2014

ACTIONS AND ACCOUNTABILITY

TO ACCELERATE THE WORLD'S PROGRESS ON NUTRITION

This report highlights the global nature of malnutrition and the successes and bottlenecks in addressing it. Malnutrition continues to affect the lives of millions of children and women worldwide. Every country is affected by some form of nutrition problem. This calls for countries to put in place appropriate strategies to overcome the problem in a concerted manner. But it isn't an easy task. We all have many priorities and concerns that compete for our attention, our resources, our energy, and our political commitment. Ethiopia strongly believes that for a country to achieve sustainable human and economic growth, it must give special attention to the early stages of life as the foundation of human capital. We also believe that aligning and harmonizing partners' plans with the government is critical to delivering results in the most efficient and effective manner. This necessitates not only more money for nutrition, but also more value for money.

KESETEBIRHAN ADMASU BIRHANE MINISTER OF HEALTH, FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

I congratulate the authors of the *Global Nutrition Report* and welcome their clear and decisive recommendations for action. The data and the evidence encourage us to become more ambitious and more accountable. There is no one solution for all, but many countries are showing that progress is achievable. The Scaling Up Nutrition Movement will continue to provide an open space for everyone that truly champions nutrition.

TOM ARNOLD SCALING UP NUTRITION (SUN) MOVEMENT COORDINATOR AD INTERIM

Ending malnutrition throughout the world requires action on many fronts. The health sector cannot do it alone. But political commitment is growing. More and more countries know what they need to do to ensure access to healthy diets for all. This report will help us track progress toward global nutrition targets and understand where greater investments are needed.

MARGARET CHAN DIRECTOR-GENERAL, WORLD HEALTH ORGANIZATION

The *Global Nutrition Report* is timely and inspiring. Its overview of under- and overnutrition taps the momentum and urgency for achieving better nutrition, as encompassed by the Scaling Up Nutrition Movement and the Zero Hunger Challenge. It highlights areas for action, contributes to strengthened nutrition accountability, and guides as well as provides a yardstick for alliances across the supply chains for food and health, work with which WFP is intimately involved.

ERTHARIN COUSIN EXECUTIVE DIRECTOR, WORLD FOOD PROGRAMME

As this report reminds us, good nutrition is a foundation for sustainable development. Malnutrition affects all countries—North, South, East, and West—so all of us have a strong interest in working together to end this scourge. We know much about what must be done to improve nutrition, but we need to keep building political support to allow these actions to be scaled up. This report helps that scale-up by identifying where progress is lagging, by suggesting actions to accelerate it, and by making recommendations to ensure all stakeholders are more accountable for taking action to end malnutrition.

SHENGGEN FAN DIRECTOR GENERAL, INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

The findings highlighted in this report attest to an important commitment to bring together the data that exist on malnutrition and demonstrate meaningful progress on the commitments made at the 2013 Nutrition for Growth summit. Policymakers should heed the report's call to prioritize collecting more and better nutrition data to drive even greater impact on the lives of the poorest in the years ahead.

MELINDA GATES CO-CHAIR, BILL & MELINDA GATES FOUNDATION

The report offers a much-needed platform for tracking progress on nutrition. Its emphasis on productive partnerships to accelerate improvements is especially relevant as the international community commits to action at the Second International Conference on Nutrition. Our generation has all the conditions to respond to the Zero Hunger Challenge and make all forms of malnutrition a relic of the past. True to our Constitution and the responsibility entrusted to us to help end hunger and raise the levels of nutrition, FAO is committed to working with all stakeholders to make this happen.

JOSÉ GRAZIANO DA SILVA DIRECTOR-GENERAL, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Nutrition is one of the most cost-effective investments we can make in children—and fundamental to achieving all our sustainable development goals. But until recently, it was a forgotten topic. This has started to change as the Scaling Up Nutrition Movement has gained force, supported by more than 50 countries and the commitment of governments, international organizations, civil society, and communities to scale up nutrition. This report highlights the progress we have made and the urgent necessity to do more—setting ambitious goals and holding ourselves accountable for achieving them. For when we lose a child's full potential, we lose a piece of our common future.

ANTHONY LAKE EXECUTIVE DIRECTOR, UNICEF

I am pleased to note the progress made in reducing malnutrition. We are now better informed about the complexities of malnutrition. Our response must therefore be adequate, multidimensional, and comprehensive. It requires country-by-country interventions and a multistakeholder approach. At a community level, this means changing beliefs, habits, and practices. We must start early, from the health of the mother, through the first 1,000 days of life and beyond.

GRAÇA MACHEL FOUNDER, GRAÇA MACHEL TRUST

The *Global Nutrition Report* demonstrates with data and with examples what we all know: improved nutritional status is essential for sustainable development. We are all responsible for ensuring that actions and investments truly respond to the realities of those for whom the multiple burdens of malnutrition are not an abstract concept, but an everyday reality. Access to timely and reliable data empowers decisionmakers to make the most efficient use of resources and is key to ensuring that all stakeholders' commitments are honored and sustained.

DAVID NABARRO SPECIAL REPRESENTATIVE OF THE UN SECRETARY GENERAL FOR FOOD SECURITY AND NUTRITION

2014

ACTIONS AND ACCOUNTABILITY

TO ACCELERATE THE WORLD'S PROGRESS ON NUTRITION

A PEER-REVIEWED PUBLICATION

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SUPPLEMENTARY ONLINE MATERIALS

The following supporting materials are available at www.globalnutritionreport.org.

Nutrition profiles

Global nutrition profile (data available for 84 indicators on a global scale)

Nutrition country profiles (data available for 84 indicators for each of the 193 United Nations member states)

Technical notes

Technical Note 1 Nutrition Country Profile Indicators Definitions and Sources

Technical Note 2 LiST Analysis for *Global Nutrition Report* Independent Expert Group, Zulfiqar Bhutta

Technical Note 3 The Excessive (and Wasteful) Consumption of Food, Carlo Cafiero

Technical Note 4 Toward Sustainable, Healthy, and Profitable Food Systems: Nutrition and the Sustainable Management of Natural Resources, United Nations System Standing Committee for Nutrition

Technical Note 5 Learning from Efforts to Cost Country Plans: Priority Technical Issues to Address, Helen Connolly

Technical Note 6 Measuring and Tracking the Access Dimension of Food Security: Available Indicators and Recommendations for Future Investments, Marie T. Ruel, Terri J. Ballard, and Megan Deitchler

Technical Note 7 Voices of the Hungry: Where in the World Is Food Insecurity More Severe? Carlo Cafiero

Technical Note 8 Assessing Capacity: The Need to Invest in Nutrition Capacity Development in the West Africa Region, Roger Sodjinou

Technical Note 9 Data Gaps for Low Birth Weight, Holly Newby

Technical Note 10 Measuring Overweight and Obesity: Need for Harmonization and Refinement, Rachel Nugent, Mercedes de Onis, Komal Bhatia, Kamilla Eriksen, Gretchen Stevens, and Yves Martin-Prevel

Technical Note 11 Countries in the SUN Movement Assess Their Own Progress within Government-Led Multistakeholder Platforms, SUN Secretariat

Technical Note 12 Vitamin and Mineral Status Worldwide: What We Know and the Challenges Ahead, Luz Maria De-Regil

Nutrition for Growth tracking tables

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Extended versions of panels in this report

Data and visualization platform

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ABBREVIATIONS

AARI	average annual rate of increase
AARR	average annual rate of reduction
BMI	body mass index
CAADP	Comprehensive Africa Agriculture Development Programme
CSO	civil society organization
DHS	Demographic and Health Survey
FAO	Food and Agriculture Organization of the United Nations
HANCI	Hunger and Nutrition Commitment Index
MAD	minimum acceptable diet
MAM	moderate acute malnutrition
MDD	minimum dietary diversity
MICS	Multiple Indicator Cluster Survey
NCD	noncommunicable disease
NEPAD	New Partnership for Africa's Development
NGO	nongovernmental organization
PPP	purchasing power parity
SAM	severe acute malnutrition
SDG	Sustainable Development Goal
SUN	Scaling Up Nutrition
UNICEF	United Nations Children's Fund
WHA	World Health Assembly
WHO	World Health Organization
WRA	women of reproductive age

EXECUTIVE SUMMARY

GOOD NUTRITION IS THE BEDROCK OF HUMAN WELL-BEING. BEFORE BIRTH AND THROUGHOUT INFANCY, GOOD NUTRITION ALLOWS BRAIN FUNCTIONING TO evolve without impairment and immune systems to develop more robustly. For young children, good nutrition status averts death and equips the body to grow and develop to its full potential. Over the course of the human lifespan, it leads to more effective learning at school, better-nourished mothers who give birth to better-nourished children, and adults who are likelier to be productive and earn higher wages. In middle age, it gives people metabolisms that are better prepared to ward off the diseases associated with changes in diet and physical activity. Without good nutrition, people's lives and livelihoods are built on quicksand.

KEY POINTS

1. **People with good nutrition are key to sustainable development.**
   - Malnutrition affects nearly every country in the world.
   - More nutrition indicators need to be embedded within the Sustainable Development Goal accountability framework.
2. **We need to commit to improving nutrition faster and build this goal into the Sustainable Development Goal targets for 2030.**
   - The 2030 Sustainable Development Goal targets should be more ambitious than simple extensions of the 2025 World Health Assembly targets. A new consensus about what is possible needs to be established.
3. **The world is currently not on course to meet the global nutrition targets set by the World Health Assembly, but many countries are making good progress in the target indicators.**
   - More high-quality case studies are needed to understand why progress has or has not been made.
4. **Dealing with different, overlapping forms of malnutrition is the "new normal."**
   - Nutrition resources and expertise need to be better aligned toward the evolving nature of malnutrition.
5. **We need to extend coverage of nutrition-specific programs to more of the people who need them.**
   - More attention needs to be given to coverage data—an important way of assessing presence on the ground where it counts.
6. **A greater share of investments to improve the underlying determinants of nutrition should be designed to have a larger impact on nutritional outcomes.**
   - We need to keep tracking the proportion of nutrition resources to these approaches.
   - We must also provide more guidance on how to design and implement these approaches to improve their effectiveness and reach.
7. **More must be done to hold donors, countries, and agencies accountable for meeting their commitments to improve nutrition.**
   - Stakeholders should work to develop, pilot, and evaluate new accountability mechanisms. Civil society efforts to increase accountability need support.
   - We need to develop targets or norms for spending on nutrition.
8. **Tracking spending on nutrition is currently challenging, making it difficult to hold responsible parties accountable.**
   - Efforts to track financial resources need to be intensified—for all nutrition stakeholders.
9. **Nutrition needs a data revolution.**
   - Of the many information gaps, the ones that most need to be filled are those that constrain priority action and impede accountability.
10. **National nutrition champions need to be recognized, supported, and expanded in number.**
    - We must fill frontline vacancies, support nutrition leadership programs, and design country-led research programs.

Good nutrition is also central to the sustainable development agenda that is taking shape in the form of the Sustainable Development Goals (SDGs) now under discussion. Inherently sustaining, good nutrition flows throughout the life cycle and across the generations. It promotes individual resilience in the face of shocks and uncertainties generated by climate change and extreme price fluctuations. It supports the generation of innovations needed to meet the joint challenge of improving the lives of current and future generations in ways that are environmentally sustainable.

This *Global Nutrition Report* is the first in an annual series. It tracks worldwide progress in improving nutrition status, identifies bottlenecks to change, highlights opportunities for action, and contributes to strengthened nutrition accountability. The report series was created through a commitment of the signatories of the Nutrition for Growth Summit in 2013. It is supported by a wide-ranging group of stakeholders and delivered by an Independent Group of Experts in partnership with a large number of external contributors.

This report has a number of unique features. First, it is global in scope. Nearly every country in the world experiences some form of malnutrition, and no country can take good nutrition for granted. Second, because global goals require national action, the report aims to speak to policymakers, practitioners, scientists, and advocates in all countries. It assembles copious country-level data and other information in an accessible manner and highlights the experiences of a large number of countries from Africa, Asia, Europe, Latin America and the Caribbean, North America, and Oceania. Third, a key focus of the report concerns how to strengthen accountability in nutrition. Many of the core features of malnutrition—including its long-term effects, the need to work in alliances to counter it, and the invisibility of some of its manifestations—make accountability challenging. We thus identify actions to strengthen key mechanisms, actors, and information in ways that will help hold all of us to account in our efforts to accelerate improvements in nutrition status. Finally, the report is delivered by an Independent Expert Group charged with providing a view of nutrition progress and an assessment of nutrition commitments that are as independent and evidence based as possible.

From the point of view of the authors, the report itself is an intervention against malnutrition: it is designed to help reframe malnutrition as a global challenge, to raise ambitions about how quickly it can be reduced, and to reenergize actions to reduce it. To accomplish this, we bring together a wide-ranging set of key indicators of nutrition status, actions, and resources for all 193 United Nations member states. We analyze these data in order both to assess worldwide progress in improving nutrition status and to locate individual country progress and experiences within the broader global and regional trends. In addition we provide an accountability mechanism for the commitments made by the 96 signatories of the Nutrition for Growth Summit, monitoring and assessing their self-reported progress against those public declarations of intent to act for nutrition.

KEY FINDINGS

The report offers a number of findings regarding the progress that has been made in improving nutrition status, scaling up nutrition action, meeting the commitments made by signatories to the Nutrition for Growth Compact, and reducing data gaps.

Progress in Improving Nutrition Status

1. **IMPROVING PEOPLE'S NUTRITION STATUS IS CENTRAL TO ATTAINING SUSTAINABLE DEVELOPMENT.** We summarize evidence to show that improvements in nutrition status will make large contributions to SDGs on poverty, food, health, education, gender, and employment. We also show that investments in nutrition have high returns. We estimate new benefit-cost ratios for scaling up nutrition interventions in 40 countries. Across these 40 countries, the median benefit-cost ratio is 16—meaning that for every dollar, rupee, birr, or peso invested, at the median more than 16 will be returned. The benefit-cost ratios from investing in nutrition are highly competitive with investments in roads, irrigation, and health.
2. **MALNUTRITION AFFECTS NEARLY EVERY COUNTRY.** All countries in the world, bar two, that collect nutrition data experience one of the following forms of malnutrition: stunting, anemia, or adult overweight. If the anemia rates in the two outlier countries were just 0.6 percentage points higher, then all countries in the world with nutrition data would be classified as experiencing one of these three forms of malnutrition.
3. **ON A GLOBAL SCALE, THE WORLD IS NOT ON COURSE TO MEET THE GLOBAL NUTRITION TARGETS AGREED TO BY THE WORLD HEALTH ASSEMBLY (WHA).** Under existing assumptions, projections from the World Health Organization (WHO) and UNICEF show that the world is not on track to meet any of the six WHA nutrition targets. Globally, little progress is being made in decreasing rates for anemia, low birth weight, wasting in children under age five, and overweight in children under age five. Progress in increasing exclusive breastfeeding rates has been similarly lackluster. More progress has been made in reducing stunting rates in children under five, but not enough to meet the global target under current projections.
4. **ON A COUNTRY-BY-COUNTRY BASIS, THOUGH, MANY COUNTRIES ARE MAKING GOOD PROGRESS IN IMPROVING NUTRITION OUTCOMES.** If the global WHA targets were to be applied on a country-by-country basis, how many countries would be on course to meet the targets? Of the four WHA indicators for which we can make country-level assessments, 99 countries have sufficient data to allow for such assessments. Of the 99 countries, 68 are on course for at least one of four WHA global targets and 31 are not on course for any. Out of 109 countries that have data on stunting of children under age five, 22 are on course for meeting the WHA target. Out of 123 countries with data on wasting of children under age five, 59 are on

course. Out of 107 countries with data on overweight of children under age five, 31 are on course. Finally—and of great concern—only 5 out of 185 countries with data on anemia are on course for anemia reduction. There is great potential to learn from country experiences, but it is not being exploited because of a lack of country case studies that examine the wide range of factors affecting progress.

5. **THERE IS A BASIS FOR SETTING MORE CHALLENGING TARGETS FOR NUTRITION IMPROVEMENT.** How is this finding consistent with a world that is off course for the WHA global targets? First, country-level variation suggests that there are plenty of examples of progress from which to draw inspiration and insight. Second, experiences from the Indian state of Maharashtra as well from Bangladesh, Brazil, and the United States suggest that significant change in nutrition status can happen over the medium term as a result of determined action sustained over a period of 6–12 years. If just a few large countries improved their performance, it would change the basis for earlier projections of progress. Finally, for India—the second-most populous country in the world—new and preliminary national data suggest it is experiencing a much faster improvement in WHA indicators than currently assumed. For example, if the new preliminary estimates undergo no further significant adjustments, then the numbers of stunted children under the age of five in India has already declined by more than 10 million.

6. **THE FACE OF MALNUTRITION IS CHANGING: COUNTRIES ARE FACING COMPLEX, OVERLAPPING, AND CONNECTED MALNUTRITION BURDENS.** Most countries experience some combination of under-five stunting, anemia in women of reproductive age, and adult overweight; fewer than 20 countries have only one of these forms of malnutrition. These different burdens are connected not only at a physiological level, but also at a resource and political level. Researchers and practitioners urgently need to develop tools and strategies to prioritize and sequence nutrition-relevant actions in these complex contexts. Given these multiple burdens and the trend toward decentralization of nutrition programming, disaggregated analyses of nutrition outcomes are more important than ever. This is a major data gap, though it may not exist in all countries.

Progress on Scaling Up Nutrition Action

7. **COVERAGE OF NUTRITION-SPECIFIC INTERVENTIONS IS LOW.** The lack of national coverage data for nutrition-specific interventions reflects the low coverage of the programs themselves. Of 12 key nutrition-specific interventions that have been identified as crucial for reducing undernutrition, many countries have national coverage data for only 3 (vitamin A supplementation, zinc treatment for diarrhea, and universal salt iodization). Given the lack of progress on wasting rates, the lack of coverage data for programs to treat moderate and severe acute malnutrition (MAM and SAM) is a major concern. Geographic coverage is poor, even in countries with very large burdens of SAM. Direct coverage estimates are needed to properly assess people's access to treatment for both MAM and SAM. Ways need to be found to get the best blend of rapid stand-alone surveys and periodic national surveys to estimate MAM and SAM coverage in a timely and credible way.

8. **UNDERLYING DRIVERS OF NUTRITION STATUS ARE IMPROVING.** Underlying drivers—such as food supply, clean water and sanitation, education, and health care—can contribute a great deal to improving nutrition status. Estimates of undernourishment based on food supply are decreasing, but—with 805 million people below a minimum calorie threshold in 2012–2014—they are still high. Access to improved water and sanitation services is steadily improving, although large coverage gaps remain in Eastern, Western, and Middle Africa for water and in Southern and South-Eastern Asia and most regions of Africa for sanitation. Trends in female secondary education enrollment are positive for all regions, although the rate is still just 50 percent for Africa. Health services, though, are still lacking in Africa and Asia. Europe has the most physicians per 1,000 people (at 3.5) and Africa the least (0.5), while North America has the most nurses and midwives per 1,000 people (9.8) and Africa the least (1.3). Asia has two times as many community health workers per 1,000 people as Africa, but the numbers are low for both regions (1.4 compared with 0.7).

9. **THE POTENTIAL FOR EXPANDING RESOURCES TO NUTRITION-SENSITIVE PROGRAMS IS CLEAR; THE QUESTION IS, HOW?** Investments in nutrition-sensitive programs and approaches that address the underlying determinants of malnutrition can be important components of a portfolio of actions to improve nutrition status. We present data on government expenditures on the related sectors of agriculture, education, health, and social protection. Different governments make different choices about these sectors, and expenditure levels vary between regions and within regions. Social protection spending is increasing rapidly in many African and Asian countries, providing a major opportunity to scale up nutrition-sensitive actions. But evidence is limited on how to make interventions that address underlying determinants more nutrition sensitive. The report offers some ideas for agriculture; social protection; education; health; and water, sanitation, and hygiene.

10. **COUNTRIES CANNOT CURRENTLY TRACK THEIR FINANCIAL COMMITMENTS TO NUTRITION.** Several tools exist to accomplish this, and investments will need to be made to build the organizational capacity to do so. Guatemala provides an inspiring case study. Spending by donors is somewhat clearer than spending by countries. Between 2010 and 2012, commitments from 13 donors to nutrition-specific interventions rose by 39 percent, and disburse-

ments rose by 30 percent. Nutrition-sensitive donor commitments declined by 14 percent, but nutrition-sensitive disbursements for the 10 donors that reported data increased by 19 percent. The percentage of official development assistance disbursed to nutrition in 2012 was just above 1 percent. Donor reporting on nutrition is becoming more harmonized but has further to go owing to differences in definitions and timing.

11. **POLICIES, LAWS, AND INSTITUTIONS ARE IMPORTANT FOR SCALING UP NUTRITION.** These elements of the policy environment can be measured. The Scaling Up Nutrition (SUN) process score approach is noteworthy for being a participatory measurement process that stimulates reflection among stakeholders on how they can strengthen coordinated action on nutrition. Assessments of the strength of policies, laws, and institutions can point out disconnects, such as the coexistence of weak policy environments on diabetes and populations with rates of raised blood glucose levels.

Monitoring the Nutrition for Growth Commitments

12. **REPORTING ON THE 2013 NUTRITION FOR GROWTH (N4G) COMMITMENTS WAS CHALLENGING FOR ALL GROUPS OF SIGNATORIES.** Valuable lessons were learned in this "baseline year." Ninety percent of the signatories responded to requests for updates against their N4G commitments. Very few signatories were off course on their commitments, although there were many "not clear" assessments due to the vagueness of commitments made and of responses provided. In terms of progress against N4G targets, there were no obvious causes for concern from any group, at least at this early stage in the reporting period of 2013–2020. The assessment will be strengthened in 2015 by more data, more streamlined processes, and, we suspect, participants that are more motivated given their understanding of how their responses will be reported.

13. **NUTRITION ACCOUNTABILITY CAN AND MUST BE BUILT.** Civil society actors are particularly important in building accountability, although they need support to be most effective. National evaluation platforms and community feedback mechanisms are promising ways of strengthening nutrition accountability, but they need to be piloted and evaluated. National and international nutrition research programs that are driven by the problems of countries themselves are likely to improve accountability at the national level.

Reducing Data Gaps

14. **THERE ARE MANY GAPS IN DATA ON NUTRITION OUTCOMES, PROGRAMS, AND RESOURCES.** For example, for the four of six WHA indicators where rules exist to classify countries as "on course" or "off course," only 60 percent of the 193 UN member countries have the data to assess whether their contribution levels are on or off course to meet the global WHA targets. Ensuring all countries can report on the WHA indicators is a priority for governments and UN agencies. To identify data gaps beyond the WHA indicators, we posed the question: In what areas are data gaps leading us to fail to prioritize the issues that need to be prioritized and the actions that need to be taken to reduce malnutrition? We identified three nutrition-status indicators—anemia, overweight/obesity, and low birth weight—where progress is slow and data gaps could be holding back action. We also identified data gaps that we believe are holding back the scaling up and context-specific blending of nutrition-specific, nutrition-sensitive, and enabling environment interventions. These gaps included data on countries' capacity to implement and scale up nutrition actions, program costs, and financial resource tracking. Many decisions about how to prioritize the filling of data gaps need to be undertaken at the national level, based on nutrition policies, plans, and strategies.

15. **NOT ALL DATA GAPS NEED TO BE ADDRESSED BY COLLECTING NEW DATA.** We identified several ways of filling data gaps: (1) using existing data better, (2) strengthening existing data collection quality, (3) improving data comparability across countries, (4) collecting new data where there are not enough for good accountability, and (5) increasing the frequency of national nutrition survey data collection. Three to four key data gaps were identified under each of these five areas, and ways to begin filling these gaps were proposed. Many of these data gaps can be filled by investing in the capacity of nutrition analysts, program managers, and policy units to make better use of existing data.

WE CAN IMPROVE NUTRITION MORE RAPIDLY: STRONGER ACCOUNTABILITY IS KEY

Almost all countries suffer from high levels of malnutrition. Countries should make a common cause and exploit opportunities to learn from each other. It is clear that the low-income countries do not have a monopoly on malnutrition problems and that the high-income countries do not have a monopoly on nutrition solutions.

Failure to intensify action and find solutions will cast a long shadow, bequeathing a painful legacy to the next generation. Our generation has the opportunity—and the ability—to banish those shadows. To do so, we must act strategically, effectively, in alliances, and at scale. And we need to be held to account.

The annual series of *Global Nutrition Reports*—their data, analyses, examples, messages, and recommendations—represents one contribution to meeting this collective 21st-century challenge.

1 INTRODUCTION

THE CHALLENGE OF IMPROVING NUTRITIONAL STATUS IS A QUINTESSENTIALLY 21ST-CENTURY ENDEAVOR. IT IS A CHALLENGE THAT RESONATES THE WORLD OVER: nearly every country in the world experiences a level of malnutrition that constitutes a serious public health risk. Between 2 and 3 billion people are malnourished—they experience some form of undernutrition, are overweight or obese, or have some sort of micronutrient deficiency.[1]

The faces of poor nutrition are many: from children living under famine conditions who appear to be made of skin and bone, to adults who have trouble breathing owing to obesity, to infants who do not live to see their first birthday as a result of a combination of poor diets, poor infant feeding practices, and exposure to infectious disease.

It is a challenge that requires effective action across a number of sectors and areas (food, health, social welfare, education, water, sanitation, and women) and across a number of actors (government, civil society, business, research, and international development partners). Strong alliances for action are much more effective than silver bullets, and the multiple causes of malnutrition often represent multiple opportunities to improve nutrition in a sustainable way.

Lastly, poor nutrition is a challenge that casts a long shadow: its consequences flow throughout the life cycle and cascade down the generations affecting everyone—especially children, adolescent girls, and women—and include mortality, infection, cognitive impairment, lower work productivity, early onset and higher risk of noncommunicable diseases (NCDs), stigma, and depression.

KEY POINTS

1. The challenge of improving nutrition shares many characteristics with other 21st-century development challenges: global prevalence, long-term consequences, and the need to work through broad alliances of sectors and actors.
2. Improvements in nutrition status will be central to the sustainable development agenda: nutrition improvements are inherently sustaining throughout the life cycle and across generations, and they contribute directly to most of the proposed Sustainable Development Goals.
3. The features of nutrition outcomes and actions—their short- and long-term effects, the invisibility of some consequences of malnutrition, and the need for alliances—make the process of identifying commitments, and then monitoring them for accountability, more complex than for many other development issues.
4. This report is one contribution to strengthening accountability in nutrition.

NUTRITION IS CENTRAL TO SUSTAINABLE DEVELOPMENT

These features of nutrition—its global prevalence, the need to improve it through broad alliances of sectors, and its short- and long-term consequences—also define other current development challenges: achieving equity, facilitating demographic transitions to lower mortality and fertility levels, and addressing climate change and its implications for vulnerability, sustainable food systems, and natural resource use. The process of improving nutrition outcomes has a kinship with these issues and is central to the sustainable development agenda in at least two ways. First, nutrition improvements are inherently sustaining over time. Investments in the first 1,000 days of a person's life yield benefits throughout that person's life cycle and across generations.[2] Second, improvements in nutritional status will drive many sustainable development outcomes—directly and indirectly. As Chapter 2 will show, improved nutrition contributes to most of the Sustainable Development Goals (SDGs) proposed by the UN's Open Working Group. It is clear that improvements in nutrition can help drive the SDG agenda.

THE NEED TO STRENGTHEN NUTRITION ACCOUNTABILITY

While these aspects of nutrition make it central to sustainable development, they also make it difficult to hold key stakeholders accountable for their actions to improve it. How do individuals make claims on those responsible for improving nutrition if they cannot identify those responsible, cannot identify their duties, and cannot track whether they are fulfilling those responsibilities? Similarly those responsible for nutrition-improving actions will have trouble tracking the progress of their own efforts if tracking and feedback mechanisms are weak. The large number of actors, the long-term benefits to action, and the invisibility of some consequences of malnutrition all work against strong accountability. Without nutrition accountability, there is no guide to action and no consequence to inaction and indifference—other than to the 2 to 3 billion people directly affected.

Our knowledge of which actions can improve nutrition status has never been greater. For undernutrition, we can call on a set of proven, specific interventions and a set of much larger nutrition-sensitive investments that have enormous untapped potential. For overweight and obesity, the evidence base is weaker but getting stronger. Evidence suggests that addressing undernutrition also mitigates some of the risk factors associated with noncommunicable diseases later in life. In the absence of data, issues remain of how to sequence and prioritize actions and how to assess whether the actions are making a difference at the meso and macro levels.

AIMS OF THIS REPORT

This report represents a new contribution to strengthen the ability of policymakers, program implementers, civil society advocates, investors, communities, and families to monitor their society's progress in improving nutrition. The aim of the report is to help these groups hold themselves, and others, to account for their actions or inaction in improving nutrition. In so doing, the report seeks to support the SDG accountability infrastructure and to serve as a spur to improved resource allocation and to intensified action and demand for good nutrition.

The key audiences are current "nutrition champions" and their current and future allies (Table 1.1). Nutrition champions are organizations and individuals, operating in the spotlight or behind the scenes, who consistently strive to accelerate improvements in nutrition outcomes. Their allies are those who work with the champions because they have an interest in investing in nutrition, typically to further another goal—in conjunction with, or because of, efforts to improve nutrition. Future champions are those whom we need to inspire and support, who are starting out in their nutrition careers, or who are discovering nutrition. Future allies are those who have vested interests in nutrition but may not yet realize it. They are the economists searching for new sources of growth; the social planners looking for new ways of reaching the most vulnerable; the agriculturalists seeking to maximize the human impacts of farm technologies, practices, and market innovations; and the water, sanitation, and hygiene specialists looking to maximize the health benefits of their work. Reaching and motivating these strategic partners will lead to new dialogues and should identify new opportunities for investments that lead to improvements in nutrition.

The report was originally called for by the signatories of the Nutrition for Growth (N4G) Summit Compact in 2013 in recognition of the need to better monitor commitments to improving nutrition. As such, the report is a collective endeavor of a set of N4G stakeholders who care deeply about improving nutrition as a spur to sustainable development.

The Stakeholder Group has empowered an Independent Expert Group to bring together existing and new nutrition data to provide a more complete picture of country and global nutrition indicators, strengthen accountability, generate fresh insights, start new conversations, and catalyze new actions.

These two groups, like many others, recognize that although the political commitment to improve nutrition is currently high, it is not permanent. Development trends come and go. This report aims to be a legacy of current high levels of commitment and to help stimulate future waves of commitment to nutrition long after the current wave has dissipated.

CONCEPTUAL FRAMEWORK

The report broadly follows the framework for actions to improve nutrition status shown in Black et al. (2013). It describes the importance of improved nutrition status, progress in improving nutrition status, and coverage levels and trends in nutrition-specific and nutrition-sensitive programs and approaches, including investments in the underlying determinants that support them (see Panel 1.1). It examines the enabling environment for nutrition—resources, policies, laws, and institutional transformations—and identifies bottlenecks to progress and opportunities for stakeholders to come together.

PANEL 1.1 TYPES OF NUTRITION INVESTMENT

LAWRENCE HADDAD

Because a person's nutrition status depends on a range of immediate, underlying, and basic determinants and their interactions, nutrition investments may take various forms to address these determinants.

Nutrition-specific programs address the immediate determinants of nutrition status (such as inadequate diet and disease burden) and are found in a range of policy areas, such as health, humanitarian relief, and food processing.[1]

Nutrition-sensitive programs and approaches address the underlying determinants of nutrition status (such as food security, health access, healthy household environment, and care practices) and are found in a wide range of policy areas (such as agriculture; education; water, sanitation, and hygiene; social protection; women's empowerment; and health). They incorporate explicit nutritional goals or actions, although improved nutrition is not necessarily their primary goal.

Enabling-environment investments address the basic determinants of nutrition status such as governance, income, and equity. These investments take the form of laws, regulations, policies, investments in economic growth, and improvements in governance capacity.

Most investments in actions to address the underlying and basic determinants of nutrition status are not nutrition sensitive—in other words they do not incorporate explicit nutritional goals or actions—but they can be important drivers of nutrition improvement.

Efforts to improve nutritional status can come from all three areas. The aim should be to find the most potent blend of them, at scale, given the need, capacities, and political opportunities in each context.

Throughout the report we focus on the need for action on a broad number of fronts if nutrition status is to improve rapidly and sustainably. We use case studies from Bangladesh, Brazil, Burkina Faso, Indonesia, the Indian state of Maharashtra, the United States, and the United Kingdom to show what can be accomplished when action occurs in different sectors. Case studies in this report and elsewhere show that there is no magic recipe for multisectoral action (Garrett and Natalicchio 2011). Nutrition-specific and nutrition-sensitive programs, together with changes in the underlying determinants and the enabling environment, all have important roles to play. When they come together in a virtuous circle, they can lead to significant improvements in people's nutrition status. It is vital that national leaders and the nutrition community have a strong vision for the nutrition goals they want to meet and a focused plan for how to do it. But the focused plan needs to be open to all possible actions and combinations of actions.

The report uses a simple accountability framework to guide its work. The framework is based on recent publications on nutrition accountability (Kraak et al. 2014; te Lintelo 2014). The accountability cycle involves identifying commitments, tracking progress against commitments, determining accountability (were commitments met?), understanding how the accountability information is being used (for example, to leverage new commitments), and describing how various actors respond to the assessment of accountability. Data and associated capacity gaps that are barriers to needed action are highlighted at the end of each chapter.[3]

The conceptual framework is summarized in Figure 1.1.

THE REPORT—FROM DOCUMENT TO INTERVENTION

The stakeholder analysis[4] that was conducted to shape the purpose and content of the report concluded that it should do four things above all others: (1) be an active intervention rather than merely a report; (2) constantly seek to support nutrition champions and their allies at the national level; (3) focus on all forms of malnutrition, not just undernutrition, and (4) support the efforts of other nutrition reporting processes rather than duplicating or competing with them.

TABLE 1.1 AUDIENCES FOR THIS REPORT: INDIVIDUALS, ORGANIZATIONS, AND NETWORKS

	Champions	Allies
Current	Focused on improving nutrition outcomes Willing and able to work with those outside nutrition to further nutrition status Willing and able to exhibit leadership on nutrition	Already work with nutrition champions in win-win partnerships to further their own sectoral goals through increased attention to nutrition
Future	Next generation of nutrition leaders Some current allies	Those who have a vested interest in improved nutrition status but who may not be fully aware of that

Source: Authors.

The report as an intervention

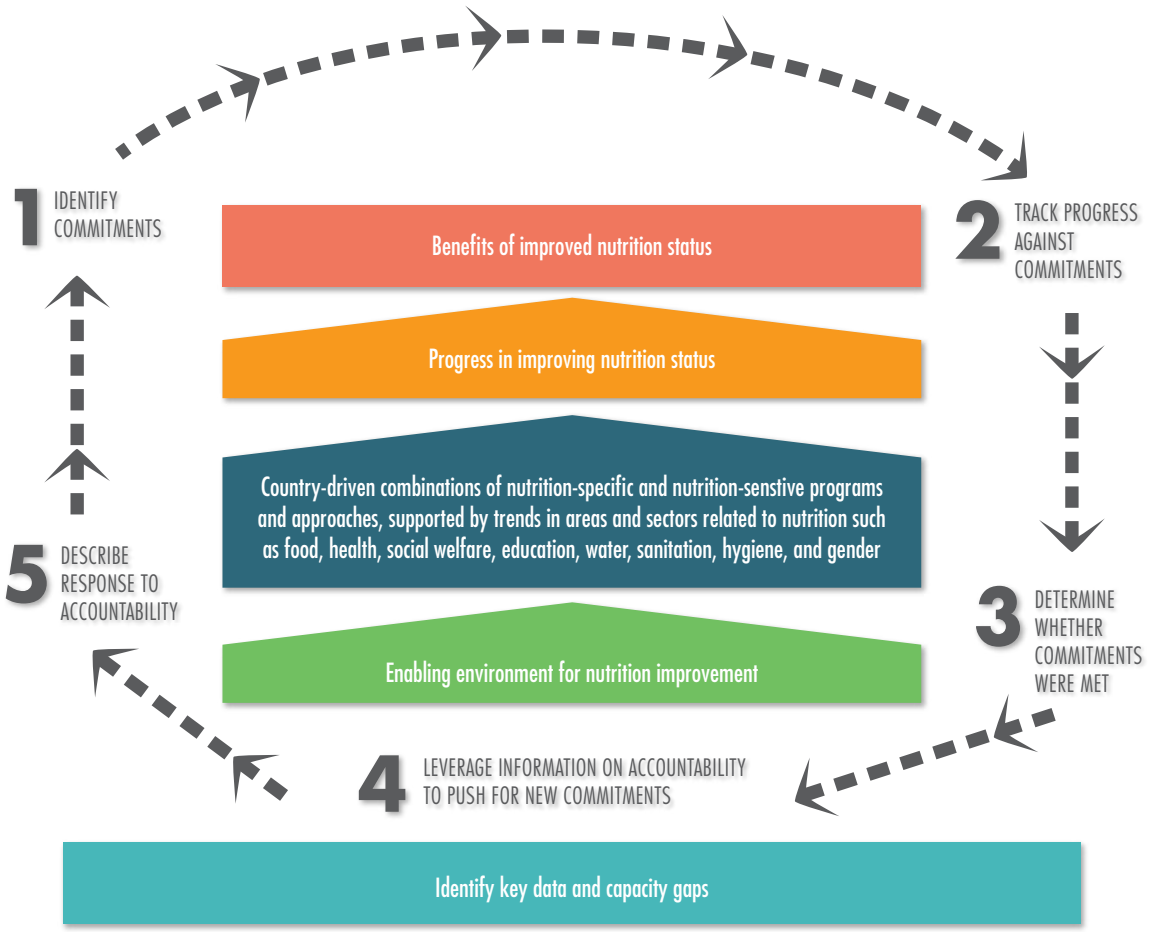
The goal of this report is to help better monitor progress on a range of nutrition status indicators, programs, determinants, policies, laws, and resources. The aim is to strengthen nutrition accountability and contribute to faster improvements in nutrition status. By identifying commitments, tracking them, and assessing whether they are met, the report should stimulate and intensify action. Because *Global Nutrition Reports* will be issued annually, stakeholders will be better able to learn who is and is not meeting commitments and to help them better meet these commitments in the future.

A focus on stakeholders at the national level

Arguably, the global commitment to nutrition is stronger than it has ever been. The food price spikes of 2007–2008 focused global attention on the long-term consequences of widespread shocks. *The Lancet* published two series of papers on maternal and child undernutrition in 2008 and 2013, bringing together what we know about the distribution and consequences of malnutrition and what works to promote good nutrition. The Scaling Up Nutrition (SUN) Movement, initiated in 2010, has more than 50 country or state-level members and has been instrumental in stimulating and sustaining commitment to nutrition. Progress in improving micronutrient deficiencies is slow but has received renewed global attention (such as in the *2014 Global Hunger Index* [von Grebmer et al. 2014]). The signatories to the N4G Compact in London in 2013 pledged more than US$4 billion in extra financing for undernutrition reduction until 2020. Overweight and obesity, which affect between a third and a half of adults in high-income countries, are also rising up the global agenda (Ng et al. 2014; Popkin 2009; Keats and Wiggins 2014).

Global interest in malnutrition is increasingly reflected at the national level and generated by challenges experienced at that level. But without national-level progress, global interest will be difficult to sustain. This progress at the national level will depend on national champions who lead the way in pushing nutrition up the development agenda, building alliances across

FIGURE 1.1 CONCEPTUAL FRAMEWORK OF THIS REPORT



Source: Authors, based on Kraak et al. (2014) and te Lintelo (2014).

sectors and between central and local governments, delivering services, and documenting what works and what does not. This report—by offering access to country-specific data and analyses, showcasing national efforts, and directly connecting to a wide range of national champions—seeks to support the work of national champions in every country.

One key tool produced in conjunction with this report is a set of nutrition country profiles—one for each of the 193 member states of the United Nations. These profiles, which showcase the global scope of the report, are available at www.globalnutritionreport.org. Each two-page profile contains 84 indicators in categories that are consistent with the different sections of the report.[5]

A focus on all forms of malnutrition

The world is experiencing an overweight and obesity pandemic. At the same time the burden of disease in low- and middle-income countries is shifting rapidly from communicable to noncommunicable diseases (Lim et al. 2012). Micronutrient deficiencies remain a concern; anemia rates, for example, have not changed appreciably for more than 20 years and neither have wasting rates (WHO 2014a).

Virtually no country is free of malnutrition, and many families, communities, and countries struggle with all of these forms of malnutrition at the same time. Moreover, the various forms of malnutrition are connected physiologically, politically, and financially. Just as families must deal with them simultaneously, so too must policy and programming. The report outlines the overlaps in malnutrition burdens at the country level.

A report that complements rather than competes with others

It has taken the nutrition community almost 30 years to come together and work across national and institutional boundaries. This report seeks to highlight the excellent work done by the dozens of organizations that have shared country-level data with us and to complement their work by bringing it together with the work of others. In so doing, we hope to generate new insights and identify gaps that need to be filled. New reports will be published in 2015 and in 2016 to help maintain the pressure for effective action on nutrition, to guide action, and to hold actors to account.

STRUCTURE OF THE REPORT

The report is organized as follows. Drawing on new analyses, Chapter 2 highlights the returns to improved nutrition status and explores the extent of improvements that are possible by 2025. Chapter 3 describes changes in nutrition status outcomes, assesses global progress on meeting the World Health Assembly targets, and looks at country progress in the WHA indicators. Chapter 4 describes how countries are experiencing multiple forms of malnutrition and examines some critical subnational patterns. Chapter 5 reports on the coverage of nutrition-specific interventions. Chapter 6 describes some nutrition-sensitive programs and approaches, including a broader focus on trends in underlying determinants. Chapter 7 focuses on the enabling environment, tracking resources, laws, policies, and institutional transformations. Chapter 8 explores ways in which nutrition accountability can be improved. It is here that progress against the Nutrition for Growth commitments is assessed. Chapter 9 reflects on the gaps in nutrition data and proposes some key priorities for action to strengthen accountability and data. The report closes with some key messages and recommendations for action for different audiences at the national and global levels, both within and beyond the nutrition community.[6]

2 NUTRITION IS CENTRAL TO SUSTAINABLE DEVELOPMENT

EFFORTS TO IMPROVE PEOPLE'S NUTRITION WILL CONTRIBUTE TO PROGRESS IN MANY AREAS OF SUSTAINABLE DEVELOPMENT. PERSISTENT MALNUTRITION REFLECTS A failure of the development process. This chapter highlights the importance of nutrition status for a wide range of development outcomes.

Using new data, evidence, and analysis, the chapter also illustrates the possibility of reaching and exceeding World Health Assembly (WHA) nutrition targets under demanding but realistic rates of progress in nutrition-relevant actions.

NUTRITION HAS HIGH HUMAN AND ECONOMIC RETURNS

The costs of undernutrition and obesity are increasingly well known (Table 2.1). The human costs are high in terms of preventable mortality and morbidity. Accordingly, the economic costs are also large. Gross domestic product (GDP) totals in Africa and Asia are less than 90 percent of what they would be in the absence of undernutrition, and in China, approximately 95 percent of what they would be in the absence of obesity.

All of the studies cited in Table 2.1 stress the conservative nature of their assumptions and the lower-bound nature of the estimates. The future economic costs of obesity for China are projected to more than double—from 4 percent of gross national product (GNP) in 2000 to 9 percent of GNP in 2025 (Popkin et al. 2006). Unlike China, many countries, such as Indonesia, are experiencing high rates of both underweight and obesity, and hence the costs of poor nutrition for them are even higher than single-burden estimates. It is vital that countries avoid this double economic burden and strategize to reduce undernutrition and overweight and obesity at the same time.

KEY POINTS

1. The human and economic costs of all forms of malnutrition are substantial. The economic benefit-cost ratios of investing in interventions to reduce child stunting are highly competitive with other public investments.
2. Nutrition has the potential to be a core component of the post-2015 agenda, but there is no room for complacency. The case for nutrition must be made more strongly.
3. New country data, experiences, and analysis show that rapid progress in reducing malnutrition is possible.
4. The Sustainable Development Goals' nutrition targets for 2030 should be significantly more ambitious than simple extrapolations of the WHA targets for 2025. The nutrition community must generate targets for 2030 that are challenging but reachable.

The corollary of the cost of inaction to improve nutrition is the reward to action. Figure 2.1 shows the benefit-cost ratio of scaling up nutrition-specific interventions to 90 percent coverage, in terms of their impact on stunting, in a wide range of countries with high stunting levels. The analysis is based on an assumption, in line with the level of stunting reduction modeled by Bhutta et al. (2013a), that scaling up a core package of interventions will lead to a 20 percent decrease in the rate of stunting.

The median benefit-cost ratio of achieving this 20 percent decline in the rate of stunting is approximately 16 for all 40 countries. In other words, for every dollar, rupee, birr, or peso invested, at the median, more than 16 will be returned. The median ratio for the 27 African countries south of the Sahara is 13.

These benefit-cost ratios are competitive with the benefit-cost ratios generated by overall investments in health as reported in Jamison et al. (2013) and Stenberg et al. (2014).[1] The estimated ratios are also higher than the median estimated benefit-cost ratio reported for large-scale irrigation investments in 11 countries in Africa south of the Sahara (You 2008), for a range of public investments in roads in India, Thailand, and Uganda (Fan et al. 2007), and for road investments in Bolivia and Mexico (Gonzales et al. 2007).

NUTRITION NEEDS TO BE BETTER POSITIONED IN THE SDGs

Improved nutrition status may have high economic returns, but how can it contribute to the sustainable development agenda? The current debate on the post-2015 sustainable development agenda is driven by the discussions on the Sustainable Development Goals (SDGs). Table 2.2 summarizes the contributions that improvements in nutrition status and accompanying efforts can make toward achieving the SDGs. There is also a quid pro quo in achieving the SDGs: meeting the SDGs should have lasting impacts on nutrition outcomes as well.

Despite these positive contributions, the nutrition community must not take it for granted that nutrition will be properly featured within the SDG accountability framework (Panel 2.1). We must be persuasive advocates.

