

Undernutrition in the Philippines

Scale, Scope, and Opportunities for Nutrition Policy and Programming







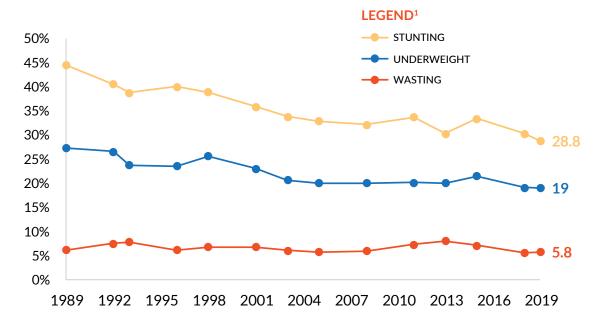
Undernutrition is, and has always been, a serious problem in the Philippines

Undernutrition robs Filipino children of their chance for a bright future. According to the World Bank's Human Capital Index (HCI)— a Filipino child born today is likely to reach only 52% of their future potential economic productivity as an adult, compared to a child with access to complete education and full health. Children growing up in poverty need equalizing investments in their nutrition, health, education, and wellness, in order to reach their full potential as healthy, skilled adults who are able to improve their quality of life.

For nearly 30 years, there have been almost no improvements in the prevalence of undernutrition in the Philippines. One in three children (29%) younger than five years old suffered from stunting (2019), being small in size for their age. Moreover, 19% were underweight for their age, and 6% of children below five years old were classified as "wasted," being underweight for their height.

The Philippines is ranked fifth among countries in the East Asia and Pacific region with the highest prevalence of stunting and is among the 10 countries globally with the highest number of stunted children. Based on the World Health Organization's (WHO) classification of undernutrition rates, the stunting prevalence of children in the Philippines is of "very high" public health significance.

FIGURE 1: Malnutrition trends in the Philippines for children under age five, 1989-2019



1- "Stunting" is being small in size for their age; "Underweight" is being below the expected weight for their age"; and, "Wasting" is being underweight for their height.

Source: National Nutrition Survey reports from the Food and Nutrition Research Institute

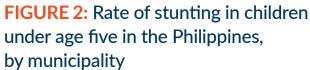
WHY DO WE FOCUS ON STUNTING AND WHAT DOES IT MEAN?

Stunting has become the leading single measure of child malnutrition used worldwide. Stunting results from chronic undernutrition and indicates a failure to attain the height expected for a healthy child. Height growth and brain development not achieved during the first 1,000 days of life (from conception to two years of age) is largely irrecoverable and is associated with measurable negative consequences for health, impaired cognitive development, reduced earnings in adulthood and increased risk of developing chronic diseases.

Stunting is not, however, itself a direct cause of these outcomes. Rather stunting is a marker that indicates a higher probability of the underlying conditions that cause poor outcomes.

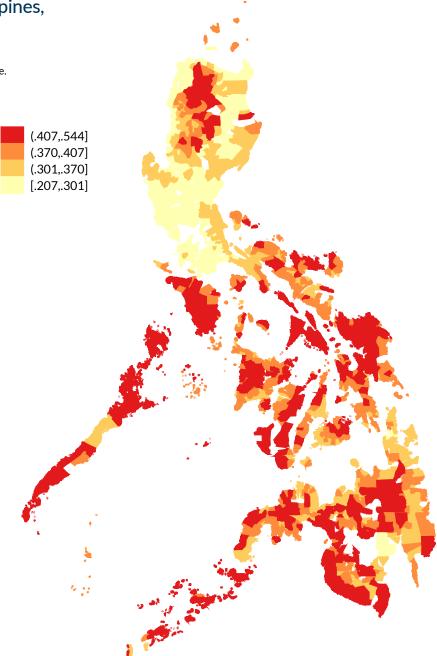
This is an important distinction to make for two reasons. First, an individual child who is short and correctly categorized as stunted will not necessarily be suffering from undernutrition. Stunting is much more suitable as a marker of undernutrition at the population level than as a definite identifier of poor nutrition at the individual level.

Second, merely boosting the height of children will not improve outcomes. (Administering doses of growth hormone, for example, would probably increase height but without any impact on long-term outcomes.)



The darker the color, the higher the stunting rate.

