



Overview of Lao Health System Development 2009–2017





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ABBREVIATIONS

ADB	Asian Development Bank
APSED III	Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies
ASEAN	Association of Southeast Asian Nations
AMR	antimicrobial resistance
BEmOC	basic emergency obstetric care
DHIS2	District Health Information Software 2
EDC	Educational Development Centre
EPI	Expanded Programme on Immunization
ESP	essential service package
FDD	Food and Drug Department
Gavi	Gavi, the Vaccine Alliance
GDP	gross domestic product
Global Fund	Global Fund to Fight AIDS, Tuberculosis and Malaria
GNI	gross national income
HIS	health information system
HMIS	health management information system
HRH	human resources for health
HRH-TWG	Human Resources for Health Technical Working Group
HSDP	Health Sector Development Plan
HSR	health sector reform
HSRF	Health Sector Reform Strategy and Framework till 2025
IHR (2005)	International Health Regulations
IPC	infection prevention and control
LDC	least developed country
LECS	Lao Expenditure and Consumption Survey
M&E	monitoring and evaluation
MCH	maternal and child health
MDG	Millennium Development Goal
MMR	maternal mortality ratio
MPI	Ministry of Planning and Investment
NCD	noncommunicable disease
NHI	National Health Insurance
NIP	National Immunization Programme
OOP	out of pocket
RMNCH	reproductive, maternal, newborn and child health
SARA	Service Availability and Readiness Assessment
SBA	skilled birth attendant
SDG	Sustainable Development Goal
TB	tuberculosis
UHC	universal health coverage
UHS	University of Health Sciences
UN	United Nations
WASH	water, sanitation and hygiene
WHO	World Health Organization

FOREWORD

The Ministry of Health of the Lao People's Democratic Republic and the World Health Organization (WHO) are pleased to present the *Overview of Lao Health System Development 2009–2017*. This document presents a snapshot of the existing health system in the Lao People's Democratic Republic, highlighting the very significant progress made over the past decade. The report identifies key achievements and challenges, as well as opportunities for future development. We hope this report will serve as a foundation for WHO and other development partners in assisting the Lao People's Democratic Republic to achieve universal health coverage, and ultimately the Sustainable Development Goals.

Findings from the report indicate the need to focus more efforts on the implementation of priority health programmes, in particular by providing improved access and financial protection for hard-to-reach populations. We must also continue to focus on strengthening the health system, especially its resilience to external shocks. Enhancing vigilance in monitoring and addressing emerging infectious diseases are also an important priority.

On behalf of the Ministry of Health and WHO, we express our gratitude to the many WHO country office staff who contributed to the content of this document. In a spirit of continued partnership and solidarity, we look forward to working together to further strengthen the health system of the Lao People's Democratic Republic over the next five years, to improve the health of the 6.5 million people of this great country.



Associate Professor Dr Bounkong Syhavong
Minister of Health
Lao People's Democratic Republic

A handwritten signature in black ink, reading "Dr. Shin Young-soo".

Dr Shin Young-soo
Regional Director for the Western Pacific
World Health Organization

EXECUTIVE SUMMARY

This document aims to provide an overall picture of the status of health sector developments in the Lao People's Democratic Republic over the past decade, acknowledging the significant shifts in policy scenarios, leadership and governance structures during this period. This has resulted in impressive progress in some areas of health service provision; however, other areas require further efforts and investment to catch up. The document is intended to provide a baseline to guide further developments across the health sector to fulfil the development goals of the Government of the Lao People's Democratic Republic.

Over the past 10 years, the health of the Lao population improved significantly, with life expectancy at birth rising steadily to reach 66 years in 2015¹. The Lao People's Democratic Republic achieved the Millennium Development Goal (MDG) target of reducing its maternal mortality ratio (MMR) by more than 75% and the national Government target on reducing child mortality. Reported vaccination coverage has continued to improve, and a wide range of vaccines are available through Government and donor support. The Lao People's Democratic Republic managed to achieve the MDG target related to malaria deaths before 2015. The prevalence of all forms of tuberculosis (TB) has been halved from 1990 levels. The MDG target on access to improved sanitation and drinking water has been achieved as well.

Since 2009, the Lao health sector has witnessed significant change and achievements in the outcomes of health services for its population. As the country moves towards graduation from least developed country (LDC) status in 2020, universal health coverage (UHC) and its five attributes (quality; efficiency; equity; accountability and good governance; and sustainability and resilience) are the central vessels for guiding the country as it strives to achieve the Sustainable Development Goals (SDGs) by 2030.

Policy and leadership changes, especially since health sector reform (HSR), have initiated a series of key shifts across the health system, including: changes to donor coordination, the introduction of National Health Insurance, the reform of the health information system and the introduction of an essential service package.

Considerable progress in provision of the priority public health programmes is evident. Under HSR, reproductive, maternal, newborn and child health (RMNCH) has been identified as a spearhead programme through which innovative implementation approaches can be tested and demonstrated for other programmes to scale up. Of the 10 indicators identified by the National Assembly to track health sector progress towards UHC/SDGs achievements, seven are RMNCH-focused indicators. This in itself highlights the importance that RMNCH holds within the health sector in terms of contributing to progress in reaching the 2020 and 2030 targets. Similarly, the Lao People's Democratic Republic has made considerable progress in the area of immunization. In addition to steadily increasing immunization coverage rates, the National Immunization Programme has taken steps to address inequities by focusing on hard-to-reach populations.

The Lao People's Democratic Republic has also been strengthening core capacities under the International Health Regulations, or IHR (2005), using the *Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies* (APSED III) as a framework for action. The average value of the 13 core capacities under IHR (2005) in the Lao People's Democratic Republic has increased from 51% in 2010 to 75% in 2016. The Ministry of Health has established indicator- and event-based surveillance systems with demonstrated capacity to detect emerging infectious diseases and public health threats.

HIV, TB and malaria efforts have benefited from considerable investment through the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) as well as other donors, such as United States government agencies and the Asian Development Bank (ADB). The national TB programme achieved the MDG and the *Global Plan to Stop TB 2006–2015* targets. The overall HIV prevalence in the general population aged 15–49 years remains low at 0.3% in 2017, and a recent reduction in malaria incidence rates of nearly seven cases per 1000 people in 2012 to only 1.3 cases per 1000 people in 2017 all demonstrated this progress.

¹ Ministry of Health and Lao Statistics Bureau (2012). Lao Social Indicator Survey 2011–12. Vientiane: Ministry of Health and Lao Statistics Bureau (<https://dhsprogram.com/pubs/pdf/fr268/fr268.pdf>).

However, at a time when external financing is shrinking, an issue of growing concern for these programmes is financial sustainability.

Recently, antimicrobial resistance (AMR) has become a significant public health issue in the Lao People's Democratic Republic, drawing high-level attention. Although the country has the capacity to detect some antimicrobial-resistant pathogens in human and animal sectors, there is a need to develop national plans for detection and reporting of priority antimicrobial-resistant pathogens.

In line with other countries in the Region and globally, the Lao People's Democratic Republic is grappling with the rise of noncommunicable diseases (NCDs). There is a clear need for an overarching strategy to guide improvements in service delivery to provide long-term chronic care and support, and to strengthen data availability on NCDs. The country has made steps to improve the legal and tax framework for tobacco and alcohol, although there remains a great deal to be done in this regard.

The country's multifaceted burden of diseases is increasingly facing threats caused by environmental changes and pollution, highlighting the importance of a robust response to environmental health. Access to improved water and sanitation remains an issue, particularly in rural areas, and significant disparity exists with limited water, sanitation and hygiene services available to the poorer quintiles of the population.

In summary, despite considerable progress in many areas, there remain notable challenges in several areas that must be addressed if the country is to achieve its ambitious goals of LDC graduation by 2020, UHC by 2025 and SDGs by 2030. Sustained efforts from all stakeholders, both government and development partners, are required, particularly in the areas of: coordination, governance and management; technical and financial capacity; and coordination with development partners and other sectors.





1. INTRODUCTION

The Lao People’s Democratic Republic is a landlocked, ethnically diverse, mountainous and low population density country with an estimated population of 6.5 million¹ and a total area of 236 800 km². The country is a lower-middle-income economy with a gross national income per capita of US\$ 2408 in 2016² and is one of the fastest growing economies in South-East Asia. Gross domestic product (GDP) growth averaged almost 8% over the past decade. Fig 1 shows the GDP per capita from 1995 to 2016.



Source: WHO

Economic growth is heavily reliant on natural resources, especially mining, timber and hydropower. The construction and service sector also expanded and growing regional integration boosted tourism and attracted foreign investment.

The Lao People’s Democratic Republic ranked 138 of 188 countries on the Human Development Index in 2016.³ The country has one of the youngest populations among the Association of Southeast Asian Nations (ASEAN) member states. As of March 2018, the country passed the threshold for gross national income (GNI) per capita and for the Human Assets Index. The Lao People’s Democratic Republic has thus fulfilled the eligibility criteria to graduate from LDC status for the first time.⁴

Urbanization is progressing at a moderate pace with a third of the population living in urban areas according to the 2015 census. The Lao People’s Democratic Republic has achieved the poverty-related Millennium Development Goal (MDG) by halving its national poverty rate over the past 10 years. However, poverty

reduction and consumption growth lag behind the country’s GDP growth. Rising levels of public debt threaten macroeconomic stability and the International Monetary Fund (IMF) has recommended a Medium-Term Revenue Strategy.⁵ Growth in consumption has benefited richer segments of the population more, and the rural–urban gap remains significant. Internal and international migration, mostly to Thailand, is common. Inequality has increased over the past 10 years and policies and measures to increase access to services, livelihoods and resources for the most vulnerable groups need to be more explicit and targeted if the global agenda of leaving no one behind is to be achieved.

² Lao Statistics Bureau (www.lsb.gov.la/en/, accessed 28 February 2018).

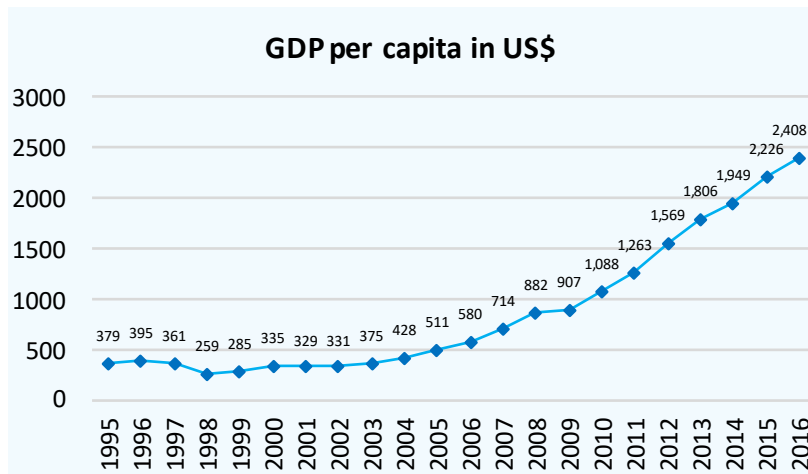
³ United Nations Development Programme (2016). Key to HDI countries and ranks. In: Human Development Report 2016. New York: UNDP (<http://hdr.undp.org/sites/default/files/ranking.pdf>, accessed 23 February 2018).

⁴ World Health Organization (2018). Lao People’s Democratic Republic [country profile] (<http://www.who.int/countries/lao/en/>).

⁵ International Monetary Fund (2018). IMF Executive Board completes the 2017 Article IV Consultation with Lao People’s Democratic Republic, 12 March [press release] (<https://www.imf.org/en/News/Articles/2018/03/12/pr1883-lao-peoples-democratic-republic-imf-executive-board-completes-the-2017-article-iv>, accessed 19 March 2018).

Health achievements and remaining challenges

Fig. 1 GDP per capita, 1995–2016



Source: Lao Statistics Bureau

Over the past 10 years, the health of the Lao population improved significantly with life expectancy at birth rising steadily to reach 66 years in 2015. The MDG target of reducing the maternal mortality ratio (MMR) by more than 75% and the national Government target on reducing child mortality were both achieved.

Reported vaccination coverage has continued to improve and a wide range of vaccines are available through Government and donor support. The MDG target related to malaria deaths before 2015 was also reached.

The prevalence of all forms of TB has been halved from 1990 levels. The MDG target on access to improved sanitation and drinking water has been achieved as well.

Despite this success, health indicators remain low in comparison with neighbouring countries. By 2015, a few MDGs remained off track, most importantly the MDG on nutrition, with an estimated 36% of children under 5 being stunted and 26% underweight in 2015.⁶ The under-5 mortality rate was 67 per 1000 live births, making MDG 4 off track in 2015.⁷ The country continues to face repeated outbreaks of major communicable diseases including dengue, typhoid and others. Progress has been uneven with remote areas and ethnic groups struggling to achieve improved health status.

Achieving the Sustainable Development Goals (SDGs) and targets will require a focus on off-track MDGs as well as emerging challenges posed by rapid economic development. The SDGs, targets and monitoring indicators are reflected in national policies. To reflect the high burden of unexploded ordnance contamination and its relation to morbidity and mortality, the Government has defined an additional local SDG related to unexploded ordnance clearance.

Additional investments in the health sector in primary health care at the local level will be needed to ensure that nobody is left behind. Addressing social, cultural, language, financial and geographical barriers encountered by vulnerable groups to access health services will be crucial to reach a more equitable health system. At the same time, quality of services at the local level and the population’s trust in the system need to be improved.

Public spending on health is very low compared to other countries. Financial sustainability remains an issue as service delivery is still dependent on out-of-pocket (OOP) expenditure. In late 2016, the launch of a tax-based health insurance scheme covering the informal sector aimed to address these issues, but strong monitoring is needed to ensure this translates into effective coverage. The expected reduction of external funding for certain vertical programmes, such as immunization, malaria, TB and HIV, puts further pressure on the Government to increase domestic budgets.

⁶ United Nations Children’s Fund, World Health Organization. Lao child anthropometry assessment survey, add-on to the 2015 National Immunization Survey; 2016.

⁷ United Nations Children’s Fund, World Health Organization (2015). Countdown to 2015: A decade of tracking progress for maternal, newborn and child survival. (<http://countdown2030.org/reports-and-publications/countdown-2015-report>).

National development strategies, priorities and plans

The revised constitution of 2015 states, “the State attends to improving and expanding public health services to take care of the people’s health”, with a special focus on women and children, the poor and people in remote areas.

National policies are guided by the long-term *Vision 2030*, which is implemented through five-year national socioeconomic development plans. These plans are further detailed into provincial, district and sectoral five-year plans. *Vision 2030* sees the Lao People’s Democratic Republic as a middle- to high-income country with balanced economic and social development, political stability, and providing social order and social safety nets. The *8th Five-Year National Socio-economic Development Plan (2016–2020)* objectives are continued poverty reduction, graduation from LDC status, effective management and use of natural resources, and strong regional and international integration.

The need to improve access to and the quality of services is recognized in the *Lao Health Sector Reform Strategy and Framework till 2025* (HSRF), which aims to achieve UHC by 2025. Health system strengthening is central to the Framework’s priority areas: health financing, health governance, human resources for health, health service delivery and the health information system. The implementation of the Framework is supported through the *8th Five-Year Health Sector Development Plan* (HSDP), which identifies eight priority programmes for 2016–2020.

