

Herrin, Alejandro N.; Abrigo, Michael Ralph M.; Tam, Zhandra C.; Ortiz, Danica Aisa P.

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Child stunting prevention: The challenge of mobilizing local governments for national impact

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DISCUSSION PAPER SERIES NO. 2018-45

Child Stunting Prevention: The Challenge of Mobilizing Local Governments for National Impact

*Alejandro N. Herrin, Michael Ralph M. Abrigo, Zhandra C. Tam,
and Danica Aisa P. Ortiz*



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CONTACT US:

RESEARCH INFORMATION DEPARTMENT
Philippine Institute for Development Studies

18th Floor, Three Cyberpod Centris - North Tower
EDSA corner Quezon Avenue, Quezon City, Philippines

publications@mail.pids.gov.ph
(+632) 372-1291/(+632) 372-1292

<https://www.pids.gov.ph>

Child Stunting Prevention: The Challenge of Mobilizing Local Governments for National Impact

Alejandro N. Herrin, Michael Ralph M. Abrigo,
Zhandra C. Tam and Danica Aisa P. Ortiz

PHILIPPINE INSTITUTE FOR DEVELOPMENT STUDIES

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Abstract

Key to achieving national targets under a devolved set-up is the capacity of the entire system to implement health and nutrition programs at scale. This requires coordinated efforts among the Local Government Units (LGUs) with the same energy and commitment. Though still few relative to the total number of LGUs, there are LGUs that have demonstrated that they can meet the challenge of implementing a number of nutrition-related interventions in a sustained matter. Moreover, while past interventions were focused to large extent on feeding programs for older children in Day Care Centers and schools, there is increasing interest in implementing the First 1,000 Days Program. There are also LGUs that, with training in leadership and governance, can facilitate improvements in their local health system that involve inter-LGU among province, municipality and city LGUs to deliver a continuum of maternal, neonatal and child health care in a service delivery network. Based on the experiences of these LGUs, it is possible to move forward by systematically addressing two sets of issues: one of governance and health systems improvements; and two of strengthening key elements and filling out gaps in existing maternal, neonatal and child health and nutrition programs, particularly the nutrition-specific components.

Keywords: stunting, maternal and child care, local governance, first 1,000 days, child health and nutrition

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Child Stunting Prevention: The Challenge of Mobilizing Local Governments for National Impact

*Alejandro N. Herrin, Michael Ralph M. Abrigo,
Zhandra C. Tam and Danica Aisa P. Ortiz¹*

1. Introduction

1.1. National trends in child stunting, National Nutrition Council (NNC) assessment and Philippine Plan of Action for Nutrition (PPAN) 2017-2022

National data on child stunting shows that in 2015, thirty-three percent (33%) of children under five years old were stunted. And this level of stunting has been unchanged over the past 25 years (FNRI 2016). One main operational gap that was identified by assessment made by the National Nutrition Council (NNC) is “the lack of LGU mobilization”. According to this assessment, only around 97 out of 1,634 LGUs have “outstanding nutrition programs”. For the rest, nutrition program activities revolved around “weighing, feeding of children in Day Care Centers and schools, and the July Nutrition month celebration”. Part of reason could be the fact that the data from OPT tend to underestimate the stunting problem; another is the lack of sanctions and rewards for local governance for nutrition among DILG’s instruments for good governance; and finally, the lack of a coherent local mobilization strategy on the part of NNC (NNC 2014).

The NNC, in its PPAN 2017-2022 included the “local mobilization program” as one of its 11 critical programs to achieve national nutrition target outcomes². Under this program are four projects, namely: (1) Mobilization of Local Government Units (LGUs) for Delivery of Nutritional Outcomes through the NNC Sub-Regional Network; (2) Enabling Policy and Legal Framework for LGU Mobilization; (3) Development of Continuing Opportunities for LGU Excellence in Nutrition Programming; and (4) Expansion of Rural Improvement Clubs (NNC 2016).

An examination of the results framework for this program showed 20 outputs to be achieved. The program will be implemented by the NNC Secretariat, Department of the Interior and Local Government (DILG) and Department of Agriculture (DA). These outputs include training program in local mobilization, nutrition planning and progress monitoring for NNC Secretariat staff and NNC regional teams; ensuring funding for these teams; mobilizing 857 LGUs in 36 provinces; providing a nutrition program package for barangay and municipality in the target LGUs; policy support through Presidential Executive Order detailing the role of the LGUs; and incorporation of nutrition outcome and outputs of LGUs in award systems for local governance (NNC 2016). The local mobilization program is currently in progress.

¹ The authors are Research Consultant, Research Fellow, Research Analyst, and Supervising Research Specialist, respectively, at the Philippine Institute for Development Studies (PIDS).

² These target outcomes are: reduction in stunting and wasting among children under 5 years of age; reduction in micronutrient deficiencies among pregnant and lactating women, and among children of specific ages; no further increase in overweight among children under 5 years, reduction in overweight among adolescents and adults (NNC (2017, *PPAN, 2017-2022: Executive Summary*; <http://www.nnc.gov.ph/downloads/category/118-ppan>)

1.2. Objectives of the study

This research aims to bridge the gap in local health and nutrition policy and service delivery by (1) determining what interventions and activities are being done by LGUs, (2) identifying policy and program gaps that can be addressed by LGUs, national government, and other partner agencies, and (3) providing actionable recommendations to address these gaps, particularly in assisting LGUs effectively deliver nutrition services to priority beneficiaries, namely the poor.

Specifically, the study aims to determine and understand a number of factors likely to affect LGU performance in delivering nutrition services to the poor. These include the adequacy of local data on nutrition; local financial resources; organization of the local service delivery system, with attention to interrelationships among different service delivery platforms (community, health centers, hospitals), which belong to different administrative jurisdictions; means of targeting the priority beneficiaries (the poor and most vulnerable); systems of helping the poor navigate the health and nutrition delivery system; and overall management capacity to plan, finance, execute, monitor and evaluate nutrition interventions. The study also seeks to determine what guidance and assistance are being provided by national agencies, particularly DOH and NNC, on the operationalization of the first 1,000 days focus of the PPAN.

1.3. Why stunting?

There are several considerations why child stunting prevention needs to be a strategic priority in the overall national nutrition agenda. These are (1) the consequences of child stunting have serious consequences for child survival, educational performance and economic productivity; (2) the effect of child stunting on cognitive development and growth are irreversible; and (3) there is a small window of opportunity to address child stunting: interventions in the first 1,000 days from conception to when the child is 2 years old (World Bank 2016; de Onis et al. 2013).

In addition, organizing and delivering existing health and nutrition interventions to bear on child stunting prevention objective (i.e., address the factors in stunting syndrome over the first 1,000 days). can help address other nutrition and health problems (e.g., micronutrient deficiencies in mothers and children; future overweight; future non-communicable diseases). Moreover, effectively preventing child stunting can help achieve other mother and child related nutrition outcome targets, i.e., wasting in young children and micronutrient deficiency in children and pregnant and lactating mothers, as well as “sub-outcome targets” described in the PPAN 2017-2022, namely: exclusive breastfeeding at 5 months, nutritionally-at-risk pregnant women, low birth weight, children 6-23 months meeting minimum acceptable diets.

1.4. Organization of the report

This report is organized into five sections:

- Updates on Child Health and Nutrition Outcomes – provides updates on child health and nutrition outcomes, particularly findings from the most recent National Nutrition Survey of 2015 and the National Demographic and Health Survey of 2017.
- Public Interventions in Maternal, Neonatal and Child Health and Nutrition – maps out the programs on maternal health child health and nutrition that bear on the key intervention points in the First 1,000 Days and corresponding national laws and policies that support them.

- National and Local Government Interface in Policy Setting and Implementation – briefly describes interface between policy bodies – the National Nutrition Council and the Department of Health, and their respective interactions with the local government units (LGUs) with respect to policy setting and service delivery.
- Local Government Actions on Child Nutrition – highlights key features of implementation of child nutrition programs among selected LGUs as described in published compendium of best practices; provincial governors’ accounts presented in a symposium to showcase health leadership and governance; and interviews with provincial health office staff in two provinces and city health office staff in one city.
- Factors Affecting Effectiveness of Local Government Actions on Child Stunting – discusses factors that potentially limit the effectiveness of LGUs in improving child health and nutrition outcomes.
- The Challenge of Mobilizing Local Government to Produce National Impact on Child Stunting – summarizes the challenge of mobilizing LGUs to address the child stunting problem and proposes measures to address gaps in the delivery of child health and nutrition services.

2. Updates on child health and nutrition outcomes

2.1. Child mortality

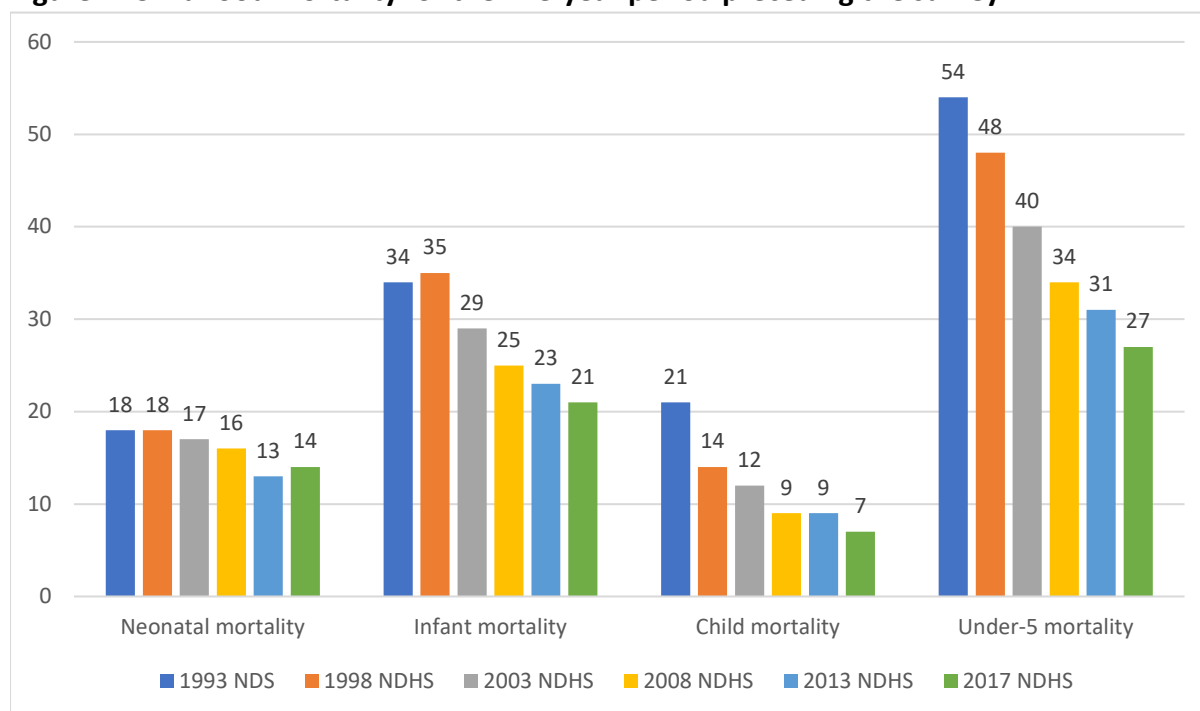
The Philippines had barely achieved its Millennium Development Goal (MDG) targets for infant mortality and child mortality. More rapid decline in infant and child mortality is hampered by slow improvements in neonatal mortality (Figure 1)³. Child mortality is highest among the poorest, who often lack information and resources to access timely and adequate health care (Figure 2). Related to relatively slow improvements in child mortality compared to other countries is the continued high fertility in the Philippines compared to other countries. High fertility, especially high risk births, is a risk factor for neonatal and child mortality (PSA and ICF 2014).

2.2. Overview of maternal and child health and nutrition outcomes

Child malnutrition, particularly child stunting has remained high in the last 25 years. Seen in the context of the stunting syndrome (Prendergast and Humphrey 2014), risk factors affecting child stunting include poor nutritional and health status of the mother during pregnancy, which increases the risk of poor birth outcomes (low birth weight, preterm births, and small for gestational age). Poor birth outcomes in turn are risk factors for neonatal and infant mortality, as well as for child stunting, particularly when child care and nutrition are inadequate. Proper child care and nutrition includes exclusive breastfeeding during the first six months, timely and adequate complementary feeding after six months, micronutrient supplementation, and timely infection control (child immunization; water, sanitation and hygiene; deworming; and treatment for diarrhea and respiratory infection). In Figure 3, we map out the most recent nutrition outcomes for mothers and children in the context of the First 1,000 Days intervention framework.

³ **Neonatal mortality** is the probability of dying within the first month of life; **infant mortality** is the probability of dying before the first birthday; **child mortality** is the probability of dying between the first and the fifth birthday; and **under-5 mortality** is the probability of dying between birth and the fifth birthday. All rates are expressed per 1,000 live births, except for child mortality, which is expressed per 1,000 children surviving to age 12 months.

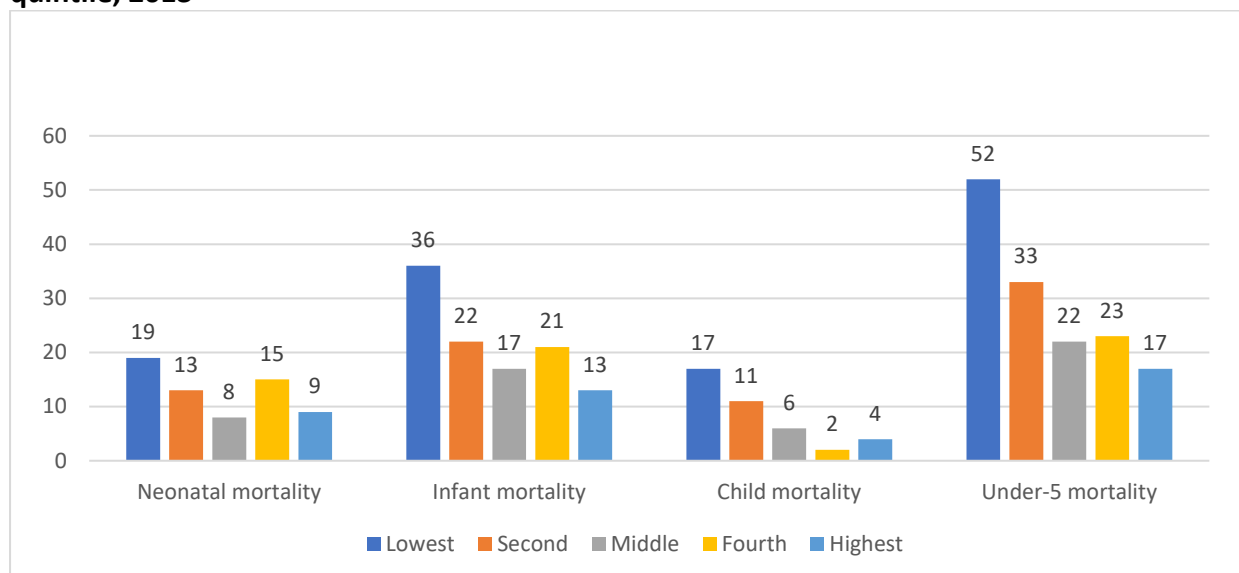
Figure 1. Childhood mortality for the five-year period preceding the survey



Sources: NDHS various years

Note: All rates are expressed per 1,000 live births, except for child mortality, which is expressed per 1,000 children surviving to age 12 months.

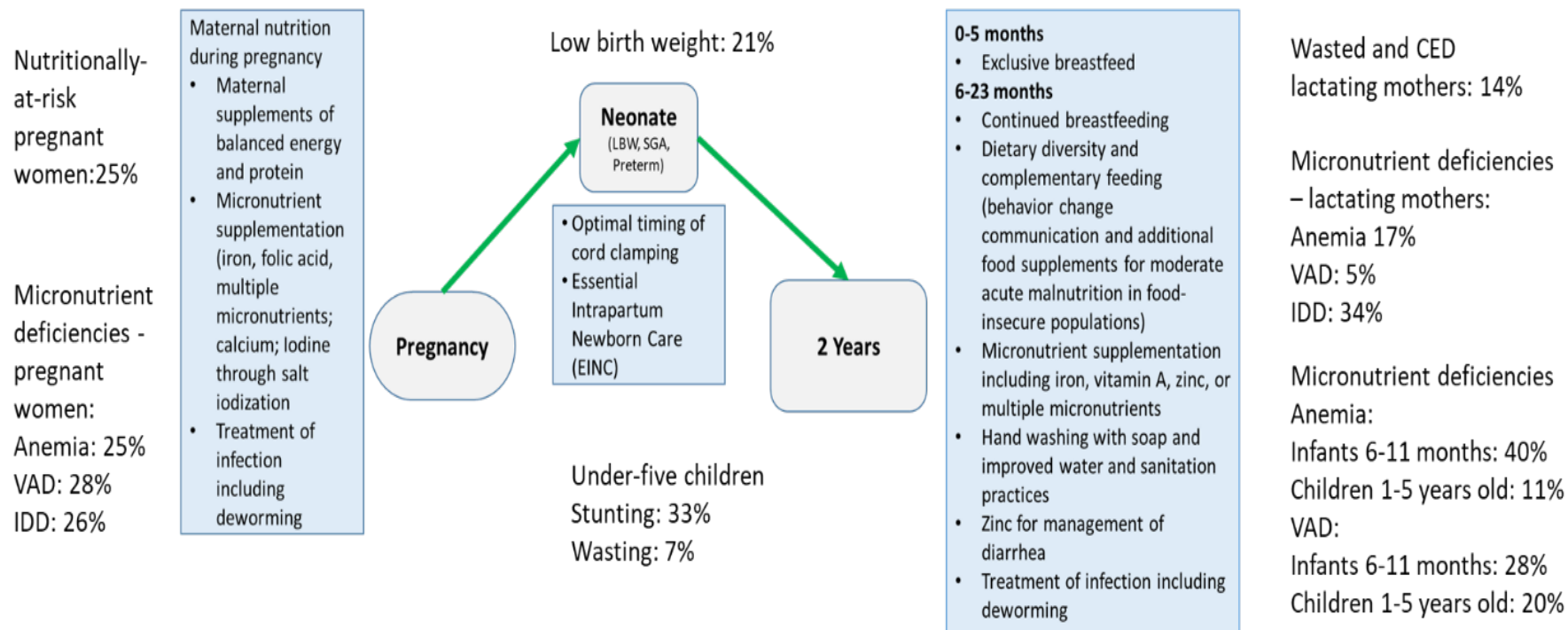
Figure 2. Childhood mortality for the ten-year period preceding the survey, by wealth quintile, 2013



Source: PSA and ICF (2014). *Philippine national demographic and health survey 2013*.

Notes: All rates are expressed per 1,000 live births, except for child mortality, which is expressed per 1,000 children surviving to age 12 months.