Sources: FNRI 2015; PSA 2015



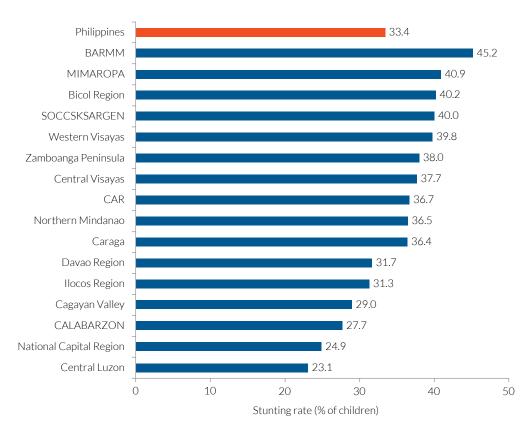
The national-level statistics mask deep inequalities across the country, with far worse outcomes in some regions than others. There are regions with levels of stunting that exceed 40% of the population. In BARMM 45% of children below five are

stunted, in MIMAROPA 41%, Bicol Region it is 40%, Western Visayas 40%, and in SOCCKSARGEN 40%¹. Children in rural areas (30%) are more likely to be stunted than those in urban areas (26%) (ENNS 2019).

¹ Regional prevalence is from the 2015 National Nutrition Survey (DOST-FNRI).



FIGURE 3: Rate of stunting in Filipino children under five years old, by region



Note: BARMM = Bangsamoro Autonomous Region in Muslim Mindanao.

CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon. CAR = Cordillera Administrative Region.

MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan.

SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos.

Source: FNRI 2015

Beyond the visible anthropometric differences (stunting, underweight, and wasting), micronutrient undernutrition—so-called "hidden hunger"—is also highly prevalent in the Philippines.

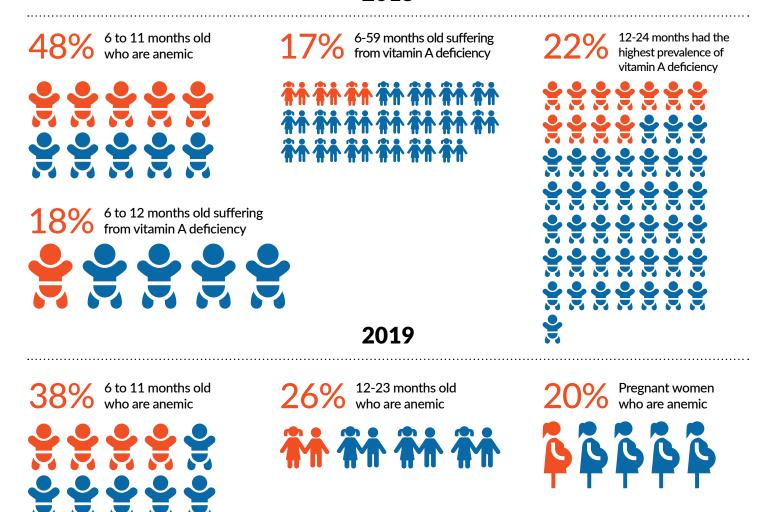
Hidden hunger is a form of malnutrition caused by a lack of essential vitamins and minerals in the diet such as vitamin A, iron, zinc, folic acid and iodine. Because these nutrients are required in very small amounts, they are called 'micronutrients'.

In 2019, data on anemia show that this nutritional deficiency is alarmingly high: 38% among infants six to 11 months old (from 48% in 2018); 26% among children 12–23 months; and 20% of pregnant women are anemic.

Nearly 17% of children aged 6–59 months suffered from vitamin A deficiency (2018), of which children aged 12–24 months had the highest prevalence (22%) followed by children aged six to 12 months (18%).

