

# SUSTAINABLE IMMUNIZATION FINANCING IN ASIA PACIFIC<sup>i</sup>

**Asia Pacific has made progress in expanding access to immunization, but investments are required to deliver public programs effectively and adopt new and underutilized vaccines.**

Between 2013 and 2017, average self-reported government expenditures on immunization across countries in the WPRO and SEARO regions almost doubled from US\$28 million to nearly US\$45 million in Asia Pacific.<sup>1</sup> Even among low-income countries and lower-middle-income countries in the region that reported data, government expenditures on routine immunization are increasing year on year. Despite this progress, Asia Pacific lags behind other regions in the number of vaccines offered in public immunization programs across the life course. The region protects against 14.4 diseases on average through national immunization programs. This is below the European average of over 17.7 diseases, and well under Latin America's average of 19.9.<sup>ii</sup> In addition to missing critical pediatric vaccines in public immunization schedules, several countries in Asia Pacific are also behind in the introduction and scale-up of adolescent and adult vaccines.

For instance, only 27% of countries in Southeast Asia have introduced HPV vaccines into national schedules.<sup>2</sup> There are also high levels of variation in program performance on coverage across the region and within countries that requires additional investment in systems strengthening and program delivery. DTP3 population coverage was as low as 62% in Papua New Guinea, only reached 72% coverage in Indonesia, but reached as high as 99% in a number of other countries.<sup>3</sup>

**The diverse region is grappling with large changes to its health systems which affect how governments resource, structure, and prioritize their health financing.** Between 2007 and 2017, the population of Asia Pacific over 65 years of age grew across low- and middle-income Asia Pacific countries from 7.1% of the population to 9.2%.<sup>4</sup> This change is even starker when including high-income countries, increasing 2.3 percentage points over the same period of time. This creates an increased burden on existing health systems and budgets.

**FIGURE 2**

Average Number of Diseases Protected Against by Vaccines



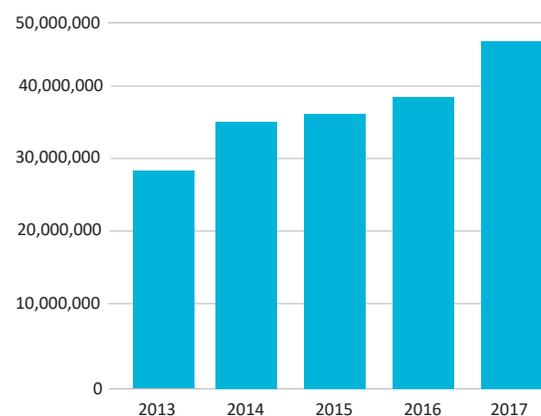
Source: WHO Schedule by Antigen Database, March 2019. ([https://apps.who.int/immunization\\_monitoring/globalsummary/diseases](https://apps.who.int/immunization_monitoring/globalsummary/diseases))

<sup>i</sup>For purposes of this brief, Asia-Pacific countries consist of countries in both the Southeast Asian regions and Western Pacific regions as classified by WHO. Deeper examination and analysis were performed on six Asia-Pacific countries: Indonesia, Philippines, Malaysia, Taiwan, Thailand, and Vietnam.

<sup>ii</sup>Broke out pediatric and adult antigens as two separate diseases.

**FIGURE 1**

Average Government Expenditure on Routine Immunization (US\$)



Source: WHO Joint Reporting Form. ([https://www.who.int/immunization/programmes\\_systems/financing/data\\_indicators/en/](https://www.who.int/immunization/programmes_systems/financing/data_indicators/en/))

Furthermore, the aging population and successes in curbing communicable diseases are increasingly shifting the burden of disease towards non-communicable diseases (NCDs). Over the course of this century, NCDs have increased from 56% to 69% of the total disease burden in the region.<sup>5</sup> Alongside these health system challenges, the international drive for universal health coverage (UHC) is pushing countries in Asia Pacific that have the domestic resources, technical know-how, and governance structures, to develop and channel increasing resources and purchasing power into national health insurance schemes.

