Mobilizing Resources for Immunization in Decentralized Health Systems: A Desk Review of LNCT Country Experiences

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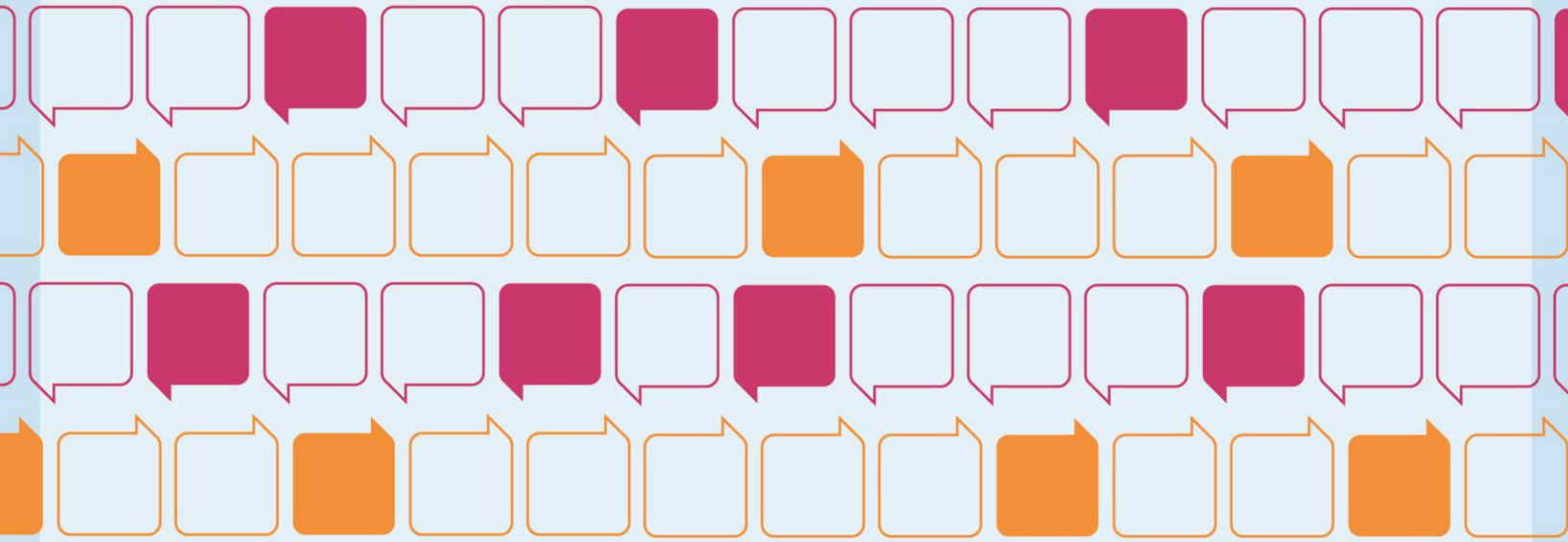

LNCT
Learning Network for Countries in Transition

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Introduction

The Learning Network for Countries in Transition (LNCT) is a country-driven network dedicated to peer learning to support countries as they transition away from Gavi support to full domestic financing of their national immunization programs (NIP). As Gavi support decreases and countries take on a higher proportion of the financing of immunization, they must mobilize not only the funding needed for vaccines, but also funding for critical operational costs, including cold chain and logistics, service delivery, health promotion, and more. In countries with decentralized health systems, responsibility for these functions (and the requisite funding) rests not with central authorities, but also with subnational authorities. Mobilizing adequate resources, and promoting efficient spending, to sustain high immunization coverage is a high priority for many LNCT countries.

Countries undertake decentralization in different forms (as defined below) and for various reasons, including to increase responsiveness to local conditions and needs, to allow greater political representation for diverse groups, and to alleviate bottlenecks in decision-making. Decentralization is seldom initiated in the health sector, and rarely is it undertaken in the health sector alone. Often the form of decentralization does not consider the impact on the health system, let alone the impact on one health program.

In decentralized health systems, decision-making authority and responsibility for critical immunization program functions may reside at the subnational level or may be shared between national and subnational levels. For example, the central level may be responsible for vaccine delivery to district offices, but then rely on district and facility staff to ensure distribution to service delivery points. Similarly, the central level may develop health worker training and train trainers at regional level, but district budgets are required to deliver that training to health workers. Historically, external support for resource mobilization have focused on national budgets. It is important that NIP managers understand funding allocation and disbursement processes and bottlenecks, so they can identify opportunities to improve funding availability. The purpose of this brief is to:

Key Messages

- In decentralized health systems, decision-making authority and responsibility for critical immunization program functions may reside at subnational level or shared between national and subnational levels.
- National immunization program managers must understand funding allocation and disbursement processes, as well as bottlenecks, so they can identify opportunities to improve funding availability at subnational levels.
- Countries with decentralized systems experience common challenges that constrain immunization program performance including coordination between national and subnational levels, management and budgeting capacity, and funding for key immunization functions.
- Promising strategies to address these challenges include developing effective systems for training, communications, and coordination at all administrative levels, strengthening capacity for program management at subnational levels, monitoring subnational immunization expenditures, and supporting subnational immunization managers to advocate for increased funding.

- Highlight common resource mobilization challenges in LNCT countries with decentralized health systems;
- Present examples of approaches LNCT countries and other LMICs have employed to address these challenges; and,
- Identify strategies that immunization program staff at the national and subnational levels can use to advocate for, and increase, the availability of resources for immunization.

Defining Decentralization

Decentralization can take many different forms. There are four commonly defined types of decentralization: political, administrative, fiscal, and market. For this brief, we focus on the first three below.

- *Political decentralization* is the transition of policy-making authority to citizens or their elected representatives. It is often associated with representative government and giving citizens, or their representatives, more influence in the formulation and implementation of policies.
- *Administrative decentralization* is the transfer of responsibility and financial resources for providing public services, such as health services, among different levels of government or institutions. There are three types of administrative decentralization, each defined by the type of entity to which the responsibility for the planning, financing and management of these public services is transferred.
    - *Deconcentration,* often considered the weakest form of decentralization, shifts responsibilities from central government officials to those working at subnational levels, such as from the ministry of health headquarters to ministry staff working in provincial, regional, or district health offices, under the supervision of the central ministry.
    - *Delegation* is a more extensive form of decentralization. Through delegation central governments transfer responsibility for decision-making and administration of public functions to semi-autonomous organizations not wholly controlled by the central government, but ultimately accountable to it, such as autonomous hospital corporations.
    - *Devolution* is the transfer of authority for decision-making, finance, and management responsibilities for public services to subnational governments that have clear and legally recognized geographical boundaries, over which they exercise authority and within which they perform public functions. This type of administrative decentralization is often associated with political decentralization.
- *Fiscal decentralization* is the transition of authority to make decisions about expenditure from national to subnational governments. Fiscal decentralization may include authorization to raise local revenues, as well as central level transfers to subnational governments. Financial responsibility is a core component of decentralization. If local governments and private organizations are to carry out decentralized functions effectively, they must have an adequate level of revenues –either raised locally or transferred from the central government– as well as the authority to make decisions about expenditures.[1]

COMMON DECENTRALIZATION CHALLENGES

- Loss of efficiency and/or economies of scale when functions such as procurement are transferred to subnational governments
- Weak administrative and/or technical capacity at lower levels
- Transfer of administrative responsibilities without adequate resources to effectively execute
- Inequitable distribution of resources
- Difficulty coordinating implementation of national policies across subnational entities
- Trust and coordination with private sector not transferring to local levels

While these definitions appear simple, decentralization is a complex process – it can take many years to align various laws, regulations, and practices that fall under multiple government authorities. The formal details of political, administrative, and fiscal decentralization may not be well-aligned, resulting in locally elected officials that may have insufficient fiscal autonomy, by law or in practice, to fulfill their responsibilities. For the purpose of administering public services, decentralization experiences rarely fit into a neat definition of *deconcentrated* or *devolved*. Subnational health officials may be responsible for funding and selecting additional health workers, but subject to national civil service regulations. Further, decentralization policies "on paper" may not reflect the

[1] World Bank Decentralization Thematic Team. (n.d.). Different Forms of Decentralization. What Is Decentralization? http://www.ciesin.columbia.edu/decentralization/English/General/Different_forms.html

reality of their implementation due to limited capacity within subnational governments or reluctance of the central level to transfer authority to lower levels.

Two LNCT countries illustrate the complexity of decentralization in practice. *Indonesia* is highly decentralized through a process that began in 2001, with districts becoming the key administrative level responsible for providing most government services including health services. Provincial and district leaders are elected through multiparty elections. Provinces are responsible for provincial level hospitals, but have no hierarchical authority over districts, serving only a coordination role.[2] Districts have significant autonomy when it comes to the budget, including its size and composition, even though a large part of their budget is from intergovernmental transfers.[3] For immunization, the districts are fully responsible for implementation and must co-finance key components of the program as well.[4] To supplement underfunding of health and other social sectors, new streams of earmarked funding were created. There are mechanisms for public discussion of government priorities at district, sub-district, and village level, but the extent of citizen influence on budget decisions is not well-documented.

Comparatively, *Ghana* committed to decentralized government through its 1992 constitution. District Assemblies are the focal point for government services, but while they have authority over some sectors, other sectors, including health, remain under the authority of central government. Operating under the Ministry of Health, the Ghana Health Service (GHS) is responsible for service delivery and operates regional and district health directorates that have financial and managerial authority. Although health funding primarily flows through the MOH to subnational levels, the health sector also receives funding through the district assemblies. While the GHS has deconcentrated certain responsibilities to sub-national offices, it also issues top-down directives that undermine their autonomy. To further the process of decentralization, the Local Governance Act was passed in 2016, but related legislation to detail decentralization of health sector responsibilities was tabled.

Decentralization and Immunization

Evidence of the impact of decentralization on immunization coverage across countries is limited but the findings that are available have mixed results.

- A 2013 study[5] in *India's* Kerala state found that decentralization within the state resulted in improved access to immunization and increased Diphtheria, Pertussis, Tetanus (DPT) coverage due to improved infrastructure (including facilities and equipment) in health facilities and better accountability in the public health system.
- A 2014 study[6] in *Indonesia* found fiscal decentralization to have no statistically significant association with child immunization outcomes over a decade since decentralization. The authors conclude that decentralization in Indonesia failed in its aim to improve outcomes for child immunization due to limited local capacity in planning, budget development, and budget execution.
- Surveys[7] in *Papua New Guinea* found a potential decrease in Bacille Calmette-Guérin (BCG) and DPT1 immunization coverage among children under 1 year between 1995 and 2005, when substantial decentralization took place.