FIGURE 4: Anemia and vitamin A deficiency among children and pregnant women

2018



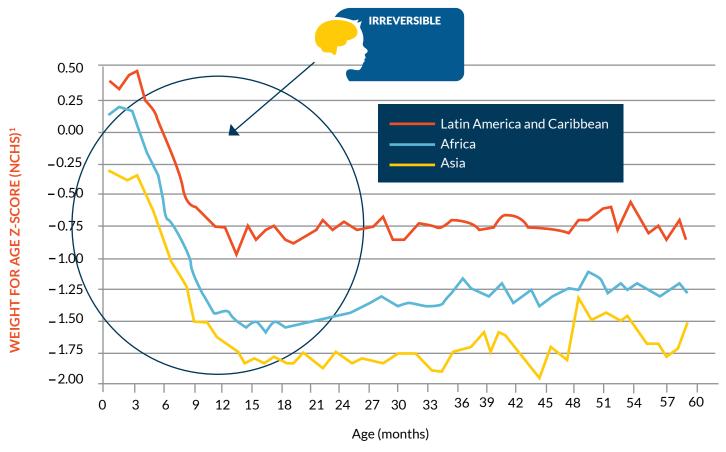
Source: ENNS (2019)



The critical window of opportunity is narrow

There is only a narrow window of opportunity in a child's life for adequate nutrition to ensure optimal health and physical and cognitive development. It spans the first 1,000 days of life, beginning with the day of conception through to the child's second birthday. Any undernutrition occurring during this period can lead to extensive and potentially irreversible damage to physical growth, brain development, and, more broadly, human capital formation. Therefore, interventions to improve nutritional outcomes must focus on infants between 0 to 24 months old, and women of child-bearing age.

FIGURE 5: The impact on the development during the "window of opportunity" is largely irreversible from conception to 24 months of age (1000 days)



1 Mean weight for age Z scores by age, National Center for Health Statistics (NCHS) reference, by region (0-59 months).

Source: Victora, C. G., M. de Onis, P. C. Hallal, M. Blössner, and R. Shrimpton. 2010. "Worldwide Timing of Growth Faltering: Revisiting Implications for Interventions." Pediatrics 125 (3):e473–e480.



Good nutrition is a foundation for economic prosperity

High levels of childhood undernutrition can lead to a staggering loss of human and economic potential. Undernutrition affects

economic growth through three key channels.

First, it elevates the risk of morbidity and mortality, with the potential for transmission generations. across Undernourished children are more likely to have poor health and shorter lifespan, reducing the ability to accumulate social and economic gains for their families.

Second, undernutrition is associated with decreased lifelong income earning

potential and labor force productivity in both the short and long terms. Stunting is associated with cognitive delays

and lower educational attainment. Children suffering from stunting are likely to have reduced height and productivity as

leads to higher health care costs and social safety net expenses-largely borne by the public sector-and less effective investments

education.

The burden on Philippine brought by childhood economy undernutrition was estimated at US\$4.4 billion, or 1.5% of the country's GDP², in 2015.

Third, undernutrition in the population

US\$4.4 BILLION, OR 1.5% OF THE GDP

The Total Cost to the Philippine Economy Brought By Childhood Undernutrition

² UNICEF (2017a) The Economic Consequences of Undernutrition in the Philippines: A Damage Assessment Report.

Economic returns from investing in nutrition are substantial

FIGURE 6: Interventions to address undernutrition and micronutrient deficiency in mother and child



In 2013, The Lancet published a comprehensive review of interventions to address undernutrition and micronutrient deficiencies in women and children. It identified a package

of high-impact, nutrition-specific interventions³ to accelerate improvements in nutritional outcomes. These are salt iodization; multiple micronutrient supplementation in pregnancy, including iron-folate; calcium supplementation in pregnancy; energy-protein supplementation in pregnancy; vitamin A supplementation in childhood; zinc supplementation

in childhood; breastfeeding promotion; complementary feeding education; and management of severe acute malnutrition.

IN THE PHILIPPINES, EVERY US\$1 INVESTED IN NUTRITION HAD A POTENTIAL TO YIELD US\$ 44

3 Salt iodization; multiple micronutrient supplementation in pregnancy, including

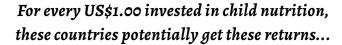
iron-folate; calcium supplementation in pregnancy; energy-protein supplementation in pregnancy; vitamin A supplementation in childhood; zinc supplementation in childhood; breastfeeding promotion; complementary feeding education; and management of severe acute malnutrition.