There is an increasing need to address the financing challenges facing Asia Pacific governments in order to achieve sustainable and growing immunization programs in the region. Aging populations, a higher burden of non-communicable diseases, increased availability of new health technologies, and health system reforms are creating challenges to governments efforts to meet growing health needs with limited resources. These challenges carry over to public immunization programs as well. In addition to demonstrating the full value of vaccination when making the case for additional investment in current programs, it is now necessary to focus on improving a government's ability to pay for all aspects of their current and future immunization programs. This requires a deeper understanding of trends and architectures influencing immunization financing as well as challenges and opportunities for additional financing.

## TRENDS AFFECTING SUSTAINABLE IMMUNIZATION FINANCING

The ability of country governments to resource public immunization programs is influenced by trends ranging from the available budget headroom and how resources for immunization budgets are sourced, to the existing and emerging financing structures that involve a broad spectrum of stakeholders.

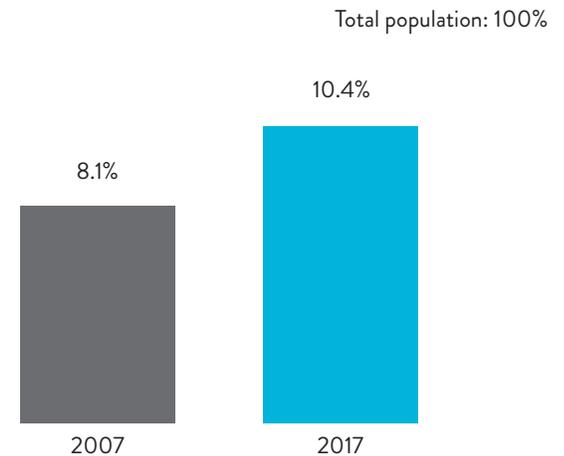
### Budget Headroom

**In addition to embracing the value of of new vaccines, governments require the budget headroom necessary to introduce them into public immunization programs.** Despite dedicated budget lines in 38 out of 42 countries across the region, only 15 countries recorded increasing investments in routine immunization between 2012 and 2017.<sup>6</sup> Even in the Philippines, where the health budget has seen funding increases due to the implementation of an earmarked tax on tobacco and alcohol – rising from US\$ 1.26 million in 2013 to 2.58 million in 2016 – new and underutilized vaccines have large budgetary impact.<sup>iii</sup> In 2016, 3% of the national health budget in the Philippines was allocated to the national immunization program. Beyond the 3% allocated to the national program, the Department of Health accesses other budget lines to provide a set of additional vaccinations outside of the national schedule, including Td, MR, PCV, and HPV, to limited cohorts.

<sup>iii</sup>Currency conversions made using historical data available on x-rates.com

FIGURE 3

Population in Asia Pacific, Aged 65+ Years

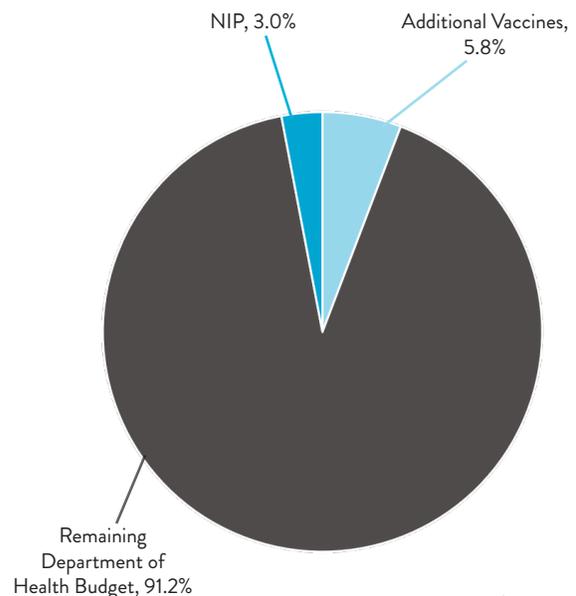


Source: World Bank WDI, 2018. (<https://data.worldbank.org/indicator/SP.POP.65UP.TO.ZS>)

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FIGURE 4

Philippines DoH Budget Breakdown, 2016



Source: DOH, 2016

Inclusive of these programs for limited cohorts, the total expenditure on the public immunization program totaled nearly 9% of the entire Department of Health's budget that year.<sup>7</sup> To take these new vaccine introductions to scale nationally would put significant strain on the health budget.

