



SPENDING BETTER TO REDUCE STUNTING IN INDONESIA

Findings from a Public Expenditure Review



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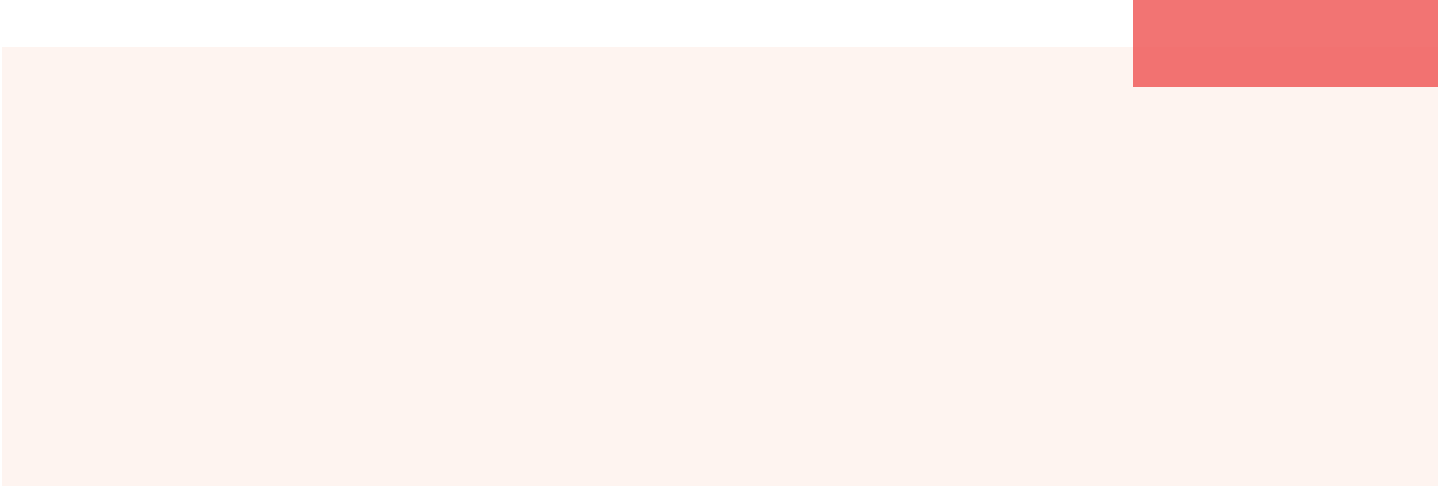


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ABBREVIATIONS

ADD	Village fund from District Budget (<i>Alokasi Dana Desa</i>)	IFA	Ironic Folic Acid
APBD	District Budget	IYCF	Infant Young Child Feeding
APBDesa	Village Budget	Kominfo	Ministry of Communication and Information
APBN	National Budget (<i>Anggaran Pendapatan dan Belanja Negara</i>)	KPK	Corruption Eradication Commission (<i>Komisi Pemberantasan Korupsi</i>)
Bappenas	Ministry of National Development Planning/National Development Planning Agency	KP-SPAM	Drinking Water Management Facility Group (<i>Kelompok Pengelola Sarana Pengelolaan Air Minum</i>)
BKKBN	National Family Planning Coordinating Agency	MoAg	Ministry of Agriculture
BNPT	Non Cash Food Assistance (<i>Bantuan Pangan Non-Tunai</i>)	MoEC	Ministry of Education and Culture
BPJS-K	Social Health Insurance Agency (<i>Badan Penyelenggara Jaminan Sosial Kesehatan</i>)	MoF	Ministry of Finance
BPKP	Indonesia's National Government Internal Auditor (<i>Badan Pengawasan Keuangan dan Pembangunan</i>)	MoH	Ministry of Health
BPOM	National Food and Drug Agency	MoHA	Ministry of Home Affair
DAK	Special Allocation Fund (<i>Dana Alokasi Khusus</i>)	MoPW	Ministry of Public Work
DAU	General Allocation Fund (<i>Dana Alokasi Umum</i>)	MoSA	Ministry of Social Affair
DBH	Grant fund (<i>Dana Bantuan Hibah</i>)	MoT	Ministry of Trade
DD	Village fund from National Budget (<i>Dana Desa</i>)	MoV	Ministry of Village
DINAS PW	Public Work Office	MoWE	Ministry of Women Empowerment
ECED	Early Child Education and Development	PAMSIMAS	The National Rural Water Supply and Sanitation
FMIS	Financial Management Information System	PER	Public Expenditure Review
GDP	Gross Domestic Product	PKH	Conditional Cash Transfer (<i>Program Keluarga Harapan</i>)
Gol	Government of Indonesia	PMD	Community Empowerment & Village
ICMI	Integrated Management of Child Illness	Posyandu	Integrate Health Post (<i>Pos Pelayanan Terpadu</i>)
IDHS	Indonesia Demographic Health Survey	Puskesmas	Community Health Center (<i>Pusat Kesehatan Masyarakat</i>)
		QSDS	Quantitative Service Delivery Survey
		Riskesdas	Basic Health Survey
		Susenas	National Socioeconomic Survey
		TNP2K	The National Team for the Acceleration of Poverty Reduction (<i>Tim Nasional Percepatan Penanggulangan Kemiskinan</i>)
		WASH	Water Sanitation and Hygiene

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EXECUTIVE SUMMARY

While Indonesia has successfully decreased early childhood mortality, its stunting rates are among the highest in the world; this has lifelong consequences for health, human capital, poverty, and equity. In 2019, nearly 8 million children under the age of five (or 27.7 percent) were stunted, higher than most regional and income-level peers. Being stunted in early childhood is associated with reduced cognitive development, lower educational attainment, and decreased adult productivity and wages. This means Indonesia's next generation will only be 53 percent as productive as it could have been with full health and complete education.

Indonesia has committed significant resources to improving nutrition outcomes; yet, inequalities in coverage and gaps in quality raises the question whether Indonesia is spending enough on stunting-related interventions and whether it is using its resources efficiently. Indonesia launched its 2018-2024 National Strategy to Accelerate Stunting Prevention and committed 23 ministries and approximately IDR 51.9 trillion (USD3.9 billion) to converge priority interventions across several sectors: health, water and sanitation, early childhood education, social protection, and food security. Therefore, the main objective of this public expenditure review was to assess the level and allocation of stunting-related expenditures.

Findings suggest that overall government spending on nutrition is adequate; instead outcomes may depend more on improving efficiency in the use of resources. Central government spending on stunting-specific interventions alone amounted to USD8.4 per capita in 2017 suggesting Indonesia should be able to cover a full package of nutrition interventions costed at USD7 per child per year. But systemic challenges hinder improvements in the quality of spending. First, is the lack of reliable data to inform policy. Second, is fragmentation in financing preventing a holistic view of nutrition-related resources and activities across levels of government. Third, is a lack of clarity on the roles and responsibilities in funding and delivering services across central, district, and village governments. Together, these contribute to the disconnect between where most nutrition-related services should be delivered and actual service delivery capacity.

Most of the recommendations to improve stunting in Indonesia are cross-cutting issues that would have a much broader impact on the quality of public spending overall. In particular, i) standardize health information and accounting systems to facilitate aggregation across Indonesia's decentralized service delivery context; ii) invest in integrated information systems that allow the seamless exchange of information across levels of government; iii) incentivize better reporting and accountability processes, including performance-based measures that show a clear results chain logic between resources, activities, and outcomes; iv) harmonize budget timelines and procedures between central and local governments, including reporting on all sources of sector financing to present a comprehensive view of available sector and nutrition-related resources; and v) provide clearer guidance on how central, district, and village governments should share financial and service delivery arrangements to ensure an appropriate enabling service delivery environment.



INTRODUCTION

Investing in human capital is central to Indonesia's 2045 Vision. As the fourth most populous country in the world and the tenth largest economy in terms of purchasing power parity, Indonesia aspires to become one of the top five global economies by 2045. While gross domestic product (GDP) measures national income or economic output, it does not reflect changes in the underlying asset base, for example, depreciation and depletion of natural resources – potentially sending misleading signals about the state of the economy. Instead, wealth measures the present and future value of a country's assets including natural capital, produced capital, and human capital¹, allowing for a better assessment of sustainable growth. Human capital, driven by population growth, educational attainment, and the resulting increases in labor productivity and earnings, has been estimated to account for more than half of national wealth in Indonesia² (Lange, Wodon, & Carey, 2018).

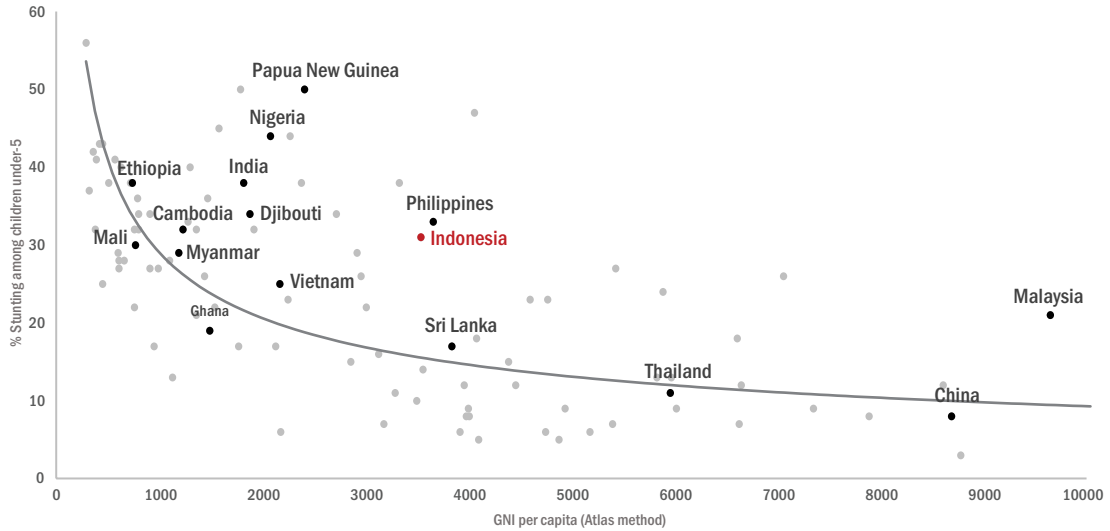
While Indonesia has successfully decreased early childhood mortality, its stunting rates are among the highest in the world; this has lifelong consequences for health, human capital, poverty, and equity. Under-5 mortality has decreased from 97 to 32 per 1,000 live births between 1990 and 2017 with the greatest decrease occurring among rural and poorer households (Government of Indonesia, 2018). In contrast, Indonesia significantly underperforms on stunting. In 2019, nearly 8 million children under the age of five (or 27.7 percent) were stunted, that is, they were short for their age. This is higher than most regional and income-level peers and on par with fragile sub-Saharan African countries like Mali, Ethiopia, and Djibouti (Figure 1). What is worse, not only are poorer children most at risk of stunting, but the gap is widening (Figure 2). Being stunted in early childhood is associated with reduced cognitive development, lower learning and educational attainment, and substantially decreased adult productivity and wages (Shekar et al., 2017a). According to the latest human capital index, Indonesia's next generation will only be 53 percent as productive as it could have been with full health and complete education (World Bank, 2019a).

¹ Human capital is defined as the discounted value of future earnings of a country's labor force.

² In Indonesia, total wealth per capita in US dollars in 2014 was estimated to be USD46,919 with produced capital, natural capital, and human capital accounting for USD15,299, USD9,443, and USD23,701 (50.5 percent) respectively.

Figure 1. Indonesia significantly underperforms on stunting compared to regional and income-level peers

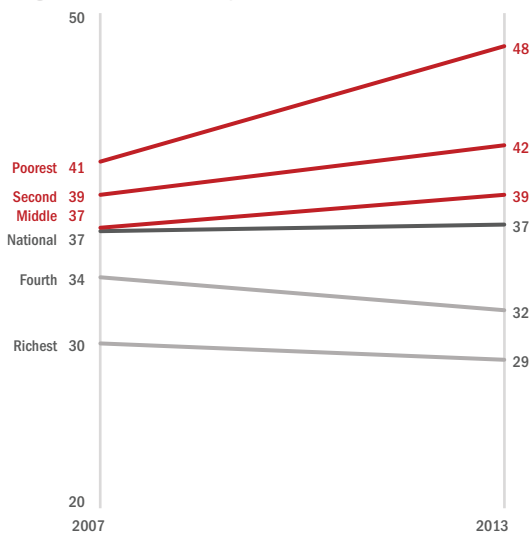
Stunting prevalence (%), latest year available vs GNI per capita (USD) 2017



Source: World Bank (2019) World Development Indicators; Indonesia value from Riskesdas 2018