TABLE 2.1 THE HUMAN AND ECONOMIC COSTS OF MALNUTRITION

Type of cost	Undernutrition	Obesity
Mortality	45% of under-five mortality is attributable to undernutrition (Black et al. 2013).	
Morbidity	"Nutritional deficiencies" are responsible for over 50% of years lived with disability in children age four and under (Vos et al. 2012). Underweight is the number-one contributor to the burden of disease in Africa south of the Sahara and number four in South Asia (Lim et al. 2012).	Every extra 5 kg/m^2 of BMI increases esophageal cancer risk by 52%, colon cancer risk by 24%, women's endometrial cancer risk by 59%, and gall bladder cancer risk by 59% (various countries; Wang et al. 2011).
School attainment	Improving linear growth for children under age two by 1 standard deviation adds about half a grade to school attainment (multicountry; in Adair et al. 2013).	
Forgone labor market productivity	Prevention of undernutrition in early childhood leads to hourly earnings that are 20% higher and wage rates that are 48% higher; individuals who are 33% more likely to escape poverty; and women who are 10% more likely to own their own business (Guatemala; Hoddinott et al. 2013). One extra cm of adult height corresponds to a 4.5% increase in wage rates (multicountry; Horton and Steckel 2011).	Obesity leads to productivity losses from absenteeism and presenteeism (indirect costs) equivalent to US$668–US$4,299/person/year in the US (Finkelstein et al. 2010).
Percentage of national income	Undernutrition lowers GDP for Egypt by 1.9%; Ethiopia, 16.5%; Swaziland, 3.1%; and Uganda, 5.6% (African Union Commission et al. 2014). Asia and Africa lose 11% of GNP every year owing to poor nutrition (Horton and Steckel 2013).	Obesity lowered China's GNP by 3.58% in 2000 and will lower it by 8.73% in 2025 (Popkin et al. 2006).
Incremental health care costs[a]		Obesity costs US$475–US$2,532/person/year in the US (Finkelstein et al. 2010). Obesity cost 0.48% of GNP in China in 2000 and will cost 0.50% in 2025 (Popkin et al. 2006). Obesity will cost £648 million/year in the UK in 2020 (Wang et al. 2011).
Total cost estimates		Obesity cost 33 billion euros/year in EU member states in 2002 (Fry and Finley 2005).

Source: As noted in table.

[a] These are direct health care costs compared with the health care costs of a person with a normal body mass index (BMI).

Of particular concern is nutrition's low profile in the current SDG framing. There are a total 169 draft targets: 109 on what to achieve and 60 on how to achieve them. Only 1 of 109 draft "what" targets is directly related to malnutrition:

> Target 2.2 by 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons (Open Working Group on Sustainable Development Goals 2014)

None of the 60 "how" targets relate directly to nutrition. The broad nature of target 2.2 suggests that the nutrition community must become more engaged in the post-2015 process to position nutrition thoughtfully and strategically in the post-2015 development accountability framework. At a minimum, government and civil society nutrition champions should work together to embed not only targets related to stunting and wasting, but all six internationally agreed WHA targets within the 169 targets (see Table 2.3).

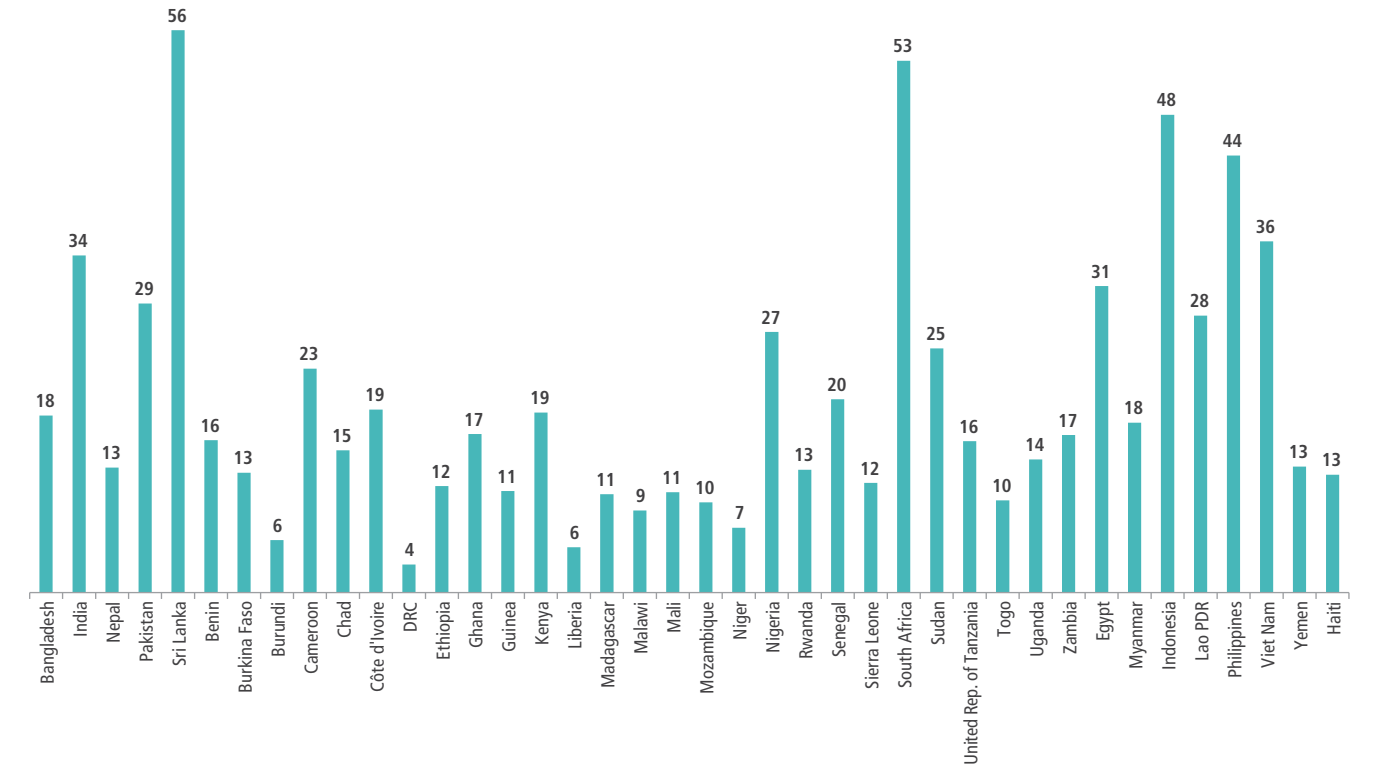
How would these additional targets fit into the SDG targets? First, the language in SDG target 2.2 suggests there is space for more targets within it. Second, a better approach may be to work with allies to embed nutrition indicators in other goals and targets (Haddad 2013). Both approaches should be explored. Table 2.4 gives examples of proposed SDG targets in which additional nutrition targets could be embedded, and these represent areas in which nutrition champions should intensify their engagement and advocacy.

TIMEFRAMES FOR IMPROVING NUTRITION SHOULD BE MORE AMBITIOUS

SDG target 2.2 also needs more specifics on time-bound targets beyond "by 2030 end all forms of malnutrition." These SDG targets in general have been critiqued as being so unrealistic as to render them meaningless for accountability purposes and a poor guide to action (Horton 2014). But what are realistic timeframes for improving nutrition?

As noted, in 2012 the World Health Organization (WHO) member states endorsed the six WHA global targets for improving maternal, infant, and young child nutrition by 2025 (WHO 2014a). The rationale for the selection of these six indicators, and the setting of the targets for them, is outlined in de Onis et al. (2013).[2] Chapter 3 will show that the world is not on course to meet any of the six WHA goals. Given this lack of progress,

FIGURE 2.1 BENEFIT-COST RATIOS OF SCALING UP NUTRITION-SPECIFIC INTERVENTIONS FOR STUNTING REDUCTION IN SELECTED COUNTRIES



Source: Hoddinott et al. (2013), and additional country estimates made by the authors based on the methodology in Hoddinott et al. (2013).

Note: The benefit-cost ratios are for scaling up the nutrition-specific interventions described in Bhutta et al. (2013a).

TABLE 2.2 HOW NUTRITION CAN CONTRIBUTE TO THE PROPOSED SUSTAINABLE DEVELOPMENT GOALS (SDGs)

Proposed SDG	Contribution of nutrition to proposed SDG
1. End poverty in all its forms everywhere	Preventing stunting in children under 36 months old makes it less likely that they will live in households below the poverty line (Hoddinott et al. 2013). Improved nutrition status boosts adult productivity and wages in heavy work.
2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture	Optimal breastfeeding and complementary feeding improve individual food security. Progress on two World Health Assembly (WHA) indicators—stunting and wasting—promotes nutrition security. A focus on prepregnancy and the first 1,000 days after conception reduces risk of low birth weight and improves women's nutrition status.
3. Ensure healthy lives and promote well-being for all at all ages	Micronutrient malnutrition and girls' stunting are linked to subsequent maternal mortality and low birth weight. Forty-five percent of all under-five deaths are linked to undernutrition (Black et al. 2013). Stunting is linked to the eventual onset of noncommunicable diseases (NCDs) and lower adult productivity. Reducing overweight and obesity will contribute to lower NCDs. Good nutrition is linked to healthy early childhood development. Poor nutrition increases morbidity and mortality from infectious diseases such as diarrhea, malaria, acute respiratory infections, tuberculosis, and HIV/AIDS.
4. Ensure inclusive and equitable quality education and promote life-long learning opportunities	Children's nutrition status in the first 1,000 days is linked to school grade completion and achievement. Good nutrition status improves intellectual capacity in children and adults.
5. Achieve gender equality and empower all women and girls	Improving the nutrition status of girls, adolescents, and women increases their ability to perform well at school and in the workforce.
6. Ensure availability and sustainable management of water and sanitation for all	Improvements in nutrition outcomes help reinforce the need for action on water, sanitation, and hygiene as critical determinants of nutrition.
7. Ensure access to affordable, reliable, sustainable, and modern energy for all	Lower mortality leads to lower fertility over the longer term, reducing population pressure on environmental resources.
8. Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all	Undernutrition cuts GNP by at least 8–11% (Horton and Steckel 2011). Preventing stunting leads to higher incomes.
9. Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation	Investing in children's first 1,000 days improves school grade completion to support innovation.
10. Reduce inequality within and among countries	Analysis of stunting rates by wealth quintile demonstrates how current inequality perpetuates future inequality.
11. Make cities and human settlements inclusive, safe, resilient, and sustainable	Lower mortality leads to lower fertility over the longer term, reducing population pressure on environmental resources.
12. Ensure sustainable consumption and production	Research on sustainable food systems and diets can offer structure and indicators to this policy debate.
13. Urgent action to combat climate change and impacts	Lower mortality leads to lower fertility over the longer term, reducing population pressure on environmental resources.
14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development	n.a.
15. Protect, restore, and promote sustainable use of terrestrial ecosystems, etc.	n.a.
16. Promote peaceful and inclusive societies for sustainable development, access to justice for all, and build effective, accountable, inclusive institutions	Efforts to strengthen nutrition accountability can be examples of cross-sector models.
17. Strengthen the means of implementation, and revitalize the global partnership for sustainable development	National nutrition policies and plans developed by multistakeholder platforms can be examples of cross-sector models.

Source: Open Working Group on Sustainable Development Goals (2014) and the authors of this report.

Note: The proposed SDGs listed here are as of July 2014. n.a. = not applicable.

PANEL 2.1 NUTRITION AND THE SUSTAINABLE DEVELOPMENT GOALS—NO ROOM FOR COMPLACENCY

MICHAEL ANDERSON

As discussions continue on the design of the forthcoming global Sustainable Development Goals (SDGs), momentum is growing for new nutrition goals. In 2012, the full World Health Assembly (WHA)—the decisionmaking body of the World Health Organization—set a strong precedent by adopting six nutrition targets known as Global Targets 2025 (WHO 2012b). Also in 2012, the United Nations secretary-general launched the Zero Hunger Challenge (United Nations 2014), which includes one goal on stunting. In 2013 the High-Level Panel on the Post-2015 Development Agenda (2013) proposed an illustrative goal on food security and good nutrition, including targets on food security, stunting, wasting, and anemia. And three pan-African regional bodies endorsed a goal including "adequate nutrition for all" (UNECA 2013).

These are positive signs, but much could change before the UN member states agree on final SDGs in September 2015. Because the SDGs will not be legally binding, their power will derive mainly from their ability to inspire, excite, and guide. To be effective, the goals will have to be simple, clear, and compelling, and they will have to lead to action. Vague aspirations or too much technical detail will lose the audience and dampen momentum. This presents a challenge for nutrition: terms like "stunting" and "wasting" are not well understood outside the nutrition and health community, yet these terms are worth keeping because of their specificity and analytical power. It will be up to the nutrition community to explain them in simple and compelling terms.

Another risk is that nutrition goals may get lost in a long list of wide-ranging aspirations. In July 2014, the UN Open Working Group recommended 17 goals and 169 targets, including a wide range of targets on sustainable food production. The recommendations contained only one provision on malnutrition that made reference to two of the WHA targets (on stunting and wasting in children younger than five years old). Arguably, this is not a bad outcome as long as the world pays attention to the details of the WHA targets.

A related risk is that the SDGs may reduce good nutrition to a matter of cutting hunger, particularly if participants in the September 2015 summit are looking for goals with maximum political appeal. Hunger is understood everywhere. Unfortunately, the idea that nutrition is purely a matter of access to enough food remains one of the most stubborn myths impeding good policy among political leaders. Instead, nutrition should be seen as requiring the right nutrients at the right time, along with strengthened health care and social protection, especially during pregnancy and the first two years of life.

should the 2030 targets be an extrapolation of the 2025 targets? In other words, has any new information come to light since 2012 to challenge our sense of the rate of progress?

We argue that several factors should make everyone more ambitious about meeting and exceeding some of the WHA targets by 2025 and therefore more ambitious about the 2030 SDG targets.

First, the Government of India has produced a new national survey on children. WHO and UNICEF have not yet reviewed the survey's data and methodologies, and the survey results thus do not yet appear in the WHO's Global Database on Child Growth and Malnutrition, but if the finalized rates of undernutrition are close to the preliminary reported rates, they should make us more optimistic about our ability to meet the global WHA goals (Panel 2.2).

Second, there is a new statewide survey from Maharashtra in India (Haddad et al. 2014). In the Maharashtra case study (Panel 2.3), it took only seven years to reduce child stunting by one-third, from 36.5 to 24.0 percent, for an annual average rate of reduction of 5.8 percent. Stunting declines resulted from a combination of nutrition-specific interventions, improved access to food and education, and reductions in poverty and fertility.

TABLE 2.3 WORLD HEALTH ASSEMBLY NUTRITION TARGETS

WHA target	Baseline year(s)	Baseline status	Target for 2025
40% reduction in the number of children under five who are stunted	2012	162 million	~100 million
50% reduction of anemia in women of reproductive age (pregnant and nonpregnant)	2011	29%	15%
30% reduction in low birth weight	2008–2012	15%	10%
No increase in childhood overweight	2012	7%	7%
Increase the rate of exclusive breastfeeding in the first six months up to at least 50%	2008–2012	38%	50%
Reduce and maintain childhood wasting to less than 5%	2012	8%	<5%

Source: WHO (2014a).

PANEL 2.2 SOME NEW DATA FROM INDIA: WHAT IF?

LAWRENCE HADDAD, KOMAL BHATIA, AND KAMILLA ERIKSEN

The Government of India is in the process of releasing its 2013–2014 Rapid Survey on Children (RSOC). This new national survey, covering all 29 states in India, relies on data collected by the Ministry of Women and Child Development in partnership with UNICEF India. The government has made preliminary estimates available for use in this *Global Nutrition Report.* Key summary statistics are reported below in comparison with the most recent national survey for India in the WHO Global Database on Child Growth and Malnutrition: the 2005–2006 National Family Health Survey (NFHS-3). Only data for children under age five are reported here.[1]

The average annual rate of reduction in stunting (47.9 percent to 38.8 percent in eight years) is 2.6 percent—below India's target rate of 3.7 percent but well above the rate of 1.7 percent estimated on the basis of previous surveys. Because India has such a large population and a high stunting prevalence, this rate of change affects the global numbers significantly. Comparisons between the two surveys also show declines in wasting. The rise in exclusive breastfeeding rates from 46.4 percent to 71.6 percent in eight years represents an average annual rate of increase of 5.5 percent—far above the rate required to meet India's WHA target by 2025 (1.5 percent). In fact, if the preliminary numbers hold, by 2025 India will have far surpassed its WHA exclusive breastfeeding target of 57 percent.

SUMMARY STATISTICS ON CHILD NUTRITION IN INDIA FROM TWO SURVEYS

Indicator	2005–2006 NFHS	2013–2014 RSOC	Change
Under-five stunting (%)	47.9	38.8	-9.1
Under-five wasting (%)	20.0	15.0	-5.0
Under-five stunting, total population affected (thousands)	58,167	43,759	-14,408
Under-five wasting, total population affected (thousands)	24,287	16,917	-7,370
Exclusive breastfeeding of infants under six months old (%)	46.4	71.6	25.2

Source: Authors, based on data from India, Ministry of Health and Family Welfare (2009) and a personal communication from L.-G. Arsenault, UNICEF representative for India, August 27, 2014.

Maharashtra's experience shows the importance of addressing child stunting by taking action across a wide range of levels and sectors.

Third, new projections based on a model linking stunting rates with underlying determinants also show that it should be possible to meet and even exceed WHA targets by achieving challenging but realistic increases in the levels of those determinants (Panel 2.4).

Fourth, in Africa south of the Sahara—the region where undernutrition rates have declined most slowly—the International Monetary Fund reports in 2014 that economic growth prospects are expected to accelerate in 2014–2016 and the capacity to collect taxes is also increasing (IMF 2014). It is not clear whether this growth will persist in the coming decade, but reducing undernutrition is easier in the context of economic growth and

TABLE 2.4 WHERE NUTRITION TARGETS CAN BE EMBEDDED WITHIN THE 169 SDG TARGETS

Nutrition target	Where nutrition target can be embedded within the SDG targets
Reduce low birth weight (WHA target) Reduce anemia in women of reproductive age (WHA target) Increase rate of exclusive breastfeeding (WHA target)	Target 3.2: "by 2030 end preventable deaths of newborns and under 5 children"
Prevent increase in under-five overweight (WHA target)	Target 3.4: "by 2030 reduce by one-third pre-mature mortality from NCDs through prevention and treatment"
Increase coverage of nutrition-specific interventions	Target 3.8: "achieve universal health coverage"
Increase coverage of nutrition-sensitive interventions	Target 1.3: "implement nationally appropriate social protection measures for all and by 2030 achieve substantial coverage of the poor and the vulnerable" Target 6.1: "by 2030 achieve universal and equitable access to safe and affordable drinking water for all" Target 6.2: "by 2030 achieve access to adequate and equitable sanitation and hygiene for all and end open defecation"
Improve the enabling environment	Target 5.5: "ensure women's full and effective participation and equal opportunity for leadership at all levels of decision making in political, economic, and public life" Target 10.3: "ensure equal opportunity and reduce inequalities in outcome" such as stunting by wealth quintile.

Source: Open Working Group on the Sustainable Development Goals (2014) and the authors of this report.

PANEL 2.3 HOW DID MAHARASHTRA CUT CHILD STUNTING?

LAWRENCE HADDAD

Maharashtra, one of the wealthiest states in India, managed to reduce the share of children under age five affected by stunting from 36.5 percent to 24.0 percent between 2005–2006 and 2012, or a rate of more than 2.0 percentage points a year (equivalent to an average annual rate of reduction of 5.8 percent). What drove this rapid improvement in children's nutrition? A recent mixed-methods study[1] addressed this question and found the following (Haddad et al. 2014):

- The enabling environment for stunting reduction was favorable. Maharashtra, already a wealthy state, posted higher rates of economic growth and poverty reduction than the all-India average. Its governance, in terms of transparency, anti-corruption efforts, and service delivery, was not the best but not the worst in India.
- Underlying determinants were reasonably supportive: women's decisionmaking status inside and outside the home was high; the Public Distribution System (PDS), which distributes subsidized food to poor people, suffered from slightly less leakage than the all-India average; and female education rates were high and rising. There were vulnerabilities, however, with weak agricultural growth, still-high levels of PDS leakage, and high levels of open defecation.
- Spending on nutrition doubled from a low level, and vacancies among frontline workers in the Integrated Child Development Services (ICDS) scheme dropped dramatically.
- The decline in stunting was broad based and was greater—absolutely and proportionately—for the least wealthy, the least literate, and those with the worst access to improved water sources.
- The determinants that improved the most between the two surveys were the age of mother at first birth, maternal underweight, maternal literacy, coverage of antenatal visits, delivery in the presence of birth attendants, child feeding practices, and access to ICDS.
- The state's Nutrition Mission was seen as a signal of high-level political commitment to nutrition improvements and helped coordinate different sectors at village and policy levels.

Overall the three research approaches used in the study dovetailed to lead to three main conclusions:

- The large decline in stunting rates was due to improvements across a wide range of determinants, and some improvements were quite modest.
- The declines in determinants were not so strong or comprehensive that Maharashtra should be perceived as exceptional—similar declines could be achieved by other Indian states and other countries.
- The declines in stunting in Maharashtra are impressive, but they were 10 years in the making and required sustained commitment from government and civil society.

rising tax revenues—although these conditions do present challenges for keeping overweight and obesity in check (Ruel and Alderman 2013; Headey 2013).

Finally, the increased momentum for action generated by recent and upcoming events should make us more optimistic about accelerating improvements in nutritional status. Contributors to this momentum include the growth of the SUN Movement, the 2013 Nutrition for Growth conference in London, the 2014 Second International Conference on Nutrition in Rome, and the follow-up high-level nutrition event planned for the 2016 Rio de Janeiro Summer Olympics.

Taken together, these considerations suggest that the 2030 goals should therefore not simply be five-year business-as-usual extrapolations of the 2025 WHA targets. They should be more ambitious than that.[3]

PANEL 2.4 CAN IMPROVING THE UNDERLYING DETERMINANTS OF NUTRITION HELP MEET THE WHA TARGETS?

LISA SMITH AND LAWRENCE HADDAD

What would it take to achieve the WHA target of reducing the number of stunted children by 40 percent by 2025—equivalent to a prevalence of about 15 percent based on current population projections? Or to go beyond that target? Are the required changes realistic or even possible?

We examined this question by modeling the effects of changes in six underlying determinants of stunting: access to improved water, access to improved sanitation, female secondary school enrollment, gender equality as represented by the ratio of female to male life expectancy, dietary energy supply, and the share of the dietary energy supply derived from nonstaple foods (Smith and Haddad 2014). Based on a sample of 116 developing countries from 1970 to 2012, we used a regression model[1] to predict stunting prevalence with different assumed levels of the six determinants.

The first table describes three scenarios for the 116 countries. Scenario 1 assumes 2010 levels of the six underlying drivers, and these levels predict a stunting prevalence virtually identical to the actual stunting prevalence (29 percent). Scenario 2 shows what is needed, in terms of the levels of determinants, to achieve the WHA stunting target of 15 percent by 2025. Scenario 3 reflects required levels for reducing the share of stunted children to less than 10 percent. Achieving these levels of determinants would be challenging, but several low- and middle-income countries have attained them already.[2]

How fast would improvements in these determinants need to be made? The second table shows the rates of increase in the six underlying determinants during the 2000–2010 period as well as the rates needed to achieve scenarios 2 and 3.

Except for equality of life expectancy, the required rates of increase in the underlying factors to meet scenario 2 are not unrealistic compared with recent historical performance. The required rates to achieve scenario 3 are higher than they have been in recent years. However, this analysis fails to take into account any scale-up of the critical nutrition-specific interventions. If those interventions are indeed scaled up, and their effectiveness improved, the potential to exceed the WHA target at the global level significantly improves.

LEVELS OF UNDERLYING DETERMINANTS REQUIRED TO MEET AND EXCEED THE WHA TARGET FOR STUNTING REDUCTION

Underlying determinant	Scenario 1: 2010 situation	Scenario 2: WHA target for 2025	Scenario 3: Beyond WHA target
Access to improved water source (%)	86	98	98
Access to improved sanitation facility (%)	56	75	90
Female secondary school enrollment (%)	67	98	98
Ratio of female to male life expectancy	1.05	1.06	1.07
Dietary energy supply per capita (kcals)	2,686	2,905	2,930
Share of dietary energy supply from nonstaples (%)	43	48	54
Predicted stunting prevalence (%)	29.2	15.0	9.9

Source: Authors of this panel.

RATES OF IMPROVEMENT IN UNDERLYING DETERMINANTS REQUIRED TO MEET AND EXCEED THE WHA TARGET FOR STUNTING REDUCTION

Underlying determinant	% annual increase in underlying determinant		
	2000–2010 (actual)	To achieve scenario 2 from 2010 to 2025 (15% stunting)	To achieve scenario 3 from 2010 to 2025 (<10% stunting)
Access to improved water source (%)	0.95	0.92	0.92
Access to improved sanitation facility (%)	2.21	2.28	4.07
Female secondary school enrollment (%)	2.87	3.11	3.11
Ratio of female to male life expectancy	0.019	0.049	0.110
Dietary energy supply per capita (kcals)	0.48	0.54	0.61
Share of dietary energy supply from nonstaples (%)	0.86	0.81	1.74

Source: Authors of this panel.

1. Data are needed on country-level indicators of the strength of health systems.

3 PROGRESS TOWARD THE WORLD HEALTH ASSEMBLY NUTRITION TARGETS IS TOO SLOW

THIS CHAPTER ASSESSES PROGRESS AGAINST THE SIX GLOBAL WORLD HEALTH ASSEMBLY (WHA) NUTRITION TARGETS: REDUCING CHILD STUNTING, REDUCING anemia in women of reproductive age, reducing low birth weight, preventing a worsening of child overweight, increasing exclusive breastfeeding of infants, and reducing child wasting.[1] First, we summarize progress at the global level. Second, we explore country-level progress on the six WHA indicators. Third, we evaluate country progress on four of the six indicators in relation to the WHA global target.[2]

GLOBAL PROGRESS TOWARD THE WHA TARGETS

Table 3.1 shows the targets and the extent of global progress against them. For stunting and exclusive breastfeeding there is modest progress. However, for anemia, low birth weight, and wasting, the global figures are static, and under-five overweight rates are rising.

The global numbers are made up of countries. How do we assess their progress? The last column of Table 3.1 also shows that nearly a fifth of countries are above the rate of reduction for stunting required to meet the global target. For under-five overweight, half of all countries with data show declining rates. For exclusive breastfeeding, more than half of the countries are increasing their rates faster than the global rate. And well over half of the countries that have data on wasting show declines.

KEY POINTS

1. Globally, we are off course to meet every one of the six WHA nutrition targets. There is modest global progress on stunting and exclusive breastfeeding but little progress on overweight, wasting, low birth weight, and anemia.
2. At the country level, rates of progress and regress on meeting the WHA targets vary widely among countries and indicators.
3. Currently, it is only possible to assess country progress on meeting the WHA targets for four of the six indicators (stunting, wasting, overweight, and anemia).
4. Of the 99 countries that have data on the four WHA indicators, 1 country is on course for all four targets, 24 are on course for two or more targets, 44 are on course for only one target, and 31 are not on course for any target. There is no strong regional pattern to the rates of progress.
5. Currently, 22 out of 109 countries with available data are on course to meet the stunting reduction target; 59 countries out of 123 are on course for wasting reduction; 31 countries out of 107 are on course for under-five overweight reduction; and 5 countries out of 185 are on course for anemia reduction. We need to know more about why only 5 countries are on course for the anemia target.
6. Of the 94 countries that are missing WHA tracking data, 38 are in Europe and 1 is in North America. These countries must do much more to align their reporting with WHA targets and with global nutrition efforts more generally.
7. The scope for learning from countries that are showing good progress is large. More high-quality country studies are needed.

REGIONAL AND COUNTRY PROGRESS ON WHA INDICATORS

The last column in Table 3.1 suggests significant variation in country progress in the WHA indicators. The following graphs highlight this variation.

Stunting

Child stunting[3] is declining in the vast majority of countries (Figure 3.1). In most cases, the higher the prevalence, the lower the average annual rate of reduction.[4] Nineteen countries show a negative average annual rate of reduction, with Somalia having the worst prognosis. Six countries have an average annual rate of reduction of greater than 2 percent despite having stunting rates of more than 40 percent (Bangladesh, Cambodia, Ethiopia, Nepal, Yemen, and Zambia). This is impressive progress given the high prevalences.

Overweight

Figure 3.2 shows where child overweight rates[5] are being reduced and where they are not. As for child stunting, the rates of reduction for child overweight tend to be higher when the prevalence is lower.

Wasting

Table 3.2 shows changes in wasting rates[6] for the past two available national survey estimates, stratified by whether the wasting rate in the first survey was above or below the WHA target of 5 percent. For 76 countries the rate is constant or decreasing, and for 51 countries the rate is increasing. The countries in the top left corner of Table 3.2 face particular challenges: they have wasting rates greater than 5 percent and the rates are increasing.

Exclusive breastfeeding

As Figure 3.3 shows, the three UN regions of Africa, Asia, and Latin America and the Caribbean show similar rates for exclusive breastfeeding;[7] all are on par with the global average of 41 percent.[8]

While some subregions and individual countries have experienced significant progress, most notably Western Asia with a near tripling of rates, albeit from a low base, most subregions have posted only slow to modest growth. Furthermore, the change in Western Asia is being driven by the trends in breastfeeding in Turkey; in most other countries in the region exclusive breastfeeding rates remained relatively unchanged or even fell. Nonetheless, a number of countries like Bangladesh, Brazil (see

TABLE 3.1 PROGRESS TOWARD THE GLOBAL WHA TARGETS

WHA target	Baseline year(s)	Baseline status	Target for 2025	Required global average annual rate of change	Globally on course?	Comments	Number of countries above and below required global rate of change
STUNTING 40% reduction in the number of children under five who are stunted[a]	2012	162 million	~100 million (~15% prevalence)	3.90% AARR	No	Current pace projects 130 million by 2025 (20% reduction)	AARR is above or equal to required rate: 21 countries AARR is below required rate: 89 countries
ANEMIA 50% reduction of anemia in women of reproductive age	2011	29%	15%	5.20% AARR	No	Very little movement (was 32% in 2000)	AARR is above or equal to required rate: 5 countries AARR is below required rate: 180 countries
LOW BIRTH WEIGHT 30% reduction in low birth weight	2008–2012	15%	10%	2.74% AARR	No	Little progress globally	
UNDER-FIVE OVERWEIGHT No increase in childhood overweight	2012	7%	7%		No	Upward trajectory is unchecked	AARR is constant or decreasing: 50 countries AARR is increasing: 51 countries
EXCLUSIVE BREASTFEEDING Increase the rate of exclusive breastfeeding in the first six months up to at least 50%	2008–2012	38%	50%	2.11% AARI	No	Rate was 37% in 2000, 41% in 2012	AARI is above or equal to required rate: 59 countries[b] AARI is below required rate: 48 countries
WASTING Reduce and maintain childhood wasting to less than 5%	2012	8%	<5%		No	No progress (was 8% globally in 2013)[c]	Rate of wasting is constant or decreasing: 76 countries Rate of wasting is increasing: 51 countries (see Table 3.2)

Source: Authors, adapted from data in WHO (2014a).

Note: AARR = average annual rate of reduction. AARI = average annual rate of increase.

[a] For more on the methods behind the WHA stunting target, see de Onis et al. (2013).

[b] These are AARIs estimated by the writing team based on the last two available estimates for exclusive breastfeeding in UNICEF (2014e). Formal AARIs from UNICEF/WHO are not available at this time.

[c] This figure is from UNICEF, WHO, and World Bank (2014).

Panel 7.5 in Chapter 7), Cuba, and Togo highlight the fact that rapid progress is possible.

Low birth weight

Infants with a low birth weight[9] are at an increased risk of morbidity and mortality. As Figure 3.4 shows, low birth weight affects all regions of the world (for example, the rates in Northern and South America are very similar), but the rate is highest by far in Southern Asia. At this time it is not possible to present credible trend data.[10]

Anemia

The prevalence of anemia[11] in women of reproductive age is greater than 15 percent in every subregion of the world except Northern America (Figure 3.5). The rates in Europe are similar to those in Central and South America. The rates are highest in Southern Asia, Western Africa, and Middle Africa.

In sum, levels and trends in malnutrition indicators vary greatly across countries. And yet little is known about why some countries have been trailblazers and others have not. More high-quality case studies—similar to business school case studies—are needed to get a full and critical picture of why progress has occurred in some places and not in others.

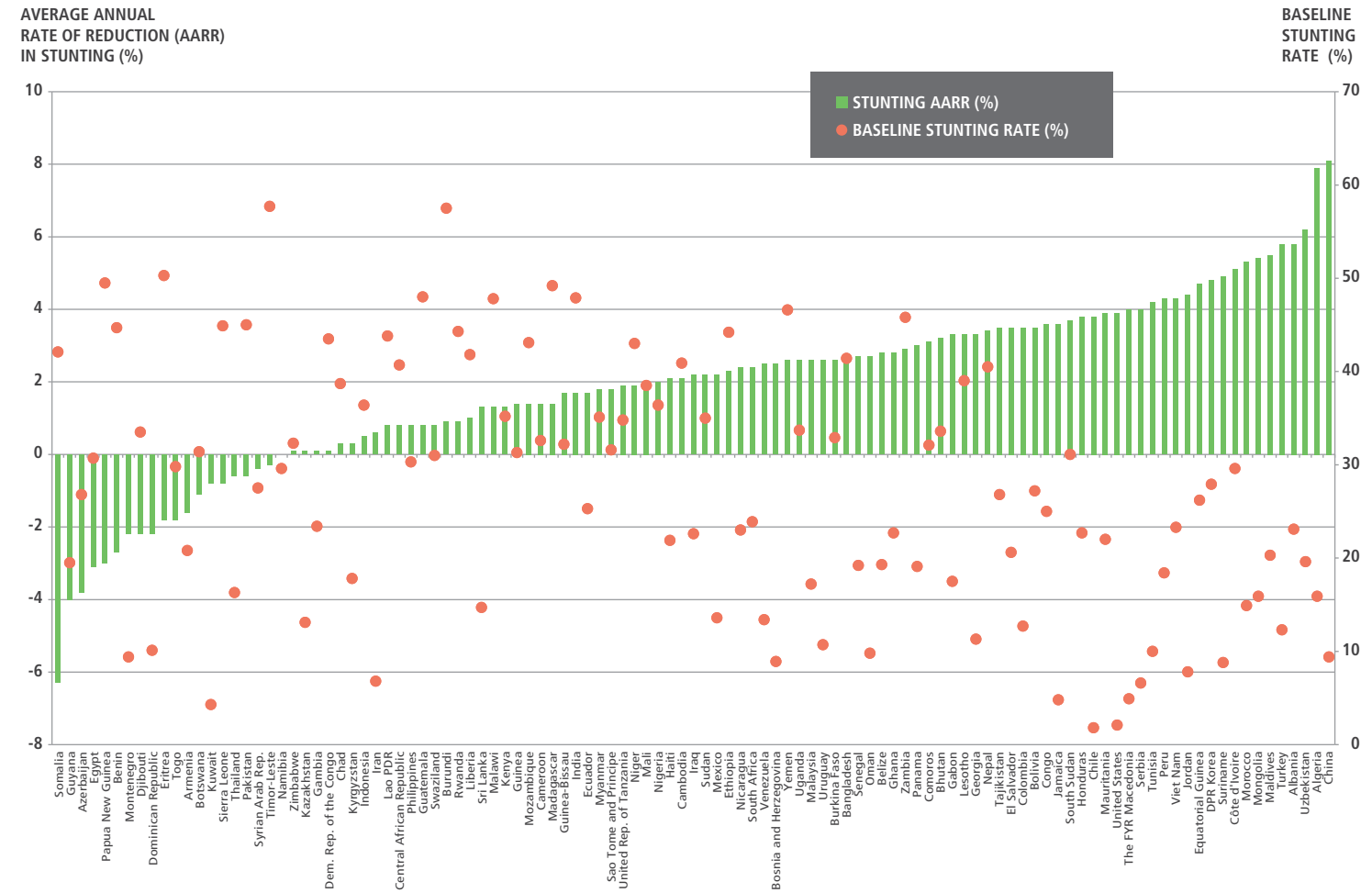
HOW MANY COUNTRIES ARE ON COURSE TO MEET THE WHA GLOBAL TARGETS?

The global targets need to be translated into context-specific national targets, taking into consideration present levels and trends, risk factor trends, demographic changes, experience with developing and implementing nutrition policies, the degree of health system development, and previous experience with interventions (de Onis et al. 2013).

Countries will, of course, be the ones to establish national targets to help them carry out national policies and programs and calculate the level of resources required for their implementation. Accordingly this section does not propose country targets. Instead we ask, if the global targets were applied on a country-by-country basis, how many countries would be on course to contribute to the WHA global targets?

To answer this question, we use data from the most recent UNICEF/WHO/WB joint global database (UNICEF, WHO, and World Bank 2014) and estimates from WHO on the required

FIGURE 3.1 BASELINE STUNTING RATE AND ANNUAL REDUCTION IN STUNTING



Source: UNICEF, WHO, and World Bank (2014).

Note: Years for baseline rates range from 2005 to 2013.

rates of change in country-level indicators to meet the global target applied at the country level (WHO 2014a). Then we apply rules proposed by WHO (2014a) for determining whether a country is on course to meet the global WHA targets or not (Table 3.3).[12]

Of the 99 countries that have data on all four WHA indicators for which rules exist (stunting, wasting, overweight, and anemia), only one—Colombia—is on course to meet all four targets by 2025, whereas 31 countries are not on course to meet any of the four targets (Figure 3.6).[13]

Encouragingly, more than two-thirds of all countries that have data on all four indicators will meet at least one goal. African countries represent about 50 percent of the countries in the groups on course to meet zero, one, and two targets. Asian countries represent 42 percent of countries on course to meet 0 targets and about 25 percent of countries on course to meet one or two targets.

Anemia is the indicator for which most countries are finding it difficult to make progress (Figure 3.7). Mason et al. (2014) argue that addressing anemia urgently requires scaling up effective intervention programs such as supplementation with iron–folic acid or multiple micronutrients, fortification of staple foods or condiments, and disease control measures like malaria control and deworming. They suggest that the lack of attention to this issue stems from the lack of awareness of its pervasiveness and its slow rate of progress.

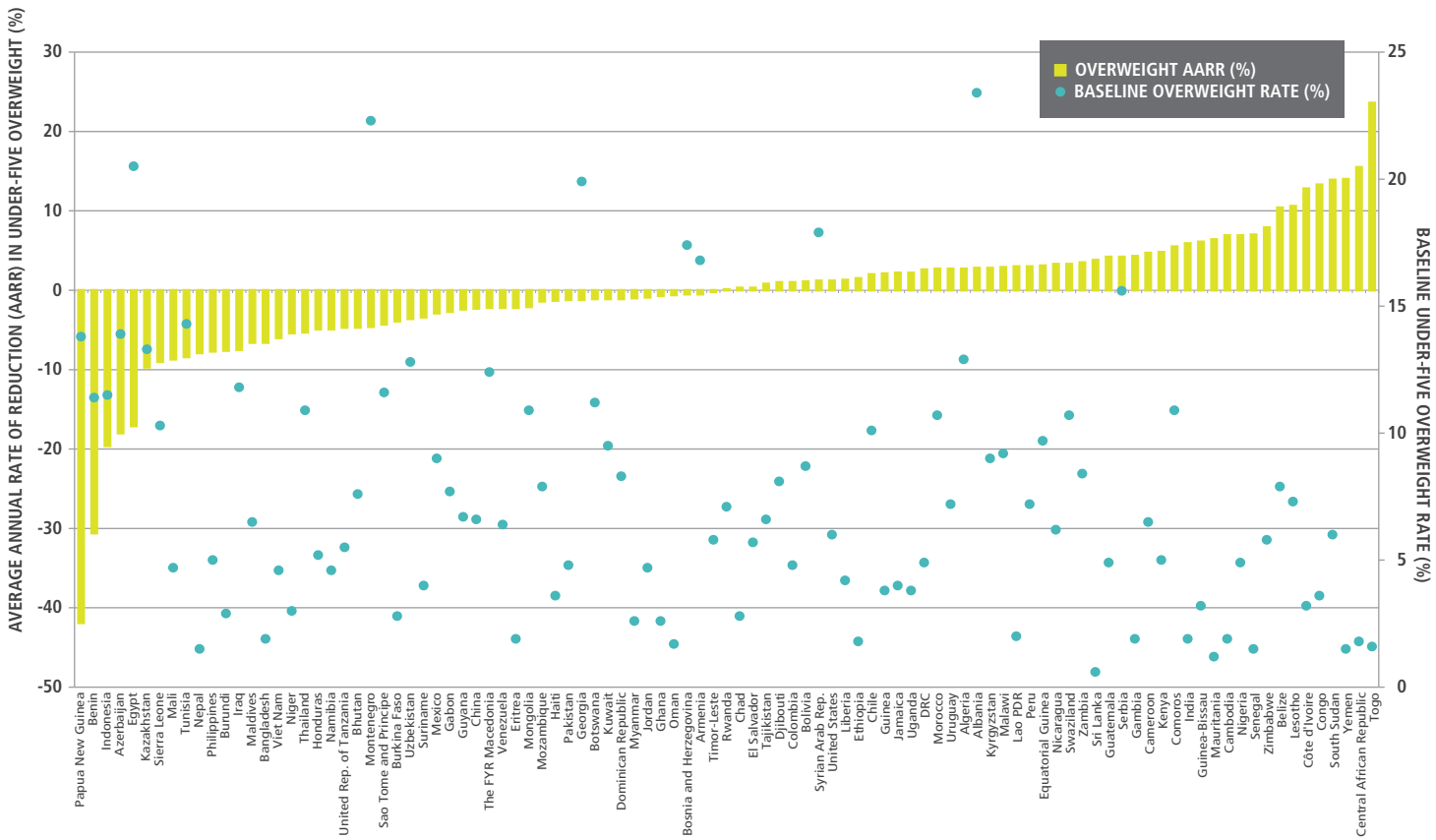
The 5 countries on course for anemia reduction are Burundi, Colombia, Kenya, Vanuatu, and Viet Nam. These 5 countries, with a total population of 192 million, represent 3 percent of the total population of the 185 countries with available data. It is important to learn more about why only these 5 countries are on course for the anemia target.

Wasting is the indicator for which the largest number of countries are making progress. This result is based not on the average annual rate of reduction, but rather on whether wasting is less than 5 percent (on course) or greater than or equal to 5 percent (off course).[14] The 59 countries on course for wasting reduction include Brazil, China, and the United States. These 59 countries represent 39 percent of all children under age five in the 123 countries with available data.

For stunting reduction, 22 countries are on course, including China, Turkey, and Viet Nam. These 22 countries represent 23 percent of all children under age five in the 109 countries with available data.

Finally, 31 countries are on course for under-five overweight reduction out of the 107 with available data. The 31 countries, which include India, Nigeria, and the United States, represent 45

FIGURE 3.2 BASELINE UNDER-FIVE OVERWEIGHT RATE AND ANNUAL REDUCTION IN UNDER-FIVE OVERWEIGHT



Source: UNICEF, WHO, and World Bank (2014).

Note: Years for baseline rates range from 2005 to 2013.

TABLE 3.2 CHANGES IN WASTING RATES

	Earlier estimated wasting rate ≥ 5%	Earlier estimated wasting rate < 5%
Wasting rate is increasing	Albania, Botswana, Burkina Faso, Cambodia, Egypt, Eritrea, Gambia, Guinea, India, Indonesia, Iraq, Madagascar, Mali, Niger, Nigeria, Philippines, Sao Tome and Principe, Senegal, Sri Lanka, Sudan, Syrian Arab Republic	Azerbaijan, Belize, Bhutan, Cabo Verde, Czech Republic, Dominican Republic, Ecuador, El Salvador, Equatorial Guinea, Guinea-Bissau, Jamaica, Jordan, Kuwait, Kyrgyzstan, Lebanon, Libya, Malawi, Mozambique, Nicaragua, Papua New Guinea, Paraguay, Peru, Saudi Arabia, Suriname, Swaziland, Tajikistan, Thailand, Trinidad and Tobago, United Republic of Tanzania, Zimbabwe
Wasting rate is constant or decreasing	Afghanistan, Algeria, Angola, Armenia, Bahrain, Bangladesh, Benin, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic People's Rep. of Korea, Democratic Rep. of the Congo, Djibouti, Ethiopia, Fiji, Ghana, Guyana, Haiti, Kenya, Lao People's Democratic Republic, Lesotho, Liberia, Maldives, Mauritania, Mauritius, Morocco, Myanmar, Namibia, Nepal, Oman, Pakistan, Sierra Leone, Solomon Islands, Somalia, South Africa, South Sudan, Timor-Leste, Togo, Uganda, Ukraine, Uzbekistan, Vanuatu, Viet Nam, Yemen, Zambia	Argentina, Bolivia, Bosnia and Herzegovina, Brazil, Chile, China, Colombia, Costa Rica, Gabon, Georgia, Guatemala, Honduras, Iran, Kazakhstan, Mexico, Mongolia, Montenegro, Panama, Romania, Rwanda, Serbia, The former Yugoslav Republic of Macedonia, Tunisia, Turkey, United States, Uruguay, Venezuela

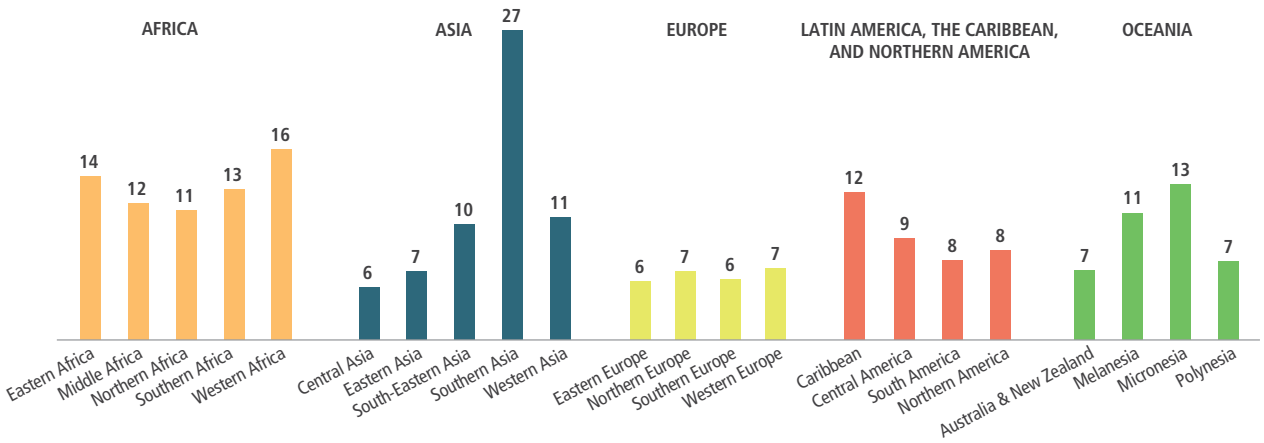
Source: UNICEF, WHO, and World Bank (2014). Data are from 1985–2013.