Many of the common challenges of management within a decentralized context are especially acute for immunization programs. Transferring responsibility for vaccine procurement to subnational governments has

[2] Hatt, L., Cico, A., Chee, G., et al. (2015, December). Rapid Analytical Review and Assessment of Health System Opportunities and Gaps in Indonesia. Health Finance and Governance Project, Abt Associates Inc. https://www.hfgproject.org/rapid-analytical-review-assessment-health-system-opportunities-gaps-indonesia/
[3] Couttolenc, B.F. (2012). Decentralization and Governance in the Ghana Health Sector. World Bank. https://openknowledge.worldbank.org/bitstream/handle/10986/9376/702740PUB0EPI007902B009780821395899.pdf?sequence=1
[4] Coe, M., Gergen, J., Mallow, M., et al. (2017, October). Landscaping Analysis: Sustainable Immunization Financing in Asia Pacific. ThinkWell. https://thinkwell.global/wp-content/uploads/2018/09/Immunization-Financing-Landscape-081618.pdf
[5] Rajesh, K., & Thomas, M. B. (2012). Decentralization and Interventions in the Health Sector. Journal of Health Management, 14(4), 417–433. https://doi.org/10.1177/0972063412468973
[6] Maharani, A., & Tampubolon, G. (2014). Has decentralisation affected child immunisation status in Indonesia? Global Health Action, 7(1), 24913. https://doi.org/10.3402/gha.v7.24913
[7] Toikilik, S., Tuges, G., & Lagani, J., et al. (2010). Are hard-to-reach populations being reached with immunization services? Findings from the 2005 Papua New Guinea national immunization coverage survey. Vaccine, 28(29), 4673–4679. https://doi.org/10.1016/j.vaccine.2010.04.063

led to vaccine stockouts due to weak procurement capacity in lower levels. Variations in capacity to mobilize local resources and attract human resources across subnational geographies perpetuate disparities in immunization coverage. Challenges of coordination between national and subnational levels can disrupt key activities required for a strong program, including logistics and supply chain, training, or demand generation.

Roles and Responsibilities of the National and Subnational Government

When dividing health responsibilities between national and subnational governments in decentralized contexts, some functions are clearly suited to reside at the national or subnational level. Programmatic guidance fits well at the national level, which can provide concentrated technical expertise. WHO notes that the responsibility to develop national policies and regulations, provide subnational capacity development, and coordinate financial issues like donor support, financial commitments for special efforts, and line items for vaccines should also reside at the national level.[8] Vaccine procurement is almost always centralized because specialized procurement expertise is needed and there are economies from procurement at larger volumes. Primary health care delivery, on the other hand, is generally the responsibility of subnational governments, which can be more adept at meeting local needs, while still subject to national standards and guidelines. However, other functions, such as capacity building, data collection, and logistics, may be more difficult to place and may ultimately depend on country contexts and a trade-off between creating economies of scale and the need for local management driven by local information.[9] There is also tension between the desire to provide subnational governments flexibility to pursue their local objectives and the goal of prudent fiscal management.[10]

In decentralized LNCT countries, the national immunization program typically retains control over functions such as: sector planning and management; regulation; operational policies and technical guidance; vaccine procurement; monitoring and reporting including health and stock information systems; in-service training; and research. The NIP also coordinates financing from national government and external donors for these functions, with vaccine financing being a large portion of national level budget. In many countries, vaccine financing is solely the responsibility of central government, although *Kenya* and *Pakistan* are notable exceptions. The subnational government is typically responsible for primary health care administration, including immunization service provision. Other functions, such as human resources management and training, supervision, reporting, and logistics are often divided between the national or subnational level or are not clearly assigned. The national immunization program may develop needed training programs but may rely on subnational governments to conduct the training. Similarly, the national program may deliver vaccines to regional or district level, but subnational funding is required to deliver vaccines to districts and health facilities.

Subnational health administrators may not be directly accountable to the national Ministry of Health, instead reporting to local officials who report to Ministries of Local Government or Ministries of Planning. As a result, the NIP may have little visibility into and oversight over subnational immunization programs and budgets and instead must work with these agencies to provide guidance and support. Coordinating and deliberative bodies, such as the Immunization Interagency Coordinating Committee (ICC) and National Immunization Technical Advisory Group (NITAG) for technical guidance and support, national and subnational health committees for receiving political input, or regional Centers for Disease Control for technical and planning coordination, may play an important role in disseminating support and information from the national to subnational level and vice versa.

[8] World Bank. (n.d.). What, Why, & Where. Decentralization & Subnational Regional Economics. http://www1.worldbank.org/publicsector/decentralization/what.htm
[9] Shah, A. (1994, January). The reform of intergovernmental fiscal relations in developing and emerging market economies. World Bank. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/158321468740153413/the-reform-of-intergovernmental-fiscal-relations-in-developing-and-emerging-market-economies
[10] Pivodic, F. & Piatti, M. (2021, September 2). Towards better public financial management for health. World Bank Blogs: Investing in Health. https://blogs.worldbank.org/health/towards-better-public-financial-management-health

Responsibilities for Key Immunization Functions in Selected LNCT Countries

Selected Functions	 Kenya	 Lao PDR	 Pakistan
Technical guidance	Immunization program guidance is provided to States by the national immunization ICC, which is overseen by the Health Sector Coordinating Committee, while the NITAG and National Vaccine Safety Advisory Committee provide guidance based on national and global evidence.	Immunization program guidance is provided by the national MOH to the provinces, with support from the immunization ICC and NITAG. During budgeting, the MOH provides microplanning guidance to the provinces.	Immunization program guidance is provided by the national MOH to the provinces, with support from the immunization ICC and NITAG.
Regulation and oversight	The national level is responsible for policy regulation and oversight. Counties are responsible for monitoring health service delivery.	The national government is responsible for vaccine regulation. A National Immunization Law outlines the immunization program at all levels of government and describes the relationship of the NIP to other sectors.	The federal government is responsible for monitoring and regulation, but provincial governments are responsible for making health laws.
Planning and direction	Political governance at the national level is managed by the Parliamentary Committee on Health. At the County level, political guidance is provided by County Health Committees, chaired by the County Executive Committee Member of Health, but in reality, many are non-functional. County and Subcounty Health Stakeholders Forums and Community Health Forums provide additional direction at lower levels.	Provincial governments are responsible for direction and organization of provincial health activities, while MOH is responsible for overall sector development and planning.	Provincial governments are responsible for setting health policy and planning and implementing health programs.
Human resources and capacity building	At the national level, the Human Resources for Health Advisory Council and Kenya Health Professions Oversight Authority advices on policies, norms, and standards for human resources of health. Counties and Sub-Counties are responsible for staffing, training, and supervision, but the national level supports capacity building.	Salaried health staff are recruited by the national MOH after passing several exams and distributed to the provinces, but funding for these positions is limited. Staff may also be recruited through health facilities as contract, rather than salary, workers. The NIP conducts monitoring and supervision visits to provinces and districts twice per year.	Provinces are responsible for human resources, supervision, and capacity building.
Procurement and stock management	The national government is responsible for the procurement of vaccines, while Counties are responsible for the procurement of immunization supplies. Counties are also responsible for vaccine distribution and cold chain management.	Vaccine procurement is centralized with the NIP. The NIP conducts a monthly review of vaccine stock at provincial and district levels through a vaccine supplies and stock management information system, and provinces can request vaccines from the NIP in case of stock-out. Supply and equipment budgets are managed by provincial or district treasury office, to which facilities submit purchase orders.	Vaccine procurement is funded by the provinces but is pooled at the national level. Other procurement is decentralized to the provinces.
Data and information systems	The national level is responsible for monitoring and evaluation, and, as of 2017, Counties report immunization data primarily through a paper-based system. Counties report financial data through an Integrated Financial Management Information System, but reporting is often poor quality. The national level aims to perform quarterly data reviews and follow up with Counties that have significant performance dips.	Provinces now report immunization data solely to DHIS-2 (after previously also reporting immunization data separately through an Excel-based system). Provinces also report to a vaccine supplies and stock management information system and a financial management system. The national level conducts periodic data quality assessments in provinces and provides capacity building to provinces with poor data quality.	The provinces are largely responsible for data collection, leading to many different and sometimes duplicative systems. The federal government manages a vaccine logistics management information system, but provinces also often have their own logistics information systems. Different immunization program monitoring indicators are used across provinces, though Gavi and other partners are supporting an effort to systemize these data.
Immunization service delivery	County Health Committees are responsible for health care delivery, but in reality, many are non-functional. Delivery is administered by County and Subcounty Health Management Teams, but few Subcounty Teams are functional.	District health offices are responsible for administration of primary healthcare delivery.	Provinces are responsible for service delivery in all non-federal hospitals.

Common challenges that decentralized LNCT countries face in carrying out their immunization functions at each level of government include:

- **Variations in subnational immunization program management capacity:** Subnational governments often lack the specialized immunization staff and capacity concentrated at the national level, which can make it difficult for them to adequately plan and manage immunization programs. In some cases, these issues may be temporary. In *Vietnam*, reorganization following decentralization led to a period of high immunization staff turnover at all levels, requiring staff to be retrained.[11] In other cases, certain functions are absent in the structure of subnational health governments. In *Kenya*, many district-level management teams are not fully formed or functional.[12] In *Timor-Leste*, NIP coordinators needed to be established in sub-national governments following transition.[13] The degree to which immunization-specific management capacity at subnational level is needed depends on the level of integration across immunization and other primary care services, and whether there is strong management of routine service delivery.
- **Unclear divisions of responsibility and loci of accountability:** When functions are divided between subnational and national governments or not clearly assigned, there is potential for misalignment. When national level authorities issue revisions to policies or protocols that need to be disseminated to health workers, they may rely on subnational authorities to train health workers – strong coordination is needed to ensure that subnational health authorities are prepared to conduct training as needed. Subnational immunization programs may also feel torn between responding to subnational political authorities and national programmatic or policy guidance. In *Vietnam*, provinces look to the MoH for guidance, but also answer to local political and administrative officials and do not always following MoH directives.[14]
- **Inadequate resources or authority over resources:** Subnational entities may lack sufficient revenue or budgetary discretion to effectively carry out their new responsibilities. The reasons for these resource shortages are explored in the next two sections.

Some strategies that countries have used to address these challenges and ensure that critical immunization responsibilities are carried out include:

- **Ensure key program functions are clearly assigned to the appropriate level:** Almost all LNCT countries centralize their vaccine procurement process in order to ensure economies of scale and simplify procurement processes with UNICEF or manufacturers. *Pakistan* returned to national, pooled procurement following a period when procurement was decentralized to the provinces in order to ensure efficiency in the procurement process.[15] *Lao PDR* centralizes equipment and supply procurement at the provincial or district treasury office, which requires facilities to submit purchase orders and can cause delays receiving supplies but creates economies of scale when compared to individual facility orders.[16]
- **Ensuring that financing follows function:** Countries must ensure that each level of government has sufficient resources and budgetary discretion to carry out the immunization functions that it has been assigned. This topic is the subject of the next two sections.
- **Build subnational capacity for immunization program management:** Some countries, like *Timor-Leste*[17], have dedicated immunization staff, including an immunization officer, at the district level, though these positions are not always filled. In other countries, there may not be dedicated staff, and immunization may compete with other priorities. It is commonly agreed that a key function of the

[11] Gavi. (2018). Vietnam Joint Appraisal Report 2018. https://www.gavi.org/sites/default/files/document/joint-appraisal-vietnam-2018pdf.pdf
[12] Kenya Ministry of Public Health and Sanitation, Unit of Vaccines and Immunization Services. (2015, June). Comprehensive Multi-Year Plan (cMYP) for Immunization 2015-2019. https://www.who.int/immunization/programmes_systems/financing/countries/cmyp/Kenya_cMYP_2015-2019.pdf?ua=1
[13] Gavi. (2017). Timor Leste Joint Appraisal Report 2017. https://www.gavi.org/sites/default/files/document/joint-appraisal-timor-leste-2017pdf.pdf
[14] Vietnam Joint Appraisal Report 2018.
[15] Gavi. (2019). Pakistan Joint Appraisal Report 2019. https://www.gavi.org/sites/default/files/document/2020/Pakistan%20Joint%20Appraisal%202019.pdf
[16] World Bank. (2017, December). Managing Transition: Reaching the Vulnerable while Pursuing Universal Health Coverage. Health Financing System Assessment in Lao PDR. http://documents1.worldbank.org/curated/en/861981512149155081/pdf/121809-REVISED-v2-HFSA-Main-report-FA-ully-report.pdf
[17] Timor Leste Joint Appraisal Report 2017.

national MoH during decentralization is to provide training, guidance, and assistance to subnational governments to build their capacity to take over new functions. Countries may also explore strategies for encouraging cross-learning between subnational entities. *Nigeria's* Joint Learning Network is an example of such a capacity building strategy, though it focuses on Universal Health Care, rather than immunization. Sabin's Boost community provides a platform for immunization professionals at all levels to build leadership and immunization program management skills and share experiences with their peers in other countries.