Figure 2. Poorer children are most at risk of stunting and the gap is widening

Stunting prevalence (%) by income quintile

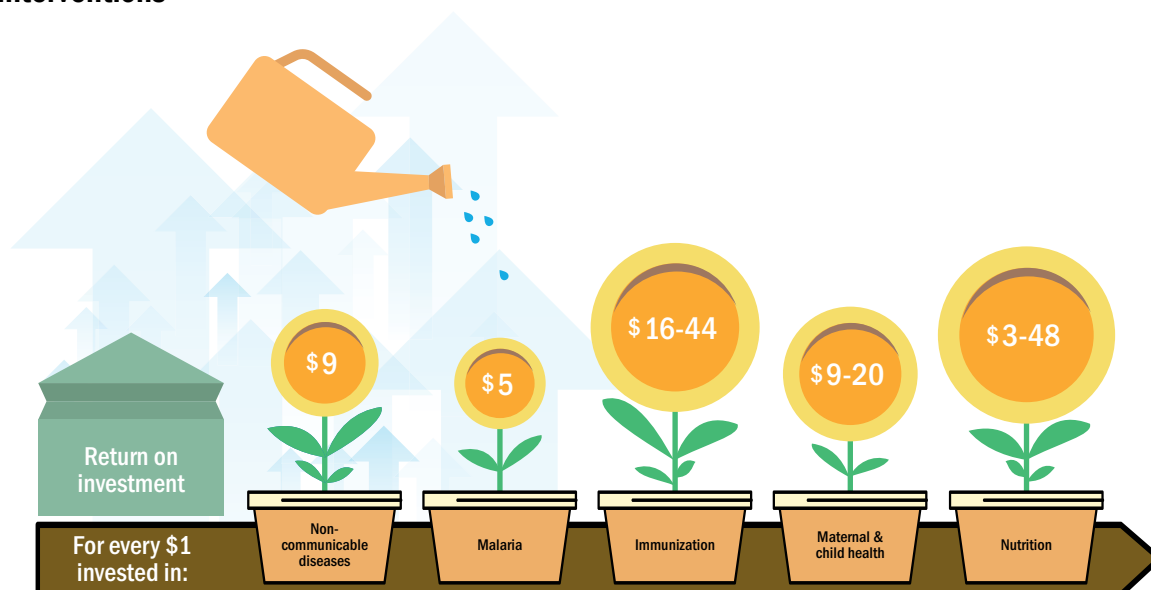


Source: Riskesdas, 2007 and 2013

Fortunately, nutrition interventions are among the most cost-effective investments for human capital. First, they are highly affordable. A priority package of nutrition interventions³ costs just USD2.3 per child per year, while a full package costs USD7 per child per year (Shekar et al., 2017b). Second, the returns on investment are significant. Every dollar invested on nutrition yields up to USD48 in return (Figure 3). Early nutrition programs have been shown to increase school completion by one year, raise adult wages by 5-50 percent, and increase GDP by 4-11 percent in Asia (10.5 percent in Indonesia) (Galasso & Wagstaff, 2018). In addition, children who escape stunting are 33 percent more likely to escape poverty as adults (Shekar, et al., 2017a).

The primary objective of this nutrition public expenditure review (PER) is to assess the level and allocation of expenditures on nutrition interventions related to stunting. Interventions to reduce stunting can be nutrition-specific or nutrition-sensitive. Nutrition-specific interventions address the immediate causes of undernutrition such as adequate food and nutrient intake and health status; they prioritize pregnant women and children under 2 during the first 1,000 days of life. Nutrition-sensitive approaches address the underlying determinants of undernutrition such as food security, social safety nets, women's empowerment, and population access to adequate health, water, and sanitation services.

Figure 3. Investing in nutrition has the highest economic returns among health interventions



Source: Authors' rendering from G.Yamey, N. Beyeler, H. Wadge, D. Jamison, Investing in Health: The Economic Case, Doha, Qatar: World Innovation Summit for Health, 2016.

³ A priority nutrition package includes antenatal micronutrient supplementation; infant and young child nutrition counseling; intermittent presumptive treatment of malaria in pregnancy in malaria-endemic regions; vitamin A supplementation for children; treatment of severe acute malnutrition among children; iron and folic acid (IFA) supplementation for non-pregnant women 15-19 years old in school only; staple food fortification (wheat and maize flour only); pro-breastfeeding social policies; and national breastfeeding promotion campaigns. The full nutrition package adds balanced energy-protein supplementation for pregnant women; prophylactic zinc supplementation for children; public provision of complementary food for children; IFA supplementation for all non-pregnant women; and rice fortification.

While the report looks at the overall spending and allocation patterns of all stunting-related interventions, it predominantly discusses nutrition-specific interventions as most are long-standing, highly cost-effective interventions. They are also generally conducted within the health sector and are relatively easier to measure, attribute, and target actionable recommendations. In contrast, nutrition-sensitive interventions are trickier to assess as they address multiple objectives such as food security, income generation and women's empowerment. There is also a separate public expenditure review assessing the effectiveness of water and sanitation spending; this report draws in limited findings where relevant (World Bank, 2015).

The report is organized into five sections. Section II describes the service delivery environment for nutrition in Indonesia, including the Government of Indonesia's (GOI's) nutrition strategy, nutrition delivery platforms, access to nutrition-related services, and the main sources of nutrition-related financing. Section III describes the sources of data and methodology used to identify nutrition-related expenditures. Section IV presents findings from the central and subnational analysis. Section V summarizes key messages and discusses a set of recommendations to help improve the quality of nutrition-related spending.



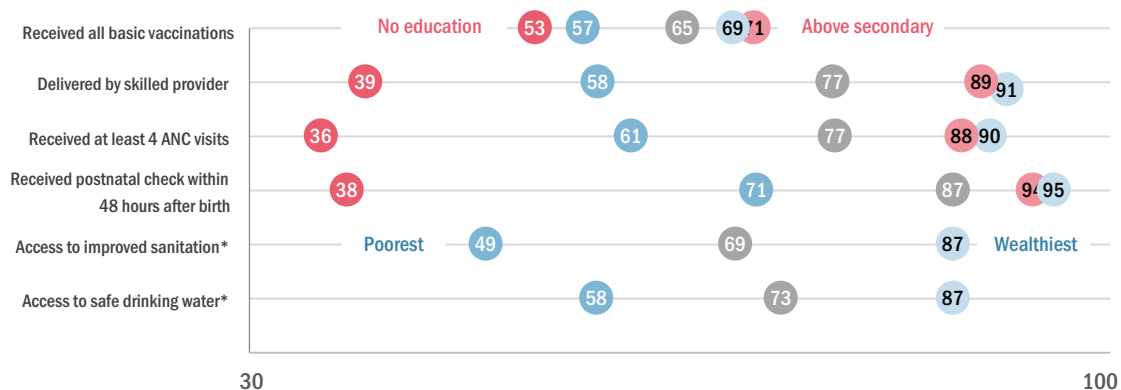
SERVICE DELIVERY

In a renewed effort to improve nutrition outcomes, Indonesia launched its 2018-2024 National Strategy to Accelerate Stunting Prevention (StraNas Stunting) in August 2017. Recognizing that tackling stunting requires a complex and multisectoral effort that spans all levels of government, the strategy aims to ensure better coordination and resource allocation across national, regional, and local government.⁴ The StraNas Stunting commits 23 ministries and approximately IDR51.9 trillion (USD3.9 billion) to converge priority nutrition-specific and nutrition-sensitive interventions for pregnant women and children under 2. It consists of five pillars: Pillar 1 - national leadership and commitment; Pillar 2 - national public awareness campaign; Pillar 3 - national, regional and community program convergence; Pillar 4 - nutritional food security; and Pillar 5 - monitoring and evaluation (TNP2K, 2018). Table 1 summarizes the StraNas Stunting's priority interventions and the key implementing agencies responsible for their delivery.

While overall access to the nutrition interventions prioritized in the StraNas Stunting has improved in the last decade, national averages mask wide variation by socioeconomic status. For example, access to water among households with children aged 0-2 years has increased from 58 percent in 2008 to 74 percent in 2016, access to sanitation from 57 percent to 68 percent, and enrollment in Indonesia's National Health Insurance scheme (JKN), from 20 percent to 40 percent. Almost all women receive at least one antenatal care visit and 77 percent receive at least four. However, women with no education and those in the poorest households are 2.4 and 1.5 times less likely to receive all four visits compared with more educated and richer households. Similar disparities exist for other priority nutrition services, including delivery by skilled provider, postnatal care in the first 48 hours, full basic vaccination as well as access to safe water and improved sanitation (see Figure 4).

Figure 4. National averages on access to key services mask wide variation by socioeconomic status

Access to services (%) by **mother's education** and **income (top and bottom quintiles)**



Source: IDHS 2017, *Susenas, 2017

⁴ The National Strategy draws on growing evidence that a “convergence” approach—the coordination of multisectoral interventions to jointly target priority geographic areas and beneficiaries—is critical to accelerating improvements in health and child development outcomes and can help address stunting (Levinson and Balarajan, 2013).

Table 1. StraNas Stunting Priority Interventions and their Delivery

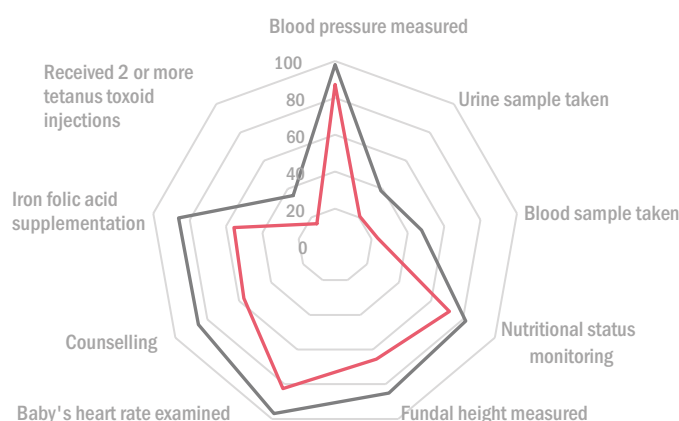
Target Group /Sector	Priority Intervention	Implementing Agencies /Delivery Units
Nutrition-specific interventions		
Pregnant Mothers	Supplementary feeding for chronic energy-deficient women	<ul style="list-style-type: none"> ● MoH ● DINAS Health (Provincial and District) ● Puskesmas (subdistricts) ● Posyandu (villages)
	Iron Folic Acid (IFA) supplementation	
	Exclusive breastfeeding counseling	
	Calcium supplementation (supporting intervention)	
	Prenatal health checks (supporting intervention)	
Breastfeeding mothers and children under 2 years old	Infant Young Child Feeding (IYCF) counseling	<ul style="list-style-type: none"> ● MoH ● DINAS Health (Provincial and District) ● Puskesmas (subdistricts) ● Posyandu (villages)
	Integrated management of chronic malnutrition	
	Growth monitoring and promotion	
	Vitamin A supplementation (supporting intervention)	
	Micronutrient supplementation (supporting intervention)	
	Complete immunization (supporting intervention)	
	Zinc supplementation (supporting intervention)	
Integrated Management of Child Illness (ICMI) (supporting)		
Nutrition-sensitive interventions		
Water and Sanitation	Access to clean water and drinking water	<ul style="list-style-type: none"> ● MoPW, MoH, MoHA and MoV ● DINAS PW, Health and PMD ● Puskesmas (subdistricts) ● KP-SPAM etc. (villages)
	Access to improved sanitation facilities	
Social insurance and assistance	Access to health insurance (JKN)	BPJS and MoH
	Access to family planning services	MoH and BKKBN
	Access to conditional cash transfers	MoSA
Awareness, behavior change, parenting and caring practices	Nutrition and health awareness raising	MoH and Kominfo
	Provision of interpersonal behavior change counseling	MoH
	Provision of parenting counseling	MoEC, MoH and BKKBN
	Provision of early childhood education (PAUD), early child stimulation and child development monitoring	MoEC and MoV
	Provision of adolescent reproductive health counseling	MoH and BKKBN
	Women's empowerment and child protection	MoWE and CP
Food and Agriculture	Provision of food assistance for poor and near poor households (BPNT/Sembako)	MoSA
	Nutritious food security programs	MoAg
	Access to fortified staple foods	MoH, MoT and BPOM
	Access to nutritional food product information	BPOM
Intervention convergence		
Enabling agencies	National leadership and coordination	Setwapres
	Convergence performance planning and budgeting	Bappenas and MoF
	Provincial Technical Assistance Pools	MoHA (Bangda)
	District convergence planning and budgeting	Bappeda
	Village convergence, community empowerment and social accountability	<ul style="list-style-type: none"> ● MoV ● DINAS PMD (provincial and district)

Note: MoH=Ministry of Health; Puskesmas=Community Health Center; Posyandu=Integrated Health Post; MoPW=Ministry of Public Work; MoHA=Ministry of Home Affairs; MoV=Ministry of Village; DINAS PW=Public Work Office; PMD=Village Community Empowerment; KP-SPAM=Drinking Water Management Facility Group; BPJS=Social Health Insurance Agency; BKKBN=National Family Planning Coordinating Agency; MoSA=Ministry of Social Affairs; Kominfo=Ministry of Communication and Information; MoEC=Ministry of Education and Culture; MoWE=Ministry of Women Empowerment; MoAg=Ministry of Agriculture; MoT=Ministry of Trade; MoF=Ministry of Finance; BPOM=National Food and Drug Agency; Setwapres=Vice President Secretariat; Bappenas=Ministry of National Development Planning/National Development Planning Agency

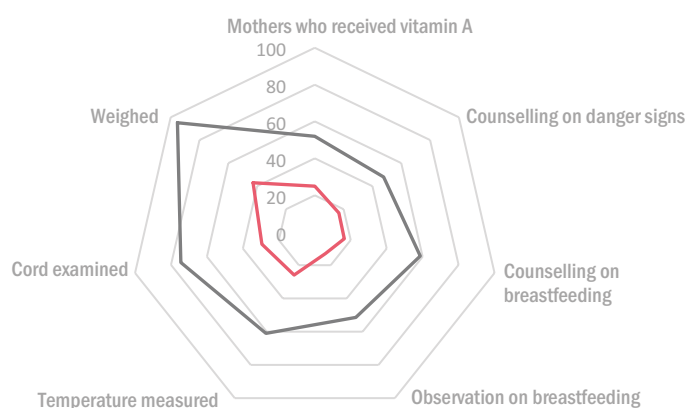
The proportion of pregnant women and children with simultaneous access to several stunting-related interventions is also low. There is growing evidence that a “convergence” approach—in which multisectoral interventions are coordinated to jointly target priority geographic areas and beneficiaries—is critical to accelerating improvements in stunting (Levinson & Y. Balarajan, 2013) (Gillespie, Hodge, Yosef, & Rajul Pandya-Lorch, 2016) (L. Huicho, et al., 2016) (L. Huicho, et al., 2017). These findings were confirmed by a study in Indonesia that found that the likelihood of children between 0 and 36 months being stunted is lower when children have simultaneous access to services, highlighting the interdependencies of sector-specific interventions. It also found that in 2013, less than 1 percent of children under 3 had concurrent access to all essential health services, improved water and sanitation, food security, and good childcare and feeding practices validating the importance of a coordinated multisectoral approach (MOH-World Bank, 2017). The spider graphs in Figure 5 illustrate the lack of simultaneous access to antenatal and postnatal services for pregnant women and children under 2 respectively.