Note: Categories are based on the past two available national survey estimates. Countries are characterized as having an increasing wasting rate if the wasting rate in the second survey was higher than that in the first survey.

FIGURE 3.3 PERCENTAGE OF INFANTS AGE 0–5 MONTHS WHO ARE EXCLUSIVELY BREASTFED, BY REGION, AROUND 2000 AND 2012

Source: UNICEF (2014e), based on Multiple Indicator Cluster Surveys (MICSs), Demographic and Health Surveys (DHSs), and other nationally representative surveys, 2008–2012, with the exception of India, for which data are from 2005–2006.

FIGURE 3.4 AVERAGE INCIDENCE OF LOW BIRTH WEIGHT BY UN SUBREGION (%)



Source: UNICEF (2014e), based on Multiple Indicator Cluster Surveys, Demographic and Health Surveys, and other nationally representative surveys, 1995–2012.
Notes: Data show the population-weighted average incidence of low birth weight. Data exclude China.

percent of all children under age five in these 107 countries.[15]

In the spirit of collaboration and avoidance of duplication, the *Global Nutrition Report* has coordinated its reporting of the WHA data with WHO, UNICEF, and the World Bank. The new UN Global Target Tracking Tool will be launched at the Second International Conference on Nutrition in November 2014. Future *Global Nutrition Reports* will continue to describe the WHA data in new ways and juxtapose them with other types of data to strengthen their analytical value.

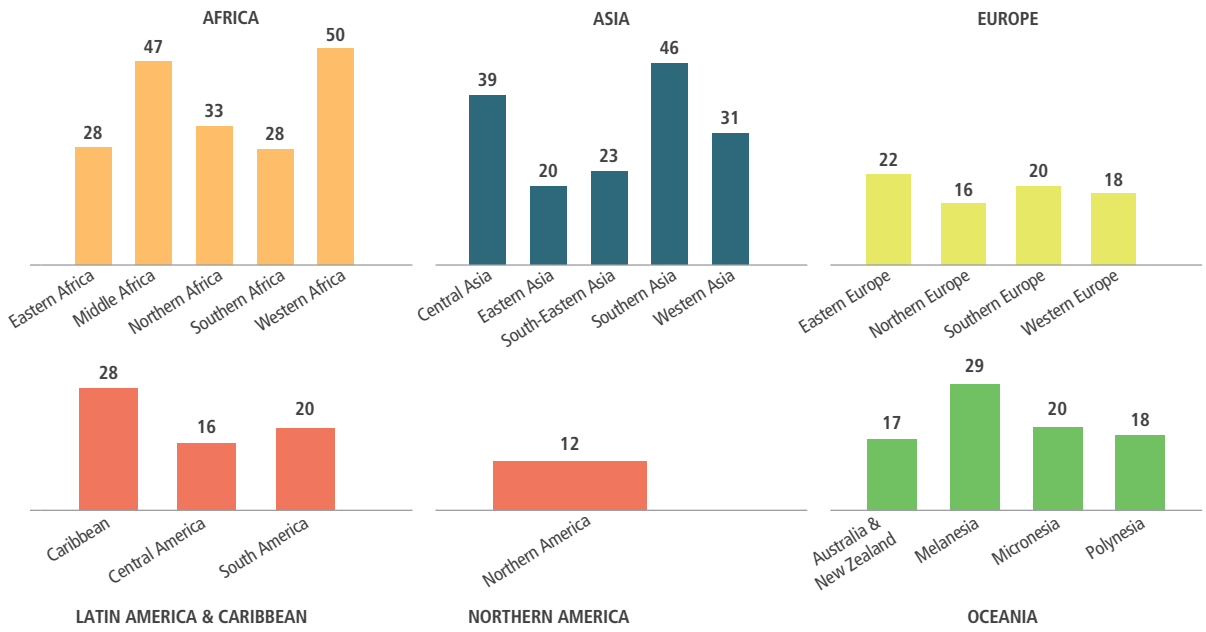
The two-page nutrition country profiles, which have been produced to accompany this report and appear online (www.globalnutritionreport.org), should be a useful input into analyses that support country efforts to understand why they might be on course for some indicators and not others and what to do about it.[16]

Data Gaps

If 99 countries have data to assess progress on all four WHA targets, what is the distribution of the remaining 94 countries? Figure 3.8 shows that 79 of the 193 countries cannot track more than two of the four WHA indicators and 5 countries cannot track any.

Of the 94 countries that had missing data on at least one indicator, nearly half of them were in Europe and Northern America (Figure 3.9). These high-income countries typically have the necessary data, but they are not reported in ways that make them internationally comparable. High-income countries will need to align their reporting systems with the global reporting requirements.

FIGURE 3.5 AVERAGE PREVALENCE OF ANEMIA IN WOMEN OF REPRODUCTIVE AGE BY UN SUBREGION (%)



Source: Stevens et al. (2013), based on modeled estimates for 2011.

Note: Data are population-weighted averages.

TABLE 3.3 PROPOSED WHO RULES FOR DEFINING WHETHER A COUNTRY IS ON OR OFF COURSE TO MEET GLOBAL WHA TARGETS

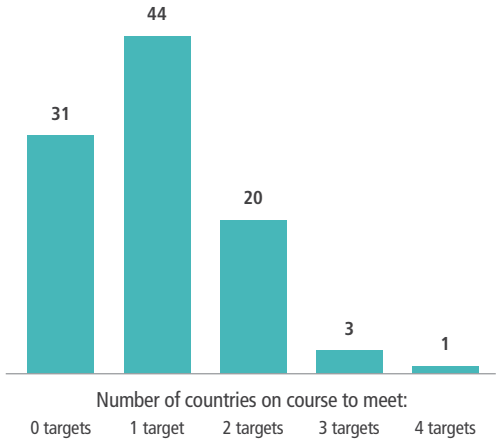
Indicator	On course	Off course
Stunting (under-five)	Current AARR ≥ country-specific required AARR to meet global goal	Current AARR < country-specific required AARR to meet global goal
Wasting[a] (under-five)	< 5%	≥ 5%
Overweight (under-five)	< 7% and no increase in prevalence compared with country baseline	≥ 7% or increase in prevalence compared with country baseline
Anemia (women of reproductive age)	Current AARR ≥ 5.2%	Current AARR < 5.2%
Exclusive breastfeeding (infants < 6 months)	n.a.	n.a.
Low birth weight (live births < 2,500 g)	n.a.	n.a.

Source: WHO (2014a), updated August 2014.

Notes: AARR = average annual rate of reduction. n.a. = rules are not yet available. The country baseline rate is the latest national estimate after 2005 and up to 2012, the latest year for which data are available. Our assessments of progress are based on comparisons between historical trends previous to the baseline and required rates of progress toward 2025. The rules for exclusive breastfeeding and low birth weight are currently being finalized by UNICEF, WHO, and the World Bank.

[a] WHO (2014a) gives the following basis for the WHO rule for wasting: "The presentation of the wasting target is slightly different because trends for this condition are not meaningful. Wasting refers to children that are too thin for their height. Wasting rates can change rapidly following sudden impacts such as natural or man-made disasters."

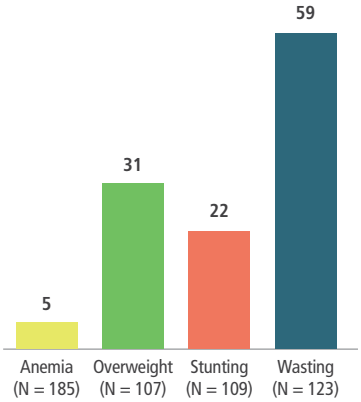
FIGURE 3.6 NUMBER OF COUNTRIES ON COURSE TO MEET WHA GLOBAL NUTRITION TARGETS



Source: Authors, based on data from UNICEF, WHO, and World Bank (2014) and Stevens et al. (2013), and rules on on/off course from WHO (2014a), updated August 2014.

Note: The four targets are stunting, wasting, under-five overweight, and anemia for women of reproductive age. Number of countries with data on all four indicators = 99.

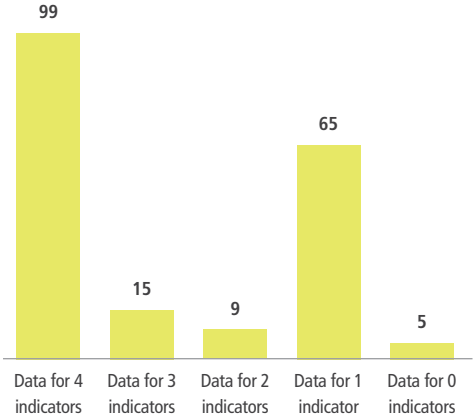
FIGURE 3.7 NUMBER OF COUNTRIES ON COURSE TO MEET EACH WHA GLOBAL TARGET



Source: Authors, based on data from UNICEF, WHO, and World Bank (2014) and Stevens et al. (2013), and rules on on/off course from WHO (2014a), updated August 2014.

Note: N = number of countries for which data are available for each indicator.

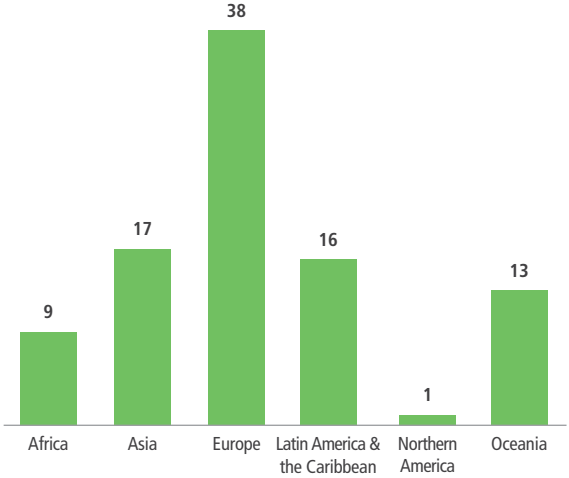
FIGURE 3.8 NUMBER OF COUNTRIES THAT HAVE DATA TO DETERMINE WHA TARGET STATUS FOR FOUR WHA INDICATORS



Source: Authors, based on data from UNICEF, WHO, and World Bank (2014) and Stevens et al. (2013), and rules on on/off course from WHO (2014a), updated August 2014.

Note: The four WHA indicators are stunting, wasting, under-five overweight, and anemia for women of reproductive age. Total number of countries = 193.

FIGURE 3.9 NUMBER OF COUNTRIES WITH MISSING DATA FOR AT LEAST ONE WHA INDICATOR, BY REGION



Source: Authors, based on data from UNICEF, WHO, and World Bank (2014) and Stevens et al. (2013), and rules on on/off course from WHO (2014a), updated August 2014.

Note: Total number of countries = 94.

DATA GAPS

1. Only 99 out of 193 countries have sufficient data to assess whether they are on or off course for four WHA indicators.
2. Many of the indicators are based on surveys that are more than five years old (see Chapter 9 for more on the age of surveys).
3. Data from Europe and Northern America on exclusive breastfeeding rates using the WHO definition are sparse.
4. Methods for adjusting low birth weight data are needed.
5. Methods need to be developed for generating reliable data on wasting trends.
6. More survey-based micronutrient data are required. Anemia data are based on models, and modeled data at the country level may not be considered meaningful or credible.
7. High-income countries need to bring their data on nutrition status in line with international standards.
8. On-course and off-course rules for exclusive breastfeeding and low birth weight are urgently needed if countries are to be able to assess their progress toward the WHA targets.

4 THE COEXISTENCE OF DIFFERENT FORMS OF MALNUTRITION IS THE "NEW NORMAL"

FEW COUNTRIES ARE FREE FROM MALNUTRITION, AND MANY COUNTRIES EXPERIENCE MULTIPLE BURDENS OF MALNUTRITION. TYPICALLY, DATA ON CHILD UNDERNUTRITION, child and adult micronutrient deficiencies, and child and adult overweight and obesity are presented separately. This report aims to shed light on the overlaps because they reflect the multiple issues facing countries.

This chapter begins by looking at the growth of children under the age of five: how many countries are experiencing different combinations of unhealthy growth among children under five? Next, it focuses on the multiple dimensions of the nutrition status of women. Then, stunting, micronutrient deficiencies, and overweight and obesity data are overlaid to identify countries that are experiencing simultaneous burdens.

Ideally, analyses of overlapping burdens of malnutrition would be conducted within countries as well as across them. The second part of this chapter explores national data issues concerning equity and decentralization within countries. The 2015 *Global Nutrition Report* will endeavor to support more within-country analysis.

KEY POINTS

1. Malnutrition affects nearly every country. Only two countries have levels of under-five stunting, anemia in women of reproductive age, and adult overweight all below public health thresholds.
2. Countries are facing complex, overlapping, and connected malnutrition burdens. Fewer than 20 countries have only a single form of malnutrition when under-five stunting, anemia in women of reproductive age, and adult overweight are considered together. The nutrition community must urgently develop tools and strategies for prioritizing and sequencing nutrition-relevant actions in complex contexts.
3. Given these multiple burdens and the trend toward decentralization of nutrition programming, disaggregated analyses of nutrition outcomes are more important than ever. This is a major data gap in many, though perhaps not all, countries.

OVERLAPS OF DIFFERENT FORMS OF MALNUTRITION

Many countries have overlapping burdens of stunting, wasting, and overweight in children under age five. For the 117 countries that have data on all three indicators (stunting, wasting, and overweight), Table 4.1 creates eight mutually exclusive and exhaustive categories. A ninth category is constructed of countries that are missing data for at least one of the three indicators.

Of the 117 countries, 64 countries have multiple types of under-five anthropometry malnutrition. Only 43 countries have single-issue child growth problems. Seventeen countries have all three types of under-five growth problems. Only 10 countries are below the cutoffs for each indicator—that is, they do not have stunting, wasting, and overweight levels that are a serious public health concern.

Multiple malnutrition burdens also affect women. Table 4.2 overlays three indicators of malnutrition: thinness and short stature for women of reproductive age (WRA) and overweight of adult females. One-third of the countries (22 of 67) for which data are available on all three indicators do not have any of the three malnutrition conditions as specified by the cutoffs (including several large African countries). The South Asian countries predominate in the short stature and thinness group. One country, Yemen, is experiencing all three forms of female malnutrition. Double burdens of overweight and short stature/thinness affect only 7 countries, with a combined total population of 71 million.

Table 4.3 combines three indicators generated using different methodologies: under-five stunting rates, anemia among women of reproductive age, and adult overweight for both sexes. Twenty-four countries have all three forms of malnutrition. Seventy-eight countries have two forms of malnutrition. Eighteen countries have only one of the three forms of malnutrition burden (less than 20 percent of the population living in countries that have a malnutrition burden).

Only two countries (China and Republic of Korea) of the 122 countries for which we have comparable data on all three indicators are below the stated cutoffs for all three, but only just—China's anemia rate is 19.6 percent and Republic of Korea's is 19.4 percent. If the anemia rate in these two countries were just 0.6 percent higher, all countries in the world would be classified as experiencing one of these three forms of malnutrition. Of course, China has such a large population that its 9.4 percent stunting, 19.6 percent anemia, and 25 percent overweight rates represent serious national and global burdens.

These analyses of overlaps in malnutrition represent a simple way of exploring multiple burdens and taking a fresh look at malnutrition in any context. Two broad conclusions can be drawn: (1) the vast majority of countries have more than one malnutrition burden, and (2) many countries experience three types of malnutrition at the same time. Seventeen countries experience under-five stunting, wasting, and overweight, and 24 countries experience stunting, anemia, and adult overweight.[1]

Given these multiple burdens and their complexities, the

TABLE 4.1 COUNTRIES WITH OVERLAPPING STUNTING, WASTING, AND OVERWEIGHT IN CHILDREN UNDER AGE FIVE

Overlap/indicator group	Number of countries	Total population (millions)	Countries
Stunting only	12	212	Democratic People's Republic of Korea, El Salvador, Guatemala, Honduras, Liberia, Nauru, Nicaragua, Solomon Islands, Togo, Uganda, Viet Nam, Zimbabwe
Wasting only	6	68	Guyana, Oman, Saudi Arabia, Senegal, Sri Lanka, Suriname
Overweight only	25	603	Algeria, Argentina, Belarus, Belize, Bosnia and Herzegovina, Brazil, Chile, Costa Rica, Dominican Republic, Gabon, Georgia, Kazakhstan, Kuwait, Kyrgyzstan, Mexico, Mongolia, Montenegro, Morocco, Paraguay, Peru, Serbia, The former Yugoslav Republic of Macedonia, Tunisia, Uruguay, Uzbekistan
Stunting and wasting only	38	2,462	Bangladesh, Burkina Faso, Burundi, Cambodia, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Haiti, India, Kenya, Lao People's Democratic Republic, Maldives, Mali, Mauritania, Myanmar, Namibia, Nepal, Niger, Nigeria, Pakistan, Philippines, Somalia, South Sudan, Sudan, Tajikistan, Timor-Leste, United Republic of Tanzania, Vanuatu, Yemen
Stunting and overweight only	7	45	Armenia, Bolivia, Equatorial Guinea, Lesotho, Malawi, Rwanda, Swaziland
Wasting and overweight only	2	70	Republic of Moldova, Thailand
Stunting, wasting, and overweight	17	468	Albania, Azerbaijan, Benin, Bhutan, Botswana, Comoros, Djibouti, Egypt, Indonesia, Iraq, Libya, Mozambique, Papua New Guinea, Sao Tome and Principe, Sierra Leone, Syrian Arab Republic, Zambia
Below cutoff for all three indicators	10	1,914	China, Colombia, Germany, Jamaica, Jordan, Republic of Korea, Saint Lucia, Tuvalu, United States, Venezuela
Total with data	117	5,842	
Missing data for at least one indicator	76		
Total	193		

Source: Indicator data are from UNICEF, WHO, and World Bank (2014). Data are from 2005–2013. Population data are from United Nations (2013b).

Note: The cutoffs for placing countries in each indicator category are as follows: under-five stunting ≥ 20 percent, under-five wasting ≥ 5 percent, and under-five overweight ≥ 7 percent. These cutoffs were selected because they are considered to indicate public health significance by WHO (2010a).

nutrition community urgently needs to develop diagnostic tools to assess the malnutrition landscape in order to help sequence, prioritize, and strategize about nutrition-relevant action at the national level. Understanding associations and implications for action is also important because one form of malnutrition can drive the manifestation of other forms of malnutrition. For example, wasting is often associated with stunting and can have similar causes (Bergeron and Castleman 2012), and undernutrition in childhood is associated with overweight and obesity in adulthood (Adair et al. 2013).

Finally, it is important to note that high-income countries tend not to appear in these tables. That is because they do not report some of the data in ways that are compatible with inclusion in international databases. This is a major accountability gap. As Panel 4.1 shows, the United States and United Kingdom face serious malnutrition issues related to overweight and obesity, and their citizens, like the citizens of any of the 193 UN member states, need to be able to hold their governments accountable for efforts to improve the situation.

DISTRIBUTION OF MALNUTRITION WITHIN COUNTRIES

In every country, some regions are forging ahead in terms of improving nutrition status while others are lagging behind. One response to this variation is to decentralize nutrition improvement efforts and develop subnational strategies. Decentralization will lead to a greater need for subnational nutrition analyses and data collection. This information can be disaggregated in many ways, including by administrative or geographic unit or according to equity-based categories.

Administrative disaggregation

Many countries, such as Indonesia and Kenya, are decentralizing nutrition plans and intervention delivery. This poses a challenge for accountability. Often responsibility and accountability are decentralized because local factors are typically important drivers of nutritional outcomes. But for local governments to be accountable, they must have adequate authority, resources, and human and institutional capacity. Panel 4.2 highlights the importance of regional drivers of nutrition status in Indonesia.

In India, a partnership is using nutrition profiles for districts in three Indian states to begin conversations about nutrition,

TABLE 4.2 COUNTRIES WITH OVERLAPPING THINNESS IN WOMEN OF REPRODUCTIVE AGE, SHORT STATURE IN WOMEN OF REPRODUCTIVE AGE, AND ADULT FEMALE OVERWEIGHT

Overlap/indicator group	Number of countries	Total population (millions)	Countries
WRA short stature only	5	232	Cambodia, Congo, Nepal, Pakistan, Sierra Leone
WRA thinness only	3	110	Chad, Eritrea, Ethiopia
Adult female overweight only	25	610	Albania, Armenia, Azerbaijan, Brazil, Cameroon, Colombia, Dominican Republic, Egypt, Gabon, Ghana, Jordan, Kazakhstan, Kyrgyzstan, Lesotho, Mauritania, Morocco, Namibia, Republic of Moldova, Sao Tome and Principe, Senegal, Swaziland, Turkey, Turkmenistan, Uzbekistan, Yemen, Zimbabwe
WRA short stature and WRA thinness only	4	1,415	India, Bangladesh, Madagascar, Timor-Leste
WRA short stature and adult female overweight only	7	71	Bolivia, Guatemala, Guyana, Honduras, Maldives, Nicaragua, Peru
Adult female overweight and WRA thinness only	0	0	
WRA short stature, WRA thinness, and adult female overweight	1	24	Yemen
Below cutoff for all three indicators	22	562	Benin, Burkina Faso, Burundi, Central African Republic, Comoros, Côte d'Ivoire, Democratic Republic of the Congo, Guinea, Haiti, Kenya, Liberia, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Tajikistan, Togo, Uganda, United Republic of Tanzania, Zambia
Total with data	67	3,025	
Missing data for at least one indicator	126		
Total	193		

Source: Indicator data are from Demographic and Health Survey Statcompiler (2014; data from 1994–2013) and WHO (2014g; data from 2008). Population data are from United Nations (2013b).

Note: WRA = women of reproductive age. Thinness is defined as a body mass index (BMI) < 18.5; short stature is defined as a height < 145 centimeters; and overweight is defined as a BMI ≥ 25. The cutoffs for placing countries in each indicator category are as follows: WRA thinness ≥ 20 percent, WRA short stature ≥ 4.8 percent, and adult female overweight ≥ 35 percent. A cutoff of 20 percent for WRA thinness is used because WHO has classified this level as a high/very high prevalence indicative of a serious/very serious situation (WHO 2010a). A cutoff of 4.8 percent for WRA short stature is used because no universal cutoff exists; instead the 75th percentile is used as cutoff. A cutoff of 35 percent for adult female overweight is used because overweight ≥ 35 percent is higher than the global average (WHO 2014b; FAO 2013b).

PANEL 4.1 MALNUTRITION IN THE UNITED STATES AND UNITED KINGDOM

JESSICA FANZO

Nutrition is a concern in all countries, not just low-income ones. Many high-income countries are struggling with their own nutrition issues.

In the United States, where obesity rates have more than doubled in adults and children since the 1970s, obesity is a leading public health problem. Nearly 69 percent of US adults and 32 percent of children and adolescents are overweight or obese (Ogden et al. 2014). In most sex-age groups, the prevalence of obesity is lower among whites than among blacks and Mexican-Americans (May et al. 2013). Many US households suffer not only from the consequences of overweight and obesity, but also from food insecurity. In 2012, 14.5 percent of US households were food insecure, as defined by the US Department of Agriculture, at some time during the year.

In the United Kingdom, 67 percent of men and 57 percent of women are overweight or obese (Ng et al. 2014). More than a quarter of children are also overweight or obese (26 percent of boys and 29 percent of girls). In Western Europe, the United Kingdom lags behind only Iceland, where 74 percent of men and 61 percent of women are overweight or obese, and Malta, where the figures are 74 percent and 58 percent respectively (Ng et al. 2014).

Recent data suggest that the rise in obesity among children is flattening in the United States (Ogden et al. 2014). Another study shows that prevalence of childhood obesity has slowed, or leveled off, in nine countries, including Australia, China, and England as well as in the United States (Olds et al. 2011). Although it is too early to understand the causes of this trend, there are some examples of policy change that will be important for countries to consider as they begin to grapple with the issue. Some countries in Europe are proposing to address the obesity epidemic using a multisectoral government approach, focusing on improving school lunches, controlling advertising and marketing to children, taxing junk foods and overprocessed foods, and promoting physical activity (World Health Organization Regional Office for Europe 2014). Some countries, such as Mexico, are taxing unhealthy foods.

The United States, United Kingdom, and other high-income countries must be accountable for making progress toward the WHA target on preventing an increase in the number of children under five who are overweight. A whole-of-government approach, as proposed by some European countries, should be considered, taking into account the local context.

TABLE 4.3 COUNTRIES WITH OVERLAPPING UNDER-FIVE STUNTING, ANEMIA IN WOMEN OF REPRODUCTIVE AGE, AND ADULT OVERWEIGHT

Overlap/indicator group	Number of countries	Total population (millions)	Countries
Under-five stunting only	3	194	Ethiopia, Rwanda, Viet Nam
WRA anemia only	3	102	Senegal, Sri Lanka, Thailand
Adult overweight only	12	873	Argentina, Brazil, Chile, Colombia, Costa Rica, Germany, Mexico, Paraguay, Peru, The former Yugoslav Republic of Macedonia, United States, Uruguay
Under-five stunting and WRA anemia only	47	2,758	Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic People's Republic of Korea, Democratic Republic of the Congo, Djibouti, Eritrea, Gambia, Ghana, Guinea, Guinea-Bissau, Haiti, India, Indonesia, Kenya, Lao People's Democratic Republic, Liberia, Madagascar, Malawi, Mali, Mozambique, Myanmar, Namibia, Nepal, Niger, Nigeria, Pakistan, Philippines, Sierra Leone, Somalia, Sudan, Tajikistan, Timor-Leste, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe
Adult overweight and under-five stunting only	2	14	Honduras, Nicaragua
WRA anemia and adult overweight only	29	438	Algeria, Belarus, Belize, Bosnia and Herzegovina, Dominican Republic, Gabon, Georgia, Guyana, Iran, Jamaica, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Malaysia, Mongolia, Montenegro, Morocco, Oman, Panama, Republic of Moldova, Saint Lucia, Saudi Arabia, Serbia, Suriname, Tunisia, Turkey, Uzbekistan, Venezuela
Under-five stunting, WRA anemia, and adult overweight	24	321	Albania, Armenia, Azerbaijan, Bolivia, Botswana, Cameroon, Ecuador, Egypt, El Salvador, Equatorial Guinea, Guatemala, Iraq, Lesotho, Libya, Maldives, Mauritania, Papua New Guinea, Sao Tome and Principe, Solomon Islands, South Africa, Swaziland, Syrian Arab Republic, Vanuatu, Yemen
Below cutoff for all three indicators	2	1,426	China, Republic of Korea
Total with data	122	6,126	
Missing data for at least one indicator	71		
Total	193		

Source: Indicator data are from UNICEF, WHO, and World Bank (2014; data are from 2005–2013); Stevens et al. (2013); and World Health Organization (2014g; data from 2008). Population data are from United Nations (2013b).

Note: WRA = women of reproductive age. The cutoffs for placing countries in each indicator category are as follows: under-five stunting ≥ 20 percent, WRA anemia ≥ 20 percent, and adult overweight ≥ 35 percent. These cutoffs were selected because they are considered to indicate public health significance by WHO (2010a).

PANEL 4.2 REGIONAL DRIVERS OF MALNUTRITION IN INDONESIA

ENDANG ACHADI WITH ACKNOWLEDGMENT TO SUDARNO SUMARTO AND TAUFIK HIDAYAT

Indonesia faces a paradox: national gross domestic product (GDP) per capita has grown steadily—from US$1,643 in 2006 to US$3,592 in 2012 (Statistics Indonesia 2014)—but undernutrition has declined only slowly and obesity and overweight are increasing rapidly. Indonesia is marked by a high degree of geographic, and consequently economic, variation, depending on the district examined. Is this one of the factors driving variation in nutrition outcomes by district?

A study by Sumarto et al. (2013) analyzed factors associated with Indonesia's successful national poverty reduction at the district level in the context of decentralization. The data show that poverty incidence is lower in districts with higher GDP per capita, higher fiscal revenues as a share of GDP, higher average educational attainment, a larger share of local leaders with secondary education (as a proxy for local capacity), a higher degree of urbanization, and local offices for coordinating poverty reduction initiatives.

We examined the relationship of these same variables with childhood stunting, a marker of chronic undernutrition, using the Riskesdas National Basic Health Survey (Indonesia, Ministry of Health 2008). Riskesdas 2007 nutrition data were matched with socioeconomic data for 2005–2010. Our preliminary analysis of 345 districts and municipalities finds results consistent with the Sumarto et al. (2013) study. Stunting prevalence at the district level is associated with low GDP per capita, a larger share of local leaders with no or low levels of education, and low levels of urbanization.

Another factor in the persistence of the variation in stunting among districts might be the decentralization of government functions since 2000. Some have argued that Indonesia implemented decentralization using a radical approach (Hofman and Kaiser 2002) and without a comprehensive policy (World Bank 2005). This may have led to less than optimal shifting of responsibilities and accountabilities from the central to the district level, potentially contributing to variations in the quality of nutrition services.

When looking at malnutrition data, it is important to take into account the local context: geography, local governance, socioeconomic status, demography, and educational attainment. In Indonesia, these dimensions vary strongly by district. Thus, ensuring better planning of health and nutrition programs requires looking deeply at district-level data, not just national data.

identify accountabilities, highlight data gaps, and strategize about action (Panel 4.3). The work so far has highlighted data gaps and incompatibilities, but also the availability of data that had not previously been brought into nutrition analyses.

Equity

As equity has moved up the global development agenda (Haddad 2014), equity gaps in nutrition have increasingly been highlighted (for example, Black et al. 2013). Malnourished children in the poorest income groups may need extra help from public finances given the limited private means they and their families have at their disposal. These children are most likely to face multiple deficits when it comes to intervention coverage and underlying drivers of malnutrition.

Figure 4.1 shows differences in stunting and overweight outcomes by household wealth quintile. Countries with wide disparities in stunting rates between the highest and lowest quintiles are found throughout the range of stunting prevalences. The wealth disparities in overweight rates are less pronounced but with no obvious pattern to the differences: in many countries the lowest quintile has higher rates of under-five overweight than the highest quintile.

There are large disparities in stunting outcomes by wealth quintile, but as stunting rates decline, are these disparities widening? One of the most comprehensive wealth-based studies is a recent analysis of data from 52 countries from the mid-1990s to the mid- to late 2000s (Bredenkamp et al. 2014). The study concludes that for 30 of the 52 countries there is no statistically significant evidence that stunting outcomes are becoming more or less unequal across wealth groups within countries. For 11 countries stunting equity is increasing, and for a different set of 11 countries stunting equity is decreasing (Table 4.4). The authors report no obvious relationship between trends in stunting prevalence and trends in stunting inequality.

Equity is not only about wealth. Discrimination can have geographic, historical, and cultural roots that often manifest themselves in different cultural identities. This poses challenges for programming in the presence of different norms, different trust levels, and different ways of influencing behavior. Panel 4.4 draws some lessons from nutrition interventions within US Native American populations, who make up a marginalized group.

PANEL 4.3 COMPILING DISTRICT-LEVEL NUTRITION DATA IN INDIA

PURNIMA MENON AND SHRUTHI CYRIAC

In India, POSHAN, a partnership designed to increase access to nutrition knowledge and evidence, has developed nutrition profiles for 11 districts in the states of Jharkhand, Madhya Pradesh, Odisha, and Uttar Pradesh. These district nutrition profiles draw on diverse sources of data to compile indicators on the state of nutrition and its drivers. The profiles are intended to be conversation starters at the district level and to enable discussions about why undernutrition levels are high and what factors, at multiple levels, might need to be addressed to improve nutrition.

In seeking recent and reliable district-level data on the drivers of undernutrition, we faced several challenges:

The diversity of sectors from which data must be sourced: The data had to reflect the different sectors that influence nutrition such as food security, water and sanitation, economic status, and women's issues. This required using various datasets and identifying nutrition-relevant indicators in them.

Temporal issues: Most of the data are from different reports, and this often meant that the years when data were collected varied. The temporal diversity in the data made it difficult to compare nutrition data at the district and state levels or even different types of indicators for each district.

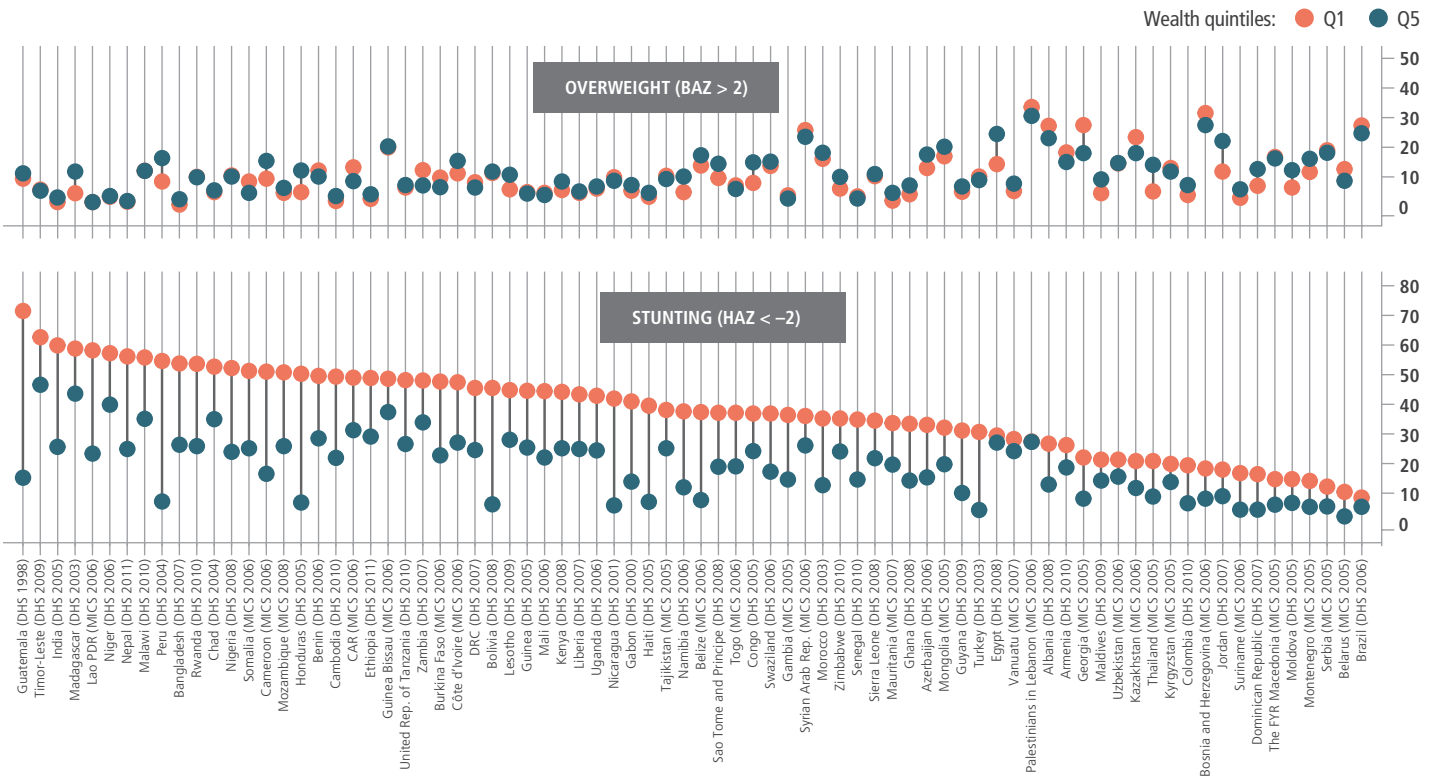
Indicator definitions: While all indicators were initially defined as they appear in global guidelines, some of these definitions had to be altered to conform to the data available. One official report on vitamin A supplementation, for instance, had data for children 9–59 months old, whereas another report had data for children 12–23 months old.

Sampling differences: Some of the data sources provided only rural data and used smaller samples. This made it difficult to compare data from these sources with data from national-level surveys.

Data skills: Some data, such as on food security and diet diversity, require the use of unit-level data from large, complex data sources such as the National Sample Survey Organization (NSSO) and require special analytical skills on the part of users. Others are less challenging, such as indicators on water, sanitation, and hygiene and access to services, which can be almost directly obtained from census data.

Despite the data challenges, the initial experiences with using the profiles to catalyze nutrition-focused conversations are encouraging: they highlight the problem and the data gaps, help build understanding of the roles of different sectors, and bring attention to needed short- and longer-term actions.

FIGURE 4.1 PREVALENCE OF UNDER-FIVE STUNTING AND OVERWEIGHT FOR HIGHEST AND LOWEST WEALTH QUINTILES IN SELECTED COUNTRIES (%)



Source: Figure 5 in Black et al. (2013). Reproduced with the permission of *The Lancet*.

Note: Red circles are the lowest wealth quintiles; blue circles are the highest wealth quintiles. BAZ = body mass index-for-age Z-score. HAZ = height-for-age Z-score. DHS = Demographic and Health Survey. MICS = Multiple Indicator Cluster Survey.

PANEL 4.4 TARGETING MINORITY GROUPS AT RISK IN THE UNITED STATES

JENNIFER REQUEJO AND JOEL GITTELSOHN

In the United States, overweight and obesity disproportionately affect American Indians and Alaskan Natives[1] (Wang and Beydoun 2007; O'Connell et al. 2010). About 5.2 million American Indian and Alaskan Natives live in the United States. For many living on reservations, access to supermarkets is limited and residents are largely dependent upon convenience or gas-station stores primarily stocked with unhealthy foods (chips, soda, candy) and few fruits and vegetables. Many American Indian communities harbor a deep mistrust and suspicion of all nonresidents—a consequence of their long history of marginalization and disenfranchisement. One approach proven successful in addressing this challenge is ensuring that community members actively participate in designing, implementing, and evaluating interventions (Gittelsohn and Rowan 2011; Gittelsohn et al. 2013).

Three intervention trials that aimed to reduce obesity and diabetes in American Indian communities by modifying the food environment have been rigorously tested and offer lessons for designing future nutrition-related programs for American Indians and potentially other disadvantaged US groups.

In 1993–2001 the Pathways School–based trial in seven American Indian communities focused on improving the nutrition curriculum and physical education program for children in grades 3–5 and improving the school food service; it also included a family component (Davis 2003). Although the intervention did not lead to changes in the primary outcomes—physical activity and obesity—it was associated with positive changes in psychosocial measures and improvements in diet.

The Apache Healthy Stores Program from 2003 to 2005 aimed to make healthy food options more available in local food stores on two reservations and to lead people to buy and consume more of these foods (Curran et al. 2005). The program resulted in measurable improvements in food-related knowledge, healthy food intentions, and purchasing. Health outcomes were not assessed.

From 2007 to 2009 the Navajo Healthy Stores Program was introduced into 10 program regions. At each store, customers could see demonstrations of healthier cooking methods, taste-test healthy foods, and ask questions (Gittelsohn et al. 2013). Like the other two trials, the program improved people's nutrition knowledge and raised their purchases of healthy foods. It also reduced the prevalence of overweight and obesity.

Key lessons include the following: (1) institutional-level interventions affecting, for example, schools and stores work better when they are reinforced in the home and community; (2) reinforcing messages requires engaging with a range of institutions including local media, schools, existing community structures, and food stores; (3) program sustainability hinges upon active community engagement and an appropriate institutional base; and (4) longer-term follow-up is needed to detect changes in impact measures such as body mass index and chronic disease.

Although changing nutrition-related behaviors and outcomes in low-income ethnic minority groups such as American Indians and Alaskan Natives in the United States is complex, progress is possible and indeed imperative if the United States is to achieve its health objectives for 2020.[2]

TABLE 4.4 TRENDS IN STUNTING EQUITY OVER TIME

Change over time in inequality of stunting across wealth quintiles	Countries
Inequality is increasing	Azerbaijan, Bangladesh, Burkina Faso, Chad, Ethiopia, India, Lao PDR, Nepal, Nicaragua, Niger, Peru
Inequality is unchanged	Albania, Armenia, Benin, Bolivia, Cambodia, Cameroon, Central African Republic, Côte d'Ivoire, Democratic Republic of the Congo, Ghana, Guinea, Guinea-Bissau, Guyana, Haiti, Jordan, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Rwanda, Senegal, Sierra Leone, Suriname, Togo, Uganda, United Republic of Tanzania, Uzbekistan, Zimbabwe
Inequality is decreasing	Colombia, Comoros, Dominican Republic, Egypt, Kazakhstan, Kyrgyzstan, Mongolia, Morocco, Nigeria, Turkey, Zambia

Source: Adapted from Figure 2 in Bredenkamp et al. (2014).

DATA GAPS

1. More estimates are needed of overlaps of different forms of malnutrition at the individual, household, and subnational levels.
2. To help navigate complexity, tools for sequencing and prioritizing nutrition actions and programs in a given context need to be developed.
3. More disaggregated data—existing and new—are needed. But so too is the capacity to collect, use, and leverage the data for political action and to stimulate the demand for more data.

5 THE COVERAGE OF NUTRITION-SPECIFIC INTERVENTIONS NEEDS TO IMPROVE

COVERAGE OF NUTRITION INTERVENTIONS—THAT IS, THE NUMBER OF PEOPLE IN A PROGRAM COMPARED WITH THE NUMBER OF PEOPLE WHO SHOULD BE IN A program—is a key indicator for accountability of service providers. This chapter reviews coverage of the set of nutrition-specific interventions described in Bhutta et al. (2013a) and identifies gaps in the data on coverage of those interventions. Next, it analyzes the coverage of a set of five undernutrition interventions for which data do exist. It reviews the coverage issues that are particular to severe acute malnutrition. Finally, it briefly reviews new evidence on the predicted impacts of scaling up nutrition-specific interventions. This evidence suggests that more research on implementation is needed to show how to improve the effectiveness of existing proven interventions.

The coverage data in this chapter are primarily for nutrition-specific interventions that address undernutrition, rather than overweight and obesity.[1] This is due to the paucity of large-scale interventions to address overweight and obesity, even in high-income countries, as well as to the lack of an international database on the coverage of the interventions that do exist.

KEY POINTS

1. Coverage data for nutrition-specific interventions are sparse. This is often because the interventions themselves have yet to be scaled up. Of 12 key nutrition-specific interventions, many countries have national coverage data for only 3 (vitamin A supplementation, universal salt iodization, and zinc treatment for diarrhea). Data for practices relating to nutrition-specific interventions (exclusive breastfeeding and diets of 6- to 23-month-old children) are more available.
2. Only 37 countries have data on all five of the nutrition interventions and practices with the most extensive coverage data. Of these 37 countries, only one is above the 50 percent threshold for each intervention or practice. Seventeen countries are below 50 percent on three or more of the five interventions or practices.
3. Geographic coverage of programs to treat moderate and severe acute malnutrition is poor, even in countries with large burdens of acute malnutrition. Direct coverage estimates are one critical component in properly assessing access to treatment for both moderate and severe acute malnutrition, but these data tend to be based on subnational stand-alone surveys. Coverage assessment should be integrated into institutionalized data collection, with frequency and methods tailored to country capacity.
4. Expanded program coverage is only valuable if it leads to expanded impact. It is thus important to focus on maintaining and improving program effectiveness. Implementation research is important here.

COVERAGE OF NUTRITION-SPECIFIC INTERVENTIONS

Coverage of nutrition-specific interventions is crucial for undernutrition reduction (Bhutta et al. 2013a), but coverage data for these programs are scarce.

Table 5.1 summarizes 12 nutrition-specific interventions: the 10 nutrition-specific interventions in Bhutta et al. (2013a), plus zinc treatment for diarrhea (Bhutta et al. 2013b) and universal salt iodization (also a proven nutrition-specific intervention). It is clear that the coverage data are in scarce supply. Data are only readily available for more than a handful of countries for vitamin A supplementation for children 6–59 months old and universal salt iodization. There are data on iron–folic acid supplementation during pregnancy (but not for all women of reproductive age and not during the periconceptual period), on practices related to breastfeeding promotion (exclusive breastfeeding rates), and on practices relating to complementary feeding programs (minimum acceptable diet and minimum dietary diversity indicators for children 6–23 months old). We were not able to locate and verify the data on zinc treatment for diarrhea before this report went to press. Although *The Lancet* Nutrition series in 2008 and 2013 recommended preventive zinc supplementation, many countries have so far failed to implement this measure on a national scale. Moreover, no countries have introduced multiple micronutrient supplementation or calcium supplementation in pregnancy at scale. For other interventions, such as treatment of moderate or severe acute malnutrition, programs exist, but data on geographic coverage are not systematically collected or comparable.

Iron and folic acid during pregnancy

Iron supplementation during pregnancy is associated with reduced maternal anemia, and folic acid supplementation at the time of conception is associated with reduced neural tube defects in the brain and spinal cord (Black et al. 2013; Bhutta et al. 2013a).

Data on the percentage of women who receive iron–folic acid tablets or syrup for at least 90 days during pregnancy are available for 58 countries from 2003 onward from the Demographic and Health Surveys.[2] As Table 5.2 shows, the range of coverage is very wide (from 0.1 percent for Turkmenistan to 78.9 percent for Nicaragua). According to these surveys, mean coverage is only 26 percent, which is consistent with the findings of others (Hodgins and D'Agostino 2014). All subregions for which sufficient data are available have coverage rates well below 50 percent with the exception of the Caribbean (Figure 5.1).

Exclusive breastfeeding

Chapter 3 described regional trends on exclusive breastfeeding rates; this section summarizes country trends. For countries with data on exclusive breastfeeding, the two latest surveys show that many more countries have rising annual average rates of increase (AARI) than falling rates (Figure 5.2). In some countries, increases in rates are extremely rapid, although typically from low bases (such as in Côte d'Ivoire, Dominican Republic, Thailand, and Trinidad and Tobago). This is not always the case, however. Burkina Faso and Georgia, for example, show rapid increases from rates nearer the WHA global target of 50 percent. The wide variation in country progress needs to be better understood and offers much scope for learning among countries.