Immunization Funding Allocation at the National Level

Revenue for immunization at the national level comes primarily from general government tax revenue and external funding from donors such as Gavi, United Nations Agencies, non-governmental organizations and foundations, and bilateral agreements with other governments.[18] A review of 33 Sub-Saharan African countries found that immunization comprises an average of 1.98% of government health budgets when excluding on-budget donor funds.[19] Generally, as LNCT countries approach Gavi transition, they can expect to fund an increasing portion of their immunization programs through domestic sources. However, a country's progress towards self-financing is often not a straight trajectory as economic volatility, contributions from new donors, or large Gavi investments for one-time efforts such as new vaccine introductions or cold chain improvements cause short-term fluctuations in the proportion funded by the government. Occasionally, national general tax revenue may be supplemented by alternative domestic revenue sources such as immunization trust funds or specific taxes designated to fund certain programs (commonly called public health or "sin" taxes), but these generally account for very small portions of overall revenue for immunization.

The proportion of immunization funding that is sourced at the national level varies in LNCT countries and does not necessarily correspond with the proportion spent at the national level. For example, in *Lao PDR*, the national level is responsible for covering nearly all costs of routine immunization, including vaccines, supplies, salaries, transportation, maintenance, overhead, and program management. Of immunization expenditures, however, 60% of health spending occurs at the national level, while 40% occurs at the subnational level. Provincial contributions are small, and their extent is not well understood.[20] In *Indonesia*, immunization funding is sourced 60% at the national level and 40% at the subnational level. The subnational level is responsible for covering 20% of vaccine costs and all operational costs of immunization.[21] In three LNCT countries where information is publicly available, the proportion of immunization revenue sourced at the national level ranges from 70%-100% for vaccines and supplies and 50-100% for operational costs.[22]

The budgeting process at the national level generally starts with the setting of a health sector budget ceiling by the Ministry of Finance and/or Ministry of Planning based on available revenue, donor funds, government priorities. The Ministry of Health then uses this ceiling to outline its budget proposal. As of 2019, almost all LNCT countries had a line item for vaccines included in their budgets (*Timor-Leste* did not, and *Angola* and *São Tomé and Príncipe* did not report).[23] LNCT countries use a variety of methods for national level budgeting including output-based budgeting, program-based budgeting, or budgeting based on historical allocations.

The two largest expenditure items at national level are vaccines and personnel. All LNCT countries procure vaccines at the national level, although some countries require contributions from subnational budgets. A review of cMYPs in Gavi-eligible countries between 2008-2016 found that vaccine accounted for 51% of

[18] Institute for Health Metrics and Evaluation. (2020, April). Financing Global Health. IHME Viz Hub. https://vizhub.healthdata.org/fgh/
[19] Griffiths, U. K., Asman, J., & Adjagba, A. (2020). Budget line items for immunization in 33 African countries. Health Policy and Planning, 35(7), 753–764. https://doi.org/10.1093/heapol/czaa040
[20] World Bank, Health Financing System Assessment in Lao PDR.
[21] World Bank. (2016, October). Indonesia Health Financing System Assessment. http://documents1.worldbank.org/curated/en/453091479269158106/pdf/110298-REVISED-PUBLIC-HFSA-Nov17-LowRes.pdf
[22] World Bank, Health Financing System Assessment in Lao PDR; World Bank, Indonesia Health Financing System Assessment; Coe, M. and Gergen, J. (2017, August). Sustainable Immunization Financing in Asia Pacific: Vietnam Country Brief. ThinkWell. https://thinkwell.global/wp-content/uploads/2018/09/Vietnam-Country-Brief-081618.pdf
[23] World Health Organization. (n.d.). WHO vaccine-preventable diseases: monitoring system. 2020 global summary. WHO Joint Reporting Form Database. https://apps.who.int/immunization_monitoring/globalsummary/indicators

average total immunization costs in a country.[24] Of LNCT countries reporting to the 2019 JRF, the proportion of government funding for routine immunization spent on vaccines ranged from 7% in *São Tomé and Príncipe* to 100% in *Armenia*, with an average of 68%, although it is unclear whether some countries included subnational expenditures.[25] National level budgets also include some costs of training, supervision, logistics, and measurement and evaluation, while the majority of operational costs occur at the subnational level.

Budget ceilings for national funds to be allocated to subnational entities may be determined by the Ministry of Health or a ministry that oversees subnational government affairs, like a Ministry of Home Affairs. National governments typically allocate funds to subnational entities based on historical budgets, staffing, population, or an equity formula that may favor areas with poorer health indicators, for example. Subnational governments then develop their budget proposals and submit them to the Ministry of Health and/or Ministry of Finance, which reviews them for adherence to budget ceilings and guidelines and consolidates them into a unified budget. The extent of the NIP or MOH's role in this process is usually determined by how health is budgeted, but they may support subnational governments through activities such as providing microplanning and budgeting guidance (as in *Lao PDR*[26]), reviewing and/or consolidating budget proposals (*Lao PDR*[27], *Indonesia*[28], *Kenya*[29], *Pakistan*[30]), or facilitating the approval process of implementation plans with estimated budget proposals (*India*[31]), or they may have very little direct involvement. The consolidated budget is then approved by Parliament before or after being sent back to the subnational level for final adjustments.

Within this generalized overview of national-level budgeting processes, many countries may display significant variations. For example, in *Indonesia*, the Ministry of Health collects proposed workplans from provinces and districts and submits a draft health workplan to the Ministry of Finance as part of the process of negotiating sector ceilings.[32] In *Vietnam*, immunization funding is guaranteed by national law and funds for immunization service delivery are distributed to the provinces as a separate line item under vertical preventative care.[33] In *Nigeria*, the majority of funds transferred to the states are unconditional block grants, and states have broad discretion to use the funds as they choose.[34]

All LNCT countries face challenges ensuring sufficient resource allocation for immunization at the national level due to limited fiscal space. In decentralized contexts, some of these challenges may be exacerbated. For example:

- **Inequitable spending between geographic areas:** Gavi considers achieving immunization coverage equity as an important goal for successful transition.[35] In centralized systems, national governments play a key role in distributing resources between geographic areas to help achieve equity. Decentralization allows subnational governments to determine their own priorities, which often leads to states or provinces allocating different levels of support to health and immunization. In some cases, the method by which the national government allocated revenue to subnational levels exacerbates geographic inequalities. In *Vietnam* until 2017, as in many countries, immunization service delivery was a line item in the national budget and was allocated to the provinces based on population without taking into account differing needs due to needed operational upgrades or disease burden. Provinces then transferred funds to facilities based on staffing levels. Thus, the budgeting process exacerbated

[24] Brenzel, L. (2015). What have we learned on costs and financing of routine immunization from the comprehensive multi-year plans in GAVI eligible countries? Vaccine, 33, A93–A98. https://doi.org/10.1016/j.vaccine.2014.12.076
[25] WHO Joint Reporting Form Database.
[26] World Bank, Health Financing System Assessment in Lao PDR.
[27] World Bank, Health Financing System Assessment in Lao PDR.
[28] World Bank, Indonesia Health Financing System Assessment.
[29] Kenya cMYP for Immunization 2015-2019.
[30] Pakistan Joint Appraisal Report 2019.
[31] Centre for Public Impact. (2017e-05). The Universal Immunisation Programme in India. https://www.centreforpublicimpact.org/case-study/universal-immunization-program-india/
[32] World Bank, Indonesia Health Financing System Assessment.
[33] Coe, M. and Gergen, J., Vietnam Country Brief.
[34] World Bank. (2018, April). Nigeria Health Financing System Assessment. http://documents1.worldbank.org/curated/en/782821529683086336/pdf/127519-WP-PUBLIC-add-series-NigeriaHFSAFINAL.pdf
[35] Gavi. (2015). Gavi Alliance Eligibility and Transition Policy Version 3.0. https://www.gavi.org/sites/default/files/document/gavi-eligibility-and-transition-policypdf.pdf

existing provincial and rural/urban disparities in spending.[36] In *Nigeria*, 13% of all oil revenue is returned to oil-producing states based on their contribution, while the rest is divided more or less equally between all states with little attention to factors such as level of development, population, or fiscal capacity. Thus, the allocation of oil revenue between states, which could be used to promote equity, instead provides the most funding to the States that already have more resources.[37]

- **Higher level political attention to vaccines compared to other necessary expenses:** Because vaccines are the foundation of immunization, and the national government is responsible for procurement, high level political attention tends to focus on vaccines above other necessary inputs. LNCT countries commonly report shortfalls in human resources, training, supervision, management, cold and supply chain, transportation, and monitoring and evaluation, all of which are often at least partially the responsibility of the national government. National governments often turn to donors to fund important activities/inputs such as training, demand generation, or cold chain. While most countries have a line item for vaccines within national health budgets, and significant attention is paid to ensure it is fully funded, there is less attention to the adequacy of budgets for other operational costs, which come from national and subnational budgets.

Some steps that countries have taken to improve immunization funding allocation at the national level to better support immunization programs at the subnational level include:

- **Improving the budget allocation process to the subnational level:** The national level may consider revisiting its formula for allocating budget ceilings to subnational governments to address issues of equity or allocations that are made on historic allocations rather than current needs by, for example, assigning higher weights to hard-to-reach areas. In *Vietnam*, the government switched from population-based allocations to allowing allocation decisions to be made by a provincial people's committee.[38]
- **Advocating for immunization resources at the national level:** Immunization managers may use information they have about subnational needs and priorities to advocate for increased national resources to support subnational programs, including providing training and guidance to subnational counterparts. In *Vietnam*, all provincial immunization programs have tracked expenditures since 2013 using a Sabin budget flow tool. In 2014 and 2015, this data was successfully used to increase both provincial spending and avert budget cuts at the national level.[39] The MoH should also allocate sufficient funds to cover all training, supervisory, and guidance responsibilities that it is assigned in order to provide sufficient support to subnational governments that may not have as much depth in immunization programming and financial management capacity.

Immunization Funding Allocation at the Subnational Level

Revenue for immunization at the subnational level comes from a variety of sources and may be shared with other programs to a greater extent than at the national level. Transfers from the national level represent a large portion of subnational expenditures, but the subnational level's ability to budget and use these funds as it chooses may be limited by earmarks or other contingencies that designate funds for specific purposes, such as salaries for personnel, over which the subnational level has limited authority. In some countries, like *Cote d'Ivoire*, *India*, *Indonesia*, *Kenya*, *Nigeria*, *Pakistan*, and *Vietnam*, subnational governments have authority to raise their own tax revenue for health and immunization, though in practical terms this stream of revenue is limited and may only be available for the small portion of the country with urban centers and active commercial activity. For example, in *Nigeria*, an average of 26% of each state's revenue is generated by the state, but in four states, state-generated revenue exceeds federation transfers, while in others it is almost

[36] Vietnam Joint Appraisal Report 2018.
[37] World Bank, Nigeria Health Financing System Assessment.
[38] Vietnam Joint Appraisal Report 2018.
[39] Sabin Vaccine Institute. (2019, March). A Decade of Sustainable Immunization Financing. https://www.sabin.org/sites/sabin.org/files/resources/a_decade_of_sustainable_immunization_financing.pdf

negligible.[40] In *Kenya*, an average of 2% of each county's revenue is generated by the county, but in Nairobi, the County generates over 25% and just five counties (of 47) account for 56% of all state-generated revenue.[41] An analysis of 19 states in *India* found that an average of 47% of revenue was generated by the state, with state-generated revenue constituting the majority of revenue in 6 states and just 20% in three states.[42]

Revenue is also generated at the facility level in some countries through user fees and national health insurance reimbursements. Although the revenues are not generated by immunization services, which are free, they may be used for things like facility maintenance, salaries, or outreach, which support general health services including immunization. Where such revenue exists, it often represents a substantial share of discretionary budget for facilities. Although immunization is typically not included in national health insurance benefits packages in LNCT countries, it is included in *Indonesia* and in some schemes in *India*. Other countries, like *Ghana* and *Vietnam*, are considering including immunization within their health insurance benefits packages,[43] which may change the way revenue flows to immunization. Finally, subnational entities may receive external financing directly from donors.