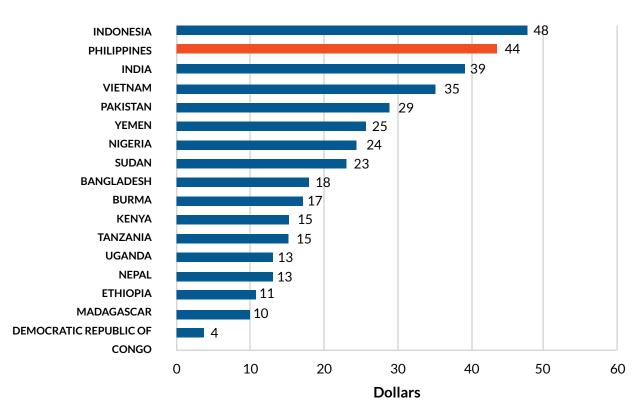
The interventions are complementary and mutually reinforcing, with some addressing the prenatal period and others the postnatal period. It is therefore recommended that those living with a high burden of undernutrition benefit from the full delivery of this package rather than partial or piecemeal implementation.

Delivery of these interventions as a package, covering at least 90% of

the population of undernourished children and pregnant women would pay lifelong dividends, translating to a healthier society and a more robust economy. According to World Bank

FIGURE 7: Rate of return to investment to reduce stunting, by country





Source: Hoddinott et al. (2013)

estimates⁴, the Philippines would have one of the highest rates of returns from the full nutrition package. For every U.S. dollar that the Philippines invests in this package of high-impact, nutrition-specific interventions, the increase in adult income is estimated to be US\$66⁵, compared with \$2 for Malawi, \$13

In other words, for every dollar invested in nutrition had a potential to yield a US\$44 return which was among the highest for countries examined.

for Ethiopia and \$48 for Vietnam. It was estimated in 2012 that the benefit-cost ratio for nutrition investments in the Philippines would be 44.

⁴ In 2017 the World Bank estimated the rates of return from 90% coverage of this package of high-impact, nutrition-specific interventions in 34 countries, which together account for 90% of the world's stunted children, and which include the Philippines.

⁵ The estimates account only for individual returns through improved health, education, and cognition, and not for market effects. The estimates also assume that once people accrue education and health, they will be valued in the labor market.

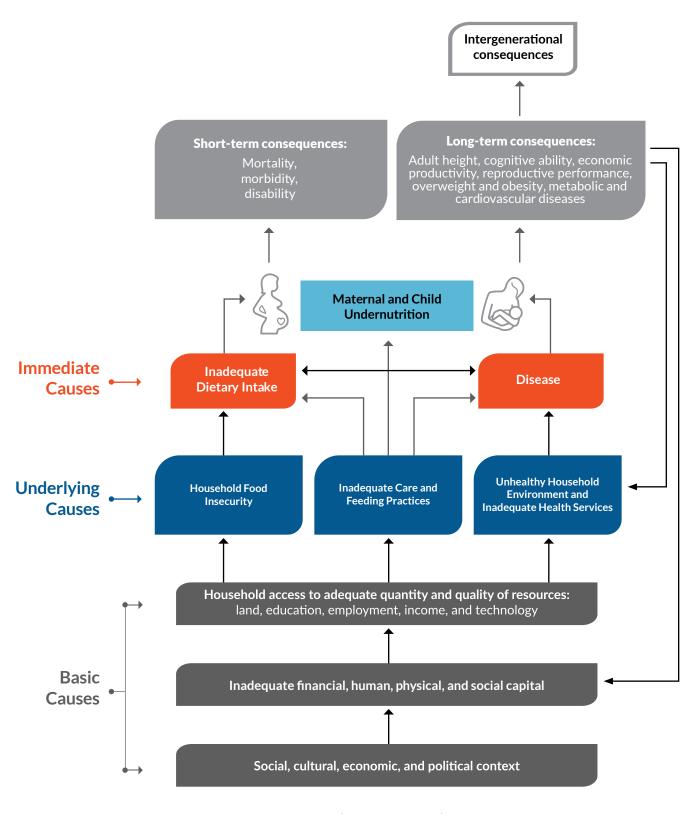


The causes of undernutrition are multisectoral

There are three categories of drivers of undernutrition (UNICEF): immediate, underlying, and basic. At the immediate level, a child becomes undernourished because of inadequate or inappropriate dietary intake, ill health, or both—these two factors often negatively affect one another. These immediate factors stem from household or community deficits in

food security (for example, lack of access to a diverse diet); inadequate care and feeding practices for mothers and children; and inadequate access to health and environmental services. Lack of access to "food, health, and care," also interact and are themselves underpinned by more basic causes related to the amount, control, and use of resources in society.