TABLE 5.1 STATE OF COVERAGE DATA FOR NUTRITION-SPECIFIC INTERVENTIONS

Time period	Intervention	Status of data on coverage
Preconception	Folic acid supplementation/fortification	Data are only available on coverage of iron–folic acid supplementation during pregnancy (not for all women of reproductive age or during periconceptual period, as modeled in Bhutta et al. 2013a).
Pregnancy	Balanced energy-protein supplementation	No program data exist as far as we know.
	Calcium supplementation	Few programs exist as far as we know.
	Multiple micronutrient supplementation	There are no national programs for multiple micronutrient supplementation in pregnancy.
Breastfeeding	Promotion of breastfeeding (including early initiation)	Data are available on exclusive breastfeeding, early breastfeeding initiation, and continued breastfeeding. Note that these are practices, not program coverage.
Preventive	Complementary feeding for food-secure and -insecure population	Data are available on practices, minimum acceptable diet (MAD), and minimum diet diversity (MDD). There are no data on program coverage.
	Vitamin A supplementation for children 6–59 months old	Coverage data exist for many countries.
	Preventive zinc supplementation	There are no preventive zinc supplementation programs globally, and so currently coverage is zero.
Curative	Zinc for treatment of diarrhea	Data are available for 58 countries; for 50 countries the coverage rate is < 5 percent.
	Feeding for children with moderate acute malnutrition	No programs for moderate acute malnutrition exist presently at scale.
	Therapeutic feeding for severe wasting	Geographic data are available but are not very meaningful. Direct coverage data are not national.
All	Universal salt iodization	Coverage data exist for many countries.

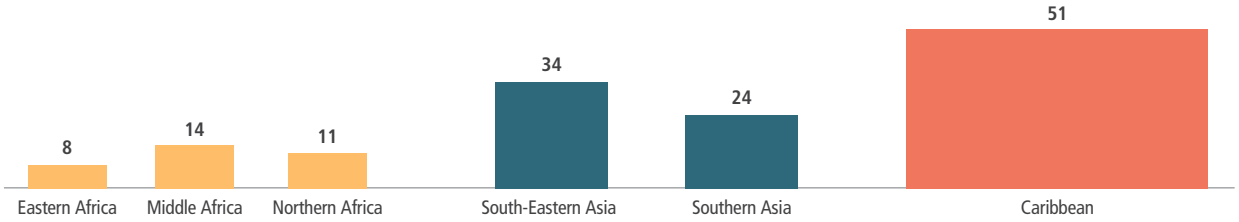
Source: Authors, based on Bhutta et al. (2013a).

TABLE 5.2 COVERAGE OF IRON–FOLIC ACID SUPPLEMENTATION DURING PREGNANCY

Coverage indicator within the group of 58 countries with data	% of pregnant women receiving iron–folic acid supplementation for at least 90 days during pregnancy
Minimum coverage	0.1 (Turkmenistan)
Maximum coverage	78.9 (Nicaragua)
Mean coverage	25.7
Median coverage	24.0

Source: Demographic and Health Surveys since 2003.

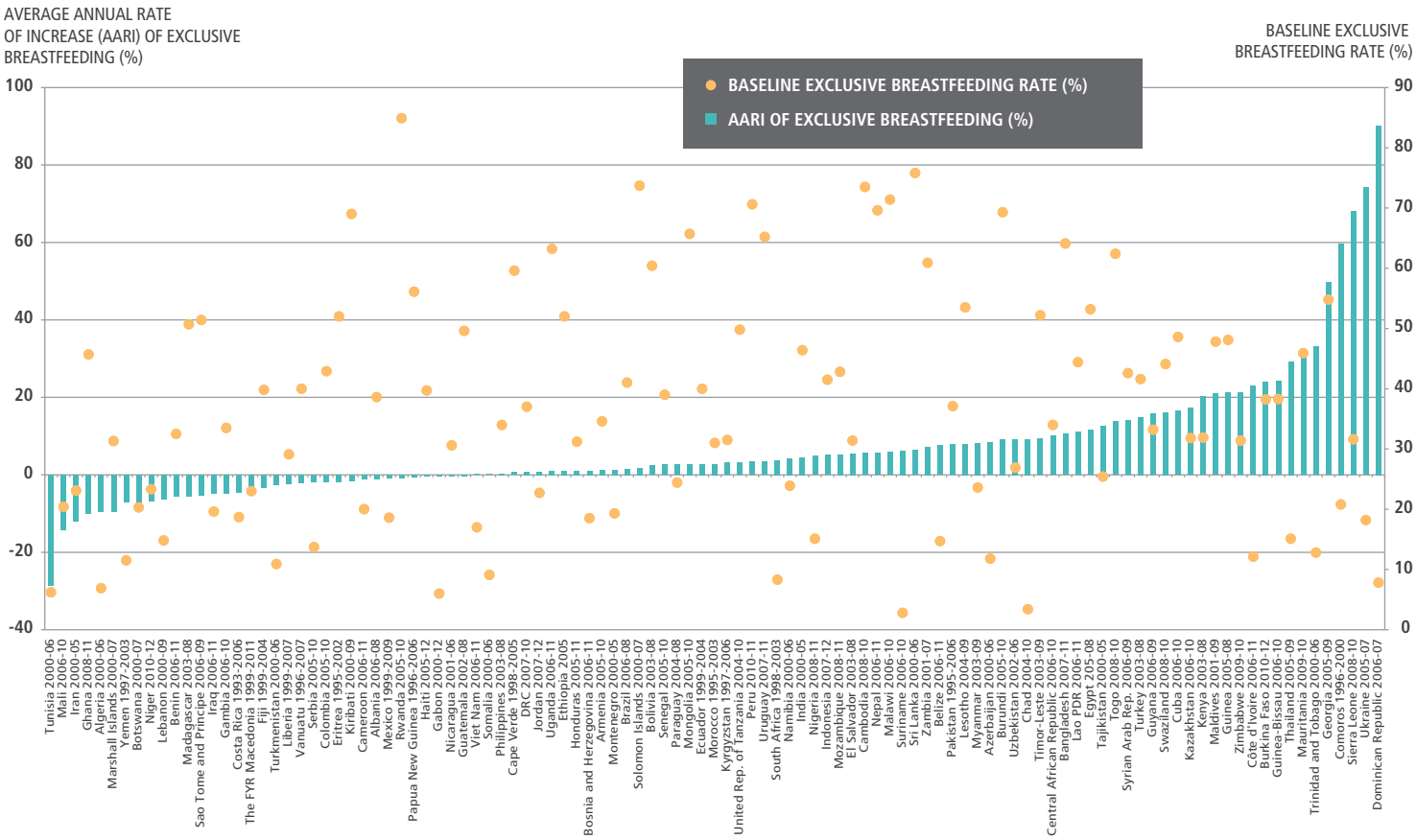
FIGURE 5.1 AVERAGE SHARE OF WOMEN RECEIVING IRON–FOLIC ACID SUPPLEMENTS FOR AT LEAST 90 DAYS DURING PREGNANCY (%)



Source: Most recent Demographic and Health Surveys between 2003 and 2013.

Note: Data are population-weighted averages.

FIGURE 5.2 BASELINE BREASTFEEDING RATES AND ANNUAL INCREASE IN BREASTFEEDING, LAST TWO SURVEYS



Source: UNICEF (2014e), based on Multiple Indicator Cluster Surveys (MICS), Demographic and Health Surveys (DHS), and other nationally representative surveys.

Note: Baseline rates are data from 2005–2012. Average annual rates of increase are for the period between the two years specified for each country in the horizontal axis.

Complementary feeding

Comparable national data on complementary feeding programs do not exist, but national surveys increasingly collect information that permits an internationally comparable assessment of the diets of children 6 to 23 months old. Data from Demographic and Health Surveys between 2010 and 2013 are collated and summarized in Table 5.3 and plotted in Figures 5.3 and 5.4.

The median share of young children with a minimum acceptable diet (MAD) or minimum dietary diversity (MDD) is low in the 27 countries for which data are available[3]—15 percent for MAD and 27 percent for MDD. Still, the wide variation between countries suggests great potential for cross-country learning. As might be expected, improved rates of MAD are associated with lower wasting rates, and improved minimum dietary diversity scores are associated with lower stunting rates (Figures 5.3 and 5.4).[4]

Vitamin A supplementation

Figure 5.5 reports on the percentage of children between 6 and 59 months of age receiving two high doses of vitamin A supplementation in various subregions. Melanesia has the lowest coverage, and Central Asia the highest. There is considerable variation within subregions in Africa, with rates increasing from east to west.[5]

Zinc treatment of diarrhea

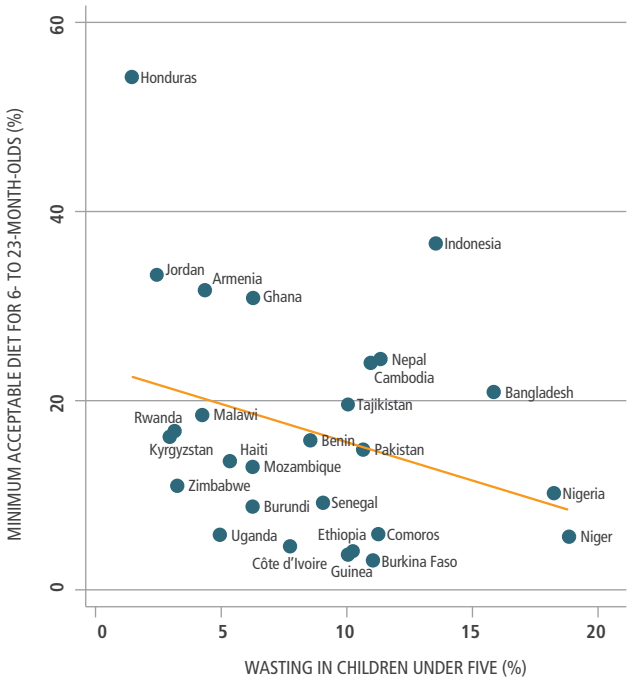
Zinc, when administered with oral rehydration solution (ORS), can reduce the severity and duration of diarrhea (Lamberti et al. 2013; Bhutta et al. 2013a). Figure 5.6 shows available data for 58 countries from DHS and MICS on zinc treatment for children under five with diarrhea in the two weeks preceding the survey. The percentage of zinc use varies from 29 percent of children receiving zinc supplements as treatment in Bangladesh to 0 percent in Tunisia. Mean coverage in this group of countries is 2.5 percent, and in most countries coverage is less than 5.0 percent.

TABLE 5.3 SUMMARY OF INFANT AND YOUNG CHILD DIETS

	% of young children, 6–23 months, with:	
Indicator	**Minimum acceptable diet (MAD)**	**Minimum dietary diversity (MDD)**
Median	15.0	27.0
Minimum	3.1	4.8
Maximum	54.2	67.7
Number of countries for which data are available	27	27

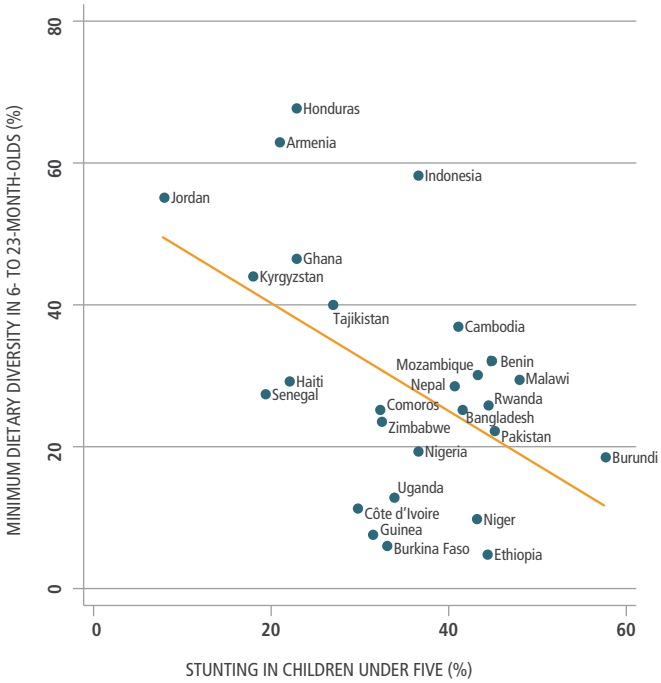
Source: MDD and MAD estimates from Demographic and Health Surveys between 2010 and 2013.

FIGURE 5.3 RATES OF MINIMUM ACCEPTABLE DIET AND WASTING RATES



Source: Data on minimum acceptable diet are from Demographic and Health Surveys between 2010 and 2013. Data on wasting are from UNICEF, WHO, and World Bank (2014). The orange line is the line of best fit.

FIGURE 5.4 RATES OF MINIMUM DIETARY DIVERSITY AND STUNTING RATES



Source: Data on minimum dietary diversity are from Demographic and Health Surveys between 2010 and 2013. Data on stunting are from UNICEF, WHO, and World Bank (2014). The orange line is the line of best fit.

Even though UNICEF/WHO recommended incorporating zinc treatment into routine programs in 2004, this practice remains limited.

Universal salt iodization

It is difficult to assess trends in coverage of universal salt iodization because of changes in how iodization is measured and changes in thresholds.[6]

The most current data from UNICEF (Figure 5.7) show that rates still have further to go to reach 100 percent in Africa and Southern Asia.

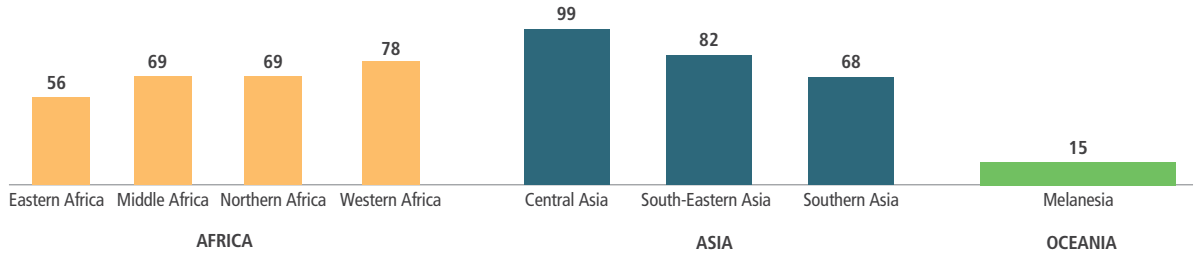
Interventions: Identifying weak links

Here we focus on the five nutrition-specific interventions and practices where data exist for more than 50 countries:

1. early initiation of breastfeeding (within one hour after birth),
2. exclusive breastfeeding of infants under six months old,
3. continued breastfeeding up to 12 months,
4. vitamin A supplementation of preschool-age children, and
5. iron–folic acid supplementation of pregnant women for more than 90 days.

Only 37 countries have data on all five programs or practices; 156 countries lack data on one or more of them. Sixty-nine countries do not have data on any of them.[7] Table 5.4 shows the number of countries that have weak coverage—that is, less than 50 percent—for these five interventions and practices.[8]

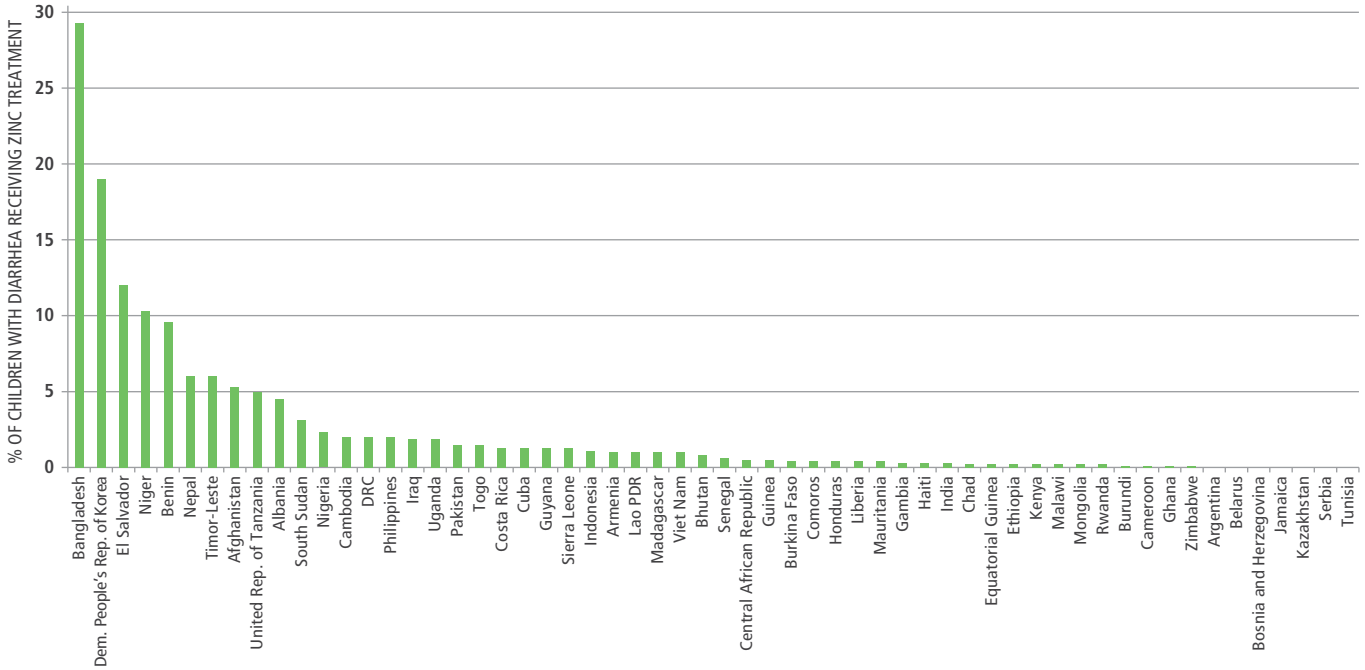
FIGURE 5.5 AVERAGE COVERAGE OF VITAMIN A SUPPLEMENTATION (%)



Source: UNICEF (2014c), based on administrative reports from countries for the 2012 calendar year.

Note: Data are population-weighted averages.

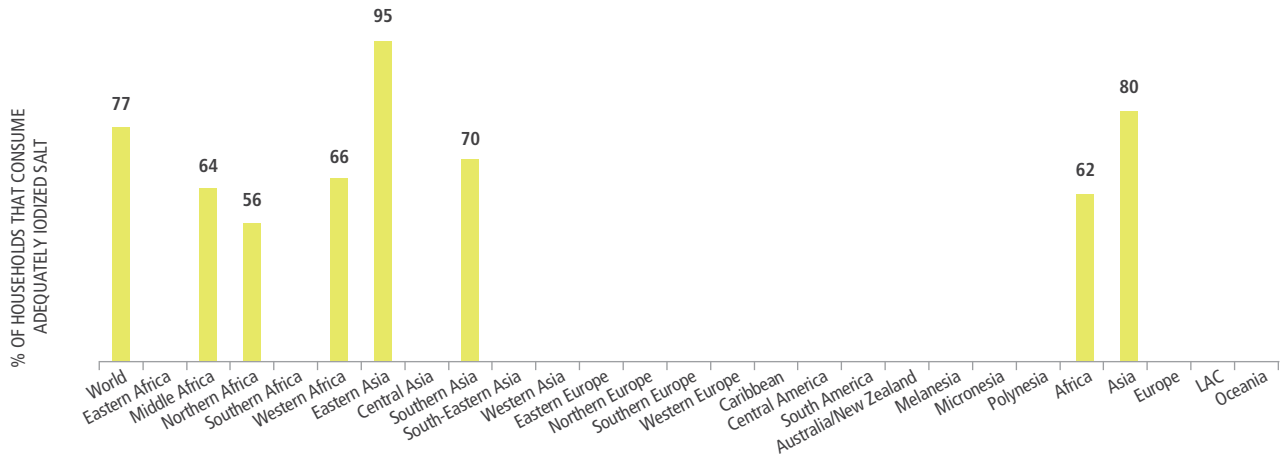
FIGURE 5.6 COVERAGE OF ZINC TREATMENT FOR DIARRHEA



Source: Carvajal (2014).

Note: Data are for children who had diarrhea in the two weeks preceding the survey. Data for Bangladesh refer to zinc syrup; the value for zinc tablets in Bangladesh is 19.8 percent.

FIGURE 5.7 COVERAGE OF SALT IODIZATION



Source: UNICEF (2014a), August 2014 update.

Note: The blanks denote the UN subregions for which insufficient population coverage exists to calculate an aggregate (50 percent of the population of the subregion or region needs to be covered by the national data). Data are from 2008–2012. LAC = Latin America and the Caribbean.

TABLE 5.4 COUNTRIES WITH WEAK COVERAGE OF FIVE NUTRITION-SPECIFIC INTERVENTIONS

Weak coverage for:	Number of countries	Total population (millions)	Countries
0 interventions	1	15	Cambodia
1 intervention	4	102	Madagascar, Malawi, Nepal, Uganda
2 interventions	15	433	Benin, Bolivia, Burkina Faso, Cameroon, Egypt, Ethiopia, Honduras, Kenya, Mali, Nicaragua, Philippines, Rwanda, Sao Tome and Principe, Tajikistan, Zimbabwe
3 interventions	13	1,869	Côte d'Ivoire, Dem. Rep. of the Congo, Guinea, Haiti, India, Indonesia, Mozambique, Namibia, Niger, Pakistan, Sierra Leone, Swaziland, United Republic of Tanzania
4 interventions	4	49	Azerbaijan, Chad, Gabon, Ghana
5 interventions	0	0	
Total	37	2,468	
Countries without data on all 5 interventions	156	4,568	

Source: Indicator data are from UNICEF (2014c, 2014e); Demographic and Health Surveys STATcompiler (2014), most recent between 2003 and 2013. Population data are from United Nations (2013b).

Note: The five interventions are (1) early initiation of breastfeeding, (2) exclusive breastfeeding of infants under six months old, (3) continued breastfeeding up to 12 months, (4) vitamin A supplementation of preschool-age children, and (5) iron–folic acid supplementation of pregnant women for more than 90 days. Countries are classified as having weak coverage if coverage is less than 50 percent.

TABLE 5.5 NUTRITION-SPECIFIC INTERVENTIONS WITH THE LOWEST COVERAGE RATES FOR 37 COUNTRIES

Weakest coverage (lowest absolute score among all five indicators)	Number of countries	Total population (millions)	Countries
Early initiation of breastfeeding	3	286	Guinea, Indonesia, Nepal
Exclusive breastfeeding of infants under 6 months old	6	85	Burkina Faso, Cameroon, Côte d'Ivoire, Honduras, Niger, Namibia
Continued breastfeeding at 12 months	0	0	
Vitamin A supplementation	7	72	Chad, Gabon, Ghana, Mozambique, Nicaragua, Sao Tome and Principe, Swaziland
Iron–folic acid supplementation	21	2,025	Azerbaijan, Benin, Bolivia, Cambodia, Dem. Rep. of the Congo, Egypt, Ethiopia, Haiti, India, Kenya, Madagascar, Malawi, Mali, Pakistan, Philippines, Rwanda, Sierra Leone, Tajikistan, Uganda, United Republic of Tanzania, Zimbabwe
Total	37	2,468	

Source: Indicator data are from UNICEF (2014c, 2014e); Demographic and Health Surveys STATcompiler (2014), most recent between 2003 and 2013. Population data are from United Nations (2013b).

Only one country, Cambodia, has coverage greater than 50 percent for all five interventions. No countries are below 50 percent for all five interventions. Most countries have coverage greater than 50 percent in two or three areas.

Which intervention or practice are countries weakest on? Table 5.5 highlights the intervention for which each country has the lowest coverage rate. Most countries are weakest on iron–folic acid supplementation for 90 days or more, seven countries are weakest on vitamin A supplementation, and nine countries are weakest on breastfeeding practices. Analyses like these at the country level can help pinpoint priority areas for action.

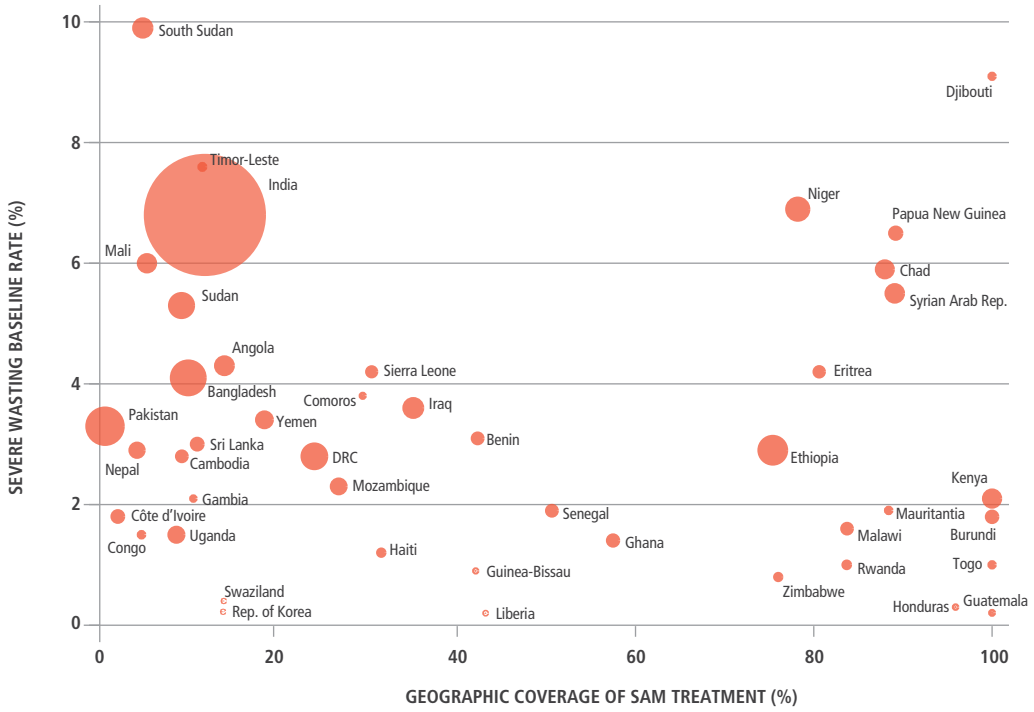
Acute malnutrition

The world has made little progress in reducing the global burden of moderate acute malnutrition (MAM) and severe acute malnutrition (SAM).[9] As Chapter 3 showed, for MAM and SAM combined, rates of child wasting[10] are static at the global level. Globally, severe wasting prevalence, one indicator of SAM, is estimated at just under 3 percent (equal to 17 million children under age five) (UNICEF, WHO, and World Bank 2014). Children with SAM have a risk of death nine times higher than that of children without SAM (WHO and UNICEF 2009). Currently 7.8 percent of deaths of children under age five are attributable to severe wasting (Black et al. 2013). Although MAM presents a lower mortality risk, it affects a larger absolute number of children, underscoring the importance of addressing MAM globally. If nutrition-specific interventions were scaled up to 90 percent coverage, they could reduce the prevalence of severe wasting by an estimated 61 percent (Bhutta et al. 2013a).

Once a child develops SAM, however, follow-up treatment often includes treatment for MAM to prevent relapse. Data on treatment coverage for MAM and SAM are limited. A 2013 review examined available data on SAM treatment coverage from three methods of coverage estimation: (1) indirect geographic coverage estimates (the percentage of the total number of health care facilities in a country that are delivering treatment for SAM), (2) indirect treatment coverage estimates (the percentage of total admissions as a share of the estimated SAM burden), and (3) direct subnational estimates of treatment coverage where admissions and burden can be directly observed (UNICEF, CMN, and ACF International 2013). This review of SAM treatment coverage made it clear that each method of estimation has its limitations. Further efforts are needed to develop viable systems that can assess coverage in real time and are tailored to individual countries to help them better manage SAM programming and scale-up of treatment. For this report, we use data on geographic coverage.

Figure 5.8 plots severe wasting against geographic coverage of SAM treatment programming. It is clear that some large countries with high levels of SAM, as measured by severe wasting, have low geographic coverage rates (such as India and

FIGURE 5.8 GEOGRAPHIC COVERAGE OF SAM TREATMENT BY UNDER-FIVE SEVERE WASTING RATES



Source: Data on wasting and SAM treatment are from UNICEF, WHO, and World Bank (2014; data from 2005–2013) and UNICEF, CMN, and ACF International (2013). Population data are from United Nations (2013b).

Note: Circle sizes are proportionate to the number of severely wasted children. SAM = severe acute malnutrition.

Bangladesh). This result could be due to a highly concentrated incidence of SAM in a few locations or to an inability to scale up SAM treatment. The graph is inconclusive but provides a starting point for an exploration of coverage issues.

The most recent data on coverage of SAM treatment housed by the Coverage Monitoring Network are presented in Table 5.6. These data are based on collated measurements of treatment coverage using well-established methodologies from a wide variety of countries. Median treatment coverage across sites within countries is approximately 30–50 percent. The challenge is to expand treatment coverage within the sites and then to reach other locations where SAM is prevalent. Panel 5.1 outlines some of the challenges to identifying existing coverage levels and proposes ways forward.

A final note on coverage

The focus on coverage of nutrition-specific and nutrition-sensitive programs is important. But if vulnerable populations do not have "effective coverage" (that is, if they are not engaging with effective nutrition programs), then their nutrition status will improve slowly, if at all. In other words, it is not merely coverage that needs to be scaled up, but the effective coverage and impact of programs. This means strengthening health, food, and water systems as well as focusing on the effectiveness of programs, on the design features that enhance impact, on the strategy and vision for scaling up, and on the capacities and resources needed for scaling up.

It should also be recognized that wasting (both MAM and SAM) and stunting can coexist in the same child, creating a need for a coordinated response. Such a response should occur not only during humanitarian crises, but also in non-emergency settings as part of a wider nutrition development agenda.

On expanding coverage, recent results from the latest Countdown to 2015 report (Countdown to 2015, 2014) suggest that, for the Countdown countries (where undernutrition is the primary malnutrition issue), the interventions that have the lowest coverage are the ones where coverage is improving the slowest.

To assess the potential impact of scaling up coverage of key nutrition interventions, Zulfiqar Bhutta and colleagues prepared an analysis for this report (for details, see Technical Note 2 at www.globalnutritionreport.org). They examined the impact on stunting and wasting in Bangladesh, Ethiopia, and Pakistan of scaling up coverage of key nutrition-specific programs, plus interventions related to optimizing birth intervals and improving water, sanitation, and hygiene. The results are similar to those

TABLE 5.6 CURRENT DIRECT ESTIMATES OF COVERAGE OF SAM TREATMENT

Country	Number of coverage estimates	Range of direct estimates of SAM program coverage (%)	Median of direct estimates of SAM program coverage (%)	Setting
Afghanistan	1	36		Urban
Angola	1	82		Rural
Burkina Faso	4	26–41	31	Rural
Cameroon	1	35		Urban
Chad	9	20–73	38	Rural
Dem. Rep. of the Congo	4	14–41	30	Rural
Ethiopia	2	79–89		Camp/rural
Haiti	1	45		Urban
Kenya	13	20–67	50	Rural/urban
Mali	1	25		Rural
Mauritania	1	35		Rural
Nepal	1	41		Rural
Niger	4	28–61	30	Rural
Nigeria	1	55		Rural
Pakistan	10	37–87	50	Rural/camp
Philippines	2	33–91		Rural
Rwanda	1	35		Rural
Senegal	2	12–17		Rural
Sierra Leone	1	62		Urban
Somalia	2	83–85		Camp
South Sudan	4	24–86	50	Rural/camp
Sudan	2	43–59		Camp

Source: Based on data compiled by the Coverage Monitoring Network (CMN), available from CMN upon request.

Note: SAM = severe acute malnutrition.

PANEL 5.1 MEASURING COVERAGE OF PROGRAMS TO TREAT SEVERE ACUTE MALNUTRITION

JOSE LUIS ALVAREZ

Our capacity to identify, rehabilitate, and cure children experiencing severe acute malnutrition (SAM) has improved dramatically in recent years, resulting in robust, cost-effective models of care (Bhutta et al. 2013a). These developments have not only led to consistently high cure rates, but greatly increased the number of SAM cases identified and receiving treatment. According to UNICEF, more than 2.6 million children with SAM worldwide were treated in 2012 (UNICEF 2012). Nevertheless, it remains difficult to measure the coverage, or proportion of cases that are receiving treatment. Joint estimates from UNICEF, Action Against Hunger, and the Coverage Monitoring Network suggest that less than 15 percent of the global SAM population is currently receiving treatment (UNICEF, CMN, and ACF International 2013). At the national level, only a handful of countries are able to report reliable, direct estimates of coverage. Why is this?

Part of the challenge is that measuring treatment coverage requires time and technical capacity. New tools (including the SQUEAC, SLEAC, and S3M methods) provide ways of monitoring program coverage practically, regularly, and easily (Myatt et al. 2012). These methods can provide not only direct coverage estimates, but also valuable insights into the spatial distribution of coverage and the barriers preventing potential beneficiaries from accessing services. This information has helped SAM treatment services adapt, improve, and provide national authorities with guidelines for scaling up treatment. But national-level time and technical capacity—to design, implement, and analyze coverage surveys—remain in short supply. Collaborative platforms like the international Coverage Monitoring Network[1] are helping to address these gaps.

Another difficulty is that coverage data are not currently collected as part of existing national, formal, and periodic surveys such as the Demographic and Health Survey (DHS) and the Multiple Indicator Cluster Survey (MICS). This is in part because the target population for coverage assessment, which consists of the people eligible for treatment, is different from the target populations for these periodic surveys. Instead, coverage data on SAM treatment are generated through more ad hoc stand-alone surveys that do not link up with standardized DHS/MICS surveys and rarely have national coverage. The resulting data are difficult to compare across countries. The new methods for measuring coverage are less resource intensive than their predecessors, can be more easily implemented frequently, and can be better integrated into more regular data collection processes, including periodic surveys.

Successfully integrating coverage into these systems will take time, but plenty can be done now to start bridging and linking these data sets. UNICEF, Action Against Hunger, Food and Nutrition Technical Assistance (FANTA), and the Coverage Monitoring Network are working together to develop ways of using existing administrative data (admissions and exits, stock accounts, and screening) to identify determinants of coverage and bottlenecks affecting coverage. It will also be important to explore options for including coverage questions in periodic surveys such as DHS and MICS. Such approaches will not replace coverage surveys altogether, but they would enable nutrition services to better use existing information to generate strategies for improving access to and coverage of SAM treatment services.

in Bhutta et al. (2013a). By scaling up the 12 interventions, the model estimates reductions in the prevalence of stunting of 17 percent, 21 percent, and 18 percent from 2013 to 2025 in Bangladesh, Ethiopia, and Pakistan, respectively. Predicted reductions in the prevalence of severe wasting are estimated at 65 percent, 62 percent, and 58 percent in Bangladesh, Ethiopia, and Pakistan, respectively. The impacts on severe wasting are particularly noteworthy, whereas the estimated declines in stunting are modest and signal the need to increase both the coverage and quality of these interventions. Implementation research has the potential to play a particularly important role here (Menon et al. 2014).

DATA GAPS

1. **The collection of intervention coverage data—in general—needs to be scaled up as interventions themselves are scaled up.**
2. **Data on folic-acid supplementation during the periconceptual period are lacking.**
3. **Recent efforts to collect data on coverage of MAD, MDD, and zinc treatment for diarrhea need to be sustained.**
4. **Further methodological work is required to develop viable real-time methods for generating information on SAM and MAM treatment programming and coverage.**

6 INTERVENTIONS ADDRESSING THE UNDERLYING DETERMINANTS OF NUTRITION STATUS ARE IMPORTANT, BUT THEY NEED TO BE MORE NUTRITION SENSITIVE

SIGNIFICANT AND SUSTAINED IMPROVEMENTS IN NUTRITION COME FROM COMBINATIONS OF NUTRITION-SPECIFIC AND NUTRITION-SENSITIVE ACTIONS AND ACTIONS that operate at the level of underlying determinants. This chapter focuses on nutrition-sensitive programs and on underlying drivers of improved nutrition status. These include food supply; water, sanitation, and hygiene; female secondary school enrollment; and availability of health care. The discussion here focuses heavily on undernutrition, and we aim to increase discussion of overweight and obesity in the 2015 *Global Nutrition Report*.[1]

First, this chapter describes trends in undernourishment and "overacquisition." We also report on access to improved water and sanitation facilities given the renewed profile of these areas (for example, Spears et al. 2013).[2] Second, we attempt to highlight vulnerabilities in underlying determinants of nutrition status for different countries. Third, we review expenditure trends in sectors related to these underlying drivers. Finally, we summarize current thinking on how to make investments in the underlying drivers of nutrition more nutrition sensitive.

KEY POINTS

1. Investments in nutrition-sensitive programs and underlying determinants of malnutrition should be part of a portfolio of actions to improve nutrition status in a sustained manner.
2. With regard to food supply, as undernourishment declines, overacquisition of calories is rising. This means that the share of the population that has a healthy food supply—neither undernourished nor experiencing overacquisition—remains constant instead of increasing.
3. Access to improved water and sanitation services is steadily improving, but there are large coverage gaps in Eastern, Western, and Middle Africa for water and in Southern and South-Eastern Asia for sanitation. Girls' secondary education enrollment is increasing steadily, exceeding 50 percent in Africa. Health worker population density remains very low in Africa and is half the rate of Asia.
4. Fifty-nine of the 100 countries that have data are relatively vulnerable (below the 25th percentile for all countries with data) on at least one of the underlying determinants. Thirty-five are relatively vulnerable on three to five of these underlying determinants. Here there is a particular need to get the balance of investment right among nutrition-specific actions, nutrition-sensitive actions, and actions addressing more general underlying determinants.
5. Different countries have different vulnerabilities. Each underlying determinant is most important for a different set of countries.
6. Government expenditures on broad categories that can support improvements in nutrition status—agriculture, education, health, and social protection—vary between regions and within regions. Social protection spending is increasing rapidly in many African and Asian countries, providing an opportunity to incorporate nutrition into those programs.
7. The evidence base is getting stronger but is still weak on how to make interventions that address underlying determinants more nutrition sensitive. Drawing on the current evidence base, the report offers some ideas for agriculture, social protection, education, health, and water, sanitation, and hygiene.

TRENDS IN SELECTED UNDERLYING DETERMINANTS

Food supply

The UN's standard indicator of food insecurity is the FAO's measure of "undernourishment." FAO calculates the prevalence of undernourishment by combining data on food supply with a number of assumptions to estimate the proportion of a population that falls below a minimum dietary energy requirement. *The State of Food Insecurity in the World 2014* (FAO 2014b) reports a headline global number of 805 million undernourished. Nearly all regions have shown progress in reducing the share of undernourished people since 1990–1992, but at very different rates (Figure 6.1). In Africa, however, in contrast to other regions, the number of undernourished is rising because of increasing population (FAO 2014b).

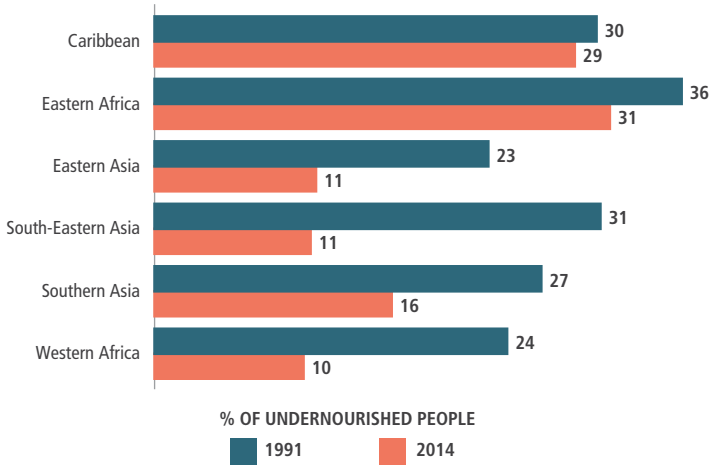
In addition to measuring undernourishment, FAO recently developed an estimate of "overacquisition": the proportion of a population lying above a maximum dietary energy requirement.[3] (FAO does not call the indicator "overnourishment" because one cannot assume that there is no food waste at the upper end of the calorie distribution.)

Figure 6.2 shows both undernourishment and overacquisition for UN regions and defines the residual population within each region as consistent with a healthy food supply—neither undernourished nor overacquiring. In all regions, the share of the undernourished population is declining while the share of the overacquiring population is increasing in an offsetting way, leaving constant the share of population with a healthy food supply.

Despite declines in undernourishment, the food supply does not seem to be getting healthier, at least in terms of calories. Researchers need to do more work to determine the usefulness of the overacquisition indicator, but these initial results, if valid, are worrying.

It is not possible to construct these graphs for Northern America and Europe because FAO does not publish undernourishment estimates for these regions. However, comparing estimates of overacquisition for Australia, the United Kingdom, and the United States with those for selected countries in Africa, Asia, and South America

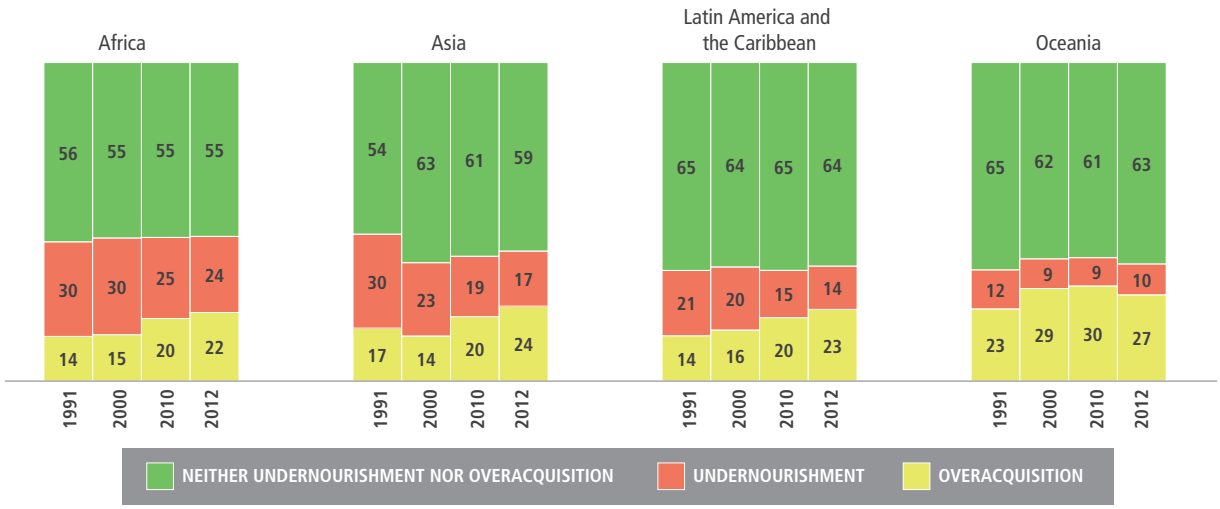
FIGURE 6.1 UNDERNOURISHMENT TRENDS BY SUBREGION



Source: Authors, based on data from FAO (2014a).

Note: FAO data were recalculated using UN regional classifications, when data were available for ≥50 percent of the population in the subregion. The corresponding figures for 1991 and 2014 using FAO regional classification and names are Caribbean: 27% and 20%; Sub-Saharan Africa: 33% and 24%; Eastern Asia: 23% and 11%; South-Eastern Asia: 31% and 10%; Southern Asia: 24% and 16%.

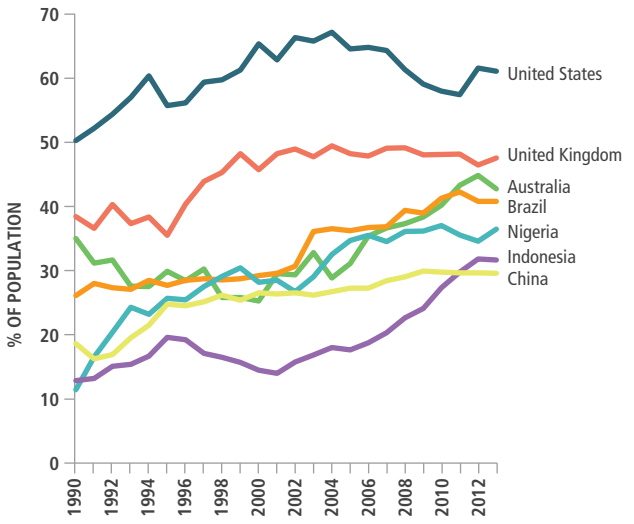
FIGURE 6.2 UNDERNOURISHMENT AND OVERACQUISITION TRENDS BY REGION



Source: Undernourishment data are from FAO (2014a). Overacquisition data are unpublished data from FAO. See Technical Note 3 at www.globalnutritionreport.org for details.

Note: Overacquisition data are for 1991, 2000, 2010, and 2013. Overacquisition is defined as the percentage of a population acquiring calories above a level consistent with the 95th percentile of body mass index in a healthy population and a physical activity level coefficient of 2.10.

FIGURE 6.3 TRENDS IN CALORIE OVERACQUISITION IN SELECTED COUNTRIES



Source: Unpublished data from FAO. For details on methodology, see Technical Note 3 at www.globalnutritionreport.org.

Note: Overacquisition is defined as the percentage of a population acquiring calories above a level consistent with the 95th percentile of body mass index in a healthy population and a physical activity level coefficient of 2.10.

shows that the higher-income countries have higher rates of overacquisition, but all countries are converging somewhat (Figure 6.3).

The numbers in Figures 6.2 and 6.3 may help highlight broad trends, but they are crude proxies for the quality of diet. National surveys are needed to properly assess dietary diversity and quality. Panel 6.1 documents and assesses recent trends in dietary quality among adults in the United States and shows that policy, combined with scientific evidence, consumer awareness, and food-company actions, can make a difference.

Water, sanitation, and hygiene

People need access to improved water and sanitation facilities to reduce the risk of infection that can compromise nutrient absorption.[4] In Africa and Asia—the regions where access to improved water and sanitation have been the poorest—people's access to these improvements is steadily increasing in all subregions (Figure 6.4). Still, in Eastern, Middle, and Western Africa, more than 30 percent of the population has no access to improved water.[5]

For sanitation, there is much more work to do. Improved facility coverage is less than 33 percent in Eastern, Western, and

FIGURE 6.4 TRENDS IN ACCESS TO IMPROVED WATER AND SANITATION IN SUBREGIONS OF AFRICA AND ASIA

Source: WHO and UNICEF (2014).

Note: Data are population-weighted regional averages.