Typically, though not always, subnational governments will receive a budget ceiling and guidance from the national government before they develop their budgets. They may then follow a budgeting process similar to that of the national level: setting sector budget ceilings if not already established at the national level; developing a proposal budget based on budgeting principles such as program- or output-based budgeting; allocating funds to lower levels based on staffing, historical allocation, or another allocation formula; soliciting and consolidating budgets from lower levels; and submitting to the subnational governing body for approval. Their budgets are then submitted to the national government for consolidation and may require further refinement before or after they are approved by national Parliament. During this process, the subnational government may receive support from the NIP in the form of microplanning and budgeting guidance.

The level of discretion that subnational governments have over their budgets varies substantially between decentralized LNCT countries. In some countries, like *India*, *Nigeria*, or *Timor-Leste,* subnational governments have broad authority to allocate their final funding envelopes as they see fit. In others, like *Indonesia*, *Lao PDR*, or *Kenya* there are requirements that a certain percentage of the budget must go to health (but typically such requirements do not specify how much of the health budget should be allocated to immunization,) or that districts must meet certain performance indicators. However, these requirements are not always enforced. In *Lao PDR*, provinces are supposed to spent 9% of their budget on health, but they are also allowed to reallocate their final budget across sectors, so long as they adhere to their overall ceiling.[44] In practice, many provinces do not meet the guideline.

To direct funding for health, some countries have created earmarked central level transfers, or national programs focused on primary health care. In *Indonesia*, earmarked funds are used to ensure that sufficient funds are spent on health, particularly in areas with fewer local resources.[45] In *India*, the Universal Immunization Program sits under the National Health Mission (and its Rural and Urban subdivisions), which allocates funding to State Health Societies for health care with a focus on vulnerable populations. The funds are managed by State Health Societies, with budgets subject to approval by the Mission at the national level.[46] *Nigeria's* 2014 National Health Act provides that 1% of the consolidated revenue of the federation and contributions from partners be put into a Basic Health Care Provision Fund (BHCPF) intended to fund a basic package of services including immunization. Almost half of this fund flows through the National Primary Health

[40] World Bank. (2018, April). Nigeria Health Financing System Assessment.
[41] Kimunge, James. (2020). Revenue Streams that Maximize Revenue in Kenyan Counties. https://doi.org/10.13140/RG.2.2.16189.00489.
[42] Kala, M., Khullar, V. (2018, January). State of State Finances. PRS Legislative Research, Institute for Policy Research Studies. https://www.prsindia.org/sites/default/files/parliament_or_policy_pdfs/State%20of%20State%20Finances%202018.pdf
[43] Learning Network for Countries in Transition (LNCT). (2020, February). Considerations for Managing Immunization Programs within National Health Insurance. https://lnct.global/wp-content/uploads/2020/02/Considerations-for-Immunization-Programs-within-NHI_FINAL.pdf
[44] World Bank, Health Financing System Assessment in Lao PDR.
[45] World Bank, Indonesia Health Financing System Assessment.
[46] Ministry of Health and Family Welfare, Government of India. (2005). National Rural Health Mission: Meeting people's health needs in rural areas. Framework for Implementation 2005-2012. https://nhm.gov.in/WriteReadData/l892s/nrhm-framework-latest.pdf

Care Development Agency to states meeting certain criteria including counterpart funding. In practice, implementation of BHCPF has been slow.[47]

The subnational level is typically responsible for the operational costs of service delivery, including facility-based routine immunization, outreach, social mobilization, supervision, training, supply chain and logistics, surveillance, management, and health information management systems, some of which may be shared with the national level. When human resource costs lie with the subnational level, they are typically the largest driver. A review of immunization delivery cost estimates in 24 countries found that labor accounted for 40% of all costs, followed by supply chain at 14% and capital at 12%.[48] A review of six low- and middle-income countries found that when sorted by function, facility-based routine immunization was the largest driver of immunization costs (accounting for 36%), followed by outreach (17%), and health management information systems and supply chain logistics (10% each).[49]

In most countries, the national level lacks visibility into immunization expenditures at the subnational level, partly because these expenditures may be shared with other programs, but also because there are no systems to collect such information. LNCT countries have reported funding gaps across all aspects of immunization service delivery, but human resources are often one of the most underfunded items. In some countries, financing and wage policies converge to perpetuate underfunding of human resources in the locations most in need, with national wage scales that do not incentivize rural postings and personnel budgets allocated based on health workers who prefer to concentrate in urban areas, leaving open rural positions unfunded.[50] Decentralization can exacerbate these issues, as the national government may no longer have the resources or authority to enact policies that help distribute staff to areas in need. For example, in *Lao PDR*, national government funding for salaried civil service positions is limited. To cover staff shortages, facilities can only hire contract positions, which are less attractive, especially in remote areas where health worker supply is already low.[51] In *Vietnam*, it has been noted that the high salaries paid by private providers concentrated in urban areas hinder rural districts' ability to recruit staff.[52] Other areas that are commonly cited as underfunded include logistics, outreach, and training, which impact vaccine availability, access to services, and service quality.

Key challenges often faced by subnational governments in allocating sufficient resources for immunization include:

- **Low budgeting capacity and lack of transparency:** Subnational government staff may lack the immunization program management experience that exists at the national level, particularly in the early stages of decentralization, and may not have a clear idea of what the subnational government's immunization responsibilities are and what a complete immunization budget should include. Complex budgeting processes may exacerbate this problem. In *Indonesia*, subnational governments have had difficulty fully utilizing their budgets and achieving immunization targets since decentralization, due partially to a lack of subnational capacity to manage immunization budgets and programs.[53] In *Lao PDR*, provincial budgets are assigned based on number of staff and historical allocations, rather than program needs, with additional financing such as user fees not being fully reflected in annual planning.[54] In *Sudan*, the formula for allocating funds to states is not transparent, making it difficult for them to understand what resources are available to them for budgeting. The window for states to

[47] National Primary Health Care Development Agency. (2018, April). Nigeria Strategy for Immunization and PHC System Strengthening (NSIPSS) 2018-2028. https://nigeriahealthwatch.com/wp-content/uploads/bsk-pdf-manager/2019/09/18.04.2018_Nigeria-Strategy-for-Immunization-and-PHC-Strengthening_3rd_Version-Final.pdf
[48] Portnoy, A., Vaughan, K., & Clarke-Deelder, E., et al. (2020). Producing Standardized Country-Level Immunization Delivery Unit Cost Estimates. PharmacoEconomics, 38(9), 995–1005. https://doi.org/10.1007/s40273-020-00930-6
[49] Brenzel, L., Young, D., & Walker, D. G. (2015). Costs and financing of routine immunization: Approach and selected findings of a multi-country study (EPIC). Vaccine, 33, A13–A20. https://doi.org/10.1016/j.vaccine.2014.12.066
[50] Dussault, G., & Franceschini, M. C. (2006). Not enough there, too many here: understanding geographical imbalances in the distribution of the health workforce. Human Resources for Health, 4(1). https://doi.org/10.1186/1478-4491-4-12
[51] Qian, Y., Yan, F., & Wang, W. (2016). Challenges for strengthening the health workforce in the Lao People's Democratic Republic: perspectives from key stakeholders. Human Resources for Health, 14(1). https://doi.org/10.1186/s12960-016-0167-y
[52] Coe, M. and Gergen, J., Vietnam Country Brief.
[53] Maharani, A., & Tampubolon, G. (2014).
[54] World Bank, Health Financing System Assessment in Lao PDR.

submit their budget proposals is short and therefore not all state budgets are included in the MoH's initial budget estimates. Furthermore, budget guidance provided to federal ministries does not include a ceiling, causing ministries to overestimate the consolidated budgets that they submit in order to maximize funding. The lack of transparency in this process complicates planning and leads to inaccurate budgeting.[55]

- **Insufficient revenue generation at the subnational level:** In the context of limited fiscal space for health during Gavi transition, some LNCT countries look to the subnational level for potential new sources of immunization revenue. However, due to a lack of revenue generation capacity or budgetary prioritization, subnational governments often do not raise sufficient funds to meet immunization needs. In *Vietnam*, provinces are supposed to cover 50% of routine immunization operational costs, but in reality, they cover about 10% of routine financing on average, with wide variations between provinces. 20% of provinces do not contribute any revenue to immunization.[56]
- **Lack of subnational financial data:** Many countries lack accurate and timely data on immunization budgets and expenditure at the subnational level, which complicates forecasting and budgeting processes. At the national level, it may make it difficult to understand the resources and needs of various subnational entities. For example, in *Lao PDR*, provinces contribute some of their own revenue to routine immunization, but the national level has very little visibility into how these funds are pooled, allocated, and spent.[57] Outdated or poor-quality census or other population data can make it difficult to track and budget for target populations. In *Congo*, *Vietnam*, and *Kenya*, large internally displaced person, migrant, or informal urban settlement populations further confound population tracking and immunization planning.[58] Integrated service delivery may also complicate the understanding of immunization budgets and expenditure, as has been noted in *Timor-Leste*.[59]

In addressing challenges related to inadequate resource allocation in decentralized contexts, strategic engagement of subnational government decision-makers to build commitment for immunization is needed to address these challenges. Below are some examples of how LNCT countries have sought to address these challenges.