Development assistance and partnership landscape

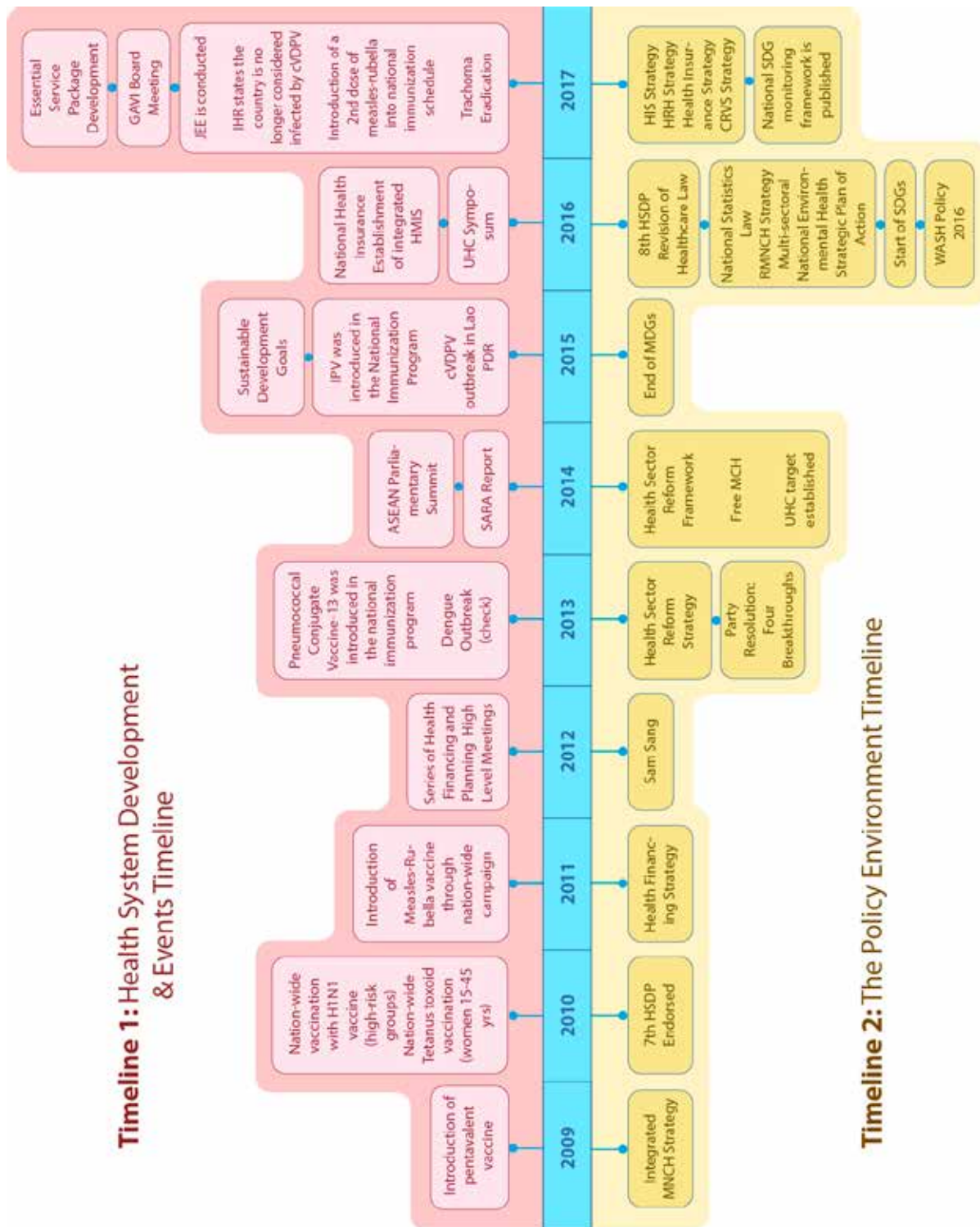
According to the National Health Accounts, external funding accounted for around 20% of total health expenditure. Several vertical programmes continue to rely heavily on donor funding. The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) remains the biggest and almost only funding source for related programmes in the Lao People’s Democratic Republic. Similarly, Gavi, the Vaccine Alliance (Gavi), support has been crucial for vaccine procurement but transition to government procurement is expected by 2021. The Ministry of Health showcased preparations for managing these transitions at the Gavi board meeting, which was held in the Lao People’s Democratic Republic in 2017. The expected graduation from LDC status is expected to lead to further reduction in external support over the medium term.

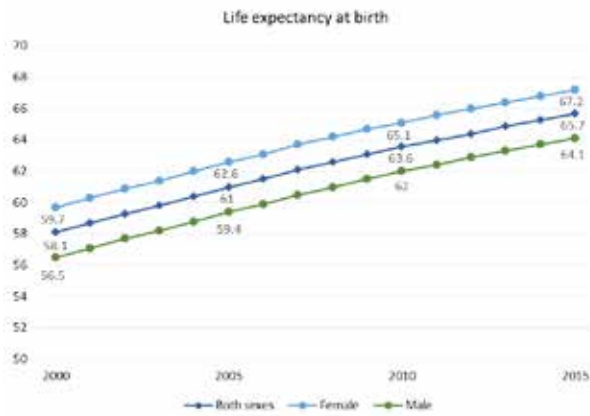
The health sector working group, chaired by the Ministry of Health and co-chaired by WHO and the Embassy of Japan, has been the core mechanism for coordination and cooperation in the health sector. It also contributes to the annual round-table meeting and includes representatives of the Government, United Nations agencies, bilateral and multilateral donors, and national and international nongovernmental organizations (NGOs). Under the HSRF, five technical working groups have been set up to coordinate and support the Ministry of Health in reviewing progress of the reform process, the implementation of the Sam-Sang decentralization policy and achieving more effective management of external funding.

Under the umbrella of the *Vientiane Declaration on Partnership for Effective Development Cooperation (2016–2025)*, the Ministry of Health is developing guidelines to enhance national ownership, alignment with national policies and procedures, and the creation of an inclusive partnership for development results in the health sector.

The *Lao People’s Democratic Republic–WHO Country Cooperation Strategy 2017–2021* priorities are based on and aligned with the HSRF, the 8th HSDP, the *Lao PDR–United Nations Partnership Framework 2017–2021*, WHO’s Twelfth General Programme of Work (2014–2019) and the SDGs. Strategic priorities for WHO collaboration with the Lao People’s Democratic Republic from 2017 to 2021 are: (1) resilient health systems towards UHC; (2) effective delivery of essential public health programmes; (3) health security enhancement; (4) effective policy dialogue and advocacy; and (5) active partner in the Greater Mekong Subregion and ASEAN.

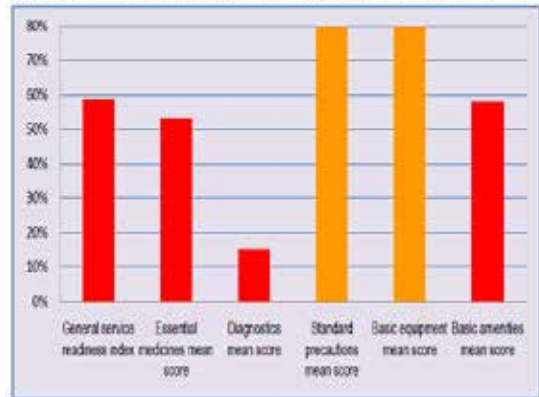
Overview of progress in health system development in the Lao People’s Democratic Republic, 2009–2017



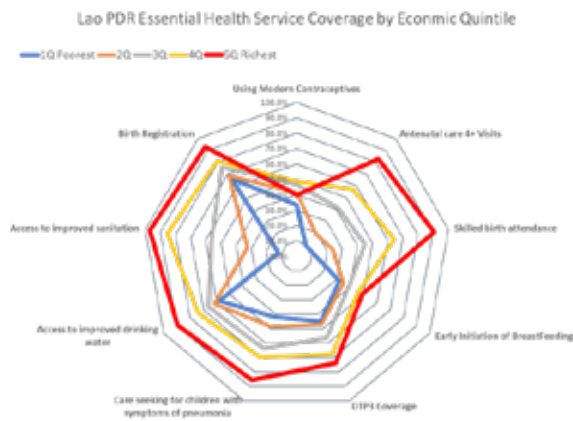


Quality

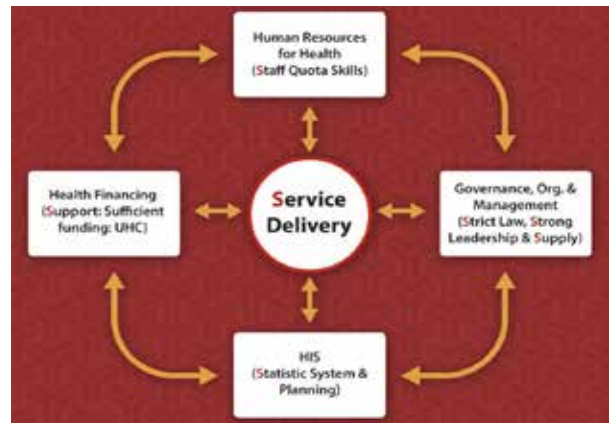
Figure 1.44: General Service readiness index and domain scores, health centers, Lao PDR



Equity

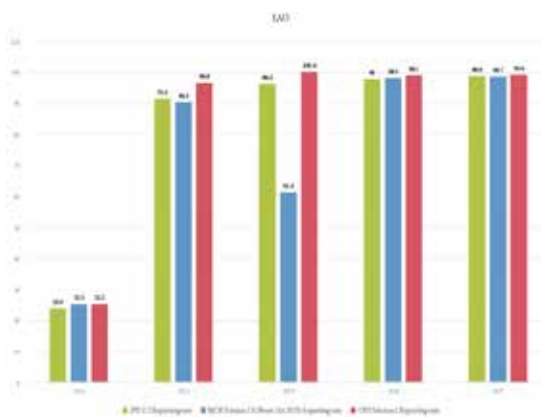


Efficiency



Accountability

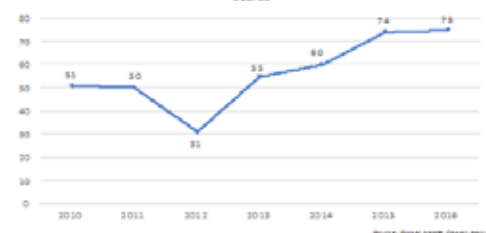
HMIS Reporting Rate 2013-2017



Sustainability & Resilience

IHR: International Health Regulations

Average of 13 International Health Regulations core capacity scores





2. OVERALL PROGRESS

Since 2009, the Lao People's Democratic Republic has witnessed important achievements in health outcomes for its population as well as significant changes to the health sector. As the country moves towards UHC through implementing health sector reform, the five essential attributes and their related action domains outlined in the WHO *Universal Health Coverage: Moving Towards Better Health – Action Framework for the Western Pacific Region* provide a useful tool for monitoring progress and realigning national approaches towards attaining targets.

2.1. Quality

Service delivery is the central pillar of the ongoing HSR agenda, working towards UHC. The ultimate goal of the reform is to have quality essential services available, acceptable and affordable to all Lao people. Presently, the quality of health service is below the regional level, resulting in low uptake of public health services due to low capacity of the health workforce, low investment in service infrastructure and environment, and gaps in quality treatment and care standards.

Regulations and regulatory environment

The 2005 Healthcare Law, revised in 2016, provides the backbone of the regulatory framework for assuring quality service delivery. However, there is a lack of a guiding legal framework to support the implementation of this, resulting in a proliferation of operating standards specific to various vertical programmes. Two recent initiatives have been aimed at overcoming this gap: (1) the Government's 2016 policy on "Five Good, One Satisfaction" which details five service-related requirements in addition to patient satisfaction; and (2) the development of an essential service package (ESP) which serves as a tool to guide the provision of a minimum set of priority public health and clinical services that must be delivered in different types of health facilities and in the community.

Effective, responsive individual and population-based services

The Lao People's Democratic Republic has excelled in driving an ambitious programme of improvement to its health management information system (HMIS), moving towards more individualized patient records feeding into improved population-based data (see Section 3.5 HIS). Decision-makers are increasingly using the data for planning and reporting, but there needs to be more emphasis on the use of information for monitoring, response and coordination. Furthermore, the Lao People's Democratic Republic is moving towards service delivery models based on patient-centred care which emphasize the need to respond to the specific needs of the individual (an example of this is the new ANC/PNC Guidelines, please see Section 4.1 RMNCH for further details).

Individual, family and community engagement

Health sector stakeholders are in the process of developing the first Community Health Strategy to provide a framework for strengthening community engagement and reinforcing linkages between the community and health facilities. Efforts to strengthen integrated service delivery through integrated outreach services in RMNCH, Expanded Programme on Immunization (EPI) and nutrition services, especially in remote areas, have been supported by several development partners, including WHO, the World Bank and UNICEF. Between June 2016 and May 2017, integrated outreaches were carried out in 3404 villages, with 9% (937) of these villages receiving a minimum of four outreaches during the year, compared to 41% (1403) which received only one outreach.⁸

⁸ Ministry of Health, Health Management Information System/DHIS2 (<http://www.hmis.gov.la>).

2.2. Efficiency

The Lao People's Democratic Republic has taken important steps to increase efficiency across the health sector since 2010. The development of an essential service package and the design and roll-out of a national health insurance (NHI) model both represent milestones in this regard.

Health system architecture to meet population needs

The Health Sector Reform Strategy and Framework details a clear architecture for the health system which is designed with the aim of meeting UHC by 2025. This framework places service delivery as the core pillar, with four supporting pillars: governance; human resources for health (HRH); health financing; and health information system (HIS), planning and monitoring & evaluation (M&E). There is increasing engagement with the private sector and important progress in this regard is the ongoing work toward registration of all health workers, from both public and private health sectors. A key element of any health system architecture is the workforce. Approximately 3000 posts were allocated to health centres and district-level facilities to improve access to health services in remote and rural areas. Although not having met the target set by HSR, there has been an annual increase in Government expenditure for health from 3.7% in 2010 to 5.9% in 2017. The web-based HIS has provided a more comprehensive picture of service provision and population coverage at all levels, which is useful for the planning and monitoring process.

Incentives for appropriate provision and use of services

The introduction of national health insurance has meant a revision to the incentive model for both the provision and use of services. The introduction of several social health protection schemes introduced effective incentives both on the demand and supply side, creating an enabling environment for service providers to attract patients, as well as incentives for patients to use services.

Managerial efficiency and effectiveness

With the focus on decentralization through the Sam-Sang model, the role of the provincial health directors and governors in managing health services is increasingly noticeable. Efforts to improve accountability and monitoring have been structured around the eight programmes of the HSDP, the five pillars of HSR and the SDGs. A set of 10 core indicators have been agreed upon by the National Assembly to track progress across the health sector. WHO has been working with the RMNCH Secretariat to pilot a subnational evidence-based planning and monitoring approach which brings together the five pillars of health sector reform operationalized under the eight programmes of the HSDP (see boxed example of this in Section 4.1 RMNCH).

2.3. Equity

The Lao People's Democratic Republic is committed to the principle of *Leaving No One Behind*. The country faces considerable equity-related issues due to its diverse geographic and ethnic make-up, and considerable efforts have been made since 2010 to tackle both demand and supply side barriers to access and promote health service utilization for these remote and marginalized populations.

Financial protection

According to the 2015–2016 National Health Accounts, OOP expenditure as a proportion of total health expenditure, although on a downward trend, still remains high at 45%.⁹ In response to this, the Lao Government rolled out various social health protection schemes,¹¹ all of which seek to increase utilization

⁹ Ministry of Health (2017). National Health Accounts 2015–2016. Vientiane: Ministry of Health.

of health-care services and provide financial protection to families. Since 2016, one single NHI scheme has been introduced aimed at reducing fragmentation among existing schemes. As of the end 2017, NHI has been rolled out to cover 92% of the population.

Service coverage and access

Although there is a relatively good network of public health services, service utilization in the Lao People's Democratic Republic remains low (UHC Index Score is 60%). This is hindered by the mountainous terrain and lack of year-round road access. The Lao Expenditure and Consumption Survey (LECS) highlights a pattern of higher health-seeking rates among the richer quintiles, with the second most commonly cited reason for not seeking care across all quintiles being that it was difficult to get there.³ Supply side barriers impacting on coverage and access include: health-worker availability and retention, particularly in geographically remote locations; delayed and unpredictable funding flows, commodity and equipment to facilities; and a lack of equity-related data upon which to base resource allocation decisions.

