prosperity. While the U.S. Government consistently supports efforts with regard to infant and young child feeding, maternal nutrition has received inadequate attention and warrants an opportunity for greater collaboration across U.S. Government investments and support.

Malnutrition, and the geographic co-existence of both under- and over-nutrition, contribute significantly to maternal and child mortality, decrease resistance to infectious diseases and prolong episodes of illness, impede growth and cognitive development, threaten resilience, and have a negative impact on countries' human capital and economic growth. The damage caused by under-nutrition, especially during the 1,000-day window of opportunity, may be irreversible. Moreover, malnutrition is a major risk factor for prematurity and low-birth weight (LBW). Worldwide, an estimated 4 million babies die each year during the first 4 weeks of life, with up to 35 percent of deaths due to LBW. The proportion of deaths that occur during this neonatal period has been increasing as interventions such as immunization reduce risk of death later in life. There is substantial evidence that up to two-thirds of newborn deaths can be prevented if mothers and newborns receive cost-effective, low-tech care including good nutrition during pregnancy and lactation and the first 24 months of a child's life. The first 1,000 days provide sensitive opportunities for interventions that can prevent early threats and protect children from lifelong negative consequences. Early childhood investments substantially boost adult health.²⁵

Pregnancy and lactation are times of heightened nutritional vulnerability. Anemia during pregnancy can have serious consequences for maternal survival. Hemorrhage is the major cause of maternal deaths, and anemia in pregnant women reduces a woman's ability to survive bleeding during and after childbirth. Iron deficiency may contribute to

25. Campbell FA, Conti G, Heckman JJ, et al. *Science* 2014; 343: 1478–85.

Action Area	Activity	U.S. Government Agency
Support country-led efforts	<ol style="list-style-type: none"> 1. Collect, review, and share U.S. Government evidence-based standards for maternal nutrition care; support quality improvements in women's nutrition services and counseling. 2. Develop and share pre-service maternal nutrition modules for health provider curricula that can be adapted to national institutions. 3. Support and scale up quality improvements in access and delivery of reproductive, prenatal, and postpartum services and counseling in more than 20 countries. 4. Identify, test, and begin rollout of at least two new maternal nutrition interventions. 5. Scale up proven approaches to reduce maternal anemia through MCH programs. 6. Promote optimal infant and young child feeding practices as part of Essential Nutrition Actions. 	<ol style="list-style-type: none"> 1. USDA/FNS, USAID, NIH, CDC 2. USAID, PEPFAR 3. USAID, PC 4. USAID 5. USAID 6. USAID, PC
Promote leadership and partnership	<ol style="list-style-type: none"> 7. Advocate with global partners for increased resources for maternal nutrition. 8. Share lessons learned in U.S. experiences to reduce low birth weight and neonatal mortality through nutritional approaches, particularly WIC, with SUN leadership. 9. Establish an inter-agency technical working group on anemia to improve and monitor the performance of collaborative efforts. 	<ol style="list-style-type: none"> 7. OHA, NIH, CDC, USAID 8. USDA/FNS, USAID 9. USAID, NIH, CDC
Generate, share, and apply knowledge and evidence	<ol style="list-style-type: none"> 10. Identify the causes of anemia and develop safe and effective control measures and disseminate the results in collaboration with WHO. 11. Link with Interagency Committee on Human Nutrition Research (ICHNR) to ensure global nutrition issues are considered, and results are channeled to U.S. Government agencies for programming. 12. Distribute forthcoming dietary guidelines for pregnancy and birth to 24 months through partners. 	<ol style="list-style-type: none"> 10. NIH, USAID, CDC 11. NIH, CDC, FNS, USAID 12. HHS, USDA, USAID

up to 50 percent of anemia cases and is an underlying risk factor for maternal and perinatal mortality and morbidity.

Adequate intake of nutrient-rich foods contributes to good nutrition in the first 1,000 days. For an infant, breast milk is optimal for healthy growth and development. The World Health Organization recommends exclusive breastfeeding up to 6 months of age, with continued breastfeeding along with appropriate complementary foods up to 2 years of age or beyond. However, if a mother is unable to breast-feed for medical or other reasons, proper education about alternatives can ensure infant health. The U.S. Government will collaborate to ensure that health services and community care programs promote and support both good maternal nutrition during pregnancy and lactation and optimal infant and young child feeding practices.