Figure 3. Nutrition outcomes: mothers and children, 2013 and 2015



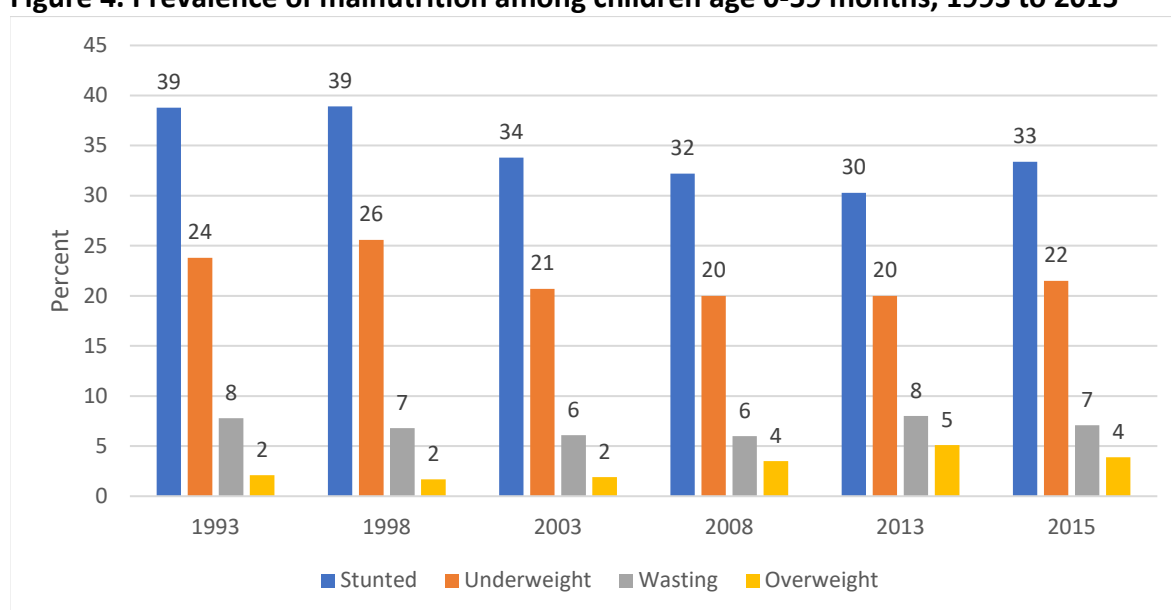
Sources: FNRI (2014, 2016); PSA and ICD International (2014). *Philippines National Health Demographic Survey 2013*.

Note: Interventions were adapted from Bhutta, et al. (2013), WHO Nutrition Interventions (eLENA), and Das et al. (2016).

2.3. Child nutritional status

Data from the National Nutrition Survey (NNS) conducted by the Food and Nutrition Research Institute (FNRI) reveal little progress in addressing child malnutrition, particularly child stunting, during the last 25 years (Figure 4)⁴. In the MDG, the indicator used was the prevalence of underweight, where the target was to reduce the prevalence by one-third from baseline in 1993 to 2015. In the Sustainable Development Goals (SDG), the indicator being used is the prevalence of stunting, and the target, based on the World Health Assembly Resolution 65.6 adopted in 2012, is to reduce the child stunting prevalence by forty percent (40%) by 2025. The other target is to reduce and maintain child wasting to less than five percent (5%) by 2025.

Figure 4. Prevalence of malnutrition among children age 0-59 months, 1993 to 2015

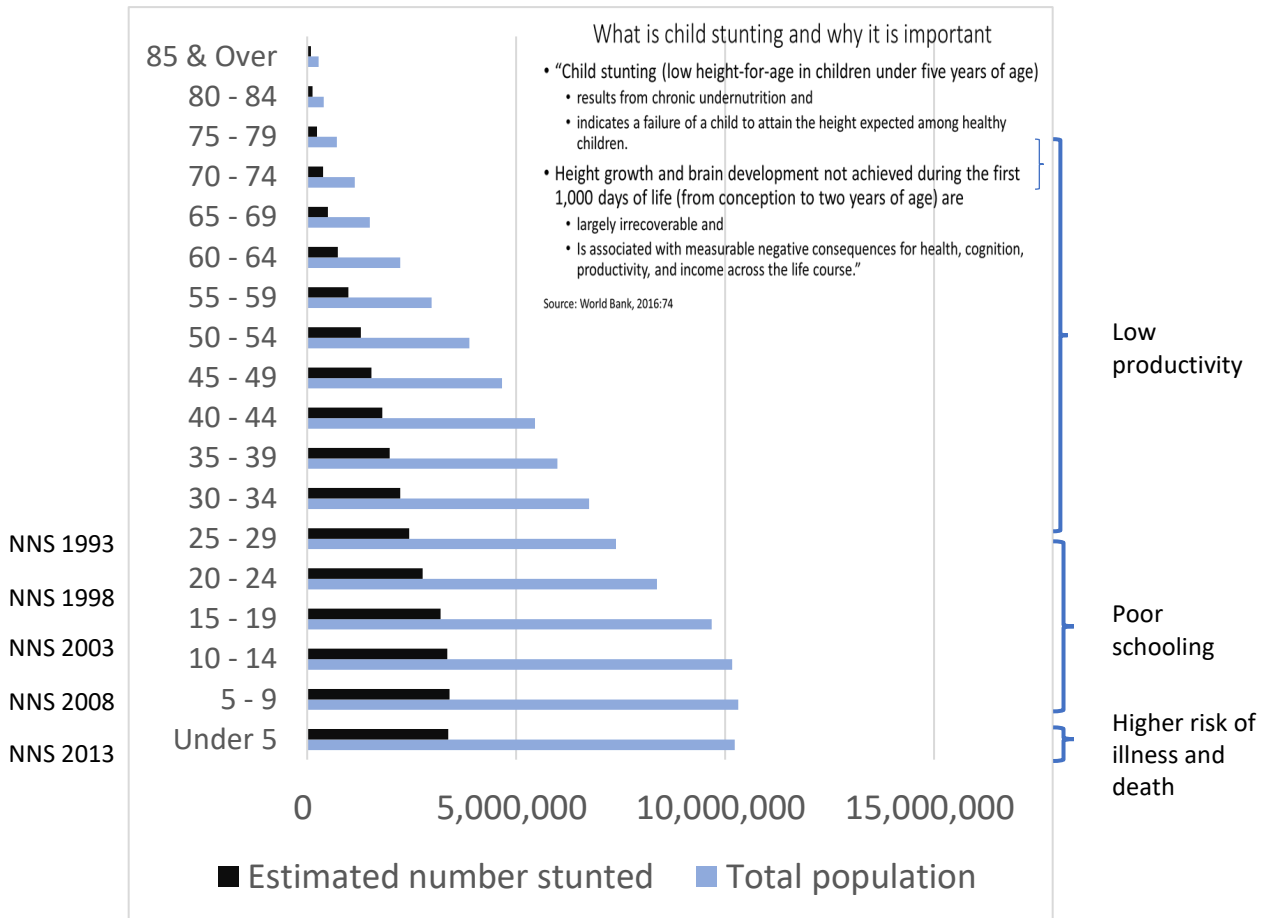


Sources: FNRI (2014, 2016).

The implication of this lack of significant progress in reducing child stunting as revealed by the regular National Nutrition Surveys (NNS) is summarized in Figure 5. The cohort of 5-year old children surveyed in 2013 were 0-5 years on 2013; those surveyed in 2008 are now age 5-9; those surveyed in 2003 and 1998 are now school age 10-14 and age 15-19, respectively; and those surveyed in as far back as 1993 are now age 20-24 years, just about entering the labor force. If the prevalence of child stunting were the same if not higher that those observed in the last 20 years, it would seem that about a third of the entire population would be stunted. The effect of such stunting would be reflected in higher risk of illness in the younger ages, poor schooling performance during their school ages, and low productivity for much of their adult working life time.

⁴ **Stunting** reflects chronic undernutrition during the most critical periods of growth and development in early life. It is defined as the percentage of children aged 0-59 months whose height for age is below minus two standard deviations from the median of the WHO Child Growth Standards. **Wasting** reflects acute undernutrition. It describes a recent or current severe process leading to significant weight loss, usually a consequence of acute starvation or severe illness. It is defined as the percentage of children aged 0-59 months whose weight for height is below minus two standard deviations from the median of the WHO Child Growth Standards. **Underweight** is a composite form of undernutrition that includes elements of stunting and wasting. It is defined as the percentage of children aged 0-59 months whose weight for age is below minus two standard deviations (minus three standard deviations for severe underweight) from the median of the WHO Child Growth Standards. **Overweight** is defined as the percentage of children aged 0-59 months whose weight for height is above two standard deviations from the median of the WHO Child Growth Standards (UNICEF 2013).

Figure 5. Population age distribution and projected number of stunted persons by age in 2015; NNS various years; and consequences of stunting at various ages

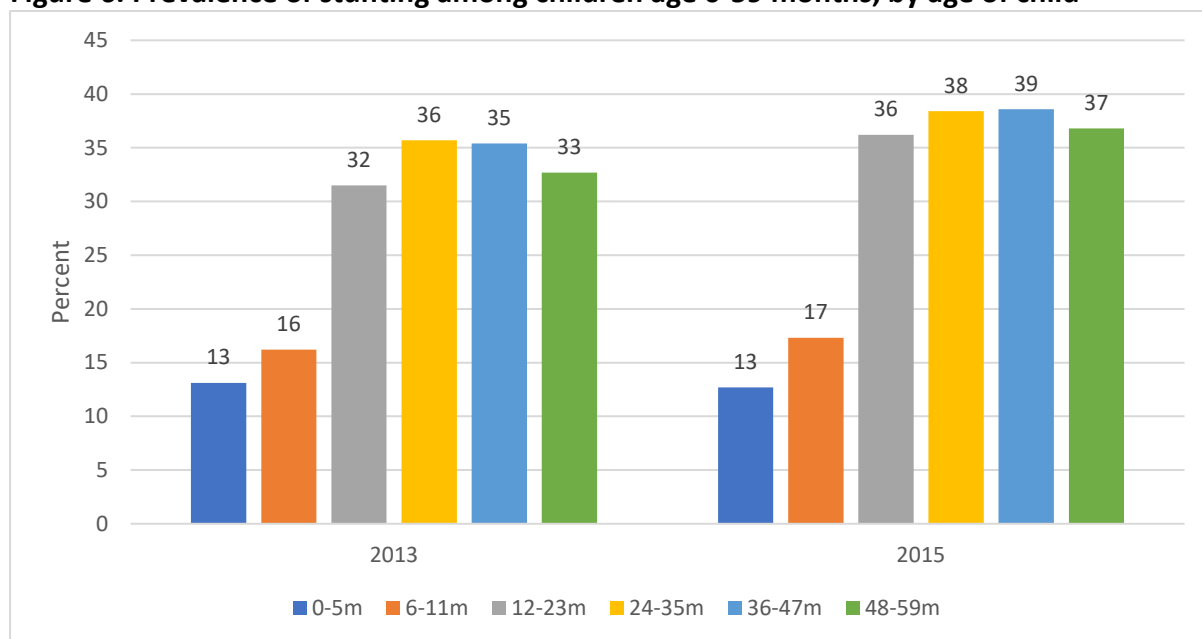


Source: Authors' compilation

Survey data on child stunting show that growth failure accelerates after infancy, i.e., the 12-23 months, as shown in Figure 6, likely to be due to both continuing poor nutrient intake and possibly repeated bouts of infection. The most vulnerable children are those in the poorest households as shown in Figure 7.

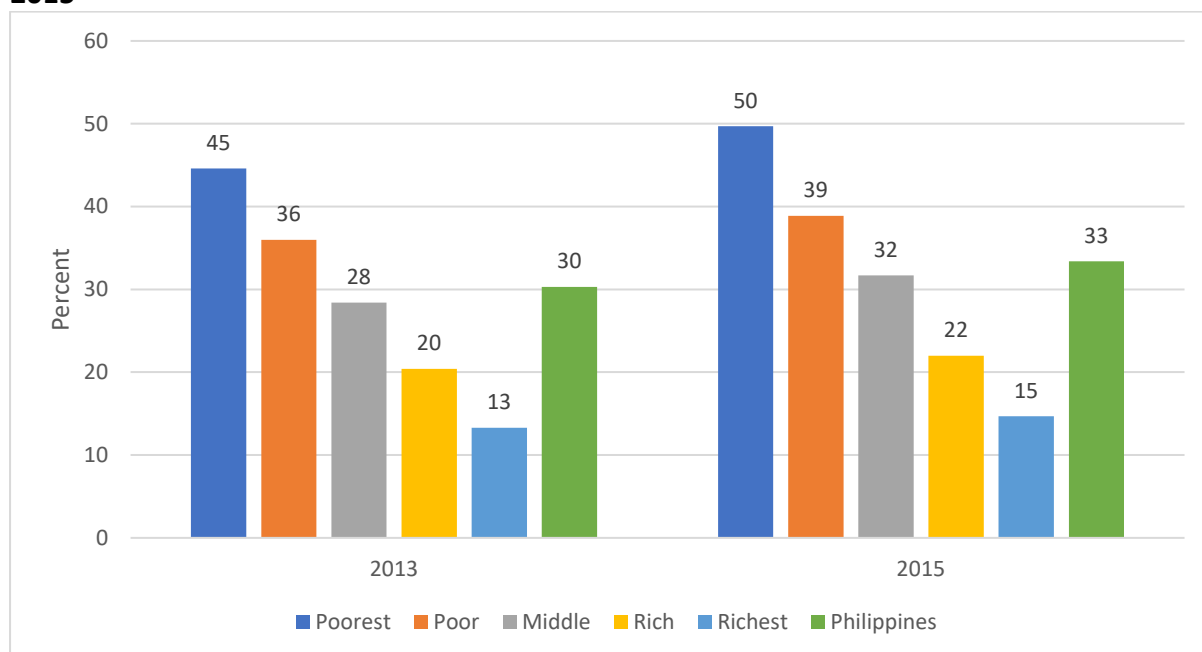
Some of the stunted children are also likely to be wasting. The co-existence of these conditions, however, cannot be determined from the published FNRI survey reports. Moreover, both stunted and/or wasting children are also most likely to concurrently have deficiencies in important micronutrients, such as iron and Vitamin A. Figures 8 and 9 show the prevalence of anemia and Vitamin A among children age 6 to 59 months, respectively. What is noteworthy is the significant progress in reducing the high prevalence of these micronutrient deficiencies during the last 10 years.

Figure 6. Prevalence of stunting among children age 0-59 months, by age of child



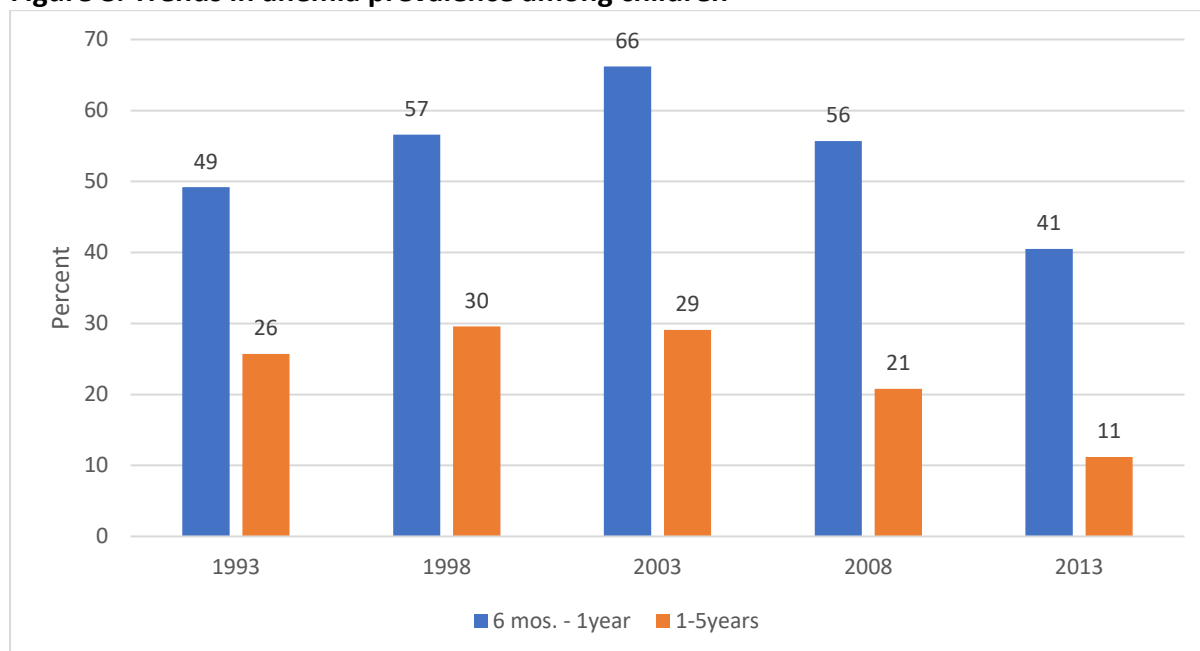
Source: FNRI (2014, 2016).

Figure 7. Prevalence of stunting among children age 0-59 months by wealth quintile, 2013-2015



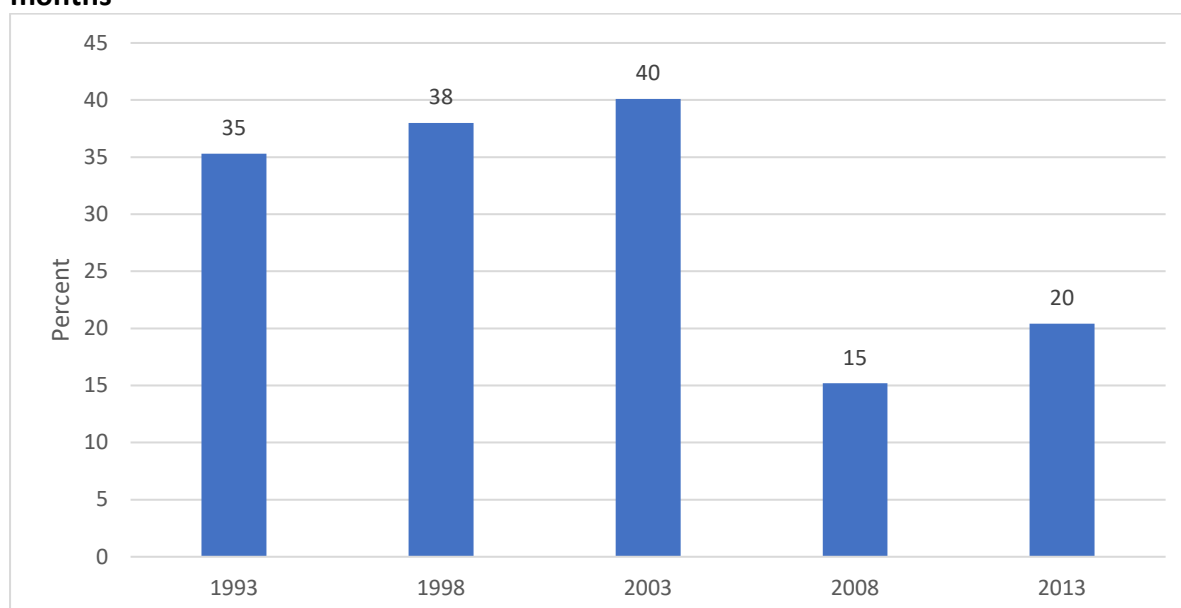
Sources: FNRI (2014, 2016).

Figure 8. Trends in anemia prevalence among children



Source: FNRI (2014).

