Momentum is growing for new nutrition goals. In 2012, the Global Targets 2025 (WHO 2012) for nutrition set a strong precedent with six nutrition targets endorsed by the full World Health Assembly (WHA). The UN 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. The UN secretary-general set five elements in the Zero-Hunger Challenge in 2012 (United Nations 2014), including one goal on stunting. And three pan-African regional bodies endorsed a goal including “adequate nutrition for all” (United Nations Economic Commission for Africa 2013).

These are positive signs, but much could change before the final goals are agreed in September 2015. Since the UN goals will not be legally binding on governments or people, 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 lead to action. Vague aspirations or too much technical detail will lose the audience and momentum. This is a challenge for terms like stunting and wasting, which are not well understood outside the community of nutrition and health specialists. 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 the priority position of the nutrition goals is 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, while it contained only one provision on malnutrition making reference to two of the WHA targets (on stunting and wasting in children less than 5 years of age). Arguably this is not a bad outcome so long as the world pays attention to the detail of the WHA targets. A related risk is that good nutrition is reduced to a matter of hunger and food security, 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 healthcare and social protection especially during pregnancy and the first 2 years of life.

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With more than 100 million people, the State of Maharashtra is one of the largest in India and also one of the wealthiest. Between 2006 and 2012 the prevalence of stunting in Maharashtra declined by 15 percent. This decline was documented through two sets of independent surveys. First, a comparison of the government of India’s National Family Health Survey (NFHS-3) from 2005/2006 and a 2012 Comprehensive Nutrition Survey from the government of Maharashtra and the United Nations Children’s Fund (UNICEF) found stunting rates declining from 39 percent to 24 percent for children under age 2.1 Second, a comparison of NFHS-3 from 2005/2006 and the District Level Health Survey of 2013 found stunting rates declining from 45 percent to 30 percent for children under age 5.2

At more than 2 percent per year, this decline is one of the fastest ever recorded. The decline is all the more remarkable as it has occurred within a context where national Indian stunting levels are regularly characterized as stuck. Maharashtra appears to represent a major departure from the norm. This poses the question, what is driving the declines in stunting in the state?

A new analysis (Haddad et al, 2014) attempts to address this question by drawing on a wide range of evidence from the literature, data from the 2012 Comprehensive Nutrition Survey, and interviews and focus group discussions with key stakeholders in academia, civil society, government, international partner organizations, media, and the private sector. The analysis produced four broad conclusions, and they are as follows.

First, the enabling environment for stunting reduction was favourable. At the basic determinant level, the political, social, and economic environment for stunting declines in Maharashtra has been favorable. Economic growth has been steady, and poverty reduction has been higher than the all-India average. The governance performance of the state tends to be midrange among all states in terms of bureaucratic effectiveness, budget transparency, and efforts to combat corruption. In addition, the budget allocation to nutrition has increased from 1 percent to 1.5 percent between 2009 and 2011.

At the underlying determinant level, the food security ranking of the state is in the middle of all major states in India with the efficiency of the Public Food Grain Distribution System (PDS) improving, but no more than the all-India average. The status of women in Maharashtra (based on female literacy, maternal mortality, and anemia rates) is near the top of the state rankings in India, and this ranking has been stable. At the more immediate determinant level, public expenditure on health as a percentage of state gross domestic product was among the lowest of all Indian states in 2004/2005 but has increased as a result of the National Rural Health Mission—a commitment of the central government to expand the range and quality of health


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services to rural areas. The performance of the major nutrition-related program, the Integrated Child Development Services (ICDS), was already among the best in India and has improved in terms of filling frontline health worker vacancies. Finally, the state’s own Nutrition Mission—a public declaration by the state government of its commitment to nutrition improvements—seems to have emerged organically and gained strength over time, serving as a model for other states and gaining support from UNICEF. The survey data confirm the broad-based nature of the declines in stunting (across all wealth rankings, in rural and urban areas, and for boys and girls), with large improvements in some of the stunting determinants (although not in access to improved drinking water). So the first key take-away message is that when most nutrition determinants are moving in the right direction—some in very modest ways—large changes in stunting rates can happen.

Second, while the context is positive, it is far from perfect, and yet stunting has declined dramatically. For example, the water and sanitation environment remains relatively weak, and neither is it improving as quickly as in some other Indian states. Open defecation rates remain near 60 percent and the state remains near the all-India average for access to improved water sources. Agricultural growth is weak and highly variable, and the performance in filling the vacancies for ICDS supervisors lags far behind the ability of the state to recruit the frontline workers who are to be supervised. The second encouraging conclusion, then, is that stunting rates can decline rapidly in the absence of perfection.

The third conclusion is that changes in stunting rates of this magnitude are driven by changes that can take more than a decade to be fully realized and scaled up. This is especially true if the aim is to break the intergenerational cycle of undernutrition and improve maternal and child nutrition sustainably. The journey to lower stunting rates in 2012 had its roots in the early years of the new millennium with the work of a number of dedicated bureaucrats, civil society activists, and members of the media who worked hard to frame the notion that a high level of undernutrition is not an acceptable norm. When all the elements came together—good economic performance, overall governance that is average for all-India (with a good and improving governance of ICDS), some strength in underlying determinants, health system improvements, and improvements in the commitment to nutrition spending and nutrition interventions—a threshold was crossed and stunting rates declined quickly. But behind the rapid decline was a decade of commitment from a wide range of actors.

Finally, the Maharashtra experience shows that leadership matters. While the analysis found it difficult to conclude whether or not the stunting declines could have been achieved without the Nutrition Mission, the stakeholders interviewed said it was very helpful. Primarily it signaled commitment from the top, it served to recalibrate norms of what is acceptable, it served as a clarion call to help focus both new and existing domestic resources on malnutrition reduction, and it meant that successive chief ministers were prepared to be held accountable for the delivery of results. The mission also highlighted the importance of individual leadership, both in the civil service and then civil society (such as V. Ramini, the former head of the Nutrition Mission) and in government (such as the chief ministers).

Overall the Maharashtra experience shows us that when leadership in government and civil society join forces within a supportive socioeconomic context, public action can reduce undernutrition—fast.
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Nutrition is everybody's concern. Many high-income countries are struggling with their own nutrition issues.

In the United States, obesity rates have more than doubled in adults and children since the 1970s (Ogden et al., 2014). While recent estimates suggest that the overall rates of obesity have plateaued or even declined among some groups, obesity is widespread and continues to be a leading public health problem in the United States (Ogden et al. 2014). More than two-thirds (68.5 percent) of US adults are overweight or obese (Ogden et al. 2014), and 31.8 percent of children and adolescents are overweight or obese. Among the majority of sex-age groups, the prevalence of obesity is lower among whites than among blacks and Mexican Americans (May et al. 2013). Many households in the United States suffer from the consequences of overweight and obesity while simultaneously being food insecure. In 2012, 14.5 percent (17.6 million) of US households were food insecure at some time during the year as defined by the US Department of Agriculture.

In the UK, 67 percent of men and 57 percent of women are either 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 UK lags behind only Iceland, with 74 percent of men and 61 percent of women overweight or obese, and Malta, with 74 percent and 58 percent, respectively (Ng et al. 2014).

These increasing trends of overweight and obesity put individuals at high risk of noncommunicable diseases such as cardiovascular disease, diabetes, and strokes. Ng et al. (2014) estimated that nutrition-related risk factors such as overweight and obesity, high cholesterol, inadequate fruit and vegetable intake, and high blood pressure cause 25 percent of disease and disability each year.

What is driving these high rates of overweight and obesity in high-income countries that have already gone through demographic, epidemiological, and nutrition transitions? Dietary shifts and changes in physical activity due to more sedentary lifestyles and work environments are clearly driving these trends. High-income countries have focused on the increased intake of energy-dense nutrient-poor foods by a majority of the population (Popkin et al., 2012) with a shift from plant-based diets to consumption of highly refined foods, animal-based products (meats and dairy), vegetable oils, sugar, and sugar-sweetened beverages (Popkin et al, 2012). At the same time, much of this shift is due to increased availability of fast-food outlets and marketing and promotion of processed and packaged food products (Keats and Wiggins 2014). Carry-out foods and dining out at restaurants have also increased.

Low socioeconomic status in high-income countries is associated with lower uptake of health-promoting behaviors, including healthy eating (Drewnowski and Darmon 2005). For those living on low incomes in high-income countries, the cost of healthier food is considered an important
barrier to improving the quality of dietary intake (Drewnowski and Darmon 2005; Darmon and Drewnowski 2008).

Regarding physical activity and obesity, living environments—including the layout of town, cities, schools, and workplaces—are crucial to increasing rates of exercise. In 23 out of 36 countries, more than 30 percent of boys and girls aged 15 and over are not getting enough exercise (World Health Organization Regional Office for Europe 2014). Among adults, rates of women who don't engage in enough physical activity range from 16 percent in Greece and 17 percent in Estonia to 71 percent in Malta and 76 percent in Serbia (World Health Organization Regional Office for Europe 2014).

Many suggestions and attempts have been made through policies directed at preventive health to mitigate the obesity trends. Strategies include more substantive and effective communication of health messages and information to increase public awareness of healthy eating and physical activity, fiscal measures and taxes to increase the price of unhealthy food, regulation of marketing of unhealthy foods to children, and improvements in school lunches and physical activity spaces. Some suggestions have been made that structural interventions such as taxation may have a greater impact on health and dietary behaviors than individualized health promotion and education alone. However, Cecchini et al. (2010, 1) argue that “a package of measures for the prevention of chronic diseases would deliver substantial health gains, with a very favorable cost-effectiveness profile.”

Recent data suggest that obesity among children is flattening the United States (Ogden et al. 2012). Another study showed that prevalence of childhood obesity has slowed or leveled off in nine countries, including China, Australia, and England as well as the United States (Olds et al. 2011). Although it is too early to understand what is responsible for this trend, some examples of policy change will be important for countries to consider as they begin to grapple with the issue. Some countries in Europe are addressing the obesity epidemic using a multisectoral government approach. The policy approach in these countries focuses on improvements in school lunches, controlling advertising and marketing to children, taxing junk and overprocessed foods, and promoting physical activity (World Health Organization Regional Office for Europe 2014).

In Denmark, a fat tax on butter, milk, cheese, pizza, meat, oil, and processed food was introduced; however, in 2012, the Danish Tax Ministry abolished the fat tax. Mexico is now following suit with an imposed national tax of one peso per liter (about 10 percent) on sugar-sweetened beverages and 8 percent on junk food. The Navajo Nation, who suffer from diabetes at twice the rate of the rest of the US population, passed two bills that will impose an additional 2 percent sales tax on junk food items in addition to the current sales tax of 5 percent and eliminate sales tax on fresh fruits and vegetables, nuts, and seeds. In the United States, the Food and Drug Administration is leading efforts to ban, through legislation, trans fats from the food supply, with the goal of providing protection from cardiovascular risk.