FIGURE 8: UNICEF conceptual framework for maternal and child nutrition



Source: UNICEF 2013 (CC BY 3.0 Unported)



Summary of Determinants of Childhood Nutrition in the Philippines

Immediate determinants

Inadequate nutrient intake

To meet their increasing nutritional needs after six months of exclusive breastfeeding, infants should receive safe, age-appropriate and nutritionally adequate complementary foods combined with continuous breastfeeding in order to achieve optimal growth. Many Filipino children do not receive nutritionally adequate foods at this age. Overall, 58% of children from birth to six months of age are exclusively breastfed and only 10% of children six to 23 months old were reported to have been fed a nutritionally adequate diet in 2019.6

Ill health

Illnesses can make undernutrition worse, and undernutrition can make illnesses worse. Poor nutrition impairs children's immune response, increasing their susceptibility to infections; fever and other signs and symptoms of infection break down the body's reserves of nutrients more quickly and escalate the requirements. Diarrhea and parasitic infestation from soil-transmitted parasitic worms have long been known to affect nutrition through the loss of nutrients from malabsorption, or the inability of the body to properly absorb nutrients.

6 In terms of the quantity (number of feeds) and quality (the number of different types of food)

In the Philippines, the prevalence of diarrhea among children under five is 6.1%. By age group, the prevalence of diarrhea is highest among children 6-11 months old (9.4 %), followed by children 12-23 months old (9.0 %) according to National Demographic and Health Survey (NDHS) data for NDHS 2017). However, less than half (47 %) of children up to 59 months of age with diarrhea received oral rehydration solution with zinc and only 45 % of sick children 12–59 months old were given vitamin A supplements when treated in health facilities.⁷

Underlying determinants

Poor access to health services

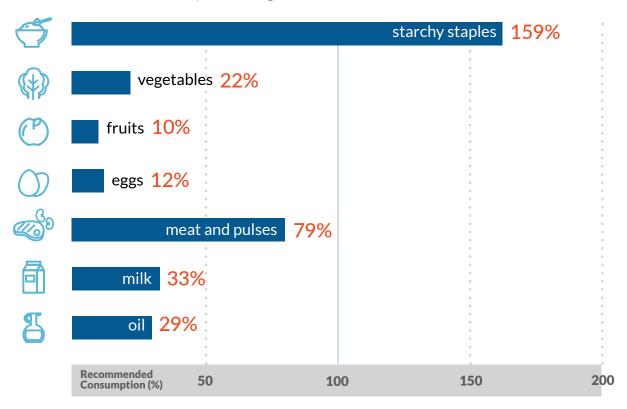
Prenatal care services provide pregnant women with essential nutrition services, including iron and folic acid supplementation, energy and protein supplementation for undernourished women, and nutrition counseling to promote optimal infant and young child feeding practices. Only 53% of pregnant Filipino women are reported to have made the recommended four prenatal care visits, and only 54% had received iron with folic acid.

Inadequate access to diverse, nutritious foods

Poorer Filipinos eat a diet heavy in rice, with low levels of dietary diversity and limited animal protein consumption.

⁷ Field Health Services Information System (FHSIS 2018)

FIGURE 9: Consumption of food groups in the Philippines, as a percentage of recommended intake



Source: Family Income and Expenditure Survey (2015)

According to 2015 data from the Family Income and Expenditure Survey (FIES), Filipinos consume 159% of the recommended consumption of starchy staples (particularly rice), but only 22% of the requirement for vegetables, 10% for fruits, 12% for eggs, 79% for meat and pulses, 33% for milk, and 29% for fats and oils. A healthy diet is expensive in the Philippines. The minimum cost of the recommended diet for an average Filipino adult is Php 68 per day, substantially exceeding what households typically spend on food, approximately Php 48 per adult per day.

Unhealthy household environment

Childhood diarrhea, are often a consequence of unhealthy environment and occurs more frequently among households without improved toilets and access to safe drinking water, as well as those practicing open defecation, which is still seen in marginalized areas of the country.