Figure 9. Trend in the Prevalence of Vitamin A Deficiency (VAD) among children age 6-59 months

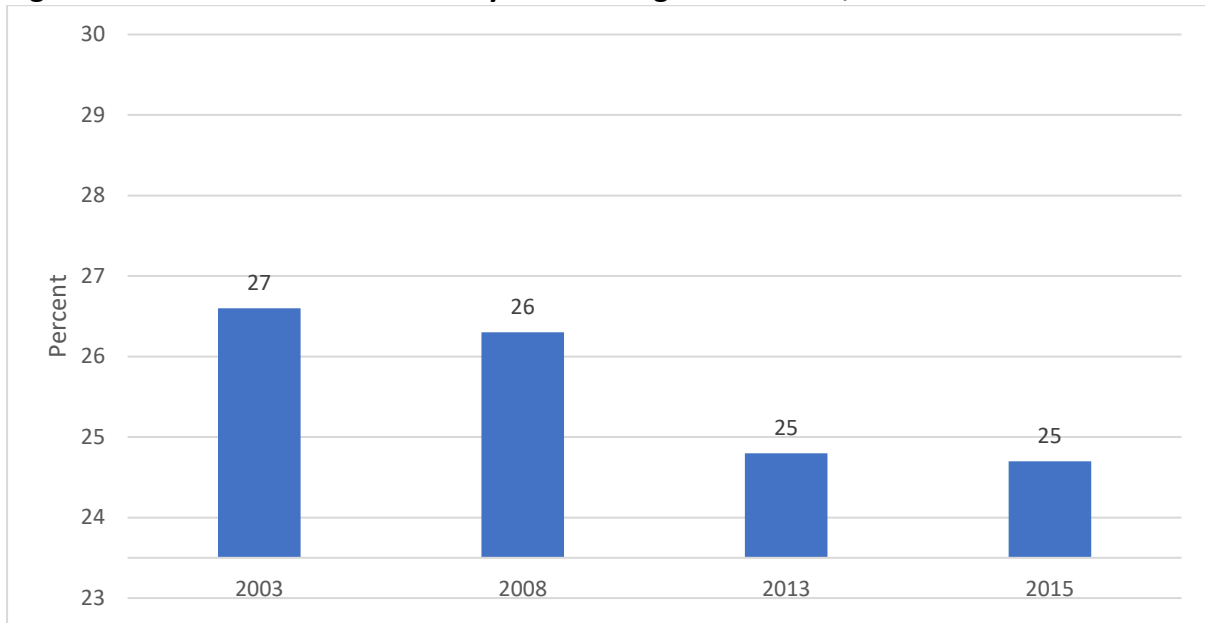


Source: FNRI (2014).

2.4. Maternal nutritional status

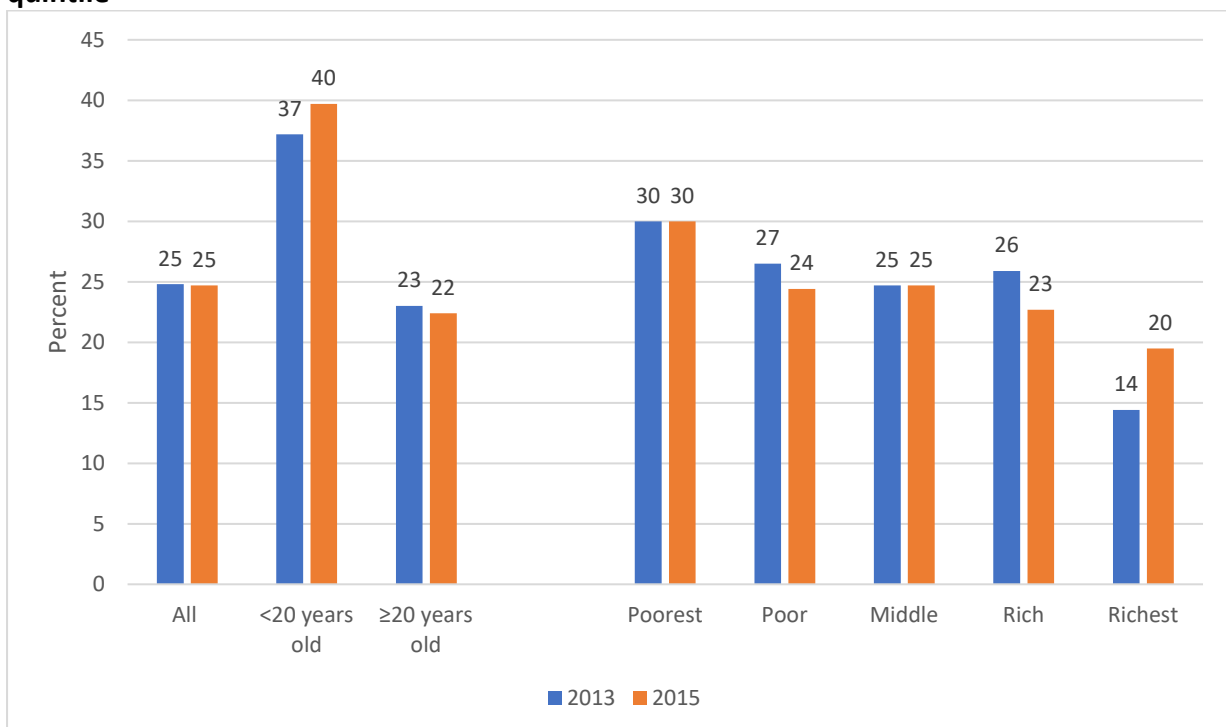
In 2015, about a quarter of pregnant women are considered nutritionally-at-risk based on height and weight measurement (Figure 10). This prevalence is hardly an improvement over the last ten years. Most at risk are young women less than 20 years of age, and women in poorer households (Figure 11).

Figure 10. Prevalence of Nutritionally-at-Risk Pregnant Women, 2003-2015



Source: FNRI (2016).

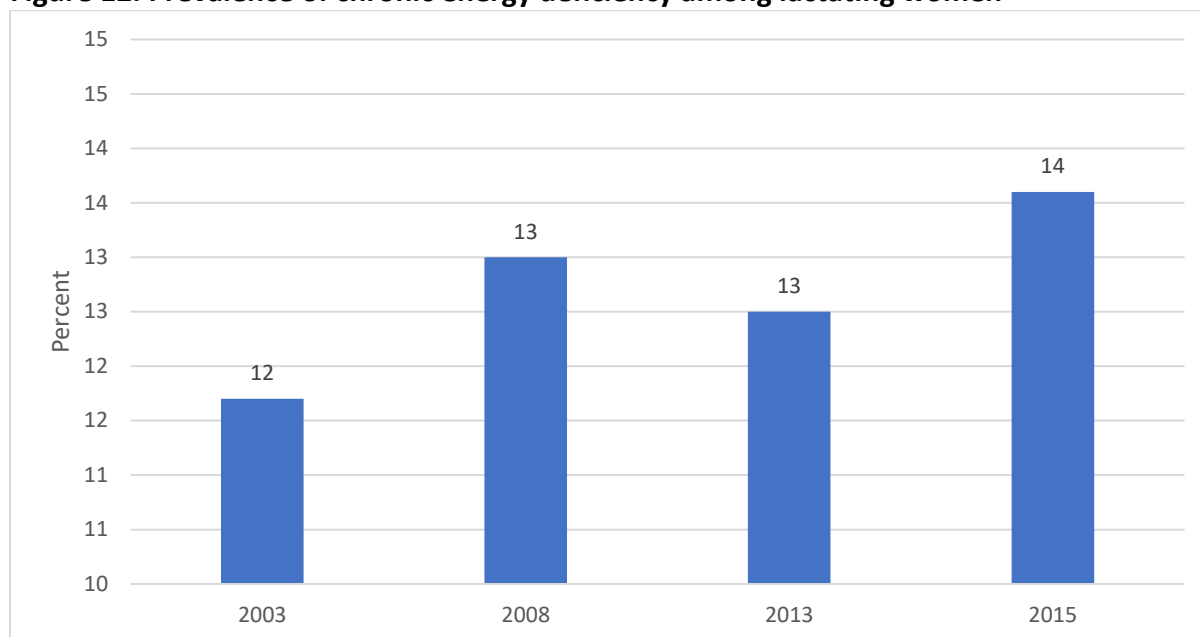
Figure 11. Prevalence of Nutritionally-at-Risk Pregnant Women by age and by wealth quintile



Source: FNRI (2016).

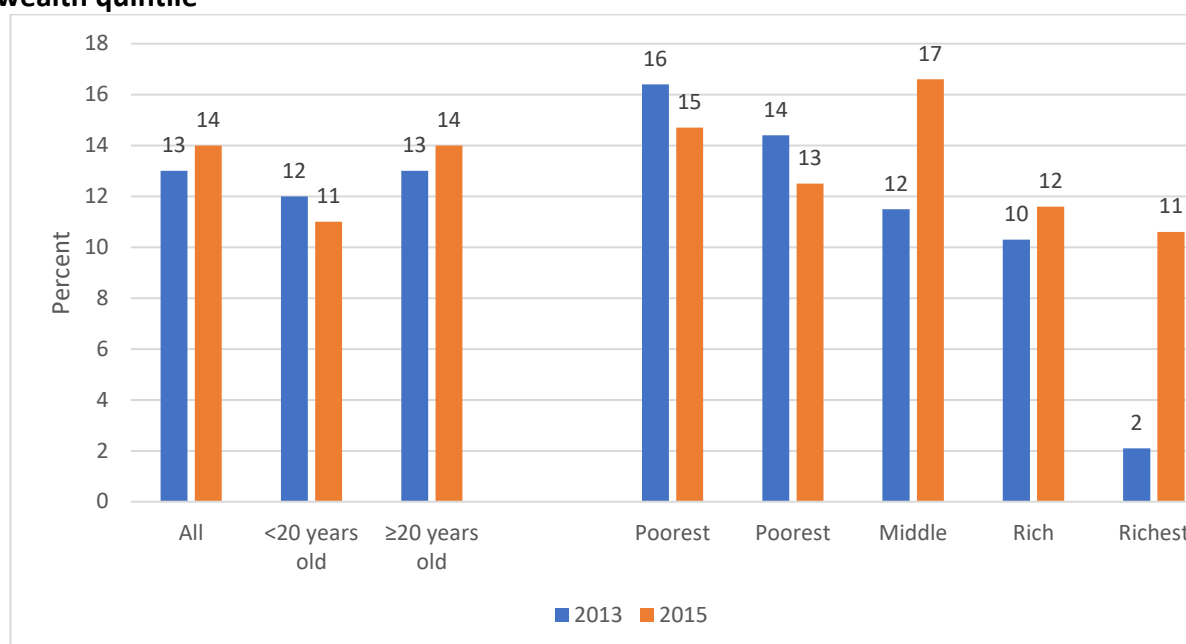
There is little improvement in the nutritional status of lactating mothers as shown in Figure 12. Generally, those at greater risk are younger women, and women in poorer households, as shown in Figure 13.

Figure 12. Prevalence of chronic energy deficiency among lactating women



Source: FNRI (2014).

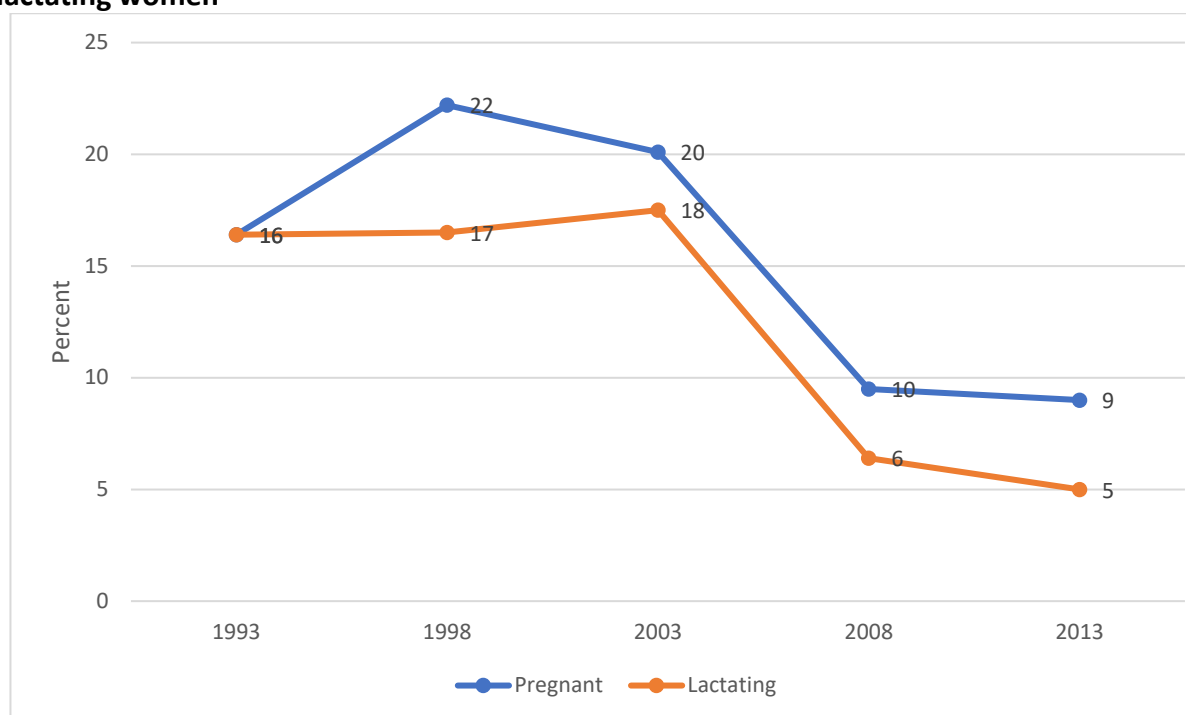
Figure 13. Prevalence of chronic energy deficiency among lactating women, by age and by wealth quintile



Source: FNRI (2014).

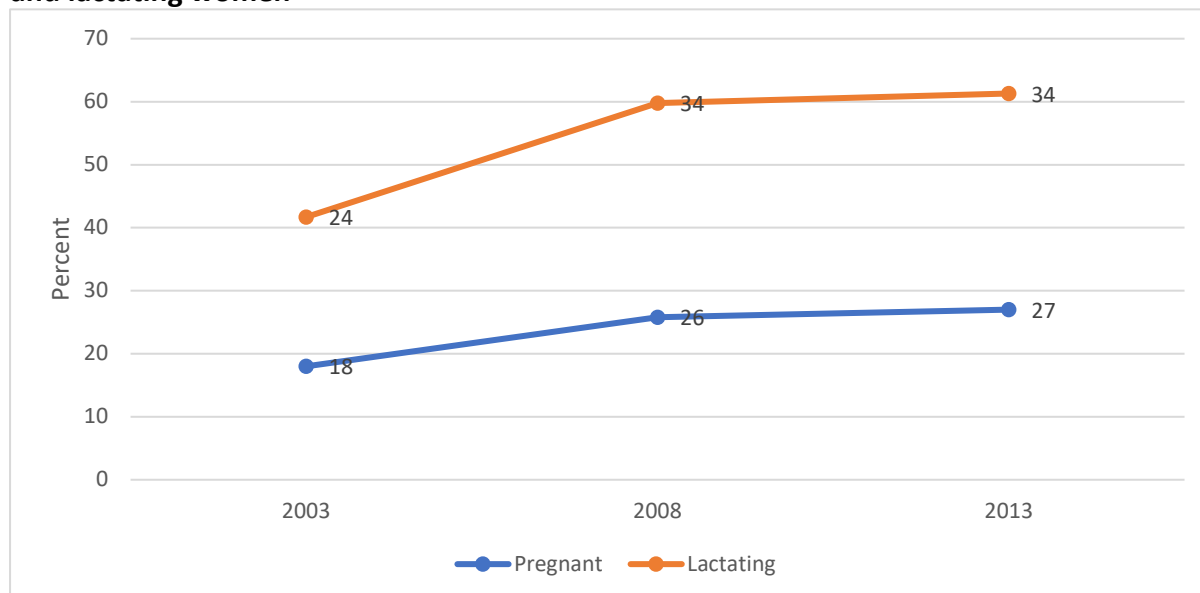
Like in children, we expect the co-existence of maternal undernutrition and micronutrient deficiencies. Figures 14 and 15 show a rapid decline in Vitamin A deficiency since 2003 for both pregnant and lactating women, similar to the significant progress observed among children. However, the prevalence of Iodine Deficiency Disorder has not made similar progress.

Figure 14. Trend in the Prevalence of Vitamin A Deficiency (VAD) among pregnant and lactating women



Source: FNRI (2014).

Figure 15. Trend in the prevalence of Iodine Deficiency Disorder (IDD) among pregnant and lactating women

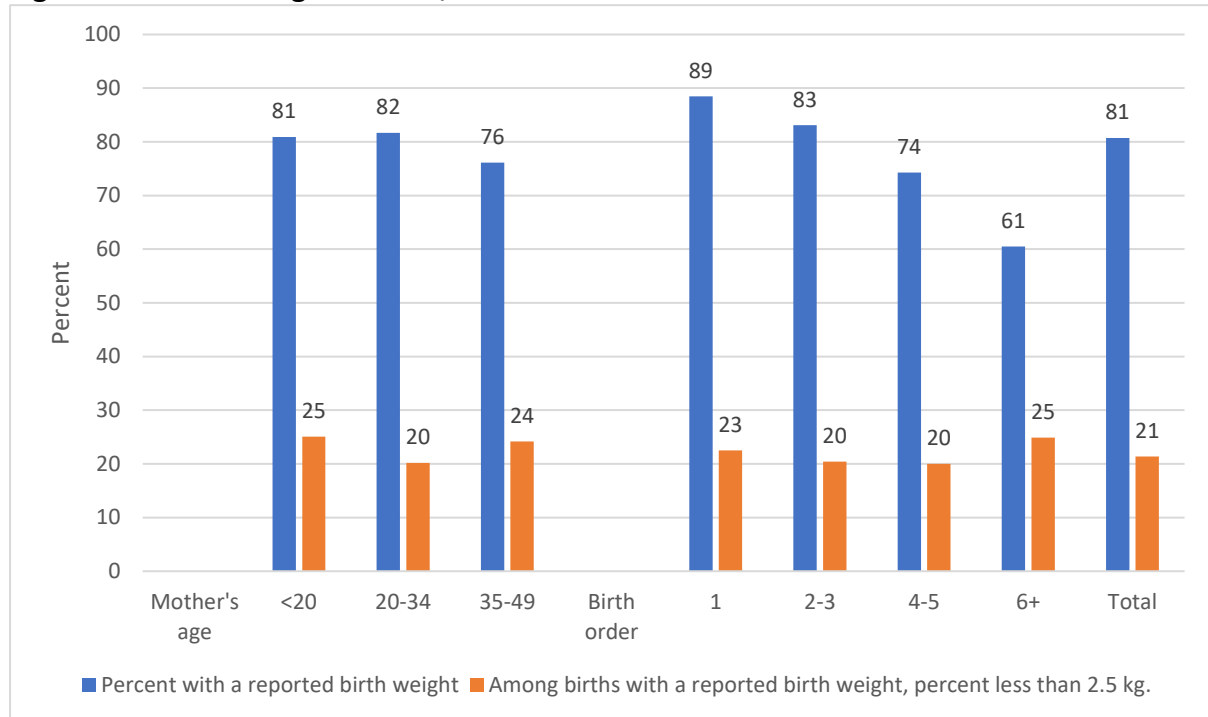


Source: FNRI (2014).