PANEL 6.1 TRENDS IN DIETARY QUALITY AMONG ADULTS IN THE UNITED STATES

DANIEL WANG AND WALTER WILLETT

Evidence on trends in dietary quality provides essential feedback and guidance for public policy. To investigate trends in US dietary quality over time and within socioeconomic subgroups, we used a nationally representative population of 29,124 adults aged 20–85 years from the US 1999–2010 National Health and Nutrition Examination Surveys (Wang et al. 2014). We measured dietary quality by the Alternate Healthy Eating Index 2010 (AHEI-2010), an 11-dimension score based on a combination of food and nutrient variables that have established relationships with important health outcomes.

Over the 12 years, the mean AHEI-2010 increased from 39.9 to 46.8, suggesting a steady improvement in dietary quality. This improvement reflected favorable changes in both consumers' food choices and food processing motivated by public policy and nutrition education. Reduction of trans fat, from 4.6 grams per person per day in the late 1990s to 1.3 grams per person per day by 2010, accounted for more than half of the improvement in dietary quality.

Public policy efforts were largely responsible for this reduction in trans fat consumption. Because of strong scientific evidence of adverse effects, since 2006 the US Food and Drug Administration (FDA) has required that trans fat be included in nutrition labels. Many states and cities have taken legislative and regulatory actions to limit trans fat use in restaurants and other locations. Most manufacturers have reformulated products to reduce trans fat. More recently, the FDA proposed an action to eliminate trans fat from the food supply. Significant improvements were also found for other components of AHEI-2010, including whole fruit, whole grains, sugar-sweetened beverages, nuts and legumes, and polyunsaturated fatty acids, whereas sodium intake increased significantly over time. Although modestly improved, overall dietary quality remains far from optimal, and huge room exists for further improvements, but only a small further gain can be made by reducing intake of trans fats.

Dietary quality in the high socioeconomic group was consistently higher than in the lower socioeconomic groups, and that gap widened from 3.9 points in 1999–2000 to 7.8 points in 2009–2010. Higher prices for healthy foods and limited access to them may help explain this gap. Among ethnic groups, Mexican Americans had a higher AHEI-2010 than non-Hispanic white and black groups, possibly owing to their dietary traditions and culture. Non-Hispanic blacks had the lowest AHEI-2010 scores largely because of differences in income and education.

Our findings highlight the need for public health researchers and policymakers to generate further scientific evidence to inform dietary guidelines and to design strategies for addressing the socioeconomic disparities in dietary quality. Some lessons can be learned from the process of trans fat elimination, which resulted from a combination of evolving scientific evidence, increasing consumer consciousness of the harmful effects of trans fat, regulatory actions, and reformulation of foods by manufacturers. The trans fat experience also shows that collective actions, such as legislation and taxation, that create an environment that supports individuals' healthy choices are more effective and efficient than actions that depend solely on consumers' individual personal responsibility. Populations with low socioeconomic status are likely to benefit most from these kinds of collective actions.

Middle Africa and 42 percent in Southern Asia. Rates of open defecation, thought to be a particularly important factor in nutrition status (Spears et al. 2013 as reported on by Bhutta et al. 2013a), are above 10 percent in Eastern, Middle, Northern, and Western Africa and in South-Eastern Asia. The rate of open defecation is extremely high in Southern Asia at 38 percent, although it is falling rapidly.

Female secondary education enrollment

Girls' education is important for nutrition because it tends to delay girls' first pregnancy and is an important part of empowering girls in general. All regions are making progress in enrolling girls in secondary school, converging on a rate just above 100,[6] although the rate is still at only about 50 percent in Africa (Figure 6.5).

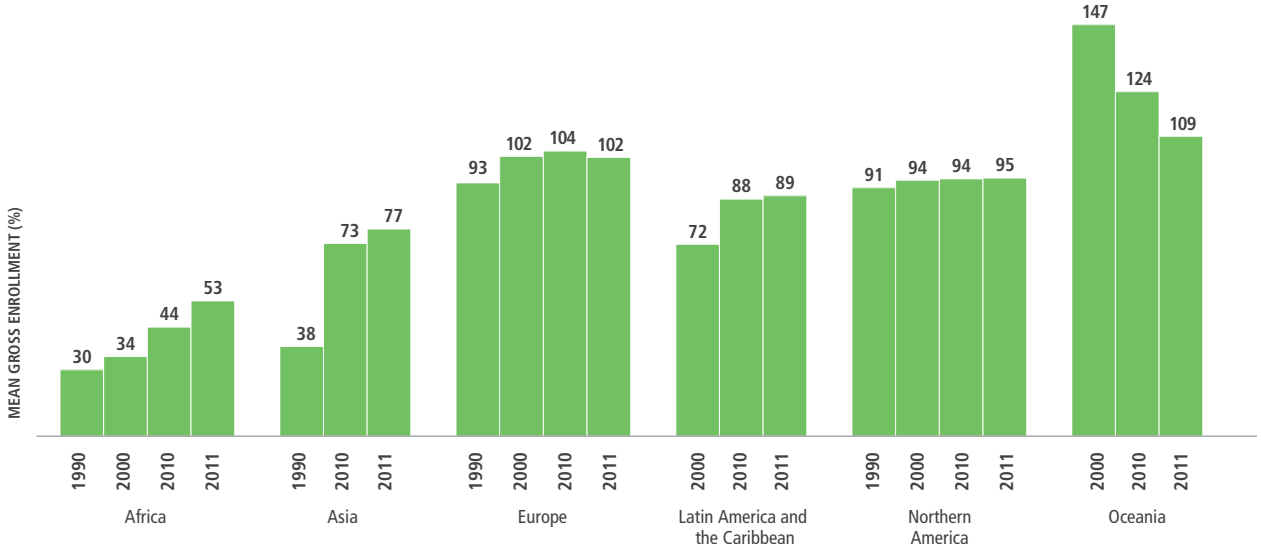
Population density of health workers

Access to knowledgeable health workers is important for many nutrition-specific interventions. Figure 6.6 shows the number of health workers per 1,000 people by region. Europe has the most physicians (3.5) and Africa the fewest (0.5). Northern America has the most nurses and midwives (9.8) and Africa the fewest (1.3). Although Asia has twice as many community health workers as Africa per 1,000 people (not shown in graph), the numbers are very low in both regions (0.7 versus 1.4). No trend data are available. Moreover, these data say nothing about the distribution of health workers; the ratios are likely to be much lower in more remote, rural areas. Clearly, efforts to scale up nutrition programs in the health sector will be hampered by low numbers of health workers, particularly in Africa.

WHERE ARE COUNTRIES MOST VULNERABLE TO LOW LEVELS OF UNDERLYING DETERMINANTS?

How many countries are relatively vulnerable to low levels of more than one of these underlying drivers, and which ones are they most vulnerable to? These are important questions to address because they have the potential to contribute to accelerating improvements in nutrition (as Panel 6.2 shows for Bangladesh).

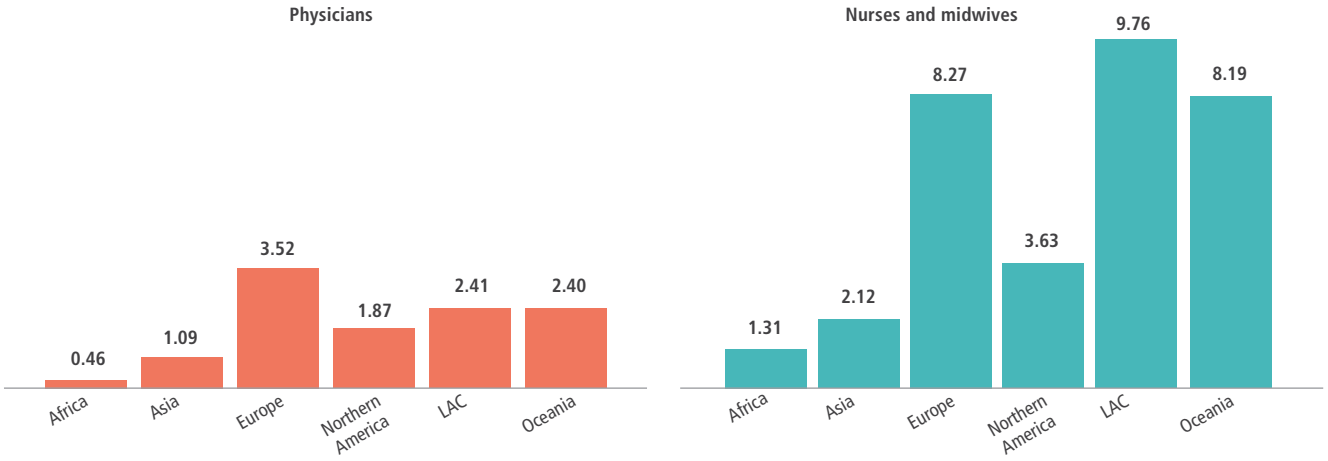
FIGURE 6.5 TRENDS IN FEMALE SECONDARY EDUCATION ENROLLMENT



Source: UNESCO Institute for Statistics (2014).

Note: Data show female enrollment in secondary education, regardless of age, expressed as a percentage of the female population of official secondary education age. The ratio can exceed 100 percent because of the inclusion of overaged and underaged students and because of early or late school entrance and grade repetition. The most recent data are from between 2011 and 2013. Data are population-weighted averages.

FIGURE 6.6 HEALTH WORKER DENSITY PER 1,000 PEOPLE



Source: WHO (2014k).

Note: Data are from 1992 to 2013 and are population-weighted regional averages. LAC = Latin America and the Caribbean.

TABLE 6.1 NUMBER OF COUNTRIES THAT ARE VULNERABLE ON UNDERLYING DETERMINANTS FOR UNDERNUTRITION

Relatively vulnerable on:	Number of countries	Large countries in each group	Total population (millions)
0 underlying indicators	43	China, Iran, Philippines	2,005
1 underlying indicator	14	India, Indonesia, Pakistan	1,858
2 underlying indicators	8	Ghana, Iraq, Nepal	100
3 underlying indicators	8	Angola, Burkina Faso, Nigeria	253
4 underlying indicators	14	Cameroon, Kenya, Yemen	183
5 underlying indicators	13	Ethiopia, Uganda, United Republic of Tanzania	276
Total	100		
Number of countries with missing data	93		

Source: Data on undernourishment: FAO (2014a); water and sanitation: WHO and UNICEF (2014); school enrollment: UNESCO Institute for Statistics (2014); health workers: WHO (2014k). Population data are from United Nations (2013b).

Note: The five underlying determinants for undernutrition analyzed in this table are (1) undernourishment, (2) improved drinking water coverage, (3) improved sanitation coverage, (4) female secondary education enrollment, and (5) population density of physicians. Countries are classified as relatively vulnerable if they fall below the 25th percentile for the drinking water, sanitation, female secondary education enrollment, and physician density indicators and above the 75th percentile for the undernourishment indicator.

PANEL 6.2 HOW DID BANGLADESH REDUCE STUNTING SO RAPIDLY?

DEREK HEADEY

Between 1997 and 2011 the percentage of stunting in Bangladeshi children under age five dropped from 59 to 40 percent, nearly 1.4 percentage points a year. This represents an average annual rate of reduction of 2.7 percent (it would take a rate of 3.3 percent for Bangladesh to meet the WHA target for stunting). Among infants 0–6 months old, the decline in stunting was even faster: 28 to 16 percent. In fact, Bangladesh's decrease in stunting among children under age five was almost twice as fast as India's over a similar time period.[1] What drove this sustained decline?

A recent analysis uses repeated rounds of the Bangladesh Demographic and Health Surveys (DHSs from 1997, 2000, 2004, 2007, and 2011) to explain about 55 percent of the changes in child stunting rates (Headey et al. 2014). The analysis shows that the drivers of stunting declines are multidimensional: improvements in household assets, parental education, sanitation coverage, health care use, and demographic factors all make important contributions.

Increases in household assets are associated with nearly a quarter of the explained changes in children's stunting. Increases in mothers' and fathers' education are responsible for another quarter. So changes in basic and underlying determinants are important. But so too are more immediate determinants, such as declines in open defecation rates (which contribute 12 percent) and nutrition-related interventions in the health sector such as prenatal care and birth in a medical facility (which together account for 18 percent of the decline). Finally, declines in fertility are important but often overlooked drivers (longer birth interval and lower birth order together account for 12 percent).

The Bangladesh experience shows that low-income countries can rapidly reduce stunting—at a pace approaching that required to meet the WHA 2025 target—through a multidimensional approach. All sectors, levels, and actors need to pull together. The Bangladesh experience also shows the value of regular data collection. Large-scale, multi-topic, population-based surveys such as the DHS every three to four years enable analyses that can help people hold governments to account, identify the key drivers of undernutrition reduction, and shape future investments to sustain and accelerate the pace of stunting reduction.

To explore countries' vulnerabilities on underlying determinants, we classified countries on each of the following: prevalence of undernourishment, access to improved drinking water, access to improved sanitation, female secondary education enrollment, and the population density rates of physicians. Countries were classified as vulnerable if they fell below the 25th percentile across all 100 countries with data on all five variables, a relatively low threshold. This means that the vulnerabilities are relative, not absolute.

We found that 43 countries were not vulnerable on any of the five underlying determinant indicators (Table 6.1). Thirteen countries were classified as vulnerable on all five indicators. This result indicates a real need to get the balance right, at the country level, between investments in nutrition-specific and nutrition-sensitive interventions and the general underlying drivers of undernutrition. Many countries are likely to need investments in all three areas to reduce undernutrition more rapidly.

For the 59 countries with at least one vulnerability, Table 6.2 suggests which underlying drivers are most important. For example, the analysis suggests that for India, sanitation is the indicator for which it has the lowest rank among the 100 countries, whereas for Nigeria it is improved drinking water coverage. This kind of analysis can help identify key constraints to improved nutrition status in each country.

TABLE 6.2 COUNTRIES THAT ARE MOST VULNERABLE BY EACH UNDERLYING DETERMINANT

Most relatively vulnerable (lowest country rank of the five indicators)	Number of countries	Total population (millions)	Largest three countries in each category
On undernourishment	13	83	Bolivia, Guatemala, Zimbabwe
On improved sanitation coverage	12	1,379	Ghana, India, Nepal
On improved drinking water coverage	9	317	Kenya, Mozambique, Nigeria
On female secondary education enrollment rates	12	539	Bangladesh, Ethiopia, Pakistan
On physician population density	13	383	Cameroon, Indonesia, United Rep. of Tanzania
Total	57 (59)[a]		

Source: Data on undernourishment: FAO (2014a); water and sanitation: WHO and UNICEF (2014); school enrollment: UNESCO Institute for Statistics (2014); health workers: WHO (2014k). Population data are from United Nations (2013b).

[a] Malawi has the lowest rank in both sanitation and physician density and is therefore counted twice. Burkina Faso has the lowest rank in both female secondary education enrollment rates and physician density and is therefore counted twice.

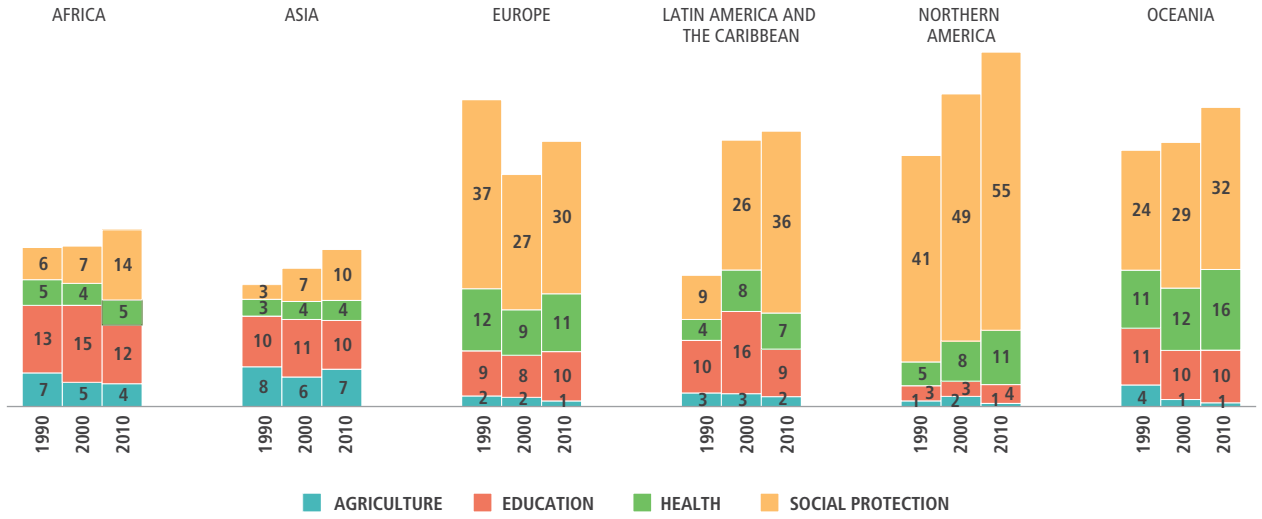
GOVERNMENT EXPENDITURES ON SECTORS RELATED TO NUTRITION

How much are countries spending on sectors that could potentially be made more nutrition sensitive? Figure 6.7 reports the share of total government expenditures on four broad categories related to nutrition (Ruel and Alderman 2013): agriculture, health, education, and social protection. (The database on which Figure 6.7 relies includes no data on water, sanitation, and hygiene.[7])

Governments' share of spending on these four categories as a set is increasing (Figure 6.7). Spending on social protection is increasing fastest in nearly all regions and especially in Africa and Asia. This situation presents opportunities for nutrition to embed itself in these spending flows. There may be particular opportunities to make social protection expenditures more gender-sensitive along the lines suggested by the evidence in Ruel and Alderman (2013).

Are these expenditure trends simply driven by differences between the regions or are there differences within regions? To explore, we compare some countries within Africa (Figure 6.8). These countries, of course, vary widely in many respects, but even when countries have similar levels of income—such as Kenya, Rwanda, and Uganda—differences emerge in how

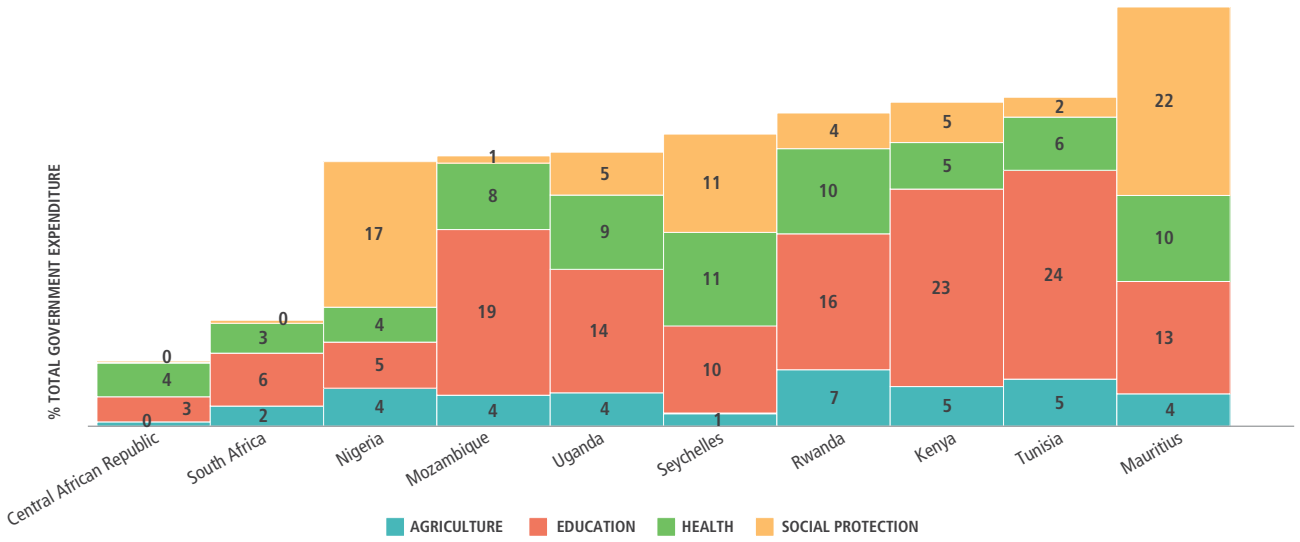
FIGURE 6.7 SHARE OF GOVERNMENT EXPENDITURES ON FOUR SECTORS RELATED TO NUTRITION (%)



Source: IFPRI (2014).

Note: Data are mean population-weighted percentages. The SPEED database uses standard and broad IMF definitions for the different sectors.

FIGURE 6.8 SHARE OF GOVERNMENT EXPENDITURES ON FOUR SECTORS RELATED TO NUTRITION IN SELECTED AFRICAN COUNTRIES (%), 2010



Source: IFPRI (2014).

PANEL 6.3 USING AN AGRICULTURAL PLATFORM IN BURKINA FASO TO IMPROVE NUTRITION DURING THE FIRST 1,000 DAYS

DEANNA KELLY OLNEY, ANDREW DILLON, ABDOULAYE PEDEHOMBGA, MARCELLIN OUÉDRAOGO, AND MARIE RUEL

Integrating nutrition programs with agricultural programs has great potential to improve nutrition outcomes, but weaknesses in program targeting, design, and implementation, as well as poor evaluation designs, have limited the evidence available on the actual impact of such programs.

One type of integrated nutrition-agriculture program is homestead food production (HFP). The standard HFP model includes gardening and small animal production and a behavior-change communication strategy designed around the so-called essential nutrition actions. It is typically targeted to vulnerable households with children under five years of age. In Burkina Faso an Enhanced Homestead Food Production (E-HFP) program was introduced by Helen Keller International (HKI) in 2010. Instead of targeting households with children under five, it targeted women with children 3–12 months of age to ensure that the program would directly benefit children within the "first 1,000 days" window of opportunity. The E-HFP also changed how the program was designed and implemented. Rather than just teaching mothers about nutrition, it modified the behavior-change communication strategy to promote adoption of key nutrition practices. It also empowered women by providing education on best agriculture and nutrition practices, transferring small agricultural assets and chickens to beneficiary women, and having village model farms led by beneficiary women (rather than male farmers living in the village).

To address the issue of poor evaluation designs, we designed a comprehensive evaluation approach. It included a longitudinal cluster-randomized controlled trial (the first of its kind for an agriculture and nutrition program other than biofortification) as well as two rounds of qualitative process evaluation. Compared with people living in the control villages, children who were program beneficiaries showed increased dietary diversity and reduced prevalence of wasting, anemia, and diarrhea. Women who were program beneficiaries had increased intake of nutrient-rich foods and reduced prevalence of thinness.

These positive changes were likely related to the positive impacts of the E-HFP program on intermediate outcomes observed along the primary program impact pathways. These intermediate outcomes included

- increases in women's ownership of productive assets, including agricultural assets and small animals,
- increased production of nutrient-rich foods by women,
- improvements in women's knowledge of key feeding and care practices for infants and young children,
- increased dietary diversity and consumption of nutrient-rich foods in households, and
- improvements in women's status indicators, such as their ability to make decisions about purchases.

This study is one of the first to employ rigorous evaluation to provide convincing evidence that using an agricultural platform can improve maternal and child nutrition (Olney et al. 2014). It shows that a well-designed, well-targeted, and well-implemented integrated agriculture and nutrition program, including a strong nutrition and health behavior-change communication strategy and women's empowerment activities, can have a significant and possibly long-lasting impact on the nutrition and health of mothers and children during the first 1,000 days.

they allocate spending. These allocations are driven not only by available resources, but by political choices.

HOW CAN PROGRAMS AND SPENDING ON UNDERLYING DETERMINANTS BE MADE MORE NUTRITION SENSITIVE?

As Ruel and Alderman noted (2013, 1), "Nutrition-sensitive interventions and programmes in agriculture, social safety nets, early child development, and education have enormous potential to enhance the scale and effectiveness of nutrition-specific interventions." The evidence base on which to achieve that potential is weak but growing stronger. Many organizations have put forward documents that propose good-practice guidelines to practitioners. Most of these proposed guidelines have been for agriculture, social protection, and health (see World Bank 2013 for an excellent summary), with none that we can find for education or water, sanitation, and hygiene.[8]

Table 6.3 summarizes the main guidelines for agriculture and social protection and health and makes some suggestions for water and sanitation and education.

The evidence base is still shaky but growing stronger. Panel 6.3 provides an excellent new example from Burkina Faso of an agricultural intervention designed to improve nutritional status. The intervention seems to be successful by targeting children during the first 1,000 days, focusing on changing specific nutrition behaviors, and deliberately aiming to empower women within agriculture.

TABLE 6.3 EXAMPLES OF WAYS TO MAKE SECTOR INVESTMENTS MORE NUTRITION SENSITIVE

Examples of:	Agriculture	Social protection	Water, sanitation & hygiene	Health systems	Education
Target groups	Producer families and women farmers	Women and girls Children during first 1,000 days	Children under two years of age and pregnant and lactating women	Children during first 1,000 days	Adolescent girls
Types of interventions	Behavior change related to specific nutrition practices Crop choices: factor in nutritional value of crops Breeding choices: factor in nutrient content (as in biofortification) Postharvest choices: factor in nutrition in storage, processing, and preservation Food safety practices: minimize contamination (such as by aflatoxins and E. coli)	Conditional cash transfers School meals and conditional take-home rations (girls' attendance at school) Food supplements: nutritional supplements (protein and energy), micronutrient powders, fortified foods	Prevention of feces ingestion Safe feces disposal Total sanitation programs to focus on minimizing open defecation Proper storage and handling of complementary foods Water treatment kits	As many nutrition-specific interventions as possible embedded within health systems Peer counseling and facility-based promotion for the uptake of exclusive breastfeeding Improved position of nutrition within health curricula and health professional training	Family planning School meals and take-home rations Separate toilets for girls in schools Instruction on childcare skills in schools
Delivery channels	Agricultural extension and rural advisory services Farmer field schools Distribution centers for technologies and inputs Microcredit and insurance mechanisms Market-based approaches	Food for work/cash/voucher (asset programs) Schools Health clinic services	Water, sanitation, and hygiene programs Agricultural extension for food safety Social and behavior-change communication community campaigns Community management of acute malnutrition programs	Community health workers Social and behavior-change communication community campaigns	Formal education (primary, secondary, and beyond) Literacy workshops Media campaigns Community-based education
Impacts to aim for	Improvements in dietary diversity and household diet quality	Improved dietary diversity and potentially nutrition status of children under two years old, women of reproductive age, pregnant and lactating women	Potentially, improved nutrition status of children under two years old	Potentially, improved nutrition status of pregnant women and children under two years old	Potentially, birth outcomes: reduction in small-for-gestational-age and preterm births
Considerations	Women's time and energy are scarce resources. Women's increased control may lead to recriminations against them.	Ensure safety nets do not negate nutritional objectives, such as by inadvertently promoting obesity.	Social norms need to be understood, respected, and taken into account.	Screen for early risk factors of obesity and noncommunicable diseases.	Adopt school-based interdisciplinary interventions to decrease overweight and obesity risk (including physical activity and healthy eating).
What all sectors can do to strengthen nutrition outcomes	Make the case to other sectors that they can further their own sectoral goals by using a nutrition lens; include nutrition goals, indicators, and targets. Work with partners to use the nutrition lens to develop specific nutrition-enhancing practices and actions within their interventions. Work in high-malnutrition areas; engage women in design and implementation; focus on key stages in life cycle; incorporate nutrition-specific interventions within broader platforms.				

Source: For agriculture: UNSCN (2013); World Vision International (2014); International Fund for Agricultural Development (2014); Kurz (2013); ACF International (2013); Ruel and Alderman (2013); Herforth et al. (2012). For social protection: Ruel and Alderman (2013); Alderman (2014); UNICEF (2014d). For water, sanitation, and hygiene: Dangour et al. (2013); Guerrant et al. (2008); Humphrey (2009); Spears et al. (2013). For health: Fanzo et al. (2014); Tappenden et al. (2013). For education: Fanzo et al. (2014); Alderman (2014); Gortmaker et al. (1999); Gonzalez-Suarez et al. (2009). For agriculture, social protection, and health: World Bank (2013).

DATA GAPS

1. **Data on food consumption and diet quality at the national and subnational levels are scarce.**
2. **Spending data on water, sanitation, and hygiene are needed and should be added to the Statistics of Public Expenditure for Economic Development (SPEED) database.**
3. **More evidence is needed on how to make programs and policies that address underlying drivers of malnutrition more nutrition sensitive.**
4. **More evidence is needed on how different classes of improved water and sanitation affect nutritional outcomes.**

7 THE ENABLING ENVIRONMENT IS IMPROVING, BUT NOT QUICKLY ENOUGH

ENABLING OR SUPPORTIVE ENVIRONMENTS FOR NUTRITION IMPROVEMENT HAVE A WIDE RANGE OF FEATURES AND RELATE TO BROAD ISSUES OF GOVERNANCE.[1] HERE, we focus on issues such as identifying and tracking financial resources to nutrition, where it is absolutely vital for measurement to improve. We also focus on factors that can increasingly be measured in a comparable way for a large number of countries, such as legislation, policy, and institutional transformation.

THE CHALLENGE OF TRACKING FINANCIAL RESOURCES TO NUTRITION

Although donors and a few countries are making progress in tracking financial resources to nutrition, this task has been a challenge for all nutrition actors. There are technical challenges (which components and line items to include or exclude), data collection challenges (how to routinize the data collection), coordination challenges (it can be politically tricky to achieve consensus on what is included and excluded), and planning issues (which time frame to report to).

KEY POINTS

1. Most countries are currently unable to identify and track their financial commitments to nutrition. Several tools exist to accomplish this, and investments will need to be made to build the organizational capacity to do so. Guatemala provides an inspiring case study.
2. Between 2010 and 2012 commitments and disbursements to nutrition-specific interventions from 13 donors increased by 39 percent and 30 percent respectively. Nutrition-sensitive commitments fell by 14 percent, but nutrition-sensitive disbursements by the 10 donors that reported data rose by 19 percent. Donor reporting on nutrition is becoming more harmonized but has further to go owing to definitional and timing differences.
3. No comment can be made on donors' Nutrition for Growth financial commitments because 2013–2014 data are not yet available. The share of official development assistance disbursed to nutrition in 2012 was just above 1 percent.
4. A nutrition spending target for governments and for official development assistance could help focus more attention on this issue. Such a target would need to be complemented by better tracking data on spending to ensure that the quality and quantity of spending are improved.
5. Policies, laws, and institutions are important for scaling up nutrition, and they can be measured. The Scaling Up Nutrition (SUN) process score approach is noteworthy for being a participatory measurement process that stimulates reflection and action.
6. Assessments of policies, laws, and institutions can point out actionable disconnects, such as the coexistence of weak policy environments on diabetes and populations with high rates of raised blood glucose levels.

PANEL 7.1 IS THERE A BETTER WAY TO TRACK NUTRITION SPENDING?

CLARA PICANYOL

The ability to track financial resource flows to nutrition actions is fundamental to improving accountability to citizens—yet it is difficult for countries, donors, UN organizations, and NGOs alike to achieve. A review of the state of financial resource tracking of 51 of the Scaling Up Nutrition (SUN) countries concluded that general information on national budget allocation was publicly accessible for only 32 of the 51 countries, and in 4 of the 32 the information was out of date or insufficiently detailed (Picanyol and Fracassi 2014). It also showed that different countries use different methods to track budget allocations and expenditures on health, including public expenditure reviews (PERs), national health accounts, the Clinton Health Access Initiative Resource Map tool, and public expenditure tracking surveys. These tools vary in their coverage, frequency of data collection, and the time and financial resources needed to use them (Picanyol 2014).

Tanzania, for instance, is finalizing a PER on nutrition. PERs, which have been widely used in other sectors in Tanzania, assess the level and composition of actual public expenditures over a period (usually three to five years) against a predetermined set of policy goals and outputs in the national plan and make recommendations. The PER process raised a number of challenges. The integrated nature of programs with nutrition components, combined with insufficiently disaggregated expenditures, meant that it was extremely difficult to isolate nutrition expenditures without the help of major assumptions. In addition, the government had difficulty retrieving expenditure information from donors and NGOs.

Madagascar developed a mechanism to track nutrition investments with the aim of estimating both existing and additional resources needed to finance the National Plan of Action for Nutrition (NPAN II). The National Office for Nutrition undertook a survey in line with the strategies, interventions, and activities in the NPAN II and sent it to all stakeholders. The main challenges included the ministries' limited knowledge of nutrition-related investments and some agencies' limited transparency or breakdown of budgets. Also, little information was collected from civil society organizations and the private sector.

Based on the review of published data from national budgets, it seems most feasible for countries to undertake a basic data-gathering exercise on nutrition-relevant budget allocations with the assistance of a spreadsheet template. The data can then be categorized into nutrition-specific and nutrition-sensitive categories using national or international definitions. Categorization and attribution will likely require consultations with nutrition stakeholders in country. Although this approach may have initial limitations in terms of accuracy, once all the relevant information is collected, countries may choose to refine their tracking system, improving accuracy over time. The data-gathering exercise should be transparent, all steps taken should be documented in detail, and specific data sources should be provided. Such an approach will allow for comparison over time within a country and can promote accountability.

Countries

Increasing domestic resources to nutrition represents the only sustainable way of improving nutrition status. While donor resources are vital, they cannot—and should not—fill the undernutrition resource gap on their own. For example, it would require approximately US$70 billion to scale up nutrition-specific interventions to 90 percent coverage over the seven-year Nutrition for Growth (N4G) commitment period, 2013–2020.[2] At the N4G Summit, donors committed an additional US$4 billion of funding. This is a considerable amount, but it is only 6 percent of what is required. More domestic resources need to be mobilized.

The first step in mobilizing additional resources is to assess current levels of domestic resource allocation. However, only a few countries have started tracking investments in nutrition—among them, Madagascar and Tanzania (Panel 7.1). Guatemala has probably done the most to establish a well-functioning system for monitoring its nutrition expenditures (Panel 7.2).[3] As Guatemala's experience shows, better tracking of resources depends on better planning and more realistic costing of nutrition investment options. It also depends on the creation of a supportive context where the capacity to track resources is built up and governance incentives are developed to better identify and track resources.

Donors

Bilateral and multilateral donors and foundations are vital drivers behind global and country-level commitments to nutrition because of their power to convene other actors, their knowledge assets, and their financial resources.

For 2014, the reporting aims of the *Global Nutrition Report* for donor funding are modest for several reasons. First, this report should not be considered a report on financial progress against the N4G commitments. At the earliest, the response to these seven-year commitments would only be implemented in financial years 2013–2014 or 2014–2015, and the reporting on these years will begin to emerge only in 2015. Therefore the 2014 *Global Nutrition Report* should be viewed as a baseline to the N4G period.

Second, the N4G signatories do not include all donors. Other donors, for example, include South Korea, Spain, and Switzerland; the emerging powers such as China, India, and the

PANEL 7.2 TRACKING FINANCIAL ALLOCATIONS TO NUTRITION: GUATEMALA'S EXPERIENCE

JESÚS BULUX, OTTO VELASQUEZ, CECIBEL JUÁREZ, CARLA GUILLÉN, AND FERNANDO ARRIOLA

Chronic malnutrition in Guatemala, which affects 49.8 percent of children under age five (Guatemala, Ministry of Health 2009), is one of the main factors limiting the country's economic and social development. Eliminating hunger is a key objective of the current government's Agenda for Change, and this goal takes concrete form in the Zero Hunger Pact Plan (PPH0). The PPH0 connects the interventions, programs, plans, and projects of various public institutions in the field of food and nutrition security, with a special emphasis on the capacities of local governments. To assess whether financial resources are being focused on high-priority actions, Guatemala has developed a well-functioning monitoring system.

Monitoring financial resources starts with planning. This requires financial resources to be linked to the goods or services provided. In 2014, the National Food Security and Nutrition Secretariat, together with the Ministry of Finance, developed a tool to enable ministers, secretaries, and managers to understand the connection between their budgets and the targets that their respective institutions are responsible for attaining. The relevant ministries are accountable to the National Food Security and Nutrition Council.

The Council has actively addressed matters of coordination and joint planning that were long treated passively. It holds special sessions with departments to verify compliance with the targets. Coordination between institutions has helped better define targets and clarified investments made at the local level. The Council's requirement of local-level verification has strengthened the participation of local organizations.

Several factors have contributed to the success of the tracking system:

- strong political commitment from all stakeholders, and especially the government, increasing the chances of continuity across election cycles;
- strong coordination within and between government institutions, the private sector, and development partners;
- an implementation plan clearly linking targets and budget allocations;
- continuous monitoring of implementation at national and local levels;
- creation of technical groups to support technical and financial management in key institutions;
- local (municipal) monitoring of progress toward goals; and
- measures to ensure greater openness in public spending, such as the site www.guatecompras.gt.

Guatemala now has (1) a food- and nutrition-security budget broken down by institution, program component, and activity; (2) clear responsibilities, with particular officials accountable for their respective targets and associated budgets; (3) a simple implementation tool that makes it possible to understand public spending at different levels;[1] and (4) good coordination between institutions (in 2013 the government worked with 11 institutions on financial monitoring and tracking).

Guatemala's establishment of a functioning monitoring system was designed to overcome the technical challenges of connecting different tracking systems, and it required a sustained period of investment, innovation, relationship building, and commitment. Technical problem solving was important, but so were focus, patience, and diplomacy.

Gulf States; and foundations such as the Wellcome Trust and the Tata Trusts. Future *Global Nutrition Reports* will cast the net wider to track these resources.

Third, all of the donors included in this report have vastly different project life cycles, documentation standards, nomenclature, and financial tracking and reporting systems. This complicates any attempt to directly compare donors. For example, one might expect the report to focus solely on disbursements, but for several donors, commitments are a more accurate indicator of organizational commitment to nutrition, representing new nutrition investments approved each year that will then be disbursed over the next five or more years.

Fourth, the protocol (developed and tested by the SUN Donor Partner Network) for estimating nutrition-sensitive investments was reported by several donors as onerous (especially for the largest donors doing the most nutrition-sensitive work) and highly subjective.[4] Broadly speaking, systems are not in place to easily track nutrition-sensitive commitments, and establishing them will take time. We suspect this is the case for all nutrition investors. The SUN Donor Partner Network is working to find an approach with lower transactions costs (SUN Donor Network 2013).

Fifth, with a small number of donors and only two data points, 2010 and 2012, it is easy to overinterpret the data.

Finally, there are methods gaps. For example, there is a need to track resource flows to overweight and obesity interventions, and a methodology needs to be identified that will facilitate the reporting of these data.

The data

The report draws on financial commitment and disbursement data that were estimated by 13 donors for 2010 and 2012 for nutrition-specific and nutrition-sensitive expenditure categories. The 13 donors are Australia, Canada, the European Union (EU), France, Germany, Ireland, the Netherlands, Switzerland,[5] the

United Kingdom, the United States, the Bill & Melinda Gates Foundation, the Children's Investment Fund Foundation, and the World Bank Group.[6] The data are reported in Appendix 4 and summarized in Figures 7.1 and 7.2.

Nutrition-specific commitments and disbursements

The United States, the World Bank, and Canada made the largest nutrition-specific commitments in 2012.

For the 13 donors, commitments to nutrition-specific interventions increased from US$665 million in 2010 to US$925 million in 2012, a change of 39 percent, led by substantial increases from the World Bank (more than 450 percent between 2010 and 2012), Canada, and the Bill & Melinda Gates Foundation.

Nutrition-specific disbursements were much lower than commitments but did increase from US$334 million in 2010 to US$480 million in 2012, an increase of 44 percent.

Nutrition-sensitive commitments and disbursements

The United States, the World Bank, and the EU made the largest nutrition-sensitive commitments in 2012.

Nutrition-sensitive commitments declined by 14 percent, from US$5.95 billion in 2010 to US$5.13 billion in 2012. This change is reported by the World Bank to be almost entirely due to an extraordinary spike in its nutrition-sensitive commitments in 2010, when large projects were approved to support the Mexican social protection program Oportunidades.

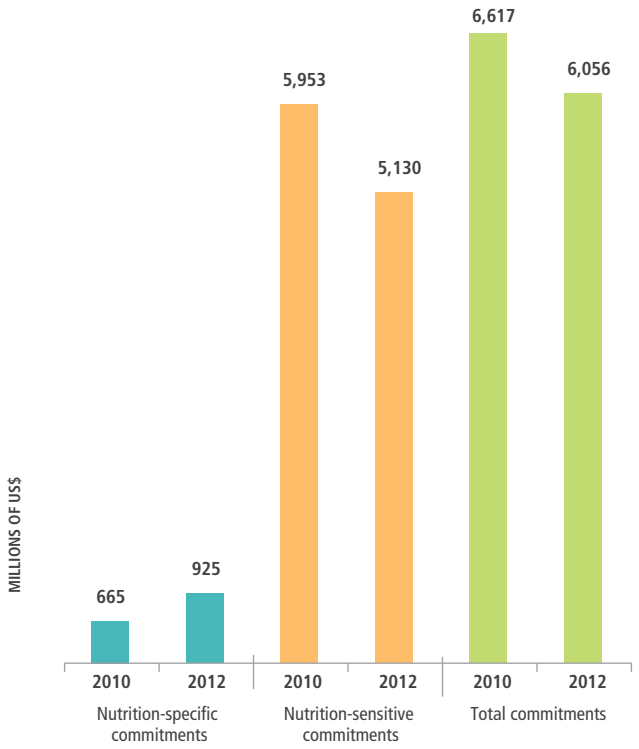
There was also a 3 percent decline in the US government's nutrition-sensitive commitments between 2010 and 2012. The US government reports that its figures fluctuate substantially from year to year because of the significant emergency component of its spending. The US government also notes that some nutrition-sensitive declines are driven by congressional appropriations reflecting declines in areas such as HIV programming and water and sanitation infrastructure.

Nutrition-sensitive disbursements were not reported by the US government, World Bank, or Children's Investment Fund Foundation for 2010 or 2012. As a consequence the nutrition-sensitive disbursement totals for the 13 donors are much lower than their commitments. For the 10 donors that report nutrition-sensitive disbursements, these disbursements increased from US$937 million to US$1.112 billion, or 19 percent.

Total commitments and disbursements

With the sizable declines in US and World Bank commitment figures, total commitments fell from US$6.62 billion to US$6.06 billion, a decline of 9 percent.

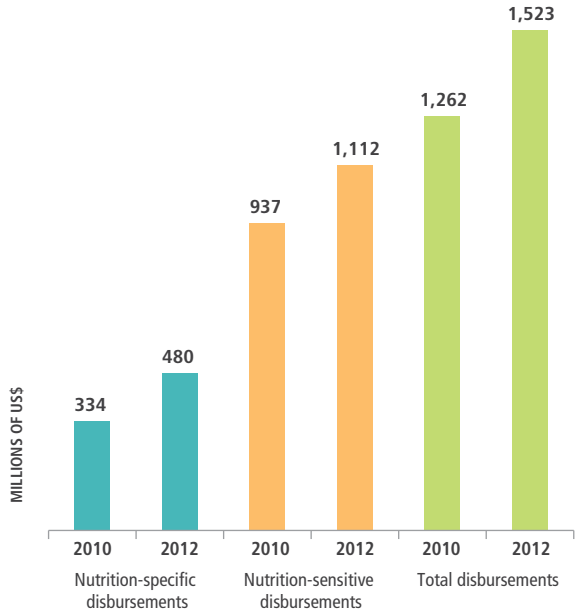
FIGURE 7.1 NUTRITION-RELATED SPENDING COMMITMENTS OF 13 DONORS



Source: Authors.

Note: The 13 donors are Australia, Canada, the European Union, France, Germany, Ireland, the Netherlands, Switzerland, the United Kingdom, the United States, the Bill & Melinda Gates Foundation, the Children's Investment Fund Foundation, and the World Bank.

FIGURE 7.2 NUTRITION-RELATED DISBURSEMENTS OF 10 DONORS



Source: Authors.

Note: Data exclude the United States, the World Bank, and the Children's Investment Fund Foundation for nutrition-sensitive disbursements.

PANEL 7.3 A TOOL FOR ASSESSING GOVERNMENT PROGRESS ON CREATING HEALTHY FOOD ENVIRONMENTS

BOYD SWINBURN

Governments have a critical responsibility to protect and promote the healthiness of food environments, but attempts to implement food policies to achieve this are often met with fierce and successful food industry opposition. Apart from a few standout examples (WCRF 2013), 10-year progress on implementing food policies from WHO's 2004 Global Strategy on Diet, Physical Activity, and Health (WHO 2004) has been patchy at best. How are governments going to be held accountable for achieving better progress on the latest 2013–2020 WHO global plan for noncommunicable diseases (WHO 2013b)?

One attempt to increase accountability is through an international collaboration of universities and global nongovernmental organizations called INFORMAS (Swinburn et al. 2013). This network aims to monitor, benchmark, and support actions to create healthy food environments and reduce obesity, diet-related noncommunicable diseases, and their related inequalities. INFORMAS has developed a tool—called the Healthy Food Environment Policy Index (Food-EPI)—for monitoring government actions for creating healthier food environments. It comprises two components. A policy component incorporates seven food environment domains (food composition, labeling, price, marketing, provision in schools and other public sector settings, retail availability, and food in trade and investment agreements). An infrastructure support component incorporates six domains (governance, leadership, funding and resources, monitoring and intelligence, platforms for interaction, and health in all policies). Relevant government officials collate and verify evidence on the degree of implementation of international best practice exemplars for about 40 indicators. Workshops of experts from academia, nongovernmental organizations, and civil society are conducted with government observers to rate the degree of implementation and set priority recommendations for government action.

Food-EPI has been pilot tested and implemented first in New Zealand (results are at www.informas.org). The New Zealand government was rated as meeting international best practices for only 14 percent of indicators. For 74 percent of policy indicators and 48 percent of infrastructure support indicators, New Zealand was rated as having "low" or "very little, if any" implementation—far short of potential. Following the implementation rating process, the expert participants reviewed the implementation gaps and constructed a series of practical, achievable recommendations for government action that were then rated in terms of priority. For New Zealand, 7 of the 34 recommendations were prioritized for implementation over the next three years, at which time a repeat Food-EPI assessment is planned, just ahead of the general election.

Food-EPI can, therefore, become an evidence-based tool for civil society to engage in accountability systems for making policy progress toward healthier food environments.

Total disbursements exclude the US government's and the World Bank's nutrition-sensitive category, but rose from US$1.262 billion to US$1.532 billion, an increase of 21 percent.

Conclusion

These trends give some cause for optimism. Nearly every donor has boosted commitments and disbursements. There have been sizable increases in total commitments from Canada, the EU, the Netherlands, and the United Kingdom and sizable increases in total disbursements from Canada, the United Kingdom, and the Bill & Melinda Gates Foundation. The Children's Investment Fund Foundation has pledged to add approximately US$100 million a year from 2013 to 2020 to the total. The EU pledged an extra US$533 million at the N4G Summit,[7] which has yet to show fully in the data reported here.