A recent simulation study, which simulated policy implementation of 20 years directed at school-age children, demonstrated that after-school activity programs would reduce obesity the most among children ages 6–12 (by 1.8 percent), the advertising ban would reduce obesity the least (by 0.9 percent), and the tax on sugary drinks would reduce obesity the most in adolescents ages 13–28 (by 2.4 percent) (Kristensen et al. 2014).
Addressing overweight and obesity and noncommunicable diseases will require action from global to local-level actors. Scaling Up Nutrition should expand its mandate to ensure that countries committed to the movement address the emerging trends of overweight and obesity. Perhaps high-income countries should also commit to the Scaling Up Nutrition movement (and be included) to address their own malnutrition issues. Local authorities and leaders should take an active role in planning urban spaces that allow for physical activity and promote the production, distribution, and consumption of affordable fresh fruits and vegetables and other healthy options in urban centers. Former Mayor Bloomberg of New York City pushed for restaurants and fast-food chains to include calorie counts on menus.

Last, business and the private sector need to be engaged and engage particularly in the areas of advertising of junk food to children and participating in government-led, transparent food labeling for consumers. The private sector has substantive potential to contribute to improvements in nutrition, but efforts to realize this have, to date, been hindered by a “scarcity of credible evidence and trust” (Gillespie et al. 2013, 1). Both of these issues need considerable attention if the positive potential on nutrition is to be realized (Gillespie et al. 2013). Yach (2014) suggests that an open discourse and partnering is essential between public and private sectors if we are to tackle complex food and nutrition issues.

Key areas of intervention include (1) engaging health professionals to provide sound, evidence-based advice of healthy eating and living to patients; (2) promoting community-based programs focused on nutrition and exercise campaigns; (3) protecting children from marketing of unhealthy foods; (4) using fiscal instruments (taxing of sugar-sweetened beverages); (5) mandating simple food-labeling systems that are easy for consumers to interpret; (6) legislating calorie indicators on menus of restaurants and fast-food outlets; (7) ensuring food and nutrition guidelines are followed in school meals, hospitals, and work cafeterias; and (8) planning urban environments that create green space and promote physical activity.

The United States, UK, and other high-income countries need to be held accountable to the World Health Association target to ensure no increase in the number of children under age 5 who are overweight. A whole government-vested approach, such as what other European countries are proposing, should be prioritized.


Regional Drivers of Malnutrition in Indonesia

Endang Achadi, with acknowledgments to Dr. Sudarno Sumarto and Taufik Hidayat
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Indonesia is undergoing a paradoxical situation: national gross domestic product (GDP) has steadily grown (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 incidence are increasing rapidly. This double burden poses a serious threat to Indonesia’s economy. Despite efforts to reduce malnutrition, the country is challenged by geographic heterogeneity. For example, immunization coverage rates, as a marker for a functioning health system and an important intervention to impact childhood communicable illness and hence nutrition, have varied. While complete immunization coverage rates have increased from 41.6 percent in 2007 to 59.2 percent in 2013, the range among provinces varies from 29.2 percent to 83.1 percent, depending on the geographical reach. Wealth status is important too: Immunization coverage rates vary among different wealth quintiles from 39.5 percent to 67.8 percent (Indonesia, Ministry of Health, 2013).

Why so much variation in coverage and in health and nutrition outcomes by province? One major factor has been the process of decentralization of the government since 2000. Some have argued that Indonesia has implemented decentralization using a radical approach (Hofman and Kaiser 2002) and in the absence of a comprehensive policy (World Bank 2005. This may have led to less-than-optimal shifting of responsibilities and accountabilities from the central level to the regional (district) level. In Indonesia, this can cause variation in quality of health services because local capacity varies at the district level. Underlying factors driving regional disparities are suggested by a Sumarto et al. (2013) study that 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 of local capacity), a higher degree of urbanization, and those with active local offices for coordinating poverty reduction initiatives.

These same variables were used to examine their relationship with childhood stunting, a marker of chronic undernutrition, using the Riskesdas National Basic Health Survey (Indonesia, Ministry of Health 2008). The survey data were matched with the socioeconomic data (the period of 2005–2010). Using these data sources, 345 districts and municipalities were analyzed. Our analysis found that the direction of the relationship between these variables is consistent with Sumarto et al. (2013), except for fiscal revenues and poverty reduction initiatives. Stunting prevalence among children is statistically associated (p < 0.05) with higher rates in the districts and municipalities with low GDP per capita, a larger share of local leaders with elementary education or no schooling and lower average years of education, and lower share of urban population.

When looking at malnutrition data, it is important to take into account the local context—the geography, the local governance, socioeconomic status, demography, and educational attainment. In Indonesia, these dimensions vary strongly by district. To make real achievements
toward reduction of malnutrition, an important step is to look deeper at district-level data, not just national data, to ensure better health and nutrition program planning.

References


Panel 4.3

Taking the Nutrition Conversation to the District-Level in India: Data Challenges Are Likely to Constrain Accountability and Action

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With civil society partners in Madhya Pradesh, Odisha, and Uttar Pradesh, POSHAN1 (Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition in India) is testing the potential for data-driven nutrition-sensitization workshops at the district level to build a greater understanding for the level and nature of undernutrition at the district level, including the status of immediate, underlying, and basic causes of undernutrition.

District nutrition profiles (see Figure 1 for a snapshot of a profile) draw on diverse sources of data to compile a set of 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.

To date, POSHAN has developed 11 district nutrition profiles for districts in Odisha, Uttar Pradesh, Madhya Pradesh, and Jharkhand. In developing these profiles, we were struck by several challenges in finding recent and reliable data sources for the diverse drivers of undernutrition at district level. These included the following:

- **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 often this meant that the years during which the 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 defined as they appear in global guidelines, delving into various sources for district-level data and comparing them with each other meant

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1 http://poshan.ifpri.info.
www.globalnutritionreport.org
that some of these definitions had to be altered to the data available. Vitamin A supplementation, for instance, had data for children ages 9–59 months in one official report and for children ages 12–23 months in another.

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

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

Regardless of 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 an understanding of the role of different sectors, and are helping to bring a focus to short- and longer-term actions.
Panel 4.4

Targeting Minority Groups at Risk in the United States

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In the United States, an estimated 33 percent of adults are overweight, 36 percent are obese, and 6 percent are extremely obese, and approximately 17 percent of children and adolescents are obese (1,2). Overweight and obesity prevalence is significantly higher among low-income ethnic minority groups and disproportionately affects American Indians (3–5). An overarching goal stated in Healthy People 2020, which sets a 10-year agenda for improving the nation’s health, is to “achieve health equity, eliminate disparities, and improve the health of all groups” (6). Efforts to prevent diabetes and reduce obesity in American Indian communities fit within this goal as well as the country’s nutrition and weight status objectives to promote healthful diets and reduce chronic diseases across all populations.

According to 2010 US Census Bureau data, around 5.2 million American Indian and Alaskan Natives live in the United States, making up about 1.7 percent of the total population. Most American Indian and Alaskan Natives live in rural areas, and a high proportion live at or below the federal poverty level (7). Environmental risk factors for developing obesity are prevalent in many American Indian communities where access to supermarkets is limited and residents are largely dependent upon convenience or gas-station stores stocked with primarily unhealthy foods (for example, chips, soda, candy) and few fruits and vegetables. In addition, considerable variability exists across these communities including language and cultural differences as well as differences in access to resources (food, financial, opportunities for physical activity) and normative rules about food and consumption in the household (8). Thus, developing appropriate interventions for American Indian communities requires a careful balance between adopting a standardized approach that can be tested for effectiveness, and tailoring interventions to meet the particular cultural, economic, and environmental setting of each tribal group (9). Another challenge to introducing nutrition-related interventions into many American Indian communities is deep mistrust and suspicion of all nonresidents—a consequence of their long history of marginalization and disenfranchisement. One approach proven successful to addressing this challenge is ensuring that community members actively participate in each step of the intervention including its design, implementation, and evaluation (9,10).

Key lessons learned for designing future nutrition-related programs for American Indian and potentially other disadvantaged groups in the United States can be distilled from a review of three of the few rigorously tested intervention trials aimed at reducing obesity and diabetes in American Indian communities through modifying the food environment.

- Pathways’ school-based trial in seven American Indian communities (conducted between 1993 and 2001). The Pathways model included four main components: curriculum on nutrition for grades 3–5, changes to the school food service, an enhanced physical education program, and a family component (11). Assessment of the Pathways model found variations in the strength of implementation of each model component, with higher implementation levels achieved for the curriculum and food service components and lower implementation of the family component. Although changes in the primary outcomes—physical activity and obesity—were not observed, positive changes in psychosocial

1 American Indian and Alaskan Native is the official classification for this population group in the United States Census. http://www.census.gov/topics/population/race/about.html.
www.globalnutritionreport.org
measures and improvements in diet associated with the intervention were achieved. A strength of the study was the collaborative process between American Indian and non–American Indian researchers and staff, which helped ensure that the intervention was culturally acceptable, that challenges encountered were readily addressed, and that the findings were accurate. The main weakness—low implementation of the family component—suggests that changes made in the school environment will not be as effective in improving nutrition-related behaviors and outcomes in children unless they are reinforced in the home and wider community (8,9).

- Apache Health Stores Program focused on food preparers and shoppers in two reservations (carried out between 2003 and 2005). The Apache Healthy Stores Program aimed at increasing the availability of healthy food options in local food stores and the purchasing and consumption of these foods (12). The program resulted in measurable improvements in food-related knowledge, healthy food intentions, and purchasing. Although health outcomes were not assessed, a dose–response relationship was shown between intervention exposure, and modest improvements were seen in consumption of foods promoted as healthy—an encouraging sign that improving food-store environments can have a positive impact on food purchasing and other nutrition-related behaviors. The program is still operating in one of the two intervention communities through support from the local diabetes prevention program.

- Navajo Healthy Stores Program focused on improving the availability, purchase, and consumption of healthy foods on the Navajo Nation (carried out from December 2007 to February 2009). The Navajo Healthy Food Stores Program was introduced into 10 store regions in the Navajo nation and involved interactive sessions at each participating store including demonstration of healthier cooking methods, taste-testing healthy foods, giving away promotional items, and responding to questions from customers (10). Similar to the other two trials, the program was found to improve nutrition knowledge levels and purchase of healthy food items, particularly among those individuals most exposed to the intervention. Reductions in prevalence of overweight and obesity were also achieved.

All three interventions showed modest, but measurable, successes. Key take-away messages from the trials include the following: (1) Nutrition interventions targeted at American Indians must be implemented with a high degree of integrity at multiple levels that address both supply and demand factors. Institutional-level interventions such as changes to school curriculums and inventory at food stores work better when they are reinforced in the home and community environments. (2) Reinforcing messages requires engagement with a range of institutions including local media, schools, existing community structures, and food stores. (3) Program sustainability hinges upon active community engagement and finding an appropriate institutional base for continuing activities. (4) Longer-term follow-up is needed of nutrition interventions to detect changes in impact measures such as body mass index and chronic diseases.