2.5. Birth outcomes

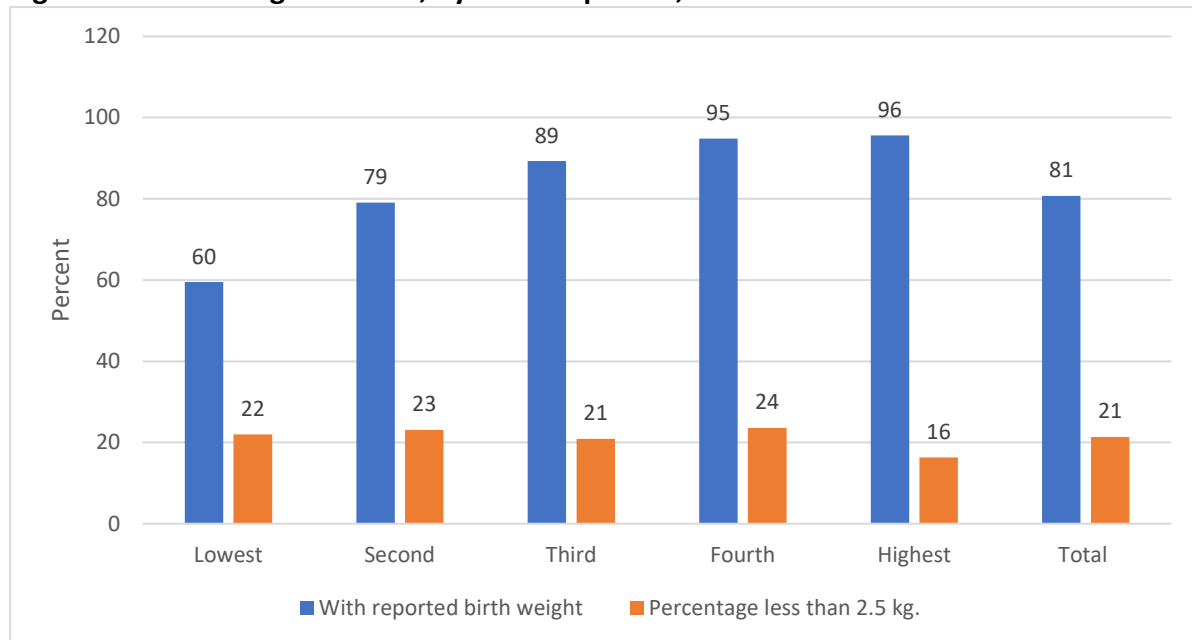
Inadequate maternal nutrition is a risk factor in poor birth outcomes such as low birth weight. Data from the NDHS 2013 (Figure 16 and 17) show high level of low birth weight infants at twenty-one percent (21%). This rate is about twice those observed in Singapore, Malaysia and Thailand at around the same period (UNICEF 2014).

Figure 16. Child's weight at birth, NDHS 2013



Source: PSA and ICF International (2014).

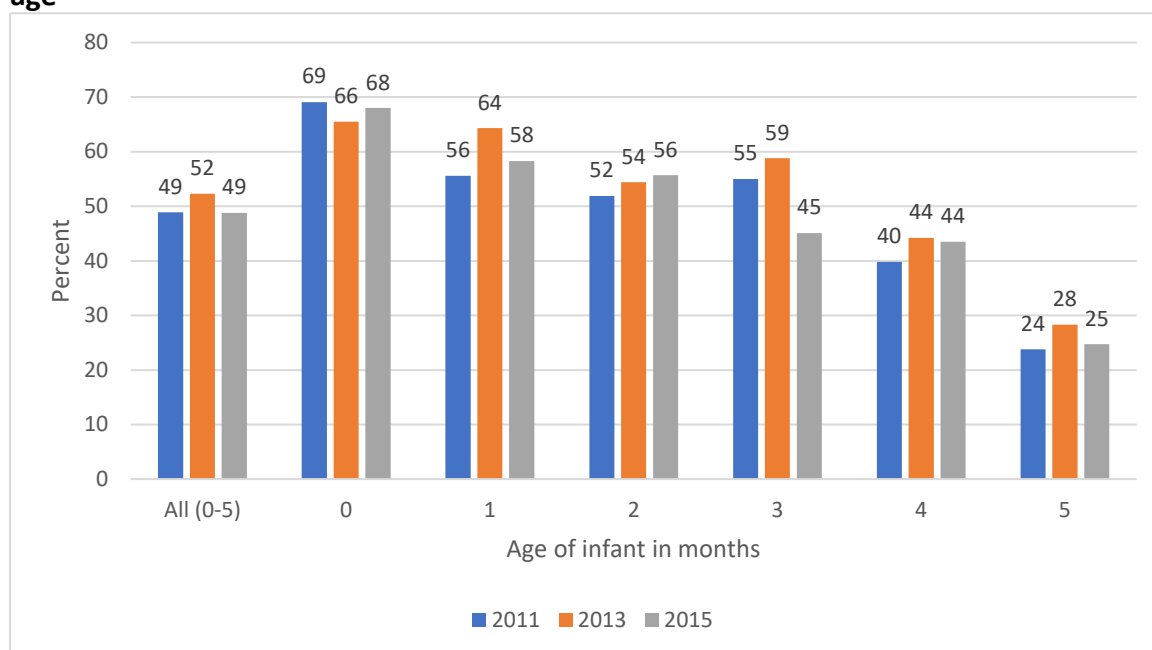
Figure 17. Child weight at birth, by wealth quintile, 2013



Source: PSA and ICF International (2014).

An important intervention to mitigate the effects of low birth weight is exclusive breastfeeding for the first six months. The data in the more recent period from 2011 to 2015 show that only a quarter of babies are exclusively breastfed until to the sixth month, as shown in Figure 18.

Figure 18. Percentage of exclusive breastfeeding among infants 0-5 months old by single age



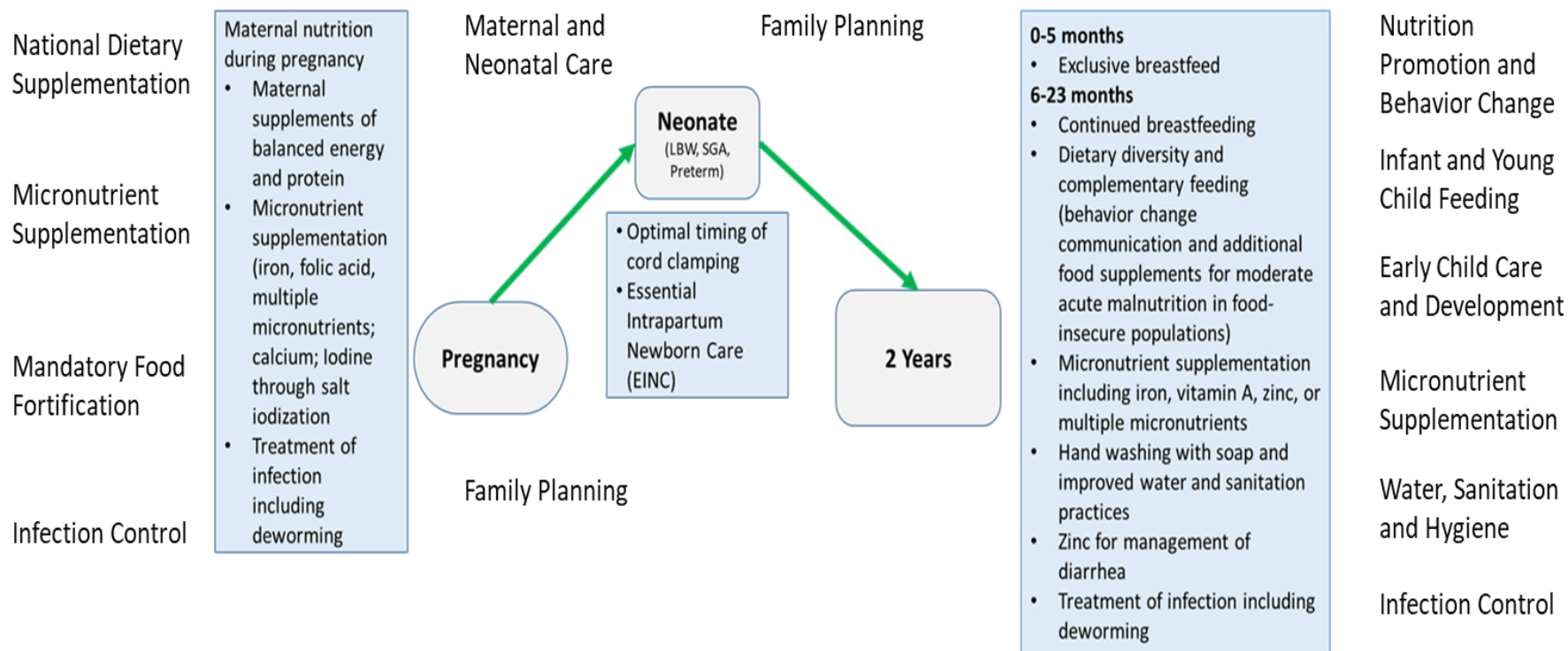
Source of basic data: National nutrition surveys 2011, 2013 and 2015 as reported in the Philippine plan of action for nutrition 2017-2022 Executive Summary of the National Nutrition Council (2017).

3. Public interventions in maternal, neonatal and child health and nutrition

There are a number of nutrition-specific programs, supported by laws and DOH policy issuances, that affect the specific proximate determinants of child stunting. Figure 19 maps out these national programs across the continuum of interventions needed to address child stunting during the first 1,000 days, along with maternal, neonatal, infant and child mortality. The continuum of interventions is based on the set of cost-effective interventions described in Bhutta, et al. (2013), Das et al. (2016) and WHO (2011).

With the devolution of health and nutrition services, the implementation of these programs converge at the local government level. With fragmented local health systems and the wide variation in LGU resources and technical capacities, the challenge is how to ensure local implementation among a large number of independent LGUs that result in large and sustained national impact.

Figure 19. Existing nutrition, maternal, neonatal and child health and family planning programs



Source: Interventions adapted from Bhutta, et.a. (2013), WHO Nutrition Interventions (eLENA), and Das et. al. (2016)

3.1. Micronutrient program

Through the Micronutrient Program, the DOH implements four sets of interventions to address micronutrient deficiencies: (1) micronutrient supplementation – the provision of vitamins and minerals for the treatment or prevention of specific micronutrient deficiency; food fortification – the addition of essential micronutrients to widely consumed food products; (3) improving diet/dietary diversification – the adoption of proper food and nutrition practices through nutrition education food production and consumption; and (4) growth monitoring and promotion – an educational strategy for promoting child health, human development and quality of life through sequential measurement of physical growth and development of individuals in the community (Department of Health n.d.).

The enabling laws and policies include the following:

- Micronutrient Supplementation
 - a. DOH Administrative Order No. 2010-0010: Revised Policy on Micronutrient Supplementation to Support Achievement of 2015 MDG Targets to Reduce Under-Five and Maternal Deaths and Micronutrient Needs of other Population Groups
 - b. DOH Department Memorandum No. 2011-0303: Micronutrient Powder Supplementation for Children 6-23 Months
- Mandatory Food Fortification
 - a. Republic Act 8172: An Act for Salt Iodization Nationwide (ASIN) 1995
 - b. Republic Act 8976: Philippine Food Fortification Act of 2000 mandating fortification of flour, oil and sugar with Vitamin A and flour and rice with iron

3.2. Maternal and neonatal care

3.2.1. Safe Motherhood Program

The Safe Motherhood Program addresses “the multi-faceted challenges of high maternal mortality ratio, increasing neonatal deaths particularly on the first week after birth, unmet need for reproductive health services and weak maternal care delivery system ... by making pregnancy and childbirth safer through quality emergency obstetrics and newborn care facilities nearest to homes” (Department of Health 2018).

A major component of the program is the local delivery of the Maternal- Newborn Service Package. This involves supporting LGUs in mobilizing networks of public and private providers to deliver the integrated maternal-newborn service package, with support systems consisting of securing drugs, supplies contraceptives; establishment of safe blood supply network; behavior change interventions; and local financing.

The enabling policies, prior to the enactment of the Responsible Parenthood and Reproductive Health Law (RA 100354) in 2012, include:

- DOH Administrative Order 2008-0029 Implementing Health Reforms for the Rapid Reduction in Maternal and Neonatal Mortality

- DOH Administrative Order 2010-0014 (May 14, 2010) Administration of Life-Saving Drugs and Medicine by Midwives to Rapidly Reduce Maternal and Neonatal Morbidity and Mortality
- DOH Administrative Order 2009-0025 Adopting New Policies and Protocol on Essential Newborn Care

3.2.2. Newborn Screening Program

Newborn screening (NBS) “enables the early detection and management of several congenital metabolic disorders, which if left untreated, may lead to mental retardation and/or death. Early diagnosis and initiation of treatment, along with appropriate long-term care help ensure normal growth and development of the affected individual” (Department of Health 2018).

- Republic Act 9288: Newborn Screening of 2004. Its objectives, among others, is to ensure that every newborn has access to newborn screening for certain heritable conditions that can result in mental retardation, serious health complications or death if left undetected and untreated.

3.3 Family Planning and Reproductive Health

The family planning program aims to “provide information and services for the couples of reproductive age to plan their family according to their beliefs and circumstances through legally and medically acceptable family planning methods” (Department of Health 2018). A number of DOH Administrative Orders provide enabling policies and guidelines for the implementation since the program was transferred from the Commission on Population to the Department of Health in 1987 through Executive Order 119 (Reorganizing the Ministry of Health, Its Attached Agencies, and for Other Purposes). A broader mandate for family planning and reproductive health interventions is provided by Republic Act 10354.

- Republic Act 10354: Responsible Parenthood and Reproductive Health Act of 2012. Reproductive health care includes family planning; maternal, infant and child health and nutrition, including breastfeeding; and adolescent and youth reproductive health guidance and counseling.

3.4. Infant and Young Child Feeding Program (IYCF)

The goal of the IYCF program is the “reduction of child mortality and morbidity through optimal feeding of infants and young children” (Department of Health n.d.). Enabling laws and policies include the following:

- DOH Administrative Order 2005-0014 National Policy on Infant and Young Child Feeding: The overall objective is to improve the survival of infants and young children by improving their nutritional status, growth and development through optimal feeding. Specific objectives are: all newborns are initiated to breastfeed within one hour after birth; all infants are exclusively breastfed for 6 months; all infants are given timely, adequate and safe complementary foods; and breastfeeding is continued up to two years and beyond.

- Executive Order 51 of 1986: Adopting a National Code of Marketing of Breastmilk Substitutes, Breastmilk Supplements and Related Products, Penalizing Violations Therefor, and for Other Purposes.
- DOH Administrative Order 2006-0012: Revised Implementing Rules and Regulations on Executive Order No. 51, Otherwise Known as The “Milk Code”, Relevant International Agreements, Penalizing Violations Thereof, and for Other Purposes.
- Republic Act 10028: Expanded Breastfeeding Promotion Act of 2009. The Act provides for rooming-in and breastfeeding; lactation stations in the workplace and public areas; information dissemination and education programs for pregnant women and women of reproductive age; integration of breastfeeding in the curricula; and public education and awareness program.

3.5. *Early Child Care and Development (ECCD)*

The objectives of the National ECCD System include: “to achieve improved infant and child survival rates by ensuring that adequate health and nutrition programs are accessible to young children and their parents, from the prenatal period throughout the early childhood years; to enhance the physical-motor, socio-emotional, cognitive, language, psychological and spiritual development of young children; to facilitate a smooth transition from care and education provided at home to community or school-based setting and to kindergarten; to ensure that young children are adequately prepared for the formal learning system that begins at kindergarten; and to establish and efficient system for early identification, prevention, referral and intervention for the wide range of children with special needs from age zero to four years (RA 10410 of 2013).

- Republic Act A 8980: Early Child Care and Development Act of 2000. Early Childhood Care and Development (ECCD) System refers to the full range of health, nutrition, early education and social services programs that provide for the basic holistic needs of young children from birth to age six (6), to promote their optimum growth and development.
- Republic Act 10410: Early Years Act of 2013 (Extend age from 0-8 years; of which ages 0-4 is the responsibility of the ECCD Council and 5-8 the responsibility of Department of Education.

3.5.1. Infection control

A number of enabling policies guide the prevention and management of childhood illnesses. These include those mandating child immunizations, management of diarrhea, deworming, and provision of potable water and sanitation.

- Republic Act 10152: Mandatory Infants and Children Health Immunization Act of 2011
- DOH Administrative Order No. 2007-0045: Zinc Supplementation and Reformulated Oral Rehydration Salt in the Management of Diarrhea among Children
- The DOH Integrated Management of Childhood Illnesses addresses the prevention and management of infections particularly diarrhea, pneumonia, malaria and schistosomiasis. This includes supplementation of micronutrients with medical conditions, zinc supplementation in the management of diarrhea and appropriate management of childhood illnesses.

- DOH, DepEd and DILG Memorandum Circular No. 2015-141 issued in 2015 supports the mass deworming activities in school. For pre-school children, deworming is done during the nationwide *Garantisadong Pambata* campaign during the months of April and October.
- DOH Department Order 2011-009 WASH or the Provision of Potable Water Program (SALINTUBIG Program - *Sagana at Ligtas na Tubig Para sa Lahat*). The program is implemented by DOH, NAPC and DILG. The program includes promotion of sanitary practices including personal hygiene and handwashing.

4. National and local government interface in policy setting and implementation

This section briefly describes, first the role and organizational structure of the two major government agencies directly involved in nutrition policy and implementation, namely the National Nutrition Council (NNC) and the Department of Health. Then we describe information we got from national and local officers regarding coordination and interface between NNC and DOH at the national and regional levels, and the interface of mirror structures at the LGU levels.

4.1. National Nutrition Council and Department of Health (DOH)

In 1974, Presidential Decree No. 491 (June 25, 1974), or the “Nutrition Act of the Philippines”, created the National Nutrition Council (NNC) under the Office of the President as the highest policy-making and coordinating body for nutrition. The NNC is composed of a Governing Board and a Secretariat. Since 2005, the DOH served as the Chair of the Governing Board with the DILG and DA serving as the Vice-Chair (National Nutrition Council 2016).

The NNC Secretariat serves as the executive arm of the NNC Governing Board. It is headed by an executive director, assisted by two (2) deputy executive directors. It has three technical divisions (nutrition policy and planning; nutrition surveillance; and nutrition information and education) and two support divisions (administrative and finance). Its seventeen (17) regional offices (RO) are headed by nutrition program coordinators⁵. At the sub-national level, the NNC is organized into various Committees with specific functions. These are Regional Nutrition Committee composed of the same agencies as the NNC Governing Board chaired by a Regional Director elected from among the regional government agencies.