Many agencies across the U.S. Government are already investing resources in nutrition activities that focus on the 1,000-day window. These activities include, but are not limited to:

- Contributions to the goals of Scaling Up Nutrition Movement (USAID, MCC, and State)
- PEPFAR (USAID, CDC) support for the 1,000 Day approach in conjunction with antiretroviral treatment and prophylaxis in Prevention of Mother-to-Child Transmission of HIV (PMTCT) programs
- Ongoing translational efforts relevant to the "1,000 Days" agenda including:
 - Dietary Guidance Development Project for Birth to 24 Months and Pregnancy to develop guidance for the prenatal period, infants, and toddlers (USDA/CNPP, HHS/ODPHP)
 - Pre-B project: development of evidence-informed guidance for nutritional care of LBW/preterm, Role of Human Milk (HHS/NIH, CDC, FDA, USDA/ARS) development of guidance on preterm infants' care
 - BOND Project: Biomarkers; emphasis on nutritional assessment and key function outcomes
- 1,000 Days Partnership (State, USAID)

- Federal Interagency Breastfeeding Workgroup CDC, USDA, others and Breastfeeding Promotion Consortium (BPC) (USDA, HHS, and others)
- Ending Preventable Maternal and Child Deaths (USAID)
- Promotion of Essential Nutrition Actions (Peace Corps, USAID)
- Home Fortification guidelines (micronutrient powders [The International Micronutrient Malnutrition Prevention and Control Program (IMMPaCt)]) (CDC)
- Dietary Diversity activities (USAID, Peace Corps)
- Linking Investments in Nutrition in the 1,000-days window LINK with Interaction (USAID)
- Special Supplemental Nutrition Program for Women, Infants and Children (WIC) (USDA)
- Anemia Task Force (USAID, NIH)

The U.S. Government is also engaged in research relevant to the 1,000-day window, which includes:

- NIH's and USDA's work on maternal nutrition both as it pertains to women's short- and long-term health as well as the infant's needs
- CDC, NIH and USAID work on the causes of anemia and evidence based interventions to prevent and treat it
- Developmental Origins of Health and Disease (DOHaD) work on the importance of the 1,000-days period as a precursor to infant survival and school development, as well as stunting as a risk factor for nutrition-related non-communicable diseases
- The work by NIH, USDA, and USAID to understand the role of microbiomes, both in terms of nutrition as well as the role of human milk and developmental immunology, diarrheal disease and environmental enteropathy

Ensuring good nutrition during the first 1,000 days is a foundational step for achievement of all of the 2025 Nutrition Targets adopted at the World Health Assembly in 2012.²⁶ Considerable global strategies and U.S. Government programs have been aimed at several of these targets; however, others, such as reducing low birth weight and maternal anemia, have not received as much attention. Therefore, new and expanded coordination activities outlined in this Plan will emphasize women's nutrition.

The following activities have been identified as strategic opportunities to increase the impact of U.S. Government assistance in targeting the 1,000 days:

1. Increase efforts to improve maternal nutrition that build capacity of health workers and health systems to effectively address maternal nutrition during reproductive, prenatal and postnatal care, especially in relation to anemia prevention and treatment, adequate dietary quality and weight gain during pregnancy, counseling on breastfeeding during the prenatal period, maternal nutrition during lactation, and addressing the special challenges of adolescent pregnancies. Increasing capacity to carry out effective maternal nutrition programs will include strengthening pre-service education for health professionals, in-service training at all levels of the health system, development of standards of care and quality improvement to effectively integrate nutrition within reproductive, prenatal and postnatal services.
2. Help push the WHA target for a "50 percent reduction of anemia in women of reproductive age" by joining forces with WHO and other global partners to identify the causes, translate the findings on causes to interventions, and use this information in ongoing country programs to improve the control of anemia. CDC will be ramping up anemia programs in collaboration with UNICEF. NIH has ongoing research on causes of anemia and safe and efficacious control measures, while USAID has a Task Force on iron deficiency anemia.