Figure 5. Mothers and newborns do not receive all intended interventions during visits, especially among women with no education

A. Antenatal care received by pregnant mothers (%), 2017



B. Postnatal care received by newborns (%), 2017

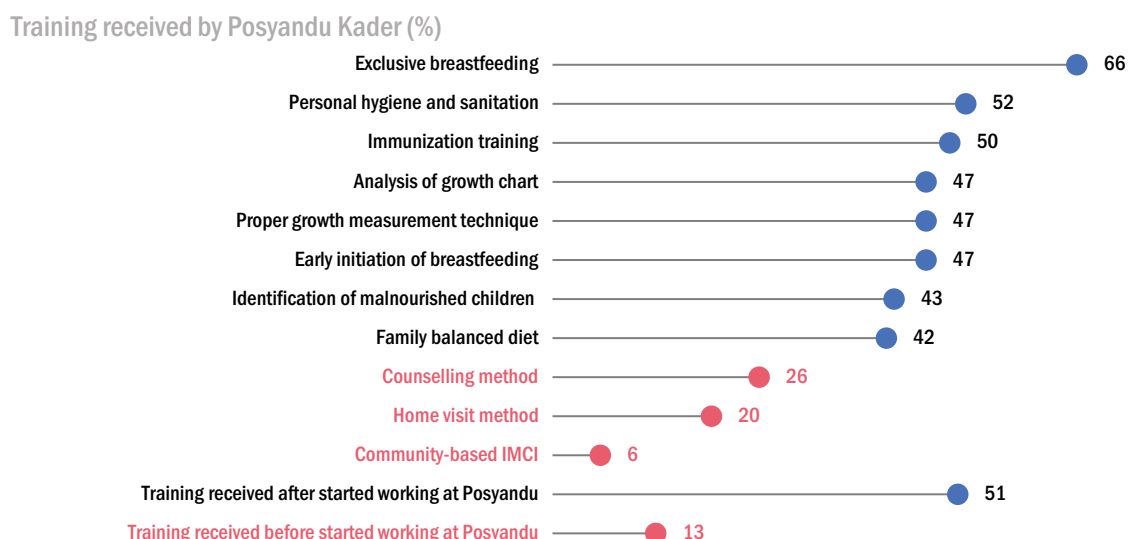


Source: IDHS, 2017.

The quality of care also remains a challenge. A 2016 survey of frontline providers showed that while more than 85 percent of *posyandus* had activities every month, they remained limited in what services they could effectively deliver (Vikram Sundara Rajan, Anchita Patil, Eko Setyo Pambudi, & Junedi, 2018). For example, while most had hanging scales for older children only 59 percent had infant scales, only half of which were properly calibrated. Length boards for babies and measurement tapes for older children were available at 30 percent and 67 percent of *posyandus*, respectively. While the *posyandu* cadre are meant to support community health, only 35 percent of the cadre reported doing any home visits and, when they did, they struggled to effectively convey their health messages. This is often linked to a lack of training and support from the *puskesmas*. Only one in ten of the cadre receive any training before becoming a volunteer with the *posyandu* (Figure 6) and at the *puskesmas* there are few staff trained in nutrition who can supervise *posyandu* cadres and frontline service delivery.

Stunting services are primarily delivered to beneficiaries at the subnational (district and village) level. The primary responsibility for the delivery of most nutrition interventions lies with Indonesia's mayors and its 514 districts and cities⁵ – each with a population ranging from 200,000 to over one million. In health, district hospitals provide basic inpatient and outpatient services. At the sub-district level, primary health centers or *puskesmas* – the backbone of the country's public health system – offer preventive and promotive services and basic primary health care. They are generally staffed with a general practitioner, nurses/midwives, and a nutritionist. At the village level, village health posts (*poskesdes*) and village delivery posts (*polindes*), often the home of the village midwife, act as *puskesmas* satellites bringing maternal and child health related services closer to the community. Finally, community-based health care events aimed at strengthening maternal and child health are organized once a month at integrated health service posts (*posyandu*).⁶ *Posyandus* are administered by voluntary community health workers (*kadres*).

Figure 6. Cadres receive limited training prior to starting service, especially on counselling methods, home visits, and community-based care



Source: IDHS, 2017.

⁵ Indonesia's administrative structure includes: 34 provinces (provinsi), 514 districts (kabupaten/kota), 6,543 subdistricts (kecamatan/distrik/kepanewon/kemantren), and 75,244 villages (kelurahan/desa).

⁶ In 2019, there were an estimated 9,900 *puskesmas* that served a catchment area of 25,000-30,000 individuals, 23,000 auxiliary health posts, and 290,000 *posyandus*. Most villages have between one to five *posyandus*.

In education, village playgroups, kindergartens, and early childhood education centers (PAUD) provide early learning and childhood development services. Finally, while water and sanitation systems can be built by several levels of government, they are operated and maintained by village water and sanitation organizations (KP-SPAM) (Box 1).

Box 1.

What it Takes to Deliver Services at the Frontline

Immunization and growth monitoring and promotion (GMP): While most immunizations and GMP services are delivered at the village level, they rely on inputs from all levels. The *posyandus* are usually run by community volunteers, who contribute a significant portion of their time to organize and manage *posyandu* events (usually once a month). The *posyandu* is usually held in a dedicated building, constructed from village funds or other community grants. The village budget also allocates modest stipends to the *posyandu* cadres, covers the operational costs of the *posyandu*, and often also helps midwives to defray their transportation costs. The *posyandu* may also receive equipment, such as scales for weighing babies and an anthropometric kit for measuring the height of children. Equipment is usually provided by the village using *Dana Desa* funds or by district government using district funds. The *posyandu* cadre training can be paid for by the village, but the training itself must be provided by the district health office. The *puskesmas* will assign one midwife to each *posyandu* as well as a nurse responsible for giving immunizations. The salaries of the nurses are paid by the district, usually from DAU. The operational costs of the *puskesmas* usually depend on one of the DAKs, which can also cover transport costs and other outreach costs. The vaccines that the nurses bring to the *posyandu* are procured by the central government, however, the district is responsible for its local cold chain. The central government also provides oversight and capacity building for the district trainers.

Water and sanitation services: In most rural villages water services are delivered through community water user associations (KP-SPAM). However, the water source must first be identified and the facilities built. If a village needs drinking water and is unable to secure funding from supra-village sources (or unwilling to contribute the 20 percent required by the main WASH program, PAMSIMAS), it can undertake the construction of small-scale water facilities using the village budget (*Dana Desa* and *Alokasi Dana Desa*). However, it will be responsible for ensuring the capacity to design a water system. For design and implementation assistance, it relies on a village technical facilitator (hired through Dinas Village Community Empowerment (PMD), who often oversees more than 200 village projects, and who is not provided with any standard technical drawings to facilitate the process. There is also no mechanism by which the village can seek support from the public works department, even for more complicated projects. Once built, if the village is interested in testing the quality of the water, it must request the service from the health department. Law 17/2019 on Water Resources tasks village governments with the creation of village water management committees and prioritizes village water enterprises to receive permits to manage local water resources as businesses. However, if a water-network is not handed over to a community user group directly, it cannot be designated as a village asset. If a particular infrastructure is not a village asset, it means village funds cannot be used for its maintenance. This encourages water user fees for day-to-day management but can prove debilitating if a larger problem occurs that is beyond the financial reach of citizens.

However, all levels of government have a role to play. The authorities and financing arrangements of central, province, district and village governments for the provision of basic service delivery are specified in the government's core local governance and financing laws – Local Governance Law (No. 23/2014) for central, province, and district levels⁷ and the Village Law (6/2014) on Village Authorities.⁸ In particular:

- 1. At the central level,** ministries are mainly responsible for policy and regulation, technical assistance and capacity building, investment support for large infrastructure projects, and performance monitoring. The Ministry of Health also provides basic inputs such as anthropometric tools, iron folic acid, vitamin A, vaccines, and food supplements to District Health Offices (DHOs). Enabling agencies, such as the Ministry of National Development Planning/National Development Planning Agency (Bappenas), Ministry of Finance, Ministry of Home Affairs, Ministry of Villages and Central Statistics (BPS), also play an important role in working across sectors on planning, budgeting, performance, oversight, community empowerment and evaluation. The sector and enabling agencies also issue regulations and guidelines on Special Allocation Grants (*Dana Alokasi Khusus* (DAK)).
- 2. At the district level,** local governments are responsible for service delivery—for instance, providing health services, ensuring water supply, and developing sewerage, wastewater, and septage management services – and their budgets are mainly used for operational inputs, particularly salaries of civil servants and contract workers delivering services or engaged in outreach, for example, *puskesmas* health workers. Financing at the district level (APBD) is almost entirely dependent on fiscal transfers from the central government (APBN). These include revenue sharing (*Dana Bagi Hasil/DBH*) and general allocation grant (*Dana Alokasi Umum/DAU*), but also multiple sector and subsector transfers. DBH and DAU are unconditional transfers and are mostly used to pay civil servant salaries. Instead, *Dana Alokasi Khusus* (DAK) transfers are earmarked for specific sectors. In particular, health sector DAK-*nonfisik* funds are meant to cover the cost of transportation and outreach of *puskesmas* staff to *posyandus*, especially to provide village midwives with technical support and supervision. Districts are also required to pass on 10 percent of DAU and DBH to villages (*Alokasi Dana Desa*).⁹ Today fiscal transfers to subnational governments amount to over half of the public expenditures in the country (World Bank, 2017).
- 3. At the village level,** there are significant financial resources that can be used to support frontline delivery of priority nutrition services. The two main fiscal transfers are *Dana Desa*, which is provided by the central government, and *Alokasi Dana Desa*, which as mentioned above is provided by district governments. The Village Law and its subsidiary regulations include procedures for specifying village authorities as well as aligning village spending with district, provincial and national priorities.¹⁰ For example, in education, while villages can build and staff ECED centers, pay stipends, and cover some training costs, professional development trainers and supervision and materials are provided by districts. Since 2018, the MoV's annual ministerial regulation on *Dana Desa* priorities has emphasized stunting prevention, including the operational costs of village health posts and ECED services, incentives for village health workers and ECED educators, construction of village drinking water networks, wells and latrines.¹¹ In addition, some districts stipulate that villages allocate at least 20 percent of their budget for stunting prevention activities.

⁷ Decentralization fundamentally changed authorities/functions of different levels of government to provide many basic services. Laws No. 22/1999 and No. 25/1999 on Governance and Fiscal Balance transferred service delivery functions (for example, basic health care, primary and middle school education, and local water and sanitation) from the central government to districts and municipalities.

⁸ The Ministry of Home Affairs Regulation No. 44 of 2016 on Village Authorities increased the autonomy, responsibilities, and funding of Indonesia's 75,000 villages, but also did not fully clarify village functions empowering districts to clarify village authorities based on local practice, needs and capacity.

⁹ These transfers are meant to be sourced from 10 percent of district revenue minus the earmarked grants from central government (DAK).

¹⁰ See, for example, Permendagri 22/2016 on Village Authorities, Art 8; and Permendagri No. 20/2018 on Village Public Financial Management.

¹¹ See, for example, Permentdes No 11 of 2019 on Village Fund Priorities. This regulation was revised to prioritize programs and activities designed to mitigate the health and economic impacts of COVID-19 in March 2020.

4. Finally, spanning all administrative levels, the national health insurance agency (BPJS-K) reimburses providers for service delivery. For example, village midwives receive payment on a fee-for-service basis from Indonesia's National Health Insurance scheme (JKN).¹² For midwives under *puskesmas* with financial autonomy (BLUD), BPJS-K transfers funds to *puskesmas* who then pay out funds to midwives. For midwives under non-BLUD *puskesmas* (the majority), BPJS-K transfers funds to district health offices that then pay midwives. The mechanism varies from district to district as it is based on local regulation and there are anecdotal accounts that village midwives often do not receive funds. For private midwives, BPJS-K transfers funds directly to private midwives' bank accounts. In addition, the central government delivers multiple social assistance programs, including the BPNT/*Sembako* food assistance program and the PKH cash transfer program to the poor in collaboration with subnational governments (Figure 7).