At the LGU level, Local Nutrition Committees at the Province, City, Municipality and Barangay coordinate nutrition action at their respective local levels. The local chief executive chairs the committee and provides leadership in nutrition planning, implementation, monitoring and

⁵ The functions of the Secretariat are: “(1) Advise the Board on nutrition policy and program matters; (2) Coordinate with government agencies and non-government organizations for nutrition program management and resource programming; (3) Recommend a comprehensive food and nutrition policy; (4) Develop measures to improve the implementation of PPAN; (5) Monitor and analyze nutrition and related socio-economic data for a periodic statement on the country's nutrition situation; (6) Monitor and evaluate the PPAN; (7) Develop and implement a comprehensive advocacy, information and education strategy for the PPAN; and (8) Provide technical, financial, and logistics support to local government units and agencies for the development and implementation of nutrition programs and projects. The NNC Technical Committee, composed of heads of major department bureaus and agencies involved in nutrition and appropriate non-governmental organizations, provides technical assistance to the Board and NNC Secretariat and facilitates inter-agency and intra-agency coordination, supervision and monitoring, and implementation of nutrition policies and programs. The NNC Governing Board and Council Secretariat may also create Technical Working Groups (TWGs), task forces, *ad hoc* bodies, and other interagency bodies as may be needed to address particular issues and strengthen interagency collaboration”. (NNC, 2016. PPAN 2017-2022, pp. 89-90).

evaluation. The nutrition action officers attend to the day-to-day coordination of local nutrition action at their respective local levels. In effect, they serve as the secretariat of the local committees (National Nutrition Council 2016).

The DOH is mandated to be the over-all technical authority on health. The major mandate of DOH is to provide national policy direction and develop national plans, technical standards and guidelines on health. It is also a regulator of all health services and products; and provider of special or tertiary health care services and of technical assistance to other health providers specially to Local Government Units (LGU) (Department of Health n.d.).

Together with its attached agencies (National Nutrition Council and the Commission on Population), the DOH structure consists of various central bureaus and services in the Central Office, Centers for Health Development (CHD) in every region, and DOH-retained hospitals. It also has provincial health teams made up of DOH representatives to local health boards.

Within the organizational structure of the DOH, work related to nutrition is under the Public Health Team (one of six teams excluding the Office of the Chief of Staff), where the Disease Prevention and Control Bureau (one of four bureaus under the team) is found. Under this bureau are eight divisions, two which directly handle work related to nutrition. These are the Women's and Men's Health Development Division, which handles Family Planning, Maternal Health, Adolescent Health Development, Women and Children Protection; and the Children's Health Development Division, which handles Infant and Newborn Health (IYCF); National Immunization and Philippine Integrated Management of Severe Acute Malnutrition (PIMAM); Oral Health, and Child Development and Disability Prevention; Micronutrient Supplementation; and Integrated Management of Childhood Illness [IMCI] (Department of Health n.d.).

4.2 NNC and DOH interface at the national level

At the national level, NNC and DOH work together to formulate the PPAN₂ and develop policies and guidelines for its implementation. For specific concerns such as IYCF, micronutrient supplementation and integrated management of acute malnutrition, the development of national policies and guidelines are usually coordinated through Technical Working Groups (TWG). Once the process of formulating the policies is completed (draft, consultations, revisions, etc.), the policies are typically issued as DOH Administrative Orders (CHD Staff 2018).

In addition to the interface between NNC and DOH, there is also their interface with the different agencies in the Governing Board. For example, one gap identified in the IYCF Strategic Plan related to complementary feeding, is the lack of knowledge of families about what products are available in the community that families can use to prepare meals for their children. It is expected that the DA would be in a better position to provide such information in support of IYCF. This is an occasion where NNC can exercise its coordinative role by enlisting the active participation of the DA (Calibo 2018).

4.3. NNC and DOH interface at the regional level

At the regional level, NNC Regional Nutrition Program Coordinator (RNPCs) and the DOH Regional Point Person for Nutrition (RPPN) work together on common activities such as training,

policy dissemination, and coordination of LGU nutrition interventions. The partnership between RNPCs and RPPN are stronger in some regions more than others. Examples of strong partnership include: DOH RO MIMAROPA and the Region 4 RNC work together to train LGUs in Nutrition in Emergencies (NIE); DOH RO 9 works closely with NNC to fund LGU supplementary feeding programs; some RNPCs would tap DOH RO funds to conduct trainings/workshops on IYCF, NIE, among other trainings; RNPCs work with DOH ROs during emergencies by coordinating assessments and response interventions. In some regions, RNPCs provide technical assistance on nutrition to LGUs while DOH ROs participate by funding and conducting trainings and organizing regional TWGs with RNPCs and LGUs. The RNPCs and RPPN also work together on nationally organized activities. An example is work on the identification of gaps in implementing IYCF programs in the regions and LGUs (particularly the Milk Code, the Mother and Baby-Friendly Hospital Initiative, Breastfeeding in the Workplace, and Human Milk Banking) (CHDD Staff 2018).

4.4. Policy and program implementation interface at the LGU level

Examples of interface at the LGU levels are provided by Pangasinan, Bulacan and Zambales. In Pangasinan, the Provincial Nutrition Action Officer (PNAO) is under the Provincial Health Office. The set up varies among municipalities. In Sual, the Municipal Nutrition Action Officer (MNAO) is under the Municipal Health Office. However, in San Quintin, the MNAO is under the Municipal Social Welfare Office and not under the MHO.

In Bulacan, province-wide coordination of the province's "nutrition program" is by the Provincial Social Welfare and Development Office (PSWDO), where a designated staff is the Provincial Nutrition Action Officer (PNAO). The Provincial Public Health Officer (PPHO), on the other hand, coordinates the maternal and child health programs that have impact on nutrition (Source: Interview with PPHO and PNAO of Bulacan). This requires coordination between the PSWDO and PPHO in the implementation of the province-wide nutrition program. The situation is different in Zambales where the Provincial Nutrition Action Officer is a staff member under the PHO, where coordination is likely to be closer (PHO of Zambales 2018).

At the province level, with Bulacan as an example, the nutrition-related interventions that are coordinated by the PSWDO include food supplementation, ECCD and nutrition education of parents (Provincial Government of Bulacan 2007a). The PPHO coordinates a wider range of maternal and neonatal care and child health interventions (Provincial Government of Bulacan 2007b).

At a city level, the City Health Officer (CHO) of San Jose del Monte City in Bulacan is also the City Nutrition Action Officer (CNAO). This facilitates coordinated implementation of the entire range of nutrition interventions in the city. The city implements both "maternal care" and "nutrition program". Under the maternal care program are prenatal (including tetanus toxoid immunization) and postnatal check-up and provision of micronutrients (prenatal and postnatal). Under the nutrition program are interventions that include nutrition education (Pabasa sa Nutrisyon), diet counseling, feeding and micronutrient supplementation, operation timbang, and Garantisadong Pambata including deworming. (GOVPH n.d.).

5. Local government actions on child nutrition with attention to stunting prevention

In the NNC's 2014 assessment of the operational gaps in the PPAN implementation, it was observed that for many LGUs, "nutrition program activities revolved around weighing, feeding of children in Day Care Centers and schools, and the July Nutrition month celebration" (NNC 2014). A review of LGU programs among those who have received awards from NNC for outstanding performance in nutrition reveals that, prior to 2015, the focal point for child nutrition intervention was the reduction in the prevalence of underweight, in line with the MDG goal. The MDG indicator for child nutrition was the prevalence of underweight children under five years old. It was only in 2015, with the adoption of the Sustainable Development Goals that the indicator was changed to prevalence of stunting (and wasting)⁶. From this standpoint, it is understandable that the main LGU response would focus on child feeding programs, especially at the age and settings where the children are readily accessible, i.e., in day care centers and schools.

5.1. Recent LGU awardees for best practices in nutrition

A recently published Compendium of LGU best practices in nutrition provides a historical description of nutrition interventions in two provinces, three cities and six municipalities (Nutrition International, UNICEF, NNC, and DOH. 2018. *The Ascent of Local Governments in Nutrition in the Philippines: A Compendium of Actions on Nutrition*). A review of the LGUs' nutrition interventions from the 1990s reveals that much of the programs of these 11 LGUs involved food production/gardening (8 of 11); school feeding (8 of 11); implementation of some components of the "seven impact programs" (7 of 11); nutrition education and IEC (6 of 11); livelihood programs (5 of 11); and water, sanitation and hygiene programs (3 of 11). (Note: The seven-impact program includes: food production, micronutrient supplementation, food fortification, nutrition education, food assistance, livelihood assistance, and sector initiatives with nutrition implications).

Eight of the 11 LGUs have collected OPT data on child stunting prevalence only since 2015, although two of these started in 2013. The prevalence rates obtained from these data tend to be quite low, which ranges from 5% to 10%. Only in the case of Alipulo, Ifugao are the rates relatively high: from 21% in 2015 to 15% in 2017.

It is interesting to note that of the 11 LGUs, five have recently recognized the need, or have just started to recognize the need to address stunting in the context of the First 1,000 Days intervention period. These are Davao del Norte, Tagaytay City, Kadilingan, Bukidnon, Talibon, Bohol, and Quezon Province.

In Davao del Norte, the First 1,000 Days Program started in 2013 in the municipality of Asuncion. In Asuncion, the program included IEC on the importance of breastfeeding in the first six months; Buntis Congress; lecture on First 1,000 Days; provision of essential maternal and child health

⁶ One of the targets under Goal 2: End Hunger, Achieve Food Security and Improved Nutrition and Promote Sustainable Agriculture is "By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons". In the Philippine SDG, this target is operationalized to include targets on the prevalence of stunting, wasting and overweight among children under five years of age. <https://psa.gov.ph/sdg/Philippines/baselinedata/2%20Zero%20Hunger>

services such as child immunization, maternal immunization, prenatal check-up; and the conduct of symposium on Maternal, Neonatal and Child Health and Nutrition (MNCHN) for IPs in 20 barangays. Other municipalities and cities have yet to adopt the First 1,000 Days program. In Davao del Norte's analysis, the slow reduction in stunting in the province was attributed in part to the emphasis of the existing OPT on measuring the prevalence of underweight and less on stunting. The stunting prevalence based on the National Nutrition Survey of 2015 was 34.2 percent. The progress in the implementation of the MNCHN program, which was expected to have a larger impact on stunting than on underweight prevalence, had been limited. According to the compendium report, among the MNHCN services in 2017, "only deliveries attended by skilled birth attendants and the provision of first dose of Vitamin A to 0 to 6 months old infants reached the ninety percent (90%) benchmark, while the rest of the services (prenatal visit, immunization, micronutrient powder supplementation for children 6-23 months) have low coverage." (Nutrition International et al. 2018)

In Tagaytay City, although the OPT Plus results in 2015 showed a stunting prevalence ten percent (10%), which is much lower than the national average based on the NNS of the same year, the Mayor considered it important to address the stunting problem based on the recognition that the children involved "will carry the disadvantage in physical and cognitive development to adulthood." Thus, in 2015, the "First 1,000 Days *Ni Baby* Program" was launched in the City. The Program consolidated the previous feeding and breastfeeding initiatives with related components, including the feeding of the pregnant mother that received funding from all barangays since 2014.

Altogether, Tagaytay's "First 1,000 Days *ni Baby* Program" consists of the following components: counseling of the pregnant woman; monitoring consumption of ferrous sulfate among pregnant women; feeding of the pregnant women; monthly weighing of children 0-23 months; counselling on exclusive breastfeeding; milk bank in the nutrition office; exclusive breastfeeding monitoring by the Barangay Health Worker (BHW) and nurse; organized breastfeeding support group in all barangays; *Pabasa sa nutrisyon, education* and vegetable education as well as other topics from pregnancy to complementary feeding; and demonstration of complementary feeding. In support of exclusive breastfeeding, the City passed an ordinance mandating the establishment of lactation area in all barangays, business and food establishments.

In 2017, OPT Plus results show a stunting prevalence among children 0-5 years of age at 8.9 percent, a 1.6 percentage points reduction in two years. The "First 1,000 Days *ni Baby* Program" is in addition to the expanded Tagaytay's Agrikulturang Nasyon sa Tagaytay (ANT) program, and the focus on sanitation and youth development that the mayor supported since 2013.

In Kadilingan, Bukidnon, recent OPT Plus records show erratic trends of child stunting and wasting despite the continuing decline of underweight. However, Kadilingan notes that measurements in stunting and wasting are just beginning to be institutionalized and would need further improvements in data reliability and utilization. The municipalities consider the prevention of stunting as an additional challenge since in the past the municipality's nutrition team looked at underweight as its main indicator in assessing the nutritional status of children.

The lack of improvement in stunting is believed to result from inadequate services during the first 1,000 days. Kadingilan believes that it needs to closely review and strengthen the links in the

continuum of care and services that prevents stunting and other forms of malnutrition under the First 1,000 Days framework. The continuum of care includes pre- and post-natal care for mothers; dietary supplementation for pregnant women; micronutrient supplementation; immunization coverage of children under one year; breastfeeding promotion, exclusive breastfeeding and later on continued breastfeeding; and provision of complementary food. The municipality recognizes the need to institutionalize a system to monitor such indicators as prenatal coverage; iron-folic acid (IFA) supplementation; low birth weight; and stunting at 0-5 months, and stunting at 12 months and 6-23 months.

In Talibon, Bohol, the municipality invested in universal supplementary feeding of pregnant women and children 0-59 months since 1995. The program follows the national guidelines of 120-day feeding using nutrient dense supplementary food while the food given to pregnant women consisted of food commodities that included rice, fish and meat, vegetables and fruits. The feeding program was combined with micronutrient supplementation and other MNCHN services, together with IYCF. The 120-day supplementary feeding program involves all the 25 barangays and is financed by the local government. The nutrient content of the food provided was initially designed by the municipal nutritionist.

However, the municipality notes that there is still no widespread or rigorous understanding of the continuous process of reducing stunting with the combination of MNCHN and IYCF and the involvement of the health sector that meets the standards of the First 1,000 (F1K) days of life. The focus group discussions (FGDs) conducted in the barangays showed that the understanding of stunting is yet inadequate and there are measurement problems that require review and skills upgrading. The report concludes that integrating the F1K strategy in the overall nutrition program of Talibon will go a long way in addressing stunting and all the other forms of malnutrition.

Among the LGU experiences described in the Compendium, the case of Quezon Province represents the most advanced understanding and implementation of the First 1,000 Days. The province established the Quezon's First 1,000 Days of Life (Q1K) program, which "sets new standards in maternal and child care and integrative family support which allow each child to attain his or her true potential". In addition to the description contained in the Compendium, the PIDS Study Team was also able to visit the province and obtained detailed briefing and discussion with the Provincial Q1K Team.

The establishment and implementation of the Q1K program followed a systematic process that started in its conceptualization in 2014 by the Provincial Government under the leadership of the Governor. This process was summarized in a briefing presented by the Provincial Health Officer and in-charge of the Q1K program as follows. In 2015, the Q1K Council and Technical Working Group were established, together they consulted experts on designing the Q1K program, and operationalized the design through a series of planning workshops. In the same year, the organizational activities were implemented including the inauguration of the Q1K office, the hiring of coordinators and the social preparation for Q1K. The commitment of 12 municipalities to the program was obtained, which then serve as the pilot municipalities for implementation. In 2016, Q1K was then launched in 12 pilot municipalities. Activities included Buntis Congress where pregnant women in the first trimester were identified for enrollment in the program, who will then

be provided with services for both mother and child until the child is two years old. The other activity started was the parent effective seminars, a major component of the Q1K program.

In 2017, while the program in the pilot municipalities was ongoing, the province prepared for the expansion of the program to cover the remaining municipalities. The activities included the conduct of the Q1K Summit and the hiring of coordinators for province-wide implementation. In 2018, province-wide implementation of the program commenced. In the meantime, in April 2018, the program in the pilot municipalities has reach the 1,000 days.

The Q1K program has three components and goals. These are (1) Food and Nutrition: to improve the nutritional status of the family through proper nutrition education; (2) Health and Sanitation: to improve health through clean water and environment and optimal healthcare services; and (3) Social Care: to generate behavioral change among parents and community in **child rearing**⁷.

The program followed up the Q1K mothers during the entire pregnancy and all received tetanus toxoid vaccines and iron-folic acid supplements. Complementary feeding was part of program services. According to the narrative results provided by the Q1K coordinator, the pilot phase partial results are out for the following indicators on 739 mothers (out of 1000 initial target beneficiaries) and actual Q1K 746 babies of which all had measurement information as of the time of writing the study: 55 cases or 7.4 percent low birthweight; 86 cases or 11.5 percent stunting; 33 cases or 4.4 percent wasting; 2 cases overweight; and exclusive breastfeeding rate was 90 percent.

Proper evaluation is difficult in the absence of counterfactual data and the outcomes from the first cohort of enrollees in the Q1K in the pilot municipalities may not be strictly comparable to the NNS data that is used as benchmark. Given these caveats, the results from the first cohort of Q1K enrollees tentatively suggest better performance in such indicators as low birthweight, exclusive breastfeeding, and stunting compared to the overall province-wide performance.

5.2. LGUs under the health leadership and governance project

The Zuellig Family Foundation in collaboration with DOH implemented a Provincial Leadership and Governance Program (PLGP), a provincial component of Health Leadership and Governance Program (PLGP). There were 12 provinces across nine regions enrolled under the two-year program, which started in 2016. The aim of the program is to improve province-wide health systems through building leadership among governors. The theory is that good leadership translates into better health systems, which in turn contribute to improved health outcomes. The experiences of the 12 governors who underwent the program, together with their DOH Regional

⁷ The program component activities are as follows: (1) Food and nutrition (provision of supplements to mothers and children; conduct of supplementary feeding for underweight pregnant mothers; deworming of pregnant women; strengthening of exclusive breastfeeding; emphasis on proper and timely provision of complementary food; establishment of Q1K Home Gardens as source of food and livelihood; and training and retraining of Barangay Nutrition Scholars (BNS) on Infant and Young Child Feeding (IYCF); (2) Health care and sanitation (Provision of modified Maternal, Newborn, Child Health and Nutrition package for every beneficiary (MNCHN); Conduct of laboratory work-ups and ultrasound; Identification of half-way houses; Water maintenance and toilet sanitation; Control of animal manure proliferation; Strengthening advocacy on personal hygiene; Provision of dental services; and Strengthening advocacies on Newborn Screening Tests (NBS) and immunization); and (3) Social care includes conduct of monthly Parent Effectiveness Service (PES) seminar and the conduct of annual province-wide Parent's Congress. The PES has the following modules: Myself as a Person and as a Parent; The Filipino Family and Gender Sensitivity Training; Challenges of Parenting; Child Development; Keeping Your Child Safe from Abuse and Violence Against Women (VAW); Building Children's Positive Behavior; Health and Nutrition; Home Management; and Keeping a Health Environment for your Children.

Directors who also underwent a leadership program called the Bridging Leadership Fellowship Program (BLFP), were presented and discussed in a recent Health Leadership and Governance Symposium held in September 25, 2018.

Key features among the provinces that provide a strong infrastructure for improved health system performance and better health outcomes are the following: (1) strong leadership by the governor with a new perspective on the importance of health; (2) an active multi-sector core group that designs and manages province-wide reforms; (3) capacity of the governor to engage other Local Chief Executives and the community; (4) through investments in facility upgrading and systems development, improved public health systems of municipalities and cities; (5) a strong link with the Regional DOH Offices; (6) availability and use of information system to target the poor, based on National Household Targeting System (NHTS) or locally-based monitoring system such as the Community-Based Monitoring System; and (6) on-going local economic and social programs that can impact many social determinants of health such as livelihood and income, education, and sanitation.