Non-discrimination

The Lao People's Democratic Republic has 49 distinct ethnicities and some 160 ethnic subgroups speaking over 50 different languages.¹⁰ This diverse ethnic profile leads to issues of discrimination and barriers to access among less-dominant ethnic groups. Facilitating a shift to a patient-centred approach is recognized as a necessary step to improve quality of care and a culture of non-discrimination. This has been filtered through various programmes in the health sector, for example RMNCH, HIV and EPI. However, there is no evidence that this is systematically considered sector-wide.

2.4. Accountability

Improved access to reliable data through a stronger and more robust health information system has led to increasing potential for accountability by the Ministry of Health. However, more could be done to strengthen corrective actions and responses.

Government leadership and rule of law for health

Under the Party's guidance, all sectors set their targets through five-year planning cycles, led by the National Socio-Economic Development Plan and set by the Ministry of Planning and Investment (MPI). The National Assembly is the elected body whose mandate is to monitor the implementation of these sector plans. The sector sends annual reports to the National Assembly, together with planning and planned budget requirements. For both monitoring mechanisms, the Minister of Health is accountable for the overall performance of health sector implementation.

Partnerships for public policy

High-level multisectoral policy dialogue and coordination is facilitated by the annual Round Table Process led by the MPI. The current process has been implemented since 2000 and includes 10 sector working groups, health being one of them. Within the health sector, a Sector-wide Coordination Mechanism has been established since 2011. The Vientiane Declaration of Aid Effectiveness emphasizes the need to harmonize stakeholders in line with the aid effectiveness agenda, and the Ministry of Health has taken steps to do this.

¹⁰ King EM, van de Walle D (2010). Chapter 7: Laos – Ethno-linguistic diversity and disadvantage. In: Indigenous peoples, poverty and development. Washington (DC): World Bank (http://siteresources.worldbank.org/EXTINDPEOPLE/Resources/407801-1271860301656/Chapter_7_Laos.pdf).

Transparent monitoring and evaluation

Impressive gains have been made in the area of the HIS, and Lao People's Democratic Republic has been recognized as a leader in HIS integration among lower-middle-income countries. The Ministry of Health is implementing a web-based reporting platform using District Health Information Software 2 (DHIS2) as an effective M&E tool to provide timely and reliable health system data to policy-makers. Ongoing work led by the Department for Planning and Coordination in the Ministry of Health, with support from WHO and other development partners, to agree on an M&E framework for the SDGs and UHC will be key to driving accountability and tracking progress towards national and international targets.

2.5. Sustainability and Resilience

Over the past decade, the Lao People's Democratic Republic has been strengthening core capacities under IHR (2005), using the *Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies* (APSED III) as a framework for action.

Public health preparedness

In 2015, the Lao People's Democratic Republic revised its National Workplan for Emerging Infectious Diseases, Public Health Emergencies and Health Security to build sustainable national capacities to manage emerging diseases and other acute public health risks or events. A series of disease-specific preparedness and response plans have been developed, including plans addressing Ebola virus, Middle East respiratory syndrome coronavirus (MERS-CoV), Zika virus, meningitis, pandemic influenza, avian influenza and dengue.

Community capacity

The *National Risk Communication Strategy and Action Plan 2016–2020* and standard operating procedures (SOPs) are in place to guide the actions of trained risk communication officers at central, provincial and district levels. In 2008, the 166 hotline was established to respond to public health concerns, deliver health messages and gather reports and rumours from the community. In 2014, the 166 hotline was re-established with a broader focus on communicable diseases and other acute public health events. More engagement and participation from the community should be nurtured for rapid and effective response.

Health system adaptability and sustainability

Reducing reliance on donor funding is a key element of health system sustainability. This issue is of growing importance in the Lao People's Democratic Republic and stakeholders stress the need for the NHI scheme to cover the shortfall as donors start to reduce their funding. Efforts are being made by the Ministry of Health and development partners to harmonize various sources of funding with the common goals of LDC graduation by 2020, UHC by 2025 and SDGs by 2030.



3. HEALTH SYSTEM OVERVIEW

This chapter examines the changes that have been made over the past decade to the health system as a result of policy and leadership changes, especially since the health sector reform process was initiated. Highlights include changes to donor coordination, the introduction of National Health Insurance, reform of the health information system and the introduction of an essential service package.

3.1. Governance

Currently, the Ministry of Health consists of seven departments under the leadership of the Minister of Health and his deputy ministers. The organigram of the Ministry of Health presented in Fig. 2 shows the connection of different administrative levels of the health sectors.

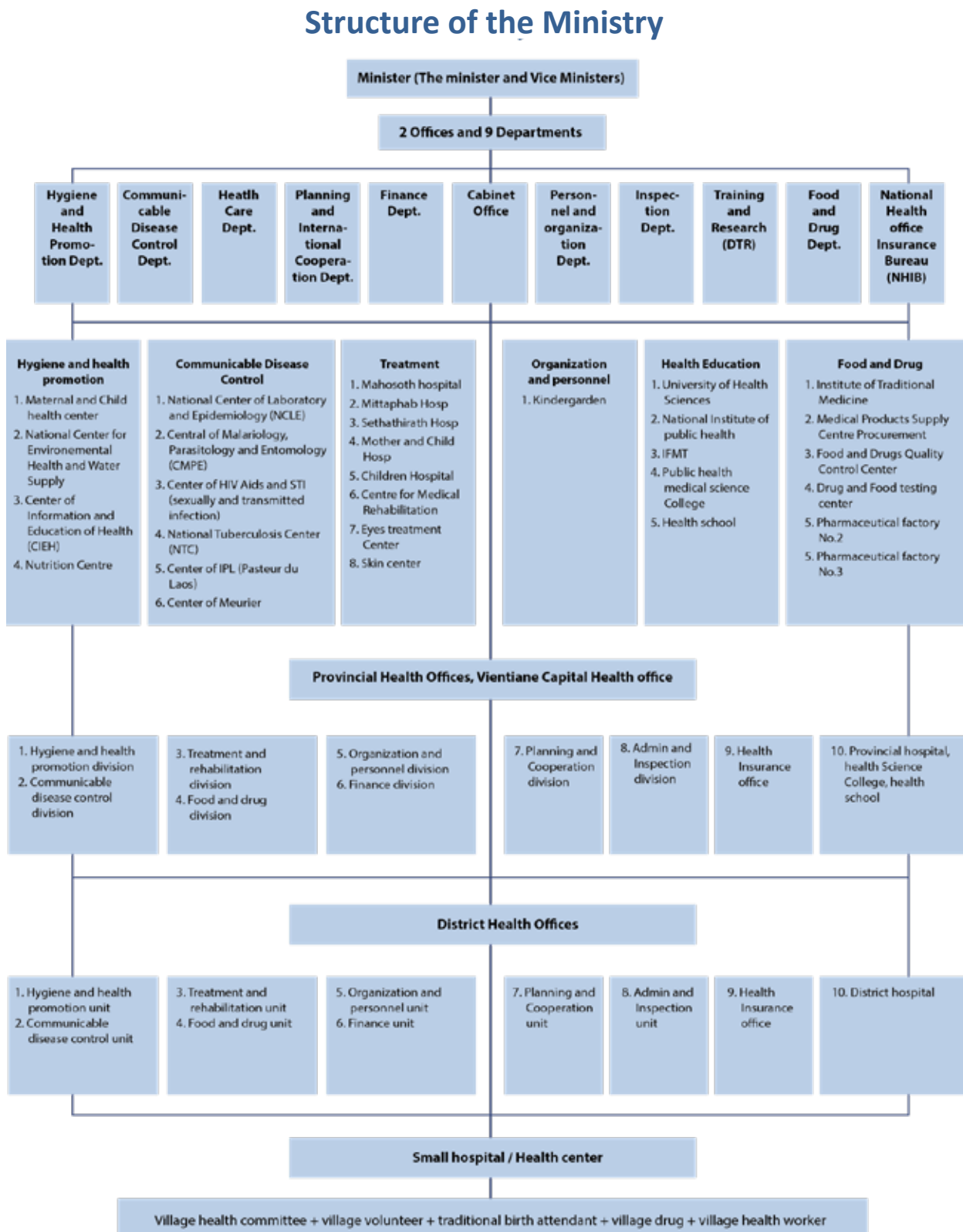
The Lao Government maintains its vision of a centralized state and its principle of democratic centralism, while still pursuing a measure of devolution. Today, the Lao People's Democratic Republic is often characterized as a deconcentrated system with powerful governors, an administrative result that matches the country's political imperatives.¹¹

This power of provincial governors was further consolidated in the constitutional amendment which was passed by the National Assembly in 2015. This amendment supported the development of provincial assemblies empowered to function as local parliaments, reviewing and approving legislation, socioeconomic development plans and budgets. Governors lead the provincial assemblies, and are therefore afforded similar powers as the Minister of Health. In addition to these changes to subnational governance arrangements, the amendment greatly improves access to people's democratic freedoms and rights, including the stipulation that the president cannot hold office for more than two consecutive terms.¹²

¹¹ Barma NH, Huybens E, Viñuela L, editors (2014). *Institutions taking root: building state capacity in challenging contexts*. New frontiers of social policy. Washington (DC): World Bank (<https://openknowledge.worldbank.org/handle/10986/20030>).

¹² JC Lao (2015). Amended constitution creates provincial assemblies, gives president two terms. *Vientiane Times*, 29 December (<http://jclao.com/amended-constitution-creates-provincial-assemblies-gives-president-two-terms/>, accessed 19 March 2018).

Fig. 2 Organigram of the Ministry of Health



The past decade has seen progressive resolutions and strategic interventions from the Party, the National Assembly and the Government in efforts to improve the health situation of the Lao people. During this period, the national development agenda aimed at first achieving the MDG targets by 2015; then graduation from the LDC list in 2020; and more recently, the target of UHC by 2025 and over the longer term, achieving the SDGs by 2030. In spite of progress and achievements made against national and international targets in reaching the MDGs and LDC graduation, Lao health sector indicators are still among the lowest in the Region and more effort is needed if the country is to achieve these goals.

During this period, two important documents have determined the overall governance and management approach of the health sector:

- The Party's resolution on the 3-Builds, also known as Sam-Sang, making the province a strategic unit; the district a comprehensive, developed and strengthened unit; and the village a development unit.
- The National Assembly's resolution calling for four breakthroughs in the areas of ideology, human resources, management and assistance for the poor.

In addition to the biannual report to the National Assembly, the monitoring, oversight and management of the implementation of these strategic plans had been under a Sector-wide Coordination Mechanism which was initiated by the MPI in response to donor coordination following the Vientiane Declaration of Aid Effectiveness. The Ministry of Health Steering Committee is chaired by the Minister and has oversight of the progress and achievements reported against the HSDP and the annual work plan.

The *7th National Health Sector Development Plan 2011-2015* continued the commitment of the Lao Government to strengthen the existing health system, particularly at the primary health care level, to ensure access to quality health services, particularly for poor and vulnerable populations in remote areas. During this period, goals were set according to the 15 health-related MDGs under the six priority programmes of the Ministry of Health, as shown in Table 1.

The 8th HSDP for 2016–2020 has two more priority programmes than its predecessor and is developed based on the HSRF.

Table 1. Priority programmes of the 7th and 8th HSDPs

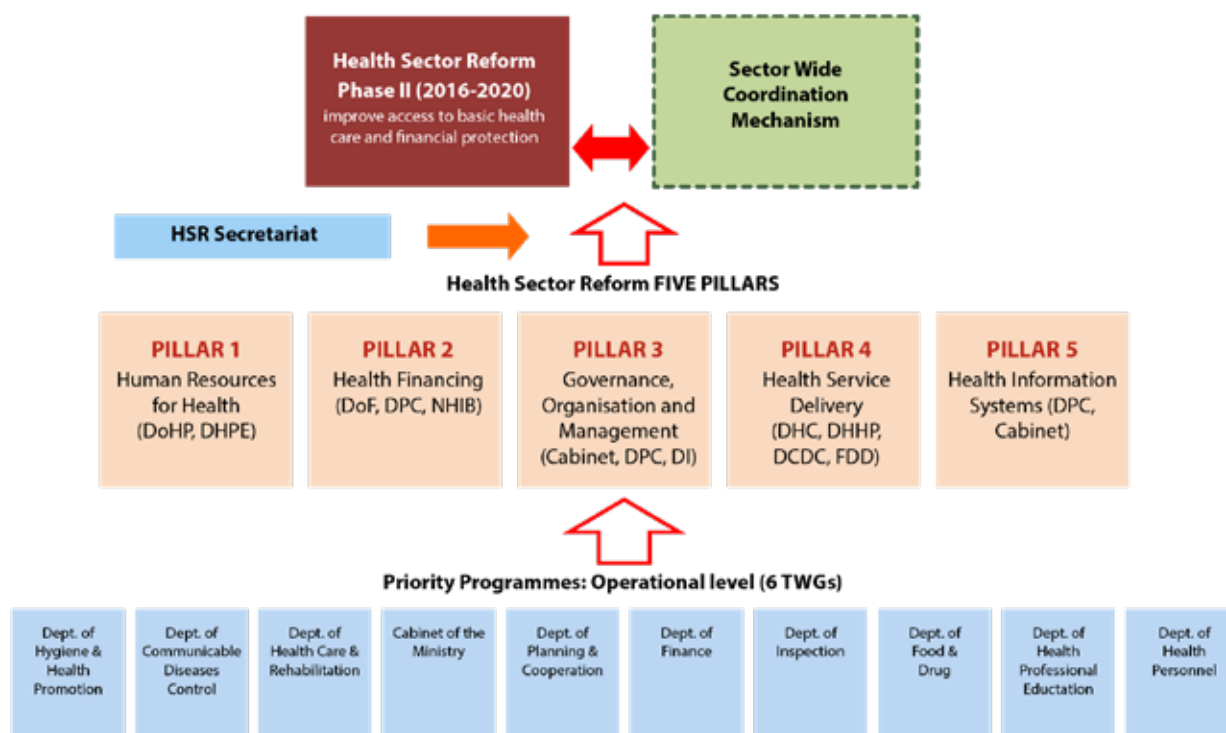
7th HSDP	8th HSDP
1 Hygiene and Prevention	Hygiene and Health Promotion
2 Curative Care	Prevention and Diseases Control
3 Food and Drug	Health Services
4 Human Resources Development	Protection of Food, Drugs and Medical Products consumers
5 Research	Management, Human Resources Development & Health Science Research
6 Administration, Planning and Financing	Health Financing
7	Information and International Cooperation
8	Management and Inspection

Health Sector Reform

The Prime Minister’s approval of the HSRF till 2025 (see Fig. 3) was a benchmark in the development of the health sector in the Lao People’s Democratic Republic, not only in shaping the overall goal of the health sector and aligning it with the national socioeconomic development direction, but also in declaring a shift in the way the health sector should be managed, transitioning from project, process-based management to results and evidence-based management. The concept of the reform fits in with the resolutions of the 3-Builds and of the four breakthroughs by applying evidence for localization of prioritization and budgeting to implement the five priority areas of HSR.

Implementing reforms requires change at all levels. In the case of HSR, leadership, commitment and ownership by the Minister of Health and deputy ministers, as well as provincial and district governors and vice-governors, are essential for HSR to succeed. This will establish the foundation for department heads, hospital administrators, technical staff, hospital and health centre staff, and other key personnel to lead and support reform efforts throughout the health care system.¹³

Fig. 3 Health sector reform integration with the eight programmes of the HSDP



The preparation of the 8th HSDP marked the end of phase 1 of HSR, and required the Ministry of Health to shift the way they plan and structure management to accelerate the implementation of the HSRF across the Ministry and to move it toward the subnational level. An assessment of the first phase of implementation resulted in the decision to restructure the coordination of the health sector to reflect the structure of HSR in relation to the prioritized programmes.

¹³ Ministry of Health, World Health Organization. Final report on accelerating implementation and reporting mechanism of health system reform; August 2017.