These messages make clear that 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 and will require multifaceted and culturally sensitive interventions, progress is possible and is an imperative if the United States is to achieve its health objectives for 2020.

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[www.globalnutritionreport.org](http://www.globalnutritionreport.org)
7. CDC Health disparities and inequalities report.

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Panel 5.1

Improving the Measurement of the Coverage of Programs to Treat Severe Acute Malnutrition

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The capacity to identify, rehabilitate, and cure severe acute malnutrition (SAM) among children has undergone dramatic transformations in recent years, resulting in robust, cost-effective models of care (Bhutta et al 2013) that if implemented at scale could make a significant contribution to child survival and child development (Collins et al 2006). These developments have led not only to consistently high cure rates but also to dramatic increases in the number of SAM cases receiving treatment. According to the United Nations Children’s Fund’s (UNICEF’s) latest figures, more than 2.6 million SAM cases were treated in 2012 worldwide (UNICEF 2012).

In spite of the evident gains made, contextualizing these figures and establishing the coverage, or proportion of cases that are receiving treatment, remains difficult. 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, Coverage Monitoring Network, and ACF International, 2013). At the national level, estimates are also scarce, with only a handful of countries able to report reliable, direct estimations of coverage. Why is this happening?

Part of the challenge in generating the necessary coverage estimations relates to the methodologies involved. The recent development of comprehensive and innovative coverage monitoring tools (including SQUEAC, SLEAC, and S3M methods)1 has provided the means by which to monitor program coverage practically, regularly, and easily (Myatt et al, 2012). These methods not only provide direct coverage estimations but also produce valuable insights into spatial distribution of coverage and the barriers preventing beneficiaries from accessing services. This information has improved the capacity of SAM treatment services to adapt and provide national authorities with guidelines to develop targeted efforts for scaling up SAM treatment. But these methods do require time and technical capacity at a national level (to design, implement, and analyze coverage surveys), which remains in short supply. Collaborative platforms such as the international Coverage Monitoring Network (CMN)2 are helping to address these gaps and have begun a global effort to generate more SAM treatment coverage data and to build the capacity of national stakeholders.

Part of the challenge is also about resources and the comparative importance of coverage data. Coverage data is one of the many elements of routine program data that national authorities and nutrition stakeholders require. But unlike other crucial datasets, coverage data are generated through stand-alone surveys that are not directly linked to formal and periodic surveys including Demographic and Health Surveys and/or Multiple Indicator Cluster Surveys. This is in part due to target populations for these surveys being different from those required for coverage assessment—the population eligible for treatment. The new coverage methodologies noted above are less resource intensive and can therefore be implemented frequently and be used as a monitoring tool, even for monitoring short-term impact. But at the same time, coverage surveys must also compete for attention and resources.

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1 SQUEAC=Semi-Quantitative Evaluation of Access and Coverage; SLEAC=Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage; S3M=Simple Spatial Survey Method
2 The Coverage Monitoring Network is a multi-agency initiative co-funded by the European Commission’s Office for Humanitarian Aid and Civil Protection (ECHO) and the Office of Foreign Development Assistance (OFDA) of the United States Agency for International Development (USAID) to improve nutrition programs through the promotion of quality coverage assessment tools, capacity building and information sharing. Visit www.coverage-monitoring.org to find out more about the CMN project.

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with better established, multi-indicator surveys rather than exploring the opportunities for piggybacking or integrating (in one form or another) into these formal processes.

Successfully integrating coverage into these systems will take time, but there is plenty that can be done at present to start bridging and linking these datasets. UNICEF, Action against Hunger, the Food and Nutrition Technical Assistance (FANTA), and the Coverage Monitoring Network (CMN) are currently working together on developing ways of using existing routine data (admissions and exits, stock accounts, screening data, program staff, and so forth) to identify determinants of coverage and bottlenecks affecting coverage. Such an approach would not substitute for coverage surveys altogether, but it would enable nutrition services worldwide to better use existing information to generate concrete strategies for improving access to and coverage of SAM management services.

Strengthening the availability and reliability of coverage information is only part of the equation. UNICEF has developed a four-step approach focusing on reaching the unreached through identification and resolution of determinant of coverage bottlenecks. The analysis is based on Tanahashi’s Health Service Coverage Evaluation Methodology (Tanahashi, 1978), which examines supply, demand, and quality determinants that contribute to effective intervention coverage. These determinants include (1) availability of essential commodities, (2) availability of trained human resources, (3) geographic access, (4) initial utilization, (5) continuous utilization, and (6) effective coverage. Removing the bottlenecks is therefore an important first step toward universal coverage, and monitoring the reduction of bottlenecks on a regular basis is an important step that could provide a robust baseline to define the context-specific challenges preventing SAM treatment services from reaching optimal levels of coverage.

The type of coverage data results shown in this report can be used to influence decisionmaking processes at different levels so that we can achieve universal treatment of SAM (Guerrero and Rogers, 2013). Universal coverage of SAM cases as a key part of a bundle of direct and indirect health and nutrition interventions will prevent child deaths³ and have an impact on reducing childhood illness and stunting.

References


³ WHO is currently estimating the global number of severely acutely malnourished children and the global number of deaths associated with severe acute malnutrition

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Panel 6.1

Trends in Dietary Quality among Adults in the United States

Daniel Wang and Walter Willett
Harvard School of Public Health

Evaluation of population trends in dietary quality is essential because this provides feedback and guidance for public policy. Since the late 1990s, many changes have occurred in the food supply, national economy, and policy environment within the United States, and scientific evidence and dietary recommendations have been continuously evolving, but the net effect on dietary quality has not been clear. In addition, data on time trends in dietary quality among socioeconomic subgroups are minimal; any differences could contribute to disparities in the burden of noncommunicable diseases. We therefore used a nationally representative population of 29,124 adults aged 20–85 years from the US 1999–2010 National Health and Nutrition Examination Surveys to investigate trends in dietary quality from 1999 to 2010, as well as trends within socioeconomic status (SES) subgroups (1). Dietary quality was measured by the Alternate Healthy Eating Index 2010 (AHEI-2010), an 11-dimension score (range, 0-10 for each component score and 0-110 for the total 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 both 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. This large reduction could be largely attributed to public policy efforts. 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. Also, many states and cities have taken legislative or regulatory actions to limit trans fat use in restaurants and other locations. Most manufacturers have reformulated products to reduce trans fat. Most 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 improved modestly, the 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-SES group was consistently higher than in the lower-SES groups, and this gap widened over time from 3.9 points in 1999–2000 to 7.8 points in 2009–2010. Higher price and limited access to healthy foods are among the possible explanations for the SES-related gaps. Among different ethnic groups, Mexican Americans had a higher AHEI-2010 than non-Hispanic white and black groups, possibly due to their dietary traditions and culture, whereas non-Hispanic blacks had the lowest AHEI-2010 scores, which was largely explained by differences in income and education.

Our findings present challenges, including further developing scientific evidence to inform dietary guidelines and additional strategies to address the SES-related disparities in dietary quality, for
both public health researchers and policymakers. Some experiences and lessons could be gained from the process of trans fat elimination, which was a result of a combination of continuously evolving scientific evidence, increasing consumer consciousness of harmful effects of trans fat, regulatory actions, and reformulation of foods by manufacturers. In addition, this reduction indicates that collective actions, such as legislation and taxation, for creating the environment that fosters and supports individuals’ healthy choice are more effective and efficient to reduce dietary risk factors than actions that solely depend on personal responsibility, such as consumers’ voluntary individual behavior change; populations with low SES are likely to benefit most from the collective actions.

Panel 6.2

How Did Bangladesh Reduce Stunting So Rapidly?

Derek Headey
International Food Policy Research Institute

Between 1997 and 2011 the percentage of Bangladeshi children under the age of 5 dropped from 59 percent to 40 percent, nearly 1.4 percent a year over a sustained time period. For the 0–6-month age group, the declines have been even more rapid: from 28 percent to 16 percent. This rate of performance is significantly better than India’s. Over similar time periods, the decline in stunting rates of children under age 5 was almost twice as fast in Bangladesh.¹ This is all the more puzzling because the evaluations of Bangladesh’s Integrated Nutrition Program (BINP) in the early years of the new millennium concluded that the impacts on nutrition were modest at best (White and Masset, 2007). So what has driven this rapid decline?

Using repeated rounds of the Bangladesh Demographic and Health Survey (DHS) (1997, 2000, 2004, 2007, and 2011), an analysis explains about 55 percent of the declines in height-for-age, the basis of stunting rates (Headey et al, 2014). Which drivers are responsible for the portion of the decline in stunting that can be explained? The analysis shows that the drivers are multidimensional: improvements in household assets, parental education, sanitation coverage, demographic outcomes and health utilization all make important contributions to improvements in child height-for-age scores.

As shown in Figure 1, increases in household assets are responsible for nearly a quarter of the explained declines in height-for-age. Changes in primary and secondary education, both maternal and paternal, are responsible for another quarter. So changes in the basic and underlying determinants are important. But so too are the more proximal determinants such as declines in open defecation rates (contributing 12 percent) and nutrition-related interventions in the health sector such as prenatal care and birth in a medical facility (together accounting for 18 percent of the decline). Finally, declines in fertility, an often-overlooked contributor (lower birth interval and lower birth order), are important drivers.

¹ For India between 1999 and 2006, the decline in under-age-5 stunting prevalence was 6 percent, from 51 to 46 percent, or 0.85 percent per year (Arnold et al 2009). For Bangladesh between 1997 and 2007, the decline was from 59 percent to 43 percent, or 1.6 percent per year.

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What is responsible for the unexplained declines in height-for-age? The authors conjecture two possible explanations: First, nutrition-specific interventions may be more effective than had previously been thought. In particular they note the dramatic increase between 1997 and 2004 in the percentage of children aged 6–9 months who were introduced to solid foods (from 22 percent to 70 percent). Second, they hypothesize that agricultural growth, in particular rice productivity increases, may have played a key role given that declines in stunting were more rapid in rural areas.

In sum, the Bangladesh experience shows that low-income countries can achieve a rapid pace of decline in stunting rates (and close to that required rate to meet the World Health Assembly 2025 target). This requires a multidimensional approach. There is no silver bullet. All sectors, levels, and actors need to pull together. The experience also shows the value of regular data collection. DHS-type surveys every 3–4 years enable analyses such as the one described here to hold governments to account, to help identify the key drivers of undernutrition reduction, and to help shape future investment plans to sustain and accelerate the pace of stunting reduction.