Inequalities in coverage and gaps in the quality of care raise the question whether Indonesia is spending enough on stunting-related interventions and whether it is using those resources efficiently. The complexity in service delivery and fragmentation in financing, the coordination and convergence issues that they generate, and how those in turn generate or interact with existing inequalities raises questions about whether enough is being spent to address stunting as well as whether it is being allocated to areas of greatest impact. The primary motivation for carrying out a nutrition PER was to better understand and assess:

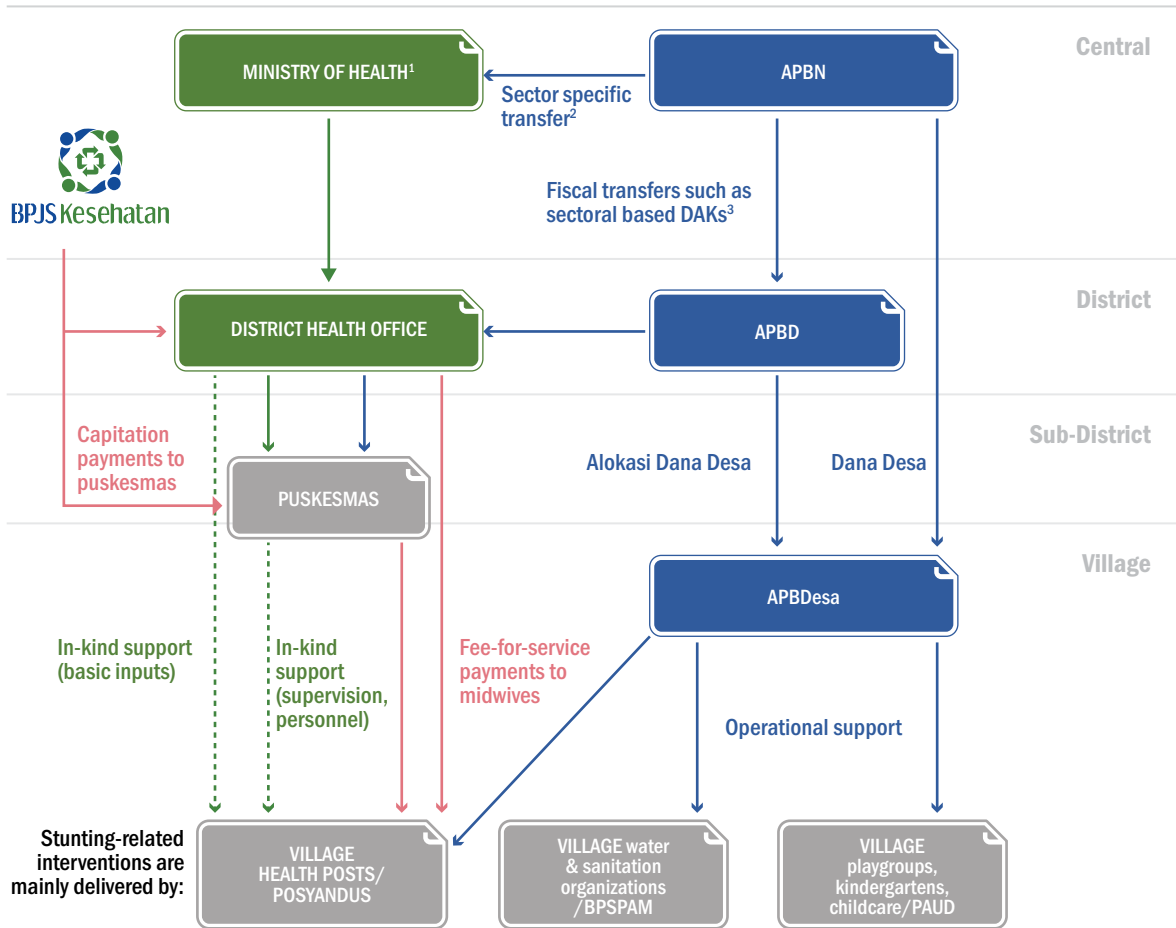
- the level of current public spending on stunting-related programs;
- the allocation of spending across levels of government and interventions; and
- their overall effectiveness.

The following section introduces the main sources of stunting-related expenditure data and the methodology used to identify and track stunting-related spending.

¹² Midwives receive IDR50,000 per antenatal care visit, IDR700,000 per normal vaginal delivery, and IDR25,000 per postnatal care visit through JKN.

Figure 7. Stunting-related services at the village level are mainly financed by village funds, JKN, and in-kind MOH support.

Funds flow schematic highlighting health flows in particular.



Notes: JKN=national health insurance; BPJS-Kesehatan=national health insurance agency; APBN=state budget; APBD=district budget; APBDesa=village budget.

¹ Nutrition-related MOH resources are fragmented across several Directorates by program, disease, and level of service delivery (e.g. Directorates of Family Health, Environmental Health, Public Nutrition, Health Promotion and Community Empowerment, Prevention/Control of Infectious Disease, Prevention/Control of Vector and Zoonotic Disease, Prevention/Control of Non-Communicable Disease, Management of Public Medicine and Health Supplies, Primary Health Services, Referral Health Services).

² For simplicity only flows through the Ministry of Health are shown but resources also flow from the State budget to other relevant Ministries such as Social Affairs, Education, Public Works and Housing.

³ Nutrition-related DAKs are also fragmented across sectors (1:1 across health, water and sanitation, education). Other transfers include Dana Bagi Hasil (DBH), Dana Alokasi Umum (DAU), and central grants – mostly used for funding salaries.

METHODOLOGY

Assessing stunting-related spending is a difficult undertaking. First, related activities are scattered across several ministries and agencies, namely, the Ministries of Health; Social Affairs; Education; Agriculture; Public Works and Housing; Fisheries; the Family Planning and Food and Drug Agencies; and the National Health Insurance Agency. Second, expenditure data at the subnational level (district and village), where services are delivered, is difficult to collect. Reporting protocols, budget formats, and information systems are not standardized across all of Indonesia's districts and villages or time periods. This not only makes aggregation at the central level a monumental undertaking, it limits the generalizability of findings. Third, at the time of the analysis, there was no dedicated marker (cost center or other) to be able to identify stunting-related expenditures. Therefore, it was necessary to manually tag budget and expenditure lines at the level of outputs.

The methodology used to identify stunting-specific and stunting-sensitive expenditures at the central and subnational levels are also different. Table 2 summarizes the sources of data.

- 1. At the national level,** realization data from the Ministry of Finance (MoF) was not detailed enough to identify stunting-specific activities. Therefore, the more detailed annual work plans and budget documents from the Ministry of Health (MoH) were used to allocate MoF spending across stunting-specific activities. The key assumption being that spending occurred as outlined in the planned MoH budget. However, realization data from the MoF was adequate to identify stunting-sensitive interventions. But, because stunting-sensitive interventions also serve many other functions, not all expenditure should be attributed to nutrition. To mitigate the risk of overestimating stunting-sensitive expenditures, weights were applied to specific line items as outlined in Annex 1.
- 2. At the district level,** realization data from the MoF was provided for 38 districts but no budget or annual work plan data. Districts were chosen half from high (Nusa Tenggara, Maluku, Papua) and half from low (Sumatera, Java) stunting prevalence areas; their main socioeconomic characteristics are summarized in Annex 2. Stunting-related activities were identified from realization data using keyword searches for stunting-specific and stunting-sensitive activities at the output level.
- 3. At the village level,** no new data was collected. Instead, findings from a previous village public expenditure report (ViPER) were brought in to assess the level of spending on health, education, and water and sanitation. As this data was originally collected for other research purposes, it does not explicitly identify stunting-related spending. It is also based on available village budgets, not budget realization reports. However, based on a review of village budgets and select realization documents, it was concluded that the budgets aligned closely with spending reports and were thus an appropriate proxy for deriving village expenditure information (World Bank, 2016).

In addition, a deep-dive assessment of six districts¹³ complemented the analysis; its main objective being a better understanding of the implementation of nutrition interventions. Realization and budget data were provided, and interviews and focus group discussions conducted with stakeholders at central, province, city and village levels, including implementers at *puskesmas* and *posyandus*, and target beneficiaries. Its main contribution was to allow for a better understanding of the challenges faced from planning and budgeting, to implementation, monitoring, and evaluation.

TABLE 2. Summary of Sources of Data

Level of analysis	Sources
Central	Audited realized expenditures for 2015-2017 and 2018 budget data (APBN) from Ministry of Finance; budget work plan documents for 2015-2018 from Ministry of Health.
District	Realized expenditure data for 2015-17 for 38 districts from MoF.
Districts deep-dive	Regional government budget (APBD) and budget implementation documents (DPA) covering budgeted and realized expenditure from 2015-2017 for six districts; key informant interviews and focus group discussions in six districts.
Village	Village public expenditure report based on 2016 budget data from 1,868 villages. <i>Siskeudes</i> (<i>Sistem Keuangan Desa</i> or Village financial system) – forthcoming village analysis.



¹³ The six districts were Klungkung, Surakarta, and Belitung (low stunting prevalence); and Brebes, Lampung Tengah, and Sumba Tengah (high stunting prevalence).

FINDINGS

Despite Indonesia's subnational governments bearing most of the responsibility for delivering services, when it comes to stunting-related expenditures, central government spending dominates. The central government spends 2.2 times more on stunting than districts – IDR15 trillion (USD1.1 billion) versus IDR6.8 trillion (USD506 million)¹⁴ in 2017 constant. While it is not possible to identify stunting-related expenditures at the village level, in 2016, village level spending on health, education, and housing and sanitation amounted to an additional IDR2.5 trillion, IDR1.9 trillion, and IDR4.1 trillion respectively. These are gross overestimates of stunting-related expenditures at the village level, especially as further detailed below, much of this spending was on village government administration and development. Overall, stunting expenditure accounted for 2.3 percent of general government expenditure and 1.1 percent of total district expenditure. Total health, education, and housing and sanitation spending made up 3.2 percent, 2.4 percent, and 5.2 percent of total village expenditure.

A. Central Expenditure

At the central level, stunting spending has remained relatively stable over the past few years; however, growth in stunting-specific expenditures outpaced stunting-sensitive spending. Between 2015 and 2018, total stunting expenditure remained relatively stable, slightly decreasing by 2.5 percent from IDR16.5 trillion (USD1.2 billion) to IDR15.3 trillion (USD960 million) and averaging 0.2 percent of GDP and 2.4 percent of general government expenditure (Figure 8). However, per capita stunting-specific spending increased by 38.8 percent from IDR72,142 (USD5.39) in 2015 to IDR164,267 (USD12.26) in 2018. This was led by increased spending on deworming, supplementary feeding of iron folic acid, antenatal care, immunization, and growth monitoring activities. Instead, per capita stunting-sensitive spending fell 6.2 percent during the same period from IDR78,563 (USD5.9) to IDR69,053 (USD5.2). Despite increased spending in the government's conditional cash transfer and non-cash food assistance programs, stunting-sensitive expenditures were offset by decreases in youth and sexual reproductive counseling, community education on nutrition, and family planning (Annex 3).

Nutrition-sensitive interventions make up the bulk of nutrition-related expenditures. Between 2015 and 2018, an average of 92 percent of all stunting-related activities were captured by three sectors: social protection (45 percent); water and sanitation (35 percent); and health (12 percent). Nutrition-sensitive interventions accounted for 90 percent of total nutrition expenditures, of which the largest shares went to a food assistance program¹⁵ enabling families to purchase subsidized eggs and rice, a conditional cash transfer program¹⁶, and interventions to facilitate access to water and sanitation. Nutrition-specific spending accounted for just 10 percent of total nutrition spending, mostly for immunization supplementary feeding programs and malaria (Figure 9).

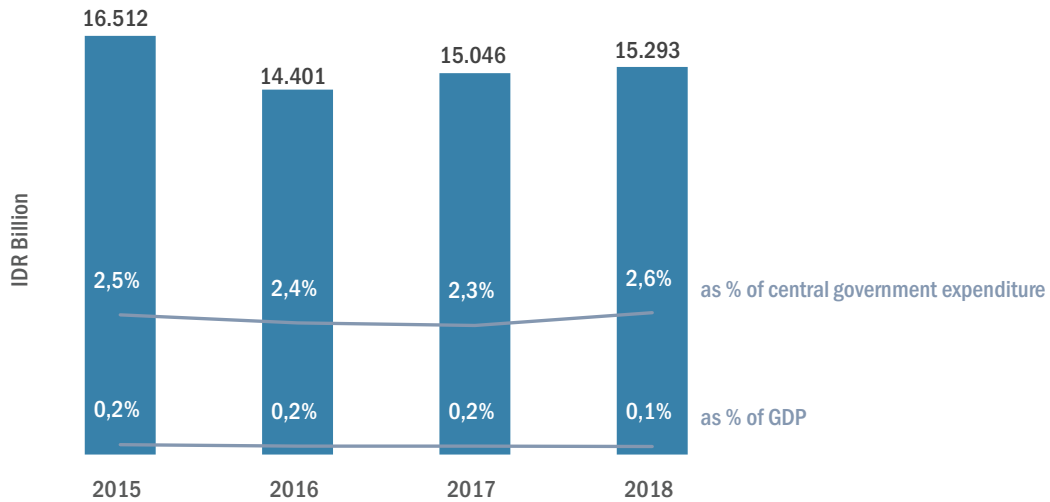
¹⁴ The average total stunting-related expenditure across 38 districts is used to come up with a national estimate of total district stunting-related expenditures.