- **Building capacity for immunization budgeting at the subnational level:** The MoH can assist subnational governments during the budgeting process by providing training and guidance for microplanning and developing complete budgets that cover all immunization program needs, including operational aspects that are often overlooked. In *Indonesia*, where 75% of vaccines are delivered through health posts, the MoH found that there was confusion at the subnational level about how to budget for outreach. By providing clearer guidance about how to use Specific Allocation Fund (DAK) transfers for outreach, how to budget for transportation, and how national health insurance funds could be used for operational costs for preventative services, the MoH assisted subnational governments to better utilize the resources available to them.[60] In *Vietnam*, the national government developed a "Costing of Immunization package" to outline all the necessary components of a complete immunization budget to provincial governments.[61]
- **Advocating for immunization resources at the subnational level:** Engaging with subnational policy makers about the value of immunization can help to increase subnational revenue generation and prioritization of immunization. In *Pakistan*, several provinces have used high-level advocacy, accountability mechanisms, and a Health Roadmap Initiative to successfully increase funding for

[55] Sudan Joint Financial Management Assessment Report. (2016, June). Republic of Sudan, Federal Ministry of Health. https://www.uhc2030.org/fileadmin/uploads/ihp/Documents/Key_Issues/Financial_Management/Sudan_Health_Sector_JFMA_Report.pdf
[56] Coe, M. and Gergen, J., Vietnam Country Brief.
[57] Communication from Lao PDR's LNCT Country Core Group
[58] Gavi. (2017, June). Congo Joint Appraisal Report 2017. https://www.gavi.org/sites/default/files/document/rapport-de-l-%25C3%25A9valuation-conjointe-congo-2017pdf.pdf; Coe, M. and Gergen, J., Vietnam Country Brief; Gavi. (2019b). Kenya Joint Appraisal Report 2019. https://www.gavi.org/sites/default/files/document/2020/Kenya%20Joint%20Appraisal%202019%20Final.pdf
[59] Timor Leste Joint Appraisal Report 2017.
[60] Communication from Indonesia's LNCT Country Core Group
[61] Gavi. (2017). Vietnam Joint Appraisal Report 2017. https://www.gavi.org/sites/default/files/document/joint-appraisal-vietnam-2017pdf.pdf

immunization.[62] In *Nigeria*, Gavi supported the development of state-specific continuous improvement plans, which states then used to advocate for funding to cover gaps with varying degrees of success.[63] WHO notes that subnational levels will likely be aware of the opportunity costs of major efforts like immunization campaigns, and therefore the national level should devote sufficient preparation time to securing subnational buy-in for these efforts.[64] In *India*, campaigns such as the Intensified Mission Indradhanush, which aims to increase immunization coverage in low-performing states and mobilize communities, receives high levels of support from state governments and achieves strong coverage results.[65] LNCT's investment case materials[66] are a good place to start for countries looking for advocacy materials for immunization financing.

- **Improving subnational financial data for planning and management:** Improving subnational data about immunization resources, needs, and spending can improve budgeting and identify resource gaps. Coverage, target population, and stock data is also critical for accurate forecasting. *India* conducted a costing study to better understand delivery costs by state, revealing wide variation in costs between states and contributing critical information to the budgeting process.[67] Many LNCT countries have implemented electronic data information systems in recent years. One example is *Vietnam's* national immunization monitoring system based on PATH's Optimize platform, which is funded as a public-private partnership between the MoH and the telecom company Vittel.[68]
- **Setting standards and accountability:** *Indonesia* and *Lao PDR* have established legislation or guidelines governing the portion of subnational budgets that must be devoted to health.[69] *Indonesia* and *Kenya* set performance standards (including immunization indicators) that subnational governments must meet. As top-down approaches, these guidelines have had limited success increasing resources for immunization, partially because they are not strictly enforced.[70] In *Nigeria*, transfers from the central level are unconditional and may be used entirely at the State's discretion, but the government is working to put in place state-level accountability frameworks, in addition to Memoranda of Understanding that already exist between many states and partners, to engage states around immunization on an ongoing basis and secure their commitment to gradually increasing support for immunization over time.[71] In *Kenya*, the national government incentivizes immunization performance through performance-based financing paid to subnational entities or directly to facilities, which can be used for activities like facility improvements or health worker compensation.[72]

Immunization Funding Disbursement and Bottlenecks

Achieving the goals of decentralization in the health system – effective, efficient, equitable, responsive, accountable - requires that the public financial management system across all levels of government disburse allocated funds in a timely manner needed to provide quality services. Long budget approval processes, unstable economies, and unpredictable revenue streams at national and subnational levels, together with weak cash management systems, affect timely disbursements at the point of origination. Funding disbursements may go through complex layers of various government institutions before they reach the end-

[62] Pakistan Joint Appraisal Report 2019.
[63] Gavi. (2019). Nigeria Joint Appraisal Report 2019. https://www.gavi.org/sites/default/files/document/2020/Nigeria%20Joint%20Appraisal%202019.pdf
[64] Feilden, R., Nielsen, O.F. (2001). Immunization and Health Reform - Making Reforms Work for Immunization: A Reference Guide. World Health Organization. https://apps.who.int/iris/bitstream/handle/10665/69617/WHO_V-B_01.44_eng.pdf?sequence=1&isAllowed=y
[65] Gavi. (2019). India Joint Appraisal Report 2019. https://www.gavi.org/sites/default/files/document/2020/India%20Joint%20Appraisal%20Report%202019.pdf
[66] Learning Network for Countries in Transition (LNCT). (2020b, December 9). Materials to Help you Make the Case for Investing in Immunization. https://lnct.global/resources/making-the-case-for-investing-in-immunization/
[67] Chatterjee, S., Das, P., & Nigam, A. (2018). Variation in cost and performance of routine immunisation service delivery in India. BMJ Global Health, 3(3), e000794. https://doi.org/10.1136/bmjgh-2018-000794
[68] Coe, M. and Gergen, J., Vietnam Country Brief.
[69] World Bank, Indonesia Health Financing System Assessment; World Bank, Health Financing System Assessment in Lao PDR.
[70] World Bank, Indonesia Health Financing System Assessment; Kenya Joint Appraisal Report 2019.
[71] Nigeria Joint Appraisal Report 2019.
[72] Dutta, A., Maina, T., Ginivan, M., Koseki, S. (2018). Kenya Health Financing System Assessment 2018. Health Policy Plus. http://www.healthpolicyplus.com/ns/pubs/11323-11587_KenyaHealthFinancingSystemAssessment.pdf

user at districts or health facilities. Further challenges may also arise as end-users manage multiple uncoordinated streams of funding.

Whether funds flow to the subnational governments and/or facilities by cascading through the various levels of government or through direct disbursement from the national treasury, the timely disbursement of funds is critical to immunization performance as it prevents stock outs of vaccines and commodities; ensures outreach and campaign activities are conducted as planned; and maintains supply chain effectiveness. In *Nigeria*, a vaccine audit report indicated 76% of states and 65% of LGAs assessed did not have funds available for vaccine distribution (HFSA 2018), and in *Kenya*, the 2019 Joint Assessment found that inadequate funding disbursements led to stock-outs at multiple levels of the supply chain and impacted operations and the availability of syringe supplies and documentation tools. In *Lao PDR*, funding for outreach is often delayed, limiting outreach services to remote locations when the weather is most hospitable, while other health facilities use other operating funds or even personal funds to ensure outreaches happen on time.

Many of the challenges resulting in funding disbursement delays are economic or systemic and beyond the control of the national immunization program or even the ministry of health. In decentralized systems, however, challenges may be exacerbated as funding may need to flow through more institutional actors, increasing the risk for delays and the potential for bottlenecks. The mechanisms by which funds for immunization are transferred to subnational governments and facilities vary across decentralized LNCT countries.

Common challenges in LNCT countries that affect timely funding include:

- **Delayed budget release originating from treasury.** Even with sufficient funding budgeted for immunization, significant disbursement delays result in funds not being available when and where they are needed. In *Nigeria*, the national government released 99.5% of immunization funding in 2018, but due to instability in the budget cycle the funds were not released until Q3 of that year (JA 2019). In *Congo*, the 2018 budget for immunization was sufficient to achieve performance targets, however, only 75% was authorized for disbursement, and, by the end of the year, only 15% of the budget had actually been disbursed. In *Kenya*, there are major delays in funding disbursements across all levels of government, leading to only 68% budget execution in the health sector in 2015.
- **Multiple layers of approvals through many institutional actors**. In many countries, funding flows through a complex web of institutional actors, creating multiple opportunities for administrative delays. In *India*, as a result of a policy change in 2014, funding flows directly from the central treasury to the state account where health funds earmarked for the State Health Society (SHS) are then transferred to the SHS. Previously, funding flowed from the central treasury directly to the SHS. While the change in policy was meant to streamline funding flows and ensure greater oversight by the state, state health officials report an increased administrative burden and additional management time is required to follow up with the treasury for release of funds to the SHS.[73]
- **Fragmented financing, or funding that comes from multiple sources**. In *Indonesia*, subnational governments and health facilities receive funding for primary health care through two channels, comprising various revenue streams: (1) budget transfers from the central government to provincial and district governments; and (2) the health insurance fund. The first channel includes a decentralization block grant allocated based on the wage bill and the local fiscal capacity that aims to improve inter-regional equity, funds earmarked for health and social sectors that include further earmarks for nutrition and maternal child health services at health centers, and fiscal balance transfers. Both the block grant and the fiscal balance transfers can be used at the discretion of the local government, including for health. Funding from the health insurance fund is distributed to districts based on the number of members whose premiums are paid by the government.[74] In *Pakistan*, due to

[73] Berman, P., Bhawalkar, M., Jha, R., et al. (2017, June). Tracking Financial Resources for Primary Health Care in Uttar Pradesh, India. Harvard T.H. Chan School of Public Health. https://cdn1.sph.harvard.edu/wp-content/uploads/sites/2031/2017/01/Tracking-Financial-Resources-for-Primary-Health-Care-in-Uttar-Pradesh-India.pdf

[74] Mahendradhata, Y., Trisnantoro, L., Listyadewi, S. (2017). The Republic of Indonesia Health System Review. Asia Pacific Observatory on Health Systems and Policies. https://apps.who.int/iris/bitstream/handle/10665/254716/9789290225164-eng.pdf;sequence=1

multiple sources of immunization funding at the provincial level, including funding from federal and provincial governments, as well as external funding from international donors, the provincial immunization program frequently experiences delayed and unpredictable funding flows.

Like at the national level, improvements in public financial management, including reducing bottlenecks and improving funding disbursements depend on efforts from both the finance and health sectors. Improving the working relationship and mutual understanding of needs and requirements of both sectors is also necessary at subnational levels. Challenges in disbursement of funds at subnational levels must be communicated to the national ministries of health and finance to be sure that PFM reforms meet the needs of subnational governments and will contribute to the improvement of service delivery at the local level. For example, the rules and mechanisms surrounding the intergovernmental fiscal transfer can have a significant effect on funding flows. Below are examples of how LNCT countries have sought to improve funding flows.

- **Collecting and disaggregating better expenditure data for resource tracking**. As previously noted, improving subnational financial data collection can improve budgeting and identify resource gaps. Resource tracking data at the subnational level, with immunization data disaggregated, can also allow for analysis of the flow of immunization resources through funding channels, notably from the national to subnational government. In *Vietnam,* nearly all provincial immunization programs have tracked expenditures since 2013 using a Budget Flow Analysis Tool developed with the support of the Sustainable Immunization Financing project. In 2014 and 2015, this data was successfully used to advocate for increased provincial spending and avert budget cuts at the national level.[75]
- **Advocating for simplified funding flows and budget transfer mechanisms**. The involvement of one or more intermediary institutional layers in fund transfers is a common cause in fiscal transfer delays. In *Congo,* in 2018, despite sufficient budget for the immunization program only 14.5% of budgeted funds had been disbursed by Oct 2018. Drawing on the LNCT investment case resources to advocate for improved disbursement of immunization resources, the EPI manager directly engaged the MOF to simplify the disbursement of funds to provinces and districts.
- **The use of mobile or digital technology for fiscal transfers.** Governments can digitize payment transfers to support more reliable and efficient resource flows and transactions. This approach can also contribute to improving resource accountability. While not yet decentralized, in *Cote d'Ivoire,* transfers from the national level are made directly to facilities using mobile money.

Conclusions

As LNCT countries transition to fully self-financing their immunization programs, program managers in decentralized health systems may need different strategies than their counterparts in more centralized health systems to ensure adequate resource mobilization and effective program management. The NIP may need to engage additional stakeholders and/or support subnational EPI managers to develop new skills in order to ensure adequate financing and high-quality services.