Legislation and compliance

The need to strengthen legislation and compliance is emphasized through priority 3 of the HSRF: administration, organization and management. During the development process of the HSRF, a review of legislature was conducted with support from WHO to determine the legal aspects of HSR. The Lao health Sector does have an extensive range of legislative documents supporting the implementation of programme strategies and policies. However, the level of enforcement of this legislation needs to be strengthened if the country is to reach set targets mentioned above.

Leadership has been recognized as crucial for the overall implementation of not only health sector reform but also the HSDP. In 2016, there was a marked shift in the overall governance of the health sector with new leadership for the Ministry of Health. This coincided with a shift in official development assistance (ODA) support, with many donors moving from project-based to more sector-based support. The Department for Planning and Coordination called for “one country: one system of HIS, planning and donor/ODA coordination”. This call has been followed by most development partners.

In 2017, WHO supported the Ministry of Health to review the governance area of the HSRF with full collaboration of the Ministry of Health at central and subnational levels. The findings and recommendations were well accepted by the Ministry of Health. This exercise has opened up a more open and positive dialogue between the Ministry of Health, its partners and provincial officials, moving toward an accelerated implementation of the HSRF. The restructuring of the sector-wide coordinating mechanism as mentioned above is a positive example. The request by the Ministry management board to strengthen the use of information as evidence for planning, prioritization and budgeting is another positive outcome.

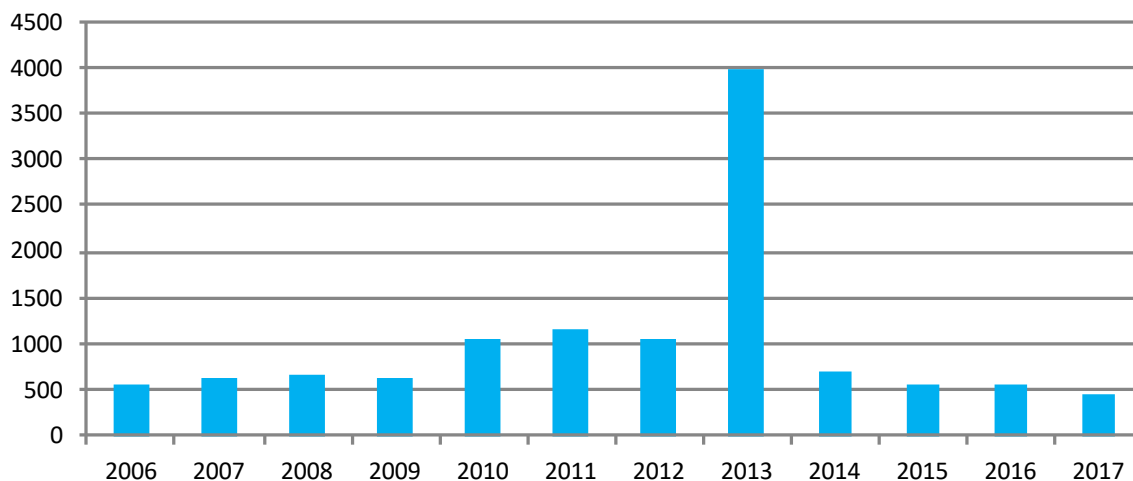
3.2. Human Resources for Health

Strengthening the capacity of the health workforce as a key component for building a resilient health system has been a key goal of the Government over the years. The Department of Health Personnel and the Department of Health Professional Education in the Ministry of Health are primarily responsible for the education, planning, development and management of the health workforce.

Health workforce supply

Requirements of health workers are regulated by the Law on Health Care No. 129/PM. Improving employment capacity is one of the key ways to strengthen the health workforce. On a biannual basis, the Ministry of Home Affairs and the Ministry of Finance fix a quota for new placements of civil servants, including the number of health workers (see Fig. 4). The Department of Health Personnel in the Ministry of Health then receives a number of employees as designated by the quota. The department is responsible for the allocation of this quota at all administrative levels: central, provincial and district, as well as health centres.

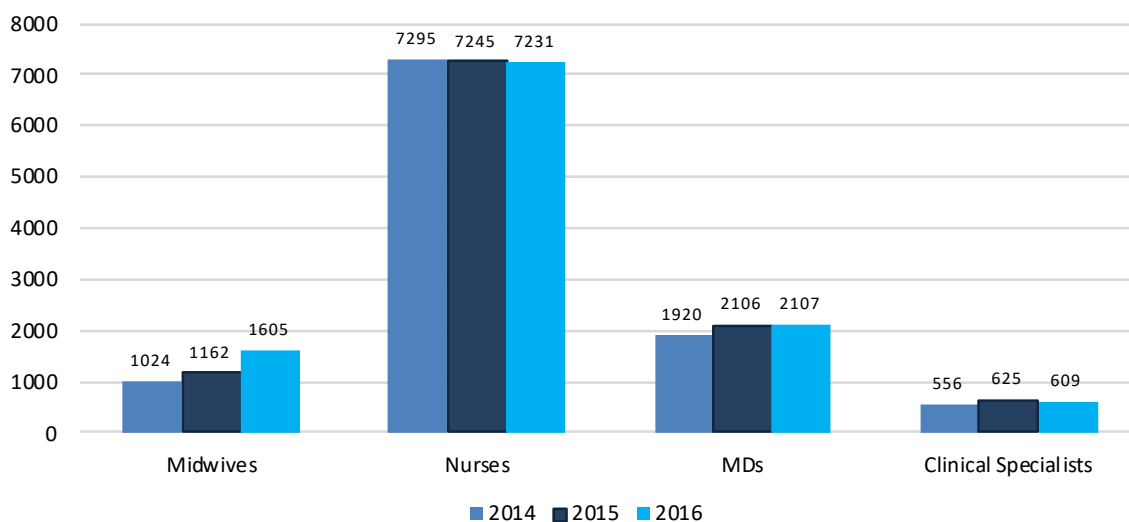
Fig. 4 Quotas for new civil servants in the health sectors



Source: Ministry of Health

While the number of new recruits generally aims to replace retirements, the fiscal year 2013–2014 was an exception. An additional quota allocation of 4000 civil servants was given to the health sector and this significantly increased the health workforce as an attempt to mitigate the shortage of health staff in line with the health sector reform process. Fig. 5 gives a breakdown on the number of health workers by profession.

Fig.5 Numbers of health workforce, 2014–2016



Source: Ministry of Health

However, in 2017, the Ministry of Health received only 440 quota positions for recruitment of new staff or absorption of available trained health workers into the formal employment system.

The quota, however, rarely meets the actual need for health workers, and as a result there is a shortage of employed health workers around the country. In addition, there are qualified but unemployed health workers who do not receive positions under the current quota system. Increasing quotas in order to recruit the available health workforce into the system will help to some extent to solve the problem of health staff shortages.

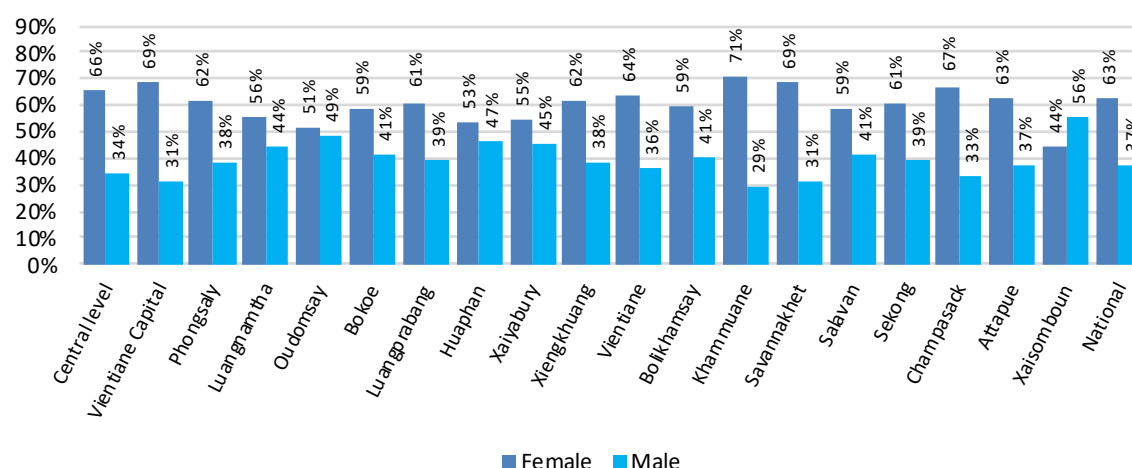
Health workforce distribution

Distribution of health workers has also been further aligned with policy objectives of the Ministry of Health. Two thirds of the total health workforce in the public sector work at district and health centre level (36%, 23% respectively) with an average of 4.6 persons in a health centre.

However, specialized health workers commonly prefer to work in urban areas leading to imbalances in deployment and lack of well trained staff in remote and rural areas. Over half of health workers currently serving in rural health centres are low- and middle- level professionals. Attracting and retaining higher -level professionals in rural communities also needs appropriate planning and forecasting of health workforce needs based on local context, including population size and burden of disease.

The 2016 Annual Report of the Department of Health Personnel highlights there are more women (64%) than men (see Fig. 6) in the health workforce due to a large number of nurses and midwives, posts largely held by women. Women tend to make up more than half of the personnel among low- and middle-level workers, including laboratory specialists, pharmacists and dental assistants. However, in all postgraduate categories, male health workers make up the larger proportion.

Fig. 6 Distribution of health workers by sex



Source: Ministry of Health

The compulsory retirement age for civil servants is 60 for both males and females, though females have the opportunity to retire early at age 55. Nonetheless, there continues to be a number of health workers over 60 still employed in clinical and management positions as it is very hard to produce qualified health workers.

The main challenges that contribute to the shortage and maldistribution of health workers are: limited posts allocated by the Government to recruit health workers; the preference of health workers to work in urban areas with better conditions to create income through dual practice; the lack of professional career development opportunities; and graduates with inadequate preparation being sent to work in rural areas, which may be attributable to insufficient training. The shortage of high-level health workers at primary and secondary health-care facilities leads to a major gap in the quality of health-care services between urban and rural areas.

Low levels of motivation also decrease health system efficiency. In rural and remote areas in particular, there is low motivation among health workers and a lack of career development opportunities.

Policies, decrees and regulations

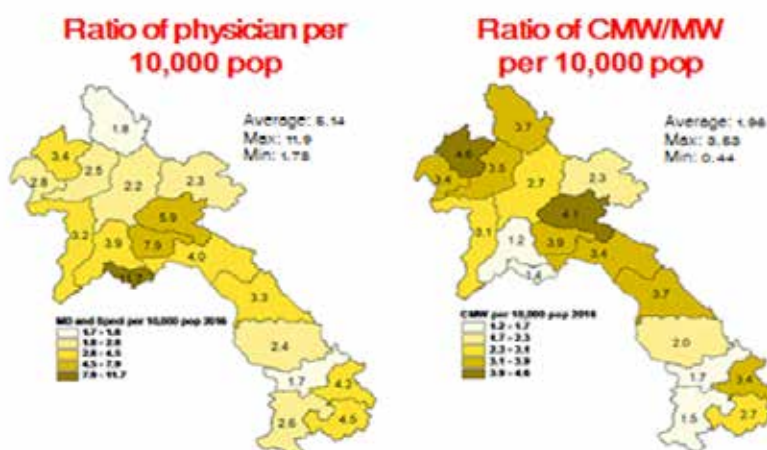
To solve the above problems and to provide incentives to health workers to work in rural areas (district and health-centre levels), the Government and the Ministry of Health have developed and endorsed over the years a number of policies, decrees and regulations, starting in 2002.

- 2002: The Ministry of Health’s Health Sector Development Strategy to the Year 2020 indicated a significant need to provide appropriate incentives for health workers in rural areas.
- 2003: The Civil Service Decree No. 82/PM stated that during the first five years, newly recruited health workers should work at least two years in rural areas. However, implementation of this decree has been insufficiently enforced.
- 2010: Financial Incentive Decree No. 468/PM was intended to provide salary bonuses of 30%, 40% and 50% of the regular salary to civil servants working in rural areas, including health workers.
- 2010: The Ministry of Health’s Health Personnel Development Strategy by 2020 addressed five main areas for improvement: health personnel capacity-building, utilization of health personnel, health personnel management, equity and equality of opportunity, and health personnel incentives.
- 2011: The Ministry of Health Decree No.103/MOH called for newly graduated medical students to agree to three years of compulsory service in rural health facilities. The decree also indicated the provision of non-financial incentives such as direct promotions for permanent staff, eligibility for continuing education and eligibility for the licensing examination.
- 2017: The Ministry of Health Decree No.0103/MOH approving the establishment of the Health Professional Council and three boards (Medical, Dentistry, Nursing and Midwifery).

Health workforce utilization

In 2016, the Ministry of Health reported that 20 484 persons were employed by the Ministry leading to a ratio of 3.11 public health sector employees per 1000 inhabitants. This number includes 17 666 staff working at health facilities, which is equivalent to 2.68/1000 inhabitants. Formally trained workers including village health workers, nurses, midwives, medical assistants, medical doctors and specialists accounted for 12 904 persons or 1.96/1000 inhabitants (see Fig 7).

Fig. 7 Ratio of physicians and midwives per 10 000 population



Source: Ministry of Health

Health workers in the Lao People's Democratic Republic are separated into four major levels: postgraduate level, bachelor level, high level and middle level. Education for low-level workers has been discontinued. However, a number of low-level health workers still exist. The Government requests that low-level workers upgrade their level of education through continuing education.

Education of Health Professionals

Until 2007, there were three education providers for health workers: the Faculty of Medical Science, the College of Health Technology and nursing schools. At that time, the Ministry of Education was responsible for the Faculty of Medical Science of the University of the Lao People's Democratic Republic, which became part of the National University in 1996. Since 2008, however, the Faculty of Medical Science and the College of Health Technology have combined to form the University of Health Sciences (UHS) under the responsibility of the Ministry of Health.

UHS produces seven training programmes: basic science, dentistry, medical technology, medicine, nursing, pharmacy and postgraduate studies which include public health, family medicine and residency. Specialist training in nine programmes is currently offered through the Faculty of Postgraduate studies of the UHS but is envisioned to move to the Faculty of Medicine by the end of 2018.

Health professional's education with a focus on primary health-care workers began in 2002 and is implemented in the provinces through the College of Health Sciences in Champassack, Luang Prabang and Savannakhet and schools of public health in Khammuane, Oudomsay and Xiengkhuang. The provinces of Attapeu and Salavane have training centres which provide public health training as well as nursing and midwifery training programmes. This is further supplemented through a community-based nursing school in Vientiane Province. Primary health-care workers are lower-secondary school graduates who train for three years. They are selected from rural and remote locations, with the intention that they will provide services in their home areas.

There are no private health profession institutions providing training in the Lao People's Democratic Republic.

The Department of Health Personnel at the Ministry of Health estimates the training cost at UHS (medicine, dentistry, nursing, pharmacy, medical technology, and basic science and postgraduate studies) at around US\$ 1500 per year per student. Training costs in the provinces for primary health-care workers, including nursing and midwifery training programmes, are around US\$ 1200 per year per student.

There is an urgent need to scale up the health workforce calls for a more rigorous education system for health professionals. To achieve this, issues related to educational capacity for training health professionals, such as training approaches and methods, faculty development, infrastructure, and teaching resources and materials, must be addressed. The Educational Development Centre (EDC) for Health Professionals established in 2011 provides an important avenue to update educational approaches and build and strengthen faculty capacity.

A Health Professionals Education Reform Consultation Meeting supported by WHO was convened in August 2017, highlighting the need to review the current curriculum for health professionals. A follow-up workshop on curriculum development in line with accreditation was convened by UHS and the EDC with support from Seoul National University and WHO. This has resulted in the review of the medical curriculum with the aim of creating a more "outcome-based" focus and the strengthening of teacher training programmes, including the collaboration with Seoul National University supporting 10 teachers for a one-year programme at the Teacher Training Centre in Seoul National University.