Childhood environmental enteric dysfunction (EED) causes

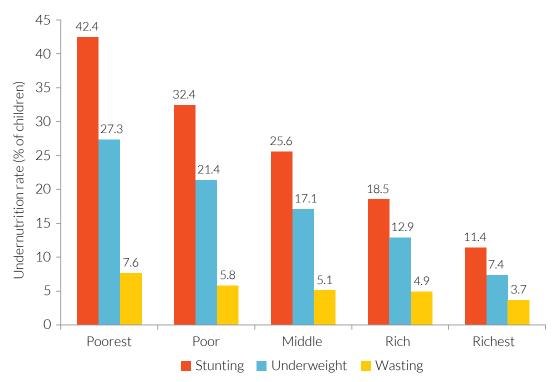
subclinical gastrointestinal infections that prevent nutrients from being absorbed, even without diarrhea. EED has been linked to unsanitary physical environments and contributes to childhood stunting. According to the 2017 NDHS survey data, while about 95% of Philippine households have access to improved sources of drinking water, only 84% of households in the poorest quintile and 71% of ARMM households have such access.

Unimproved sanitation facilities are used by 24% of households on average, but this share is much higher at 31.6% among ARMM households. Handwashing and household level food preparation and storage require behavior change interventions.

Inadequate care and nutritional practices for women

Early deficits in fetal and child growth usually stem from inadequate maternal macronutrition and micronutrition before and during pregnancy. In the Philippines, about 23%

FIGURE 10: Rate of stunting in the Philippines for children under age five, by wealth quintile (2019)



Source: Food Nutrition and Research Institute (2019)

of pregnant women in 2019 were "nutritionally-at-risk." Early marriage and adolescent pregnancy can lead to higher maternal and neonatal mortality, low birthweight, and stunting of children. Adolescent fertility and childbearing are on the rise in the Philippines. In 2017, the adolescent fertility rate was about 54 births per 1,000 women ages 15 - 19 years. Furthermore, pregnant women under the age of 20 are more likely to be deemed nutritionally-at-risk than women above the age of 20 (28.5% and 22.3% respectively) according to the FNNS for 2019.

Basic determinants

Poverty

One of the most important basic causes of undernutrition is poverty. In the Philippines, 42.4% of children from households in the poorest quintile are stunted compared to 11.4% of children from households in the wealthiest quintile (ENNS)

2019). The Philippines is an archipelago that is vulnerable to natural calamities such as typhoons, earthquakes and volcanic eruptions — "emergencies" that can lead to displacement and loss of livelihood, compromising the nutritional wellbeing of infants and young children.

Governance structures pose significant challenges for the country's efforts to combat undernutrition

Municipalities, particularly those with a high prevalence of childhood undernutrition, face several problems in the effort to implement nutrition interventions. Chief among them are the limited budgets allocated for nutrition programs, the lack of a full-time provincial, city or municipal nutrition action officer, and the scarcity of health personnel. Nutrition often must compete with a long list of other infrastructure projects in the budget priorities of local government units (LGUs).



The Philippine Government's Approach to Tackling Undernutrition

The Philippine Development Plan for 2017—2022 sets out an explicit nutrition goal: to reduce the prevalence of stunting in children under five years old to 21.4 % by 2022. The Philippine Plan of Action for Nutrition for 2017–2022 (PPAN) is the Government of the Philippines' blueprint of actions for nutrition improvement and is consistent with the Health for All Agenda of the Department of Health (DOH).

PPAN is a results-focused plan designed to achieve outcomes on various forms of malnutrition: stunting, wasting, micronutrient deficiencies, high adult body mass index, and obesity. It has four main strategic thrusts: (a) focus on the first 1,000 days of life; (b) offer a complement of nutrition-specific and nutrition-sensitive programs; (c) intensify the mobilization of government units, prioritizing the 38 areas with the highest burden of stunting; and (d) harmonize national and local government action.

The national strategy is to establish an organizational structure at all levels of government. In this structure, the operational platform for delivering and managing nutrition-specific and nutrition-sensitive activities is anchored in Local Government Units (LGU), which serve as the focal points for planning, coordination and implementation of nutrition related activities across the concerned sectors. LGUs have the administrative autonomy to raise local revenues, to borrow, and to determine local expenditures, including expenditure on health and nutrition. Although the local government rhetoric conveys broad political commitment to nutrition programs, in

practice, LGU officials do not accord nutrition interventions high budgetary priority. LGUs that strongly support nutrition programs, with adequate financing and structured nutrition planning sessions, tend to perform better and have a low prevalence of undernutrition among the children under five.