References


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Panel 6.3

Using an Agricultural Platform to Improve Nutrition during the First 1,000 Days Works: Findings from a Longitudinal Cluster-Randomized Evaluation of an Integrated Agriculture and Nutrition Program in Burkina Faso

Deanna Kelly Olney¹, Andrew Dillon², Abdoulaye Pedehombga³, Marcellin Ouédraogo⁴, and Marie Ruel¹

¹International Food Policy Research Institute
²Michigan State University
³Helen Keller International, Ouagadougou, Burkina Faso

Integrated agriculture and nutrition programs have great potential to improve nutrition outcomes, but evidence so far is scarce due to weaknesses in program targeting, design, and implementation and equally importantly, poor evaluation designs. To address these weaknesses and to contribute to the limited evidence base, the International Food Policy Research Institute (IFPRI) partnered with Helen Keller International (HKI) to implement and evaluate an enhanced-homestead food production (E-HFP) model in Burkina Faso between 2010 and 2012 (van den Bold et al, 2013).

The standard HFP model included gardening and small animal production and a behavior change communication strategy designed around the Essential Nutrition Actions (ENA), and was targeted to vulnerable households with children less than 5 years of age. The first change made for the Burkina Faso E-HFP program was in targeting—the enhanced model targeted women with children 3–12 months of age, rather than households with children over age 5. This change ensured that the program would directly benefit children in the first 1,000 days’ window of opportunity. The second changes were in program design and implementation. Changes included (1) modifying the behavior change communication strategy to promote changes in adoption of key nutrition practices, rather than just teaching mothers about nutrition, and (2) empowering women through the provision of education on best agriculture and nutrition practices, by direct transfers of small agricultural assets and chickens to beneficiary women, and by having village model farms led by beneficiary women (as opposed to established male farmers living in the village). Finally, to address the issue of poor evaluation designs, IFPRI developed a comprehensive evaluation approach that 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. The design of the questionnaires and sampling frames for the impact and process evaluations were developed based directly on the program’s primary impact pathways, which included increased production of nutrient-rich foods, increased income from sale of surplus production, and improved nutrition and health-related knowledge and practices.

Results from the impact evaluation demonstrate several positive impacts of the E-HFP program on children’s and women’s nutrition and health outcomes among program beneficiaries, as compared with those living in control villages, including the following:

1. Increased dietary diversity and reduced prevalence of wasting, anemia, and diarrhea among children
2. Increased intake of nutrient-rich foods and reduced prevalence of thinness among women
These positive changes in maternal and child nutrition and health in beneficiary villages as compared with those in control villages were likely related to the observed positive impacts of the E-HFP program on intermediary outcomes along the primary program impact pathways such as follows:

1. Increase in women’s ownership of productive assets including agricultural assets and small animals
2. Increase in production of nutrient-rich foods by women
3. Improvement in women’s knowledge of key infant and young child feeding and care practices
4. Increase in household dietary diversity and consumption of nutrient-rich foods
5. Improvement in women’s status indicators, such as their ability to make decisions about purchases

Furthermore, results from the process evaluations add to the findings of a positive impact of the program on improving women’s status. For example, data from the process evaluations indicated that in beneficiary villages, women gained control over their gardens, associated produce, and profits from surplus sales. Moreover, improvements in perceptions of women’s ability to own and use land were also found among both men and women in beneficiary as compared with control villages. These findings indicate that changes in social norms may be starting to take place as a result of the E-HFP program, and these can lead to longer-term impacts on the health and nutritional status of both the women and children who participated in the program and future children born into participating households and villages.

These results show that the E-HFP program improved maternal and child nutrition as well as children’s health outcomes—likely through positive changes in intermediary outcomes along the three program impact pathways (increases in women’s agricultural production, household and children’s dietary diversity, women’s nutrition-related knowledge). The in-depth qualitative work also indicated that more important positive impacts on women’s and children’s health and nutrition there await even in both the short and long-term through positive changes in women’s status and access to and control over productive assets.

This study is one of the first to provide convincing evidence from a rigorous evaluation that using an agricultural platform to improve maternal and child nutrition works. 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.

References


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Panel 7.1


Clara Picanyol
Oxford Policy Management

The ability to track financial resource flows to nutrition actions is fundamental for improved nutrition accountability to citizens. It is difficult for countries, donors, United Nations organizations and nongovernmental organizations (NGOs) alike to achieve. This is a summary of the state of financial resource tracking from a review of 51 Scaling Up Nutrition (SUN) countries commissioned by SUN and conducted by Clara Picanyol.¹

Key findings:
1. General national budget allocation information was publicly accessible for only 32 of 51 SUN countries, with information in 4 of the 32 countries being outdated or with insufficient detail to make it useful, leaving 28 countries to review for nutrition information. Information on actual expenditure is scarce.
2. Different countries use different methods to track budget allocations and expenditures on health, including Public Expenditure Review (PER), National Health Account (NHA), the Clinton Health Access Initiative (CHAI) Resource Mapping Tool, and Public Expenditure Tracking Survey (PETS). These tools vary in their coverage, the frequency of data collection, and the time and financial resources needed to use them (see Table 1).²

<table>
<thead>
<tr>
<th>Tool</th>
<th>Nutrition expenditures covered (excluded)</th>
<th>Frequency of data collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget Analysis</td>
<td>Expenditures from the national budget classified by ministry, department, or agency. In those departments that have a “nutrition budget line,” it is easier to isolate nutrition expenditure.</td>
<td>Usually annual.</td>
</tr>
<tr>
<td>Public Expenditure Review (PER)</td>
<td>Typically public expenditure only (not private or investment from external sources). A PER defines its own boundaries and can therefore cover multisectoral interventions such as nutrition.</td>
<td>Usually designed as a “one-off” study.</td>
</tr>
<tr>
<td>National Health Account (NHA)</td>
<td>Public and private nutrition expenditures within the health sector or other sectors with a primary health purpose, including those from external sources. It uses actual expenditure (not budget or commitments). Standard NHA classifications are not detailed enough to isolate nutrition within health expenditures but are comprehensive enough to cover all nutrition health expenditures.</td>
<td>Typically every 3–5 years in low- and middle-income countries.</td>
</tr>
<tr>
<td>CHAI Resource Mapping Tool</td>
<td>Designed to cover health expenditures from the national budget and from donor resources, with the possibility of importing private expenditures. It includes budget as well as actual expenditure. Boundaries are loosely defined and can be adapted to cover nutrition.</td>
<td>Designed to be carried out regularly; 3 out of the 5 countries using this tool have done annual iterations.</td>
</tr>
</tbody>
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3. Identifying nutrition allocations within budgets is difficult because many different sectors contain nutrition-relevant allocations. Of the 28 budgets, 21 included the necessary detail at the program level to be able to attempt to do this. In 10 of the 21 countries a clear program was targeted toward fighting malnutrition, which helps to make some nutrition spending more visible.

4. Having a better understanding of nutrition-relevant budget allocations is a major and necessary step prior to tracking actual expenditures. However, budgetary analyses like this are incomplete because they frequently exclude recurrent costs such as staff costs.

5. The global standard for measuring and categorizing health spending is the Health Account (HA). Countries have had difficulties using this tool as it requires specialized expertise. Previous attempts to adapt them to other specific focuses (for example, National AIDS Spending Assessments and Children Health Sub-Accounts) have not delivered the expected regular and up-to-date expenditure data on them.

6. Some countries are using the CHAI Resource Mapping Tool. Data are entered into a basic spreadsheet and then aggregated into a master dataset. The tool excludes non-health-related expenditures. It is also a relatively new tool piloted by only a few countries so far (about five).

### Specific Country Experiences

Only a few countries have started tracking investments in nutrition. Therefore, very little country experience is available. Two of the countries that are furthest along are Tanzania, which has recently undertaken a PER of nutrition expenditures, and Madagascar, which has developed its own tool to track investments in nutrition.

**Tanzania** is finalizing a PER on nutrition. PER as a tool has been widely used in other sectors in Tanzania and is an assessment of and recommendations on the level and composition of actual public expenditures over a period (usually 3 to 5 years) against a predetermined set of policy goals and outputs in the national plan. In Tanzania, the nutrition sector can be identified separately, so it was felt that the PER could assist in the management and planning of resources for nutrition. The results of the PER are still in discussion. A number of challenges were encountered. Specifically, 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 experienced difficulties in retrieving expenditure information from donors and NGOs.

**Madagascar** developed a mechanism to track nutrition investments with the aim to estimate 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 structured in the NPAN and sent it to all stakeholders. The main challenges encountered included the limited knowledge of nutrition-related investment in each of the ministries and the limited transparency or breakdown of budgets by some agencies. Also, very little information was collected from civil society organizations (CSOs) and the private sector.

### Recommendations

Based on the review of published data from national budgets, what seems most feasible and acceptable for countries is to undertake a basic data-gathering exercise on nutrition-relevant budget expenditures covered (excluded) and the Frequency of data collection.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Nutrition expenditures covered (excluded)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Public Expenditure Tracking Survey (PETS)</td>
<td>Covers public (and contracted out) units involved in service delivery. Relies heavily on administrative and accounting records and so the ability to isolate nutrition expenditure will depend on the extent to which these are identifiable in the administrative units.</td>
<td>Usually designed as a one-off study; that is, not institutionalized to be carried out with a certain regularity.</td>
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allocations with the assistance of a spreadsheet template. The data can then be categorized into nutrition-specific and nutrition-sensitive information using national or international definitions. Categorization and attribution will likely require consultations with nutrition stakeholders in the country.

Although this approach may have initial limitations in terms of accuracy, after all the relevant information is collected, countries may choose to refine their tracking system to improve accuracy over time. It is important that the data-gathering exercise be transparent and that all steps taken be documented in detail with specific data sources provided. Such an approach allows for comparison over time within a country and can promote accountability.

Jesus Bulux, Otto Velasquez, Cecibel Juárez, Carla Guillén, and Fernando Arriola
Secretaría de Seguridad Alimentaria y Nutricional, Guatemala

Chronic malnutrition in Guatemala affects 49.8 percent\(^1\) of children under the age of 5 and is one of the main factors limiting the country’s economic and social development. One of the key objectives of the current government’s Agenda for Change is to achieve zero hunger. With this aim, the government implemented the National Food and Nutritional Security System Act and the National Food and Nutritional Security Policy.

The act and the policy take concrete form in the Zero-Hunger Pact Plan (known by its Spanish acronym PPH0). It is a collaborative strategy to address chronic malnutrition, acute malnutrition, and food insecurity, conditions that chiefly affect poor and extremely poor Guatemalan children under the age of 5. The plan’s primary focus is on the country’s rural areas and marginal urban areas.

The PPH0 connects the interventions, programs, plans, and projects of various public institutions in the field of food and nutritional security, with a special emphasis on the capacities of local governments. In addition, it seeks to focus the efforts of other institutions and social organizations—central, regional, departmental, municipal, and community based—in a single direction. Without a credible and practical system to monitor financial resources, it is impossible to assess whether resources are being connected and focused on the priority actions.