According to the Law on Health Care (Article 34, In-service Training) all health-care professionals are required, for the interests and safety of patients, to continuously improve their knowledge and skills and take part in training activities and evaluation of their professional practices to improve the quality of their consultations, diagnoses and care, and to keep abreast of the latest scientific progress.

Although continuing professional education is regulated by law, it has not yet been implemented. This is currently underway with the development of guidelines for continuing professional education under the ambit of the Health Professional Council.

Remuneration and incentives for health workers

Even though the Lao People's Democratic Republic has a shortage of health workers, the country also faces the challenge of providing positions for trained professionals. This is a direct result of small quotas for recruiting health workers due to financial constraints in recent years.

Thus, some graduates are not recruited and some of them offer their services as volunteers until they get a position. This period of unemployment may last up to a few years. Graduates may also work as contract staff paid through technical revenue of the health facilities. Salaries for contract staff are neither regulated nor harmonized but in general are lower than for official government positions.

The salary of civil servants, including health workers, was regulated by Prime Minister's Decree No. 82/PM and is now enacted into Law on Civil Servants. The starting salaries of new staff are allotted according to their educational and professional qualifications. However, financial limitations continue to remain a major obstacle to increasing the quantity and quality of the health workforce.

The heavy reliance on international aid makes long-term planning and employment of health workers tenuous. Moreover, the generally low level of compensation, especially in rural areas, may explain part of the difficulty of attracting and retaining competent health workers. The correlation is clear: low levels of overall financial investment in health directly translate to inadequate human resources for health. An increased financial commitment will serve to improve the competency, reliability and quantity of the health workforce.

The Government and Ministry of Health strive to implement both financial and non-financial incentive schemes to retain and promote health workers and prioritize health workers working in rural and remote areas. The Decree on providing Incentives for Rural Civil Servants defines remote, isolated and difficult areas; levels of each area; and ways of measuring incentives. In addition, the Prime Minister's Decree 349 on the use of technical revenue at the health facility level allows facilities to allocate 15% of their revenue to staff incentives.

Governance of human resources for health

Ongoing strengthening of human resources for health leadership, management and governance capacities are also critically important to support the implementation of human resources for health strategies, including strengthening the capacities of relevant departments in the Ministry of Health.

In 2017 the sector-wide mechanism of the Ministry of Health was reviewed to better align with the structure of the HSRF. To facilitate monitoring of the development, implementation and coordination of activities under the HSRF priority area 1 on human resources for health within the Ministry of Health and with key national stakeholders and development partners, a Human Resources for Health Technical Working Group (HRH-TWG) was established.

The HRH-TWG under the Chairmanship of the Vice-Minister for Health provides an important platform for coordination in the spirit of the Vientiane Declaration on Partnership for Effective Development Cooperation. It is expected that the HRH-TWG will support the Ministry of Health and its departments in achieving the goals of the HSR, the 3-Builds directive of Government and the five-year HSDP through the implementation of the HRH Roadmap, the Health Personnel Development Strategy and its five year Action Plan by 2025.

The Health Professional Council and related three boards (Medical, Dental and Nursing & Midwifery) were established in early 2017 under Decree No.0103/Ministry of Health. The role of the Health Professional Council is the licensing and registration of competent health workers to ensure patient safety and equitable access to quality health services, and enables the country to meet the goals of UHC.

The Health Professional Council and boards are now functioning and in the process of establishing the criteria and guidelines for registration and licensure of health professionals and National Licensing Exam to commence in 2019. The Health Professional Council has the right and duty to assess and evaluate in-service training at least once every two years, in accordance with the instructions of the Ministry of Health.

The Health Personnel Management Information System

In 2006, the Ministry of Health commenced the use of an electronic system for monitoring personnel-related information. The Health Personnel Management Information System was created to help standardize the gathering of personnel information and to classify health personnel according to profession, activity history and qualification for salary increases. Fig. 8 shows the progress made from 2008 to 2020.

Fig. 8 Policy progress for human resources for health, 2008–2020



Source: Ministry of Health

In 2010, this system was updated to provide better monitoring of staff deployment and align to that of the Ministry of Home Affairs to ensure synergy and allow a better integration of the data system of health-related personnel data across the government sector.

HRH requirements have been projected by the Ministry of Health depending on the services that are being targeted by each different type of health facility nationwide. Use of DHIS2 as a means of monitoring deployment of health professionals in health facilities is also underway.

Partnerships supporting HRH development

Over the years several development partners have supported HRH development in the Lao People's Democratic Republic through various programmes of the Ministry of Health, including workforce planning and development, education and training, HRH productivity studies, management and supervision, licensing and registration and support for the work of the Health Professional Council.

These development partners include WHO, the Japan International Cooperation Agency (JICA), the Asian Development Bank (ADB), the World Bank, the Korea International Cooperation Agency (KOICA), Korea Foundation for International Healthcare (KOFIH), the United States Centers for Disease Control and Prevention, Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), Luxembourg Development Cooperation, and the European Union, Luxembourg and WHO Universal Health Coverage Partnership programme. Several universities across the Region have also supported the education of

health professionals through the UHS, including: Seoul National University, Republic of Korea; University of Melbourne, Australia; University of the Philippines; Gunma University, Japan; and University of Calgary, Canada.

Development partners through various forums and dialogues, including the 2017 National Forum on HRH towards achieving UHC in the Lao People’s Democratic Republic, have committed to ensuring and promoting quality education and helping the Government and the Ministry of Health to build a fit for purpose workforce.

Box 1. showcases the progress made by the Educational Development Centre in recent years and the collaboration with different partners.

Box 1. Educational Development Centre under the University of Health Sciences

With the support of Dr Shin Young-soo, WHO Regional Director for the Western Pacific, and the Ministry of Health, the Lao People’s Democratic Republic established the Educational Development Centre in 2011. The EDC sits within the University of Health Sciences (UHS) to strengthen institutional capacity, improve teaching standards and act as the National Resource Centre for the education of health professionals and their education development.



Dr Ketsomsouk Boupavanh (left) with Dr Juliet Fleischl, WHO Representative to the Lao People’s Democratic Republic outside the Educational Development Centre.



A tour of the Faculty of Pharmacy where students in a physic class take a test.

Dr Ketsomsouk Boupavanh, Vice Dean for the University of Health Sciences, was appointed as Director of the EDC since its establishment and has been the driving force in achieving the vision of the centre, particularly with regards to: faculty development and teacher training activities both at national and subnational level; curriculum development and student assessments; and the recent move to become an Institute of Research and Professional Development in 2018. Since its establishment, the EDC has also provided key support to the overall administration of the UHS, taking the lead role in the development of the University Development Strategy and Plan 2011–2015 and 2016–2020 and drafting of Quality Standards to monitor the UHS academic programmes and guidelines. Dr Ketsomsouk is proud of the collaboration with several overseas universities including: the University of Melbourne, Australia; the University of Calgary, Canada; the University of the Philippines; Seoul National University, Republic of Korea; Chulalongkorn and Khon Kaen Universities, Thailand; and Gunma University, Japan.

Thanks to support from the Government of the Republic of Korea, UHS started construction of a University Teaching Hospital in 2018 which is expected to be completed by 2023. The hospital is envisioned as a Centre of Excellence for medical education, complete with a state of the art simulation room which helps build the competence and confidence of students. The project is in line with the current Medical Professionals Education reform, aiming at a more “outcome-based” curriculum. The reform also foresees strengthening of teacher training programmes including through collaboration with Seoul National University at which 10 teachers currently attained a one-year programme of the Teacher Training Centre.

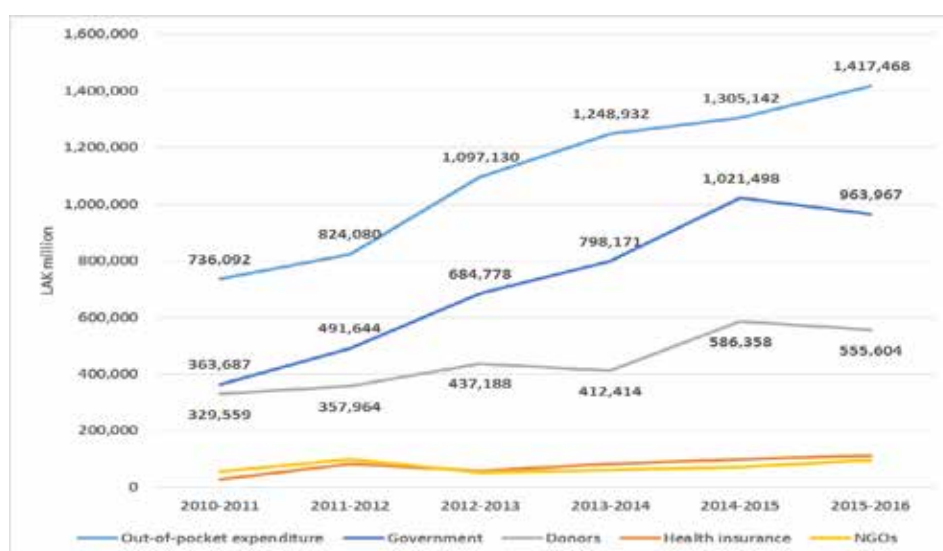
The WHO Country Office for the Lao People’s Democratic Republic is committed to supporting the EDC through ongoing strengthening of clinical teaching at provincial level, supporting student assessments, strengthening education standards and mobilizing professional resources to strengthen the capacity of the EDC.

Under Dr Ketsomsouk’s visionary leadership, the future of the EDC is bright. Upcoming collaborations with other health education associations in ASEAN countries and the expansion of the role of the EDC as Institute of Research and Professional Development will further strengthen the research capacity of the EDC.

3.3. Health Care Financing

During the past 10 years, financing for the health sector in the Lao People’s Democratic Republic was characterized by steadily increasing expenditure on health, from private as well as public sources, and by introduction of social health protection mechanisms under the overall umbrella of the HSRF. Fig. 9 shows sources of funds for the health sector in the Lao People’s Democratic Republic, financial years 2010-2011 to 2015-2016.

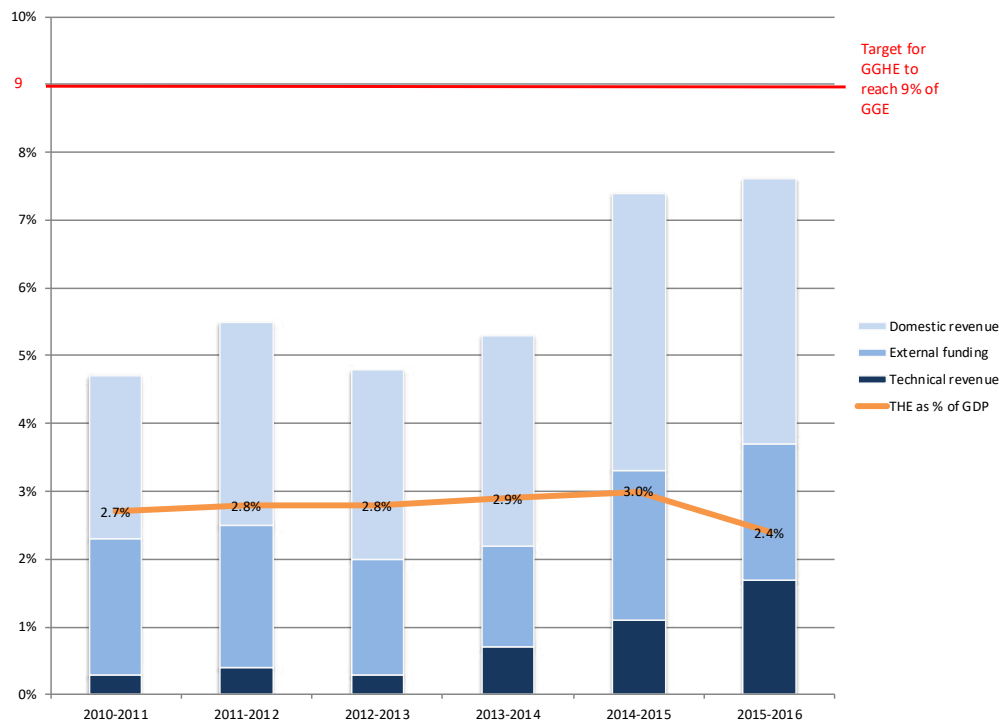
Fig. 9 Health expenditure continuously increased over the last 10 years



Source: National Health Accounts 2012-2016, Ministry of Health

The reform framework identifies three main priorities for health financing: increasing domestic budget allocations to the health sector; ensuring efficient use of funding; and improving financial health protection. The planned revision of the Health Financing Strategy in 2018 provides an opportunity for the Ministry of Health to reaffirm these objectives, to reflect recent progress in harmonization of social health protection schemes and to further push for sufficient financial allocations to the sector in line with the UHC ambitions of the Lao Government. Fig. 10 illustrates the total health expenditures in the Lao People’s Democratic Republic doubled between 2010-2011 and 2015-2016.

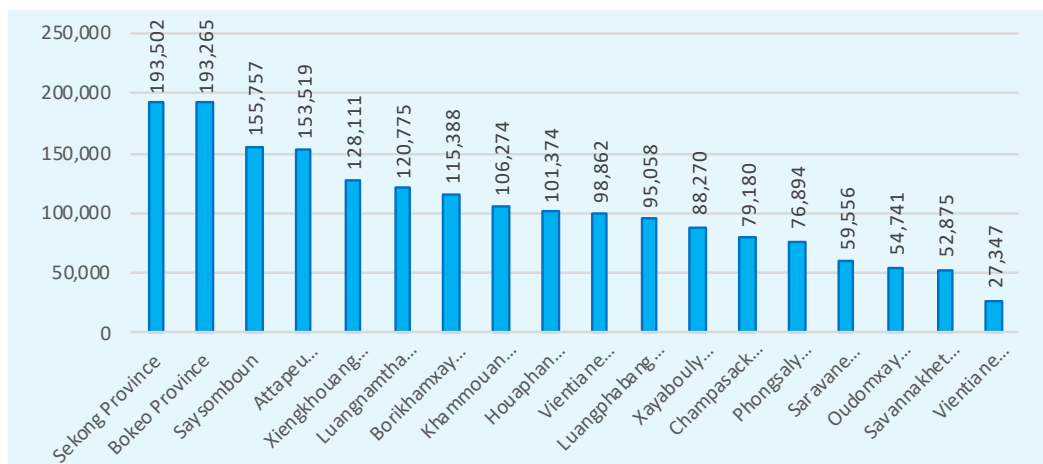
Fig. 10 Government expenditure on health as a percentage of general government expenditure, 2010–2011 to 2015–2016



Source: National Health Accounts 2012–2016, Ministry of Health

Over the same period, domestic government expenditure on health per capita more than tripled to reach 146 351 Lao kip or US\$ 18 (PPP US\$ 47) in 2015–2016 (see Fig. 11). This impressive growth is partly driven by general growth of the whole Lao economy, meaning that total health expenditures as a percentage of GDP and government expenditure on health as a percentage of general government expenditure only slightly increased. Out of pocket expenditure still accounted for 45.1% of total health expenditures in 2015–2016.