Overall, although the government is implementing nutritionspecific and nutrition-sensitive interventions targeting women and children, progress on improving the nutritional status of children has been very slow. The lack of a clearly defined minimum comprehensive package of evidence-based interventions has contributed to fragmented implementation of these interventions at a local level.

Moreover, the low coverage of these interventions, and other government programs to date accounts for their suboptimal impact on nutritional outcomes. Stronger financial as well as human resources and institutional capacity are needed to implement high quality, nutrition-specific and nutrition-sensitive government programs at scale.

The COVID-19 health crisis has had a deep impact on people's access to healthy food, especially among the poor whose incomes have declined due to lengthy community quarantines. Targeted and large-scale interventions to mitigate continued undernutrition among children grows in urgency as the Philippines continues to struggle with rising food prices and school closures more than a year after the start of the pandemic.





1. Adequate financing for nutrition

Critical to tackling undernutrition at scale are better and higher levels of nutrition investments as well as sufficient domestic financing for nutrition-related programs to achieve the nutrition goals for vulnerable populations. Priority should be given to advocating for increased direct government funding for LGUs to augment current support for a comprehensive package targeting women and children to reduce stunting.

A concrete demonstration of strong support to the nutrition agenda by the LGUs would be to increase budget allocation, and provide a separate budget for nutrition. Nutrition programs can only be implemented and sustained if they have an adequate dedicated budget.

At the national level, the National Nutrition Council (NNC)

requires sufficient resources to provide technical and supervisory oversight, and to draw together the multiple sectoral as well as administrative responses in a comprehensive, cohesive manner.

2. Build a strong and closely coordinated partnership for nutrition

At the national level:

- NNC is the country's highest policy-making and coordinating body on nutrition, but it is dependent on the commitment of the agencies on its Governing Board. The NNC needs sufficient resources to enable it to effect meaningful change at the national level as well as across concerned sectors.
- 2. Cohesion and interaction are needed between the NNC and LGUs. The exchange needs to go beyond advocacy

and policy. The NNC has to be strengthened to provide the supervisory and oversight capacities needed for programs to run effectively and efficiently and be enabled to respond to gaps in program implementation.

At the local level:

3. High priority and strong support for nutrition should be on the agenda of both the executive and legislative bodies in the municipalities. As indicated in the case studies conducted for this report, LGUs that strongly support nutrition programs performed better and have a low prevalence of undernutrition among children under five.

3. Implement large-scale proven direct nutrition interventions

Substantial progress has been made in developing policies and strategies for an integrated approach to nutrition, but an evidence-based package of nutrition-specific interventions is yet to be defined and made available to all LGUs with a high burden of stunting through primary health care facilities and relevant community platforms. This recommendation should include the following specific actions:

- Adopt an evidence-based package of nutrition-specific interventions and make it available to each household in all high-priority LGUs.
- Formulate a comprehensive, social behavior change communications strategy targeted at policymakers, health workers and households and use it to underpin media campaigns, community educational materials, and events to improve the nutrition of women and children.
- 3. Formulate more innovative and competency-based training of Barangay Health Workers, Barangay Nutrition Scholars and their supervisors. It is imperative that these health workers command adequate knowledge of nutrition, shift beliefs toward acceptable practices, and are able to communicate their knowledge effectively so as to bring about sound behavioral change.