While the range of health problems differ among provinces, maternal, neonatal, infant and child mortality and teenage pregnancy were common priority concerns in all provinces. Moreover, seven provinces also considered “malnutrition” as a priority concern. While progress has been made on the other priority concerns, the continuum of interventions to address child malnutrition, particularly stunting, was not prominent in their reports. Of the seven provinces that mentioned malnutrition as a problem, only two mentioned concrete program to address the problem. To address the underweight problem among children, Ilocos Sur established a dairy farm, whose milk produce was then used in the feeding program for underweight children. Compostela Valley focused on a province-wide school feeding program for underweight and severely underweight children.

Another indicator of attention to child nutrition is whether the provinces presented data in their written reports. Interestingly, Ilocos Sur did not present data, while Compostela Valley presented data on prevalence of underweight. Four provinces who did not explicitly mentioned “malnutrition” as a priority concern, nevertheless presented data on stunting mostly starting in 2016 (Bataan, Northern Samar, Samar, and Siquijor).

Like the LGUs represented in the Compendium, there is still much work to be done among the PLGP provinces to move towards the framework of child malnutrition prevention (particularly stunting) in the First 1,000 Days. The advantage of the PLGP provinces is the head start they have made in addressing leadership, inter-LGU collaboration, information system for targeting the poor, and health systems improvements, which are important infrastructure for addressing the challenge of addressing child nutrition issues.

5.3. The case of Pangasinan

The original plan of the study was to focus on Pangasinan as a case study. The choice of Pangasinan was based on a number of considerations. It has one of the highest prevalence in child stunting (32% in 2015 based on the FNRI NNS 2015); it has a large population and, hence, a large number at risk of stunting; it has numerous municipalities with varying income class; and it has long-standing experience with inter-LGU cooperation, i.e., provincial government support to

municipalities for specific programs such as family planning under different administrations; and it not currently part of NNC’s 36 priority provinces for the implementation of the PPAN LGU Mobilization Program (hence the study will not intrude into the current NNC program of LGU mobilization). In addition, it is also readily accessible by land transportation, thus minimizing cost of field research.

The PIDS Study Team planned to organize the data collection along the framework for assessing LGU plans, policies and programs on health and nutrition shown in Table 1.

Table 1. Framework for assessing LGU performance

Factors affecting LGU performance	Basic questions	Analysis and approach to data collection
Adoption of stunting prevention as a strategic focus and the first 1,000 days as the window of opportunity	How well is stunting prevention and first 1,000 days’ strategy articulated in LGU nutrition and health plans, including interrelationships among nutrition outcomes, and between health and nutrition outcomes	Analysis of LGU and inter-LGU and province-wide health and nutrition plans
Adequacy of local data on child stunting and related outcome indicators for policy, planning, prioritization among local development concerns, and monitoring and evaluation	What do local data (particularly stunting) show relative to what might be expected from national surveys; how are local data collected and by whom; and how are local data used	Analysis of local data on nutrition outcomes based on OPT (and FHSIS) compared to what NNS data show
Availability of local resources	How do LGUs vary in their capacity to generate local resources and their levels of investments in health and nutrition	Analysis of local revenues (IRA and others) and local expenditures (PHN and others) from DOF, Bureau of Local Government Finance (BLGF)
Organization of health and nutrition service delivery in the devolved health system	What health and nutrition services are delivery in what delivery platforms; what are gaps in service delivery of critical interventions; what is the extent of inter-LGU cooperation and coordination across delivery platforms	Inter-LGU planning exercise using framework to be suggested (i.e., Table 2)

Table 1. Framework for assessing LGU plans, policies and programs on health and nutrition (continued)

Factors affecting LGU performance	Basic questions	Analysis and approach to data collection
Mechanisms for identifying target beneficiaries	What mechanisms are used, how effective, and how maintained. Are NHTS-PR or “listahan” data of DSWD used to target beneficiaries	Review of mechanisms used with local health officials
Systems for helping the poor (target beneficiaries) navigate the health system to access needed health and nutrition services.	what systems are in place to help the poor effectively navigate and access needed health and nutrition services across the service delivery network? Are such systems as community health teams, barangay health workers, and barangay nutrition scholars, and service delivery instruments such as the family health book, still in place and effectively functioning	Review of systems for helping the poor navigate the health delivery system with local health officials
Systems for monitoring and evaluation; assignment of accountability	What systems are used for monitoring and evaluation	Review LGU, inter-LGU and province-wide plans for description of M&E system; review M&E reports and inter-LGU discussions during implementation reviews

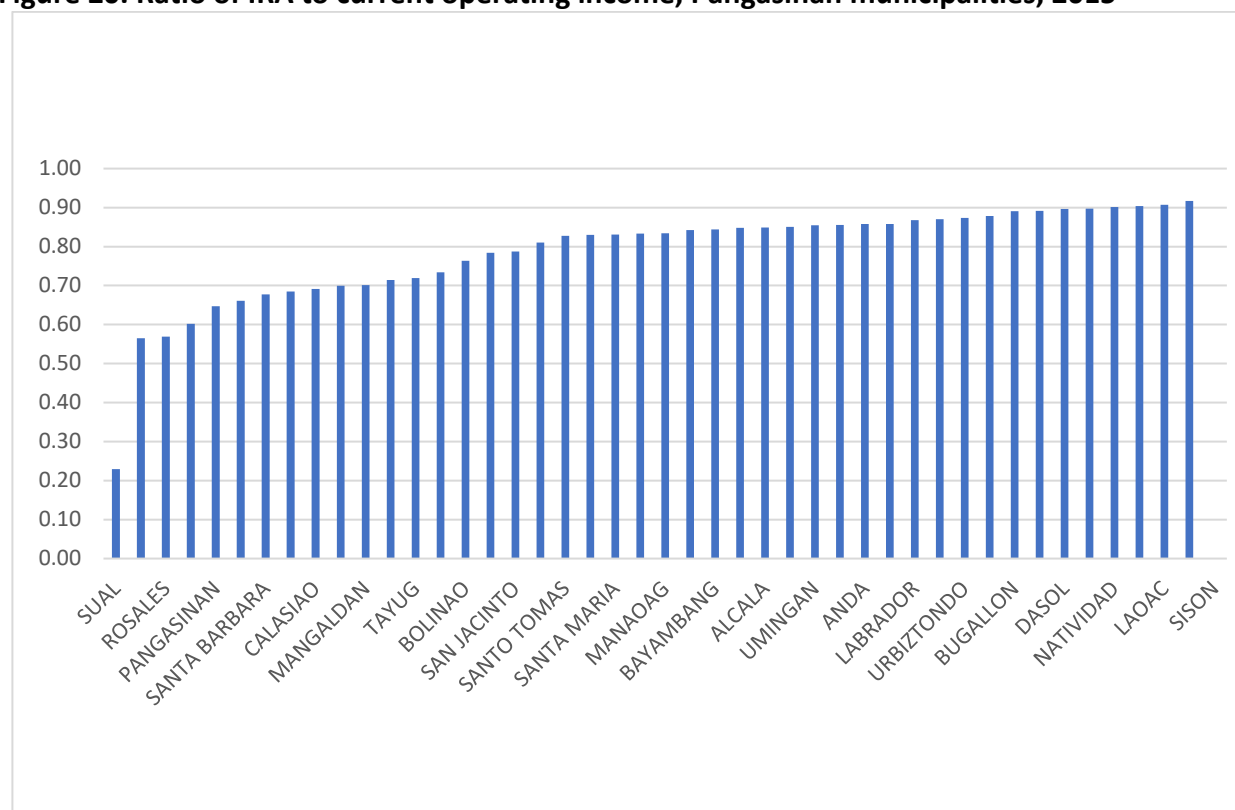
Source: Authors’ Compilation

An examination of Sual’s 2018 MNAP reveals a wide range of maternal, neonatal and child health and nutrition interventions. It is not clear, however, whether these sets of interventions are to be delivered with explicit attention to prevent stunting during a first 1,000 days’ period. Data available for planning include OPT data on underweight, stunting and wasting. The prevalence rate for stunting is estimated to be 3.6 percent of children 0-59 months. What is of interest, however, is that the MNAP 2018 explicitly includes nutrition-sensitive interventions such as support to home and community food production through gardening, and livelihood assistance.

How accurate or adequate are the data on nutrition compiled by the PHO to guide setting of local development priorities? Do the data accurately portray the strategic importance of nutrition relative to competing local programs? Are the data adequate for planning and allocation of resources?

The data compiled by PHO through the Nutrition Program Manager are from the Operation Timbang Plus (OPT Plus). The Barangay Nutrition Scholars (BNS), typically assisted by Barangay Health Workers (BHWs) collect anthropometric measurements of children under five years old conducted during the first quarter of the year. This is the data used for planning purposes.

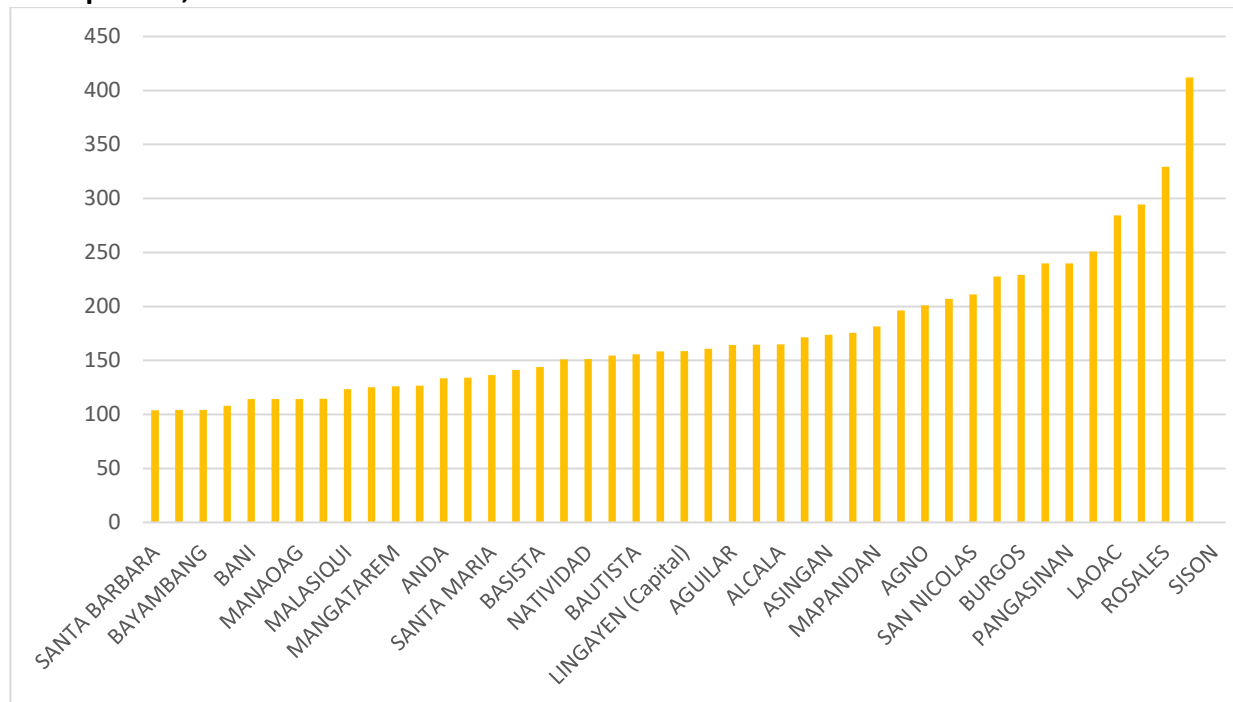
Figure 20. Ratio of IRA to current operating income, Pangasinan municipalities, 2015



Source: Estimated from DOF Bureau of Local Government Finance (BLGF) data.

Anthropometric measures include: underweight and severely underweight; wasting and severely wasting; and stunting and severely stunting. The data are compiled at the municipal, city and province levels. The PHO ranks municipalities and cities according to each of these anthropometric measures. The latest compiled results available to the PIDS Study Team are for 2017 although data for 2018 has been compiled and awaiting official approval and release. The coverage of children measured varied by municipality/city from (for underweight and severely underweight) a low of 58% to a high of 96%, making comparison of prevalence rates across municipalities and cities difficult. Similar variations in coverage rates across municipalities are also observed for the other two child nutrition measures (stunting and wasting).

Figure 21. Per capita expenditures for population, health and nutrition, Pangasinan municipalities, 2015



Source: Estimated from DOF Bureau of Local Government Finance (BLGF) data.

The prevalence rates for each of these three measures appear to be too low relative to estimates obtained for the province from the National Nutrition Survey (NNS) of 2015. In 2015, the NNS reported a child stunting prevalence rate of 32.3%, with confidence interval from 27.3% to 38.4%. This is for children 0-59 months. The corresponding OPT data for 0-71 months was only 6.6%. Clearly, it would be more difficult to advocate to LGUs to place high priority on stunting prevention if the prevalence rate is only less than 7% than if it were close to 40%.

It is not yet clear what might explain the large difference in the stunting data collected by the NNS and the OPT. The large difference between the OPT Plus results and NNS results could be due, first, to differences in accuracy of measurement. We could assume the NNS survey staff to have better training and adequate measurement tools, especially for measuring weight and height of infants than the BNSs. Moreover, survey staff are more likely to be better supervised than the BNSs. A second factor is the less than complete coverage of the population by the BNS (wide variation among municipalities and cities).

A third factor is the age composition of the children being measured. Data tabulated by the PHO (and MHO, CHO) are aggregates for children under five years old. According to the PHO and Nutrition Program Manager, measurements are available by age of child. This information is important for two reasons. First is with respect to measurement. The data will allow us to check whether the low prevalence rate reported by OPT Plus is due to over-representation of infants with lower prevalence and under-representation of children 3-5 years old who tend to have higher prevalence. Secondly, the data by age help to highlight the need to focus interventions during the “window of opportunity”, i.e., the First 1,000 Days. It is known from the national data (NNS) that

stunting increases with age of child – rising from 13.1% among 0-5 months old infants, to 16.2% among 6-11 months old infants, to 31.5% among one-year old children, to 35.7% among 2-year-old children, to 35.6% among 3-year old children, and 32.7% among 4-5-year-old children (Food and Nutrition Research Institute 2013). Clearly beyond age two, the child would be stunted for life. Disaggregation of data by age would focus on infancy where most of the chronic undernutrition resulting in stunting occurs. Breastfeeding and complementary feeding interventions together with infection control will have the most impact at these ages.

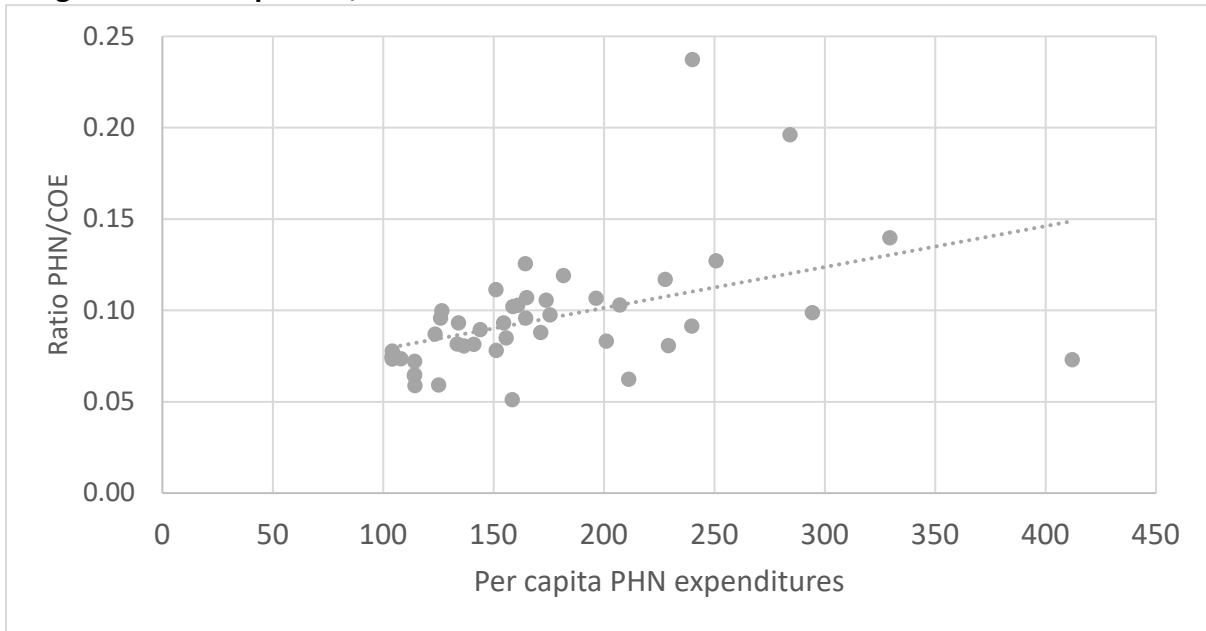
Data on nutrition used in the preparation of the PHO AOP 2018 are measures of undernutrition of children under five years old. No data are available on the nutritional status of pregnant and lactating mothers, key information for the integrated implementation of the First 1,000 Days interventions. This is another indicator that the First 1,000 Days focus is not yet well integrated in the overall health and nutrition program.

5.5. Availability of local resources for health and nutrition

Analysis of local revenues (IRA and others) and local expenditures (PHN and others) from Department of Finance (DOF), Bureau of Local Government Finance (BLGF) show that LGUs vary in their capacity to generate local resources and their levels of investments in health and nutrition. Cities have higher capacities to generate local revenues than municipalities, especially those in the lower income classification (e.g., 3rd to 6th class). A large number of municipalities rely a great deal on IRA for their total current operating income (and hence expenditures). A number, however, are able to generate local resources, at least 30% of total current operating Income (COI).

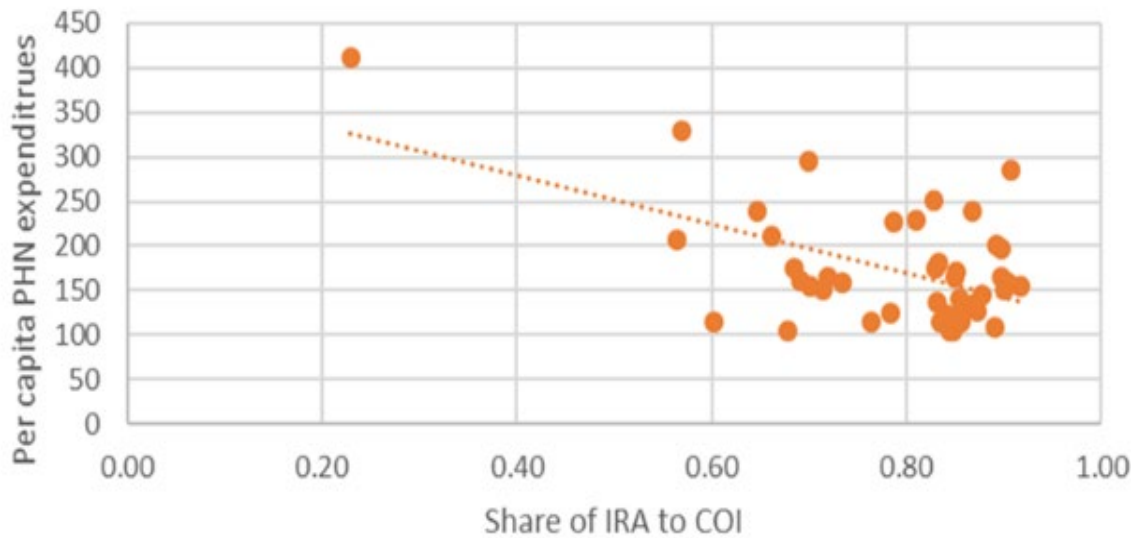
There is large variation in per capita spending on population, health and nutrition (PHN) services among municipalities. Preliminary bivariate analysis suggests that this may be partly due to the priority the LGU places of PHN services relative to other competing development concerns (i.e., higher ratio of PHN expenditures to total current expenditures (PHN/COE), and to the greater capacity of LGUs to generate local resources beyond their IRAs.