Fig. 11 Per capita domestic government expenditure on health per province in Lao kip, 2015–2016



Source: National Health Accounts 2012–2016, Ministry of Health

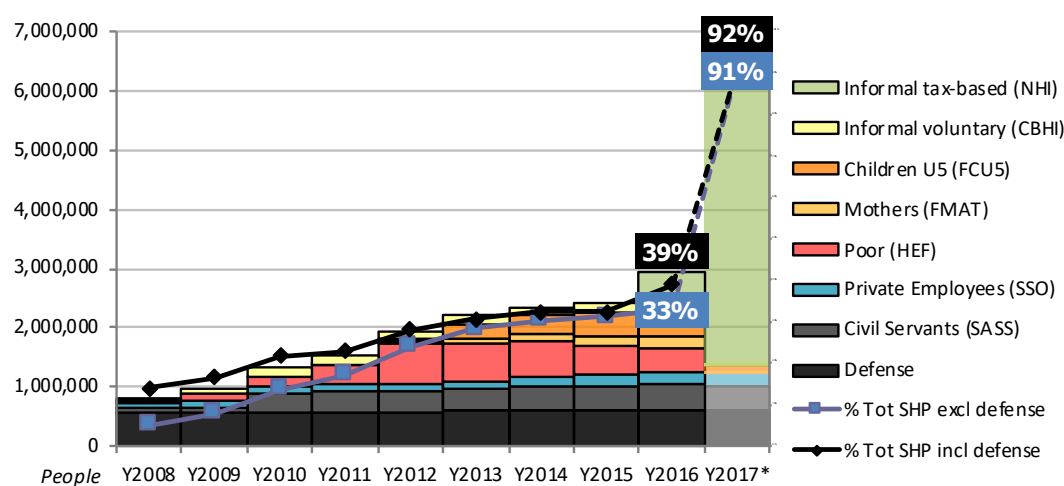
Domestic allocation for health was 5.9% in 2016, which still falls short of the target of 9% of general government spending. In addition, external funding for health still amounted to 20% of total health expenditures in 2016, and is expected to decrease over the medium term.

The Lao People's Democratic Republic is set to transition from Gavi support by 2021, and the Global Fund has also gradually reduced the funds for TB, HIV and malaria, while the United Nations population Fund (UNFPA) is reducing its financial support for purchasing family planning commodities. Other partners such as the World Bank and the ADB are gradually shifting from grant to loan support. Many partners now require co-funding from the national budget for the implementation of programmes. Guidelines are adopted for the management of external funding which aim to integrate financial management of donor support into the national system.

Not only overall health allocations are important but also distribution at the subnational level. The latest National Health Accounts show that since 2011 domestic per capita expenditure on health in the lowest spending province was continuously around seven times less than in the highest spending province, with no significant changes in the ranking of the provinces according to their spending.

Under the Sam-Sang policy, allocation of government funding at provincial level is under the authority of the provincial governors. To protect budgets for health and education, the National Assembly agreed to prohibit reallocation of funding for these sectors at provincial level. The decision has yet to be translated into specific secondary legislation. Social health insurance coverage reached 92% of the population at the end of 2017 (see Fig 12).

Fig. 12 Coverage of social health protection in the Lao People's Democratic Republic, 2008–2017



Source: Ministry of Health

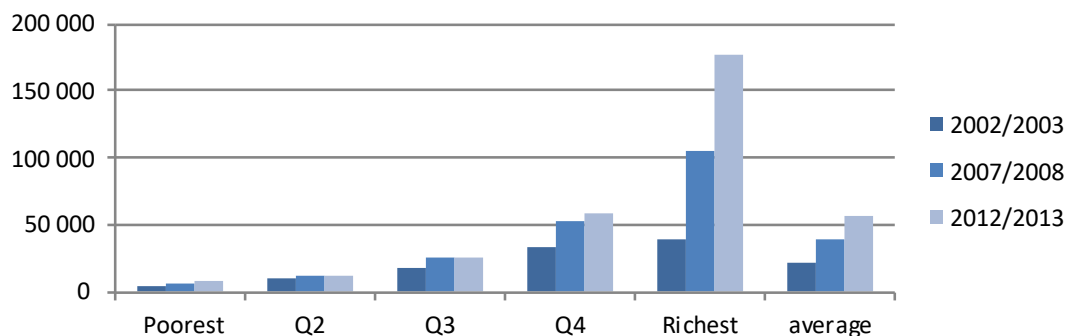
A social insurance scheme covering civil servants started in 1995 and a scheme covering private sector employees in 2001, both under the management of the Ministry of Labour and Social Welfare. The Ministry of Health is in charge of financial protection schemes for the informal sector. A voluntary community-based health insurance was launched in 2002. Health equity funds began implementation in 2004, while free maternity services and for children aged under 5 years have been piloted since 2010. These two schemes were highly fragmented, with coverage and implementation often dependent on donor funding.

In 2012, the Prime Minister's Decree 470 called for harmonization of the schemes under the management of the Ministry of Health and the National Health Insurance Bureau. Recognizing the difficulties of increasing coverage of the informal sector through a voluntary scheme, the Ministry of Health launched a tax-based NHI in 2016. The scheme has been gradually rolled out over the last two years to cover all provinces except

Vientiane Capital by 2018. The scheme will require a small co-payment at facility level, while maternal and child health (MCH) services and services for the poor are free of charge. The vision for NHI, including objectives, funding flows and operational functions to be fulfilled have been defined in the National Health Insurance Strategy 2017–2020, which was developed by the Ministry of Health with support from development partners including WHO. Utilization rates for members of the formal scheme are significantly higher than for NHI and the former health equity funds, leading to a risk that public subsidies could benefit the better off rather than the poor.

Previous rounds of the LECS showed a continuous increase in OOP spending on health (see Fig.13). Disaggregation by wealth groups shows a significant gap in OOP payments with the richest quintile paying 24 times more than the poorest quintile. Given the limited coverage by health equity funds, this is likely reflecting challenges in access to health services by the poorest quintiles.

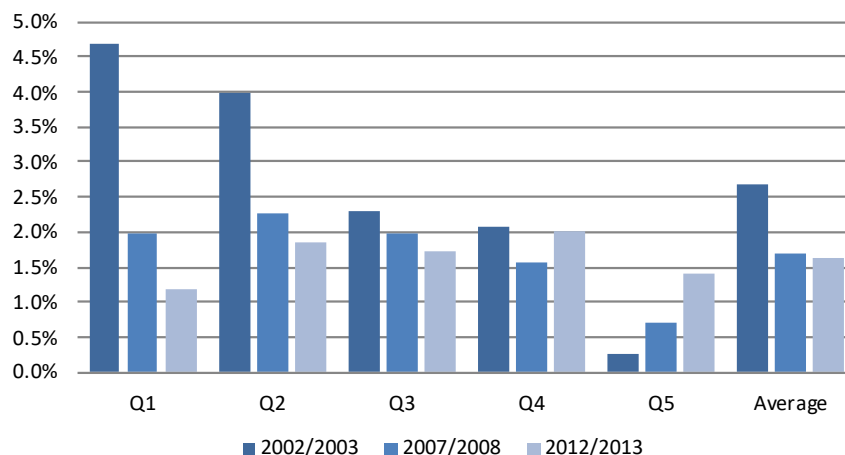
Fig. 13 Average monthly OOP payments by households (in LAK, real terms base year 2015) based on the diary section of LECS5



Source: Lao Economic and Consumption Surveys (LECS)

The share of households suffering catastrophic health payments has decreased over the past years (see Fig. 14). This can be attributed to a variety of reasons, primarily national economic growth translating into increased capacity to pay for health services, but also to increased financial protection for the poor. A reverse of the trend is noticeable for better off groups. The improvement of service availability, development of private sector providers and access to services abroad will probably lead to higher health spending by households if no effective protection mechanisms are in place.

Fig. 14 Percentage of households facing catastrophic health expenditure based on diary data from LECS3, LECS4 and LECS5



Increases in government allocation to the health sector both through demand and supply side financing increase the scope for strategic purchasing

Governance arrangements, including coordination mechanisms under the HSR and the NHI Committee in charge of providing overall guidance for the implementation of the NHI, already allow monitoring alignments of incentives set by financial flows.

The proposed change of provider payment mechanisms under the NHI for deliveries at health centres from capitation to case-based in late 2017 is an example of such an adjustment. The introduction of disbursement-linked indicators at central and provincial level under a World Bank programme further piloted a specific supply-side mechanism to allocate funds more strategically.

Capacity for financial management of the Department of Finance under the Ministry of Health, National Health Insurance Bureau, and providers has also been strengthened over the past years through donor support. A roadmap has been developed, an electronic accounting system is being piloted at national level, reporting at subnational level will be strengthened through more systematic use of excel tools, and accounting and financial management guidelines have been adopted.

On the legal side, the introduction of Prime Minister's Decree 349 in 2013, clarified the use of technical revenues at health facilities and defined the limits of provider autonomy. It stipulates that 85% of revenue must be used to replenish drugs and consumable stocks, while 15% can be allocated to staff as incentives. In the future, the Ministry of Health might reconsider which cost categories can be covered by technical revenue, and clarifications related to covering cost of contractual staff and operational costs are needed. Table 2 shows the distribution in current health expenditure.

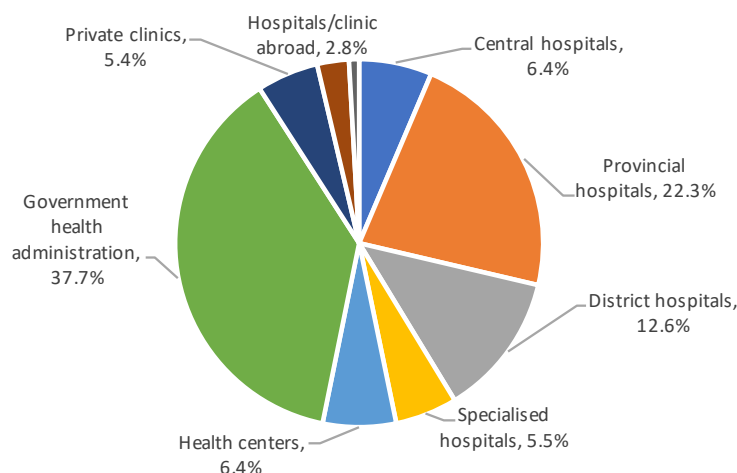
Table 2. Ten conditions which were allocated the largest share of current health expenditure in 2015–2016 in percentage of current health expenditure

Condition	2010–2011	2011–2012	2012–2013	2013–2014	2014–2015	2015–2016
<i>Non-disease specific</i>	6.8%	6.8%	26.7%	28.9%	30.6%	26.7%
<i>Maternal and perinatal conditions</i>	2.5%	2.7%	10.9%	10.3%	9.9%	10.6%
<i>Diseases of the digestive system</i>	0.0%	0.0%	5.3%	5.4%	5.0%	5.4%
<i>Respiratory infections</i>	7.6%	7.8%	5.0%	4.7%	4.5%	5.0%
<i>Vaccine-preventable diseases</i>	0.7%	0.9%	4.1%	3.9%	4.0%	4.8%
<i>Child health</i>	0.0%	0.0%	1.9%	3.1%	3.2%	3.7%
<i>Diseases of the genito-urinary system</i>	0.0%	0.0%	3.6%	3.7%	3.4%	3.6%
<i>Nutritional deficiencies</i>	1.8%	2.5%	2.5%	2.5%	2.7%	3.5%
<i>Other noncommunicable diseases</i>	2.5%	2.4%	3.1%	2.9%	2.9%	3.0%
<i>Cardiovascular diseases</i>	1.2%	1.2%	2.9%	2.8%	2.6%	2.9%

Source: Ministry of Health

Ongoing initiatives in quality assurance, provider accreditation, including for the private sector, and the strengthening of health information collection, will further expand the possibilities for contracting and strategic allocation of funding. Fig. 15 gives an overview of current health expenditure distribution by provider.

Fig. 15 Current health expenditure distribution by provider, 2015–2016



Source: National Health Accounts 2012–2016, Ministry of Health

3.4. Service Delivery

Service delivery overview

The provision of public health services is implemented through a network of health centres, district, provincial, central and specialized hospitals. In addition to this, the military and police sectors also provide health-care services for their own cadres, their family and parts of the local community. An increasing number of private clinics and hospitals are becoming a recognizable part of the health service delivery network.¹⁴

Table 3. Number of facilities and beds per health facility type

Organization unit	Number of facilities		Number of beds	
	2010	2017	2016	2017
Central hospitals	4	5	1190	1678
Curative centres at central level	3	3	160	160
Regional hospitals	4	4	767	665
Provincial hospitals	12	13	1080	1090
District hospitals	131	136	2059	2057
Health centres	905	1055	3084	5420
Army hospitals	n/a	27	n/a	n/a
Police hospitals	n/a	10	n/a	n/a
Private clinics/hospitals	n/a	1028	n/a	n/a

Source: HMIS/DHIS2, Ministry of Health

¹⁴ The Lao People's Democratic Republic does not yet collect service delivery data from the private sector; however, this is being discussed as a future development within HIS (data not available).

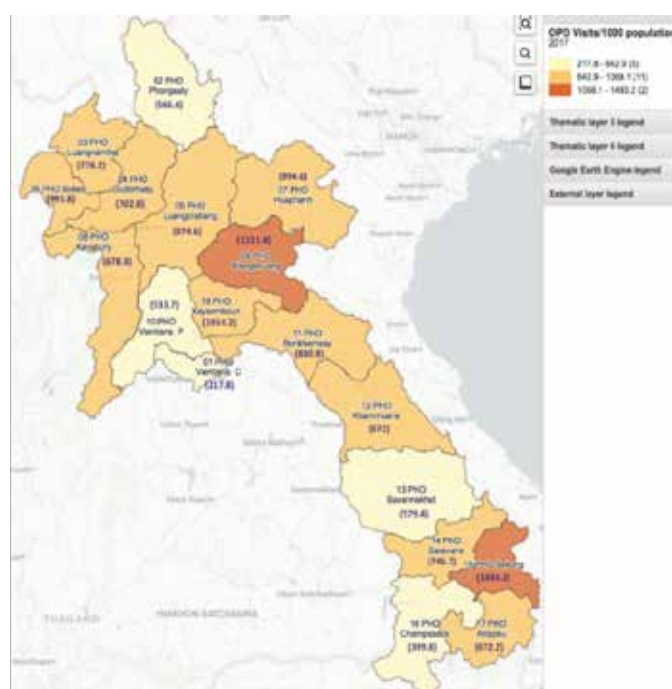
Table 3 provides a breakdown of the numbers and types of facilities as of the end of 2017. In addition to the categories listed in this table, there are two classifications for district-level hospitals: District Type A hospitals are resourced and capable of providing basic emergency obstetric care (BEmOC), whereas District Type B hospitals are not yet capable of providing this level of care.

Of 136 district hospitals, only 25 (34%) have the capacity to perform Caesarean section, classifying them as a District Type A Hospital. This is consistent with the findings of the readiness assessment conducted in 2014.

In 2017, the outpatient department (OPD) visit ratio was reported at 705 OPD visits per 1000 population almost double the ratio of 2011 which was 438 per 1000 population. The only exception is Vientiane Capital, where service uptake is always high due to the concentration of tertiary and specialized hospitals that attract patients from other parts of the country.

Fig. 16 shows the variation of OPD visits per 1000 population by province. Sekong and Xiengkhuang are the two provinces reporting the highest number of OPD visits with 1.2 visits per person per year.

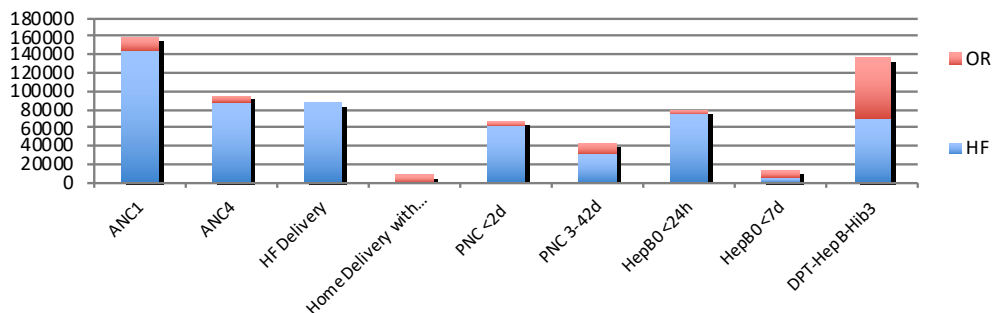
Fig. 16 OPD visits per 1000 population, 2017



Source: HMIS/DHIS2, Ministry of Health

At primary health-care level, essential services including MCH, family planning, EPI, nutrition and WASH are provided by two types of services: fixed site provision at health centres and district hospitals; and integrated outreach normally provided by health centre staff in collaboration with the district health office and district hospitals. Outreach services cover less than 10% of MCH services but nearly half of EPI services (Fig. 17).