How Does the National Food and Nutritional Security System Function?

Monitoring starts with planning. Guatemala’s planning process involves producing summaries of existing nutrition activities in tables and reports in which each institution indicates its planned actions and provides estimates of resources, including activities that are not associated with a governmental system. The key feature of the system is that financial resources are linked with physical targets, that is, the goods or services that are provided to the population with the allocated funds.

The monitoring process started in 2012 with the clarification and consolidation of resources used to support food and nutritional security. The process uses SICOIN (Sistema de Contabilidad Integrada), Guatemala’s integrated accounting system for public finances. In 2013, the national budget law protected the allocations associated with PPH0 and mandated a special report on its expenditures.

In 2014, the National Food Security and Nutrition Secretariat, with the Ministry of Finance, developed an implementation tool to enable ministers, secretaries, and managers to understand the connection between their budgets and the physical targets for which their respective

\(^1\) National Maternal and Child Health Survey 2008.

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institutions are responsible. The relevant ministries are accountable to the National Food Security and Nutrition Council on the physical targets and financial resources associated with PPH0.

The role of the council has been to actively address matters of coordination and joint planning that were long treated passively. It holds additional special sessions with departments to verify compliance with the targets by comparing planned with executed activities and resource deployments. Interinstitutional coordination has been fundamental in improving the definition of targets and in providing clarity regarding investments made at the local level. The council’s requirement of local-level verification has also strengthened the role and participation of local organizations.

**What Is Recommended for Countries That Are Beginning This Process or That Have No Such Process in Place?**

Some of the factors that are contributing to the success of the tracking system are as follows:

- Strong political commitment from all stakeholders but mainly from the government, so that the next administration continues with the plans developed and implemented by its predecessor
- Strong interinstitutional coordination within government, and between government institutions, private-sector organizations, and international cooperation agencies
- An implementation plan clearly linking physical 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
- Measures to ensure openness in public spending such as the site [www.guatecompras.gt](http://www.guatecompras.gt), which increases the transparency of government procurement processes.

Thanks to the above, the following are now in place in Guatemala:

- An integrated food and nutritional security budget broken down according to institution, program component, and activity.
- Clear responsibilities, with particular officials accountable on their respective targets and associated budgets.
- An implementation tool\(^2\) that is simple and that makes it possible to understand information on public spending at different levels.
- Good interinstitutional coordination. For example, in 2013 the government worked with 11 institutions on financial monitoring and tracking. With nongovernmental organizations the government has begun the construction of a system of registration of information, particularly the geographical area of intervention and financial value of projects.


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In conclusion, it is important to note that the establishment of a functioning monitoring system not only was about overcoming the technical challenges of connecting different tracking systems, but equally important was the generation of a sustained period of investment, innovation, relationship building, and commitment. Technical problem solving is necessary but not sufficient: focus, patience, and diplomacy are also required to develop such systems.
The global rise in obesity and diet-related noncommunicable diseases (NCDs) is being driven by “push” factors of a globalized food system that is increasingly providing and promoting cheap, highly palatable, ultra-processed food products high in energy density, salt, fat, and sugar (Swinburn et al. 2011). 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. Indeed, most efforts to implement restrictions on marketing unhealthy food to children, taxes on unhealthy foods, or interpretive front-of-pack food labeling have ended in failure, delays, or dilution because of industry opposition. Apart from a few stand-out examples (WCRF 2013), the 10-year progress on implementing food policies from the World Health Organization’s (WHO’s) 2004 Global Strategy for Diet, Physical Activity, and Health (WHO 2004) has been patchy at best. How are governments going to be held accountable to achieving better progress on the latest (2013–2020) WHO global plan for NCDs (WHO 2012)?

One attempt to increase accountability is through an international collaboration of universities and global NGOs called INFORMAS (International Network for Food and Obesity/NCDs Research, Monitoring and Action Support) (Swinburn et al. 2013a) which aims to monitor, benchmark, and support actions to create healthy food environments and reduce obesity, diet-related NCDs, and their related inequalities. The INFORMAS monitoring framework comprises 10 modules. Two process modules (Swinburn et al. 2013b, Sacks et al. 2013) measure the level of implementation of specific policies and actions by governments (Food-EPI, below) and the food industry and seven impact modules (Neal et al. 2013, Rayner et al. 2013, Kelly et al. 2013, Ni Mhurchu et al. 2013, L’Abbe et al. 2013, Lee et al. 2013, Friel et al. 2013) measure key aspects of food environments (food composition, labeling, price, marketing, provision in schools and other public-sector settings, retail availability, and food in trade and investment agreements). One module assesses overall diet quality (Vandevijvere et al. 2013).

The Healthy Food Environment Policy Index (Food-EPI) (3) is the tool used to monitor government actions toward creating healthier food environments. It comprises a policy component related to the seven food environment domains (above) and an infrastructure support component with six domains (governance, leadership, funding and resources, monitoring and intelligence, platforms for interaction, health-in-all-policies). Evidence on the degree of implementation toward international best practice exemplars for about 40 indicators is collated and verified by relevant government officials. 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.

The Food-EPI has been pilot tested and implemented first in New Zealand (results are available at www.informas.org). The New Zealand government was rated at international best practice for only 14 percent of indicators, whereas 74 percent of policy indicators and 48 percent of infrastructure support indicators were rated as low or very little, if any implementation. For a small, high-income country, this degree of progress toward creating the types of food environments that will help to turn around the obesity and diabetes epidemics was far short of its potential.
Following the implementation rating process, the expert participants review the implementation gaps and construct a series of practical, achievable recommendations for government action, which are then priority rated. For New Zealand, 7 of the 34 recommendations were priority rated for implementation over the next 3 years, at which time a repeat Food-EPI is planned just before the general election. The Food-EPI thus becomes an evidence-based tool for civil society to engage in accountability systems for making policy progress toward healthier food environments.

As data from the Food-EPI and other INFORMAS food environment monitoring modules are collected over time and in multiple countries, robust trends and cross-country comparisons will be possible. These tools will provide an upstream evidence base for civil society to become more actively and more coherently engaged in holding governments and the food industry to greater account for creating healthier food environments.

References


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Panel 7.4
Access to Nutrition Index: Mobilizing the Private Sector to Accelerate Change

Inge Kauer
Access to Nutrition Foundation

The global Access to Nutrition Index (ATNI) (http://www.accesstonutrition.org/) provides a comprehensive framework to monitor the world’s 25 largest food and beverage (F&B) manufacturers, using 170 indicators, based on international guidelines, norms, and accepted best practices. ATNI is the first systematic effort to consistently compare companies’ contributions to addressing global nutrition challenges. 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 F&B industry on nutrition issues.

Overall Results of the 2013 Global Index

ATNI found that all companies can do more to improve consumers’ access to healthy, appropriate food and beverages in order to contribute to tackling both obesity and undernutrition. The score of the leading company was only 6.3 out of 10—demonstrating significant room for improvement. Only three companies scored above 5.0.

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.

With respect to undernutrition, it is clear that most companies are at the very early stages of acting to address this issue (Figure 1). They could do much more and at a broader scale. The highest score achieved on the undernutrition ranking was 5.4, with the majority of companies scoring below 2.0. These scores are significantly lower than the overall ranking. Many companies do not articulate clearly the role they intend to play in addressing undernutrition, and many do not yet engage on this agenda.

Stakeholders’ Responses to the 2013 Global Index

ATNI has been well received by all stakeholders. ATNI presented the results to 16 of the 25 companies on 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.

Nutrition experts broadly agree that ATNI is addressing all key nutrition issues appropriately, strongly supporting ATNI’s approach of basing indicators where possible on international standards and guidelines,

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and encouraging companies to align to the priorities and goals set by the World Health Organization (WHO) and other key agencies.

Investors have also welcomed the index, using the results in their engagement with companies. ATNI is supported by more than 40 investors worldwide, with assets under management of more than US$2.6 trillion.

**Figure 1 Results of Global Access to Nutrition Index (ATNI) 2013 undernutrition sub-ranking**


Note: The sub-ranking for undernutrition reflects additional actions which companies can take specific to addressing undernutrition, including the fortification of products with micronutrients otherwise deficient in the diet.

**Future Plans**

ATNI will continue to evaluate companies’ action in this area and encourage them to play a more active and appropriate role in tackling malnutrition in all of its forms, by leveraging the experience, skills, and scale of their businesses. 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 (N4G), the Scaling Up Nutrition (SUN) Business Network, the UN’s Zero-Hunger Challenge, the Every Newborn Child Action Plan, and Transform Nutrition. [www.globalnutritionreport.org](http://www.globalnutritionreport.org)
By continuing to monitor and report on the progress that companies are making in all areas, including undernutrition, ATNI hopes to provide a monitoring and accountability mechanism for all nutrition stakeholders.
In the past three decades, Brazil has experienced rapid changes in key social determinants of health and nutrition and undergone major healthcare system reforms (Victora et al, 2011). These changes are reflected in Brazil’s impressive improvements in stunting levels and breastfeeding practices since the mid-1970s. 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 around 2.5 months to 14 months. Exclusive breastfeeding rates in children younger than four months of age similarly rose steeply from a low of around 4 percent in 1986 to 48 percent by 2006–2007 (Victora et al, 2011).

These achievements were made through a vast expansion in access to maternal and child health and nutrition services coupled with broad social, economic, and political changes. The most notable changes included steady reductions in poverty 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 at the poorest population groups (Pérez-Escamilla et al, 2012).

In an effort to reduce Brazil’s high child mortality and stunting rates, particularly in comparison with other countries at a similar income level, strong vertical child survival intervention programs were scaled up starting in the 1980s and were eventually integrated into the primary healthcare system for greater sustainability (Pérez-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, which involved a baseline needs assessment, successful advocacy and media campaigns to sensitize decisionmakers and the general public about the urgent need for changes in the then-dismal breastfeeding rates, training for health workers on counseling women on lactation, the development of mother-to-mother support groups, and the engagement of 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, the International Code of Marketing of Breast-milk Substitutes was introduced and has been strongly enforced since 1988, and maternity leave was gradually extended from two months to six months by 2006. More than 300 maternity hospitals have been certified by the Baby Friendly Hospital Initiative—an important measure given that almost all births occur in facilities and the critical role of early initiation of breastfeeding on women’s ability to exclusively breastfeed for the first six months and to continue breastfeeding for up to two years and beyond. Brazil also has more than 200 human milk banks, enabling women to provide breast milk to their babies in the event that they are unable to breastfeed.

Brazil’s success in drastically reducing stunting and improving breastfeeding practices shows what is possible through a set of 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 programmatic action, and create a supportive legal environment that enables women to choose breastfeeding.

References


Countries within the Scaling Up Nutrition (SUN) movement are increasingly looking to the private sector to join national SUN multistakeholder committees; however, the challenge facing policymakers remains integrating business into national nutrition strategies. Current SUN country plans reveal sophisticated multisectoral approaches to scaling up nutrition and identify gaps across budget lines and sectoral programs. The challenge remaining is addressing gaps in the market for nutritious food, and the related role of business.