The challenges found across LNCT countries with decentralized systems stem from several common issues that constrain immunization program performance:

- **Weak coordination between national and subnational levels**. Better coordination would allow subnational levels to be prepared to implement new guidelines, update staff training, conduct activities to close immunization gaps, or introduce new vaccines, by providing time to plan for adequate funding, human resources, and to build political commitment.
- **Low management and budgeting capacity at subnational levels**. Immunization managers at subnational levels with more knowledge of budgeting and cash disbursement processes, awareness of upcoming activities planned from national level, as well as more guidance about how to budget for

[75] Sabin Vaccine Institute, A Decade of Sustainable Immunization Financing.

priority activities would be able to prepare/request appropriate budgets to support immunization activities.

- **Insufficient awareness of, and inadequate funding for, key immunization functions at subnational levels**. Regular monitoring of immunization expenditures at subnational level would help NIP staff to advocate for increased funding using data on trends over time and across geographies, particularly if better performance can be observed in localities with higher expenditures.

Based on this review, there are promising strategies for NIPs to support increased resource mobilization and effective service delivery, drawn from LNCT country experiences:

1. **Develop effective systems for training, communications, and coordination, cascading to lowest administrative levels**. An effective immunization program requires that all levels of the health system perform their required functions. Providing clear guidance for subnational managers and sufficient notification times to allow adequate planning and budgeting will increase the likelihood that subnational governments implement new guidelines and activities and carry out their assigned responsibilities. Strong coordination systems would also alert the NIP to issues at subnational levels.
2. **Strengthen capacity for program management at subnational levels, including financial and programmatic planning**. The NIP must rely on local governments and local managers to plan, fund, and implement needed activities; however, they can support the planning process by providing clear, practical guidelines about how to budget for needed immunization functions and activities. Detailed guidance on necessary components of a strong immunization program and how to budget for them, along with guidance for successful implementation can help subnational managers to secure funds and show strong outcomes.
3. **Monitor subnational immunization expenditures and support subnational immunization managers to advocate for increased funding**. Regular and reliable data on subnational immunization expenditures is the foundation for advocacy for increased funding. Data on subnational immunization expenditures have been successfully used by national level managers to increase budgets. The NIP can support a system for regular reporting of key immunization expenditures, or relevant primary health care expenditures, to monitor trends and assess inadequacies. Developing the capacity of subnational managers to advocate for funding within their localities, as well as continued advocacy at the national level for immunization resources is needed over the long term.

National immunization programs, and immunization partners may need to consider new strategies and new funding sources, in order to mobilize adequate funding for immunization after Gavi transition. To support these strategies, the NIP may also need to build its own capabilities related to budget allocation and financial analysis to engage with decision makers to address barriers and improve funding availability.

Appendix 1.1 Country Case Studies

Building Subnational Immunization Program Management Capacity through Peer Learning Exchanges in Nigeria

Authors: Raihana Ibrahim and Uchenna Igbokwe

The Constitution of Nigeria establishes a highly decentralized federation comprising 37 states, which themselves comprise 774 Local Government Areas (LGAs). Within this system, the federal government is responsible for policy development, vaccine procurement, technical support, and tertiary care, while the states and LGAs are responsible for lower levels of care and routine immunization infrastructure and logistics. States exercise broad budgetary authority, with the majority of their budgets coming from unconditional transfers from the federal government.

A major concern for Nigeria's immunization program is the large disparity in immunization coverage and spending between states, with states in the south tending to fare better than those in the north. DTP3 coverage ranges from 76% in the southern state of Anambra to 7% in the northern state of Sokoto.[76] Subnational health expenditure accounts for an average of 2.2% of total health expenditure, but this proportion varies from 7.1% in the southern state of Imo to 0.7% in the northern state of Zamfara. On average, 26% of a state's revenue is generated by the state, but this number varies greatly from nearly 500% in Lagos to practically negligible amounts elsewhere.[77] A landscape analysis conducted by IVAC identified a broad range of challenges impacting immunization coverage in low-performing states. Among these were many issues related to lack of program management capacity in areas such as leadership and governance, financing and resource management, and logistics and planning.[78]

Since 2017, Solina Center for International Development and Research (SCIDaR) has partnered with six underperforming states to improve immunization program performance through a series of Peer Learning Exchanges. The Exchanges build on an existing platform of Memoranda of Understanding between these states, the Bill & Melinda Gates Foundation, and the Aliko Dangote Foundation that aim to strengthen immunization systems and increase state financing of immunization through a phased pooled funding agreement under which states contribute increased funding over time into a dedicated RI "basket account". Through the Peer Learning Exchanges, the key immunization officers and managers from the states meet twice a year on a challenge of mutual interest, with the best-performing state designated to lead the meeting with agenda-setting support from SCIDaR. The participants for each meeting are selected based on the chosen theme of each of the learning exchange meetings.

At the end of each meeting, the states reach a resolution and agree to specific measures of progress towards achieving an objective. Some examples of resolutions that have come out of these meetings include:

- Direct vaccine delivery: SCIDaR convened the State Immunization Officers/Managers, State Logistics Officers, and State cold chain officers, and relevant partners to address the challenges with vaccine logistics in the states. To reduce the frequency of stock-outs, states resolved to transition from an unfunded "pull" system of vaccine delivery that varied across states to direct vaccine delivery from state cold stores to the service delivery points across all six states. As a result, average stock-out rates fell from as high as 30-50% to 1-5%. The impact was significant enough that the states fed this learning up to the federal government, with the federal government considering adoption of this direct vaccine delivery system for scale-up in other non-MoU funded states.
- Financial management: To ensure that all funds deposited into the basket account were adequately accounted for, SCIDaR worked with the State PHC Board Leadership, Immunization Program Managers and their finance teams (Directors of Finance, Chief Accountants, Cashiers and Internal Auditors) to develop a financial management system for RI funds that included direct electronic disbursements, retirements and validation, and routine internal and external audits. These systems were co-created during

[76] NDHS 2017
[77] http://documents1.worldbank.org/curated/en/782821529683086336/pdf/127519-WP-PUBLIC-add-series-NigeriaHFSAFINAL.pdf
[78] https://www.jhsph.edu/ivac/wp-content/uploads/2018/05/IVAC-Landscape-Analysis-Routine-Immunization-Nigeria-WhitePaper.pdf

a series of learning exchange meetings conducted with the finance teams (comprising Directors, Cashiers and Auditors) from the state primary health care boards; and were followed by direct on-the-job mentoring sessions to transfer capacity to the officers such that they can independently perform their job functions. Following the success of the RI financial management system, SCIDaR convened the states to develop roadmaps to expand this RI legacy to broader PHC, and also co-developed and published a financial management start-up guide which has been shared widely with other state, national and international stakeholders.

- Community engagement: The learning exchanges on this topic sought to devise a sustainable community engagement strategy to improve demand for routine immunization across these 6 northern states. During the learning exchange, the name-based community engagement strategy (which involved identification and tracking of newborns, drop-outs and left-outs by traditional leaders) was co-created and fine-tuned. The strategy was adopted by the National Primary Health Care Development Agency (NPHCDA) and is being implemented in 4 other states, with plan to scale nationwide and expand its scope to broader primary health care.

Additionally, SCIDaR also facilitated various learning tours between selected states to directly observe and engage with stakeholders in the field and to better understand the implementation. For example, the Bauchi state team conducted learning visits to Kano state to understand the transition processes necessary for moving from outsourced vendor-led deliveries to state-led deliveries. Through this tour, Bauchi state was also able to effectively transition its vaccine delivery model to an insourced model at a lower cost and with greater efficiency.

Nigeria's Peer Learning Exchanges used the MOU platform as a starting point to foster state and partner collaboration. Some of the key challenges have included the slow pace of implementation of the resolutions from the exchanges due to programmatic constraints, system bureaucracies and inertia at the state level. Competing priorities in the state also affect the scheduling and the sessions, which require convening all key officers for relevant themes in the discussions. However, the Peer Learning Exchanges have overall been a success, and some of these implementation lessons have gone on to be used in other countries, including Chad, Niger and Guinea, where similar MoU approaches have been established. However, the existence of such an initial platform may not be necessary for other countries interested in emulating Nigeria's example. The several key factors that were critical to the Peer Learning Exchanges' success included:

- The Peer Learning Agenda provided a platform for high-level decision makers to come together to make strategic decisions and high-level agreements.
- Partners were engaged to support state success by providing technical assistance to build state-level capacity. For example, Solina embedded a staff member in the finance departments of the state health agencies to provide day-to-day on-the-job coaching to agency staff, until the staff were confident enough to train others.
- Resolutions were achievable with the existing financial resources and other system enablers already available to the states through the MoU.
- The Peer Learning Agenda's strategy of showcasing state success stories created a sense of healthy rivalry between states that provided an incentive for them to meet their resolutions.
- National level stakeholders (specifically, the NPHCDA) were engaged to participate in the meetings/workshops, address issues arising from national policy and disseminate learning to other non-MoU states.
- The topics discussed during the sessions were jointly selected with stakeholders to address relevant, common challenges. Solutions were also developed to be fit-to-purpose with contextualization to state-specific realities. For example, with the COVID-19 pandemic, the SCIDaR team plans to convene the states to discuss critical and SMART solutions for building back better integrated PHC systems – a topic that is timely, relevant and addresses the needs of all 6 states.

Locating Procurement Responsibilities at Appropriate Level of Government

Authors: Yasodhara Kapuge, Anuji Gamage, Nihal Abeysinghe, Soofia Yunus

Background: Devolution in Pakistan

In 2010, Pakistan's parliament passed the 18th Amendment, which restructured the country as a decentralized federation with substantial devolution to provinces of legislative and policy-making power in key areas such as health, education, and social welfare. Within provinces, there is additional decentralization of government activities to the lower-level: the districts.

Under these changes, the Ministry of National Health Services Regulations and Coordination plays a key role in national policy-making, strategy, vision, and planning [79], but it is the provincial and local governments that take the lead in operationalizing these policies.[80] The decentralized system was intended to provide districts with the freedom and autonomy to utilize their allocated budgets according to their needs and to exercise managerial authority over human resources to improve the efficiency of the services and encourage community participation. As a result, 60% of government health expenditure is managed at the district level.[81]

After devolution, responsibility for the Expanded Programme in Immunization (EPI) shifted to the provincial governments. The national EPI holds limited responsibility for vaccine procurement, managing immunization supply chain, coordination, and technical guidance.[82] Although the federal government has been endorsed by the provinces to manage the vaccine procurement process, the provinces are responsible for paying for vaccines as per their annual forecast as well as service delivery, which they fund through provincial government revenue.[83]

Key Challenges for Vaccine Procurement

Pakistan is the only country in Gavi's portfolio that pays for vaccine procurement at the provincial level. Delayed release of funds from the provincial level is a challenge for all the provinces in Pakistan, particularly Sindh, Khyber Pakhtunkhwa (KP) and Baluchistan, due to slow bureaucratic processes. Annual budgetary allocations for health are approved by the legislature, handed over to provincial health departments, and ultimately to the District Health Officers (DHOs). DHOs release funds for the EPI from the same fund, which can result in competing priorities and a slowing down of the process.

Prior to devolution, the federal EPI's low technical capacity for vaccine procurement resulted in sub-optimal management of the procurement processes for vaccines, supplies, and equipment, as well as equipment maintenance. Immediately following devolution, these challenges resulted in stock-outs, the procurement of low-quality vaccines, and overall negative effects on coverage outcomes. World Bank analysis indicated that Pakistan incurred an average annual loss of $38 million due to such inefficiencies in vaccine procurement and program management, in addition to declines in the quality and equity of immunization services.[84]

National Immunization Support Project (NISP)

In April 2016, the World Bank approved $50 million to increase the availability of vaccines for infectious diseases for children under two years of age in Pakistan through the National Immunization Support Project (NISP). The development objective of the NISP for Pakistan was to increase equitable coverage of services for immunization against vaccine preventable diseases in Pakistan.