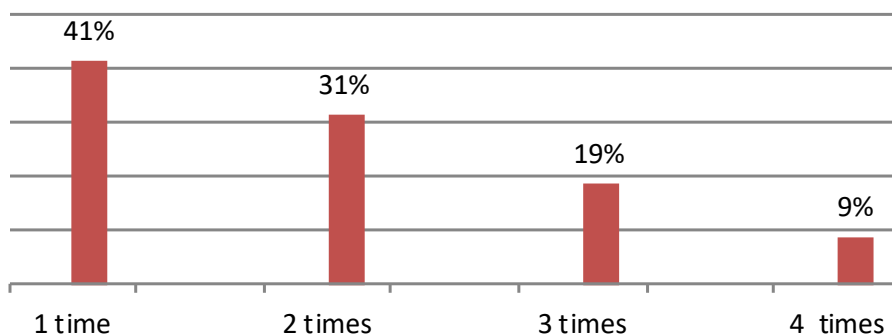
Fig. 17 Service delivery by fixed site or outreach, 2016



Source: HMIS/DHIS2, Ministry of Health

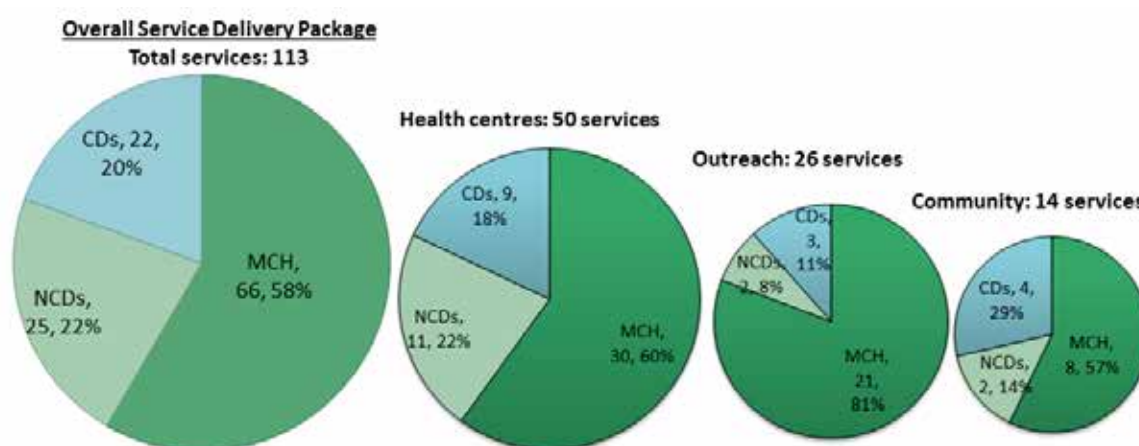
In the Lao People’s Democratic Republic, approximately 30% of villages are considered as remote with access by dirt road or no road.¹⁰ The Ministry of Health, with support from the World Bank and other partners have supported integrated service provision through outreach for MCH, family planning, Nutrition and EPI. These outreaches are supposed to be conducted four times a year; however, as Fig. 18 illustrates, only 9% of these villages received four outreaches in 2016.

Fig. 18 Proportion of remote villages that received integrated services, 2017



Source: HMIS/ DHIS2, Ministry of Health

The policy and legislative environment for service delivery is governed by three key documents: the Healthcare Law that was passed in 2005 and updated in 2016; the Primary Health Care Policy issued in 2000; and the HSRF (2014), for which service delivery is the fourth and central pillar. Under the HSR agenda, one of the key developments is the introduction of the essential service package. This package was developed with inputs from a broad range of stakeholders in the health sector during 2016 and 2017. The split between MCH, noncommunicable diseases (NCDs) and communicable diseases at different levels is presented in Fig. 19.

Fig. 19 Essential service package, breakdown by service and level of service

Source: HMIS/DHIS2, Ministry of Health

Service Delivery as Priority Area 4 of Health Sector Reform

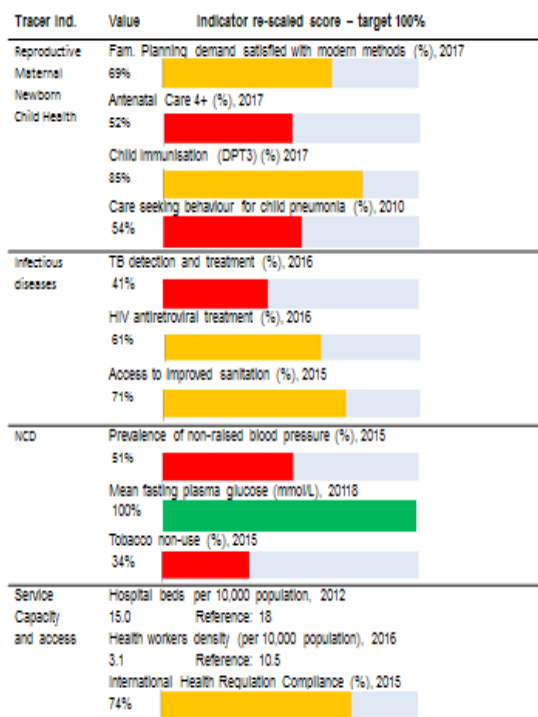
Service delivery is the central pillar of the HSRF. There are six objectives under Priority Area 4 which are guiding service delivery developments as follows.

- i. Rationalize allocation of resources through localized planning and monitoring: this objective entails the work that is underway to roll out an essential service package of basic services to be provided at each level.
- ii. Strengthen policy framework and legislation for service delivery: the policy environment is based on the updated Health Care Law (2016) and the Primary Healthcare Policy. Going forward, the Ministry of Health needs to focus on updating legislative documents on provision of service delivery.
- iii. Ensure uninterrupted supply of medicine and medical products: key medicine policies need to be reviewed and updated. The Essential Medicine List should be revised and aligned to the ESP.
- iv. Improve health facility management for better quality and efficiency: this stream of work includes the updating and monitoring standards for hospitals and health centres, designing and implementing a quality assurance improvement system and ensuring that incentives provided through NHI encourage improvements to facility efficiency and performance.
- v. Strengthen community health service provision and demand creation: work is underway at the Ministry of Health to develop a strategic approach to strengthening a sustainable system for community health service provision which links community health providers with facility health providers in a robust referral system.
- vi. Strengthen referral system and accessibility: referral pathways need to be reviewed and strengthened through the production, dissemination and monitoring of a national referral system guideline.

To date, efforts have been made in all of these areas but in an ad hoc and fragmented fashion by different departments and programmes in the Ministry of Health, depending on funding and technical support available. To enable the implementation and achievement of all six objectives, an overall strategic mechanism is needed to facilitate and coordinate all the involved departments, plus those of the health system components such as planning, HIS, human resources and finance. It has not been clear whether these objectives have been translated into a work plan of the concerned programmes as yet. The Department of Health Care whose mandate is to develop and oversee the service delivery across the health sector will need more harmonious support to prioritize, and strategically plan out the implementation of this important priority area.

Service utilization

Fig. 20 UHC Index: coverage of essential health services (WHO Regional Office for the Western Pacific model updated with country-specific figures)

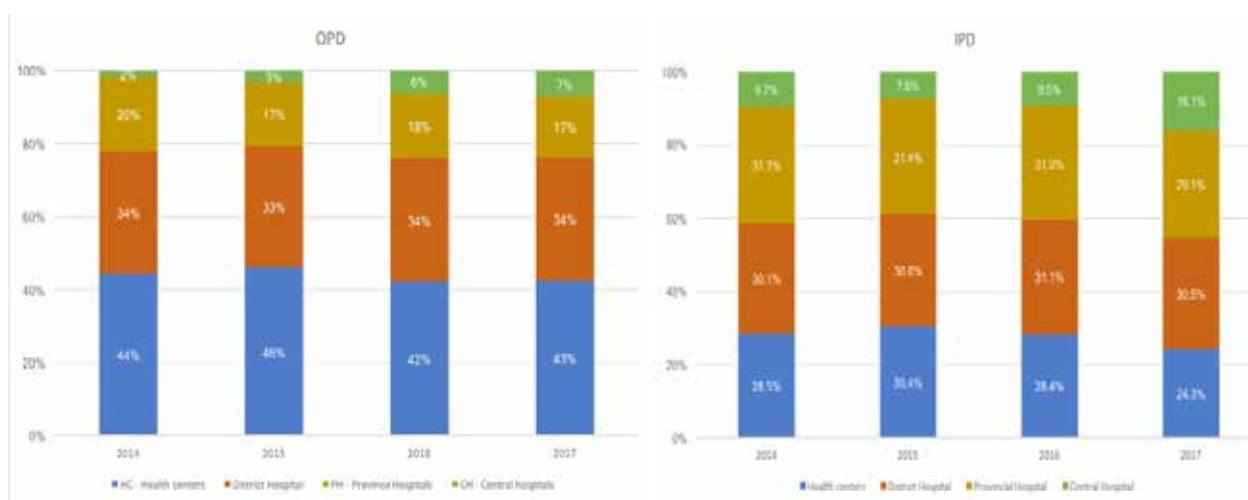


Service capacity, access and coverage of essential services are relatively low in the Lao People’s Democratic Republic as the latest review for UHC coverage revealed, see Fig.20.

In 2017, the public health system provided outpatient services 598 647 times and inpatient services 471 283 times.

The Sam-Sang policy aims to strengthen service delivery and its utilization at subnational level. The aim is to increase service uptake at the primary care and provincial level, to reduce the burden of service at the central hospital level. However, as Fig. 21 illustrates, inpatient and outpatient utilization at different levels has changed little over the past four years, instead presenting a picture of consistent service utilization at all levels.

Fig. 21 Service delivery by level of public facilities, 2017

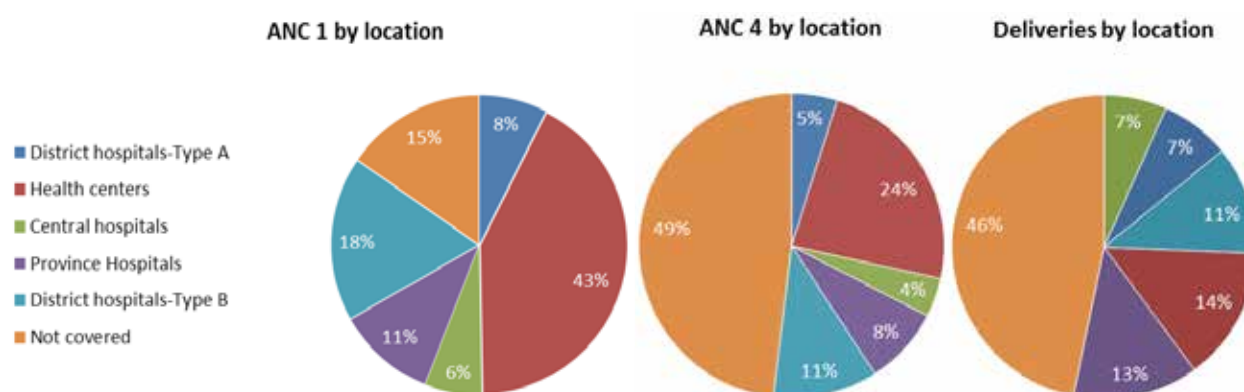


Source: HMIS/DHIS2, Ministry of Health

Health centres serve approximately 43% of out-patient uptake and 24% of inpatient uptake. Central level (tertiary and specialized) hospitals tend to serve more in-patients than outpatients and there is a trend of an increasing proportion of inpatient uptake at central hospitals while the inpatient uptake at the health centre level is going down. Regarding MCH service utilization, health centres carry the burden of ANC1 visits (43%),

but only account for 24% of ANC4 visits and 14% of deliveries (see Fig. 22). There are several developments within the health sector that are likely to impact the profiles presented above, including the roll-out of the essential service package and NHI as well as human resources allocation changes that are currently being discussed at the central level.

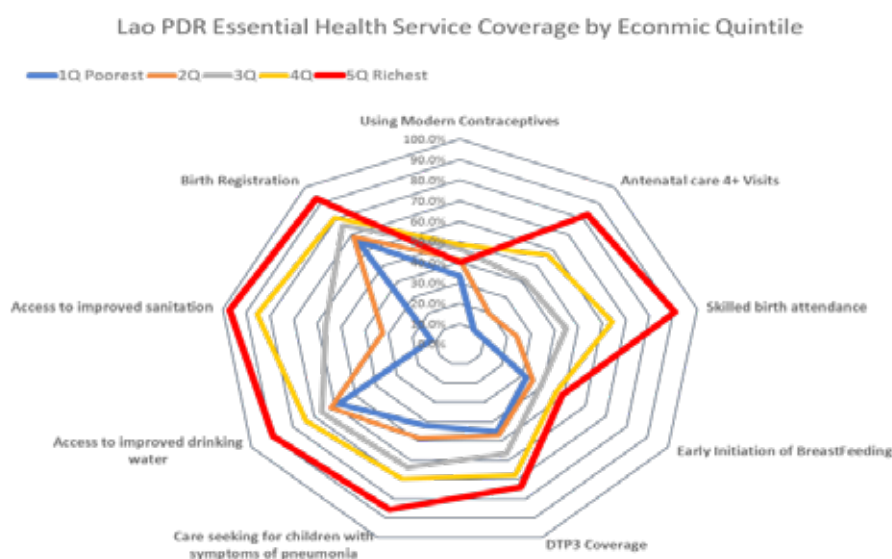
Fig. 22 ANC1, ANC4 and deliveries by location of service delivery, 2017



Source: HMIS/DHIS2, Ministry of Health

Fig. 23 provides an analysis of service coverage by wealth quintile, demonstrating the variation in reach and uptake of the selected services across the different quintiles. Of note: modern contraception coverage shows little variation between quintiles, being low for all; ANC4, skilled birth attendants (SBA) and access to improved sanitation all show high variation by quintile. This demonstrates the importance of considering equity issues when looking at service utilization.

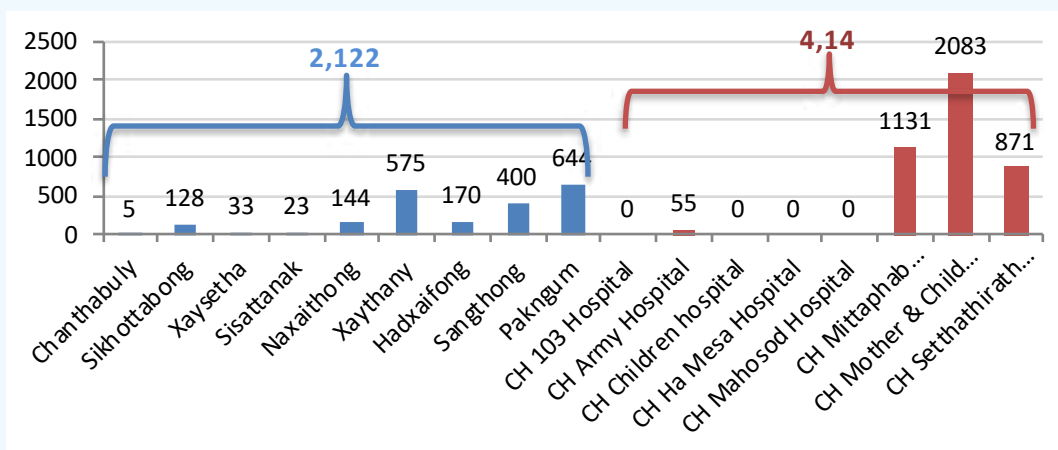
Fig. 23 Essential service coverage equity analysis



Source: UNICEF

Box 2. Service delivery in Vientiane Capital

Fig. 24 Facility-based deliveries in Vientiane Capital, 2016



Source: HMIS/DHIS2, Ministry of Health

All tertiary and specialized hospitals are based in Vientiane Capital, thus in terms of administrative health care, Vientiane Capital reports the highest rate for outpatient and inpatient visits per 1000 population. It has been observed that the number of inpatient and outpatient visits in central-level hospitals in Vientiane have been roughly double those at district hospitals in Vientiane. The district hospitals are managed and operated under the Vientiane Capital Health Office, while the central-level hospitals are autonomous entities in terms of operation and technical competency, with direct supervision from the Ministry of Health. The service provision profile of the capital also has army and police hospitals, as well as several private hospitals, all contributing to serving the population of Vientiane Capital.