**Changing economic context has created pressure on governments that are working to ensure adequate and growing investment in immunization.** 74% of countries in Asia Pacific are classified as middle-income and are thus increasingly relying on domestic resources for their public health programming costs. For some countries in the region, economic growth has led to a reduction in support from external sources, including Gavi. Three countries in the region, India, Indonesia and Vietnam, are transitioning out of Gavi eligibility. For the immunization program in Indonesia, this means 12% of the public immunization budget will need to be replaced with domestic resources.<sup>8</sup> Vietnam relies on external resources to cover 8% of their immunization budget.<sup>9</sup> Given these transitions, country governments will need to increase pressure on domestic resource mobilization to continue and strengthen their current programs. Such budgetary pressures are not limited to Gavi-transitioning countries. Economic slowdown in Taiwan in recent years has left the budget for the Ministry of Health and Welfare (MoHW) stagnant. This stagnation has put pressure on the Health Promotion and Prevention budget with the MoHW decreasing its allocation from 14% of the total MoHW budget in 2006 to 9% in 2014.<sup>10</sup> The National Vaccine Fund, which is resourced by the Health Promotion and Prevention budget, has been running at a deficit since 2012, adding still more pressure to the immunization program's financial sustainability.<sup>11</sup>

### The exclusion of immunization from health system reforms

Immunization programs, like other vertically funded programs in the region, are either not included or have limited inclusion in public insurance schemes. Across Asia Pacific, social health insurance schemes grew from 7% of current health expenditure in 2005 to 10% by 2015.<sup>12</sup> The growing scale and scope of public health insurance will continue to gain further momentum as countries respond to the global push for UHC. This shift represents an increasing amount of health financing, and often decision-making power, being channeled through public insurance purchasers. Despite the rise of these new and significant actors in health systems across the region, immunization is often kept as a vertical program under ministries of health. Public insurance purchasers, including those in Korea, Philippines, Taiwan, and Vietnam, are not significantly involved in immunization in Asia Pacific. Such separation misses the opportunity to leverage these insurance purchasers for the benefit of national immunization programs.

### Decentralized systems

Decentralized systems have the potential to address local priorities, but require lines of accountability to ensure they deliver on national priorities and public program targets. Public immunization programs are almost always under the stewardship of a central entity – whether the public immunization program office, the Center for Disease Control, or another department. However, much of the decision-making that happens nationally is carried out at the sub-national level. Korea's public immunization program functions within a highly decentralized context where provinces manage budgets and pay for both vaccines and vaccination services. In Korea, this results in a high performing system as seen from the consistently high coverage rates in provinces across the country. Decentralization has also led to heavily fragmented systems with limited accountability and reporting mechanisms in some Asia Pacific countries, resulting in geographically varying performance. The Philippines and Indonesia are heavily decentralized and have had lower than average coverage rates with high variability across sub-national units. The limited accountability between central initiatives and local expenditures also contributes to underspending on program delivery at the sub-national level.

## WAY FORWARD: LEVERAGING TRENDS TO ADDRESS AFFORDABILITY CHALLENGES FOR IMMUNIZATION

**Though there are challenges in securing financing for sustained and growing immunization programs, there are new ways to engage with public programs and health systems in order to ease the affordability barriers for governments.**

Many of the challenges to sustainable immunization financing are embedded within the larger health system and impact immunization in turn. Engaging at the systems level to address policy and financing issues can create opportunities for sustaining and expanding public immunization programs. Stakeholders across country health systems can work to engage in ways that bring in new funds and improve the use of current funds within the health system for the benefit of immunization.

### 1. Facilitate new financing mechanisms

**Countries in Asia Pacific are exploring new sources of domestic revenue to sustain and grow their immunization programs.** From more traditional means, including sin taxes and co-pays, to innovative mechanisms like trust funds and impact bonds, Asia Pacific is pursuing increased domestic resource mobilization for immunization. Some countries draw from individuals, either through the use of insurance contributions and coverage of the public immunization program under the benefits package, or copayments for those vaccines which the government cannot afford to fully cover. The Philippines and Taiwan have found great success through earmarked sin taxes. The Philippines tax on tobacco and alcohol was passed in 2012 after over a decade of advocacy. By 2016, incremental revenue from the tax comprised 57% of the Department of Health's total budget.<sup>13</sup> Revenue from sin taxes has been utilized in both countries to procure new vaccines for the public immunization programs. Other countries have been able to leverage the growth of private assets that coincide with national economic growth. Taiwan's public immunization program is financed by the National Vaccine Fund, which is designed to accept private donations. Though private entities currently play a minor role in the program's resourcing, the Formosa Foundation in Taiwan has donated the resources needed to procure the pneumococcal vaccine for the aged in previous years.<sup>14</sup> There is further potential to crowd-in private capital and expertise to ignite the fund and expand its resource mobilization capacities.