5. Nutrition-related Non-communicable Diseases

Nutrition-related non-communicable diseases (N-RNCDs) represent a unique opportunity and challenge for the U.S. Government. The U.S. Government does extensive work on nutrition-related NCDs domestically; this expertise represents a tremendous asset to tap for global benefit. At the same time, limited resources mean that the U.S. Government is unable to address nutrition-related NCDs writ large. However, there are strategic opportunities to increase the global impact of U.S. Government programs by improving collaboration across agencies. These include improving responsiveness to foreign government requests to learn about preventing NCDs through improved nutrition; establishing an Interagency Global NCDs Network; and increasing the data available about nutrition-related NCDs.

Improving impact on nutrition-related non-communicable disease is particularly important in light of increasing evidence that unhealthy diets are key contributors to many non-communicable diseases,²⁷ which themselves are increasing significantly around the world. According to World Health Organization Data on NCDs:

26. 40 percent reduction of the global number of children under 5 who are stunted; 50 percent reduction of anemia in women of reproductive age; 30 percent reduction of low birth weight; No increase in childhood overweight; Increase the rate of exclusive breastfeeding in the first six months up to at least 50 percent; and Reduce and maintain childhood wasting to less than 5 percent.

27. The World Health Organization defines non-communicable disease, also known as chronic diseases, as diseases that are "not passed from person to person. They are of long duration and generally slow progression. The four main types of non-communicable disease are cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructed pulmonary disease and asthma) and diabetes".

- NCDs kill more than 36 million people each year.
- Nearly 80 percent of NCD deaths – 29 million – occur in low- and middle-income countries.
- More than 9 million of all deaths attributed to NCDs occur before the age of 60; 90 percent of these "pre-mature" deaths occurred in low- and middle-income countries.
- Cardiovascular diseases account for most NCD deaths, or 1 million people annually, followed by cancers (7.6 million), respiratory diseases (4.2 million), and diabetes (1.3 million).
- These four groups of diseases account for around 80 percent of all NCD deaths; they share four risk factors: tobacco use, physical inactivity, the harmful use of alcohol, and unhealthy diets.

- Health Systems Strengthening: Global health systems initiatives such as MEPI and the Field Epidemiology Training Program may include nutrition components (NIH, CDC, PEPFAR); Central America Diabetes Initiative (CDC); and USAID/GH health systems strengthening programs.
- Research and Data: CDC and NIH are conducting sodium studies in China; NIH is conducting NCD-LIFESPAN research training; NIH is participating in a Global Alliance for Chronic Disease; CDC is conducting school health surveys.

Current U.S. Government activities to address non-communicable diseases generally fall into three categories: participation in global discussions; health systems strengthening; and research and data. Examples include:

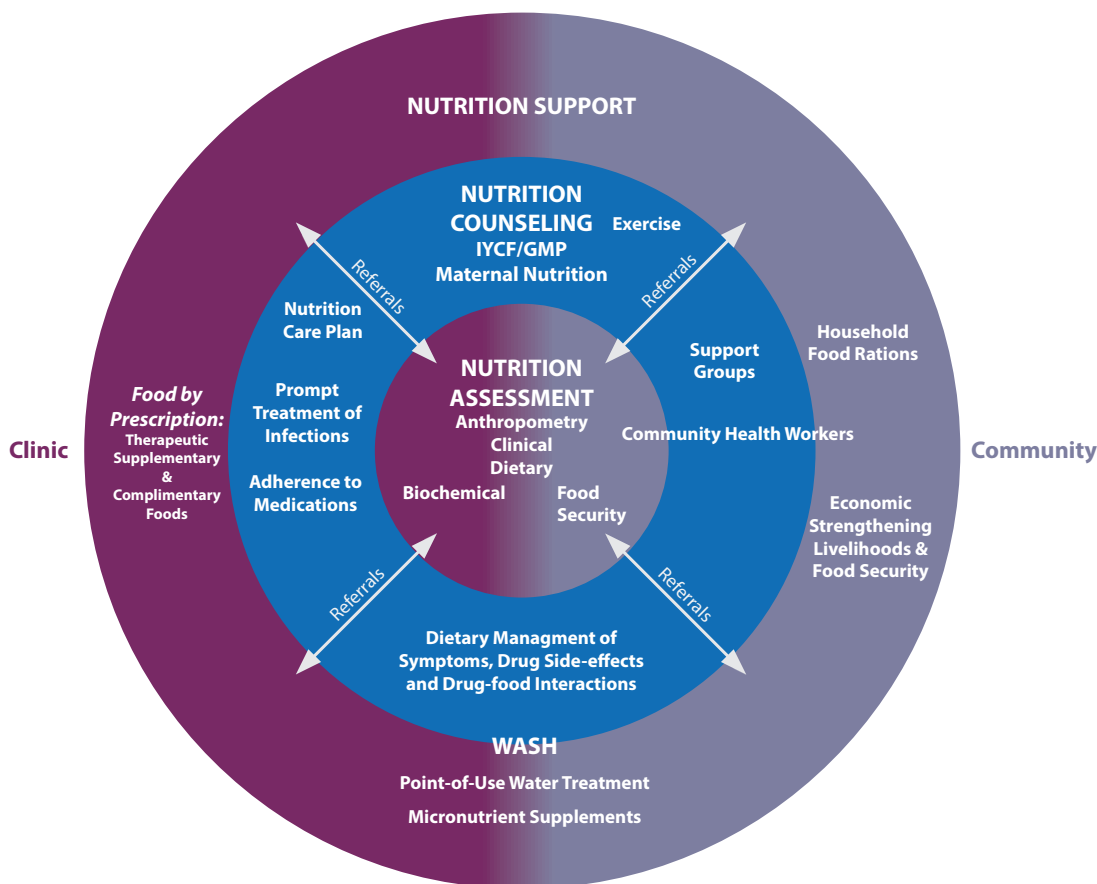
- Participation in Global Discussions: CDC, FDA, and USDA participate in discussions with WHO to set global targets and indicators on NCDs; FDA is participating in discussion to set International Nutrient Reference Values.

The table on page 40 identifies three strategic opportunities to increase the impact of U.S. Government assistance in addressing nutrition-related NCDs. As an initial goal, the U.S. Government aims to improve responsiveness to foreign government requests. HHS, USDA, and USAID all respond to requests from foreign governments to learn about preventing NCDs through improved nutrition. Currently, agencies respond but do not always coordinate with other agencies to ensure that all relevant expertise is offered to the requesting country. In the future, agencies will facilitate a Whole of Government response, as appropriate, for foreign governments who request such assistance.

6. Nutrition and HIV

The relationship between nutrition and HIV is complex and reciprocal. HIV and associated co-infections (e.g., tubercu-

The NACS Framework



Action Area	Activity	U.S. Government Agency
Support country-led efforts	<ol style="list-style-type: none"> 1. With any expansion of NACS, ensure cohesion with national nutrition strategies (e.g., CMAM/IMAM); integration of NACS within national nutrition strategies; link to SUN/1,000 Days at country level. 2. Add capacity building for NACS broadly as a systems approach, including pre-service and in-service training and strengthening of QA/QI and M&E. 3. Where NACS is implemented, provide technical assistance and training for nutrition screening and referral at community level and nutrition assessment at the clinic level. 	<ol style="list-style-type: none"> 1. USAID, CDC 2. USAID, CDC, NIH 3. USAID, CDC, Peace Corps
Promote leadership and partnership	<ol style="list-style-type: none"> 4. Links with SUN/1,000 Days; WHO, UNICEF & WFP; Global Fund to Fight AIDS, Tuberculosis and Malaria; invitation of key stakeholders to participate in the NACS Community of Practice. 	<ol style="list-style-type: none"> 4. USAID
Generate, share, and apply knowledge and evidence	<ol style="list-style-type: none"> 5. Highlight NACS implementing countries; evaluation of effectiveness of core approach and variants and share widely lessons learned through NACS Community of Practice Learning Platform. 	<ol style="list-style-type: none"> 5. USAID, CDC