¹⁵ Beras Sejahtera/Bantuan Pangan Non Tunai (Rastra/BPNT)

¹⁶ Program Keluarga Harapan (PKH)

Figure 8. Stunting expenditures remained relatively stable between 2015-2018

Total stunting spending, in constant 2010

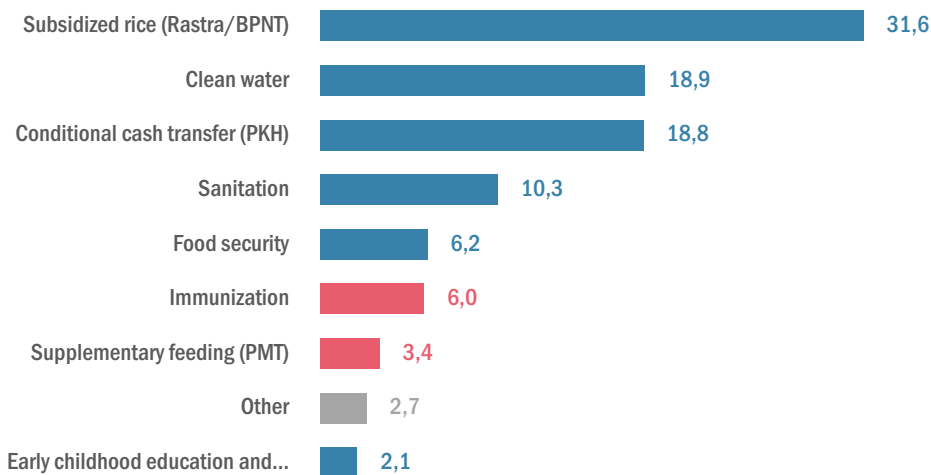


Source : COFIS, 2018; 2018 based on APBN data

Note: 2018 is budget data

Figure 9. Stunting-sensitive interventions dominate total stunting spending while immunization and supplementary feeding make up the bulk of stunting-specific expenditures

Share of stunting spending by intervention (%), 2017



Source: MOF, 2018; MOH, 2018

Budget execution¹⁷ of stunting-specific interventions was consistently poor from year to year.

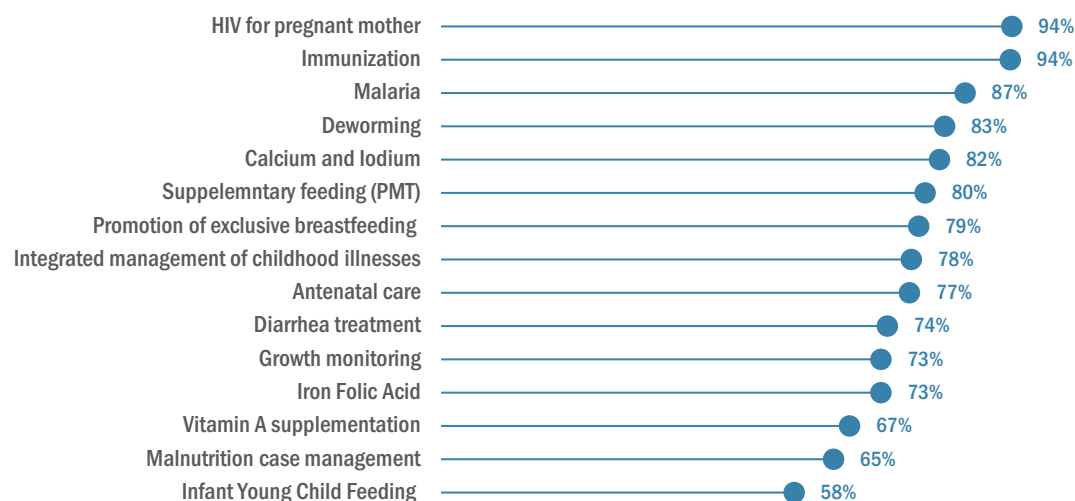
Actual spending was lower than planned for all stunting-specific interventions by an average of 22 percentage points highlighting weaknesses in the budgeting process (Figure 10). While it is unclear why certain interventions have higher execution rates than others, the lack of reliable data at the subnational level means that central level estimates on target populations are used in planning for centrally procured items such as vaccines, vitamin A, iron folic acid, and food supplementation (PMT). These estimates often exceed actual need making it difficult for implementers to fully use up stock. In addition, central ministries have limited control over service delivery. For example, while the MOH has the responsibility for procuring items, it is ultimately the responsibility of local governments to identify the appropriate target populations and deliver care.

The quality of central government spending on stunting can be improved by increasing the target efficiency of interventions.

In 2018, nearly IDR930 billion was spent on supplementary foods¹⁸ – the second-highest share of stunting-specific expenditure. The MoH procures the program's goods and distributes them to frontline primary-care providers (that is, *puskesmas*) via the District Health Office warehouse. The program targets undernourished (weight/height) children aged 6-59 months, underweight primary school children, and pregnant women at risk of chronic energy deficiency.¹⁹ However, the 2018 National Basic Health Survey (*Riskesmas*) showed that the supplementary feeding was not well targeted, as only 10 percent of the program beneficiaries were malnourished children and 41 percent of beneficiaries were normal children. The study also found that only about 25 percent of pregnant women at risk of energy deficiency received supplementary food.

Figure 10. Low absorptive capacity for stunting-specific interventions suggest a disconnect between planning, budgeting, and capacity to deliver services

Budget execution rates by intervention (%), 3-year average (2015-2017)



Source: MOF, 2015-2017.

¹⁷ Budget execution is the percentage of the approved budget for nutrition-sensitive interventions in a given fiscal year that was actually executed. In the public financial management world this is referred to as budget reliability and measured by aggregate expenditure outturn.

¹⁸ There is an ongoing debate about investing in food supplementation versus other more cost-effective interventions.

¹⁹ Chronic Energy Deficiency showed by upper arm circumference (LLL) measurement smaller than 23.5 cm.

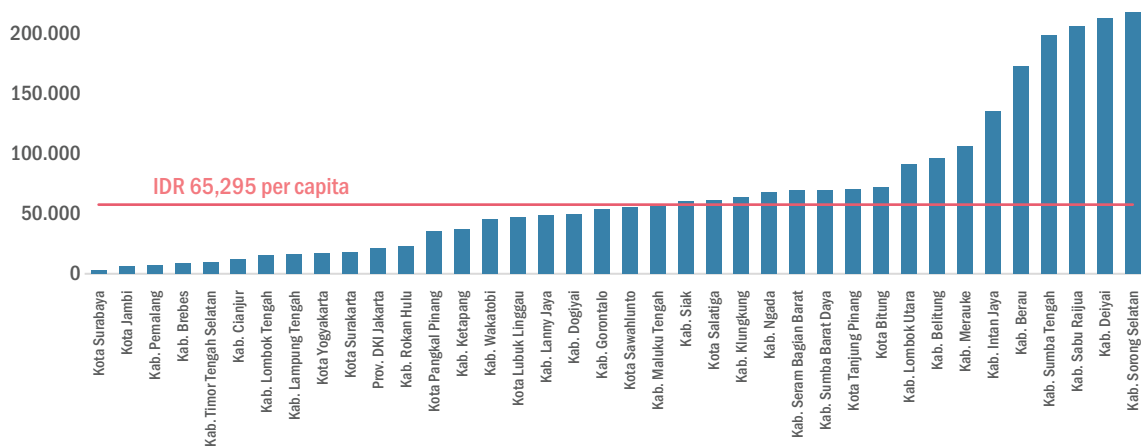
B. Subnational Expenditure

At the district level, stunting-related services are less prioritized than at the central level. In 2017, district governments spent half of what the central government spent on stunting-related services. This is likely a reflection of central government providing the bulk of necessary inputs in kind (for example, anthropometric tools, iron folic acid, vitamin A, vaccines, food supplements) although districts also carry out top-up procurements if necessary. Total stunting spending for 2017 averaged IDR13 billion (USD985,000) across 38 districts. Nevertheless, wide variation ranging from IDR2,733 (USD0.2) per capita in Kota Surabaya to IDR216,868 (USD16.2) per capita in Kab. Sorong Selatan highlight the need to interpret findings with caution (Figure 11). Unfortunately, it was not possible to disentangle stunting-related expenditures at the district level by source of fund.

Still, stunting spending from the subnational government is likely to contribute at least an additional USD4 to 4.5 per capita to overall nutrition spending. In 2017, stunting-sensitive spending across 38 districts averaged IDR55,510 (USD4.14) per capita. Unfortunately, data on the relevant target populations for stunting-specific interventions (that is, pregnant women and children under 5) at the district level is not readily available to be able to calculate the appropriate per capita spending for stunting-specific interventions. Instead, using total district population yields an additional IDR6,675 (USD0.50) per capita – an underestimate of per capita spending on stunting-specific interventions considering the much larger denominator used.

Figure 11. Regardless of wide variation, districts on average spend far less on stunting-related services than the central government

Total stunting expenditure in 38 districts, in constant per capita IDR (2017)



Source: MOF, 2018.

Stunting spending at the district level mimics central government expenditure with stunting-sensitive interventions accounting for the bulk of spending. In 2017, stunting-sensitive interventions accounted for 84 percent of total stunting expenditures. On average, spending on clean water, early childhood education and family planning made up the bulk of stunting-sensitive interventions while growth monitoring, antenatal care, immunization, and supplementary feeding were prioritized as stunting-specific interventions (Figure 12).

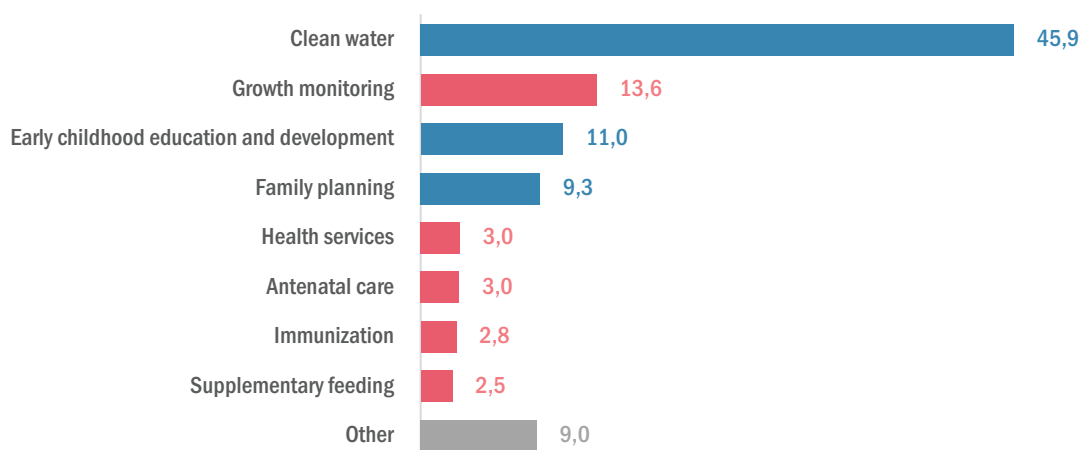
Importantly, stunting spending does not seem to correlate with district achievement on key health indicators. For similar levels of spending on stunting-related interventions, district performance on complete immunizations, skilled birth attendance, household access to safe water, and overall stunting varies considerably. This suggests that higher performing districts are more efficient in delivering services given similar resources. District achievement may also be driven by the contribution of villages that support service delivery at the community level (Figure 13).

Most of the issues explaining lower than expected district realization lie upstream at the planning stage of the budgeting process. While the PER is unable to assess budget execution rates in all 38 districts as budget data was not collected, in the six deep-dive districts the three-year average budget execution rate was 81 percent. Given that the stunting-related activities at the district level are predominantly driven (and funded) by the central government, the main reason given for lower than expected district realization was the disconnect between planning and budgeting targets at the central level with the capacity to implement interventions at the district level, especially human resources. In particular, key informants mentioned the following issues:

- 1. The lack of reliable data** on target populations for different interventions often means that districts end up with a surplus of centrally procured goods.
- 2. The burden of planning activities** at the district level that requires local governments to follow different procedures based on source of funding and type of expenditure often means that the necessary inputs to carry out service delivery may not be available to accommodate programs initiated by the central government. For example, for service delivery, outreach, and socialization activities, district governments may receive DAK-nonfisik to support operational

Figure 12. At the district level, spending on clean water dominates stunting-related expenditures

Average share of stunting spending by intervention in 38 districts (%), 2017

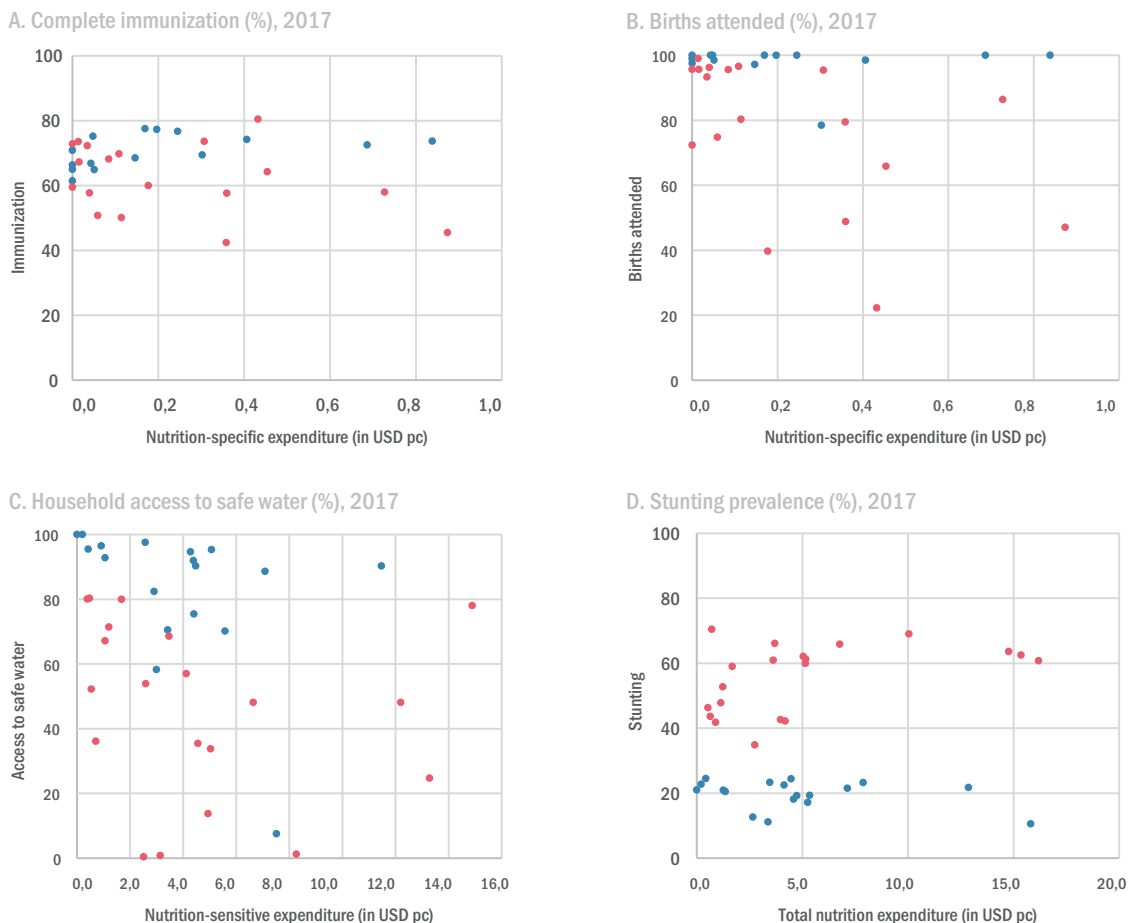


Source: MOF, 2018.