Figure 22. Per capita PHN expenditures and ratio of PHN to total current expenditure, Pangasinan municipalities, 2015



Source: Estimated from DOF Bureau of Local Government Finance (BLGF) data.

Figure 23. Per capita PHN expenditures and share of IRA to Current Operating Income (COI), Pangasinan municipalities, 2015



Source: Estimated from DOF Bureau of Local Government Finance (BLGF) data.

As an initial policy option to be explored, mobilizing LGUs for producing greater health and nutrition outcomes may need to advocate for higher priority for investing in health and nutrition to prevent stunting during the first 1,000 days' window of opportunity as well as to supplement local resources from national sources to compensate of the lack of LGU capacity to generate more resources in the short term. As described earlier, advocating to LGUs to place a higher priority on child stunting prevention requires better communication as to the short-term and long-term consequences of stunting on the child as well as to the economy at large, coupled with better local data on stunting prevalence to assess the real magnitude of the problem at the local level.

5.6. Platforms for service delivery of the First 1,000 Days Interventions

What health and nutrition services are delivery in what delivery platforms; what are gaps in service delivery of critical interventions? What is the extent of inter-LGU cooperation and coordination across delivery platforms from the community (barangay-LGU) to hospitals (province-LGU)? What is the role of the private sector?

Mobilizing LGUs for stunting prevention that is of sufficient scale and effectiveness to meet national targets would require organization of these independently-operated local health systems through some form of inter-LGU cooperation. Although the Local Government Code of 1991 allowed LGUs to get together to share resources to achieve a common goal, such inter-LGU cooperation is not automatic and may not be sustainable to achieve national targets.

In the past, various mechanisms were used by DOH to forge such inter-LGU cooperation, first through the support to the formation of inter-local health zones (ILHZ) and later through the preparation of a Province-wide Investment Plan for Health (PIPH). Under the PIPH, the province-LGU and the municipal/city-LGUs get together to prepare a province-wide investment plan, which will form the basis for financial support by DOH and development partners. This approach was meant to encourage LGUs to “cooperate” to achieve public health goals. Both the ILHZ and PIPH approaches had its time, and some limited successes were reported, but over time these were not sustained. Recently, the DOH issued guidelines for the formation of service delivery networks, principally to deliver a set of reproductive health services mandated by the RPRH Law. How this will work out in practice still has to be seen.

Pangasinan has established and maintained an ILHZ system within the province to deliver local health services. The ILHZ establishment started in 2002 with a Provincial Sanggunian Resolution authorizing the Governor to enter into a memorandum of agreement with component LGUs to implement the ILHZ revolving around the provincial and district hospitals. The current ILHZs are: Pangasinan Provincial Hospital ILHZ, Bayambang District Hospital ILHZ, Western Pangasinan District Hospital ILHZ, Eastern Pangasinan District Hospital ILHZ, Lingayen District Hospital ILHZ and Urdaneta District Hospital ILHZ. In 2012 a provincial resolution was passed adopting a set of guidelines for the implementation of LGU Scorecard, which became an instrument for assessing performance of LGUs and ILHZs.

Major features of the ILHZ system may be tapped to deliver stunting prevention services, which until now still has yet to be firmly established. Within the ILHZ or service delivery network, various decisions by different LGUs need to be made to deliver a set of stunting preventions

services in various service delivery platforms. This is illustrated with the use of the matrix of interventions and delivery platforms, that in turn is based on the framework of interventions in the first 1,000 days, shown in the following figure (Table 2).

Table 2. Framework for assessing service delivery performance across different service delivery performance platforms managed and operated by different LGUs

Interventions	Delivery Platforms				
	Community	RHU/CHC/BHS	Birthing clinic	District hospital	Provincial hospital
Family planning					
Antenatal care (including maternal dietary supplementation and treatment for infection)					
Delivery/EINC					
Postpartum/postnatal care					
Exclusive breastfeeding					
Complementary feeding					
Child micronutrient supplementation					
Child vaccination					
Treatment for diarrhea and infection					
Growth monitoring					

Source: Authors' compilation

The following set of interventions are expected to be delivered in specific service delivery platforms:

- Community: data collection, referral, monitoring; community breastfeeding support groups; complementary feeding program for pregnant and lactating mothers and children beyond six months old to two years. Who will manage community-level programs – BNS, BHW, midwife, NGOs?
- Health center and satellite BHS (public health): family planning, prenatal and postnatal care with nutrition information and counseling; child health care (infection and diarrhea)
- Rural and City Birthing clinics: safe birth delivery and EINC
- District and provincial hospitals: safe delivery and EINC; emergency maternal and neonatal care.
- Private sector providers (private practitioners – ob/gyn and pediatricians; private birthing clinics – NGOs or for-profit)

For example, the promotion of exclusive breastfeeding for the first six months of the child may start with information and counseling when the pregnant mother goes for prenatal care. This would typically happen in RHU/CHC or BHS operated by the M/C-LGU. This is reinforced during delivery of the child, where EINC services are delivered. This would typically be in birthing clinics operated by M/C-LGUs or in hospitals operated by P-LGU. Services in both facilities need to be of the same quality, meeting all DOH quality standards. Then the promotion of exclusive breastfeeding can be reinforced further during post-partum/postnatal care, which can occur at the place of delivery or at the RHU/CHC. Finally, support to exclusive breastfeeding require community support groups to be organized and supported by barangay health workers and BNHs under the barangay-LGU and supervised by the midwives at the BHS or RHU. These delivery platforms only involve government facilities and personnel. There is still the private sector to be coordinated.

5.7. Mechanisms for identifying target beneficiaries

What mechanisms are used to identify priority beneficiaries for focused nutrition interventions during the First 1,000 Days? To what extent are NHTS-PR or “listahan” data of DSWD used to prioritize target beneficiaries? Who are the target population? Given the large number of stunted children belonging to the poor (lower wealth quintiles as determined in the NNS data) and among 4Ps households (NNC 2016), it is natural to initially focus resources and efforts on this target population.

In the past (around 2004), Pangasinan conducted a province-wide enumeration of all households that collected living standards data through the Living Standards Survey (LSS). From the data on living standards, a Living Standards Index (LSI) was constructed using Principal Components Analysis (PCA). The LSI was then used to rank households. Those in the bottom percentile (equivalent to the national poverty prevalence) is categorized as poor, although various categories can be constructed based on the ranking. The LSI was used principally to determine who among the households will be given priority in the enrollment in PhilHealth as indigent, where the province-LGU subsidizes the premium according to the then 50-50 sharing with the national government. The LSI was reportedly used for other programs but documentation is not available. There was a plan by the province to update the LSI by adding health service utilization information, but this did not materialize owing to change in administration.

However, in 2014, the municipality of Pozorrubio conducted a municipal-wide enumeration that collected data on both living standards and health service utilization, mainly maternal and child health service, through the Community Health and Living Standards Survey (CHLSS). There is little documentation, however, on how it was actually used beyond the initial presentation to LGU officials on the state of maternal and child health situation by household LSI category. The advantage of data from complete enumeration is that households can be categorized as “poor” or “non-poor” and then be located in specific areas for more focused interventions, including nutrition interventions in the First 1,000 Days. Data from the NHTS-PR may not be readily available, and coverage of the population is not complete, hence, some households not included in the NHTS-PR enumeration who are poor will not be included in the list. The CHLSS data would be useful to identify target populations and their locations.

5.8. Systems for helping target beneficiaries navigate the health system to access needed health and nutrition services

What systems are in place to help the poor effectively navigate and access needed health and nutrition services across the service delivery network? Are such systems as community health teams, barangay health workers, and barangay nutrition scholars, and service delivery instruments such as the family health book, still in place and effectively functioning?

One of the component in the implementation of the stunting prevention program is the role of “navigators”. These are likely to be barangay health workers or barangay nutrition scholars under the jurisdiction of the barangay-LGU but supervised technically by the RHU/CHC (i.e., municipal and city LGUs health staff). Given the lack of resources and education among the poor, which are the principal beneficiaries of the more focused interventions, there is a need to help these poor beneficiaries to effectively “navigate” and access the various services in the different delivery platforms. There has been experience in the use of “navigators” in the provision of family planning and maternal health services, but this experience has yet to be adapted particularly to deliver the set of services needed during the first 1,000 days.

Pangasinan has developed the Community-Based Family Planning Management Information System (CBFPMIS) to identify and track pregnant women for referral to needed maternal care and safe delivery and women of reproductive age with unmet need for family planning. Such a system can also be used in the implementation of the First 1,000 Days program of stunting prevention that starts with the identification of pregnant women and help them navigate the health and nutrition delivery system until their child is two years old.

With support from DOH, the province organized Community Health Teams (CHTs) that were tasked to help poor families “recognize their health risks and needs, develop health plans to address those needs, use the PhilHealth benefits, and find appropriate and accessible health care providers”. The services include maternal and child care, TB detection and treatment, and modern family planning. The CHTs have recording system to identify needed services, refer clients for services and track services received. The CHTs as a province-wide activity has been discontinued when DOH discontinued its financial support. However, this approach can be revived and simplified for use in the stunting prevention program.

An alternative to the standard DOH-CHT tool for profiling, recording and reporting, the Province also tested an alternative tool for recording and reporting data from the CHT system through the columnar notebook. The main features of this tool include: (1) recording in a single notebook all the key information required in all the CHT forms, which facilitates the listing of persons eligible for specific Family Planning/Maternal and Child Health (FP/MCH) service for early referral (2) the data can be used for guiding service delivery at the community level – used by both CHT Partner and Rural Health Midwife (RHM); (3) electronic database component facilitates bringing the data to RHM and MHO for management purpose, i.e., for identifying gaps in performance and addressing them through reallocation of resources or supervision; and (4) ease of reporting to higher levels of decision-making. This tool can also be used for the implementation of stunting prevention during the First 1,000 Days.

6. Factors affecting effectiveness of local government actions on nutrition

There is a number of factors that affect the effectiveness of local government actions on nutrition, particularly on child nutrition. At the general level, these factors include, on the one hand, the effect of the devolution of health services to local government units on the delivery and financing of health and nutrition services, and on the other, the continued high poverty rates that limited a large number of households to access adequate food and health and nutrition services.⁸ At a more specific level that relate directly to nutrition, the factors include: (1) the focus on the prevalence of underweight children under-five as the indicator of choice in the MDG; (2) even with the focus on the prevalence of underweight under-five, the data available to LGUs to based decisions regarding local development priorities tend to be grossly understated relative to what might be expected based on national nutrition survey results; (3) weak links in the delivery of the continuum of health care and nutrition services; and (4) slow transition to addressing child stunting as a focal point in the overall nutrition agenda.

6.1. *The nature of devolution*

Key to achieving national targets under a devolved set-up is the capacity of the entire system to implement health and nutrition programs at scale. This requires coordinated efforts among the LGUs with the same energy and commitment. However, such coordinated efforts are not easy to achieve under a devolved set-up, thus seriously compromising the achievement of national targets. First, decision-making has now been devolved to local authorities. They can adopt their own health priorities and have wide discretion on how their Internal Revenue Allotment (IRA) shares can be spent (Capuno and Solon 1996; Lakshminarayanan 2003). In this case, health and nutrition may not always be a top priority since these compete with other local development concerns that vary among LGUs. Moreover, even if health and nutrition is a priority, there is still a wide range of health and nutrition programs and components of each that LGUs can choose to focus on from the standpoint of resource availability, technical capacity, and political benefits.

The nature of the nutrition program as contained in the PPAN is that there are numerous sets of indicators and targets, strategies and programs, and different target populations. To address the whole set of nutrition problems, LGUs need to implement numerous set of interventions to different groups of the population. But given local resources, the LGUs can pick and choose among all the indicators and strategies. Thus they may pick a more visible target population of young children in Day Care Centers and elementary school children, and consider a single program of supplemental feeding to be an adequate contribution to addressing the nutrition problem among children. This is especially so if the target indicator is underweight as used in the MDGs, where a

⁸ Recent data and analysis explore the relationship between poverty and food security. The recent FNRI's NNS 2015 reveals only one-third of households are food secure, while more half are either moderately or severely food insecure. Food insecurity (moderate and severe) is highest among the poorest at 80%, while it is only 17% among the richest. A recent study that determine the cost of a nutritious diet reveal several interesting findings (FNRI, WFP and UNICEF, Fill the Nutrient Gap Philippines: Summary Report, DOST-FNRI, World Food Programme with support from UNICEF, 2018) summarized as follows: (1) While almost all households would be able to afford a diet that meet energy needs (97%), one-third would not be able to afford a diet that meets nutritional needs. Non-affordability of a nutritious diet is associated with stunting prevalence. The minimum wage is insufficient to access a nutritious diet. (p.6); An earlier study suggested that "food security especially among the poor, has been weakened primarily by restrictive trade policies and low farm productivity and income." (p1.) (Briones et al. 2017:1). On leveraging social protection programs such as the 4Ps, a recent study (Kandpal, et al. 2016) found that the 4Ps program was associated with significant reduction in severe stunting. However, subsequent impact evaluations studies did not show significant impacts. Additional studies need to be done, especially on understanding the relative importance of different pathways at different times.

common response is supplemental feeding. While feeding programs at Day Care Centers and elementary schools can achieve certain nutrition and education objectives, it does little to prevent stunting in early childhood.

6.2. *The nature of the data*

While national data on nutrition based on regular national nutrition surveys provide information on a number of nutrition conditions among various groups of the population, these are too aggregative for use by LGUs below the province level. For the most part LGUs relied on the Operation Timbang (OPT) for data on the prevalence of underweight children age 0-5 years (or 0-6 years)⁹. It is only in the most recent period, around 2015, that stunting and wasting prevalence rates were obtained. A common observation is that the OPT data show very low rates of child undernutrition compared to data obtained by the National Nutrition Survey for the same year. The NNC, in its assessment of the operational gaps of PPAN 2011-2016 implementation, noted that among the reasons for the lack of LGU activity in nutrition beyond “weighing, feeding of children in DCCs and the schools, and the July nutrition month celebrations is the inadequate data. “OPT results, often lower than the NNS’, might be understating the local nutrition problem, making nutrition more invisible” (NNC 2014).

The potential “underestimation” has been a puzzle even to NNC until now. To ensure that different instruments provide the same results, NNC tested four different instruments in the field using a group of trained BNS. The results show no significant differences in the height and weight measurements using the four instruments. It may be noted that the test had controlled for the testers, since all had the same recent training in the use of the instruments. It is possible that in the field, there is great variation in the “competence” of BNSs that had not received the same intensive training as the testers in the experiment.

Moreover, in our FGDs in Pangasinan, the BNSs reported that the weighing scales they are using have not been recently calibrated. Moreover, there are different height measurement instruments used: some use standard height boards, some use height stick, and some use tape measure. Definitely, the instruments used by FNRI are likely to be most accurate but are also expensive, and hence not routinely used by local BNS. Our hypothesis is that both measurement tools and ability of BNS have roles to play in explaining the difference in results with that of FNRI. But why the data obtained by the BNS is consistently lower than the data obtained by the FNRI survey cannot still be ascertained. NNC has planned to make a study on this matter, assigning one of its staff to focus on this puzzle.

Another aspect of field measurement is that the methodology used in translating actual measures of height and weight into a determination of the nutritional status of the child (i.e., stunting, wasting and underweight) using the WHO Child Growth Standards is a bit complex. It requires calculation of the precise age of the child in months in addition to the measure of height and weight, and the

⁹ “Operation Timbang (OPT) Plus is the annual weighing and height measurement of all preschoolers 0-71 months old or below six years old in a community to identify and locate the malnourished children. Data generated through OPT Plus are used for local nutrition action planning, particularly in quantifying the number of malnourished and identifying who will be given priority interventions in the community. Moreover, results of OPT Plus provide information on the nutritional status of the preschoolers and the community in general, thus, providing information on the effectiveness of the local nutrition program”. (<http://www.nnc.gov.ph/plans-and-programs/philippine-food-and-nutrition-surveillance-system/operation-timbang-plus>)

use of the growth charts to determine nutritional status by age of child and by sex of child. Growth standards for the male and female child are different and are recorded in separate sheets. An indication of the complexity is the fact that the BNS could not determine the nutritional status immediately after measurement on site. The results are brought home, recorded in proper forms and then a determination of nutritional status is done using the child growth standards.

NNC has tried to simplify the process by using electronic technology. An e-OPT is available, but not all BNSs have computers in the field. The e-OPT is often used by someone (often the MNAO) who transform field data from the BNSs into the e-OPT forms. It will be useful for NNC together with FNRI and LGUs to undertake systematic study to determine interventions points such as better measurement tools and updated training) to make local data consistent with results from national surveys.

One source of data that can provide a broader view of the coverage of the continuum of health and nutrition interventions to address child malnutrition (stunting in particular) is the Field Health Statistics and Information System (FHSIS). The FHSIS (version 2012) routinely collects data at the facility level on key indicators. These are data on **prenatal care** (number of visits, tetanus toxoid immunization, iron with folic acid supplementation); **birth weight**; **post-partum** (visits; initiation of breastfeeding; micronutrient supplementation for iron and Vitamin A); **family planning** (use and type of method); **one-year old children** (immunization for BCG, DPT, OPV, Hepa B and measles; newborn care including referral for newborn screening; iron supplementation for babies with low birth weight; exclusive breastfeeding up to six months); **under-six years old** (routine vitamin A supplementation; weighing of child at 6-11 months; 12-59 months and 60-71 months); and **sick children** (vitamin A supplementation for children 6-71 months when sick with measles, severe pneumonia, persistent diarrhea, Vitamin A deficiency, underweight; iron supplementation of children 2-59 months who have anemia; and use of Oral Rehydration Therapy with zinc for diarrhea). These sets of information are first compiled at the barangay level and then aggregated at the municipal/city level on a monthly, quarterly and annual basis.

Based on the summary statistics prepared, it would appear that data are rarely analyzed for the determination of the overall progress in the delivery of the continuum of care over the life cycle (pregnancy, birth delivery and neonatal care, child at 0-5 months; 6-11 months, and 12-23 months, and 24-59 months) to determine breaks in the continuum. For the most part, data are prepared and reported by indicators or programs (e.g., immunization, micronutrient supplementation, family planning).