Nevertheless, the numbers reported here seem small in the context of overall official development assistance (ODA). Total ODA was US$135 billion in 2013 (OECD 2014). Total 2012 nutrition commitments were US$6.1 billion, or 4.5 percent of ODA, and total 2012 nutrition disbursements came to US$1.5 billion, or just greater than 1 percent of ODA.

The 2015 *Global Nutrition Report* will work with the nutrition community to attempt to develop a convincing rationale for spending targets for nutrition—for ODA, but also for domestic resource mobilization.

HOW SUPPORTIVE IS THE ENABLING ENVIRONMENT? POLICIES, LAWS, AND INSTITUTIONS

Policies, laws, and institutional arrangements shape the environment for sustainable nutrition improvement. Several tools are available to track these efforts. They are all relatively new, and no attempts to link them with changes in nutrition outcomes have been made, mainly because they either cannot or have not been constructed retrospectively and then linked to current nutrition outcomes.

One such tool is Healthy Food Environment Policy Index (Food-EPI), which focuses on overweight and obesity (Panel 7.3). The Hunger and Nutrition Commitment Index (HANCI) assesses governments' and external partners' commitment to reducing undernutrition (te Lintelo et al. 2014). The Access to Nutrition Index (ATNI) scores large companies in terms of their support for good nutrition practices related to overcoming undernutrition,

PANEL 7.4 ENGAGING FOOD AND BEVERAGE COMPANIES THROUGH THE ACCESS TO NUTRITION INDEX

INGE KAUER

The Access to Nutrition Index (ATNI) provides a comprehensive framework to monitor the world's 25 largest food and beverage manufacturers, using 170 indicators, based on international guidelines, norms, and accepted best practices. By scoring and rating companies publicly, ATNI is intended to highlight where their policies, practices, and disclosure lag behind best practices and thereby encourage improvement. In addition, the index provides independent, in-depth, comparative information for stakeholders interested in monitoring or engaging with the food and beverage industry on nutrition issues.

The 2013 Global Index found that all companies can do more to improve consumers' access to healthy, appropriate food and beverages in order to contribute to tackling obesity and undernutrition. The score of the leading company was only 6.3 out of 10, demonstrating that there is significant room for improvement. Only three companies scored above 5. ATNI found that companies' practices often do not measure up to their commitments, particularly in areas such as formulating healthy products, making them more accessible to consumers, and marketing them appropriately. A lack of transparency also makes it difficult for stakeholders, including policymakers, civil society, and investors, to evaluate companies' nutrition practices.

ATNI presented the results to 16 of the 25 companies in the index. Those companies recognized the value of being able to benchmark their practices against others and being given insight into how they can improve. Several have committed to ATNI to make changes, which, if achieved, will be captured in higher scores on the next index. These commitments include publishing more information to improve transparency and accountability, setting additional or stronger targets in particular areas, reviewing existing policies, and improving stakeholder engagement. ATNI is supported by more than 40 investors worldwide who have welcomed the index and are using the results in their engagement with companies.

ATNI will continue to evaluate companies' actions in this area and encourage them to play a more active and appropriate role in tackling malnutrition in all of its forms. ATNI intends to improve the methodology for the 2015 Global Index, ensuring particularly that it aligns its measurement metrics with the priorities and goals of other major undernutrition initiatives like Nutrition for Growth, the Scaling Up Nutrition Business Network, the UN's Zero Hunger Challenge, the Every Newborn Action Plan, and Transform Nutrition. By continuing to monitor and report on the progress companies are making in all areas, including undernutrition, ATNI hopes to provide an additional monitoring and accountability mechanism for all nutrition stakeholders.

overweight, and obesity (Panel 7.4). Finally, the SUN Movement scores countries' progress on institutional transformation. Some indexes use primary self-reporting (ATNI, SUN), some use primary data collection by a wide range of stakeholders (Food-EPI, HANCI), and some use secondary data (HANCI). These indicators have the potential to raise awareness about commitments and actions to reduce malnutrition, and hence the potential to strengthen accountability. Still, they need to be evaluated to see if they have actually resulted in more effective nutrition-relevant actions.

The data

The two-page nutrition country profiles produced in conjunction with this report (available at www.globalnutritionreport.org) contain eight indicators from this policy, legislative, and institutional domain: six for undernutrition (national implementation of the International Code of Marketing of Breast-milk Substitutes, maternity protection in the workforce, wheat fortification, whether nutrition is mentioned in national development plans or economic growth strategies, the strength of the right to food in the constitution, and the SUN institutional transformation score) and two for diet-related noncommunicable diseases (availability and stage of policies on hypertension and on diabetes).

Countries have performed best at implementing the International Code of Marketing of Breast-milk Substitutes and maternity legislation and worst at setting policies on diet-related noncommunicable diseases and mentioning undernutrition in development policy documents (Figure 7.3).

Seventy-seven countries have data for five of the six undernutrition policy and legislation indicators (the SUN indicators on institutional transformation, which are available for only a smaller set of countries, are considered in the following section). Brazil is the only country with a top score in all five. Interestingly, China and Thailand, both recognized for their strong performance in reducing undernutrition over the past 20 years, are among the six countries that do not have a top score in any of the indicators (the others are Angola, Burundi, Lesotho, and Qatar).

How important are nutrition-related policies, laws, and institutions for achieving real progress on nutrition? Clearly there are many pathways to improved nutrition. Having policies and laws on the books does not mean they will be implemented. It does, however, indicate a government's public commitment and hence offers an entry point for civil society engagement in issues surrounding nutrition. Panel 7.5 highlights the important role played by the International Code of Marketing of Breast-

milk Substitutes—in the context of other enabling changes—in dramatically improving breastfeeding practices in Brazil.

SUN institutional transformation indicators

Scaling Up Nutrition (www.scalingupnutrition.org) is a global movement led by 54 member countries. These member countries, which seek to prioritize efforts to address malnutrition, are supported by a wide range of development partners from civil society to the UN, donors, research institutes, and businesses.

One of the premises of SUN is that efforts to reduce malnutrition need to become more coordinated across sectors and stakeholders and more aligned with results frameworks. Accordingly SUN members are pioneering a new way of assessing institutional transformation for nutrition improvement. Thirty-seven countries[8] have conducted self-assessments of their annual progress in relation to four processes defined in the 2012–2015 SUN Movement Strategy:

- bringing people into a shared space for action,
- ensuring a coherent policy and legal framework,
- aligning actions around a common results framework, and
- tracking finances and mobilizing resources.

In these self-assessments, participants from a range of stakeholders were asked to agree collectively on joint scores for various "progress markers" that make up the four processes (Figure 7.4). Countries report significant advances in bringing people together (process 1) and developing coherent policy and legislation frameworks (process 2). However, they have made relatively little progress in aligning actions around common results (process 3) and in tracking investments for nutrition (process 4).

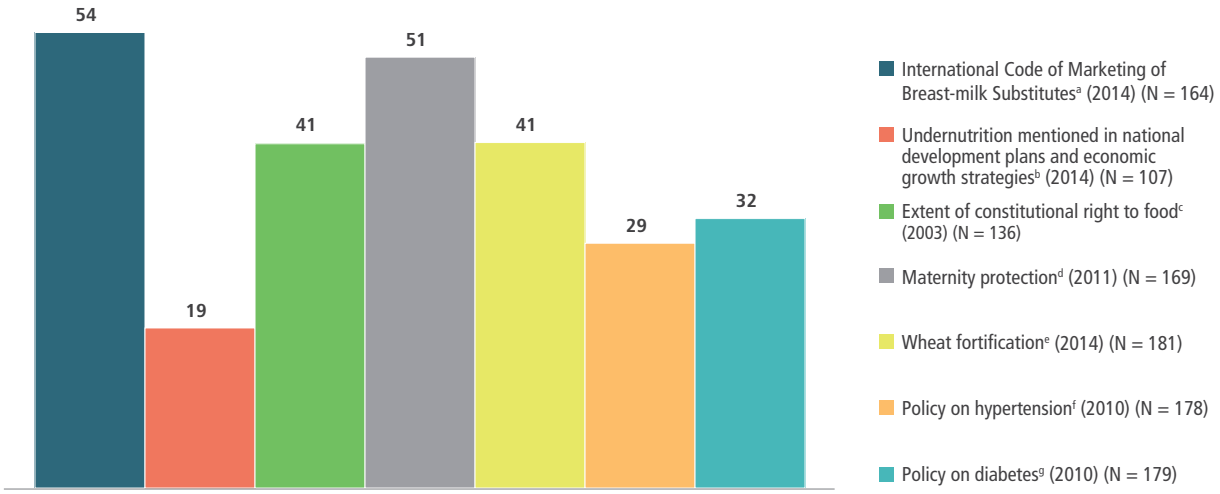
The scores show that the tremendous ongoing efforts to coordinate multiple stakeholders, develop policies and legislation, and mobilize resources for nutrition have yet to be fully translated into properly managed and monitored actions and into investments that are scaled up, aligned, and adequately accounted for.

This innovative work mirrors the work of Food-EPI in overweight and obesity and highlights the gaps between policy and action, but also the forward momentum of the countries involved.

Diet-related risk factors for noncommunicable diseases and the policy environment

Noncommunicable diseases like hypertension and diabetes are rapidly growing nutrition problems worldwide, and in most regions policy in these nutrition areas remains weak. Table 7.1 shows the number of people in each UN region who live in countries with both high prevalence of risk factors for hypertension and diabetes and weak policy scores. These data show

FIGURE 7.3 PERCENTAGE OF COUNTRIES WITH A TOP SCORE FOR EACH ENABLING ENVIRONMENT INDICATOR



Source: See Technical Note 1 at www.globalnutritionreport.org.

Notes: Years in parentheses are years for which data are available. N = number of countries with data.
[a] Countries that have enacted laws encompassing all or many of the provisions of the code.
[b] Countries ranked 1–20 out of 107 countries ranked according to number of times "undernutrition" is mentioned in national development plans.
[c] Countries with constitutions that explicitly provide for the right to food.
[d] Countries that have ratified International Labour Organization Convention 183.
[e] Countries that have mandated fortifying wheat with at least iron or folic acid.
[f] Countries that have available and fully implemented policies on managing hypertension.
[g] Countries that have available and fully implemented policies on managing diabetes.

PANEL 7.5 HOW BRAZIL CUT CHILD STUNTING AND IMPROVED BREASTFEEDING PRACTICES

JENNIFER REQUEJO

In the past four decades, Brazil has experienced rapid changes in key social determinants of health and nutrition and major health care system reforms (Victora, Aquino, et al. 2011). These changes are reflected in Brazil's impressive achievements in reducing child stunting and improving breastfeeding practices from the mid-1970s forward. Stunting prevalence, for example, dropped from 37 percent in 1974–1975 to 7 percent in 2006–2007. During the same period, the median duration of breastfeeding increased from about 2.5 months to 14 months. Exclusive breastfeeding rates in children younger than 4 months of age similarly rose steeply from a low of around 4 percent in 1986 to 48 percent by 2006–2007 (Victora, Aquino, et al. 2011).

Brazil achieved these advances through a vast expansion in access to maternal and child health and nutrition services coupled with large-scale social, economic, and political changes. The most notable changes included steady reductions in poverty, inequality, and fertility; a transition from a military dictatorship to a stable democracy that introduced many social reforms; huge investments in primary and secondary schooling that led to substantial improvements in women's education; food supplementation programs targeted at mothers and children; extensive water and sanitation programs; and cash transfer programs targeted to the poorest population groups (Pérez-Escamilla et al. 2012; Victora, Aquino, et al. 2011).

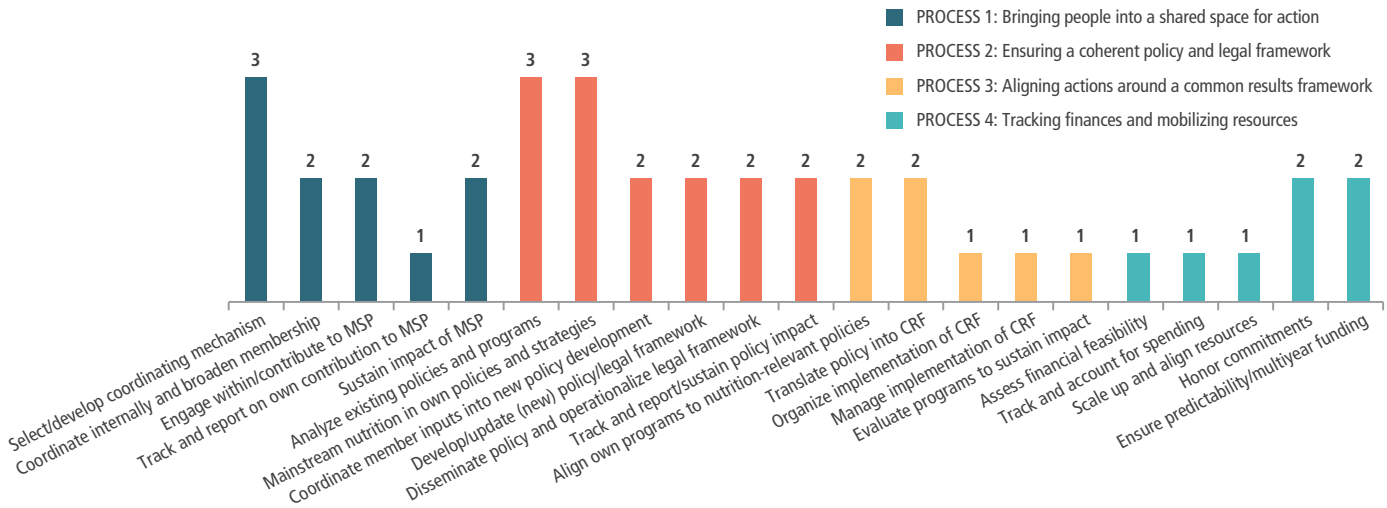
In an effort to reduce high rates of child mortality and stunting, particularly in comparison with other countries at a similar income level, Brazil scaled up strong vertical child survival programs starting in the 1980s and eventually integrated them into the primary health care system (Perez-Escamilla et al. 2012). These programs included highly coordinated actions to promote optimal breastfeeding practices such as the 1981 National Program for the Promotion of Breastfeeding. This program involved a baseline needs assessment, advocacy and media campaigns to sensitize decisionmakers and the public about the urgent need to raise breastfeeding rates, training for health workers on counseling women on lactation, and the development of mother-to-mother support groups. It also engaged civil society organizations, like the International Baby Food Action network, to increase community awareness of the relationship between breastfeeding and maternal and child health.

At the policy level, Brazil has strongly enforced the International Code of Marketing of Breast-milk Substitutes since 1988 and gradually extended maternity leave from two months to six months by 2006. More than 300 maternity hospitals have been certified by the Baby-Friendly Hospital Initiative. Brazil also has more than 200 human milk banks, enabling women to provide breastmilk to their babies if they are unable to breastfeed.

Brazil's success in drastically reducing stunting and improving breastfeeding practices shows what is possible through coordinated, sustained actions across multiple sectors that increase access to maternal and child nutrition-related services, improve women's educational and social status, increase political will to address poor child nutrition through effective programs, and create a supportive legal environment that enables women to choose breastfeeding.

a regional split—Africa is vulnerable on hypertension and Asia on diabetes—and also highlight the large number of vulnerable populations in Europe. The bringing together of these different types of indicators in simple descriptive analyses can spark new conversations and help civil society, in the broadest sense, put pressure on governments to act more comprehensively.

FIGURE 7.4 MODE SCORES FOR PROGRESS MARKERS OF INSTITUTIONAL TRANSFORMATION IN SUN COUNTRIES



Source: Data provided by Patrizia Fracassi, Scaling Up Nutrition (SUN), July 24, 2014.

Note: Data are from 37 countries for 2014. Scoring used a five-point scale (0 = the outcome is absent/not applicable, 1 = started, 2 = ongoing, 3 = nearly completed, 4 = completed). MSP = multistakeholder platform. CRF = common results framework.

TABLE 7.1 REGIONS WITH HIGH RISKS OF, AND WEAK POLICIES FOR, HYPERTENSION AND DIABETES

Region (plus countries with largest populations)	Total population in countries (millions)
Prevalence of high blood pressure is high and hypertension policy is weak	
Africa (including Dem. Rep. of the Congo, Uganda, United Rep. of Tanzania, Kenya)	586.0
Asia (including Myanmar)	92.0
Europe (including Russian Federation, Poland, Ukraine)	297.0
Latin America and the Caribbean (including Dominican Republic)	28.0
Oceania	0.4
Prevalence of high blood glucose is high and diabetes policy is weak	
Africa (including Ghana, Cameroon, Morocco)	119.0
Asia (including Pakistan)	427.0
Europe (including Russian Federation, Turkey, Ukraine)	220.0
Latin America and the Caribbean (including Argentina)	106.0
Oceania	9.0

Source: Policy data are from WHO (2014h; data are from 2010); data on blood pressure and blood glucose are from WHO (2014i, 2014j; data are from 2008). Population data are from United Nations (2013b).

Note: Weak policy means that policy is not fully implemented (absent, not implemented, or partially implemented). High prevalence indicates above-median scores across countries for which data are available.

DATA GAPS

1. **Data identifying and tracking domestic financial resources to nutrition need to be collected, collated, and organized.**
2. **The differences between different donor reporting systems on nutrition spending need to be better understood, and the reporting systems need to be further harmonized.**
3. **Existing data on policies, laws, and commitments need to be linked to nutrition status to help determine whether they have an independent effect on nutrition status.**

8 THE NEED TO STRENGTHEN ACCOUNTABILITY IN NUTRITION

AT THE 2013 NUTRITION FOR GROWTH (N4G) SUMMIT IN LONDON, MORE THAN 90 SIGNATORIES MADE SIGNIFICANT AND PUBLIC COMMITMENTS TO NUTRITION-RELATED actions, with the collective ambition of, by 2020,

1. ensuring that at least 500 million pregnant women and children under age two are reached with effective nutrition interventions,
2. preventing at least 20 million children under age five from being stunted, and
3. saving at least 1.7 million lives by reducing stunting, increasing breastfeeding, and treating severe acute malnutrition.

Tracking the commitments by the N4G signatories is inherently important, and failure to do so would breed cynicism and complacency. This report, an outcome of the N4G event, is meant to enable partners to hold each other accountable for their commitments and demonstrate the delivery of results.

KEY POINTS

1. To make the process of preparing this report as accountable as possible, we have, among other things, undertaken external reviews, made statements of competing interest, provided open data access, been inclusive in soliciting contributions, and adopted a focus on country perspectives.
2. Reporting on the Nutrition for Growth (N4G) 2013 commitments was challenging for all groups of signatories. Valuable lessons were learned in this "baseline year."
3. More than 90 percent of the signatories responded to requests for updates against their N4G commitments. Very few signatories were off course on their commitments, although there were many "not clear" assessments owing to vague commitments and responses.
4. In terms of progress against N4G targets, there were no obvious causes for concern from any group, at least at this early stage in the reporting period of 2013–2020. The assessment will be strengthened in 2015 by more data, more streamlined processes, and more motivated participants.
5. Accountability can be built. Civil society actors are particularly important, although they need support to be more effective. National evaluation platforms and community feedback mechanisms are promising ways of strengthening nutrition accountability, but they need to be piloted and evaluated.
6. National and international nutrition research systems driven by countries themselves are likely to promote more accountability at the national level.

This chapter reports on the process we followed to identify and track the N4G commitments, and it presents findings, challenges, and ideas for strengthening the process in the 2015 *Global Nutrition Report*. Improving the tracking process will be important as Brazil gears up to host the next Nutrition for Growth Summit in Rio de Janeiro in 2016. Our attempts to track these commitments highlight the challenges of improving accountability in nutrition, and the chapter thus also makes suggestions about how to strengthen accountability in nutrition, drawing on a range of panels that are featured throughout the chapter.[1]

TRACKING THE NUTRITION FOR GROWTH COMMITMENTS

Ninety stakeholders were signatories to the N4G Compact, and an additional 20 stakeholders made commitments after the Compact was formulated. As we describe our attempts to track these commitments, it is important to note two things: First, the N4G signatories made commitments to nutrition that are not captured specifically in their N4G commitments. Unless the signatories report on these other commitments, they will not appear in the online tables. Second, not everyone working in nutrition made N4G commitments, and their lack of involvement does not make them any less important. Experience with identifying and tracking N4G commitments may have lessons for tracking similar non-N4G commitments, and the 2015 *Global Nutrition Report* will explore ways of doing this.

We divided the 110 stakeholders into six groups: national governments, UN agencies, civil society organizations (CSOs), businesses, donors, and a group of organizations that did not fit easily into any of the first five categories. Assisted by the Scaling Up Nutrition (SUN) Movement Secretariat and the SUN UN, Business, Donor, and CSO Networks, we followed up with all signatories to the Compact. Commitments were divided into financial pledges (to increase funding) and nonfinancial pledges (which did not involve explicit financial pledges to increase funding but involved resource reallocations) that could be categorized into impact, programmatic, or policy commitments. The timeline for commitments was 2013 to 2020.

The process for identifying and tracking commitments was as follows: (1) identify the specific commitment in the Compact document, (2) remind the signatory of this commitment and ask it to report progress via a template tailored to each group, (3) clarify issues with those who responded, (4) enter the final responses into a set of detailed online N4G commitment tracking tables, and (5) make an assessment of progress.

The full, detailed N4G tracking tables are available online (at www.globalnutritionreport.org). They show responses from each signatory, with only minimal editing of language, giving a flavor of the rich variety of responses from different organizations and countries.

To assess progress, two members of the writing team reviewed the detailed N4G tracking tables for each signatory, making independent assessments and then—twice—reviewing and reconciling each of the two independent assessments.[2] Assessing progress on financial commitments was relatively straightforward. If progress reported for 2013–2104 met or exceeded the commitment, we assigned a status of "on course"; if it was clear it did not, we assigned a status of "off course"; and if it was unclear, we assigned "not clear." Assessing nonfinancial commitments was more difficult. Again we looked for specifics. Was something promised actually reported as complete or near complete? Whenever on-/off-course status was not clear to either reviewer, independently and after two joint reviews, we assigned a status of "not clear." On this basis, we compiled a series of tables summarizing each signatory's progress. In these tables, we also make it clear which signatories did not send us the requested data by the date requested and which signatories did not make commitments in certain areas. In these tracking tables, readers can view the evidence on which our assessment was made and make their own assessments of progress.

Table 8.1 shows the rate of response to our requests, which were sent in collaboration with the Institute of Development Studies (IDS) starting in March 2014. For this report, we accepted responses until September 15, 2014.

Country commitments

Twenty-five signatory governments committed themselves to making reduction of undernutrition a high priority, to increasing domestic budgets for improving nutrition, and to scaling up the

TABLE 8.1 RESPONSE RATES TO REQUESTS FOR PROGRESS AGAINST N4G COMMITMENTS

N4G signatory group	Number of progress requests issued	Number of responses	Response rate (%)
Countries	25	24	96
UN agencies	7	6	86
Civil society organizations	15	14	93
Businesses	29	24	83
Funders – financial	11	11	100
Funders – nonfinancial	18	18	100
Other organizations	5	4	80
Total	110	101	92

Source: Authors.

implementation of national nutrition plans. Of the 25 governments, 15 committed to increase the domestic resources invested in scaling up national nutrition plans and 12 announced national stunting reduction targets (some made both types of commitments). Of the 25 countries being tracked, 24 responded by the deadline.

N4G commitments were classified into the following categories: impact/outcome commitments (related to, for example, WHA targets such as exclusive breastfeeding, stunting, or acute malnutrition rates), financial commitments, policy commitments, and program commitments. Table 8.2 shows whether the 25 countries are on or off course based on their reported progress against these targets.

For the 24 countries that responded, many are on course, particularly for policy commitments. For the impact commitments, it is difficult to draw meaningful comparisons with countries' baseline data because few new datasets have been collected. In cases where new data are available, two countries are on course and two are off course. For financial commitments, three countries are on course and one is off course, with the rest of the commitments and responses being too vague to determine.

Civil society organization commitments

Civil society organizations made financial commitments and policy/program commitments, and this report tracked both. Of the 15 civil society organizations approached, 14 responded. Most have made some progress on their commitments (Table 8.3). The financial commitments from civil society organizations are categorized as nutrition-specific investments, nutrition-sensitive investments, or both. A significant proportion of investment in nutrition-sensitive work is focused on linkages between nutrition and agriculture. Many of the policy/program progress updates provided by civil society organizations focus on specific countries and target groups being covered. This detailed information provides a rich picture of the reach that civil society organizations have within their programs and within countries.

TABLE 8.2 COUNTRY PROGRESS IN MEETING N4G COMMITMENTS

Country	Impact commitments	Policy commitments	Program commitments	Financial commitments
Bangladesh	Not clear	On course	On course	On course
Benin	Not clear	Not clear	Not clear	None
Burkina Faso	Not clear	On course	Not clear	None
Burundi	Not clear	On course	Off course	None
Côte d'Ivoire	Not clear	None	On course	Not clear
Dem. Rep. of the Congo	None	On course	Not clear	Not clear
Ethiopia	Not clear	None	On course	On course
Gambia	Off course	None	None	None
Guatemala	Not clear	On course	Not clear	Not clear
Indonesia	Off course	On course	Not clear	None
Liberia	None	Off course	None	Not clear
Malawi	None	On course	Not clear	Not clear
Mali	None	On course	None	None
Mauritania	Not clear	Not clear	None	None
Namibia	On course	None	Off course	None
Niger	Not clear	On course	On course	Not clear
Nigeria	No response	No response	No response	No response
Senegal	On course	On course	Not clear	On course
Sierra Leone	Not clear	Not clear	On course	Not clear
Sri Lanka	Not clear	None	None	Not clear
United Republic of Tanzania	Not clear	On course	None	None
Uganda	Not clear	On course	Not clear	None
Yemen	None	Not clear	Not clear	Not clear
Zambia	Not clear	Not clear	On course	Not clear
Zimbabwe	None	Not clear	Not clear	Off course

Source: Authors.

Note: On course = progress made is on course for meeting the N4G commitment. Off course = not enough progress has been made toward the N4G commitment. None = no N4G commitment was made. Not clear = the commitment was too vague to assess whether the commitment was met, or the reported evidence on progress was too vague or only partially reported. No response = country did not respond to requests for information.

Business commitments

Twenty-nine companies committed to putting good nutrition at the core of their business practice. Specifically, they stated that by June 2016 they would (1) introduce a nutrition policy for a productive and healthy workforce and (2) improve policies for maternal health including support for breastfeeding mothers in their workforce. It was anticipated that these steps would deliver improved nutrition, and consequently better productivity and health, for more than 1.2 million workforce members in more than 80 countries.

For 2014, we worked with the SUN Business Network to send out requests and receive reports on these business commitments.[3] Companies were asked to assign themselves a rating of between 1 and 6 where 1 = little or no progress, 2 = some progress, 3 = good progress, 4 = final developmental stage, 5 = partial rollout, and 6 = full implementation.

Of the 29 companies tracked, 24 companies reported on their commitments (Table 8.4). No pattern in the responses could be detected by region, size, or sector. Table 8.5 lists responses by company. Companies that self-reported well on one workforce dimension tended to do so on both. The mode

TABLE 8.3 CIVIL SOCIETY ORGANIZATIONS' PROGRESS IN MEETING N4G COMMITMENTS

Civil society organization (CSO)	Financial commitments	Policy/program commitments
Action Against Hunger (ACF International)	On course	On course
CAFOD	None	Not clear
Comic Relief	No response	No response
Concern Worldwide	Off course[a]	None
Helen Keller International	None	On course
Interaction	On course	None
Mercy Corps	None	Not clear
Micronutrient Initiative	On course	On course
One Campaign	None	On course
Oxfam	None	Off course
Save the Children International	On course	On course
SUN CSO Alliance Zambia	None	Not clear
UK Biotechnology and Biological Sciences Research Council	None	On course
Vegan Society	None	On course
World Vision	On course	None

Source: Authors.
Note: On course = progress made is on course for meeting the N4G commitment. Off course = not enough progress has been made toward the N4G commitment. None = no N4G commitment was made. Not clear = the commitment was too vague to assess whether the commitment was met, or the reported evidence on progress was too vague or only partially reported. No response = CSO did not respond to requests for information.
[a] Concern Worldwide reported enormous progress against its very substantial commitments but fell just short, hence the assessment.

TABLE 8.4 SELF-ASSESSMENTS OF N4G BUSINESS COMMITMENTS ON WORKFORCE NUTRITION

Responses	Number of companies with given responses on progress	
	Introduce a nutrition policy for a productive and healthy workforce	Improve policies for maternal health of workforce, including support for breastfeeding mothers
1 = little or no progress	2	3
2 = some progress	11	12
3 = good progress	6	3
4 = final developmental stage	0	2
5 = partial rollout	3	2
6 = fully implemented	0	0
Total responses	22	22
No response	7	7
Total number of businesses	29	29

Source: Authors.

and median of both dimensions is 2. We then went one step further to bring the business assessments in line with other N4G stakeholders by classifying the companies' progress as "on course" (a rating of 3 or higher), "off course" (a rating of 1), or "not clear" (a rating of 2).

The 2015 *Global Nutrition Report* will expand its focus on business accountability (see Panel 8.1 on some of the ongoing initiatives). It will also attempt to follow up on a broader set of business commitments.

UN commitments

Seven UN agencies made N4G commitments; these were less financial commitments than programmatic and policy-based commitments. As of September 4, 2014, we had responses from six of them. The responses were substantive and well linked to the

TABLE 8.5 COMPANY PROGRESS IN MEETING N4G COMMITMENTS

Company	Introduce a nutrition policy for a productive and healthy workforce	Size of affected workforce (healthy workforce)	Improve policies for maternal health including support for breastfeeding mothers	Size of affected workforce (breastfeeding)
Acciona	On course (5)	33,000	On course (5)	4,200
Ajinomoto	On course (3)	Not applicable	On course (3)	Not applicable
Anglo American	Off course (start tracking in 2015)	Not applicable	Off course (start tracking in 2015)	Not applicable
Aslan Group	No response	No response	No response	No response
Associated British Foods	No response	No response	No response	No response
Barclays	On course (3)	Not applicable	On course (3)	Not applicable
BASF	Not clear (2)	Not applicable	On course (4)	Not applicable
Bayer Crop Science	Not clear (2)	Not applicable	Not clear (2)	Not applicable
BP	Not clear (2)	Not applicable	Not clear (2)	Not applicable
Britannia Industries	Not clear (2)	Not applicable	Not clear (2)	Not applicable
Cargill	Not clear (2)	Not applicable	Not clear (2)	Not applicable
DSM	On course (3)	Not applicable	Not clear (2)	Not applicable
Gallup	On course (5)	670	On course (5)	670
GlaxoSmithKline	Not clear (2)	Not applicable	On course (4)	Not applicable
Gujarat Cooperative Milk Marketing Federation Ltd (Amul)	No response	No response	No response	No response
GUTS Agro Industry	On course (5)	25	On course (3)	2
Indofood	Not clear (2)	Not applicable	Not clear (2)	Not applicable
Infosys	Off course (1)	Not applicable	Off course (1)	Not applicable
KPMG	On course (3)	Not applicable	Not clear (2)	Not applicable
Lozane Farms	No response	No response	No response	No response
Malawi Mangoes	On course (3)	Not applicable	Not clear (2)	Not applicable
M&S	Not clear (2)	Not applicable	Not clear (2)	Not applicable
Netafim	No response	No response	No response	No response
RAB Processors	Off course (1)	Not applicable	Off course (1)	Not applicable
Shambani	Not clear (2)	Not applicable	On course (3)	3 mothers given extra 30 days paid maternal vacation and could work half-day for 4 months after maternal vacation
Syngenta	Not clear (2)	Not applicable	Not clear (2)	Not applicable
Tanseed	Not clear (2)	Not applicable	Off course (1)	Not applicable
Unilever	On course (3)	Policy will be available at all sites, reaching about 174,000	Not clear (2)	Policy will be available to all working women of child-bearing age, about 44,000
Waitrose	On course (3)	Not applicable	Not clear (2)	Not applicable

Source: Authors.

Note: Codes are as follows: 1 = little or no progress; 2 = some progress; 3 = good progress; 4 = final developmental stage; 5 = partial rollout; 6 = fully implemented. Not applicable = companies were not asked to respond about the size of affected workforce if they ranked themselves from 1 to 4. No response = company did not respond. The report authors classified response 1 as "off course," response 2 as "not clear," and responses 3 and higher as "on course."

PANEL 8.1 SCALING UP NUTRITION THROUGH BUSINESS

JONATHAN TENCH

Despite the involvement of businesses in over 20 Scaling Up Nutrition (SUN) country multistakeholder platforms, countries' strategic or implementation plans express little understanding or articulation of the role of business. Country strategies analyzed by the SUN Business Network typically included the following goals: access to direct nutrition services, behavior-change communication, increased technical and institutional capacity, resource mobilization, research, data collection and analysis, and monitoring and evaluation. The plans to meet these goals rarely identified the role of business.

Furthermore, countries' implementation plans reveal a high dependence on public sector resources and capacities, but little information on the resources available in the private sector. One plan even notes that it "does not include business investments, which, by nature cannot be planned" (SUN 2014a, 29). Another plan states that business can play a role in food fortification, but restricts this engagement to traditional corporate social responsibility donations from companies to public sector schemes, with no recognition of the core business proposition food producers can offer.

When asked, business leaders in SUN countries express strong interest in joining multistakeholder initiatives and national conversations about public policy incentives related to regulation enforcement, taxes, and infrastructure, which can stimulate greater investment. To fully leverage business investments, countries will need to integrate these kinds of incentives into their national plans. National and global efforts to improve transparency and monitoring mechanisms, such as the Access to Nutrition Index (ATNI), work with the largest food and beverage companies. The SUN Movement's work developing a strong understanding of how conflicts of interest can be brought into the open and how risks can be minimized can support responsible and regulated engagement.

original commitments made. All agencies that responded were "on course" (Table 8.6). Most of the commitments focused on further strengthening of UN agency commitments in countries where significant work is ongoing. Some UN agencies are also building and improving on workforce indicators to better assess the nutrition and dietary status of populations and improved coordination with governments.

Donor commitments

Eighteen donors made commitments at N4G. Seven made both financial and policy/program commitments, six made only financial commitments, and five made only policy/program commitments. As noted in Chapter 7, we cannot report on donors' N4G financial commitments because of lags in the reporting process for official development assistance. Nevertheless, the 13 donors that made financial pledges at N4G all provided us with financial data reported in that chapter. We also received responses from all donors that made policy and program commitments (Table 8.7). Generally, the donors reported positive progress, with many of them forming unique collaborations and innovative partnerships that will shape how programs are rolled out.

N4G commitments from other organizations

We received four responses from the five remaining ("Other") organizations that defy easy labeling. The responses received

TABLE 8.6 UN PROGRESS IN MEETING N4G COMMITMENTS

UN agency	Policy/program commitments
Food and Agriculture Organization of the United Nations (FAO)	On course
International Fund for Agricultural Development (IFAD)	On course
Office for the Coordination of Humanitarian Affairs (OCHA)	No response
United Nations Children's Fund (UNICEF)	On course
SUN UN System Network	On course
World Food Programme (WFP)	On course
World Health Organization (WHO)	On course

Source: Authors.

Note: On course = progress made is on course for meeting the N4G commitment. No response = agency did not respond to requests for progress.

PANEL 8.2 HOW CIVIL SOCIETY ORGANIZATIONS BUILD COMMITMENT TO NUTRITION

CLAIRE BLANCHARD

In Scaling Up Nutrition (SUN) countries and non-SUN countries, civil society has played a key role in building and maintaining commitment for nutrition. Why are civil society organizations (CSOs) so important for achieving nutrition goals, and how can they sustain their effectiveness?

First, there is scale. More than 1,500 CSOs are engaged in the SUN Movement, and there are coordinated civil society alliances (CSAs) in 30 countries.

Second, CSOs are good at engaging in social mobilization and awareness-raising efforts in collaboration with the media and through Global Days of Action (SUN 2014b). The recent June 2014 National Nutrition Day in Madagascar provided an opportunity for the civil society alliance to meet with the prime minister, who committed to holding a meeting with all ministers on increased investment in nutrition and engagement of sectors.

Third, CSOs can aggregate efforts. Coordinated alignment of goals identified through internal mapping and scoping exercises conducted by, for example, the Ghana Coalition of Civil Society Organizations for Scaling Up Nutrition, the Civil Society Alliance for Nutrition-Nepal, and the Partnership for Nutrition in Tanzania helps influence government action. Through position papers, public mobilization, participation in strategic meetings, and constructive support to government goals, CSAs can influence policy, as Kenya's SUN CSA did recently in influencing changes to Kenya's health policy.

Fourth, CSOs can transcend political cycles. In Ghana, CSO work with parliamentarians helps prioritize nutrition regardless of the party in power. In 2014, inspired by Peru's example, Malawi's Civil Society Organization Nutrition Alliance (CSONA) obtained signed commitments for nutrition improvements from presidential candidates, ensuring that nutrition remains a priority.

Fifth, with so many countries decentralizing health and nutrition policy, civil society is well placed to energize and even shape subnational efforts. For example, civil society alliances have actively started building on district- and region-level efforts by, for example, setting up district-level CSAs, as has occurred in Malawi and Mozambique.

Challenges remain, however. CSOs need to be supported in their efforts to build their capacity to deliver programs in partnership with other stakeholders, to influence policy, to demonstrate results, and to hold governments, others, and themselves accountable.

TABLE 8.7 DONOR PROGRESS IN MEETING N4G NONFINANCIAL COMMITMENTS

Donors	Policy/program
Australia	On course
Bill & Melinda Gates Foundation	On course
Brazil	On course
Canada	None
Children's Investment Fund Foundation and Save the Children	On course
Children's Investment Fund Foundation	On course
European Union	None
Finland	None
France	On course
Germany	None
Ireland	On course
Japan	Not clear
Netherlands	None
United Kingdom	On course
UK Food Standards Agency	On course
United States	On course
United Arab Emirates	None
World Bank	On course

Source: Authors.

Note: On course = progress made is on course for meeting the N4G commitment. Off course = not enough progress has been made toward the N4G commitment. None = no nonfinancial N4G commitment was made. Not clear = the commitment was too vague to assess whether the commitment was met, or the reported evidence on progress was too vague or only partially reported. No response = donor did not respond to requests for progress.

PANEL 8.3 BUILDING CIVIL SOCIETY'S CAPACITY TO PUSH FOR POLICIES ON OBESITY AND NONCOMMUNICABLE DISEASES

CORINNA HAWKES

In 2011, the 193 member governments of the United Nations made a series of commitments to prevent and control noncommunicable diseases (NCDs) (United Nations General Assembly 2011). Governments committed to, among other things, advance policies for healthy diets, improve governance of obesity by engaging multiple sectors, and build the capacity of nongovernmental organizations (NGOs). WHO established a roadmap for implementing and monitoring these commitments in its *Global Action Plan for the Prevention and Control of NCDs 2013–2020* (WHO 2013b) and Global Monitoring Framework (WHO 2013a).

As public interest watchdogs, civil society organizations (CSOs) have a unique role to play in monitoring the implementation of these commitments. Yet—as these documents recognize—to do so effectively, they need greater capacity. Significant investment can pave the way. For example, Denmark's development cooperation agency, Danida, has since 2010 funded a series of NCD alliances in East Africa (Kenya, Rwanda, Tanzania, Uganda, Zanzibar) (NCD Alliance 2014a). Modeled on the global NCD Alliance, the organizations bring together groups concerned with heart disease, cancer, diabetes, and lung diseases to raise the political profile of NCDs, build public awareness, and provide support for education, treatment, and patient concerns (Ministry of Foreign Affairs in Denmark [DANIDA] 2008). Another example is the Obesity Prevention Program at Bloomberg Philanthropies (2014), which has provided a US$10 million, three-year grant to Mexican civil society organizations and research institutes to build obesity prevention into their work.

Facilitated by funding and international monitoring tools, these CSOs work to hold governments to account. The Healthy Caribbean Coalition (2014b)—an alliance of more than 40 health-based NGOs—published an assessment of progress in 2014, guided by the benchmarking tool developed by the global NCD Alliance (2014b). The assessment identified nutrition as the area of least progress; no countries reported having nutrition strategies or policies on food marketing to children, despite having committed to implementing the WHO recommendations on marketing to children (Healthy Caribbean Coalition 2014a).

Investments in global-scale monitoring are needed to bring together national-level data. WHO has several instruments for assessing progress on international commitments on obesity and NCDs, including a 2010 survey of countries' capacity to prevent and control NCDs (WHO 2010c) and the Global Database on the Implementation of Nutrition Action (GINA) (WHO 2014d). CSOs have developed more detailed tools. For example, the World Cancer Research Fund International's NOURISHING Framework includes a regularly updated repository of healthy eating policies from around the world (WCRF 2013). The International Baby Food Action Network (2014) and UNICEF monitor the actions of 198 governments toward implementing the WHO International Code of Marketing of Breast-milk Substitutes.

To improve accountability, funders should invest in increasing staffing capacity in national CSOs. They should also finance the time-consuming process of collecting and collating information on NCD policy implementation and indicators of good nutrition governance. CSOs need to engage with the research community in this process and develop projects and proposals for monitoring policy and governance to hold their governments to account.

are comprehensive and sometimes mapped well onto the stated N4G commitments (Table 8.8).

Conclusions

- A response rate of 92 percent is respectable. Nonetheless, given repeated requests and offers of help completing the templates over a five-month period, it is disappointing that 8 percent of signatories did not respond.
- There are more "on course" ratings than "off course" ones, which is encouraging.
- The "not clear" category is dominant. This reflects the difficulty of identifying clear commitments (what do they actually mean? who actually made them? are they time bound?), tracking progress, and identifying accountability (have commitments been met?).
- A rating of "on course" can be achieved by making and meeting a very modest commitment, while an "off course" rating can be achieved by making a challenging commitment and then falling just short of it (as happened, for example,

TABLE 8.8 OTHER ORGANIZATIONS' PROGRESS IN MEETING N4G COMMITMENTS

Other organizations	Policy/program commitments
CABI	Not clear
CGIAR	On course
Global Alliance for Improved Nutrition (GAIN)	On course
Naandi Foundation	No response
Grand Challenges Canada	Not clear

Source: Authors.

Note: On course = progress made is on course for meeting the N4G commitment. Not clear = the commitment was too vague to assess whether the commitment was met, or the reported evidence on progress was too vague or only partially reported. No response = organization did not respond to requests for progress.

PANEL 8.4 CAN COMMUNITY MONITORING ENHANCE ACCOUNTABILITY FOR NUTRITION?

NICK NISBETT AND DOLF TE LINTELO

Public accountability can work through both short routes (between citizens and nutrition service providers) and long routes (between citizens and elected officials) (World Bank 2003). Strengthening both routes has the potential to

- enhance the quality of nutrition service delivery;
- increase the motivation of frontline staff and midlevel bureaucrats and raise their ability to advocate for appropriate resources;
- facilitate mainstreaming of nutrition across sectors such as agriculture, health, social protection, water, and sanitation;
- make undernutrition more visible to affected communities, giving them a greater voice and amplifying their demands on this issue; and
- increase the responsiveness of public policymakers and political leaders to nutrition as a national development issue.

Global nutrition commitment initiatives inevitably suffer from extended and blurred short and long routes of accountability (te Lintelo 2014). For instance, taxpayers in donor countries do not directly enjoy the nutrition services they contribute to and rarely vote on the performance of donor aid. Conversely, citizens of aid-recipient countries, as taxpayers, may have weaker incentives for holding their governments to account for the performance of nutrition services, unless it is clear that they are co-funding these services.

Can community-level feedback mechanisms strengthen short- and long-route accountability? The potential of mechanisms such as social audits and community monitoring to promote accountability and to improve the provision of direct public services is clear (Gillespie et al. 2013; Haddad et al. 2010; Mansuri and Rao 2013). The experience in health has been mixed (see, for example, Joshi 2013) with some startlingly positive results (for example, Björkman and Svensson 2009). Apart from some appraisal work (Swain and Sen 2009), however, the impact of such mechanisms on provision of nutrition services has not been empirically evaluated. Further work is required in this area to find out which models work best when applied to nutrition service delivery. Such work may have the potential to combine with the growing use of information and communication technologies and mobile technology to link citizens to policy advocacy and provide real-time data on community-level indicators to national accountability mechanisms.

with Concern Worldwide). We observed these tendencies on several occasions. These occurrences seem counter to the spirit of the accountability exercise, and we will explore ways of addressing this issue in the 2015 *Global Nutrition Report*.

- A number of process improvements need to be made in preparing the 2015 *Global Nutrition Report*.[4]

In sum, the 2014 experience constructing an N4G accountability mechanism should be regarded as a learning experience. As with any baseline, the data reported should become more useful as data from subsequent years accumulate.

STRENGTHENING ACCOUNTABILITY FOR IMPROVED NUTRITION

Chapter 9 focuses on filling key data gaps to improve accountability, but data are just one important component of accountability systems. Accountability systems evolve through a series of public commitments, the tracking of those commitments, comparing progress to targets, making use of the assessment of progress, and then strategizing about how to respond to that accountability. In addition to data, this cycle of accountability strengthening requires *actors* and *mechanisms*. This section presents innovations from the wider nutrition community in these two areas.

Actors

When civil society and communities put pressure on stakeholders, social change happens more quickly (Gaventa and Barrett 2012), because this kind of pressure strengthens accountability. Panel 8.2 describes the experiences from national civil society alliances within SUN. They are proving effective because they can scale up their efforts, mobilize communities, join together in alliances, transcend political cycles, and reach into district-level administrative units, which are so crucial for effective decentralization. The SUN civil society experience, so far, is in the context of undernutrition. Panel 8.3 focuses on the role of civil society in influencing policy and governance actions on noncommunicable diseases and obesity.

What about communities themselves? How can they be more effective at closing the "short" loops between citizens and service providers and the "long" loops between citizens and governments? Panel 8.4 focuses on program delivery in an undernutrition context and highlights some community monitoring experiences from a range of sectors.