The NISP also received additional support totaling $84 million by Gavi the Vaccine Alliance, into the World Bank administered Multi-Donor Trust Fund (MDTF), and the United States Agency for International Development support

[79] Kumar, Santosh. 2017. "Comparison and Analysis of Health Care Delivery Systems: Pakistan versus Bangladesh." Journal of Hospital & Medical Management ISSN 2471-9781 3:1.
[80] Afteb, Mishaal. 2019. "Decentralization and the Provision of Public Services: A Case Study of Khyber Pakhtunkhwa, Pakistan." PhD in Political Science, University of Connecticut.
[81] Kumar, Santosh. 2017.
[82] Haque, Minhaj ul , Muhammad Waheed, Tayyeb Masud, Wasim Shahid Malick, Hammad Yunus, Rahul Rekhi, Robert Oelrichs, and Oleg Kucheryavendo. 2016. "The Pakistan Expanded Program on Immunization and the National Immunization Support Project : an economic analysis." *Nutrition and Population (HNP) Discussion Paper Series: The World Bank*.
[83] UNICEF. 2018. Pakistan Implementation Research for Immunization – A compilation of project objectives, results and recommendations. Pakistan: Implementation Research and Delivery Science (IRDS) Unit, Health Section, UNICEF.
[84] Haque et al. 2016.

that was not routed through the trust fund. The MDTF for the NISP was established to help address the long-standing issues of inefficiency and unsustainability caused by the fragmented financing structure of Pakistan's EPI program. The MDTF permits funds to flow directly to provinces through disbursement-linked indicators (DLIs). Funds are disbursed through two mechanisms:

1) Through the DLI mechanism, the funds are disbursed to the provinces on achievement of desirable results after verification by federal EPI through a third party.

2) Under the Technical Assistance (TA) mechanism, funds are provided to the EPI in designated accounts for provinces and the national level. The funds may be used for cold chain, goods and consultations depending upon the needs of these areas.

To ensure timely co-financing payments for Gavi vaccines and sustainable fund availability for traditional vaccines, a mechanism for pooled vaccine procurement was established as a part of NISP. The mechanism allows the provinces to pool their funds for vaccine procurement as per their need of vaccine forecast, which is then managed at the national level. Pooled procurement often offers a way for a purchasing entity to join a larger pool of purchasers, generating a larger market and driving down prices than self-procurement [85], but it must be properly managed to be efficient. Accountability for pooled vaccine procurement was improved through frequent review meetings and stock-takes across the provinces.[86] The pooled procurement mechanism has successfully implemented in the country under the NISP that procured vaccines for whole of the country, resulting in an uninterrupted supply of vaccines for the past four years.[87] Additionally, when the COVID-19 outbreak began earlier last year, NISP's pooled procurement mechanism provided a fast, reliable and structured way to procure essential supplies such as masks and other personal protective equipment for frontline health care staff.[88]

Through the NISP, national and provincial programs have made adequate and sustainable financing available in the national and provincial recurrent budgets for vaccine procurement and immunization service delivery. The project is scheduled to end in 2021 [89], however case for its extension is in process.

[85] Coe, Martha, Jessica Gergen, Michaela Mallow, Flavia Moi, and Phily Caroline. 2017. "Landscaping Analysis". Sustainable Immunization Financing in Asia Pacific. Washington, DC: ThinkWell.
[86] WHO. 2017.
[87] Oelrichs, Robert, Aliya Kashif, Jahanzaib Sohail, and Shaza Khan. 2020. "Pakistan's National Immunization Support Project: An anchor for collaboration during COVID-19 (coronavirus)." World Bank.
[88] Oelrichsaliya, Robert, Kashifj Ahanzaib, and Sohailshaza Khan. 2020. "Pakistan's National Immunization Support Project: An anchor for collaboration during COVID-19 (coronavirus)."
[89] The World Bank. 2020. "National Immunization Support Project." https://projects.worldbank.org/en/projects-operations/project-detail/P132308.

Using Subnational Expenditure Data to Advocate for Immunization Resources in Vietnam

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Vietnam's healthcare delivery system operates at four administrative levels: central, provincial, district and commune. At the national level, the Ministry of Health (MOH) has responsibility for overall health policy, establishing the framework for financing, and overseeing the provision of health services. The MOH's Expanded Program on Immunization (EPI), situated in the National Institute for Hygiene and Epidemiology (NIHE), is directly funded by the national government budget. It sets the overall strategy and supervises the national immunization program. The EPI decides which vaccines are included in the national program, leads public media and communications efforts, procures, and distributes vaccines to lower levels, monitors national efforts, and provides training and overall technical support. The MOH also makes budgetary transfers from its own budget to lower levels for health care delivery, which supplements additional resources mobilized by lower levels of government, including payments to health care facilities from the national health insurance scheme.

The EPI is implemented at the provincial level by the Preventive Medicine Centers (PMCs), under the guidance of the regional and national EPI offices. These supervise district medical centers (DMCs) and commune health centers (CHCs)[90]. CHCs are responsible for conducting monthly immunization services through fixed immunization sites and deploying mobile teams to reach remote areas to administer routine vaccines.[91]

The Problem

In 2012, Vietnam's EPI manager requested the support of the Sustainable Immunization Financing (SIF) Project, implemented by the Sabin Vaccine Institute, to resolve a lack of immunization expenditure reporting from all provinces, a critical benchmark for the Global Vaccine Action Plan. The national EPI team also strongly believed that having data on local government spending would help to improve resource mobilization and allocation at the national and local levels. In 2013, only 25 of 63 provinces (40%) reported annual provincial government spending on immunization activities.

Provinces indicated a reluctance to share expenditure data due to fears of subsequent cuts in funding.[92] EPI managers were concerned low budget execution rates may make it appear as though subnational programs were over-funded, when in reality budgeted funds were often not fully released, as problems like cash hoarding and budget misclassification prevented money approved by Parliament from ever reaching provincial and district bank accounts.

SIF's Budget Flow Analysis Tool and Advocacy

The SIF program's first step was to hold a briefing with MOH EPI managers from the four regions of Vietnam, and their representatives from the Ministry of Finance (MOF) and the National Assembly.[93] The aim of this briefing was to discuss and analyze resource availability, resource allocation, programmatic performance and annually increasing EPI budget requests, in order to increase immunization funding through intentional, data-driven conversations to better inform policymakers.[94] Other objectives of the briefing were to engage the provinces as active stakeholders in the EPI program, credit local officials for their support and management of the implementation of the EPI program in their region, and secure political commitment from provincial governments to allocate more resources to immunization programmes in domestic budgets across the country. Securing support for EPI from international agencies and foreign governments such as WHO, UNICEF, GAVI, LUXEMBOUTGH, JICA and other local financial resources were also discussed.

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[90] Nguyen, Trung Dac, Anh Duc Dang, Pierre Van Damme, Cuong Van Nguyen, Hong Thi Duong, Herman Goossens, Heidi Theeten, and Elke Leuridan. 2015. "Coverage of the expanded program on immunization in Vietnam: Results from 2 cluster surveys and routine reports." Human vaccines & immunotherapeutics 11 (6):1526-1533. doi: 10.1080/21645515.2015.1032487.

[91] Nguyen et al. 2015.

[92] SABIN Vaccine Institute. 2012. SUSTAINABLE IMMUNIZATION FINANCING: Summary Digest.

[93] SABIN Vaccine Institute. 2013. Immunization Financing News. In Quaterly News from the SIF Program: SABIN Vaccine Institute.

[94] McQuestion, Michael, Andrew Carlson, Khongorzul Dari, Devendra Gnawali, Clifford Kamara, Helene Mambu-Ma-Disu, Jonas Mbwanque, Diana Kizza, Dana Silver, and Eka Paatashvili. 2016. "Routes Countries Can Take To Achieve Full Ownership Of Immunization Programs." Health Affairs 35 (2):266-271. doi: 10.1377/hlthaff.2015.1067.

Next, an analysis of subnational budget flows helped the national EPI team understand how the provincial levels were spending money to prevent overlaps or gaps in spending. Regional EPI managers supported by the SIF Program were provided with a standard budget flow analysis tool which was adapted from the Public Financial Management Performance Measurement Framework used by the World Bank. EPI managers found significant upstream problems such as “cash hoarding“ by the Treasury Department and misclassification of funds that had been allocated for immunization programming but actually used elsewhere.[95] Taking these diversions in account, the SIF program calculated that Vietnam’s 2014 EPI budget was to be cut by 29%.[96]

Building on relationships established during the initial briefing, the Director of the Department of Social Affairs at the National Assembly supported the EPI team to organize another briefing for the members of the National Assembly by the EPI team in October 2013, and again in November 2013. During these briefings, the EPI team presented the results of this analysis, the current situation of the EPI, its financing issues, and the rationale for considering immunization to be a priority program. As a result of these briefings, Members of the National Assembly placed greater priority on the EPI program and restored the EPI’s allocations in the 2014 budget to 120% of its original amount.[97] The national budget increased an additional 35% by 2015.[98]

The success of these analysis, advocacy and relationship-building efforts also encouraged provinces to improve their expenditure reporting. Eighty percent of the 63 provinces reported expenditures by the end of 2013. This was expected to reach 100% reporting by the end of the following year. Additionally, provincial government spending on immunization increased 55% between 2012-2014. In 2015-2016, Parliament worked with the EPI to organize annual provincial stakeholder workshops to discuss immunization financing and share expenditure data.[99]

Vietnam provides an excellent example of how improving the reliability and quality financial data, when used in combination with improved coordination and communication between levels of government, can lead to increase transparency, improved understanding of immunization expenditures and funding flows, and increased funding for immunization programs.

[95] McQuestion et al. 2016.
[96] Burrous, Haley , Andrew Carlson, Hélène Mambu-ma-Disu, Mike McQuestion, Eka Paatashvili, and Dana Silver. 2019. A Decade of Sustainable Immunization Financing. SABIN Vaccine Institute.
[97] Burrous et al. 2019.
[98] McQuestion, Mike 2016. Sabin SIF country fact sheets.
[99] McQuestion 2016.