**Experimentation with efficiency gains also provides promising methods to increase budget headroom.** Countries across Asia Pacific, with Thailand serving as a leader, have had success in utilizing evidence for decision-making through health technology assessments and through strategic purchasing to increase the efficiency of its immunization program. Some immunization service purchasing mechanisms, like the National Health Insurance System in Korea, are set up to pay retroactively, based on outputs. This system works as a performance-based financing (PBF) model where set payments are made based on results, thus promoting efficiency. Vietnam encourages maximum outputs for its expenditure by providing incentive payments to providers for every fully immunized child.<sup>15</sup>

**Other innovative financing mechanisms can be explored for their positive application to sustainable immunization financing.** A number of innovative financing mechanisms exist and many are applied to immunization financing in Asia Pacific. Bhutan has an established trust fund that fully finances the pentavalent vaccine, which once received co-financing from Gavi. There is potential for Taiwan to apply a similar trust fund model to help sustain its plateauing National Vaccine Fund. Indonesia explored a number of innovative mechanisms with external stakeholders, including an impact bond that would work along with an ecosystem of other mechanisms to promote immunization financing sustainability.<sup>16</sup> Within the region, there are a number of cross-country learnings that can be pursued and models that can be applied to markets facing resource generation challenges. Any of these models can benefit greatly from the private sector and development banks as they can play the critical role of providing risk-tolerant capital and technical capacity for some of these innovations.

## 2. Strategically leverage purchasers outside of ministries for immunization

Public insurance schemes can be leveraged to improve provider performance or expand access to vaccines across the life course. Provider payments can be leveraged to promote specific provider behaviors. For example, payments for immunization services based on coverage rates would incentivize achieving higher coverage rates. Purchasers are also often mandated to procure additional vaccines outside of the public immunization program. Additionally, as actors which must consider their financial status, purchasers are inherently motivated to find efficiencies that create budget headroom. Given the growing importance of public insurance schemes in the region, there is further potential to integrate aspects of immunization programs into these schemes to leverage resources, provider payments mechanisms, and a broader network of providers. Vietnam and the Philippines are already discussing adding immunization to their public health insurance benefits packages.<sup>17</sup> Indonesia and others may also head in this direction as population coverage of their health insurance schemes grow. The Thai model, where the national health insurance mechanism procures vaccines and purchases immunization services, may be a growing trend in the region.

### WAYS TO LEVERAGE A PUBLIC PURCHASER

Include public immunization programs in the benefits package

Add vaccines not yet included in national programs to the benefits package

Add additional cohorts to benefits package for vaccines already included in the NIP