losis, malaria, enteric infections) have a negative impact on nutrition through the suppression of appetite, elevation of energy needs associated with infection, and impaired nutrient absorption and metabolism. Conversely, malnutrition can have an impact on HIV disease progression via impaired immune response and reduced efficacy of antiretrovirals (ARVs) and other drug treatments. Malnutrition also increases the risk of co-infections due to impaired immune response. Moreover, food insecurity can lead to behaviors that increase risk of HIV infection and subsequently reduce adherence to treatment. Further, many of the countries experiencing the most impact by HIV are characterized by high rates of malnutrition and food insecurity, limited access to clean water and sanitation, high rates of other endemic infections (e.g., tuberculosis, malaria, enteric infections), and inadequate access to quality healthcare. This complex scenario demands a concerted effort, from generation of evidence-informed guidance for care and treatment to strategies that fully integrate and implement that guidance within the health, food, and socioeconomic systems of these countries.

In individuals with HIV infection, prompt initiation and adherence to antiretroviral treatment (ART), along with treatment of associated infections, is key to preventing malnutrition. When malnutrition is present, therapeutic or supplementary feeding should be provided, in conjunction with ART and management of co-infections.

A number of other issues are important to highlight related to HIV and nutrition. Tuberculosis (TB) is a particular concern – both in those with and without HIV co-infection. Even in the absence of HIV, under-nutrition is associated with an increased risk of TB, and is very common in those with TB. Under-nutrition is also a risk factor for progression from latent TB infection to active disease. And as noted above, TB itself can result in malnutrition. All these associations are exacerbated in individuals who are co-infected

with HIV and TB. Another key area of concern relates to anemia and HIV, a particular concern in pregnant women and in children. The issue of anemia in women of reproductive age, and specifically pregnant women, is discussed at length above, and is the focus for a key WHA target (50 percent reduction in anemia in women of reproductive age). Individuals with HIV infection, including men, women, and children, have additional risk factors for anemia, related to the effects of HIV on production of red blood cells, HIV-associated malnutrition and malabsorption, the impact of co-infections associated with anemia (especially malaria), and the effect of medications, notably the antiretroviral agent zidovudine (AZT). The complications of anemia for women, especially pregnant women, have been described above; these are amplified for HIV-infected women. Anemia also poses significant risks for HIV-infected children, as it is the most common cause of hospitalization and a leading cause of death.

A number of U.S. Government agencies currently work in the area of HIV and nutrition. Scientists at NIH, CDC, and USAID are engaged in research to better understand treatment and prevention of the disease and its relationship with nutrition. Under PEPFAR, USAID has been the lead agency integrating nutrition support within HIV care and treatment programs. HHS, through CDC, the Health Resources and Services Administration (HRSA), and the Substance Abuse and Mental Health Services Administration (SAMHSA), also implements HIV prevention, care, and treatment programs, including nutrition care, in developing countries. Peace Corps Volunteers live and work in HIV-affected communities directly engaging with patients and caregivers to bolster early assessment and referral of individuals to clinical care, providing support, and contributing to long-term livelihood and capacity development at the community level. The USDA Food and Nutrition Service (FNS) has also developed educational materials for people living with HIV (PLHIV) through the Women, Infants

and Children (WIC) program. In sub-Saharan Africa, the Medical Educational Partnership Initiative (MEPI)/Nursing Educational Partnership Initiative (NEPI) programs seek to increase the number of new healthcare workers, strengthen medical and nursing education, including nutrition, and increase both clinical and research capacity. These initiatives aim to expand institutional capacity and human resources of participant countries and are jointly administered by several U.S. Government agencies (State Department's OGAC, NIH's Fogarty International Center, and the HIV/AIDS Bureau of the Health Resources and Services Administration [GHAP/HAB/HRSA]).

Recognizing the complex interaction of AIDS and malnutrition as PEPFAR was launched a decade ago, USAID initiated a Food by Prescription Program (FBP) in Kenya through which therapeutic and supplementary foods were provided to people living with HIV and AIDS as an adjunct to care and treatment. This approach was highly successful, particularly in addressing the clinical wasting that was common in AIDS patients initiating ART. However, FBP was limited in its scope and has since evolved to what is now known as NACS – Nutrition Assessment, Counseling, and Support (see NACS Framework below).