budgets. But central and local government schedules are not synchronized. By the time the central government circulates budget allocations and technical guidelines for use of DAK funding, local governments have already submitted their budget plans. The time and effort to attend all consultation and coordination meetings also often leads those in charge of planning activities to simply copy and paste the previous year's entry regardless of any potential changes in need or demand.²⁰

3. The shortage and high turnover of trained personnel in planning and budgeting at the district level means that program implementation is frequently driven by programs initiated by the central government which may not accurately reflect local need and demand. In addition, planning tasks fall on the shoulders of health service personnel whose main obligation is program implementation. They are also not well trained in using electronic planning and budgeting tools such as e-Renggar.

Figure 13. For the same level of nutrition-related spending, high stunting prevalence districts achieve worse outcomes than low prevalence districts



Source: MOF, 2018 and Susenas, 2017.

²⁰ For programs funded by DAK, consultation and coordination with provincial (Health Office/Dinkes and Regional Development Planning Office/Bappeda) and central government (Ministry of Health/Kemkes, Ministry of Finance/Kemkeu, and National Development Planning/Bappenas) are needed. For programs funded by other sources in the regional government budget/APBD, coordination with relevant regional government organizations (OPDs) at the district/city level (Regional Development Planning Agency/Bappeda, Regional Financial and Asset Management Agency/BPKAD, Regional Legislative Council/DPRD, and the regional head/Bupati) and Ministry of Home Affairs is needed.

Box 2 describes in more detail the allocative inefficiencies encountered in the PMT and immunization programs – the two nutrition-specific interventions that receive the largest overall allocation of resources

Box 2.

Allocative inefficiencies in district food supplementation and immunization programs

Immunization and PMT receive the largest allocation of resources overall. For this reason, this box explores in greater depth how resources are spent at the district level in selected high (Brebes, Sumba Tengah) and low (Klungkung, Surakarta, Belitung) stunting prevalence districts. In general.

1. Districts spend more per capita on PMT (US\$ 0.30-3.71) than immunization (US\$ 0.08-0.98) services although the range is much narrower for immunization (Figure A).
2. Within programs, the bulk of PMT expenditures went to local procurement and distribution, even though the central budget provides districts with PMT biscuits. At the same time PMT biscuits were often found undistributed and piled up in puskesmas storage rooms. Very little is allocated for operational expenditures such as transportation for cadres who distribute and track nutritional cases for puskesmas (Figure B).
3. While more resources were allocated for operations under districts' immunization programs (e.g. National Immunization Week), significant resources were spent on supporting activities, which predominantly goes towards stationery and food expenses related to planning meetings. Finally, although proper storage for vaccines was still problematic in sample districts, particularly those that were remote and spread out geographically, spending on equipment such as refrigerators and vaccine cold chain carriers was comparatively low (Figure C).

Figure A. Per capita district spending on PMT and immunization in USD, (3-year average 2015-2017)

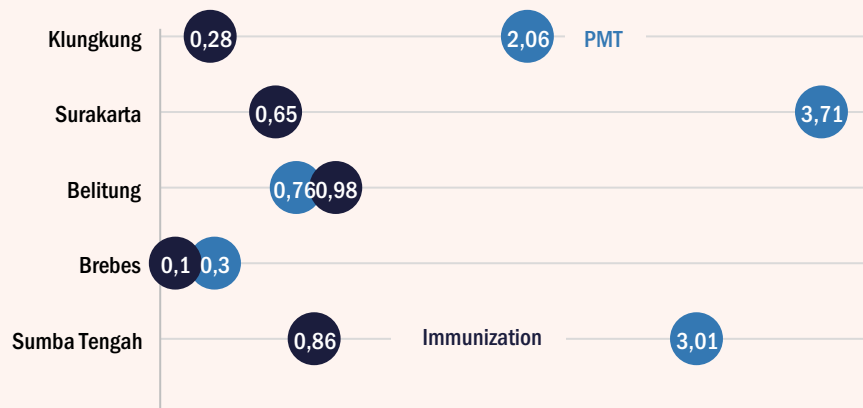


Figure B.
Composition of
PMT spending
in % (3-year
average
2015-2017)

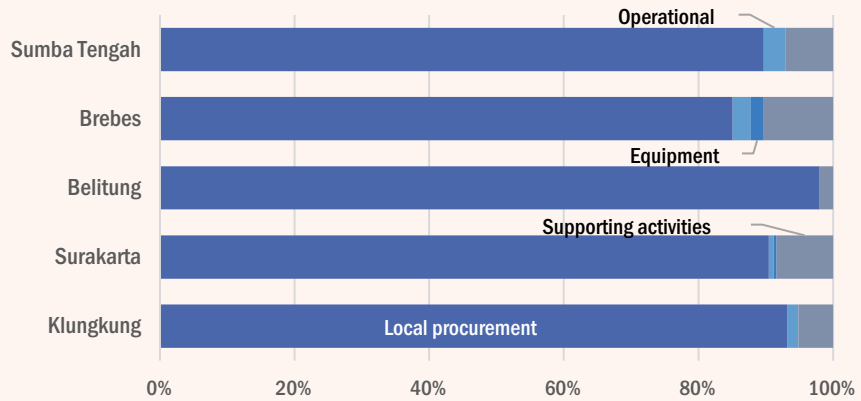
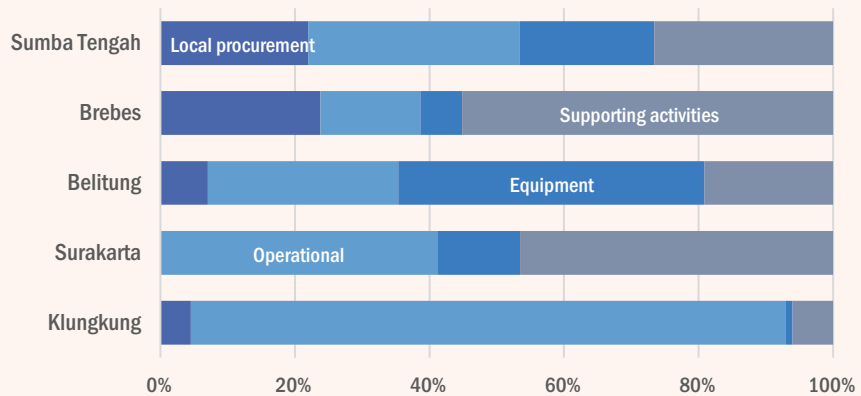


Figure C.
Composition of
immunization
spending
in % (3-year
average
2015-2017)



Source: DIPA 2015-2017

There is an ongoing debate about investing in food supplementation versus other more cost-effective interventions – particularly given that the targeting of PMT has been problematic (as described in the main text). Comparatively, immunizations are undoubtedly one of the most cost-effective health interventions. Even if districts are unable to reprogram resources from PMT to immunization programs, they can allocate resources within programs more efficiently. In the PMT program, clearly there is need to spend more on field operations to support those charged with identifying and monitoring target beneficiaries. In the immunization program, shifting the budget towards cold chain and storage equipment and upgrading the number and skill of health care workers administering vaccines would better support service delivery.

There are also challenges during the implementation and monitoring and evaluation of nutrition interventions that contribute to the low absorption of funds. Delays in receiving funds (e.g. DAK-*nonfisik*) and supplies from central government and lack of government coordination impact service delivery at the district level. Personnel shortages mean that socialization and outreach of key interventions at the community level are limited. The taste and aroma of PMT, iron, and zinc supplements were also factored into the lower than planned consumption of intervention goods. Finally, evaluation of nutrition interventions that may inform future planning and budgeting exercises is limited. The low prioritization of program reporting at the *posyandu* and *puskesmas* level and one-way information flows restrict the potential for adequate monitoring and evaluation. Stable internet connectivity, ability to use the computer-based system for monitoring program performance (e-PPGBM)²¹, and over-stretched staff having to enter data in multiple parallel information systems further compound the problem.

C. Village Expenditure

Over the past few years there has been a concerted effort to improve systems for tracking village spending - empowering villages to allocate more spending on stunting prevention activities. In the first years of implementing the Village Law, the central government prioritized infrastructure spending and villages were reluctant to spend on anything but administration and infrastructure activities. However, since the Vice President launched the StraNas Stunting in late 2017, the MoV and district governments have encouraged villages to prioritize spending on stunting prevention. To this end the MoV's annual regulations on *Dana Desa* prioritizes stunting activities including socialization and communication activities, Human Development Workers' (HDW) – village-level cadres responsible for supporting the targeting, delivery and monitoring of nutrition services – training in priority districts, and digital solutions to tracking stunting service

Box 3.

National Village FMIS Enables Tracking Village Spending on Stunting Activities across all Villages

In 2014, the Corruption Eradication Commission (KPK) conducted a study on corruption risks associated with the village funds. It recommended that MoHA and BPKP develop a village financial management information system (Village FMIS). Subsequently MoHA and BPKP launched the Village FMIS (*Siskeudes*) in July 2015. With technical support from the World Bank, BPKP and MoHA piloted and refined the system through a process of iterative user feedback and modification. In 2018, MoHA revised the regulations on village financial management including a standardized village Chart of Accounts (CoA). *Siskeudes* was then modified to align with these regulations and the updated system was rolled-out nation-wide in 2019.

The new regulatory framework and the village FMIS *Siskeudes* enables detailed tracking and analysis of village spending down to the activity level. It will be critical to stunting efforts to monitor how villages prioritize spending across and within the relevant sectors. Before 2019, village budgets could not be consolidated and assessed as a whole, as there was no unified village-level chart of accounts and village budgets were not systematically stored digitally. Complete village budget and expenditure data will be available through *Siskeudes* in the second half of 2020.

²¹ An electronic community-based nutrition recording and reporting system.

delivery convergence across villages. Box 3 describes improvements in 2015 to the village financial management and information systems and in 2018 to the village chart of accounts. Box 4 describes the GOI android mobile application, currently piloted in 400 villages; it supports HDWs work by digitizing and streamlining their main responsibilities.

Box 4.

A Digital Solution to Improve Frontline Nutrition Convergence

Strengthening frontline nutrition spending and convergence is a core part of the government's response to combat stunting. At the frontline of this effort are human development workers (HDWs). To facilitate daily workflow, HDWs are being equipped with an android-based application to support community empowerment and social accountability objectives. The application's main features include:

- A village mapping feature where HDWs can update the supply-side readiness status of all village service delivery points (for example, *posyandus*, *poskesdes*, PAUDs, and WASH) providing nutrition convergence services.
- A social mapping feature that allows HDWs to register priority households that include pregnant women, breastfeeding mothers, and children ages 0 to 6 years.
- A task management feature that triggers prompts for follow-up visits, services, and pending tasks based on the information on each beneficiary's risk profile and stage in the 1,000-day period. Information is collected on five service packages (health, nutrition, counseling, water and sanitation, early childhood education and development, and social protection) covering 12 indicators,¹ and 115 sub-indicators.
- A diagnostic feature that uses information on the indicators collected to generate unique convergence scores for each household and village. The scores can be used to improve beneficiary and resource targeting by identifying service delivery gaps.
- A reporting feature that automatically generates quarterly and annual reports providing timely information to higher levels of government for decision-making as well as in community gathering consultations (*rembuk*) to better inform *Dana Desa* spending allocations. A dashboard aggregates village level information, enabling easy comparisons by convergence scores, vulnerability status, and service package access across different locations.