The food value chain is largely a private-sector activity. Even in the world’s poorest communities, the private sector is where most people access the goods and services they need. The Lancet’s 2013 Maternal and Child Nutrition Series1 and the SUN movement2 recognize the crucial role that responsible business should play in addressing undernutrition. Within the private sector are multiple actors to engage, from multinational and national food, pharmaceutical companies, agrifood businesses, and medium- and small-scale processors of staple foods to smallholder farmers. The growing focus on nutrition-sensitive sectors is also encouraging businesses in finance, water, sanitation and hygiene, information technology, and communication sectors to join efforts to scale up nutrition, while all employers have a role in improving the nutrition of their own workforce.

Despite the involvement of more businesses in SUN country multistakeholder platforms and committees,3 very little understanding or articulation is evident of the role of business in strategic or implementation plans. In country strategies analyzed by the SUN Business Network,4 the following goals are typically proposed: access to direct nutrition services; behavior change communication; increasing technical and institutional capacity; resource mobilization; and improving research, data, and monitoring and evaluation. However, plans to deliver these goals rarely articulate the role for business; the few references that do exist are vague.

Further, related implementation plans reveal a very high dependence on public-sector resources and capacities, but little articulation of the resources available in the private sector. One plan even notes that it “does not include business investments, which by nature, cannot be planned.”5 Another plan states that business can play a role in food fortification but restricts engagement to corporate social responsibility donations to public-sector plans, without recognizing the core business contribution from the food industry.6

Business offers the innovations, skills, and resources required to collectively scale up nutrition. A few key examples include inputs into food systems through biofortification of seeds7; fortifying staple

5 Ibid.
6 Ibid.
foods⁸; market-based approaches to improve access to improved nutrition⁹; mass behavior change campaigns around nutrition-sensitive issues in water, sanitation, and hygiene¹⁰; developing workforce nutrition policies that include support for breastfeeding mothers¹¹; and using mobile phone technology for data collection on nutrition.¹²

Engagement with business in SUN countries reveals strong interest in joining multistakeholder initiatives. Business leaders want to join or create national conversations about public policy incentives around partnerships, regulation enforcement, tax, and infrastructure, which can stimulate greater private-sector investment. These issues need to be considered in national nutrition strategies if the private sector’s capabilities are to be fully leveraged. National and global efforts around transparency and monitoring mechanisms, such as the work of the Access to Nutrition Index (ATNI)¹³ with the largest food and beverage companies; and conflict interest work, currently being led by the SUN Movement,¹⁴ can support responsible engagement.

The SUN Business Network’s platform of business commitments¹⁵ reveals the wide, varied, and scalable initiatives on offer from business within a multistakeholder approach to scaling up nutrition. As the global nutrition report develops in future years, our understanding of effective ways to stimulate and track business commitments will need to grow. Not engaging, as The Lancet series on maternal and child nutrition says, would be a missed opportunity.

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⁹ Hystra, Marketing Nutrition for the Base of the Pyramid, April 2014, also available at http://static.squarespace.com/static/51bef396e4b010d205f84a92/t/539ff100e4b037955eb13d1f/1402990848323/Hystra_Access%20to%20Nutrition%20Report.pdf.

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Panel 8.2

How Civil Society Organizations Build Commitment to Nutrition

Claire Blanchard
Save the Children UK

Since 2010, the Scaling Up Nutrition (SUN) movement and its multisectoral, multistakeholder, and multilevel approach has been embraced by now 53 countries in Africa south of the Sahara, Asia, and Latin America. Of those 53 countries, 27 are countries with the highest burden of malnutrition (Black et al, 2013), and 30 are fragile and conflict-affected countries (World Bank 2014).

Within SUN and non-SUN countries, civil society has played a key role in building and maintaining commitment for nutrition. This panel reflects on the civil society organization (CSO) experience within the SUN movement and suggests several reasons why CSOs are so important to SUN goals and lessons learned about enhancing their chances of success. Many of these reflections will no doubt apply to CSO work in countries that have not chosen to be SUN members.

Why are CSOs so important for the achievement of nutrition goals, and how can they sustain effectiveness?

The first reason is scale. More than 1,500 CSOs are engaged in the SUN movement, and coordinated civil society alliances (CSAs) are in 30 countries, with 4 more countries in the process of establishing CSAs. Civil society has a huge capacity to connect with, support, and amplify the voice of the populations suffering from malnutrition. The CSO-SUN Alliance in Zambia is an example of an alliance that represents the grassroots. It has 60 members and has worked hard to develop very constructive relationships with the government. It is a strong advocate for cross-ministry participation, fostering the emergence and recognition of nutrition champions (parliamentarians, media, traditional leaders). The CSO-SUN Alliance is frequently asked to join national delegation for learning exchange meetings and intergovernmental delegations.

Second, CSOs are good at engaging in social mobilization and awareness-raising efforts in close collaboration with the media (for example, Kenya SUN CSA and CSO-SUN Alliance in Zambia) and through ‘Global Days of Action’. These major events also present opportunities to discuss increased investments for nutrition. The recent National Nutrition Day in Madagascar (June 21, 2014) provided an opportunity for the CSA to meet with the prime minister, who committed to holding a meeting with all ministers with the objective of discussing increased investment in nutrition and engagement of sectors.

Third, CSOs can aggregate efforts. Alliances make the whole greater than the sum of the parts and can build capacity of members to be even more effective at representing the grassroots and supporting and holding governments and others accountable. For example, UCCO-SUN in Uganda, SUN CSP in Mozambique, and PANITA in Tanzania all help to ensure alignment of CSO programs and policies behind national priorities. Civil society actors are key in bringing the grassroots voice to inform national policies and plans that reflect needs and realities on the ground (for example, CSASUNBD in Bangladesh). Coordinated aggregation, built on strengths of diverse and inclusive memberships

2 UCCO-SUN = Uganda Civil Society Coalition on Scaling Up Nutrition; SUN CSP = SUN Civil Society Platform in Mozambique; PANITA = Partnership for Nutrition in Tanzania.
3 Civil Society Alliance for SUN, Bangladesh.
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identified through internal mapping and scoping exercises as was done by GHACC\textsuperscript{SUN} (Ghana),\textsuperscript{4} CSANN (Nepal),\textsuperscript{5} and PANITA (Tanzania), also helps to influence. The recent changes to the Kenya Health Policy resulting from contributions of SUN CSA are a great example of a CSA advocacy win (for example, through position paper, audiences, participation in strategic meetings) and constructive support of government aims in SUN. Nutrition seems to be much more explicitly included in Kenya’s policymaking, including in the national nutrition action plan, agriculture plan, and Millennium Development Goals. Policy objectives now include the following: promote breastfeeding and complementary feeding practices, reduce anemia among women and children below the level of a public health problem (less than 20 percent), and reduce vitamin A deficiency below the level of a public health problem (less than 10 percent). Additionally, the Policy Orientation section now includes a commitment to ensure that all counties carry out nutrition surveillance monitoring and incorporate the data in the health information system.

Fourth, CSOs can transcend political cycles. In Ghana, close work with parliamentarians (for example, Ghana Parliamentarians against Hunger and Malnutrition Caucus) is helping to prioritize nutrition regardless of which party is in government. Inspired by Peru’s example, in 2014, Malawi CSONA\textsuperscript{6} obtained signed commitments from presidential candidates, including the current standing president, to ensure 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, CSAs have actively made progress on district- and regional-level efforts by either selecting regional relays or setting up district-level CSAs. Niger’s TUN\textsuperscript{7} and CSO-SUN Alliance in Zambia opted for the regional relay model with CSOs coordinating regional efforts and reporting back to the national CSA. In Mozambique and Malawi, the CSAs and platforms have opted to set up district-level CSAs.

Some Challenges Ahead

Some challenges remain for CSOs, such as building capacity of CSOs to deliver programs alongside governments and other stakeholders in a coordinated manner, influencing policy and holding government and others accountable, balancing these three roles without having competing interests, holding themselves accountable in a public way, demonstrating results, and raising funds in a sustainable way.

References


\textsuperscript{4} Ghana Coalition Of Civil Society Organisations For Scaling Up Nutrition

\textsuperscript{5} Civil Society Alliance for Nutrition, Nepal.

\textsuperscript{6} SUN civil society organization nutrition alliance in Malawi.

\textsuperscript{7} Tous Unis pour la Nutrition (Niger).

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In 2011, the 193 member governments of the United Nations made a series of commitments at a high-level meeting to prevent and control noncommunicable diseases (NCDs). These include advancing policies for unhealthy diets (for example, implementation of the World Health Organization’s [WHO’s] recommendations on food marketing to children), improving governance of obesity through multisectoral engagement, and promoting the capacity-building of nongovernmental organizations (NGOs).

A road map to implement and monitor these commitments was then set in WHO’s Global Action Plan for the Prevention and Control of NCDs 2013–2020 and Global Monitoring Framework with targets (for example, a halt in the rise of diabetes and obesity) and indicators (for example, the adoption of national policies that limit food marketing to children and limit saturated and trans fats in foods).

As public interest “watchdogs,” civil society entities have a unique role to play in monitoring the implementation of these commitments. Yet—as recognized by these documents—capacity building is needed to enable them to do so. Significant investment can pave the way. For example, as part of the broader strategy of the Danish International Development Assistance (Danida) to support civil society in development, it has funded a series of NCD alliances in East Africa (Kenya, Rwanda, Tanzania, Uganda, and Zanzibar) since 2010. Modeled after the global NCD Alliance, the organizations bring together groups concerned with heart disease, cancer, diabetes, and lung diseases to raise the political priority of NCDs; build public awareness; and provide support for education, treatment, and patient concerns.

Another example is the Obesity Prevention Program at Bloomberg Philanthropies. The Program has provided a $10 million three-year grant to Mexican civil society organizations (CSOs) and research institutes to build obesity prevention into their work. Recipients include...
the campaigning organization, El Poder del Consumidor,8 pioneer of Alianza Por La Salud Alimentaria, comprising 22 CSOs concerned about high levels of obesity in Mexico.9

Facilitated by funding and international monitoring tools, these CSOs work to hold governments to account. The Healthy Caribbean Coalition—an alliance of more than 40 health-based NGOs to combat NCDs and associated risk factors10—published an assessment of progress in 2014, guided by the Benchmarking Tool developed by the global NCD Alliance.11 The tool consists of questions based around the six objectives of WHO’s NCD Action Plan. The assessment identified nutrition as the area of least progress; no countries reported the existence of national nutrition strategies or policies on food marketing to children, despite commitments made to implement WHO’s set of recommendations on marketing to children.12

The Government Healthy Food Environment Policy Index (Food-EPI) is an international monitoring tool developed by INFORMAS (International Network for Food and Obesity/NCDs Research, Monitoring, and Action Support), an initiative of the World Obesity Federation and the University of Auckland. Food-EPI monitors across seven policy domains (such as food marketing, labeling) and seven governance domains (such as leadership, multisectoral responses).13 Users can compile the results into an index of good practice to compare countries and track progress. Following testing in New Zealand, Food-EPI will be used in Thailand, Fiji, Mexico, Chile, and South Africa in 2014/2015. Monitoring teams comprise CSOs and academia, with funding from diverse international and national sources.