NACS represents PEPFAR's comprehensive approach to nutrition and related interventions in the context of HIV infection. NACS provides a broad framework encompassing nutritional interventions for HIV-infected adults and children, including HIV-infected pregnant and breastfeeding women and their infants. Given the specific nutritional and health issues faced by HIV-infected women and their infants, it is worth highlighting the NACS approach to this group. NACS prioritizes the 1,000 days of pregnancy and 2 years postpartum as the period of greatest nutritional vulnerability for HIV-infected women and their exposed and/or infected infants. NACS recommendations, based on WHO guidelines, address health and nutrition for mother and infant, and aim to maximize the chance of HIV-free survival for the HIV-exposed infant. NACS supports maternal ART adherence (lifelong), along with exclusive breastfeeding for the first 6 months, continued breastfeeding with adequate complementary feeding (which may require a multi-micronutrient supplement) for at least 1 year, and weaning only when a safe and adequate replacement diet can be assured per WHO guidelines.

The evolution of the NACS approach embraced the critical role of nutrition assessment and counseling to inform and guide a continuum of care and support, including FBP, linking clinical and community health and nutrition services. It also embraces the need to address household food security and resilience, linking PLHIV and their families to economic strengthening and livelihood assistance and support within their communities. The NACS approach has spread to more than 18 countries and individual country variants have progressively adopted NACS as a systems-based approach to address a wider spectrum of nutrition needs within the general population, providing a unifying framework for programs to link and integrate programs such as maternal

and early childhood malnutrition (1,000 Days); Community Management of Acute Malnutrition (CMAM); micronutrient supplementation; and nutrition management of other infections in children, adolescents and adults (e.g., TB and Ebola). The evolution of NACS as a comprehensive, multi-sectoral, approach to nutrition and food security provides a framework for coordinated action of U.S. Government agencies to bring to bear the weight of our resources.

The U.S. Government sees an opportunity to increase the scope of NACS to more fully encompass the full array of nutrition-specific and nutrition-sensitive programming through its cohesive, unified framework. Through this expansion, coordination with established nutrition service mechanisms (e.g., CMAM) will be critical, and U.S. Government agencies that are already engaged, as well as others, can identify their comparative advantage and strategic opportunities to support this system. In particular, strengthening and expansion of nutrition-sensitive activities stands to bring a more focused, outcome-driven approach to programs that will improve the nutrition impact of water, sanitation and hygiene (WASH) and economic strengthening efforts, as well as making agriculture investments more positively impact nutrition.

7. Climate Change and Nutrition

The six focus areas described above do not preclude other areas of high priority; several U.S. Government agencies are already engaged in climate change work and may work together during the time frame of this Plan.

Climate change represents a major threat to global nutrition goals. This emerging and important topic will be explored further in the next iteration of this Coordination Plan. Although there are many gaps in understanding climate change impacts and risks to food security and nutrition, it is clear that climate change poses significant threats to food production and nutrition status of vulnerable populations. These risks may include decreased nutrient content of crops, an increase in food safety hazards, negative impacts on birth weights, decreased consumption of fruits and vegetables, and increased risk of acute malnutrition due to severe natural disasters.

There is a need for inter-sectoral and international cooperation to better understand the relationships between climate change and nutrition and to develop and implement mitigation and adaptation strategies to address emerging risks associated with climate change. Potential initiatives may include sound climate data and science; collection of food-related data on climate change measures, such as water required to produce, carbon footprint, etc., within food composition databases and to be incorporated as measures within nutrition surveys; and development of climate smart technologies and innovations. Research needs should be identified in nutrition and related sectors to address the impacts that climate change will have on food supply and nutrition, a particular concern for low- and middle-income countries and especially those countries where lack of arable land limits food production.

APPENDIX D: GLOSSARY OF TERMS

1,000 Days: The 1,000 days from pregnancy to a child's second birthday is the most critical time for positive impact on a child's cognitive, intellectual, and physical development. Good nutrition in the first 1,000 days lays the foundation for health, development, and even prosperity for the next generation.