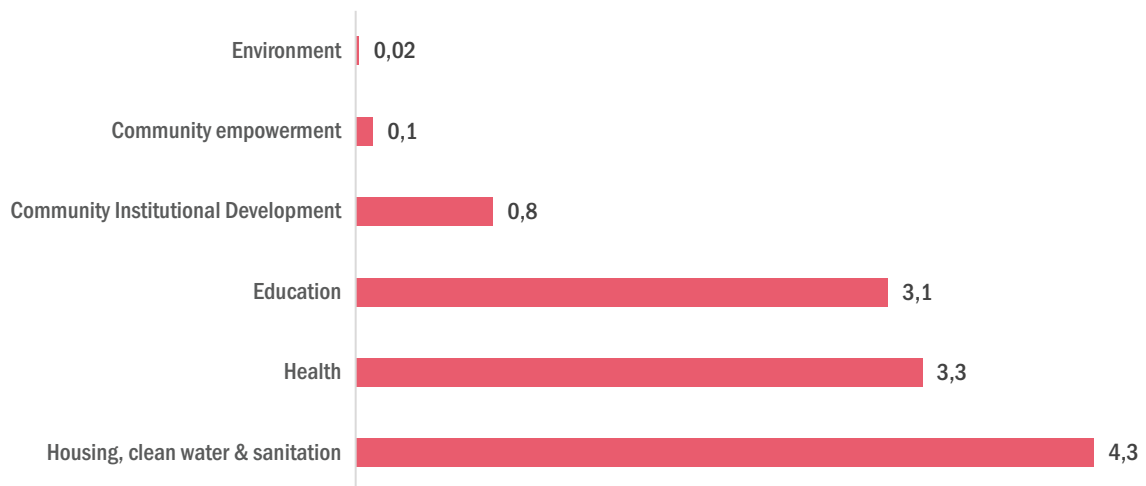
¹ Note: The indicators are: 1. Prenatal checks; 2. Iron supplements; 3. Postnatal checks; 4. Nutrition counseling; 5. Integrated home visits; 6. Monthly weight checks; 7. Length/height measurements; 8. Access to improved sanitation; 9. Access to clean water; 10. Health insurance; 11. Birth certificate; and 12. Parenting classes. For pregnant women the relevant indicators are: 1,2,3,4, 5, 8, 9, 10. For households with children 0 to 2 years old the relevant indicators are: 4 to 12. Indicator 5 only applies to pregnant women/children who are vulnerable. The app also tracks monthly PAUD (ECED) attendance for children between 2 and 5 years old.

Following the passing of the 2014 Village Law, stunting-related expenditures more than doubled. Preliminary comparisons between 2016 village budgets and 2019 village expenditures²² show that villages have increased their investments on stunting-related sectors. While the samples of the two datasets from 2016 and 2019 are not fully comparable, the data suggests that villages increased spending on stunting from 9.8 percent to 11.5 percent as a percentage of their budget.²³ Moreover, the average amounts spent on stunting-related activities increased 2.6 times from IDR80.6 million (USD5,700) per village to IDR204.9 million (USD14,640) per village. Considering the total village revenue increased by over 30 percent between 2016 and 2019, this represents a significant increase in the total village funds going toward stunting-related sectors.

Most stunting-related village spending is on activities in the housing, water and sanitation, health and education sectors. As shown in Figure 14 below, villages spent on average about 4.3 percent of their village budgets on clean water and sanitation. For the 30,448 villages in the dataset, this amounted to a total of IDR2.3 trillion (USD166 million) or about IDR76 million (USD5,452) per village. Spending on health and education were similar in the sampled villages - IDR1.8 trillion (USD127 million) in total health spending or IDR58 million (USD4,100) per village, and IDR1.6 trillion (USD118 million) in total education spending or IDR54 million (USD3,900) per village.

Figure 14. Villages spent about 12% of their funds in stunting-related activities in 2019 (% of total budget by sector)

Village government expenditure (%), 2019



Source: Siskeudes Datasets, June 2020. Sample: 30,448 villages, 208 districts.

²² The World Bank in collaboration with the GOI will undertake a more detailed village public expenditure analysis in the second half of 2020. This analysis will include a more detailed comparison of investments in 1,800 villages between 2016 and 2019. Further, analysis of 2019 expenditures will compare sectoral investments against poverty levels, village development, and geography. The analysis will also compare expenditures in StraNas Stunting priority and non-priority districts. This will be complemented by an assessment of the operational arrangements in key sectors, including all stunting related sectors, to understand the complementarity and coordination between district and village service delivery. This analysis aims to identify the strengths, weaknesses, and opportunities for supra-village governments to contribute to improved village spending in health, education, and basic infrastructure. This future research will provide sector-specific operational recommendations for making intergovernmental management systems more effective.

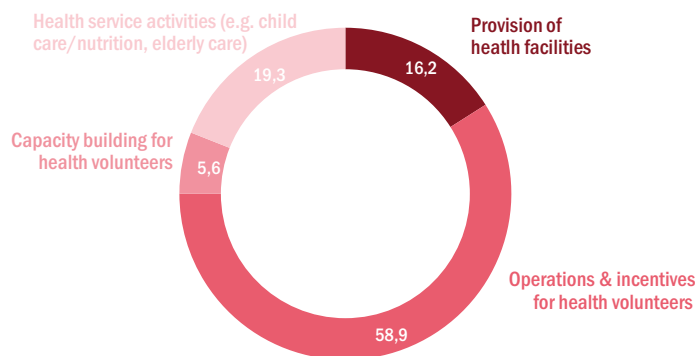
²³ Note that the comparison is not based on the same villages. The 2016 budget data is based on an analysis of 1,868 village budgets from fiscal year 2016, the second year of implementation of the Village Law (World Bank, *Redefining the Village Expenditure Classification: Toward Better Tracking of Village Spending*, September 2019). At the time this analysis was compiled, data from 208 districts and 30,448 villages (approximately 60 percent of villages) was available. It is important to note however that the villages for which data is available represent a disproportionate number of developed or advanced villages - 60 percent of the 30,448 villages that were analyzed fall in this category. Further, 2016 data is based on village budgets, whereas 2019 data is based on village expenditures, extracted from Siskeudes.

Most spending on health, education, and water and sanitation sector goes towards service delivery operations, the construction or rehabilitation of new facilities, and basic infrastructure.

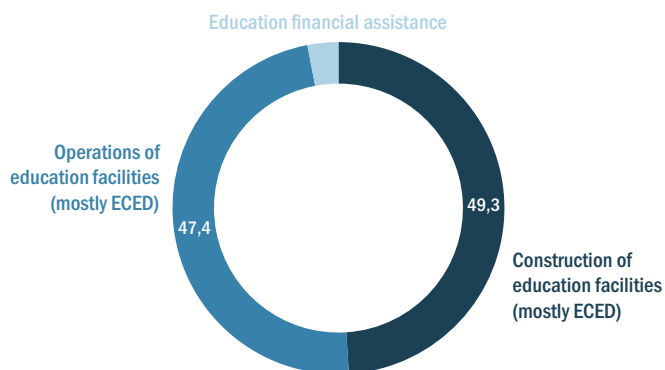
As shown in Figure 15, more than half of health spending was allocated for health service activities (non-construction) including child health and nutrition and feeding programs. This was followed by the provision of health facilities (mostly *posyandus* but also *polindes*), which accounted for 31 percent of village health spending. This category generally includes the construction, rehabilitation, improvement, or maintenance of buildings. Operations and incentives for health volunteers (*kaders*) accounted for approximately 59 percent, while capacity building activities for *kaders* made up 6 percent of expenditures. Over half of education spending was for the construction of facilities, including PAUD (49 percent), while 47 percent was for operations, including incentives for PAUD *kaders*. Finally, housing, clean water, and sanitation spending was on the provision of clean drinking water (41 percent), public toilets (20 percent), wastewater treatment (31 percent), and solid waste treatment (7 percent).

Figure 15. Village spending favored small infrastructure projects in education and water and sanitation sectors; instead health spent more on operational expenditures and financial incentives.

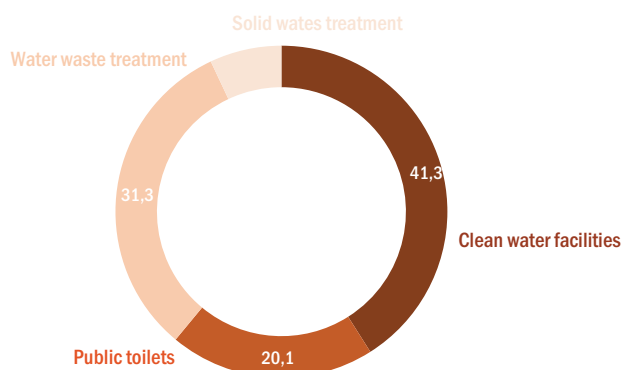
A. Village Health Spending by Activities (% of sector stunting spending), 2019



B. Village Education Spending by Activities (% of sector stunting spending), 2019



C. Village WASH Spending by Activities (% of sector stunting spending), 2019



Source: Siskeudes Dataseta, June 2020. Sample: 30,448 villages, 208 districts.

DISCUSSION AND RECOMMENDATIONS

The findings of this PER suggest that overall government spending on nutrition is more than adequate to cover a full package of nutrition interventions. Central government spending on stunting-specific interventions alone amounted to USD8.4 per capita in 2017 and was expected to increase to USD12.3 per capita in 2018. While limited information exists on stunting expenditures by comparator countries, when adding subnational expenditures, it seems that Indonesia's spending is adequate to cover a full package of nutrition interventions costed at USD7 per child per year, wide variations in local government spending notwithstanding.

Instead, tackling stunting in Indonesia may be less about spending more on stunting, and more about efficiency in the allocation and use of resources. Weaknesses in the planning and budgeting process lead to low absorption of funds and mismatches between resources and capacity to deliver services. In particular, there is no correlation between the level of spending on stunting interventions and achievement. This is not only evident at the district level but also by inefficiencies in targeting of some of the central government's flagship programs like food supplementation (PMT).

- 1. First and foremost is the lack of reliable data** on target populations, service utilization, and performance. On the expenditure side, the village and district financial management information systems are not integrated, nor do they use standard classification for sectors, programs, and activities.²⁴ While district governments are required to provide information on village spending in their financial statements, reports are submitted as separate annexes and are aggregated at the *bidang* level (that is, village development, village administration, community empowerment, and community development) not by sector. When it comes to improving the quality of spending, the GOI cannot improve what it cannot measure.
- 2. Second, fragmentation in financing** directly contributes to the burdensome process requiring local governments to adhere to different timelines and procedures and numerous coordination meetings. This puts an added burden on low capacity district-level planners. As a result, planning and budgeting for stunting-related activities has mostly been driven by the central government. While more recently there have been efforts encouraging *puskesmas* to attain greater financial autonomy and take more of a leadership role in meeting service delivery needs (that is, acquire BLUD status), the risk remains that ill-prepared health personnel are asked to prepare activity plans and coordinate resources.
- 3. Third, lack of clarity on the roles and responsibilities in funding and delivering services** exists between central, district, and village governments. There seems to be a disconnect between where most nutrition-related services are meant to be delivered and service delivery capacity – in quantity and quality. Training and resources for *kaders* need to be commensurate with the intention of using *posyandus* and other community-level delivery platforms as the primary points of care. Yet the minimal level of training *kaders* receive prior to taking up their posts and the limited outreach and supervision by over-stretched *puskesmas* staff to deliver key nutrition interventions at *posyandus* mean that mothers and children are not receiving key services

²⁴ The village system is called *Siskeudes*; the district financial data is collected centrally through a MoF reporting system called SIKD; and DAK-*fisik* and Village Fund data are reported through a MoF system called OM-SPAN.

during antenatal and postnatal visits – the most critical period for brain development and growth. Fragmentation in financing further compounds the problem as *puskesmas* staff are unable to plan and coordinate the timing of different sources of funding for different eligible expenditures to ensure all necessary inputs are available at the right time to deliver services.

The above findings highlight several recommendations for improving the quality of nutrition-related spending and stunting outcomes. However, many of the recommendations extend beyond nutrition and are highly relevant for improving spending and outcomes more broadly. In particular:

- 1. Standardize health information and accounting systems with a view to the service delivery context.** Nomenclature and definitional issues make comparing budget and expenditure data challenging across districts. In tagging stunting expenditure, different codes were used for the same activity and the same code was often used for different activities; codes and free text names also changed from year to year for the same activity. The Ministry of Home Affairs has recently issued a ministerial decree (Permendagri No.90/2019) to standardize the chart of accounts (COA) for local governments. However, it is essential that these efforts keep in mind the service delivery context and intervention logic of interventions when thinking of classification at the program and activity level and linking to outputs and results. Links between budgets and performance can be strengthened by mapping programs and activities to a standard set of performance and output measures. The GOI is currently formulating the draft Government Regulation on the Subnational COA (PP-BAS) to standardize the COA across subnational governments as well as harmonize it with the central COA. This is an important opportunity to design the standardized SNG COA in a way to enable strategic decision-making and accountability for subnational spending on service delivery.
- 2. Invest in integrated information systems that allow the seamless exchange of information across levels of government and along the entire accountability chain,** for example, between front line delivery workers at *posyandus* and supervising *puskesmas* staff/village offices, between *puskesmas* staff and district health offices, and between district health offices and the Ministry of Health. This would likely entail significant and coordinated investment in electronic systems that collect aggregate and patient-level health data to better track target populations, service utilization, and performance. The integrated system should also allow information on expenditure to be linked to performance. While the GOI has launched a policy on integrating all health data (*Satu Data Kesehatan*), its implementation is proceeding without inputs from a broader health care analytics team. The effort is being led by technology specialists dealing with hardware, software, and connectivity issues. But, inputs from data scientists, health care providers including village midwives and *kaders*, and policy makers are needed to develop solutions that help answer policy-relevant questions such as: what data is needed for financial and performance accountability (of nutrition activities, of health care providers, of the sector) and at what level of disaggregation? How frequently should it be reported and to whom? These questions should be answered as part of an overall health care analytics or data governance strategy that is tailored towards answering the most pressing policy questions for Indonesia. Careful thought to how data will be used will also help limit and streamline the reporting burden to only relevant and useful information.
- 3. In line with clearer intervention logic and results chains, incentivize better reporting and accountability processes, including performance-based measures.** Accountability can be enforced through weak measures such as one-way, bottom-up reporting (as is currently done in the health sector in Indonesia) or strong measures such as sanctions/rewards – financial liability or bonuses, ability to fire or promote staff, right to cancel or renew contracts, or to reach and retain a certain level of facility accreditation. Considering stronger accountability measures that are tied to performance will shift the focus of program implementation from a

culture of compliance with service delivery standards towards achievement of better health outcomes. It will also have the added benefit of stronger demand for better quality data and reporting compliance.