The FHSIS data, while useful for determining services provided (case load for resource allocation) does not by itself provide information on coverage rates of services provided. These types of information are often obtained from national surveys such as the National Demographic and Health Survey (NDHS) and from the National Nutrition Survey (NNS). To use the FHSIS data for purposes of estimating facility coverage, additional data or estimates are needed of the relevant population eligible for such services or conditions but did not go to the facility (i.e., the denominator data). Moreover, the FHSIS data do not provide information on other key interventions such as the dietary supplementation of nutritionally-at-risk pregnant women and complementary feeding of infants after six months of exclusive breastfeeding.

Of interest is that in the FHSIS version 2012, data on weight and length/height of child is recorded in the Target Client List for Nutrition and EPI Program. This information was not available in previous versions of the FHSIS, i.e., version 2008. However, the data is not used explicitly in summary reports to record and report the nutritional status of children in terms of measures of stunting, wasting or underweight.

6.3. Lack of integration of interrelated health and nutrition interventions

It is interesting to note that in both the MDG and now in the SDG, child nutrition is under “Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture”. Under this goal are the targets of nutrition, i.e., “By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons”. On the other hand, maternal, neonatal and child mortality reduction is under “Goal 3: Ensure healthy lives and promote well-being for all at all ages”. Under this goal are targets: “By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births”; and “By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births”.

As is well-known, child undernutrition (in particular stunting) and maternal, neonatal and child mortality share many common determinants related more generally to inadequate dietary intake and illness. As such, addressing child undernutrition requires delivering the continuum of interventions involving maternal, neonatal, child health and nutrition services in the life cycle from pregnancy to early childhood, that is, delivering interventions that cut across Goal 2 and Goal 3 of the SDG.

At the extreme, most nutrition programs implemented by LGUs focused on feeding programs in Day Care Centers and in elementary schools, which have little impact on child stunting during the first two years of life. The continuum of care to address maternal, neonatal, and child mortality by the health system often lack interventions on dietary supplementation for pregnant women and complementary feeding for children after six months. Within each set of interventions in the continuum are operational gaps such as incomplete delivery of all components of a particular service. One example is in prenatal care where nutrition information and counseling are not given to all women during their visits (FNRI 2014). There are also weak links between nutrition education addressed to mothers and subsequent behavior due to the “non-availability to mothers of nutrient-dense complementary food for infants” (NNC 2014).

6.4. Transition to a new paradigm – the First 1,000 Days Program

The increased focus on child stunting prevention within the narrow window of opportunity of the first 1,000 days is reflected in the strategic thrust of the PPAN 2017-2022, namely: “Focus on the first 1,000 days of life. The first 1000 days of life refer to the period of pregnancy up to the first two years of the child. This is the period during which key health, nutrition, early education and related services should be delivered to ensure the optimum physical and mental development of the child. This is also the period during which poor nutrition can have irreversible effects on the

physical and mental development of the child, consequences of which are felt way into adulthood.” (NNC 2017).

During the 2016 Nutrition Month, NNC launched the First 1,000 Days program with the objectives of “to increase awareness, promote collaboration and invest in nutrition”. NNC emphasized that optimal nutrition in the First 1000 Days include: adequate nutrition of pregnant and lactating women; exclusive breastfeeding in the first six months with initiation within the first hour of birth; continued breastfeeding up to two years and beyond; appropriate complementary feeding starting at six months; and nutrition complemented with early childhood care and development interventions (health, social services, early learning).

Achieving the national nutrition objectives through the strategic thrust that focuses on the first 1,000 days will need more than awareness among the LGUs. Improving the LGU infrastructure for health and nutrition service delivery of the continuum of care over the life cycle of a 1,000 days would need concerted effort and commitment of both national and local governments. The forthcoming legislation on the First 1,000 Days is expected to engender this concerted effort and commitment.

7. The challenge of mobilizing local government to produce national impact on Child Stunting

Key to achieving national targets under a devolved set-up is the capacity of the entire system to implement health and nutrition programs at scale. This requires coordinated efforts among the LGUs with the same energy and commitment. As mentioned in the previous section, such coordinated efforts are not easy to achieve under a devolved set-up. However, as described in section five, there are LGUs that have demonstrated that they can meet the challenge of implementing a number of nutrition-related interventions in a sustained matter as described in the *Compendium*. Moreover, while past interventions were focused to large extent on feeding programs for older children in Day Care Centers and elementary schools, there is increasing interest in implementing the First 1,000 Days Program. One province, Quezon, has in fact moved much further than simple interest, and has implemented a province-wide and comprehensive program of stunting prevention.

There are also LGUs that, with proper training in leadership and governance, can effect improvements in the local health system that involves inter-LGU cooperation among province, municipality and city LGUs to establish a service delivery network involving hospitals operated by the province, and health centers operated by municipalities and cities, to deliver a continuum of maternal, neonatal and child health and nutrition services. This is demonstrated by the experience of provinces that took part in the Health Leadership and Governance Project implemented by Zuellig Family Foundation in collaboration with the Department of Health.

Based on the experiences of these LGUs and given the factors that prevented better performance among many LGUs in the past, it is possible to move forward by systematically addressing a number of issues. One set of issues are those of governance and health systems improvements. These issues and suggested measures to address them are summarized in Table 3. A second set of

issues relate to strengthening of key elements and filling out gaps in existing maternal, neonatal and child health and nutrition programs. A third set of issues relate to improving operations.

7.1. Local governance and health systems improvement

First and foremost, there is a need to effectively communicate to LGU executives and personnel the importance of addressing child stunting in the context of overall nutrition agenda, and the need to deliver of a continuum of MNCHN interventions. Child stunting as the target indicator was adopted in 2015 with the commitment to achieve the SDGs. The shift in focus from underweight to stunting (as well as wasting) and the corresponding interventions in the First 1,000 Days has been adopted in the current PAPAN (2017-2022). Its roll-out to LGUs, which started in the Nutrition Month of 2016, needs to accelerate and an effective communication strategy is critical.

Second, there is a need to develop alternative ways of obtaining local data for decision making. One can distinguish between data needed for province-wide, municipal or city-wide planning and monitoring and evaluation, from data needed for identifying target clients for service delivery, and assistance in navigating the health system across various service delivery platforms. The first might require a sample survey using OPT tools and procedures that can be implemented quickly as basis for planning and resource allocation as well for determining the progress of prior interventions. At the client level, measures of outcomes of cohorts of pregnant women and their children provided services in the first 1,000 days can be compared to determine whether there are improvements over several cohorts. This serves as a way to evaluate the effect of the First 1,000 Days program.

The other need for data is for determining eligible clients (pregnant women and children under five years old) so that their nutritional status can be assessed and be assisted to access the needed services over the first 1,000 days. Additionally, the FHSIS could be expanded to collect child nutritional status data (stunting, wasting and overweight) among those that visit the facility. Those that are identified as malnourished and require interventions will have to be followed up for compliance with the interventions and assessed for impact. These children would be referred to community workers (BNS or BHW) for follow-up and assistance in complying with requirements.

Building on the past initiatives such as the collaborative efforts of the DOH and the private sector (1) expand capacity-building for local leadership and governance to a larger group of LGU executives; and (2) sustain improvement in health systems, both in the provision of quality services and in navigating poor clients to access these services. Learning from past efforts, improve the effectiveness of national to local grants, or grants from provincial governments to component LGUs so that items (1) and (2) above can be implemented. To ensure adequate scale, efforts could prioritize province-wide development involving leadership by governors who can then engage other LGUs in establishing and maintaining an inter-LGU service delivery network.

Table 3. Interventions to promote better LGU performance in stunting prevention

Factors promoting better LGU performance	Policy and program interventions
Adoption of stunting prevention as a strategic focus and the first 1,000 days as the window of opportunity	Communication strategy for LGU officials and health and nutrition personnel that emphasizes the irreversible effects of stunting; the consequences of child stunting on health, education and future productivity; and the small window of opportunity to prevent stunting, i.e., the first 1,000 days from conception to the child’s second birthday.
Adequacy of local data on child stunting and related outcome indicators for policy, planning, prioritization among local development concerns, and monitoring and evaluation	Adoption of better measurement tools and improve training on proper use. Firm up guidelines for the collection and use of OPT data for identification of target population and delivery of services. For purposes of planning and monitoring, consider developing alternative approaches to data collection than complete enumeration, such as for example, use of local sample surveys.
Availability of resources from local and national sources.	Continuing guidance from DBM and DILG on the use of IRA and other funds for investment in health and nutrition. Design more effective use of national grants to augment local financing.
Organization of health and nutrition service delivery in the devolved health system	Update guides to inter-LGU planning. Updating service delivery packages for health and nutrition that can be financed from both PhilHealth and national and local budgets to reduce gaps in service delivery across delivery platforms.
Stronger inter-LGU cooperation and improved province-wide service delivery networks to deliver the continuum of MNCHN services with stronger nutrition components.	Update guide to inter-LGU investment planning to improve local health service facilities. Update service delivery packages for health and nutrition that can be financed from both PhilHealth and national and local budgets to reduce gaps in service delivery across delivery platforms.
Adoption of effective mechanisms for identifying target clients.	Develop guideline for enrolling 4Ps as initial priority target clients for stunting prevention services to complement existing health and education benefits. Use simple proxy means test similar to that used by DSWD NHTS-PR (“listahan”) to expand target clients beyond those enumerated by DSWD.
Adoption of practical systems for helping the poor (target clients) to navigate the health system to access needed health and nutrition services.	Consolidate various community-based mechanisms for helping poor clients navigate the service delivery network (such mechanisms include CBFPMIS, CHT Tools, Safe Motherhood Pregnancy Tracking Tools, two-way referral systems). This may require additional frontline community workers or volunteers, or organizing existing workers’ time and motion better.

Table 3: Interventions to promote better LGU performance in stunting prevention (continued)

Factors promoting better LGU performance	Policy and program interventions
Improve systems for monitoring and evaluation.	Update guidelines and tools for M&E including consolidation of data from various sources to reflect interrelationships among various health and nutrition outcomes.
Stronger national policy support; timely technical assistance from national agencies and development partners; establish mechanism for LGU accountability based on key performance indicators.	Ensure that legislation or executive orders on nutrition in the context of first 1,000 days explicitly mandate a strong role and responsibility, and adequate/sustained support of LGUs in the implementation of PPAN and MNCHN programs. Support adoption by P-LGU, M-LGU and C-LGU of ordinances that implements the national law. Include key performance indicators in nutrition in awarding of the Seal of Good Governance.

Source: Authors' compilation

7.2. Strengthening key elements of existing programs to address Child Stunting¹⁰

Using the stunting syndrome and the first 1,000 days as framework for interventions, we mapped out in Figure 19, section 3, the various maternal, neonatal and child health programs and the nutrition-specific programs. Key elements of these programs need to be strengthened and identified gaps addressed to maximize their synergistic impact on stunting prevention. Strengthening key elements and filling out critical gaps will also produce multiple health outcomes, i.e., reductions in maternal, neonatal, infant and child mortality and teenage pregnancy.

But rather than address each gap individually, it is better to have a national guideline and concrete strategies for stunting preventions from DOH to serve as a guide for LGU implementation. This national guideline will include attention a number of measures to address identified gaps at scale. These measures include:

- Maternal nutrition interventions: address the energy requirements of women during pregnancy. This is to respond to what the NNS results had shown that the prevalence of nutritionally-at-risk women and chronically energy deficient women post-partum are high and not declining fast.
- Prevent low birth weight and care for low birth weight babies. Maternal undernutrition is linked to the high incidence of low birth weight babies in the country, which rose 21% in 2013 from around 15-17% in previous NDHS. Caring for these small babies who were born nutritionally-at-risk from the start, require scaling up of preventive interventions such as Kangaroo mother care and focused breast feeding.

¹⁰ This discussion on gaps in the existing delivery of care and the need for a national guideline from DOH to guide LGU implementation draws on the insightful ideas of the Division Chief of the Child Health and Development Division, Disease Prevention and Control Bureau of the Department of Health shared during an interview for this purpose.

- Continuously monitoring children’s growth and development so that intervention can be made early on. The first six months is the window of opportunity to improve breastfeeding. If mothers are able to breastfeed properly, stunting and wasting may be reduced when they reach 6 months old. On this, scale up community breastfeeding support groups
- Proper advice to parents on complementary feeding as a preventive intervention for stunting, especially under conditions of food insecurity. Community-based or household-based complementary feeding practices can be organized to guide parents on health feeding practices. Timely supplements can be provided when necessary.
- Re-package the Garantisadong Pambata (GP) interventions from a campaign to one where a package of interventions can be delivered at the RHU or health center and to link this package with ECCD for children age 0-3 years. Assessing developmental delays or disability and also promoting nutrition, breastfeeding, safe home or safe settings, are interventions that can be delivered through health workers, mother and child interaction. On this, DOH need to develop the modules and guidelines for this integrated and holistic approach to guide LGU implementation.

7.3. Improving operations in different LGU service delivery platforms

There are a number of areas for improvements in implementation. These include identification of the target clients, coordination across delivery platforms, and the role of BNS and BHWs.

Figure 24. Operational issues in delivering the continuum of health and nutrition

Interventions	Delivery Platforms					Operational questions:
	Community	RHU/CHC/BHS	Birthing clinic	District hospital	Provincial hospital	
Family planning						<ul style="list-style-type: none"> • Who are the priority beneficiaries? • Who delivers the interventions? • Who supervises? • Who navigates mothers and children to seek and obtain services? • Who monitors service performance? • Who is overall in-charge for outcome?
Antenatal care (including maternal dietary supplementation and treatment for infection)						
Delivery/EINC						
Postpartum/postnatal care						
Exclusive breastfeeding						
Complementary feeding						
Child micronutrient supplementation						
Child vaccination						
Treatment for diarrhea and infection						
Growth monitoring						

Source: Authors’ compilation

Identifying a cohort of pregnant women to be followed through with continuum of services until child is two years old. An approach to delivering health and nutrition services to prevent stunting is to identify a cohort of pregnant women to be followed through with services until the resulting

child is two years old, similar to the approach used by Quezon Province. Priority may be given to poor women who can readily be identified, such as those who belong to the Conditional Cash Transfer (CCT or 4Ps) Program. Other poor women can also be identified by local monitoring systems such as the Community-Based Monitoring System (CBMS). These women have to be enrolled in the program to ensure compliance in the utilization of services that are made available, and with behaviors required (e.g., exclusive breastfeeding). In addition to monitoring activities and behaviors, the program will determine the final outcome at the end of two years or 1,000 days in terms of the stunting measure.

Delivering health and nutrition services across service delivery platforms managed and operated by different LGUs. A number of questions need to be considered in the implementation of service delivery. These are summarized in Figure 20.

Role of BHW and BNS under Rural Health Midwife. In addition to their traditional role in growth monitoring, these workers, under the supervision of the rural health midwife (RHW), can play an important role in ensuring that the cohort of identified pregnant women are provided with the needed information, counselling and services. They help identify the cohort of pregnant women; help them navigate the service delivery system to access specific services across different platform; help in monitoring receipt of key services (e.g., food supplements, micronutrient supplementation, immunization), and practice of critical behaviors (e.g., exclusive breastfeed for the first six months, timely and adequate complementary feeding after six months); and help mothers keep mother and child record of services.

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Annex

Annex A: List of Resources Persons Consulted

	Resource Person(s)	Designation	Office/Location	Remarks
1)	Dr. Anna Ma. Teresa S. De Guzman, MPH	Provincial Health Officer II	Pangasinan Provincial Health Office (PHO)	May 7, 2018 – Consultative Meeting with Pangasinan PHO
	Dr. Cielo E. Almoite, MPH	Provincial Health Officer I		
	Analiza S. Miranda, RND	Nutritionist-Dietitian I and Nutrition Program Manager		
2)	PPAN 2017-2022 Strategic Directions, MPAN Formulation and Status of Garantisadong Pambata Program presented by Analiza S. Miranda, RND	Nutrition Program Manager	Pangasinan PHO (Event held at El Jardine Restaurant, Pangasinan)	May 23, 2018 – Municipal Nutrition Action Officers 2 nd Regular Meeting
	Status of LGUs 2018 OPT Plus presented by Ligene P. Telin, RND	Administrative Assistant/ Nutritionist-Dietitian		
	BNS Program Evaluation Tool presented by Marina Q. Penoliar, RND	Nutrition Program Coordinator-Pangasinan Provincial Hospital		
3)	Dr. Anna Ma. Teresa S. De Guzman, MPH	Provincial Health Officer II	Pangasinan PHO	July 30, 2018 – Special Nutrition Meeting
	Dr. Cielo E. Almoite, MPH	Provincial Health Officer I		
	Analiza S. Miranda, RND	Nutritionist-Dietitian I and Nutrition Program Manager		
4)	Dr. Grace Santiago (together with 17 staff members of the Q1K Program)	Provincial Health Officer II and Q1K Program Management Officer	Q1K Office (Meeting held at the Conference Room, Governor's Place)	Sept. 17, 2018 – Meeting with Quezon
5)	Dr. Anthony Calibo	OIC Division Chief, Children's Health Development Division	Disease Prevention and Control Bureau (DPCB), Department of Health (DOH)	Sept. 18, 2018 – Meeting with DPCB, DOH
6)	Jocelyn Esguerra-Gomez, MPH	Department Head	Provincial Public Health Office (PPHO)	Oct 2, 2018 – Meeting with PPHO and PSWDO,
	Bonn Buzz Cabantog	Nurse		

	Resource Person(s)	Designation	Office/Location	Remarks
	Jacky A. Calilung	Assistant Department Head	Provincial Social Welfare and Development Office (PSWDO)	Malolos, Bulacan (morning); Nov. 5, 2018 – Meeting with PPHO
	Dr. Betzaida B. Banaag	City Health Officer	City Health Office (CHO), San Jose del Monte, Bulacan	Oct 2, 2018 – Meeting with CHO, San Jose del Monte, Bulacan (afternoon)
	Mary Therese C. Gempis	Nutrition Officer III		
7)	Maria Lourdes A. Vega	Chief	Nutrition Policy and Planning Division (NPPD), National Nutrition Council (NNC)	Oct. 5, 2018 – Meeting with NPPD, NNC
	Jaira Denisse Pedraja	Nutrition Officer II		
8)	Hygeia Ceres Gawe	Chief	Nutrition Surveillance Division (NSD), NNC	Oct. 15, 2018 – Meeting with NSD, NNC
	Daniel G. Salunga, RND	Nutrition Officer II		
9)	Dr. Graciela S. Ramirez, DOCP	Municipal Health Officer	Sual, Pangasinan Rural Health Unit (RHU)	Nov. 6, 2018 – Pangasinan Focused Group Discussion
	Marrrian May G. Bombasi (together with 2 BHWs, 2 BNSs and 1 BSPOs and 1 midwife,)	Designate MNAO		
10)	Dr. Larry B. Sarito, DPCOM	Municipal Health Officer	Mangaldan, Pangasinan Municipal Health Office (MHO)	Nov. 6, 2018 – Pangasinan Focused Group Discussion
	Monette F. Bautista (together with 2 BNSs, 2 BHWs, 2 midwives and 1 nurse)	Nurse/Designate MNAO		
11)	Dr. Romela Remedios Cabanayan	Municipal Health Officer	San Quintin, Pangasinan RHU	Nov. 7, 2018 – Pangasinan Focused Group Discussion
	Emerose B. Lictawa (together with 17 BNSs)	MNAO		