Acute Malnutrition: This is a common term for identifying acute under-nutrition, and it reflects a recent and severe process that has led to substantial weight loss and nutrient deficiency, usually associated with severe deprivation and/or disease. It includes wasting and also nutritional bipedal edema in which nutritional deficiencies lead to swelling of limbs (feet, hands) due to retention of fluids. Often used to assess the severity of emergencies because it is strongly related to mortality.

Anemia: Low concentration of hemoglobin in the blood, as evidenced by a reduced quality or quantity of red blood cells. Anemia could be caused by genetic traits, parasitism, infectious diseases, and/or nutritional deficiencies. For the latter, iron deficiency is the most important reason, especially in women of child bearing age, although other micronutrient deficiencies such as vitamin A, vitamin B12, folate, and even vitamin B2 could also be important in developing countries.

Anthropometry: Measurement of the human body. In nutrition, this usually includes weight, length/height and/or mid-upper arm circumference.

Body Mass Index (BMI): Body weight in kilograms divided by height in meters squared (kg/m^2). For adults 20 and over, BMI is used as a screening tool to assess health risk. Individuals with both high BMI (overweight and obese, BMI between 25 and 29.9 and >30 respectively) and low BMI (underweight, BMI less than 18.5 in adults) at higher health risks.

Codex Alimentarius: The *Codex Alimentarius* or "Food Code" was established by FAO and the World Health Organization in 1963 to develop harmonized international food standards, which protect consumer health and promote fair practices in food trade.

Community-based Management of Acute Malnutrition (CMAM): The management of acute malnutrition through identification and referral of children with acute malnutrition at the community level; management of children with

moderate acute malnutrition (MAM) and severe acute malnutrition (SAM) without complications in the community; and management of children with SAM with medical complications or infants less than 6 months old through facility-based care.

Dietary Diversity: The number of different foods or food groups consumed over a given period of time.

Environmental enteropathy: A subclinical condition of the small intestine caused by constant fecal-oral contamination and resulting in blunting of intestinal villi and intestinal inflammation, and consequent decreased nutrient absorption and infiltration of microbes.

Essential Nutrition Actions (ENA): Package of seven recommended nutrition interventions. The focus is on women's nutrition during pregnancy and lactation, optimal feeding of the infant (breastfeeding and complementary feeding), nutritional care of sick and malnourished children (including zinc, vitamin A and ready-to-use therapeutic foods), and the control of iron, vitamin A, and iodine deficiencies.

Exclusive breastfeeding: Infant receives only breast milk, without any additional food or drink, not even water, until 6 months of age.

Food Fortification: The practice of deliberately increasing the content of an essential micronutrient, i.e., vitamins and minerals (including trace elements) in a food, so as to improve the nutritional quality of the food supply and to provide a public health benefit with minimal risk to health.

Food insecurity: A situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life. It may be caused by the unavailability of food, insufficient purchasing power, inappropriate distribution or inadequate use of food at the household level. Food insecurity, poor conditions of health and sanitation, and inappropriate care and feeding practices are the major causes of poor nutritional status. Food insecurity may be chronic, seasonal or transitory.

Food Safety: The conditions and practices that preserve the quality of food to prevent contamination and food-borne illnesses.

Food Security: When all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.

Hunger: Not having enough energy (calories) available from food each day for continued basic functioning.

Infant and Young Child Feeding (IYCF): Term used to describe the feeding of infants (less than 12 months old) and young children (12–23 months old). IYCF programs focus on the protection, promotion and support of exclusive breastfeeding for the first 6 months; timely introduction of and appropriate complementary feeding and continued breastfeeding for 2 years or beyond.

Integrated Community Case Management (iCCM): A strategy to extend case management of childhood illness beyond health facilities so that more children have access to lifesaving treatments.

Low Birth weight: Weight at birth less than 2,500 grams.

Malnutrition: A condition resulting when a person's diet does not provide adequate nutrients for growth and maintenance or if they are unable to fully utilize the food they eat due to illness: consists of both under- (insufficiency) and over- (excess) nutrition.

Micronutrients: Substances, i.e., vitamins and minerals, needed by the body in relatively small amounts.