Investment in global-scale monitoring is necessary to bring together national-level data. WHO has several instruments used to assess progress against international policy and governance commitments on obesity and NCDs, including the NCD Country Capacity Survey,14 the Global Status Report on NCDs,15 and the Global Database on the Implementation of Nutrition Action (GINA).16 CSOs have developed more detailed tools. For example, the World Cancer Research Fund (WCRF) International NOURISHING Framework includes a regularly updated repository of healthy eating policies from around the world.17 The International Baby Food Action Network and United Nations Children’s Fund (UNICEF) monitor the actions of 198

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governments to implement the WHO International Code on Marketing of Breast Milk Substitutes.  

To improve accountability, funders should invest in increasing staffing capacity in national CSOs and 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 focused projects and proposals for monitoring policy and governance to hold their governments to account.

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Accelerated improvement in global nutrition outcomes is now widely accepted as requiring concerted action by a wide range of actors (including the state, civil society, private sector, and citizens) operating across a range of sectors, including healthcare and food. Such a wide range of actors makes it a challenge for observers to understand the efforts made and achievements recorded, particularly in the absence of strong accountability mechanisms.

In general, accountable parties need to be answerable, obligated to provide appropriate information, for instance on nutrition inputs, outputs, outcomes, and impacts, and engage in public dialogue to justify and clarify nutrition policy choices. Moreover, accountability mechanisms depend on incentive structures that reward good and sanction weak performance, on the monitoring of such performance, and critically, on the effective enforcement of rewards and sanctions (Schedler 1999).

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 following: the quality of nutrition service delivery; the motivation of frontline staff and midlevel bureaucrats and their ability to advocate for appropriate resources; the mainstreaming of nutrition across sectors such as agriculture, health, social protection, water, and sanitation; the visibility of undernutrition to affected communities, enhancing their voice and demands on this issue; and 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 (teLintelo 2014). For instance, taxpayers in donor countries do not directly enjoy the nutrition services contributed to, and rarely vote on the performance of donor aid. Conversely, citizens of aid recipient countries, as taxpayers, may have weaker incentives 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 (Mansuri and Rao 2013; Gillespie et al. 2013; Haddad et al. 2010). The experience in health has been quite mixed (for example, Joshi 2013), with some startlingly positive results (for example, Bjorkman and Svensson 2009); but apart from some appraisal work (Swain and Sen 2009), their impact on service provision and nutrition status of individuals has not yet been empirically evaluated.

Further work is required in this area to find out what models work best when applied to nutrition service delivery, with existing evidence (Swain and Sen 2009, Joshi 2013) pointing to the need for www.globalnutritionreport.org
contextually relevant combinations of community participation, social audits of service quality, and advocacy on service user rights and entitlements. Such work may have the potential to combine with the growing use of information and communication technology and mobile technology to link citizens to policy advocacy and provide real-time data on community-level indicators to national accountability mechanisms.

References


New momentum is building to scale up nutrition-specific and nutrition-sensitive interventions.\(^1\) Success in achieving the nutrition and health benefits of these interventions will depend on the ability of national stakeholders to understand their effectiveness and identify approaches to improve programs that are underperforming on their potential. Governments also 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.\(^2\)

The National Evaluation Platform (NEP) is a systematic approach to identifying, compiling, and rigorously analyzing high-quality data from diverse multisectorial sources so as to evaluate the effectiveness and impact of health and nutrition programs.\(^3\) 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.

The government of Canada is supporting four Scaling Up Nutrition countries—Malawi, Mali, Mozambique, and Tanzania—to build their own NEPs for maternal, newborn, and child health and nutrition. Public-sector institutions including ministries, statistics offices, and research institutes are leading partners in every aspect of NEP’s development and use, with technical support from the Institute for International Programs at the Johns Hopkins University (IIP-JHU). This work can provide a base of experience for efforts to build NEPs for nutrition.

The NEP functions as follows:

- Brings together relevant, high-quality, district-level data from a range of sources, including national surveys, routine reporting systems, and databases, and is updated as additional data become available. The data-mapping process includes assessing the quality of data sources to better inform analysis and interpretation.
- Supports analytic approaches that address the contributions of nutrition and health interventions in settings where traditional evaluation designs are not possible. The NEP permits comparative analyses of contextual factors that may affect program results, including population dynamics, climate, conflict, and social and cultural factors. The NEP can address multisectorial integration by assessing various interventions together over time (for example, management of acute malnutrition; vitamin A supplementation; water, sanitation, and hygiene; immunizations), and facilitates equity analyses to identify populations that are not being reached by key interventions.
- Empowers countries to build home-grown, 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 leads a series of hands-on workshops to build core capacity of other public-sector monitoring and evaluation (M&E) stakeholders to develop and use the NEP.

The effectiveness of the NEP will be judged by the extent to which the evidence produced in-country is incorporated into processes of decisionmaking for women and children. Independent assessments of NEP “influence” will be conducted throughout the project, and the findings will be used both to improve implementation and to arrive at summary judgments of its cost-effectiveness. IIP-JHU has committed to developing tools and guidance for adapting and implementing the NEP approach in other country contexts. The four countries currently developing NEPs were purposefully chosen to represent a range of implementation contexts to better inform the potential and requirements for scale-up.

Early NEP Lessons Learned
One year of experience in introducing the NEP at the country level has already produced important learning, such as follows:

- **Governments welcome the focus on program evaluation.** In all four countries, the leaders of health and nutrition programs welcomed the NEP as a means of bringing together existing data to go beyond routine monitoring and address questions about the relative effectiveness of implementation strategies, the effects of major contextual shifts (such as the expansion of extractive industries), and the strength of in-country agenda setting relative to donor agenda setting. Government leaders are aware of the expanding global emphasis on accountability and see the NEP as a means of meeting these demands and securing additional support for their programs. The NEP focus on public-sector capacity building, buttressed by continuous technical support, stimulated initial enthusiasm.

- **Data on nutrition programs are scarce.** Variability exists across the four countries, but most rely almost exclusively on the data produced through national household surveys (for example, Demographic and Health Surveys). A consistent gap is a mechanism to bring together available data across sectors, assess their quality, and promote their use in answering questions about program needs or implementation strength.

- **Country capacity in data quality assessment and analysis is limited.** In most cases even the most basic analyses of anthropometric data and child mortality are conducted by external institutions with results tables sent back to in-country stakeholders. The national institutions responsible for health, nutrition, and statistics identified expanded capacity in these areas as a top priority. The NEP project includes cycles of hands-on workshops that teach core data mapping, quality assessment, analysis, and communications skills.

The Potential of NEPs for Nutrition
Nutrition leaders at global, regional, and country levels have recognized that the NEP approach can provide an organizing framework for strengthened accountability and improved data for decisionmaking. The Scaling Up Nutrition secretariat is considering the NEP approach as a way to facilitate global reporting and meet country demands for contextualized M&E system support. Other donors, including the European Commission, have started discussions on how the NEP approach could be used to help quantify the impact of their nutrition investments.

Experience gained in the four countries where NEP development is under way, with support from Canada, will provide a useful resource for other countries and development partners in addressing the challenge of multisectorial M&E to support nutrition scale-up.
Decades of investment and capacity building in nutrition research in Africa have produced an active nutrition research community. Various countries have successfully established nutrition societies, offer advanced courses in nutrition, and have produced international champions. The research output of the continent is considerable and growing steadily (1). Given the vast and complex nutritional challenges of the continent, the highest-quality evidence is needed to guide decisionmakers toward effective actions. Given the continuous scramble for resources, a first step is to ensure that resources allocated for nutrition research are used effectively to produce this evidence. Recent studies and events have highlighted the following elements that require attention with regard to the organization of nutrition research in Africa.

The potential of networking within Africa is underutilized (2). Africa’s research output is dominated by a handful of countries, and regional differences are substantial (3). Non-African institutions hold the helm when it comes to publishing nutrition research, and collaborations between African research groups are underexploited (1,2,4). The nutrition research agenda needs refocusing and reorientation toward African priorities and is to a large extent driven by research funders and academics from the north, failing often to meet the demands of African stakeholders (5,6).

The type of nutrition research conducted is not helpful to inform decisions. The few intervention studies in nutrition are focused on treatments or on the evaluation of technical solutions (1). Research into the creation of environments to prevent malnutrition has remained grossly underserved, as illustrated by a review on agricultural interventions to improve nutrition status (9).

Lastly, nutrition research produced by researchers and others, such as nongovernmental organizations (NGOs), United Nations agencies, and governments, is scattered, poorly made available, and not used efficiently. This is problematic, as lack of good and context-specific nutrition data hampers efforts to assess progress and investment made in nutrition in the continent. Although estimates are pending, it is evident that waste of resources and knowledge is substantial (10). Although this situation is not specific to Africa, the scarce availability of resources for nutrition research in the continent justifies urgent action.

The opportunity cost of the current approach to nutrition research is substantial. Policies and programs that aim to create a context that prevents malnutrition are developed from poor evidence, and data to hold decisionmakers accountable are lacking.

The recent economic growth in Africa offers a window of opportunity to invest and build an African research system that is fit for the purpose of delivering answers to African decisionmakers to tackle the nutritional challenges of tomorrow. Such research system should hold the different actors in this system accountable, such as follows:

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• Those that produce information (that is, academics from Africa, partners from the north, government and development agencies that collect data) are accountable to produce the best information using the highest standards. Knowledge and data should be shared and made as accessible as possible. Although open-access publishing has managed to break down some barriers (11), data sharing and quality appraisal systems for gray literature still require attention.

• Those who fund research need to minimize research waste and ensure maximum uptake of evidence in programs and policies in Africa. Genuine African ownership of its research is needed for this purpose. Academics (predominantly from North America and Europe) need to establish equitable partnerships with African researchers (7), and research funders need to align with African-identified research priorities (8). Although national initiatives such as that of Rwanda (12) will provide interesting experiences, the development of a specific code of conduct, ethical consideration in defining the research agenda, or data registries would be helpful to tackle this issue, which is long overdue. National research councils could play a pivotal role in connecting researchers with funders and end users. In the absence of well-functioning national structures, the African Union has called for the establishment of a pan-African research council (13). Although this could be a useful first step, the ultimate aim is to create ownership and accountability of African research at the national level.