PANEL 8.5 NATIONAL EVALUATION PLATFORMS: POTENTIAL FOR NUTRITION

JENNIFER BRYCE AND COLLEAGUES

Governments need reliable and consistent data to report progress under national, regional, and international accountability frameworks for nutrition, such as the World Health Assembly Global Targets 2025 (WHO 2012b). The National Evaluation Platform (NEP) is a systematic approach being used in Malawi, Mali, Mozambique, and Tanzania to identify, compile, and analyze existing high-quality data from diverse sources across sectors, in order to evaluate the effectiveness and impact of health and nutrition programs (Victora, Black, et al. 2011). Country-led and country-owned, the NEP approach offers a core set of evaluation methods and builds sustainable national capacity to develop evidence-based answers to pressing program and policy questions and track progress toward national and global scale-up targets.

With support from the Government of Canada, the NEP brings together relevant, high-quality district-level data from a range of sources, including national surveys and routine reporting systems and databases. It is updated as additional data become available. It also supports analytic approaches that address the contributions of nutrition and health interventions in settings where traditional evaluation designs are not possible. For example, the NEP can address multisectoral integration by assessing various programs together over time (such as management of acute malnutrition; vitamin A supplementation; water, sanitation, and hygiene; and immunizations). Finally, it empowers countries to build homegrown, sustainable capacity to answer complex program and policy questions and to hold themselves accountable. A public sector stakeholder serves as the "NEP home institution" that maintains the data and builds the capacity of other public sector monitoring and evaluation stakeholders to develop and use the NEP.

The effectiveness of the NEP will be judged by the extent to which the evidence produced is incorporated into decisionmaking processes. One year of use in the four countries has already produced important lessons:

- **Governments welcome the focus on program evaluation.** In all four countries, health and nutrition program leaders welcomed the NEP as a means of (1) bringing together existing data to go beyond routine monitoring, (2) addressing questions on the relative effectiveness of implementation strategies, and (3) strengthening in-country agenda setting relative to donor agenda setting.
- **Data on nutrition programs are scarce.** A mechanism is needed to bring together available data across sectors, assess their quality, and promote their use in answering questions about program needs or the effectiveness of implementation.
- **Countries' capacity to assess and analyze data is limited.** In most cases, analyses of anthropometric data and child mortality are conducted by external institutions. The national institutions responsible for health, nutrition, and statistics reported that increasing capacity in these areas is a top priority.

Mechanisms

Committed actors need a mechanism through which to exercise their agency on behalf of nutrition. Panel 8.5 summarizes experiences to date with National Evaluation Platforms, which are being piloted by four African countries. These platforms are helping develop the capacity within countries to use existing data to promote accountability more effectively.

Similarly, research can be a mechanism for data managers, analysts, and scientists to promote accountability for nutrition. Panel 8.6 makes the case that African research priorities are not sufficiently solution oriented or driven by African needs and that the data generated are scattered and often inaccessible. The authors propose a number of investments in research systems to guide action and strengthen accountability for improved nutrition.

PANEL 8.6 THE STATE OF AFRICAN NUTRITION DATA FOR ACCOUNTABILITY AND LEARNING

CARL LACHAT, JOYCE KINABO, EUNICE NAGO, ANNAMARIE KRUGER, AND PATRICK KOLSTEREN

Decades of investment and capacity building in nutrition research in Africa have produced an active nutrition research community. The research output of the continent is considerable and growing steadily (Lachat et al. 2014). Recent studies and events, however, have highlighted areas where organization of nutrition research in Africa can be improved:

- The nutrition research agenda, driven largely by research funders and academics in high-income countries, needs to be refocused toward African priorities (Holdsworth et al. 2014; van Royen et al. 2013).
- There are too few evaluations of interventions (Lachat et al. 2014).
- Research on how to create enabling environments that prevent malnutrition is lacking (Masset et al. 2012).
- The availability of data produced by researchers and others such as nongovernmental organizations, UN agencies, and governments is highly variable. It could be less scattered and used more effectively (Chalmers et al. 2014).

Recent economic growth in Africa offers a window of opportunity to build an African research system that is "fit for purpose" to deliver answers to African decisionmakers about how to tackle the nutritional challenges of tomorrow. Such a research system should hold the different actors in this system accountable in the following ways:

- Those that produce information (academics from Africa, partners from high-income countries, government and development agencies that collect data) must produce the best information using the highest standards. Knowledge and data should be shared and made as accessible as possible.
- Research funders need to maximize the uptake of evidence in programs and policies in Africa. This will require increased African ownership of research. Academics (predominantly from Northern America and Europe) need to establish equitable partnerships with African researchers (Chu et al. 2014), and research funders need to align with African-identified research priorities (Lachat et al. 2014). It would be helpful to develop a code of conduct, define ethical considerations in setting the research agenda, and establish data registries. National research councils can play a key role in connecting researchers with funders and users.
- Users of nutrition research need to articulate clear research needs. A transparent process should be developed to systematically define research priorities. Initiatives such as the recently created African nutrition knowledge network (EVIDENT) are a first step in that direction. Funders should subscribe to the resulting priorities, and the data generated should be registered in an open source data depository to support sharing.

A data revolution is taking place in development (United Nations 2013a), and the African nutrition community can play a leading role. Data repositories and interoperable data systems for nutrition data are needed to host, curate, and repurpose nutrition data in Africa. Stakeholders in nutrition research in Africa need to capitalize on the commitment of research funders and international organizations to open access data. Making data accessible is just a first step. More work is needed to turn this information into knowledge for better nutrition policies and actions.

DATA GAPS

1. Many N4G commitments are vague, and progress updates are often vague as well.
2. N4G data are scattered, and collecting them has a high transactions cost.
3. There are not enough country-driven and country-owned nutrition data and research, and this gap runs the risk of weakening nutrition accountability.

9 WHAT ARE THE PRIORITIES FOR INVESTMENT IN IMPROVED NUTRITION DATA?

ACCESS TO THE RIGHT DATA AT THE RIGHT TIME IN THE RIGHT PLACE IS NECESSARY TO IMPROVE ACCOUNTABILITY, BUT NOT SUFFICIENT. THIS CHAPTER MAPS THE gaps, suggests criteria for prioritizing data collection efforts, and identifies some promising approaches to addressing the gaps.

THE GAPS AND IMPROVEMENTS NEEDED

To identify data gaps, we undertook several steps. First, as we developed the nutrition country profiles, we went from identifying ideal indicators to assessing the available indicators and developed a sense of what data were absent but needed. Second, we analyzed the 84 indicators in the 193 nutrition country profiles and mapped the gaps in these data by indicator group.[1] Third, we noted the data gaps highlighted by the analyses in this report; these are shown at the end of each chapter. Finally, we took a step back and asked ourselves, *What are the issues that should be prioritized and the actions that should be taken to reduce malnutrition but are not—because of data gaps?* We found that few studies have been done on how lack of data is constraining nutrition action, and we will undertake a more detailed literature review in a future report.

KEY POINTS

1. There are many gaps in data on nutrition outcomes, outputs, and inputs. For example, 40 percent of the 193 member countries of the United Nations cannot track more than two of the four World Health Assembly (WHA) indicators included in this report. Supporting all countries' capacity to report on the WHA indicators is a priority.
2. To identify data gaps beyond the WHA indicators, we asked, What are the issues that should be prioritized and the actions that should be taken to reduce malnutrition but are not—because of data gaps? We identified four nutrition status indicators—anemia, overweight and obesity, wasting, and low birth weight—where progress is slow and data gaps could be holding back action. We also identified data gaps that we believe are holding back the scaling up and context-specific blending of nutrition-specific, nutrition-sensitive, and enabling-environment interventions.
3. Not all data gaps require the collection of new data. Data gaps can be filled by (1) using existing data better, (2) improving the collection of existing data, (3) improving data comparability across countries, (4) collecting data more frequently, and (5) collecting new data where there are not enough for good accountability. Each of these approaches offers scope for filling several data gaps.
4. Decisions about which data gaps are most important to fill need to be undertaken at the national level, based on nutrition policies, plans, and strategies. Answers to the following questions will help prioritize these gaps: Will the availability of the data lead to better or more intensive action for nutrition? Is the data collection practical? Is there demand for the data, or can such demand be created?

Table 9.1 summarizes the key issues and actions where progress seems to be stalled and the data gaps that, we hypothesize, are holding back action. For example, we know that progress on reducing anemia is slow. Is this because not enough food-based interventions are being piloted? And is this in turn because food consumption data are not detailed enough to identify people's patterns of consuming local foods rich in bioavailable iron?

Not all of these data gaps need to be filled by collecting new data. We identified five ways to fill these gaps: (1) use existing data better, (2) improve the collection of existing data, (3) improve data comparability across countries, (4) collect data more frequently, and (5) collect new data where there is not enough for good accountability.

Use existing data better

- **Identify and monitor spending on nutrition.** Typically these financial data exist but need to be identified, classified, and embedded in monitoring and reporting systems. It is important to build people's capacity to do these tasks (see, for example, the description of Guatemala's experience with financial tracking in Panel 7.2).
- **Use existing administrative data, especially at subnational levels, to mobilize interest in nutrition and to develop strategies.** The district-level nutrition profiles for India, described in Panel 4.3, highlight the possible surprises in terms of what is available. The National Evaluation Platform pilots in four African countries, described in Panel 8.5, also represent a promising approach to using as much existing data as possible.
- **Capture existing data on legislation, policy, and spending.** The Hunger and Nutrition Commitment Index (HANCI) is a good example of how existing data can be brought together to generate fresh insights.[2]
- **Make better use of existing monitoring and evaluation data.** While new data collection is often required for impact assessment, the rapidly growing area of implementation research and evaluation tends to use monitoring and evaluation systems that could be made even more useful with some modest changes (Menon et al. 2014).

TABLE 9.1 DATA GAPS THAT ARE CONSTRAINTS TO NEEDED ACTION

Nutrition outcome on which progress is stalled	Constraining data gap	Potential value added of filling data gap
Anemia	Detailed food consumption data identifying iron-rich components of local diets	Food-based interventions could be better designed to address anemia.
Wasting and low birth weight	Solution to adjustment issues in estimates of low birth weight	Resources for adolescent girl programming could be allocated more effectively.
Overweight and obesity	Detailed food consumption data identifying healthy and nonhealthy diet components, e.g., certain types of fat, food eaten away from home	Interventions could be better designed to adjust the food environment to support healthy choices.
	More survey data on obesity	Subgroups that are particularly at risk could be identified; modeled estimates cannot do this.
Key action that may be stalled	**Constraining data gap**	**Potential value added of filling data gap**
Scaling up of nutrition-specific programs	Coverage data	Groups not receiving effective coverage could be identified.
	Financial tracking data	It would be easier to see whether resources are being allocated to the most cost-effective interventions for the most vulnerable.
	Capacity data	Feasibility of plans to scale up could be assessed.
	Cost data	Practicality of proposed plans, given available resources, could be assessed.
	Disaggregated data	Data would help practitioners scale up nutrition programs at subnational levels.
Scaling up of nutrition-sensitive programs	Financial tracking data	The scope for increasing nutrition-sensitive programming could be assessed.
	Capacity data	The potential for increased nutrition-sensitive programming could be assessed.
	Cost data	Benefit-cost ratios for nutrition-sensitive programs that reflect the marginal benefits and costs of increased nutrition sensitivity could be developed.
	Disaggregated data	The geographic potential of overlaying nutrition-specific and nutrition-sensitive approaches could be better understood.
Better blending, prioritizing, and sequencing of different nutrition actions	Tools and approaches for blended nutrition actions	This information would help prevent the risk of "doing everything." Overlaps between biggest potential impacts and greatest political commitments could be identified.
	Case studies at national and subnational levels	Lessons could be learned about other countries' and regions' successes and failures. Ineffective actions could be avoided.
	Data on trade-offs between nutrition-improving strategies and natural resource use	Nutrition-relevant actions could be made more sustainable, and unnecessary trade-offs with the aims of other sectors could be avoided.

Source: Authors.

Improve the collection of existing data

- **Address problems with collecting low birth weight data.** There are substantial problems with the collection of low birth weight data, including nonstandard definitions, missing data, and evidence of heaping of reporting around the threshold. Given the increased focus on good nutrition during a child's first 1,000 days after conception, it is vital to improve how data are collected, reported, and adjusted.
- **Collect more data on micronutrient biomarkers.** Given the slow overall progress in addressing micronutrient malnutrition, we need better data on trends in micronutrient status so we can identify areas of progress and learn from them. Currently, too few nationally representative surveys contain data on multiple micronutrient biomarkers, collected through standardized methods. In part this gap is due to the absence of field-friendly, noninvasive devices that allow for quick, low-cost assessments of biomarkers in small blood samples.
- **Collect data on different types of program costs.** Rigorous evaluations of programs increasingly collect data on cost and cost-effectiveness. In addition, certain types of cost data are routinely collected as most programs are implemented. But to make these data more useful for, say, prioritizing nutrition interventions, it is important to define unit costs, participation costs, opportunity costs, and recurrent costs; develop methods of collecting data on these costs; and make these data widely available.

Improve data comparability across countries

- **Make data for high-income countries more internationally comparable.** Nearly half of the WHA data reporting gaps are from countries in Europe and Northern America. This is because these countries use different reporting methods or do not grant access to the raw data to WHO and UNICEF.
- **Harmonize data collection on adult obesity.** Different subpopulations are covered by different surveys (for example, surveys of women of reproductive age or all adults), using different methods (for example, enumerator reporting versus self-reporting). Given the rising tide of adult obesity, it is urgent to harmonize data collection.

Collect data more frequently

Compared with policy areas such as economic growth, employment, and poverty reduction, nutrition policy is poorly served by national surveys and surveillance systems. In a world that is more uncertain owing to climate change and environmental degradation, it will be important to have more frequent survey data on changes in nutrition status and in nutrition program coverage.

The WHA database currently contains surveys from 125 countries on anthropometry of children under age five. The database excludes surveys from before 2005, but many of the included surveys are quite old. Nearly 40 percent of the surveys are from the period 2005–2009 (Table 9.2). It seems very challenging to make public policy on the basis of five- to nine-year-old data. Other public policy areas would demand better. Every country should have a national nutrition survey at least every three to four years.

Collect new data

- **Collect more data on nutrition intervention coverage.** Our knowledge about what works in nutrition has increased greatly in the past five years, but our knowledge of how many people interventions are reaching is weak. As programs are scaled up, the collection of coverage data needs to be scaled up as well.
- **Collect data on coverage of moderate acute malnutrition (MAM) and severe acute malnutrition (SAM) programs.** Given the stubbornness of child wasting rates and the increasing volatilities generated by climate change, getting more data on the coverage of MAM and SAM programs is important. Panel 5.1 suggests some ways to do this.
- **Improve data collection on food consumption.** The absence of data on food consumption is one of the most glaring gaps among indicators of nutrition outcomes. For children aged 6 to 23 months, data collection is improving through measurements of complementary feeding that include data on minimum acceptable diet (MAD) and minimum dietary diversity (MDD). For severe food insecurity at the national and subnational levels, new annual data efforts include the Voices of the Hungry, a partnership of Gallup and the FAO that reports on perceptions of hunger. But given the importance of food consumption for anemia and overweight and obesity, more effort should be made to collect new survey-based data on the quantity and quality of food consumption.
- **Collect data on the capacity to design, implement, and evaluate nutrition-relevant actions.** Existing data on human resource availability can be mobilized, but new data are needed on performance at the frontline (for example, community health workers), organization (for example, Ministry

TABLE 9.2 YEAR OF THE MOST RECENT SURVEY CONTAINING UNDER-FIVE ANTHROPOMETRY IN THE WHA DATABASE

Year of most recent survey in WHA database	Number of countries for which this is the most recent survey	Cumulative percentage
2005	7	5.6
2006	8	12.0
2007	11	20.8
2008	8	27.2
2009	14	38.4
2010	28	60.8
2011	18	75.2
2012	25	95.2
2013	6	100.0
Total	**125**	

Source: Authors.

of Health), and system levels (for example, on wages, career prospects, and certification) if nutrition-specific interventions are to be scaled up, nutrition-sensitive programs developed,[3] and an enabling environment created (Sodjinou et al. 2014).

- **Collect data on the resource-use intensity of nutrition programs.** This issue will become increasingly pressing in the post-2015 era, but few data exist. What is the intensity of resource use in nutrition interventions, and which approaches are most environmentally sustainable?

WAYS FORWARD IN FILLING SOME OF THE GAPS

The report has already highlighted ways forward for filling financial tracking gaps (Panel 7.1), SAM coverage gaps (Panel 5.1), and capacity gaps for using existing data (Panel 8.5). Table 9.3 summarizes some ways forward in nine further areas: measuring natural resource use in nutrition, costing nutrition actions, developing food consumption indicators, using experiential assessments of severe hunger, assessing capacity, measuring low birth weight, reporting on adult obesity, self-reporting on SUN institutional transformations, and collecting data on vitamins and minerals. The detailed pieces of work behind each row in Table 9.3 are provided in Technical Notes 4–12.

This report refrains from further prioritizing the data gaps to be filled. More detailed decisions about data priorities should probably be made in various international, regional, national, and subnational forums and involve users and producers of such data. Criteria for such decisions should be appropriate to the context, but should include questions such as the following: Does filling the gap have the potential to stimulate and guide action that reduces malnutrition faster? Is it feasible to fill the gap? Is there is demand for the gap to be filled?

The final priorities will no doubt reflect a combination of technical, capacity, and political considerations. Just as information is power, power shapes information: the data selected for collection, how they are used, and the conclusions framed are all influenced by who is using them.

TABLE 9.3 SOME KEY POINTS FROM TECHNICAL NOTES 4–12 ON WAYS FORWARD IN FILLING SOME DATA GAPS

Data gap	Way forward
Natural resource use	Explore and test innovative scientific methods, pilot studies, metrics, and good practices to link human and natural resource outcomes. (Technical Note 4)
Costs of nutrition actions	Develop standardized guidance on what constitutes nutrition-sensitive action. Address how to include nongovernmental costs. Develop tools to help prioritize and sequence actions. (Technical Note 5)
Food security	Invest in setting up, maintaining, and validating a worldwide data collection system that allows incorporation of standard measures of key food security indicators, including simple food access indicators measured at household and individual levels, into existing survey platforms. Escalate the amount of nationally representative survey data on food consumption, collected through standardized methods. (Technical Note 6)
Severity of food insecurity	Rather than measuring the consequences of food insecurity in terms of what people eat (analysis of food consumption data), measure the severity of food insecurity by asking people directly about their food-related behaviors in the face of restricted access to food. Though food insecurity cannot be directly observed, its extent can be inferred from the lived experiences of food-insecure people themselves. (Technical Note 7)
Implementation capacity	Because capacity is the combination of many interrelated factors at individual, organizational, and systemic levels, a systemic assessment of capacity gaps is needed. A thorough capacity gap analysis would provide the basis for developing a comprehensive framework to strengthen the implementation and scale-up of nutrition interventions. Several authors have provided clear indications to guide the measurement of capacity gaps for nutrition in a systematic manner. However, there have been few attempts to link these proposed frameworks to concrete case studies in countries or regions with a high burden of malnutrition. (Technical Note 8)
Measuring low birth weight	Analyze current methods to adjust for collection inconsistencies and reporting, and explore alternative methods (ongoing). (Technical Note 9)
Adult obesity	Achieve a consensus on the pros and cons of using different adult obesity data sources, with a recommendation on which to use in future *Global Nutrition Reports* and elsewhere. (Technical Note 10)
Institutional transformation	The SUN indicator on institutional transformation (described in Chapter 7) raised awareness about the significant gaps in implementation of actions around common results and in the alignment and tracking of investments for nutrition. Future such exercises can be a way of prioritizing and stimulating change. (Technical Note 11)
Vitamins and minerals	Allocate resources for countries where there are no data and where there is interest in conducting surveys. Collect more nationally representative survey data on multiple micronutrient biomarkers, using standardized methods. Develop field-friendly devices that allow a quick and low-cost assessment of multiple biomarkers in small blood samples. Integrate micronutrient biomarkers into national health information systems. Standardize coverage definitions, collect coverage data, and collate them in a global database to track the progress of micronutrient interventions. (Technical Note 12)

Source: Authors.

10 KEY MESSAGES AND RECOMMENDATIONS

THIS *GLOBAL NUTRITION REPORT* IS AIMED AT NUTRITION CHAMPIONS AND THEIR CURRENT AND POTENTIAL ALLIES—PEOPLE AND ORGANIZATIONS WHO CAN FORM productive partnerships to accelerate improvements in nutrition outcomes. Drawing upon the findings of the report, this chapter offers messages and recommendations for those seeking to accelerate malnutrition reduction through stronger policies, programs, research, and advocacy. The messages are to be tailored to each of these audiences at the global, regional, national, and subnational levels, according to context.

MESSAGE 1: People with good nutrition are key to sustainable development.

The report shows that malnutrition affects nearly every country in the world. Improvements in nutrition status contribute to many of the proposed Sustainable Development Goals (SDGs), which will be the primary global accountability mechanism for the next 15 years. Nutrition should thus be a prominent focus of the SDG framework. At present, only 1 of 169 SDG targets is explicitly related to nutrition.

Recommendations

- The nutrition community should continue to advocate strongly for nutrition within the SDG framework. We recommend finding ways of embedding all six World Health Assembly (WHA) nutrition indicators within the SDG framework, but not necessarily all in the food and nutrition SDG. In addition, we recommend identifying and advocating for indicators and targets across all SDGs that are clearly important to tracking nutritional outcomes, drivers, and consequences, even when they are not labeled as nutrition indicators.
- In the next few months, influential players within the nutrition community should intensify their engagement on nutrition in the SDG process. These players include key governments, foundations, prominent nongovernmental organizations (NGOs) and civil society organizations, the UN and other key multilateral agencies, businesses, and researchers and academics.

MESSAGE 2: We need to commit to improving nutrition faster and build this goal into the Sustainable Development Goal targets for 2030.

Using new data, experiences, and analyses, we make the case that the SDG targets for 2030 need to be more ambitious than simple extrapolations of trends for the WHA targets for 2025. Considerable commitments and energy are evident from the SUN Movement, the Nutrition for Growth Summit and Compact, the Second International Conference on Nutrition in November 2014, and the 2016 Rio Olympic Summit. New evidence from the Indian state of Maharashtra, new preliminary and promising national-level data from India, new analysis of trend data from Bangladesh, and new comparative country evidence provide grounds for us to set more ambitious goals for what can be achieved.

Recommendations

- The UN agencies should lead a brief but open and consultative process to establish a consensus on SDG nutrition targets for 2030. This process should be completed by the end of the first quarter of 2015.
- A decision needs to be made on how to align WHA 2025 targets with new 2030 targets.

MESSAGE 3: The world is currently not on course to meet the global nutrition targets set by the World Health Assembly, but many countries are making good progress in the target indicators.

Although the world is not on course to meet the global WHA targets, many individual countries are. Of the 99 countries for which we can make assessments for four of the six WHA targets, 68 are on course to meet one or more of the WHA targets. We need to understand more about why these countries are successful and others are not. The case studies from Bangladesh, Brazil, Maharashtra, and the United States as well as Europe illustrate the broad-based effort it takes to improve people's nutrition in a sustained way.

Recommendation

- Research funders and research journals should commission a series of high-quality country case studies to understand

how progress has and has not been achieved, to identify bottlenecks, to guide further action, and to inform and inspire related efforts in other countries. These should be led by researchers from the case study countries, should include countries from all parts of the world, and should be completed to agreed-upon standards of quality.

MESSAGE 4: Dealing with different, overlapping forms of malnutrition is the "new normal."

Single-issue malnutrition is on the wane, and the days of separating undernutrition from overweight and obesity are numbered, if not over. Countries are increasingly facing complex combinations of malnutrition. For example, of 122 countries with data on stunting among children under age five, anemia in women of reproductive age, and obesity in adults, fewer than 20 experience only one type of malnutrition. This complexity should not be an excuse for inaction, but an urgent call for more effort to strategize, prioritize, and sequence actions. Complexity must focus action, not stifle it.

All nutrition actors need to be more aware of the risks—nutritional, financial, and political—of addressing each burden in isolation. Given these multiple burdens as well as the trend toward decentralization of nutrition programming, it is more important than ever to produce subnational and other disaggregated analyses of nutrition outcomes.

Recommendations

- Nutrition-related institutions—national and international, public and private—need to better align their capacity and expertise with the evolving nature of malnutrition. Groups that work on undernutrition issues need to reach out to groups within their organizations that work on overweight, obesity, and noncommunicable diseases.
- International partners who work on only one dimension of malnutrition should consider whether their approach reflects a deliberate strategic focus or simply an easy default.
- In the disbursement of awards, funders should encourage the development of simple tools to help develop and refresh country and subnational plans for improving nutrition status, focusing on prioritization, sequencing, and trade-offs.

MESSAGE 5: We need to extend coverage of nutrition-specific programs to more of the people who need them.

Only three nutrition-specific programs—vitamin A supplementation, universal salt iodization, and zinc treatment during diarrhea—have comparable national coverage data for many countries. This is in part because few nutrition-specific interventions have been scaled up. The poor data on coverage of interventions to treat moderate and severe acute malnutrition are a particular concern because levels of moderate and severe child wasting are high and persistent.

Expanded program coverage is valuable only if it leads to expanded impact. It is thus important to focus on maintaining and improving effectiveness. Research on implementation has an important role to play in improving the quality of programming.

Recommendations

- The 2015 *Global Nutrition Report* will help the relevant agencies do more to document and analyze the stock of available data on program coverage. We aim to expand the report's focus on programs to address overweight and obesity.
- As programs scale up to national levels, data on coverage must be scaled up in ways that promote international comparisons.
- In future research calls, a greater emphasis should be placed on implementation research.

MESSAGE 6: A greater share of investments to improve the underlying determinants of nutrition should be designed to have a larger impact on nutritional outcomes.

This report has highlighted the stable long-term relationship between improvements in the underlying drivers of stunting (such as food supply, clean water and sanitation coverage, and women's secondary education enrollment) and decreases in stunting rates. Given the relatively large national budget expenditures for agriculture, social protection, health, and education, there is a clear rationale for increasing the proportion of those expenditures that are nutrition sensitive. Moreover the need to do so seems urgent. For example, the nutrition-sensitive disbursements of the donors cited in the report were only twice that of their nutrition-specific disbursements. The evidence base on how to increase nutrition sensitivity is growing stronger in agriculture and social protection but less so in other sectors.

Recommendations

- As difficult as it may be, nutrition investors—whether governments, civil society organizations, businesses, or international partners—need to persist with their efforts to assess nutrition-sensitive spending.
- A review of evidence on how to make health systems and interventions on water, sanitation, and hygiene more nutrition sensitive needs to be commissioned.
- The relative absence of evidence on the nutrition impacts of nutrition-sensitive programs and approaches means that efforts to improve nutrition sensitivity should be evaluated in a rigorous way.

MESSAGE 7: More must be done to hold countries, donors, and agencies accountable for meeting their commitments to improve nutrition.

In most fields of human endeavor, accountability is a constant spur to action. But the key features of nutrition status—the need to work in alliances to improve it, the long-term benefits derived from improving it, and the invisibility of the consequences of failing to do so—all work against accountability. An increased

focus on accountability is not designed to "name and shame"; it is about focusing scarce resources that have alternative uses.

At present, accountability of all stakeholders in nutrition is weak. The Nutrition for Growth (N4G) tracking process showed a community with highly variable capacities to respond to accountability prompts. In addition, there are few national data on domestic resource flows designed to improve nutrition status. Presently, country-level progress can only be assessed for four of the six WHA indicators. The nutrition community needs to be more deliberate about building accountability. Investing in civil society is likely to be key, as highlighted in several panels throughout the report.

Recommendations

- As a matter of urgency, the Joint Child Malnutrition Monitoring group (UNICEF, WHO, and the World Bank) should establish rules for determining whether countries are on or off course for meeting global goals on low birth weight and exclusive breastfeeding.
- Targets for nutrition spending should be developed in both domestic budgets and donor budgets and accompanied by better tracking data on spending to ensure that the quantity and quality of spending are improved. The 2015 *Global Nutrition Report* will include new work in this area.
- N4G signatories need to see themselves as champions of accountability—investing in accountability mechanisms within their own organizations and helping others to become more accountable.
- The development, piloting, and evaluation of new accountability mechanisms by all nutrition actors should be encouraged and supported. Approaches that engage citizens and national civil society organizations are particularly important.
- The 2014 *Global Nutrition Report* places insufficient emphasis on business and private sector accountability. The 2015 *Global Nutrition Report* will rectify this shortcoming.

MESSAGE 8: Tracking spending on nutrition is currently challenging, making it difficult to hold responsible parties accountable.

Few countries have transparent and comprehensive systems for tracking nutrition spending, with Guatemala appearing to be one notable exception. Tracking of donor resources is improving, but many reporting differences remain. Civil society organizations, multilateral agencies, and businesses also need to do more to track nutrition resources.

Recommendations

- Countries should be supported by a wide range of stakeholders to undertake basic data-gathering exercises on nutrition-relevant budget allocations. The data can then be categorized into nutrition-specific and nutrition-sensitive categories using national or international definitions and published in an open data format. The 2015 *Global Nutrition Report* will aim to provide a platform for countries to highlight their work in this domain.
- Other nutrition actors—such as UN agencies, large civil society organizations, intergovernmental organizations, and large companies—should be encouraged to undertake similar financial tracking exercises and to make the data freely available.

MESSAGE 9: Nutrition needs a data revolution.

The world has committed itself to meeting six WHA global nutrition targets, yet more than half of the countries in the world do not have the data to assess their progress. It is, moreover, a problem in all regions: of the 94 countries that are missing WHA tracking data, 38 are in Europe and 1 is in North America. In addition, nearly 40 percent of the countries that do have tracking data for four of the six WHA targets are using survey data that are five to nine years old.

In addition to data gaps on WHA progress, intervention coverage, and financial tracking, there are important gaps in data on food consumption, program costs, low birth weight, micronutrient status, capacity to scale up interventions, and impact. We also have few data on the natural resource use intensity of different nutrition actions.

Recommendations

- Because there are many data gaps, it is vital to prioritize which gaps to fill. Given the imminent finalization of the SDGs, we need to be prepared for a possible increase in spending on data gathering. A series of regional workshops should be held in the next 12 months to identify key data gaps to be filled.
- Nutrition investors—both domestic and international—should be prepared to invest in capacity to conduct consistent and comparable national nutrition surveys so that they are available every three to four years.
- High-income countries need to do more to make their WHA data internationally comparable. Future *Global Nutrition Reports* will track the rates of inclusion of data from these countries, which are mainly in Europe.
- Too little is spent on updating and maintaining national and global databases on nutrition. Governments and donors must start investing more in this essential component of accountability. The 2015 *Global Nutrition Report* will attempt to analyze current levels of investment in relation to need.

MESSAGE 10: National nutrition champions need to be recognized, supported, and expanded in number.

Effective large-scale action on nutrition requires the existence of sufficient numbers of dedicated, trained, and properly motivated individuals with adequate resources, working in conditions that support their efforts. Examples of the importance of these champions are plentiful: the Maharashtra case study in Panel 2.3, for example, shows how important it is to fill frontline

nutrition staff vacancies, while Panels 8.2 and 8.3 on African civil society networks highlight the importance of the scale and reach of their membership. If nutrition is to improve rapidly and sustainably by 2030, it must be driven by the efforts of national champions. The global community, then, needs to champion these individuals and their organizations.

Recommendations

Governments, international partners, and businesses need to invest strategically, systematically, and in a sustained manner in

- nutrition leadership programs to scale up the numbers and reach of nutrition champions (the African Nutrition Leadership Programme is a good example of a program that has the potential for scale-up);
- filling frontline vacancies of nutrition practitioners at the community, district, and national levels and strengthening the incentives and motivation of existing frontline workers; and
- country-led research programs, including not only research on the sequencing and prioritization tools that nutrition champions need, but also support for their efforts to evaluate interventions.

WE CAN IMPROVE NUTRITION MORE RAPIDLY: STRONGER ACCOUNTABILITY IS KEY

This report, supported by a wide-ranging group of stakeholders and delivered by an Independent Expert Group in partnership with a large number of contributors, aims to mark progress in improving nutrition status, highlight areas for action, and contribute to strengthened nutrition accountability. The report seeks to provide a fresh perspective on the distribution of malnutrition, on efforts to reduce it, and on the capacities and data needed to drive such efforts. It attempts to shed new light on the issues, initiate new conversations, and identify new opportunities to act. The authors of the report view it as an intervention to reframe the way we think about malnutrition, to reset aspirations about how quickly it can be reduced, and to reenergize actions to reduce it.

Urgency is the driver of this reimagining of nutrition. The report shows that malnutrition—whether in the form of infants whose brains fail to develop fully or adults whose hearts fail to function properly—affects virtually every country on the planet. And yet the world is not on track to meet the global nutrition targets set by the WHA for 2025.

In the 21st century the challenge of improving nutrition status resonates the world over. A failure to intensify action will cast a long shadow, bequeathing a painful legacy to the next generation. Our generation has not only the opportunity but also the ability to banish those shadows. Yet we can be successful only if we act strategically, effectively, in alliances, and at scale, and hold ourselves accountable. This report—its data, analysis, examples, messages, and recommendations—represents one contribution to meeting this collective 21st-century challenge.

APPENDIX 1: THE NUTRITION COUNTRY PROFILE: A TOOL FOR ACTION

The two-page country profiles present a range of evidence needed to assess country progress in improving nutrition and nutrition-related outcomes. The first step in using the nutrition country profiles is to explore all types of data shown: demographic factors; anthropometric and other nutrition status measures for children, adolescents, and adults; coverage of evidence-based interventions; financial data; policy and systems factors; and broader determinants. They are organized as shown in Table A.1.

Key questions that can be answered in reviewing the data include the following:

- Are trends in nutritional status measures moving in the right direction? How prevalent are risk factors for diet-related noncommunicable diseases? Is the country progressing toward achieving the World Health Assembly targets for 2025?
- How high is coverage for each intervention? Do trends in infant and young-child feeding practices show improvements? Are there major gaps in coverage for specific interventions?
- How diverse and adequate is the food supply? Are supportive policies and institutional arrangements in place to enable delivery of needed nutrition-specific and nutrition-sensitive programs?

The second step in using the nutrition country profiles is to identify opportunities to address coverage gaps and weaknesses in the health system and policy framework so that progress can be rapidly achieved in improving child, adolescent, and adult nutrition. Questions to ask include the following:

- Are the coverage and policy data consistent with the epidemiological situation? This inquiry can be broken down into more specific questions:
  - If stunting prevalence is high, are levels low for the infant and young-child feeding practices? Would a focus on ensuring adherence to the International Code of Marketing of Breast-milk Substitutes and promoting optimal breastfeeding practices help to drive progress on reducing stunting?
  - In countries where low birth weight and short stature among women of reproductive age are highly prevalent, are sufficient resources being targeted to improve the provision of high-quality family planning and antenatal and delivery care? Is legislation in place to reduce the percentage of women who have a first birth before the age of 18, such as laws prohibiting child marriage and policies that facilitate women's increased enrollment in secondary school?
  - Are there patterns in the risk factors for noncommunicable diseases and trends in adolescent and adult overweight and obesity that suggest clear actions? For example, high prevalence of adult overweight and obesity and prevalence of raised blood pressure and blood glucose levels suggest the need for programmatic action targeted at changing food consumption and exercise patterns and improving access to healthy food options. Guidelines on diabetes and hypertension should also be in place and enforced.
- In countries experiencing high levels of stunting and increasing levels of child and adult overweight, are sufficient resources being spent on nutrition-specific and nutrition-sensitive interventions that address this double burden? Does undernutrition feature in the country's national development plan, and are community and school-based strategies in place to improve access to diverse diets and increase healthy eating and exercise habits?

The profiles are meant to be a stimulus to action. Instances of gaps and shortcomings, as well as evidence of progress, should serve as signals for further investigation.

TABLE A.1 GUIDE TO THE NUTRITION COUNTRY PROFILES

PAGE 1		
Economics and demography		
Poverty rates and GDP (vertical clustered bar graph with superimposed trend line)	Under-5 mortality rate (vertical bar graph)	Income inequality: Gini index (text, one indicator)
		Population (text, four indicators)
Child anthropometry		
Child anthropometry, number of children under 5 affected and percentage of children under 5 affected (text, seven indicators)	Prevalence of under-5 stunting (vertical bar graph)	Changes in stunting prevalence over time, by wealth quintile (graph)
Adolescent and adult nutrition status		
Adolescent and adult anthropometry (text, four indicators)	Micronutrient status of population (text, four indicators)	
Metabolic risk factors for diet-related noncommunicable diseases (vertical clustered bar graph)	Prevalence of adult overweight and obesity (horizontal clustered bar graph)	
World Health Assembly indicators: Progress against global WHA targets		
Under-5 stunting (text)	Under-5 wasting (text)	Under-5 overweight (text)	WRA anemia (text)
PAGE 2		
Intervention coverage and child-feeding practices		
Continuum of care (horizontal bar graph)	Rate of exclusive breastfeeding of infants under 6 months (vertical bar graph)	Intervention coverage (text, five indicators)
		Infant and young-child feeding practices (text, two indicators)
Underlying determinants		
Food supply (vertical clustered bar graph with superimposed trend line, three indicators)	Gender-related determinants (text, three indicators)	Female secondary education enrollment (vertical bar graph)
	Population density of health workers per 1,000 people (text, three indicators)	
Improved drinking water coverage (100% stacked vertical bar graph)	Improved sanitation coverage (100% stacked vertical bar graph)	Government expenditures (stacked vertical bar graph)
Financial resources and policy, legislation, and institutional arrangements		
Scaling Up Nutrition (SUN) country institutional transformations, 2014 (horizontal bar graph)	Policy and legislative provisions (text, five indicators)	Availability and stage of implementation of guidelines/protocols/standards for the management of NCDs (text, two indicators)

Source: Authors.

Note: WRA = women of reproductive age. NCDs = noncommunicable diseases.

APPENDIX 2: WHICH COUNTRIES ARE ON COURSE TO MEET SEVERAL WHA TARGETS?

The six global World Health Assembly (WHA) nutrition targets are (1) reducing child stunting by 40 percent, (2) reducing anemia in women of reproductive age by 50 percent, (3) reducing low birth weight by 30 percent, (4) preventing an increase in child overweight, (5) increasing exclusive breastfeeding of infants up to at least 50 percent, and (6) reducing and maintaining child wasting to less than 5 percent. Currently it is only possible to assess country-by-country progress on the four targets related to stunting, anemia, overweight, and wasting because UNICEF, WHO, and the World Bank have not yet finalized rules for determining country-by-country progress on low birth weight and exclusive breastfeeding.

TABLE A.2 COUNTRIES ON COURSE TO MEET SEVERAL WHA TARGETS

On course for 0 targets	On course for 1 target	On course for 2 targets	On course for 3 targets	On course for 4 targets
Azerbaijan	Albania	Algeria	El Salvador	Colombia
Bangladesh	Armenia	Chile	Jamaica	
Benin	Belize	China	Viet Nam	
Bhutan	Bolivia	Georgia		
Botswana	Bosnia and Herzegovina	Guatemala		
Burkina Faso	Burundi	Jordan		
Comoros	Cambodia	Kenya		
Djibouti	Cameroon	Liberia		
Egypt	Central African Republic	Mongolia		
Eritrea	Chad	Morocco		
Ghana	Congo	Nicaragua		
Guyana	Côte d'Ivoire	Peru		
Haiti	Democratic Republic of the Congo	Serbia		
Indonesia	Dominican Republic	The FYR Macedonia		
Iraq	Equatorial Guinea	Togo		
Mali	Ethiopia	Tunisia		
Mozambique	Gabon	Uganda		
Myanmar	Gambia	United States		
Namibia	Guinea	Uzbekistan		
Niger	Guinea-Bissau	Zimbabwe		
Oman	Honduras			
Pakistan	India			
Papua New Guinea	Kazakhstan			
Philippines	Kuwait			
Sao Tome and Principe	Kyrgyzstan			
Sierra Leone	Lao People's Democratic Republic			
Syrian Arab Republic	Lesotho			
Thailand	Malawi			
Timor-Leste	Maldives			
United Republic of Tanzania	Mauritania			
Zambia	Mexico			
	Montenegro			
	Nepal			

Source: Authors, based on data from UNICEF, WHO, and World Bank (2014) and Stevens et al. (2013, and rules on on/off course from WHO (2014a), updated August 2014.

Note: This analysis only includes countries that have data available for all four indicators for which rules for determining on/off-course status have been finalized—that is, stunting, anemia, overweight, and wasting.

Continued

Table A.2 continued

On course for 0 targets	On course for 1 target	On course for 2 targets	On course for 3 targets	On course for 4 targets
	Nigeria			
	Rwanda			
	Senegal			
	South Africa			
	Sri Lanka			
	Suriname			
	Swaziland			
	Tajikistan			
	Uruguay			
	Venezuela			
	Yemen			

TABLE A.3 COUNTRY PROGRESS ON THE FOUR WHA TARGETS

Africa (n = 54)	Under-five stunting			Under-five overweight			Under-five wasting		WRA anemia		
Country	Current AARR (%)	Required AARR (%)	On/off course	Baseline rate	Current AARR (%)	On/off course	Baseline rate	On/off course	Current AARR (%)	Required AARR (%)	On/off course
Algeria	7.9	3.2	On	12.9	2.7	Off	4.0	On	0.9	5.2	Off
Angola		5.7					8.2	Off	1.3	5.2	Off
Benin	-2.7	5.2	Off	11.4	-30.6	Off	8.4	Off	2.2	5.2	Off
Botswana	-1.1	3.7	Off	11.2	-1.1	Off	7.2	Off	1.8	5.2	Off
Burkina Faso	2.6	5.5	Off	2.8	-3.9	Off	10.9	Off	1.0	5.2	Off
Burundi	0.9	5.7	Off	2.9	-7.6	Off	6.1	Off	5.6	5.2	On
Cameroon	1.4	5.2	Off	6.5	4.7	On	5.8	Off	1.0	5.2	Off
Cabo Verde									1.1	5.2	Off
Central African Republic	0.8	4.8	Off	1.8	15.5	On	7.4	Off	0.9	5.2	Off
Chad	0.3	5.8	Off	2.8	0.3	On	15.7	Off	0.9	5.2	Off
Comoros	3.1	4.8	Off	10.9	5.5	Off	11.1	Off	1.8	5.2	Off
Congo	3.6	5.4	Off	3.6	13.3	On	5.9	Off	1.2	5.2	Off
Côte d'Ivoire	5.1	5.4	Off	3.2	12.8	On	7.6	Off	0.3	5.2	Off
DRC	0.1	5.6	Off	4.9	2.6	On	8.5	Off	1.0	5.2	Off
Djibouti	-2.2	3.8	Off	8.1	1.0	Off	21.5	Off	2.0	5.2	Off
Egypt	-3.1	3.7	Off	20.5	-17.1	Off	7.9	Off	-0.1	5.2	Off
Equatorial Guinea	4.7	5.2	Off	9.7	3.1	Off	3.1	On	1.1	5.2	Off
Eritrea	-1.8	4.9	Off	1.9	-2.2	Off	15.3	Off	2.0	5.2	Off
Ethiopia	2.3	4.7	Off	1.8	1.5	On	10.1	Off	3.7	5.2	Off
Gabon	3.3	4.8	Off	7.7	-2.7	Off	3.4	On	0.3	5.2	Off
Gambia	0.1	3.9	Off	1.9	4.3	On	9.5	Off	2.0	5.2	Off
Ghana	2.8	4.4	Off	2.6	-0.7	Off	6.2	Off	-1.3	5.2	Off
Guinea	1.4	5.2	Off	3.8	2.1	On	9.9	Off	0.8	5.2	Off
Guinea-Bissau	1.7	5.2	Off	3.2	6.1	On	5.8	Off	0.7	5.2	Off
Kenya	1.3	5.0	Off	5.0	4.8	On	7.0	Off	5.6	5.2	On
Lesotho	3.3	4.0	Off	7.3	10.6	Off	3.9	On	2.0	5.2	Off
Liberia	1.0	5.1	Off	4.2	1.3	On	2.8	On	1.2	5.2	Off
Libya		2.5		22.4		Off	6.5	Off	0.9	5.2	Off
Madagascar	1.4	5.8	Off						2.6	5.2	Off
Malawi	1.3	5.6	Off	9.2	2.9	Off	4.1	On	3.3	5.2	Off
Mali	2.0	6.5	Off	4.7	-8.7	Off	15.3	Off	1.1	5.2	Off
Mauritania	3.9	5.1	Off	1.2	6.4	On	11.6	Off	1.0	5.2	Off
Mauritius									0.5	5.2	Off
Morocco	5.3	3.6	On	10.7	2.7	Off	2.3	On	0.6	5.2	Off
Mozambique	1.4	5.5	Off	7.9	-1.4	Off	6.1	Off	1.0	5.2	Off
Namibia	0.0	4.5	Off	4.6	-4.9	Off	7.5	Off	1.4	5.2	Off
Niger	1.9	7.4	Off	3.0	-5.4	Off	18.7	Off	1.2	5.2	Off

Continued

Source: Stevens et al. (2013); UNICEF, WHO, and World Bank (2014). For rules on on/off course, see Table 3.3 and WHO (2014a), updated August 2014.

Notes: Green = currently on course; orange = currently off course; blank cell = no data available; AARR = annual average rate of reduction; WRA = women of reproductive age. An AARR > 0 means that the prevalence rate is decreasing. An AARR < 0 means that the prevalence rate is increasing.