Appendix 1.2 Country Challenges

1.1 CHALLENGE: INEQUITABLE SPENDING ACROSS GEOGRAPHIES

Country	Context
India	• High degree of variation in state program implementation plans and budgets. Coverage is low in rural and tribal areas.[100] • An average of 47% of revenue is generated by states, with state-generated revenue constituting the majority of revenue in 6 states and just 20% in three states.[101] • Cost of RI has been shown to vary widely between states, with most costs underestimated in the cMYP.[102]
Indonesia	• 5% of national budget and 10% of district budget is required to be allocated for health, but not all districts meet these requirements.[103] • Provinces and districts have limited tax collection authority and capacity.[104]
Kenya	• All counties have immunization indicators included in their County Integrated Development Plans, which guide budgeting, but their commitment to immunization varies.[105] • Few counties have significant tax base or local collection ability and rely on transfers from national level.[106]
Lao PDR	• Provinces are required to spend 9% of budget on health, but not all do. Provinces with higher infant mortality usually spend less.[107]
Nigeria	• States nearly complete discretion over their budgets and rely heavily on federal funds. When these funds fall short, they rarely adequately allocate funds to immunization. There is no legally required minimum spending on health.[108] • States and localities are expected to contribute to State revenue. On average, the contribute about 26%, but there is wide variation between States.[109]
Pakistan	• Provinces have nearly complete discretion over their own budgets, with provincial commitment to and coverage of immunization varying substantially.[110]
Sudan	• Formulas for the allocation of resources to lower levels are not transparent, making it difficult for subnational governments to know what resources are available. Subnational governments are not given budgetary ceilings to assist planning.[111]
Vietnam	• Capitation/staffing based payments to facilities are inefficient and exacerbate provincial and urban/rural disparities.[112] • Provinces are responsible for 50% of RI costs, but raise insufficient local revenue. Revenue generation capacity varies widely between provinces.[113] • Line-item budgeting to provinces are inefficient and exacerbate provincial and urban/rural disparities.[114]

[100] Gavi, India Joint Appraisal Report 2019.
[101] Kala, M., Khullar, V. (2018, January). State of State Finances.
[102] Chatterjee, S., Das, P., & Nigam, A. Variation in cost and performance of routine immunisation service delivery in India.
[103] World Bank, Indonesia Health Financing System Assessment.
[104] OECD. (2019, February). Raising More Public Revenue in Indonesia in a Growth and Equity Friendly Way. https://one.oecd.org/document/ECO/WKP(2019)3/en/pdf
[105] Gavi, Kenya Joint Appraisal Report 2019.
[106] Kenya cMYP for Immunization 2015-2019.
[107] World Bank, Health Financing System Assessment in Lao PDR.
[108] World Bank, Nigeria Health Financing System Assessment.
[109] Nigeria Health Financing System Assessment.
[110] Gavi, Pakistan Joint Appraisal Report 2019.
[111] Gavi. (2016). Sudan Joint Appraisal Report 2016. https://www.gavi.org/sites/default/files/document/joint-appraisal-sudan-2016pdf.pdf
[112] Coe, M. and Gergen, J., Vietnam Country Brief.
[113] World Bank. (2015). Making The Whole Greater Than The Sum Of The Parts: A Review of Fiscal Decentralization in Vietnam. https://openknowledge.worldbank.org/bitstream/handle/10986/23951/Making0the0who0alization0in0Vietnam.pdf?sequence=1&isAllowed=y
[114] Gavi, Vietnam Joint Appraisal Report 2018.

1.2 CHALLENGE: LIMITED OR VARIABLE BUDGETING AND PROGRAM MANAGEMENT CAPACITY AT SUBNATIONAL LEVELS

Country	Context
Cote d'Ivoire	• No regional EPI Coordinators and regional health teams not trained in EPI.[115]
India	• Lack of managerial capacity, including stock management, human resource management, microplanning, accountability, and partner coordination) is a major driver of poor performance. [116]
Indonesia	• Subnational governments have had difficulty fully utilizing their budgets and achieving immunization targets due partly to a lack of subnational program management capacity.[117]
Kenya	• Inadequate skills at County level to manage and coordinate immunization services with many new and inexperienced staff. Many subnational administrative/ political bodies are non-functional.[118] • Limited subnational capacity for engaging the private sector, which plays a large role in service provision.[119]
Sudan	• Increased funding flows to the states were not matched by financial management capacity building activities.[120]

1.3 CHALLENGE: SUBNATIONAL FINANCIAL AND PROGRAMMATIC DATA LACKING OR UNUSED

Country	Context
Indonesia	• National EPI has little information about how national funds are spent at subnational level.[121]
Kenya	• County reporting to Integrated Financial Management Information System is poor quality, resulting in little information about immunization spending.[122] • Low reporting rates and poor data quality in some counties driven by lack of tools, training, and prioritization.[123]
Lao PDR	• National level has little understanding of how province-generated funding is pooled, allocated or used.[124] • Poor data quality complicates planning and overlapping systems place heavy data collection burden on subnational staff.[125]
Timor Leste	• Difficulty tracking immunization-specific spending due to integration.[126]
Republic of Congo	• Large IDP populations complicate identification of target populations and infant tracking.[127]
Vietnam	• Insufficient use of data for planning and management. Strict laws around district residency create difficulty tracking migrant children.[128]

[115] Gavi. (2018). Joint Appraisal Report 2018. https://www.gavi.org/sites/default/files/document/joint-appraisal-c%25C3%25B4te-d-ivoire-2018pdf.pdf
[116] Centre for Public Impact, The Universal Immunisation Programme in India.
[117] Maharani, A., & Tampubolon, G., Has decentralisation affected child immunisation status in Indonesia?
[118] Kenya cMYP for Immunization 2015-2019.
[119] Dutta, A., Maina, T., Ginivan, M., Koseki, S., Kenya Health Financing System Assessment.
[120] Gavi, Sudan Joint Appraisal Report 2016.
[121] Communications from LNCT's Indonesia Country Core Group.
[122] Gavi, Kenya Joint Appraisal Report 2019.
[123] Gavi, Kenya Joint Appraisal Report 2019.
[124] Communications from LNCT's Lao PDR Country Core Group.
[125] World Bank, Health Financing System Assessment in Lao PDR.
[126] Gavi, Timor Leste Joint Appraisal Report 2017.
[127] Gavi, Congo Joint Appraisal Report 2017.
[128] Coe, M. and Gergen, J., Vietnam Country Brief.

1.4 CHALLENGE: WEAK COORDINATION, ACCOUNTABILITY, AND DIVISION OF RESPONSIBILITIES

Country	Context
Kenya	• There is an unclear division of responsibilities for immunization between the national and county levels.[129]
Nigeria	• No integrated approach to coordinate immunization financing between states.[130]
Republic of Congo	• No CCG and ICC is weak.[131]
Sudan	• The law delegating responsibility and financing of health functions to the states and localities lacks clarity about roles and responsibilities. [132]
Timor Leste	• The national government dramatically deprioritized health spending in the national budget in 2015-2016.[133]
Vietnam	• Unclear roles/ accountability between MOH and provincial governments in health care provision.[134]

1.5 CHALLENGE: FRAGMENTED AND UNPREDICTABLE FINANCING AND DISBURSEMENT

Country	Context
Cote d'Ivoire	• Disbursement delays from the national level are common.[135]
India	• Officials have reported an additional administrative burden to secure release of funds since State Health Society funds began being routed through State accounts rather than being transferred directly.[136]
Indonesia	• Health facilities receive funds through a variety of central level transfers and the national health insurance fund, leading to confusion about what funding is available.[137]
Kenya	• Delays in funding disbursements at all levels lead to approximately 68% budget execution by the MOH in 2014/2015 and frequent stockouts.[138] • Funds collected at health facilities must be channeled to County Revenue Funds, preventing local health departments from managing their own revenue.[139]
Lao PDR	• Budgeting process is lengthy, which can cause disbursement delays.[140]
Nigeria	• Funds are often released late from the national level. In 2018, they were released in Q3 (funding release by the states may be further delayed).[141]

[129] Kenya cMYP for Immunization 2015-2019.
[130] Gavi, Nigeria Joint Appraisal Report 2019.
[131] Gavi, Congo Joint Appraisal Report 2017.
[132] World Bank, World Health Organization, & UNICEF. (2017). Moving Toward UHC: Sudan. National Initiatives, Key Challenges, and the Role of Collaborative Activities. http://documents1.worldbank.org/curated/en/929661513159699256/pdf/BRI-Moving-Toward-UHC-series-PUBLIC-WorldBank-UHC-Sudan-FINAL-Nov30.pdf
[133] Gavi, Timor Leste Joint Appraisal Report 2017.
[134] Gavi, Vietnam Joint Appraisal Report 2018.
[135] Gavi. (2017a). Côte d'Ivoire Joint Appraisal Report 2017. https://www.gavi.org/sites/default/files/document/joint-appraisal-c%25C3%25B4te-d-ivoire-2018pdf.pdf
[136] Berman, Peter, Bhawalkar, Manjiri, Jha, Rajesh, Tracking Financial Resources for Primary Health Care in Uttar Pradesh, India.
[137] Mahendradhata, Y., Trisnantoro, L., Listyadewi, S., The Republic of Indonesia Health System Review.
[138] Dutta, A., Maina, T., Ginivan, M., Koseki, S., Kenya Health Financing System Assessment 2018.
[139] Health Policy Plus. (2020, February). Enhancing Domestic Resource Mobilization in Kenya Through Legal and Policy Analysis. Project Impact. http://www.healthpolicyplus.com/impacts.cfm?get=47
[140] World Bank, Health Financing System Assessment in Lao PDR.
[141] Gavi, Nigeria Joint Appraisal Report 2019.

Pakistan	• Provincial funding is highly fragmented, with multiple federal and provincial sources and a high level of off-budget donor funding. Causes delayed funding flows and unpredictable revenue.[142] • There have been some delays releasing donor funds from the Multi-Donor Trust Fund to provinces.[143]
Republic of Congo	• Funding is often incomplete and disbursed late in the year (in 2018, approximately 15% was disbursed by October).[144]
Sudan	• A wide range of purchasers creates a challenging financing system for facilities to navigate.[145] • Funds are often released late from the national level, with some payments never reaching providers.[146]

1.6 CHALLENGE: INEQUITABLE HR SUPPLY AND DISTRIBUTION

Country	Context
Cote d'Ivoire	• Insufficient and unevenly distributed human resources and lack of information about existing human resources at subnational levels and in the private sector.[147]
India	• Number of human resources, distribution, and remuneration is decided by the states with wide variations and leading to poor distribution.[148]
Indonesia	• Human resource management information system is weak and workforce is inequitably distributed regionally and between rural/urban areas.[149]
Kenya	• Large disparities in human resource distribution between counties. Delays in salary payments lead to sporadic health worker strikes.[150]
Lao PDR	• National level funding for health staff is limited and local levels must fill vacancies with contract positions, which are less attractive.[151]
Nigeria	• A recent wage increased has further strained States' ability to ensure the timely payment of health workers.[152]
Pakistan	• EPI has not sustained its human resources since devolution due to low remuneration, political interference, underutilization of vaccinators and Lady Health Workers, and reduced opportunities for in-service staff capacity building. The heavy human resource burden leaves little room for operational costs.[153]
Republic of Congo	• Insufficient and unevenly distributed human resources.[154]
Timor-Leste	• Inadequate human resources, training, and supervision in rural areas.[155]
Vietnam	• Rural areas have insufficient human resource capacity, in part due to competition with the private sector, which is primarily in urban areas. [156]

[142] Kazmi, S., Nair, D., Oelrichs, R. et al. (2016). Collaborating to Improve Immunization in Pakistan. World Bank. https://www.rbfhealth.org/sites/rbf/files/Collaborating%20to%20Improve%20Immunization%20in%20Pakistan.pdf
[143] Gavi, Pakistan Joint Appraisal Report 2019.
[144] Communications from LNCT's Republic of Congo Country Core Group.
[145] World Bank, World Health Organization, & UNICEF, Moving Toward UHC: Sudan.
[146] World Bank, World Health Organization, & UNICEF, Moving Toward UHC: Sudan.
[147] Gavi, Joint Appraisal Report 2018.
[148] Gavi, India Joint Appraisal Report 2019.
[149] Efendi, F., Kurniati, A. (2019). Human Resources for Health Country Profile of Indonesia. https://www.researchgate.net/publication/258217131_Human_Resources_for_Health_Country_Profile_of_Indonesia
[150] Gavi, Kenya Joint Appraisal Report 2019.
[151] Qian, Y., Yan, F., & Wang, W., Challenges for strengthening the health workforce in the Lao People's Democratic Republic.
[152] Gavi, Nigeria Joint Appraisal Report 2019.
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[154] Gavi, Congo Joint Appraisal Report 2017.
[155] Gavi, Timor Leste Joint Appraisal Report 2017.
[156] Coe, M. and Gergen, J., Vietnam Country Brief.