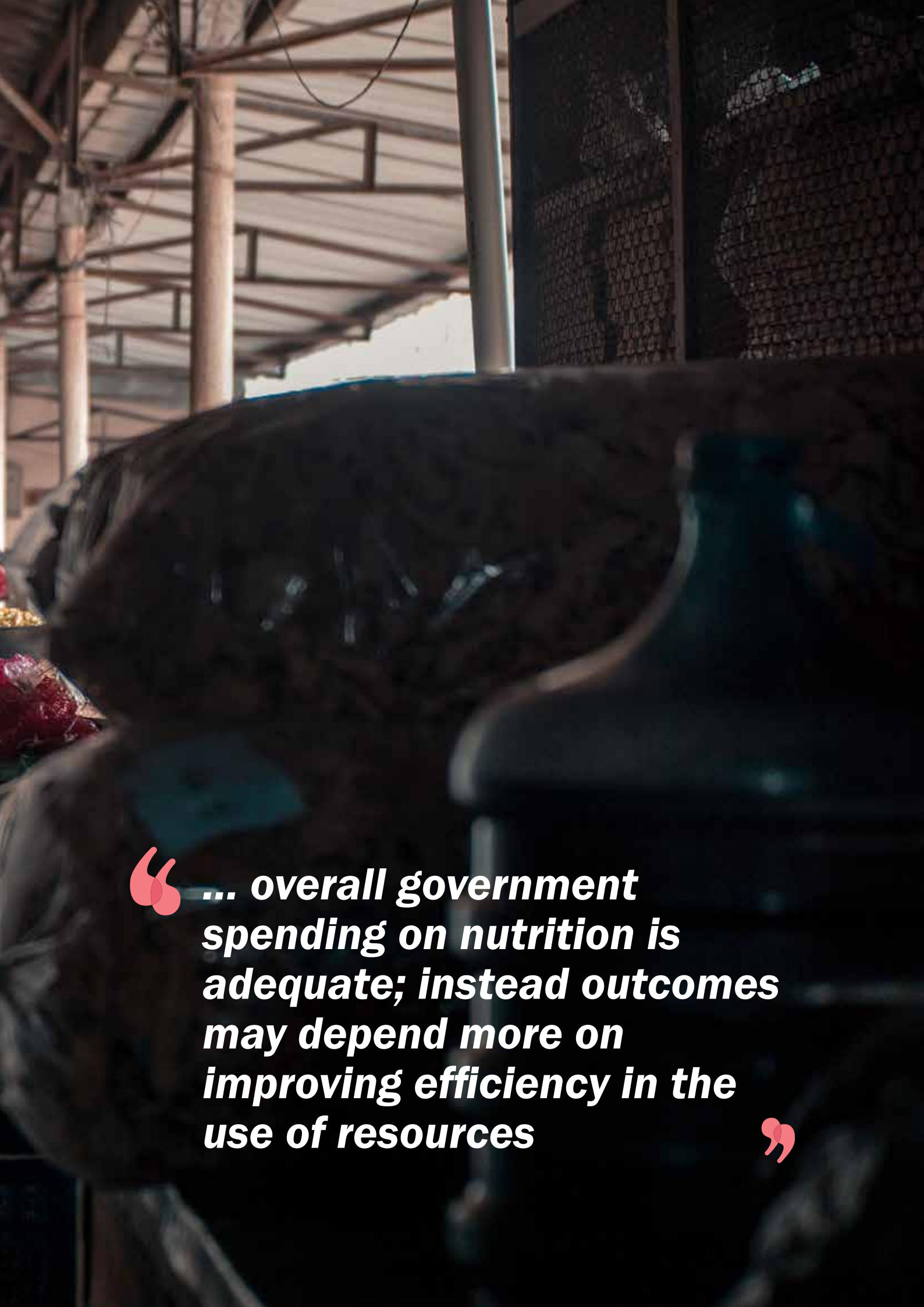
- 4. Harmonize budget timelines and procedures between central and local governments.** This includes the better integration of DAK and other conditional transfers with the local budget process. On the planning and budgeting side, it should be ensured that information related to budget allocations and technical guidelines is issued early to allow enough time for the local governments to prepare activity plans. This should include greater predictability on important revenue streams like DAK.²⁵ For DAK-*nonfisik*, this may be achieved by establishing a per capita allocation formula; announcing allocations earlier (for example, by end of August/September); and issuing guidelines (*juknis* as well other operational guidelines) earlier (for example, in October/November), so that the implementation can start immediately in the new fiscal year. For DAK-*fisik*, this could be done by introducing a multi-year indicative allocation to be used as a ceiling for the DAK proposal and announcing the final yearly allocation in August/September to enable information to be included in local government planning before completion of the budget (APBD) in early December. On the budget execution and implementation side, the schedule should be synchronized for the transfer of funds from the central government (for example, DAK-*nonfisik*) to align with the schedule of program implementation. Increased training and support for facilities to attain greater financial autonomy (that is, BLUD status) would also give *puskesmas* greater flexibility in pooling and using resources from multiple sources to plan and meet local needs more effectively. One innovative policy under the StraNas Stunting is the introduction of a stunting-specific DAK (BOK Stunting) that is meant to bring together fragmented district financing for stunting-related interventions. While BOK Stunting is channeled through the District Health Office, it is intended to be used to finance cross-sectoral activities, such as the District Convergence Actions (per guidance provided by Bappenas and MoHA) to improve coordination, targeting and prioritization of various stunting interventions; improve data on target population, stunting prevalence and interventions; and monitoring and evaluation. This is especially relevant as the interdependencies among the underlying determinants of stunting are usually beyond the scope or the control of any given sector.
- 5. Provide clearer guidance on how central, district, and village governments should share financial and service delivery arrangements to ensure an appropriate enabling service delivery environment** – one that includes the training and capacity building of volunteer service providers. While delivering nutrition interventions via community-level platforms may be the most effective, the resources and incentives do not currently enable *posyandus* (and other village institutions) to be the primary point of care for stunting-related activities. Service delivery relies heavily on voluntary workers or *kaders* who receive no formal salary and little relevant training as they are not Ministry of Health staff. *Kaders* rely on village governments to allocate the necessary resources to support their activities. Yet, the ViPER data (though not stunting-specific) gave a sense of competing village priorities where infrastructure is favored. Public resources – number of personnel and financial – also do not always align to support the transportation and outreach of *puskesmas* staff to *posyandus* to deliver essential primary care services related to stunting that the *kaders* are unable to provide. Village midwives in particular have little financial incentive to deliver the full package of care in antenatal and postnatal visits given the minimal remuneration received from JKN – which may not even reach them given the unclear and varying arrangements in how funds are released from district health offices.

²⁵ DAK policies are currently unpredictable. Different DAKs appear and disappear in the national budget from one year to the next. Technical guidelines (*juknis*) also change each year.

What is striking is that most of the recommendations to improve stunting in Indonesia relate to improving the allocation and use of resources – cross-cutting issues that would have a much broader impact on the quality of overall public spending. Admittedly, service delivery itself can be improved as many pregnant mothers and children under 2 do not have access to/or receive all of the necessary interventions to tackle stunting. This is partly a consequence of not having the right medicines, equipment, and training to deliver adequate care, or not having the distribution network and house connections to newly built water treatment plants. These misalignments are themselves a reflection of the inability to have a holistic account of all resources and activities being carried out in a particular sector or to reach a particular goal across levels of government. Tackling these challenges will not only help improve stunting outcomes but will allow a more strategic approach to improving health and human capital.







“ ... overall government spending on nutrition is adequate; instead outcomes may depend more on improving efficiency in the use of resources ”

ANNEX 1.

Assumptions made assigning a percentage of total spending to nutrition-sensitive activities

Assumptions used are listed below. They are in line with the weighting used in other nutrition public expenditure studies (Fracassi, et al., 2017).

- 25 percent of total expenditure on family education services (based on expert judgement)
- 1 percent of total JKN expenditure (in line with the amount spent for promotive and preventative activities)
- 50 percent of all early childhood education (PAUD) and community education (Dikmas) expenditure (based on expert judgement)
- 30.8 percent of the total prosperous family program (PKH) expenditure (based on 2016 beneficiary details for pregnant women and children under 5)
- 30.8 percent of non-cash food assistance (BPNT) (based on 2016 beneficiary details for pregnant women and children under 5)

ANNEX 2.

High stunting districts are more populous, poorer, and have less access to water and sanitation

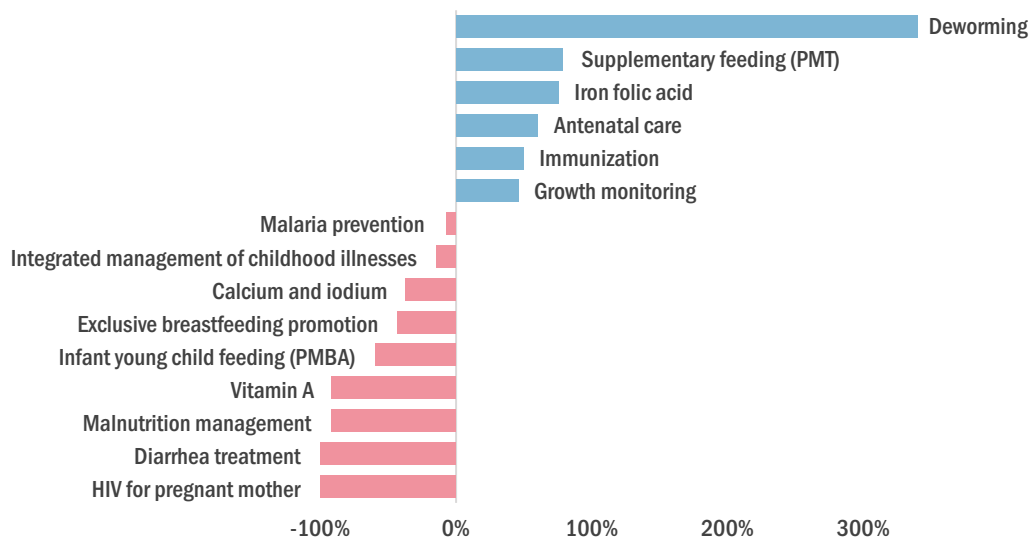
Indicator	Low stunting prevalence districts	High stunting prevalence districts
Stunting (%)	21.3	60.3
Population (number)	216,240	347,139
GDP (IDR million)	11,370,395	3,619,265
GDP per capita (IDR million)	51	12
District revenue per capita (IDR million)	4.7	3.9
District expenditure per capita (IDR million)	4.8	4.1
Poverty rate (%)	6.5	21.4
Skilled birth attendance (%)	100.0	90.1
Immunization coverage (%)	96.0	90.4
Household access to safe water (%)	88.3	50.0
Household access to safe sanitation(%)	87.3	69.8

Source: World Bank staff calculations and based on Riskesdas, 2013; Susenas, 2016; Statistics Indonesia GRDP data, 2016; and MOF, 2016.

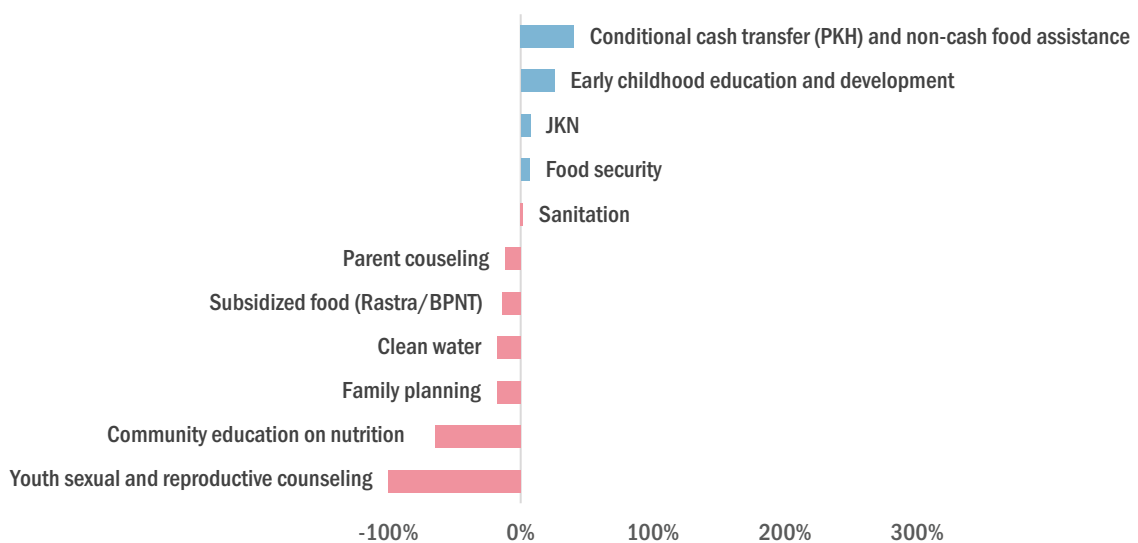
ANNEX 3.

Growth in stunting-specific expenditures outpaced stunting-sensitive spending

A. Growth in stunting-specific spending (%), 2015-2018



B. Growth in stunting-sensitive spending (%), 2015-2018



Source: MOF, 2018; MOH, 2018.

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