Table A.3 continued

Africa continued	Under-5 stunting			Under-5 overweight			Under-5 wasting		WRA anemia		
Country	Current AARR (%)	Required AARR (%)	On/off course	Baseline rate	Current AARR (%)	On/off course	Baseline rate	On/off course	Current AARR (%)	Required AARR (%)	On/off course
Nigeria	2.0	5.9	Off	4.9	6.9	On	18.1	Off	0.7	5.2	Off
Rwanda	0.9	4.9	Off	7.1	0.1	Off	3.0	On	2.1	5.2	Off
Sao Tome and Principe	1.8	4.2	Off	11.6	-4.3	Off	11.2	Off	1.2	5.2	Off
Senegal	2.7	5.3	Off	1.5	7.0	On	8.9	Off	0.2	5.2	Off
Seychelles									2.2	5.2	Off
Sierra Leone	-0.8	4.5	Off	10.3	-9.0	Off	9.2	Off	1.7	5.2	Off
Somalia	-6.3	5.9	Off	4.7			13.2	Off	0.4	5.2	Off
South Africa	2.4	3.0	Off		-13.0	Off	4.7	On	1.7	5.2	Off
South Sudan	3.7	5.7	Off	6.0	13.9	On	22.7	Off			
Sudan	2.2	3.9	Off	4.2			16.4	Off	2.0	5.2	Off
Swaziland	0.8	4.0	Off	10.7	3.3	Off	0.8	On	1.5	5.2	Off
Togo	-1.8	5.0	Off	1.6	23.6	On	4.8	On	0.9	5.2	Off
Tunisia	4.2	3.2	On	14.3	-8.4	Off	2.8	On	0.4	5.2	Off
Uganda	2.6	6.0	Off	3.8	2.2	On	4.8	On	3.0	5.2	Off
United Rep. of Tanzania	1.9	5.7	Off	5.5	-4.7	Off	6.6	Off	1.3	5.2	Off
Zambia	2.9	6.5	Off	8.4	3.5	Off	5.6	Off	2.1	5.2	Off
Zimbabwe	0.1	4.8	Off	5.8	7.9	On	3.1	On	1.3	5.2	Off
Asia (n = 47)											
Afghanistan									0.5	5.2	Off
Armenia	-1.6	1.8	Off	16.8	-0.5	Off	4.2	On	-3.7	5.2	Off
Azerbaijan	-3.8	2.7	Off	13.9	-18	Off	6.8	Off	0.9	5.2	Off
Bahrain									1.8	5.2	Off
Bangladesh	2.7	3.3	Off	1.9	-6.6	Off	15.7	Off	0.6	5.2	Off
Bhutan	3.2	3.3	Off	7.6	-4.7	Off	5.9	Off	1.9	5.2	Off
Brunei Darussalam									-2.3	5.2	Off
Cambodia	2.1	4.0	Off	1.9	6.9	On	10.8	Off	2.3	5.2	Off
China	8.1	2.7	On	6.6	-2.3	Off	2.3	On	0.9	5.2	Off
Cyprus									-1.3	5.2	Off
DPR Korea	4.8	4.1	On	0.0			4.0	On	3.3	5.2	Off
Georgia	3.3	1.4	On	19.9	-1.2	Off	1.6	On	0.5	5.2	Off
India	1.7	3.7	Off	1.9	5.9	On	20.0	Off	1.1	5.2	Off
Indonesia	0.5	3.0	Off	11.5	-19.6	Off	13.5	Off	4.0	5.2	Off
Iran	0.6	3	Off				4.0	On	1.7	5.2	Off
Iraq	2.2	5.3	Off	11.8	-7.5	Off	7.4	Off	0.7	5.2	Off
Israel									-1.3	5.2	Off
Japan									-0.9	5.2	Off
Jordan	4.4	3.4	On	4.7	-0.9	Off	2.4	On	-0.6	5.2	Off
Kazakhstan	0.1	3	Off	13.3	-9.7	Off	4.1	On	1.9	5.2	Off
Kuwait	-0.8	5	Off	9.5	-1.1	Off	2.4	On	0.4	5.2	Off
Kyrgyzstan	0.3	4	Off	9.0	2.8	Off	2.8	On	1.4	5.2	Off
Lao PDR	0.8	3.8	Off	2.0	3.0	On	6.4	Off	2.9	5.2	Off
Lebanon									0.1	5.2	Off
Malaysia	2.6	4.6	Off						3.2	5.2	Off
Maldives	5.5	3.3	On	6.5	-6.6	Off	10.2	Off	3.2	5.2	Off
Mongolia	5.4	3.2	On	10.9	-2.1	Off	2.3	On	-0.7	5.2	Off

Continued

Table A.3 continued

Asia continued	Under-5 stunting			Under-5 overweight			Under-5 wasting		WRA anemia		
Country	Current AARR (%)	Required AARR (%)	On/off course	Baseline rate	Current AARR (%)	On/off course	Baseline rate	On/off course	Current AARR (%)	Required AARR (%)	On/off course
Myanmar	1.8	3.1	Off	2.6	-1.0	Off	7.9	Off	3.7	5.2	Off
Nepal	3.4	3.2	On	1.5	-7.9	Off	11.2	Off	2.6	5.2	Off
Oman	2.7	3.8	Off	1.7	-0.6	Off	7.1	Off	1.0	5.2	Off
Pakistan	-0.6	3.9	Off	4.8	-1.2	Off	10.5	Off	-0.3	5.2	Off
Philippines	0.8	4.6	Off	5.0	-7.7	Off	7.9	Off	4.3	5.2	Off
Qatar									0.8	5.2	Off
Republic of Korea		4.4		6.7			0.9	On	-1.9	5.2	Off
Saudi Arabia		1.7		6.1			11.8	Off	1.1	5.2	Off
Singapore									-1.7	5.2	Off
Sri Lanka	1.3	2.8	Off	0.6	3.8	On	21.4	Off	3.3	5.2	Off
Syrian Arab Republic	-0.4	4.3	Off	17.9	1.2	Off	11.5	Off	1.0	5.2	Off
Tajikistan	3.5	4.7	Off	6.6	0.8	On	9.9	Off	3.8	5.2	Off
Thailand	-0.6	2.4	Off	10.9	-5.3	Off	6.7	Off	0.3	5.2	Off
Timor-Leste	-0.3	5.4	Off	5.8	-0.2	Off	18.9	Off	3.8	5.2	Off
Turkey	5.8	3.3	On				0.8	On	0.7	5.2	Off
Turkmenistan									1.1	5.2	Off
United Arab Emirates									0.9	5.2	Off
Uzbekistan	6.2	3.3	On	12.8	-3.6	Off	4.5	On	1.2	5.2	Off
Viet Nam	4.3	2.4	On	4.6	-6.0	Off	4.4	On	6.4	5.2	On
Yemen	2.6	4.5	Off	1.5	14.0	On	13.3	Off	1.0	5.2	Off
Europe (n = 43)											
Albania	5.8	4.4	On	23.4	2.8	Off	9.4	Off	1.1	5.2	Off
Andorra									-1.5	5.2	Off
Austria									-1.3	5.2	Off
Belarus		2.6		9.7		Off	2.2	On	0.0	5.2	Off
Belgium									-1.7	5.2	Off
Bosnia and Herzegovina	2.5	4.8	Off	17.4	-0.5	Off	2.3	On	0.4	5.2	Off
Bulgaria									-0.1	5.2	Off
Croatia									0.2	5.2	Off
Czech Republic									-0.4	5.2	Off
Denmark									-1.5	5.2	Off
Estonia									-0.2	5.2	Off
Finland									-1.7	5.2	Off
France									-1.5	5.2	Off
Germany		3.7		3.5			1.0	On	-1.4	5.2	Off
Greece									-1.4	5.2	Off
Hungary									0.0	5.2	Off
Iceland									-1.5	5.2	Off
Ireland									-1.2	5.2	Off
Italy									-1.6	5.2	Off
Latvia									0.0	5.2	Off
Liechtenstein											
Lithuania									-0.3	5.2	Off
Luxembourg									-1.4	5.2	Off
Malta									-1.5	5.2	Off
Monaco											

Continued

Table A.3 continued

Europe continued	Under-5 stunting			Under-5 overweight			Under-5 wasting		WRA anemia		
Country	Current AARR (%)	Required AARR (%)	On/off course	Baseline rate	Current AARR (%)	On/off course	Baseline rate	On/off course	Current AARR (%)	Required AARR (%)	On/off course
Montenegro	-2.2	2.7	Off	22.3	-4.6	Off	2.8	On	0.0	5.2	Off
Netherlands									-1.4	5.2	Off
Norway									-1.5	5.2	Off
Poland									-0.2	5.2	Off
Portugal									-1.0	5.2	Off
Republic of Moldova		1.7		9.1		Off	5.8	Off	0.6	5.2	Off
Romania	4.4				5.5				0.1	5.2	Off
Russian Federation									0.1	5.2	Off
San Marino											
Serbia	4.0	2.4	On	15.6	4.2	Off	3.5	On	0.5	5.2	Off
Slovakia									-0.1	5.2	Off
Slovenia									-0.1	5.2	Off
Spain									-1.4	5.2	Off
Sweden									-1.6	5.2	Off
Switzerland									-1.6	5.2	Off
The FYR Macedonia	4.0	3.0	On	12.4	-2.2	Off	1.8	On	-2.4	5.2	Off
Ukraine									0.0	5.2	Off
United Kingdom									-2.8	5.2	Off
Latin America and the Caribbean (n = 33)											
Antigua and Barbuda									2.9	5.2	Off
Argentina		3.6		9.9		Off	1.2	On	0.7	5.2	Off
Bahamas									3.1	5.2	Off
Barbados									3.2	5.2	Off
Belize	2.8	4.4	Off	7.9	10.4	Off	3.3	On	3.5	5.2	Off
Bolivia	3.5	4.4	Off	8.7	1.1	Off	1.4	On	-0.2	5.2	Off
Brazil		3.3		7.3		Off	1.6	On	1.0	5.2	Off
Chile	3.8	3.7	On	10.1	2.0	Off	0.3	On	-0.6	5.2	Off
Colombia	3.5	3.4	On	4.8	1.0	On	0.9	On	5.9	5.2	On
Costa Rica		3.6		8.1		Off	1.0	On	1.6	5.2	Off
Cuba									3.3	5.2	Off
Dominica									3.1	5.2	Off
Dominican Republic	-2.2	3.8	Off	8.3	-1.1	Off	2.3	On	3.3	5.2	Off
Ecuador	1.7	3.9	Off				2.4	On	3.0	5.2	Off
El Salvador	3.5	3.3	On	5.7	0.3	On	1.6	On	3.4	5.2	Off
Grenada									3.2	5.2	Off
Guatemala	0.8	5.0	Off	4.9	4.2	On	1.1	On	3.2	5.2	Off
Guyana	-4.0	2.4	Off	6.7	-2.4	Off	5.3	Off	2.9	5.2	Off
Haiti	2.1	3.8	Off	3.6	-1.3	Off	5.2	Off	3.4	5.2	Off
Honduras	3.8	4.3	Off	5.2	-4.9	Off	1.4	On	3.7	5.2	Off
Jamaica	3.6	3.3	On	4.0	2.2	On	3.5	On	3.2	5.2	Off
Mexico	2.2	3.2	Off	9.0	-2.9	Off	1.6	On	4.8	5.2	Off
Nicaragua	2.4	3.3	Off	6.2	3.3	On	1.5	On	4.3	5.2	Off
Panama	3.0	4.0	Off				1.2	On	4.2	5.2	Off
Paraguay		4.4		7.1		Off	1.1	On	1.0	5.2	Off
Peru	4.3	3.7	On	7.2	3.0	Off	0.6	On	4.9	5.2	Off
Saint Kitts and Nevis											

Continued

Table A.3 continued

Latin America and the Caribbean continued	Under-5 stunting			Under-5 overweight			Under-5 wasting		WRA anemia		
Country	Current AARR (%)	Required AARR (%)	On/off course	Baseline rate	Current AARR (%)	On/off course	Baseline rate	On/off course	Current AARR (%)	Required AARR (%)	On/off course
Saint Lucia		3.4		6.3			3.7	On	2.9	5.2	Off
Saint Vincent and the Grenadines									3.1	5.2	Off
Suriname	4.9	3.6	On	4.0	-3.4	Off	5.0	Off	3.2	5.2	Off
Trinidad and Tobago									3.1	5.2	Off
Uruguay	2.6	3.5	Off	7.2	2.7	Off	1.3	On	0.6	5.2	Off
Venezuela	2.5	3.7	Off	6.4	-2.2	Off	4.1	On	3.2	5.2	Off
Northern America (n = 2)											
Canada									-1.5	5.2	Off
United States	3.9	4.2	Off	6	1.2	On	0.5	On	-3.4	5.2	Off
Oceania (n = 14)											
Australia									-1.2	5.2	Off
Fiji									2.7	5.2	Off
Kiribati									2.3	5.2	Off
Marshall Islands									2.3	5.2	Off
Micronesia									0.4	5.2	Off
Nauru		3.9		2.8			1.0	On			
New Zealand									-2.8	5.2	Off
Palau											
Papua New Guinea	-3.0	4.7	Off	13.8	-41.9	Off	14.1	Off	2.1	5.2	Off
Samoa									2.0	5.2	Off
Solomon Islands		4.3		2.5			4.3	On	2.3	5.2	Off
Tonga									2.1	5.2	Off
Tuvalu		3.9		6.3			3.3	On			
Vanuatu		4.3		4.7			5.9	Off	5.2	5.2	On

APPENDIX 4: DONOR SPENDING ON NUTRITION-SPECIFIC AND NUTRITION-SENSITIVE INTERVENTIONS AND PROGRAMS

Table A.4 shows how much donors committed to spend on nutrition-specific and nutrition-sensitive interventions and programs in 2010 and 2012, and how much they actually disbursed in those years. Nutrition-specific interventions or programs are those that address the immediate determinants of fetal and child nutrition and development—adequate food and nutrient intake, feeding, caregiving, and parenting practices, and a low burden of infectious diseases. Examples include adolescent, preconception, and maternal health and nutrition; maternal dietary or micronutrient supplementation; promotion of optimum breastfeeding; complementary feeding and responsive feeding practices and stimulation; dietary supplementation; diversification and micronutrient supplementation or fortification for children; treatment of severe acute malnutrition; prevention and management of moderate acute malnutrition; and nutrition in emergencies.

Nutrition-sensitive interventions or programs are those that address the underlying determinants of fetal and child nutrition and development—food security; adequate caregiving resources at the maternal, household, and community levels; and access to health services and a safe and hygienic environment—and incorporate specific nutrition goals and actions. Nutrition-sensitive programs can serve as delivery platforms for nutrition-specific interventions, potentially increasing their scale, coverage, and effectiveness. Examples of these programs include agriculture and food security; social safety nets; early child development; maternal mental health; women's empowerment; child protection; schooling; water, sanitation, and hygiene; and health and family planning services. These definitions of "nutrition specific" and "nutrition sensitive" are consistent with *The Lancet*'s 2013 Series on Maternal and Child Nutrition.

For all donors, commitments represent the total amount reserved by a donor, backed by the appropriation or availability of the necessary funds, to provide a specified amount of resources for the benefit of a recipient country, agency, or nongovernmental organization. Multiyear commitments may be made in one year but disbursed over several years. There is some variation in how disbursements are reported. For example, the EU 2012 total disbursement figure represents all disbursements made against their 2012 commitments, regardless of the year in which they are disbursed. All other donors have reported their disbursements against commitments made in current and previous years.

TABLE A.4 DONOR SPENDING ON NUTRITION-SPECIFIC AND NUTRITION-SENSITIVE CATEGORIES, 2010 AND 2012 (THOUSANDS OF US$)

	Nutrition-specific				Nutrition-sensitive									
	Commitments		Disbursements		Commitments		Disbursements		Total commitments			Total disbursements		
Donor	**2010**	**2012**	**2010**	**2012**	**2010**	**2012**	**2010**	**2012**	**2010**	**2012**	**Change**	**2010**	**2012**	**Change**
Australia			6,672	16,516			49,903	114,553				56,575	131,069	
Canada[a]	61,280	163,118	98,846	205,463	49,053	76,948	80,179	90,171	110,333	240,066		179,025	295,634	
EU[b]	67,060	24,075	50,889	8	425,917	543,883	392,563	309,209	492,977	567,958		443,452	309,217	
France	3,585	4,737	2,895	3,852	23,340	27,141	23,003	27,141	26,925	31,878		25,898	30,993	
Germany[c]	4,550	1,687	2,987	2,719	19,104	37,951	18,856	29,139	23,654	39,638		21,843	31,858	
Ireland[d]	7,691	7,565	7,691	7,565	34,806	45,412	34,806	45,412	42,497	52,977		42,497	52,977	
Netherlands	4,487	36,314	2,661	4,007	381	80,674	2,484	20,160	4,868	116,988		5,145	24,167	
Switzerland[e]					23,976	43,733	21,099	28,800	23,976	43,733		21,099	28,800	
United Kingdom	20,762	12,925	39,860	63,127	164,992	246,065	302,215	412,737	185,754	258,990		342,075	475,864	
United States[f]	414,730	339,879	8,820	68,380	3,259,518	3,157,153	TBD	TBD	3,674,248	3,497,032		TBD	TBD	
Bill & Melinda Gates Foundation	19,540	49,960	50,060	80,610	23,330	18,560	12,320	34,860	42,870	68,520		62,380	115,470	
Children's Investment Fund Foundation[g]	6,402	36,996	980	5,481					6,402	36,996		980	5,481	
World Bank	54,513	248,171	61,160	21,873	1,928,471	852,750			1,982,984	1,100,921		61,160	21,873	
Total	664,600	925,427	333,521	479,601	5,952,888	5,130,270	937,428	1,112,182	6,617,488	6,055,697		1,262,129	1,523,403	

Source: Authors.

Notes: Green color = increase; orange color = decrease; TBD = to be determined.

[a] The commitment reflects the total amount reserved for this investment. In order to determine if the amount committed is fully disbursed, disbursements for each year of the investment would need to be reviewed. Because multiple codes are used to classify investments in Canada, a small proportion of the budget for nutrition-sensitive investments may be captured in the nutrition-specific total. As such, these investments would not have been considered for the nutrition-sensitive figures.

[b] The Nutrition for Growth (N4G) baseline covers EU commitments only. The EU commitments are firm agreements with a partner that entail a particular budget. The reported disbursements of years 2010 and 2012 correspond to the sum of the payments made on the commitments on years 2010 and 2012 only. For humanitarian assistance, commitments are disbursed within a period of maximum 24 months.

[c] The relevant N4G baseline covers the German Federal Ministry for Economic Cooperation and Development (BMZ) commitment only (in thousands of US$): nutrition-specific commitments (2010): US$1,766; and nutrition-sensitive commitments (2010): US$19,104. The totals for Germany do not include humanitarian assistance.

[d] Ireland operates a cash year, so commitments are equal to disbursements.

[e] These figures for Switzerland are provisory. They include a significant proportion of nutrition-sensitive investments accounted for under "humanitarian aid" in the Creditor Reporting System of the Organisation for Economic Co-operation and Development's Development Assistance Committee, such as in-kind provision of Swiss dairy products.

[f] The development of the US government's nutrition-specific and nutrition-sensitive budgets was a collaborative effort and included participation from the US Agency for International Development (USAID), the Millennium Challenge Corporation, and the US Departments of State, Treasury, and Agriculture. Based on nutrition-specific and nutrition-sensitive definitions consistent with the 2013 Lancet series, departments and agencies analyzed programs to identify resources attributable to nutrition-specific or nutrition-sensitive interventions. For nutrition-specific programming, the following funding streams were considered: USAID Development Assistance; USAID Economic Support Fund; USAID Global Health Programs; USAID Community Development Funding; USAID Food for Peace Title II/Community Development Resilience Fund; USAID Food for Peace Title II/Emergency; USAID International Disaster Assistance; Millennium Challenge Corporation; State Department's US Global Health Programs (President's Emergency Plan for AIDS Relief); and Treasury Department's Global Agriculture and Food Security Program (GAFSP). Departments and agencies also provided descriptions of activities identified as either nutrition-specific or nutrition-sensitive to accompany resource tables. Programs were then further reviewed by technical experts and policymakers to ensure that resources were fully consistent with the definitions.

[g] Both Children's Investment Fund Foundation commitments and disbursements have been included in terms of contracted (or transferred) amounts for a single year; historically CIFF did not enter into multiyear contracts.

APPENDIX 5: HOW ACCOUNTABLE IS THE *GLOBAL NUTRITION REPORT?*

Based on recent publications on nutrition accountability (Kraak et al. 2014; te Lintelo 2014), this report uses a simple accountability framework to guide its work: identifying commitments, tracking progress, identifying accountability, using the accountability, and responding to the accountability. Table A.5 describes how the report attempts to promote accountability in nutrition (including its own accountability) at each step in the cycle.

Issues related to the report's (1) validation of data, (2) independence, (3) legitimacy, and (4) sustainability are addressed in a paper found on the report's website (www.globalnutritionreport.org). The first three of these aspects of the report can be briefly described:

1. *Validation of data*. The report's data and conclusions will be validated (or not) by a wide series of reviews (internal and external), transparency of process, open access to all data, and country launches.
2. *Independence*. Each member of the Independent Expert Group (IEG) has a particular perspective as a result of disciplinary training, geographic and institutional location, and life experiences. IEG membership is diverse, based primarily on individual perspectives, reputation, and expertise. Individuals were openly nominated, and the selection process was stated at the time of nomination. IEG members' statements of competing interests on the website promote transparency and support confidence in independence. The report also has a diverse set of funders, and this diversity protects against dependence.
3. *Legitimacy*. For whom does this report speak, and why should anyone pay attention to it? The legitimacy of the report derives from the call for an accountability report in the Nutrition for Growth Compact. This call was further refined by the establishment of a Stakeholder Group that delivered formal terms of reference for the report, including the formation of an IEG that would be accountable for the quality of the report. Nevertheless, the Stakeholder Group and the IEG are not formal entities, and so issues of legitimacy are especially pertinent. We have sought to strengthen our legitimacy by being inclusive at all stages. Ultimately the quality (rigor, relevance, innovativeness, comprehensiveness, timeliness, and accessibility) of the report will be the reason people do or do not pay attention to it.

TABLE A.5 APPLYING THE ACCOUNTABILITY FRAMEWORK TO THE REPORT'S OWN PROCESSES

Stage in accountability cycle	Actions to promote accountability at this stage	Comments
1. Identify commitments (who pledged to do what, and by when?)	Explicit: Public declarations of commitment **We highlight:** • World Health Assembly (WHA) targets • N4G commitments • Charters/laws/policies/plans **Implicit: Without targets** We highlight the direction and speed of change of indicators that evidence and theory suggest are good proxies for outcomes and determinants of nutrition status.	Some commitments (for example, nutrition status outcomes) are difficult to identify with a single responsible party (for example, governments are not in complete control of these outcomes).
2. Track progress of a set of key indicators, some of which may have explicit commitments	• We observe a set of 84 indicators for as many countries as possible. • Some indicator progress is against time-bound targets, and some is not. • Some progress can be verified (for example, nutrition status data from surveys, adherence to national implementation of the International Code of Marketing of Breast-milk Substitutes), and some cannot (that is, self-reported indicators for which there is no capacity to verify, such as civil society organization spending).	• Data quality and availability vary among indicators. • Many indicators are self-reported. • We signal issues of variable quality.
3. Identify accountability (has commitment been met?)	We identify which commitments are or are not met in a transparent way in the report, with an emphasis on how to relieve bottlenecks.	We take care to avoid counterproductive "naming and shaming."
4. Use the accountability	The report seeks to create a series of real and virtual spaces and tools (such as a data visualization and two-page nutrition country profiles) for civil society to hold committers to account and for committers to provide their perspectives (through blogs, panels, and 10 report launches).	Other than the pressure of public opinion, there are few formal ways to create incentives to meet commitments or sanctions for failure to meet them. Sanctions that are too strong may reduce the number of commitments.
5. Respond to accountability	In subsequent reports, commitments will be updated and progress against them will be tracked with follow-up panels and highlights.	To some extent, we must rely on self-reporting.

Source: Authors, based on Kraak et al. (2014) and te Lintelo (2014).

APPENDIX 6: AVAILABILITY OF DATA FOR NUTRITION COUNTRY PROFILE INDICATORS

TABLE A.6 NUMBER OF COUNTRIES WITH DATA FOR EACH INDICATOR

Indicator	Number of countries with data	Comment on the method to find number of countries with trend data
Economics and demography		
Population (000)	193	
Under-five population (000)	183	
Population urban (%)	193	
Population > 65 years (%)	183	
Under-five mortality rate (deaths per 1,000 live births)	192	These are trend data, and here data availability is counted from the most recent year (2012).
Poverty rates (% of population living on US$1.25/day)	35	These are trend data, and here data availability is counted from the most recent year (2010).
Poverty rates (% of population living on US$2/day)	35	These are trend data, and here data availability is counted from the most recent year (2010).
GDP per capita (purchasing power parity in constant 2011 international $)	168	These are trend data, and here data availability is counted from the most recent year (2013).
Income inequality (Gini index)	35	These are trend data, and here data availability is counted from the most recent year (2010).
Child anthropometry		
Under-five stunting (%)	125	These are trend data, and here data availability is counted from the most recent year.
Under-five wasting (%)	123	
Under-five severe wasting (%)	114	
Under-five overweight (%)	117	
Under-five stunting, total population affected (thousands)	123	
Under-five wasting, total population affected (thousands)	121	
Under-five overweight, total population affected (thousands)	115	
Changes in stunting prevalence over time, by wealth quintile	80	
Low birth weight incidence (%)	176	
Adolescent and adult nutrition status		
Adolescent overweight (%)	60	
Adolescent obesity (%)	60	
Women of reproductive age, thinness (%)	67	
Women of reproductive age, short stature (%)	67	
Adult overweight (%)	188	
Adult obesity (%)	188	
Women of reproductive age with anemia, total population affected (%)	185	
Women of reproductive age with anemia, total population affected (000)	185	
Vitamin A deficiency in preschool-age children (%)	154	
Population classification of iodine nutrition	125	
Raised blood glucose (%)	188	
Raised blood pressure (%)	188	
Raised blood cholesterol (%)	188	

Continued

Source: Authors.

Note: NCDs = noncommunicable diseases; WRA = women of reproductive age.

Indicator	Number of countries with data	Comment on the method to find number of countries with trend data
World Health Assembly indicators: Progress against global WHA targets		
Under-five stunting currently on/off course	109	
Under-five wasting currently on/off course	123	
Under-five overweight currently on/off course	117	
WRA anemia currently on/off course	185	These are modeled data; the number of actual surveys is very small.
Intervention coverage and child-feeding practices		
Minimum acceptable diet of children 6–23 months old (%)	27	
Minimum dietary diversity of children 6–23 months old (%)	27	
Antenatal care (4+ visits) (%)	123	
Skilled attendant at birth (%)	176	
Unmet need for family planning (%)	131	
Early initiation of breastfeeding (within 1 hour after birth) (%)	116	
Rate of exclusive breastfeeding of infants under 6 months (%)	112	These are trend data, and here data availability is counted from the most recent year.
Continued breastfeeding at 1 year (%)	120	
Severe acute malnutrition, geographical coverage (%)	47	
Vitamin A supplementation, full coverage (%)	62	
Children under five with diarrhea receiving oral rehydration salts (ORSs) (%)	115	
Immunization coverage, full course of diphtheria, pertussis, and tetanus vaccine (DTP3) (%)	192	
Iodized salt consumption (%)	128	
Underlying determinants		
Undernourishment (%)	81	These are trend data, and here data availability is counted from the most recent year (2014).
Availability of fruits and vegetables (grams)	169	These are trend data, and here data availability is counted from the most recent year (2011).
Available calories from nonstaples (%)	169	These are trend data, and here data availability is counted from the most recent year (2009).
Gender Inequality Index (score)	148	
Gender Inequality Index (country rank)	148	
Population density of health workers (per 1,000 people): Physicians	191	
Population density of health workers (per 1,000 people): Nurses and midwives	186	
Population density of health workers (per 1,000 people): Community health workers	62	
Early childbearing: births by age 18 (%)	105	
Female secondary education enrollment (%)	110	These are trend data, and here data availability is counted from the most recent year (2012).
Improved sanitation coverage (%)	188	These are trend data, and here data availability is counted from the most recent year.
Improved drinking water coverage (%)	189	These are trend data, and here data availability is counted from the most recent year.
Financial resources and policy, legislation, and institutional arrangements		
Government expenditure on agriculture (%)	74	These are trend data, and here data availability is counted from the most recent year (2010).
Government expenditure on social protection (%)	79	These are trend data, and here data availability is counted from the most recent year (2010).
Government expenditure on education (%)	80	These are trend data, and here data availability is counted from the most recent year (2010).
Government expenditure on health (%)	80	These are trend data, and here data availability is counted from the most recent year (2010).

Continued

Table A.6 continued

Indicator	Number of countries with data	Comment on the method to find number of countries with trend data
Financial resources and policy, legislation, and institutional arrangements		
National implementation of the International Code of Marketing of Breast-milk Substitutes	165	
Extent of constitutional right to food	136	
Maternity protection (Convention 183)	169	
Wheat fortification legislation	181	
Undernutrition in national development plans and economic growth strategies	107	
Availability and stage of implementation of guidelines/protocols/standards for the management of NCDs: Diabetes	179	
Availability and stage of implementation of guidelines/protocols/standards for the management of NCDs: Hypertension	178	
Scaling Up Nutrition (SUN) country institutional transformations: Bringing people into a shared space for action (%)	50	
Scaling Up Nutrition (SUN) country institutional transformations: Ensuring a coherent policy and legal framework (%)	50	
Scaling Up Nutrition (SUN) country institutional transformations: Aligning actions around a common results framework (%)	50	
Scaling Up Nutrition (SUN) country institutional transformations: Financial tracking and resource mobilization (%)	50	
Scaling Up Nutrition (SUN) country institutional transformations: Total weighted (%)	50	

NOTES

CHAPTER 1

1 The World Health Organization estimates that at least a third of the world's population is affected by micronutrient malnutrition (Allen et al. 2006) and that in 2008 more than 1.4 billion adults over the age of 20 were overweight (WHO 2014b).

2 Nutritional needs change over the life course, and adequate nutrition early in life—particularly during the 1,000 days between a woman's pregnancy and a child's second birthday—has enormous benefits throughout the life cycle and across generations.

3 The scope for progress in nutrition outcomes will depend on external factors such as climate, conflict, trade, and financial shocks; political opportunities generated by changes in leadership or crisis; and the capacity of different actors to deliver nutrition-relevant actions. Data can play a vital role in building commitment and guiding action, but it is only one of the factors at play.

4 For more information, see http://globalnutritionreport.org/governance/concept-note/.

5 The main criterion for selecting indicators was evidence of relevance in improving nutrition outcomes. Many other indicators were considered but not included because there was little evidence that they mattered for nutrition outcomes or they were not available for more than a handful of countries. The nutrition country profile document on the *Global Nutrition Report* website (www.globalnutritionreport.org) provides a rationale for each indicator included and for indicators considered but not included. Appendix 1 describes how to use the nutrition country profiles as a diagnostic tool, and Appendix 6 summarizes the indicators by category. Technical Note 1 (available at www.globalnutritionreport.org) provides definitions and full data sources for all 84 indicators.

6 In addition to the report, key data can be found on the *Global Nutrition Report* website (www.globalnutritionreport.org), including nutrition country profiles, more in-depth panels and additional panels beyond those presented in the report, detailed Nutrition for Growth tracking tables, and relevant blogs and news pieces.

Panel 1.1

1 These concepts are based on Ruel and Alderman (2013), Gillespie et al. (2013), and Haddad and Isenman (2014).

CHAPTER 2

1 In fact they may be more competitive because they exclude several benefit categories that these health sector studies included: (1) the social value of human life, (2) morbidity averted, and (3) changes in the dependency ratio due to subsequent fertility declines resulting from improved child survival.

2 The rate of progress required for countries to meet targets is expressed by WHO as the annual average rate of reduction (AARR) or annual average rate of increase (AARI). They can be applied to prevalence rates or numbers of individuals. For example, the AARR for a change from a 40 percent stunting rate in 2005 (P1) to a 30 percent rate in 2012 (P2), a seven-year time frame, is $([7\sqrt{(P2/P1)}] - 1) * 100$ = an AARI of −4.026 percent or an AARR of 4.026 percent. AARI is analogous to a compound rate of interest that generates P2 after being applied to P1 over a period of, in this case, seven years. For more details, see http://www.childinfo.org/files/Technical_Note_AARR.pdf.

3 For example, the WHA goal of reducing the number of stunted children under the age of five from 162 million in 2012 to 102.5 million in 2025 translates into an average annual rate of reduction (AARR) of 3.9 percent (de Onis et al. 2013). But the new data on stunting in India may generate an opportunity for more ambitious steps. If the number of stunted children globally, say, is now actually about 150 million (not 162 million as in Table 2.3) because of the new India results, then an AARR of 3.9 percent from 2013 to 2025 would reduce the number of stunted children to about 93 million and to 76 million by 2030. Moreover, as prevalence rates decline, it becomes mathematically easier to attain a given AARR, suggesting that we should increase our AARR ambitions as progress is made in stunting rates. A modest increase in the target AARR to 4.2 percent, applied from 2013 to 2030 from a base of 150 million stunted children would make the 2030 target 61 million. We do not suggest this as a 2030 SDG target for stunting. What we do suggest is that it is time to reassess our aspirations for nutritional status improvements toward 2030 in the light of new data and evidence.

Panel 2.2

1 Anthropometric measurements were made for 90,667 children younger than five years old. Inquiries on the methodological details can be directed to UNICEF's India office.

Panel 2.3

1 Haddad et al. (2014) used a review of existing studies and reports, a comparison of 2005–2006 and 2012 survey data, and a set of 28 stakeholder interviews in four districts.

Panel 2.4

1 Using a multiyear sample covering 1970 to 2012 and 116 low- and middle-income developing countries (accounting for 96 percent of the developing world's population), we generated panel regression estimates for the associations between stunting prevalence and the six underlying determinants of stunting. The regression model (six proxy underlying determinants, country dummy variables, and time-period dummy variables) predicted much of the variation in stunting and was stable over time (pre- and post-2000).

2 For access to improved water source, Brazil had a level of 95 percent in 2006; Vietnam had access to improved sanitation facilities of 76 percent in 2011 and Sri Lanka had 89 percent in 2006. For female secondary school enrollment, South Africa posted a rate of 95 percent in 2008. For the ratio of female to male life expectancy, Indonesia had 1.06 in 2004, Honduras had 1.07 in 2005, and the Central African Republic had 1.08 in 2010. For dietary energy supply, Ghana had 2,934 in 2011. Finally, for the share of dietary energy supply from nonstaples, Guatemala had 49 percent in 2008, Brazil had 64 percent in 2006, Thailand had 50 percent in 2005, and Swaziland had 45 percent in 2005.

CHAPTER 3

1 The rationale for and formulation of the WHA nutrition targets is provided in WHO (2012b).

2 At this time it is not possible to assess whether sufficient progress is being made on a country-by-country basis toward the global goals on low birth weight and exclusive breastfeeding because the rules for determining such progress have not yet been finalized by UNICEF, WHO, and the World Bank.

3 Stunting is defined as being below minus two standard deviations from the median height-for-age of the WHO Child Growth Standards for children 0–59 months old.

4 In part this reflects the fact that a given percentage-point change generates a larger average annual rate of reduction or increase at lower prevalences.

5 Overweight is defined as being above two standard deviations from the median weight-for-height of the WHO Child Growth Standards for children 0–59 months old.

6 Wasting is defined as being below minus two standard deviations from the median weight-for-height of the WHO Child Growth Standards for children 0–59 months old.

7 Exclusive breastfeeding is defined as the practice of feeding infants younger than six months old only breastmilk.

8 We cannot report on UN regions Europe and Northern America because of missing data. No internationally comparable data are available for Northern America, and for Europe only 10 of 43 countries have data, covering only 14 percent of the region's population.

9 Low birth weight is defined as weight at birth of less than 2,500 grams.

10 The majority of babies born in low- and low-middle-income countries are not weighed. To help account for the large proportion of unweighed births, survey data undergo a number of adjustments (see Technical Note 9, available at www.globalnutritionreport.org). While the methods were applicable when originally proposed, yielding plausible values for low birth weight in countries with available data at that time, shifts in various factors (such as the proportion of weighed births and the proportion of recorded birth weights from maternal recall versus from a health card) seem to have rendered the adjustments less robust in some cases. This has raised questions related to the time series in a number of countries. Therefore, UNICEF, WHO, Johns Hopkins University, and the London School of Hygiene and Tropical Medicine are undertaking methodological work to determine if revision to the adjustment procedures is required. Until that time, time series are not available from UNICEF and WHO.

11 Anemia is defined as hemoglobin levels below 12 g/dL for nonpregnant women of reproductive age (15–49 years) and below 11 g/dL for pregnant women.

12 The *Global Nutrition Report* Independent Expert Group alone is responsible for the classification of countries in this report, which does not necessarily represent the view or assessment of WHO. WHO will report on progress made toward the achievement of the WHA global nutrition targets at its 68th WHA session in May 2015.

13 Countries in each category are listed in Appendix 2.

14 Given their time sensitivity, wasting trends between surveys that are several years apart are not considered meaningful by WHO, and so the average annual rate of reduction is not used as a rule for determining whether countries are on or off course. Nevertheless, this is not a universal view and not all wasting trends are shock related—hence the value of Table 3.2.

15 Appendix 3 lists the on- or off-course status for all countries and indicators.

16 1,000 Days and the Bill & Melinda Gates Foundation, two members of this report's Stakeholder Group, are developing WHA policy briefs, and we will endeavor to collaborate on the development of these briefs, making them as useful to national policymakers as possible.

CHAPTER 4

1 Thinness and short stature of women of reproductive age and female obesity coexist for only one country, Yemen.

Panel 4.4

1 American Indian and Alaskan Native is the official classification for this population group in the United States census (United States Census Bureau 2014).

2 The nutrition and weight status objectives can be found at United States Department of Health and Human Services (2014).

CHAPTER 5

1 Water and sanitation coverage are described in Chapter 6.

2 Other indicators of iron–folic acid supplementation are available; we chose the one likely to have the largest effect on nutrition status.

3 Minimum dietary diversity is the proportion of children 6–23 months of age who receive foods from four or more food groups. Minimum acceptable diet is a composite indicator calculated from (1) the proportion of breastfed children aged 6–23 months who had at least the minimum dietary diversity and the minimum meal frequency during the previous day and (2) the proportion of nonbreastfed children aged 6–23 months who received at least two milk feedings and had at least the minimum dietary diversity not including milk feedings and the minimum meal frequency during the previous day (WHO 2008b).

4 In 2007 WHO introduced changes to indicator definitions of infant and young child feeding practices (WHO 2008b). The criterion for minimum dietary diversity was changed to four or more food groups for all children aged 6–23 months, rather than separate criteria for breastfed children (three or more food groups) and nonbreastfed children (four or more food groups), to reflect the quality of complementary feeding. In addition, "eggs" were counted as a food group separate from poultry. Demographic and Health Surveys where these two changes were not adequately reported were excluded from the database, even if they were conducted after 2007 (WHO 2008a), in an effort to present only data that used the most up-to-date definition and criteria. Since minimum acceptable diet is a composite indicator incorporating minimum dietary diversity, similar criteria were applied. Surveys from 27 countries met these two criteria.

5 The limited availability of national coverage rates for vitamin A supplementation for some UN subregions means we can only report on the subregions where data are reported for at least 50 percent of the subregional population.

6 The most common method used in household surveys to assess iodine in salt is the rapid test kit (RTK). Although RTKs have long been used to assess whether salt has "adequate" iodine (> 15 parts per million) or "inadequate" iodine (0–15 parts per million), the most recent guidelines indicate that RTKs can only provide information on the presence or absence of iodine. Alternative methods like titration are required to determine the quantity of iodine in salt and therefore for measurement of the standard indicator (WHO, UNICEF, ICDD 2007). The apparent lack of precision of RTK-based estimates could lead to questions about comparability over time, and thus UNICEF finds it inappropriate to provide trends at present.

7 We would not expect to have data on all of these interventions for the higher-income countries because some interventions would be self-supplemented (such as iron–folic acid) and therefore not captured in the data, and some are not recommended for all countries (such as vitamin A supplementation).

8 We exclude zinc supplementation for diarrhea from the analysis in the table because its coverage is so low. For the remaining five interventions and practices, we use a conservative coverage level of 50 percent for each.

9 For children under five, WHO/UNICEF define MAM as a weight-for-height Z-score < –2 standard deviations (SD) but > –3 SD. SAM is defined as a weight-for-height Z-score of < –3 (severe wasting), mid-upper-arm circumference of < 11.5cm, bilateral pitting edema, or marasmic kwashiorkor (both wasting and edema). The definition appears at http://www.unicef.org/nutrition/training/2.3/13.html.

10 Wasting is defined as a weight-for-height Z-score of < –2 SD.

Panel 5.1

1 The Coverage Monitoring Network is a multiagency initiative co-funded by the European Commission's Office for Humanitarian Aid and Civil Protection and the Office of Foreign Development Assistance of the US Agency for International Development. It is designed to improve nutrition programs by promoting high-quality coverage assessment tools, capacity building, and information sharing. For more information, go to www.coverage-monitoring.org.

CHAPTER 6

1 There are few econometric analyses of the underlying drivers of obesity across a wide range of countries, and they tend to focus on income, urbanization, and food prices (for example, Font et al. 2010; Popkin et al. 2012; Ruel and Alderman 2013).

2 We aim to focus on social protection, education, health systems, and women's empowerment programs in future *Global Nutrition Reports*.

3 See Technical Note 3 at www.globalnutritionreport.org for details on methodology. More work needs to be done to understand whether this indicator adds value and whether it should be presented in future *Global Nutrition Reports*.

4 As with anemia prevalence, coverage data for water, sanitation, and hygiene are modeled, and therefore estimates (not data) are available for each country.

5 In addition, it is not clear how improved the "other improved" sources are. WHO and UNICEF (2014) defines "other improved" as the "number of household members living in households using public taps or standpipes, tube wells, protected springs, or rainwater collection."

6 The rate can be much higher than 100 if there is extensive grade repetition, so an optimal rate is just above 100.

7 Spending data on water, sanitation, and hygiene are difficult to find. The Government Spending Watch (2013) report found data for only 30 countries. The report states:

> Due to the difficulty of disaggregating water and sanitation spending at country level, this GSW report therefore assesses country progress against an overall target of 1.5 per cent of GDP. Planned spending is well below this target in most countries, as Figure 3.21 shows. Of the 30 countries for which GSW has data, seven (Cambodia, Lesotho, Mozambique, Niger, Samoa, the Solomon Islands, and Tanzania) have recently spent more than 1.5 per cent of GDP on WASH. However, nine others (Central African Republic, Côte d'Ivoire, Ghana, Guyana, Haiti, Madagascar, Liberia, Papua New Guinea, and the Gambia) are spending much less than 0.5 per cent of GDP (the amount needed for sanitation alone) on all aspects of WASH. (p. 39)

8 USAID (2013) provides a good review of how to bring water, sanitation, and hygiene into nutrition programming, but we have not found guidelines on accomplishing the inverse—that is, bringing nutrition into water, sanitation, and hygiene programming. We welcome information on any such guidelines: globalnutritionreport@ids.ac.uk.

Panel 6.2

1 For India between 1999 and 2006 the decline in under-five stunting prevalence was 5 percentage points, from 51 percent to 46 percent or 0.85 percentage points a year (India, Ministry of Health and Family Welfare 2009). For Bangladesh between 1997 and 2007 the decline was from 59 percent to 43 percent or 1.6 percentage points a year.

CHAPTER 7

1 For more information on enabling environments for nutrition and on governance issues, see Gillespie et al. (2013), Swinburn et al. (2011), and Nisbett et al. (2014).

2 This figure is based on the annual cost estimates in Bhutta et al. (2013a).

3 The 2015 *Global Nutrition Report* aims to have more to say on this vital issue, but for now Panels 7.1 and 7.2 are useful summaries of the current situation.

4 Nutrition-specific flows are those defined by the Organization for Economic Co-operation and Development's (OECD) Development Assistance Committee (DAC) Creditor Reporting System code 12240. (Note that this way of classifying nutrition-specific interventions is not without problems; see Action Against Hunger 2012). According to the SUN Donor Network (2013):

> To be nutrition-sensitive, the actions must fulfill ALL the following criteria: Aimed at Individuals: the actions must intend to improve nutrition for women or adolescent girls or children; AND The project has a significant nutrition objective OR nutrition indicator(s); AND The project must contribute to nutrition-sensitive outcomes, which are explicit in the project design through activities, indicators and specifically the expected results themselves. (p. 2)

Further details of the methodology used by donors can be found at SUN Donor Network (2013).

5 Note that Switzerland is not an N4G signatory although the remaining funders are.

6 An official from USAID informed us that USAID reported on disbursements as reported to the OECD-DAC for nutrition-specific investments (excluding school feeding) but not yet on nutrition-sensitive investments because they are still refining their tracking methodology for this area. A World Bank official informed us that given the bank's large portfolio of projects that disburse money every year, a tally of nutrition-sensitive disbursements—using the methodology adopted by this report—was not available.

7 The N4G commitment document is at Nutrition for Growth (2013).

8 Forty countries that had joined the SUN Movement before September 2013 were involved in the self-assessment exercise conducted between April and July 2014. Thirty-seven countries were able to complete and send their reports and scoring.

Panel 7.2

1 This website is https://sicoin.minfin.gob.gt/sicoinweb/login/frmlogin.htm. To access it, follow these steps: User = prensa, password = prensa, log in, select year, click on "Reportes para la ley de acceso a la información pública," click on "00818983 Plan del Pacto Hambre Cero," parameter values = select the period, continue.

CHAPTER 8

1 Appendix 5 describes how the report attempts to promote accountability in nutrition (including its own accountability) at each step in the cycle.

2 We will expand the number of independent reviewers for the 2015 *Global Nutrition Report*.

3 The SUN Business Network reports that the private sector is making more commitments above and beyond the N4G commitments. To date, companies have committed to improved nutrition interventions by 2020 for a significant number of consumers in developing and emerging markets. For more information, see the SUN Business Network website at www.sunbusinessnetwork.org.

4 It is necessary to have one small team focusing on engaging and following up with signatories and their responses to ensure comprehensive information. Given the 2014 timelines, this year too many individuals and organizations were involved in following up with organizations, resulting in a rather chaotic process. It is important to record the contact point and their departmental location in each organization. Too often the individuals responsible for signing off on commitments had moved on, and their successors either felt less obligation to deliver on the commitment or did not understand how it was to be delivered or reported on. The reporting templates need to be simplified, with more context and guidance provided on why and how to complete them. There is a need to develop an online platform for signatories to record their progress and make self-assessments in addition to independent assessments. This will reduce transactions costs and errors and promote transparency, peer pressure, and learning. Finally, there is a need to formalize the simple qualitative traffic light system used in this report to signal who is making progress and who is not. The Independent Expert Group will develop procedures for this for the 2015 *Global Nutrition Report*.

CHAPTER 9

1 This information appears in Appendix 6.

2 For example, the commitment to reduce hunger was found to be only loosely correlated with the commitment to improve nutrition status. See the HANCI website at www.hancindex.org.

3 The New Partnership for Africa's Development (NEPAD) and its development partners have supported 50 African countries in mainstreaming nutrition considerations in their national agriculture investment plans using a multisectoral approach, as part of the Comprehensive Africa Agriculture Development Programme (CAADP). This is a good example of investing in data capacity to identify accountability.

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