4. Address determinants of nutrition through multisectoral approaches

Although it is important to address the direct routes to optimal nutrition through the previous recommendations, success in improving maternal and child nutrition will be enhanced and sustained by using multisectoral approaches to address the underlying determinants of nutrition. Significant gaps remain in the provision of essential evidence-backed nutrition-sensitive interventions, and closing these gaps is critical to fixing the underlying causes of undernutrition. Key actions should be targeted primarily at LGUs with a heavy burden of stunting, these could include the following:

- Promote the diversification of production in agriculture and expand the sector, with a focus on adding value and specialization in key regions as well as developing channels of access to markets, in effect, enhancing the food environment to improve consumer access to nutritious, safe food
- 2. Ensure that maternal and child health programs have explicit, measurable nutrition outcomes as well as coordinated human resources logistical support to take advantage of synergies and potential for integration
- Increase the access of vulnerable and poor households to clean water, improved sanitation facilities and hygiene promotion services
- 4. Ensure that conditional cash transfer programs serve the most nutritionally vulnerable populations-pregnant women and young children. Targeting can be improved by adopting the updated registry to identify vulnerable populations and by developing a more dynamic system to update beneficiary information frequently. In addition, create the necessary incentives to report pregnancy and newborns for monitoring under the program, renew the health and nutrition messages of the family development sessions and improve the program's delivery and monitoring systems.

5. Establish geographic convergence of key sectors

In order to address the multisectoral determinants of undernutrition in the Philippines, it is essential to achieve geographic convergence – down to the household level – of critical sectors and programs in LGUs with a heavy burden of stunting and to focus on delivering a basic package of nutrition-specific and nutrition-sensitive interventions. The geographic convergence would include the Department of Health, Department of Agriculture, Department of Interior and Local Government, Department of Social Welfare and Development and Department of Education. These entities would ensure that sector interventions in agriculture; education; health and nutrition; social protection; water, sanitation, and hygiene; and poverty reduction—albeit delivered in parallel—reach the same households to maximize their contribution to reducing stunting.

6. Data collection, monitoring, and evaluation

Nutrition data and information systems play a critical role in ensuring that valid, reliable, and timely nutrition data are available, accessible, and used by key nutrition stakeholders to inform decision making. Hence the inclusion of standard, reliable and high-quality monitoring and evaluation systems in every nutrition and health-related program will be useful in assessing the effectiveness of intervention programs at the local level. Relatedly, for effective implementation of Operation Timbang Plus, standard and appropriate weighing scales (with regular calibration and maintenance of the scales) and height boards should be procured.

Implementation must be accompanied by appropriate development of the skills of volunteers who take these vital measurements. A priority for the first 1,000 days of life is to include adolescent girls in nutrition surveillance and to develop the capacity of health and nutrition workers to assess maternal weight gain during pregnancy and act upon its interpretation.

A local nutrition information system that is linked to the national system will provide LGUs with access to their own data. They need to be enabled to manage data and be responsive to the information provided as well as to seek and obtain assistance if the needed response is beyond their capacities. Overall, national level information systems could be streamlined and made more efficient to trigger timely and facilitative action.





For nearly 30 years, the rates of both wasting and stunting in the Philippines have been nearly flat. For 2019, the rate of stunting among children under five years of age (28.8 percent) was only slightly lower than in 2008 (32 percent)—the prevalence of underweight in 2019 was 19 percent and that ofwasting was 6 percent. Based on the World Health Organization's classification of undernutrition rates, the stunting prevalence of children in the Philippines is of "very high" public health significance. The Philippines' 29 percent stunting rate places it fifth among countries in the East Asia and Pacific region, and among the top 10 countries globally.

The Philippines' high levels of childhood undernutrition can lead to a staggering loss of the country's human and economic potential. The burden on the Philippines' economy brought by childhood undernutrition was estimated at US\$4.4 billion, or 1.5 percent of the country's GDP, in 2015. Undernutrition robs Filipino children of their chance at a bright future. When viewed through the lens of the World Bank's Human Capital Index (HCI), the country's 2020 HCI score of 0.52 predicts that the future productivity of children born today will be 48 percent below what they might achieve if they were to enjoy complete education and full health.

Undernutrition in the Philippines: Scale, Scope, and Opportunities for Nutrition Policy and Programming

presents a comprehensive, analytical work on this topic. It provides evidence of why it is critical that the government of the Philippines prioritize tackling this persistent challenge. The report assesses the determinants and causes of childhood undernutrition and reviews current policies and programs directed at addressing this problem. Based on these analyses, the report provides recommendations of how national policies and programs can be strengthened to reduce the high rates of undernutrition in the country. It sets out to inform the debate on the causes and potential solutions of undernutrition while identifying high-priority policies and policy commitments for action.

Download the full report here: https://openknowledge. worldbank.org/handle/10986/35530

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