• Finally, those who use nutrition research need to articulate and publicize clear research needs. A transparent process that defines national or, even better, regional research priorities using systematic approaches is needed. With only one center in South Africa, Health Technology Assessment approaches should urgently be organized for nutrition policy development and programming the research agenda. Initiatives such as the recently created African nutrition knowledge network (EVIDENT) is a first step in that direction that merits support. Funders should subscribe to this prioritization, and the research implementation could be subjected to registration, data depository, and data sharing.

In addition, a data revolution for development is apparent (14). The African nutrition community needs to engage and can play a leading role, with new developments in information and data management. State-of-the-art techniques of information management need to be utilized to maximize use of the available data. Data repositories and interoperable data systems for nutrition data are needed to host, curate, and repurpose nutrition data in Africa. Although current nutritional data are scattered, small, heterogeneous, and often imperfect, adequate instruments are at hand to handle such data. In Europe, national funding agencies are pooling resources to develop a nutrition phenotype database that will act as an interoperable system for nutrition and health data. Stakeholders in nutrition research in Africa need to capitalize on the commitment of research funders (for example, EU, Department for International Development, United States Agency for International Development, and the Bill and Melinda Gates Foundation) and international organizations

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such as CGIAR\(^6\) for open-access data. Although making data accessible is a first step, additional efforts and commitments to turn this information into knowledge for better policies and actions in nutrition in Africa are urgently needed.

Reference List


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\(^6\) http://www.cgiar.org/consortium-news/cgiar-consortium-now-officially-open-access/.

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Recent systematic reviews of efficacy studies on iron fortification of foods show a significant positive impact on hemoglobin and iron status and a reduction in anemia in both women and children. Many low- and middle-income countries have implemented mass fortification programs that involve wheat flour and sometimes maize flour, rice, or milk; the nutrients most often added are iron and folic acid. Recent systematic reviews find that evidence of impact of these large-scale programs on iron status and anemia is limited and inconsistent. This is not surprising, as many programs are not expected to have impact because of use of iron compounds with poor bioavailability, inadequate levels of fortification, low consumption of the fortified staples, and weak monitoring and enforcement of compliance. The need for evaluation of national programs from low- and middle-income countries is pressing.

We carried out an effectiveness evaluation of the mass food fortification program of Costa Rica. We used nationally representative data collected before (1996; 910 women, 965 children) and after (2008; 863 women, 403 children) major improvements were made by government in the quality of the iron compounds used and in the staples fortified, namely, the use of ferrous fumarate instead of reduced iron in wheat flour and the addition of ferrous bisglycinate to maize flour and milk. Routine monitoring data showed that foods were fortified by industry as mandated by law. Fortification provided about half of the estimated average requirement for iron in children, mostly and equally through wheat flour and milk. At the national level, anemia declined in children from 19.3 percent (95 percent CI 16.8–21.8) to 4.0 percent (CI 2.1–5.9) and in women from 18.4 percent (CI 15.8–20.9 percent) to 10.2 percent (8.2–12.2). In children, for whom ferritin was available, iron deficiency declined from 26.9 percent (CI 21.1–32.7) to 6.8 percent (CI 4.2–9.3) and iron deficiency anemia could no longer be detected in 2008.

Our evaluation suggests that mass fortification programs that have adequate designs (for example, bioavailable fortificants, selection of foods consumed by the needy, adequate fortification content) and adequate monitoring and enforcement of compliance by government can be effective in improving iron status and reducing anemia, a major public health problem. Our evaluation is unique in presenting a clear impact pathway linking the fortification program to the hematological outcomes (Figure 1). The major limitation of our study is that we rely on a before-and-after comparison; this means that we cannot exclude the possibility that other factors that changed from baseline to endline were the cause of the iron status changes. Worldwide experience with hemoglobin and anemia shows that changes are slow to occur. Although some improvement in living standards and nutrition occurred in Costa Rica between 1996 and 2008, we believe that these are unlikely to explain the dramatic improvements in iron status that we observed.

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Figure 1 Program impact pathway for mass fortification programs

Potential to benefit
(presence of micronutrient deficiencies)

Fortification policy created and legislation passed

Bioavailable fortificant is mandated for food(s) that are consumed by the nutritionally needy

Foods are fortified at mandated levels and compliance is monitored and enforced

Fortified foods are consumed in adequate amounts (meaningful contribution to requirements)

Public health impact (reduction in micronutrient deficiencies)
The Complexity of the Double Burden of Malnutrition: New Evidence from Latin America

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Many Latin American countries are facing a double burden of malnutrition: the persistence of undernutrition, especially among children and women, along with a rapid rise in overweight, obesity, and diet-related chronic diseases. Results from a new eight-country analysis at the national, household, and individual levels, summarized in Table 1, illustrate how complex it is to identify, define, and address this new malnutrition phenomenon. The data show the following:

- Guatemala, Mexico, Ecuador, and Brazil (for women) are experiencing a double burden of malnutrition.
- Different conclusions about the double burdens can be drawn from data at different levels. For example, when observing only the child-level data for Guatemala, the conclusion would be that there is no double burden; however, the data at the other levels suggest that there is.
- Even within the same data level there are different rankings of countries. For example, at the individual child level, we would conclude that Mexico has a more significant double burden than Brazil; but at individual woman level, for the same indicators, we would conclude that Brazil has a much worse double-burden issue than Mexico. Similarly, at the national level, using adult women data we would conclude Brazil has a significant double-burden issue, but using national-level child data for Brazil we would conclude it does not.

This complexity of the definition of double burden does not help to promote accountability from those who shape the healthy eating and physical exercise environment. However, what determines the presence of double burden at the household and individual levels is the coexistence of the two conditions at the country level. The immediate barrier is the lack of international cutoff points to establish the presence of the double burden at any level, particularly at the national level. To promote accountability, coordinated action, and cross-country learning, a greater consensus is needed, at least within regions, on what constitutes a double burden of malnutrition.
Table 1 Prevalences of double burden of malnutrition at national, household and individual levels in Latin America

<table>
<thead>
<tr>
<th>Country</th>
<th>Year of data collection</th>
<th>National level</th>
<th>Household level (stunted child &lt; 5 years &amp; OW/OB mother)</th>
<th>Individual level (OW &amp; micronutrient deficiency)</th>
<th>Women (OW/OB &amp; micronutrient deficiency)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Children &lt; 5 years</td>
<td>Adult women</td>
<td>Age range</td>
<td>Type of double burden</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stunting H/A &lt; 2z (%)</td>
<td>Overweight &amp; obesity (%)</td>
<td>Anemia (%)</td>
<td>Overweight &amp; obesity (%)</td>
</tr>
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<td>Brazil</td>
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<td>7.3a</td>
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Notes: Overweight including obesity: aWeight-for-height (W/H) > 2z, bBody Mass Index-for-age > 2z. Overweight is defined as W/H ≥ 90 <97 and obesity as W/H ≥ 97 percentiles of the Cuban National Growth Charts.

For Uruguay, the double burden pair at household level considers children under 6 y.

OW: Overweight
OB: Obesity
H/A: Height-for-age
In response to a United Nations Children’s Fund (UNICEF)-led challenge to find new solutions to micronutrient deficiencies that could benefit the world’s poorest children, micronutrient powders (MNPs) were originally developed in 1997 at the Hospital for Sick Children in Toronto, Canada. MNPs are packets of powdered vitamins and minerals that can be easily added to children’s food without changing the color, texture, or taste of traditional home-prepared foods. A Cochrane systematic review (1) and World Health Organization (WHO) guidelines on the use of MNPs for home fortification of foods for infants and children ages 6–23 months have helped to catalyze significant investments by donors, governments, and UN agencies to support implementation and scale-up. According to a UNICEF and Centers for Disease Control and Prevention (CDC) landscape analysis, it is estimated that MNP programs will be implemented in 62 countries in 2014 and will reach more than 10 million children (2).

As the focus of MNP innovation shifts toward the process of scaling up, we can learn from the early adopters. Countries such as Bolivia, Dominican Republic, Guyana, Kyrgyzstan, and Mongolia have shown early success in the scale-up of national public-sector programs, with coverage rates of children reaching 50 percent or higher (3). What are the conditions that describe the enabling environment for the national scale-up of MNPs in these countries? Here are a few:

- **Political and Financial**—Acceleration of the scale-up process can be enhanced if MNPs are included within national development plans and prioritized through multisectoral coordination, private-sector engagement, and resource mobilization, including financing through social protection programs.
- **Political**—The scale-up of MNPs is best suited for integration within existing public health and nutrition programs using existing health system channels that can adequately support distribution and behavior change communication.
- **Operational**—There is a need for effective workforce training (often through a country’s Integrated Management of Childhood Illness strategy) and a continuing focus on retraining to motivate and inform healthcare providers.
- **Operational**—Capacity building for supply chain management, communications, and monitoring and evaluation are essential to achieve program effectiveness. These activities can be supported by government and donor agencies through technical and financial support.
- **Operational**—Ongoing strategies to influence behavior change and demand creation, targeted at both the healthcare provider and caregiver, are needed to increase and sustain national coverage and utilization rates.

The scaling up of MNPs is not without its challenges. Even public-sector programs, despite having the ability to achieve broad coverage, can experience difficulty in reaching marginalized and at-
risk populations. Coverage is important, but a parallel need is to focus on and improve utilization and adherence rates.

A case in point is Bolivia, where in 2006 the government leveraged an established national program already providing iron syrup, to transition to MNPs (known as Chispitas). Caregivers receive Chispitas during routine public health center visits; 60 sachets are provided to infants twice—at 6–11 months of age and at 12–23 months, with instructions to consume one sachet daily. By 2012, MNP coverage had reached 65 percent of approximately 536,000 Bolivian children 6–23 months. However, a nationally representative survey in 2010 found that only 45 percent of urban and 52 percent of rural caregivers reported children consuming all 60 sachets. As a result, a responsive behavior change communication (BCC) strategy was developed to increase both utilization and demand for Chispitas including a mass media campaign with radio and television spots. Additional healthcare provider training materials and resources, including counseling materials, have been developed to complement the mass media campaign, with a focus on intercultural communications to recognize indigenous practices, beliefs, and languages.

Monitoring and evaluation plans, including impact evaluation and cost-effectiveness analysis, need to be built into programs from the start so that sound standards for effectiveness and safety are in place to draw scientifically rigorous conclusions and sustain political commitments. Timing (and patience) is essential, as it can take years of increasing coverage and adherence to result in a positive impact at the population level.

Finally, there is an inherent tension between scaling via exact replication of MNP programs and scaling that includes country-specific contextualization. What works in one country may not be appropriate or work in another. MNP programs require some local adaptation to meet the specific needs of each country and health service. For example in Kyrgyzstan, to address the challenges and barriers to introducing a new product, implementers proactively used three main communication channels at the onset of the program to reach families—primary healthcare providers, village health committee volunteers, and the mass media. Through this dynamic tension, new and creative opportunities for scaling will likely emerge in other countries.

References