Leverage provider payments to improve performance

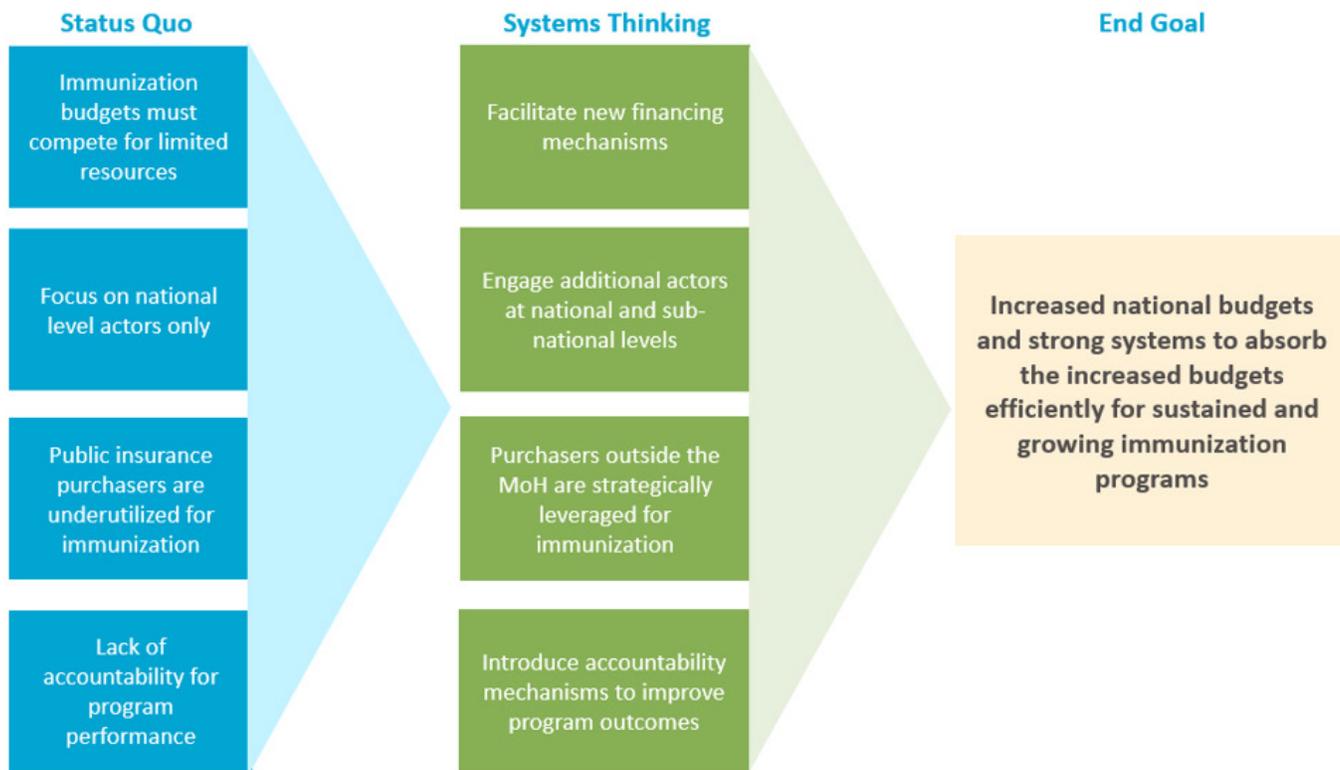
Contract private sector providers to increase access to services

## 3. Engage not only at the national, but also the sub-national level on performance issues

When immunization programs rely on sub-national governments to finance immunization programs and deliver on targets, engagement at this level is crucial. Countries across the globe are engaging at the sub-national level to help drive program improvement. Argentina, Colombia, and France, among others, have introduced sub-national performance-based financing to increase public immunization coverage rates. Yet, such programs require accountability mechanisms in order to have the desired effects. While Indonesia has a law mandating that districts dedicate 10% of their budget to health, studies have determined that almost half of the districts failed to meet their health allocation target.<sup>18</sup> 61% of districts did not allocate even 5% in 2016, and no consequences are in place for those districts failing to meet targets.<sup>19</sup> Sub-national governments that hold fiscal autonomy also offer opportunities for piloting program expansions or improvements. For example, Jakarta has expanded the national immunization program in Indonesia to offer an HPV vaccine to its residents. However, without strong national support and adequate budget headroom, such pilots can face challenges in achieving national scale, as seen in Indonesia.

FIGURE 5

Leveraging Trends to Address Affordability Challenges for Immunization



**Whether interested in designing an innovative financing mechanism or leveraging expertise for program improvement, governments can co-create solutions with additional stakeholders to achieve sustained and growing immunization budgets.** In order to capitalize on trends in the region for the benefit of public immunization programs, governments should explore partnering with other public and private stakeholders. Such partners can help explore and implement innovative financing mechanisms to bring in new funds (additionality) and improve the use of current funds (efficiency) for the benefit of immunization programs. To move forward on innovative financing mechanisms that can bring additionality or efficiency, development organizations and private sector partners can provide knowledge and resources traditionally unavailable to governments, and in turn build relationships with governments by serving as a valued and trusted partner. Through exploration of such partnerships, governments can meaningfully work to address affordability challenges and achieve sustained and growing immunization programs.

## RESOURCES

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- <sup>5</sup>Ibid.
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