Minimal Acceptable Diet: Breastfed children 6–23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day and non-breastfed children 6–23 months of age who received at least 2 milk feedings and had at least the minimum dietary diversity, not including milk feeds and the minimum meal frequency during the previous day (see <http://dhsprogram.com/topics/Nutrition.cfm> for more detail).

Mycotoxins: Toxins produced by fungi, especially by saprophytic molds, growing on foodstuffs or animal feeds. In the human food supply, the most detrimental mycotoxins are aflatoxins and fumonisins.

Nutrition Assessment, Counseling & Support (NACS): A systems approach to providing the nutrition standard of care for all individuals – pregnant and postpartum women, infants and young children, adolescents, and adults – integrated within healthcare, linking clinical services with community support.

Neonatal mortality: The probability of dying within the first month of life (<28 days).

Non-communicable diseases: Also known as chronic diseases that are not passed from person to person. They are of long duration and generally slow progression. The four main types of non-communicable diseases are cardio-

vascular diseases (e.g., heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructed pulmonary disease and asthma), and diabetes.

Nutrition: The science of foods and the nutrients and other substances they contain, and of their actions within the body. A broader definition includes the social, economic, cultural, and psychological implications of food and eating.

Nutrition-related non-communicable diseases (N-RNCDs): Non-communicable diseases in which dietary and lifestyle patterns are major contributing factors and/or important components of disease management; e.g., diabetes.

Nutrition-sensitive: Interventions that address the underlying and basic determinants of malnutrition and incorporate specific nutrition goals and actions.

Nutrition-specific: Programs and plans that are designed to address the immediate causes of suboptimal growth and development.

Nutrition surveillance: Ongoing, systematic collection, analysis, interpretation, and dissemination of data regarding nutritional status and nutrition programs in order to make policy and programmatic decisions that lead to improvements in the nutrition situation of a population.

Over-nutrition: Excess intake of energy or nutrients; includes overweight and obesity.

Overweight and Obesity: Abnormal or excessive fat accumulation that may impair health. Body Mass Index (BMI) is a simple index of weight for height that is commonly used to classify overweight and obesity in adults. A BMI greater than or equal to 25 is overweight; a BMI greater than or equal to 30 is obese. For children and teens, BMI is age- and sex- specific and is often referred to as BMI for age. A BMI at or above the 85th percentile and below the 95th percentile of the same age and sex is overweight; a BMI at or above 95th percentile of the same age and sex is obese.

Resilience: "The ability of people, households, communities, countries, and systems to migrate, adapt to, and recover from shocks and stress in a manner that reduces chronic vulnerability and facilitates inclusive growth." (US-AID Resilience Policy, p.5)

Stunting: Inadequate length/height for age, defined as more than 2 standard deviations below the median of the WHO Child Growth Standards resulting from chronic under-nutrition. Stunting reflects suboptimal food and nutrient intakes, insufficient preventive healthcare and unhygienic environments, poor maternal nutrition, and inappropriate infant and young child feeding and care by mothers and other members of the family and the community during the most critical periods of growth and development in early life.

Undernourishment: A state, lasting for at least 1 year, of inability to acquire enough food, defined as a level of food intake insufficient to meet dietary energy requirements. For the purposes of this report, hunger was defined as being synonymous with chronic undernourishment.

Under-nutrition: Various forms of poor nutrition caused by a complex array of factors including dietary inadequacy, infections, and sociocultural factors. Under-nutrition includes being underweight for one's age, too short for one's age (stunted), dangerously thin for one's height (wasted), and deficient in vitamins and minerals (micronutrient malnutrition).

Underweight in children: A composite form of under-nutrition that includes elements of stunting and wasting. It is defined as children aged 0–59 months whose weight for age is below -2 standard deviations (moderate and severe underweight) and -3 standard deviations (severe underweight) from the median of the WHO Child Growth Standards.

Wasting (or thinness): Low weight-for-height defined as more than 2 standard deviations below the median of the WHO Child Growth Standards and/or MUAC of <125mm. Wasting is usually the result of a recent, acute deprivation and/or illness, and is strongly linked to mortality. It is one type of acute malnutrition.

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