Service readiness

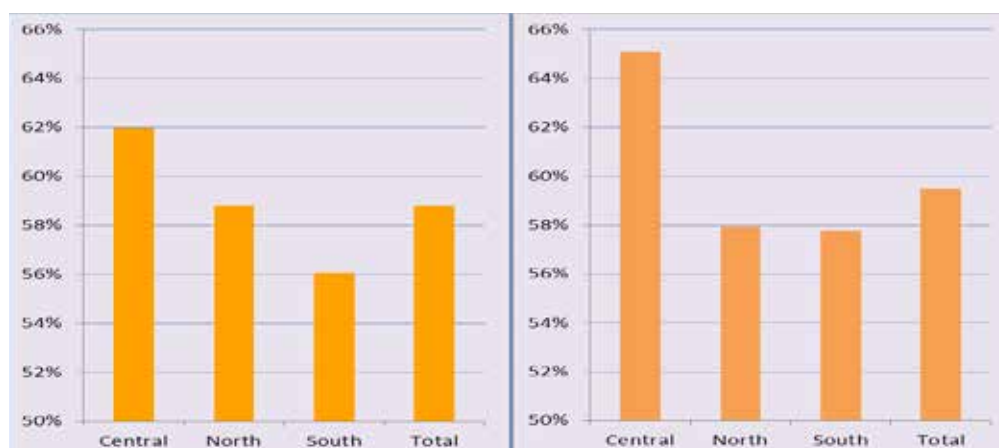
The Service Availability and Readiness Assessment (SARA) was conducted in the Lao People’s Democratic Republic in 2014 at health centre and district hospital level. While service availability provides an overall picture of the health system, a measure of its overall capacity to provide general health services, known as service readiness, is a more direct measure of availability of health services in a country because it also examines both availability and functionality of tracer items required to provide those services.

Findings from this survey indicated that only 60% of health centres in the Lao People’s Democratic Republic are ready to provide basic health services to the population. Lack of basic amenities, limited diagnostic capacity and absence of essential medicines are the key reasons. Over 90% of health centres provide maternal, newborn and child health services and routine immunization services in the country, but the overall readiness index score was 66% for RMNCH and 60% for routine immunization.

At district level, 60% of the district hospitals were ready to provide basic health services to the population. Generally, service readiness was higher in district hospitals belonging to the Central Region and lower among those located in the Northern and Southern parts of the country as illustrated in Fig. 25. The assessment found less than half of the selected district hospitals to have adequate supply of power, improved water, medicines and commodity supply for infection control. The district hospital system has a strong diagnostic capacity for communicable conditions; however, over 40% did not have the required medicine and commodities to offer

BEmOC; over 70% of them did not have the required staff or guideline while some 20% of facilities did not have the right equipment, resulting in an overall readiness index for BEmOC of 54%. All district hospitals have preventative care for children under age 5 and reported running routine immunization services for children. The average readiness for district hospitals for preventative care and immunization were 63% and 77%, respectively.

Fig. 25 General Service Readiness Index by region, health centres (left) and district hospitals (right)



Source: SARA, 2014

In light of these findings, with support from WHO, UNICEF, UNFPA and other partners under the framework of the second RMNCH strategy, an BEmOC strengthening programme has been rolled out nationwide aiming to improve services at provincial and district hospitals.

The World Bank-funded programme on Health Governance and Nutrition (HGPN) has adapted the concept of SARA to develop a monitoring tool for service quality and readiness in 14 provinces. However, more efforts are needed, especially at provincial and district level if service quality or working conditions at the district and health centre levels is to be improved as targeted.

With the essential service package soon to be at the implementation stage, there is an opportunity to revise this monitoring tool to provide a more regular assessment of service readiness against the essential service package.

Laboratories

Since 2010, there have been significant investments in the laboratory infrastructure across the country, with an increase from four to 12 microbiology laboratories at provincial hospitals during this period. The strengthened laboratory network involving central, public and private hospital laboratories has improved laboratory capacity to detect priority infectious diseases. This is demonstrated by the ability of national laboratories to perform nine out of 10 core tests identified by IHR (2005) with poliovirus testing conducted at an overseas laboratory.

A documented system for laboratory networking and specimen referral has been in place since 2015. The Lao People's Democratic Republic participates in several international external quality assurance (EQA) programmes and the National Centre for Laboratory and Epidemiology has been accredited by WHO for testing priority diseases, such as influenza, measles, rubella and Japanese encephalitis. A ministerial decree on health-care waste management in 2017 further strengthens the regulatory framework. National laboratory quality standards and biosafety regulations have also been drafted.

The National Influenza Centre (NIC) at National Centre for Laboratory and Epidemiology was established in 2010 providing capacity for real-time polymerase chain reaction (RT-PCR), sequencing and virus isolation.

Influenza testing capabilities have been used as an entry point to strengthen laboratory capacity as a whole in the country. Since the establishment of the NIC, capacity to carry out classical diagnostic techniques, such as polymerase chain reaction (PCR), is developed and specific diagnostic SOPs are in place, such as influenza RT-PCR, dengue RT-PCR, Japanese encephalitis immunoglobulin M (IgM) testing by enzyme-linked immunosorbent assay (ELISA), and measles and rubella IgM testing by ELISA.

Essential medicine supply

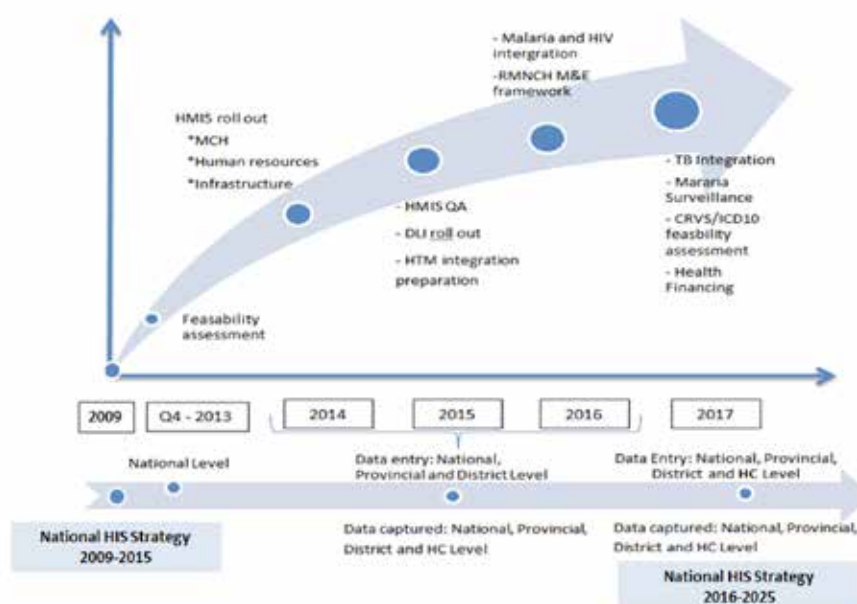
The Food and Drug Department (FDD) within the Ministry of Health has the leading role to play in implementing the Ministry of Health action plan focused on the fourth programme for food and drug consumer protection, in collaboration with other concerned departments in the Ministry of Health and other stakeholders. The revised National Medicine Policy 2003 is the main policy in the pharmaceutical area to support for the programme on food and drug consumer protection and to pave the way to UHC for the country as availability of and access to good quality and affordable essential medicines are critical in providing health-care services in health facilities at all levels.

During the past 10 years, much progress has been made in the pharmaceutical sector in terms of improving availability and accessibility to quality essential medicines, strengthening supply chain management through selection, procurement, registration and quality control and assurance of medicines, strengthening National Regulatory Authority (NRA), especially for the regulatory system, and pre-marketing and post-marketing surveillance. In terms of post-marketing surveillance, as medicine safety surveillance is critical for ensuring patient safety in health-care facilities, the key focus has been to establish a pharmacovigilance system by establishing a new unit under the division of FDD to oversee this work. In addition, to support this system, a guideline, including SOPs for reporting and monitoring of adverse drug reactions, has been developed and training has been provided to health staff for adverse drug reaction cases reporting. The key achievement in this work is that FDD has been successfully accepted as a full member of Uppsala Monitoring Centre which is of great benefit to FDD in terms of access to medicine safety data and information from other Member States.

Despite these achievements, there are still many challenges that need to be overcome, most importantly how to ensure access to quality and affordable essential medicines for everyone, especially the poor and people living in remote areas. Other key challenge in terms of access to essential medicines is the high price of medicines, with a mean mark-up of 44% in the public sector (based on the medicine price survey conducted in 2013) which can increase the financial burden of the poor. Another challenge is enforcement and regulations, as enforcement capacities within NRA are still limited.

3.5. Health Information System

In the previous five years, the Lao health sector has witnessed an impressive transformation of its HIS, shifting from vertical, Excel and paper-based reporting systems, with poor data quality and low utilization to a web-based integrated information platform that collects data from all health facilities nationwide and generates routine HMIS reports as well as specific programme reports. Data use has increased significantly with more provinces and programmes using the system either for reporting or monitoring. In December 2017, the Ministry of Health issued a ministerial directive endorsing the DHIS2/HIS system as the official national information system through which all programmes are requested to report.

Fig. 26 Key milestones and development of DHIS2 for HIS Lao People's Democratic Republic

National HIS strategies

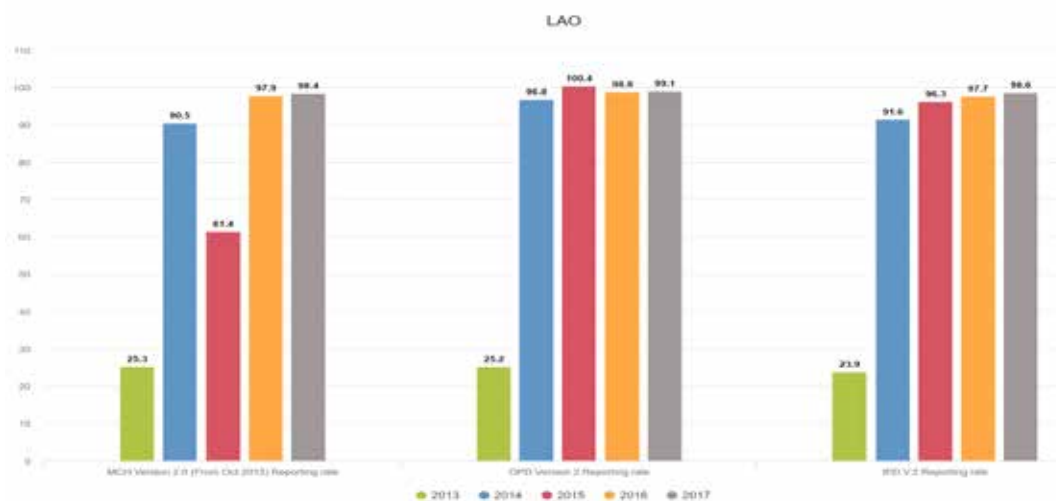
The first Health Information System Strategic Plan (HISSP) 2009–2015 identified the mission of HIS as “develop a strong, easy to use and unified Health Information System to provide timely, high quality, evidence-based information for policy formulation, decision making, program implementation, monitoring and evaluation for all national and international health stakeholders by 2015”. The strategy aimed at effectively managing information from all programmes and ensuring that Ministry of Health data would be aligned with census, vital events registration and other survey data available. A National HIS Committee was created to support the implementation of the plan.

The strategy was a comprehensive, system-wise response to challenges with the existing reporting systems at the time. Data collection was fragmented; separate reporting by vertical programmes imposed heavy administrative burden on health facilities; duplication of data collection forms led to incoherence in information and data incompleteness. Paper or Excel-based reporting caused delays in submitting information to higher levels. Data quality monitoring was difficult and central level units were not able to provide timely and accurate reports to policy-makers. During the period 2009–2013, two national health statistics reports were developed, but the use of the information from this report was very limited.

The second National Health Information Strategy and Action Plan 2018–2025 was approved in December 2017. This strategy continues the development of an integrated platform under the vision of creating a health information centre as the national hub. It also integrates eHealth objectives, highlighting the role of information communication technology (ICT) in the development of the health sector in general and of the HIS in particular. The importance of coordination across sectors and within the health sector is emphasized through the development of a master plan for coordination, harmonization of health information infrastructure, and application of various ICT solutions, aimed at reducing the reporting burden of providers, yet increasing the use of the information and data toward better planning, prioritization, response and management of health services. This will serve as the backbone that provides evidence for all strategic interventions toward the achievement of UHC in 2025 and SDGs in 2030.

A national integrated health information platform

Fig. 27 Reporting rates for three key HMIS components, 2013–2017



Source: HMIS/DHIS2, Ministry of Health

In 2013, in consultation with WHO, the Asian eHealth Information Network and the University of Oslo (OiU), the Ministry of Health decided to use the web-based, open-source software DHIS2 to replace the Excel-based report for HMIS. As a modular and easy-to-configure system, DHIS2 has been specifically customized into an integrated platform for data collection, sharing, validation, analysis, reporting and monitoring, tailored to the needs of the country’s health system. DHIS2 roll-out started in early 2014. By the end of 2015, the system was operational nationwide, collecting data for HMIS from all health facilities – from health centres to central hospitals. The server and database is hosted in the eGovernment Centre under the Ministry of Posts and Telecommunications. Currently, data are mostly collected as aggregated and event-based reports, but collection of individual case data for patients has started.

Integration of TB, HIV and malaria reporting systems into DHIS2/HMIS was completed in 2017. In addition, HMIS/DHIS2 was confirmed as the data source for reporting disbursement-linked indicators under the World Bank health sector programme focusing on governance and MNCH. Direct support to strengthening of the DHIS/HMIS, linking the data to financial transactions and combining it with a verification mechanism led to both strengthened reporting structures and better data quality.

By December 2017, HMIS/DHIS2 has evolved into the national integrated health information platform that directly collects routine data for nine programmes and subprogrammes, and provides a repository for additional data on human resources, health insurance and some national key surveys. The platform generates quarterly and annual progress updates of the implementation of the national health sector development plan. Reports on MDG achievements are publicly accessible under www.hmis.gov.la/lao. HMIS/DHIS2 is also the monitoring and evaluation framework for UHC/SDGs and the 10 indicators for the health sector adopted by the Lao National Assembly.

More than 1000 Ministry of Health and partner staff at all levels have been trained and use the system. To strengthen sustainability of the platform, a national core team has been established with specially trained staff able to manage and administer the system. Core teams for programmes at national and subnational levels are being developed. The goal is to have a strong network of DHIS2 IT administrators and managers across the country for both vertical programmes and horizontal health system management, as illustrated by Fig. 28.

Financially, the Government underlined its commitment to HIS development by providing annual budget allocations for implementation since 2015. At the initial stage, the system was fully supported by external

funds from the World Bank and technical assistance from the OiU and WHO. The HIS platform has been supported by most partners in the health sector either through direct support to the development of the systems as by the OiU, World Bank, Global Fund, ADB, Korea Foundation for International Healthcare (KOFIH), the Korea International Cooperation Agency, UNICEF, UNFPA, or to the operationalization in specific subsectors or at subnational level as by JICA, Clinton Health Access Initiative, LuxDev Care International, Save the Children, Swiss Red Cross, and other NGOs. The coordinated approach was possible thanks to the leadership of the Ministry of Health in the implementation of a strategic work plan aligning support by all stakeholders. WHO played a leading role in providing technical assistance while facilitating mobilization of financial and other programmatic inputs.

Challenges to HIS implementation

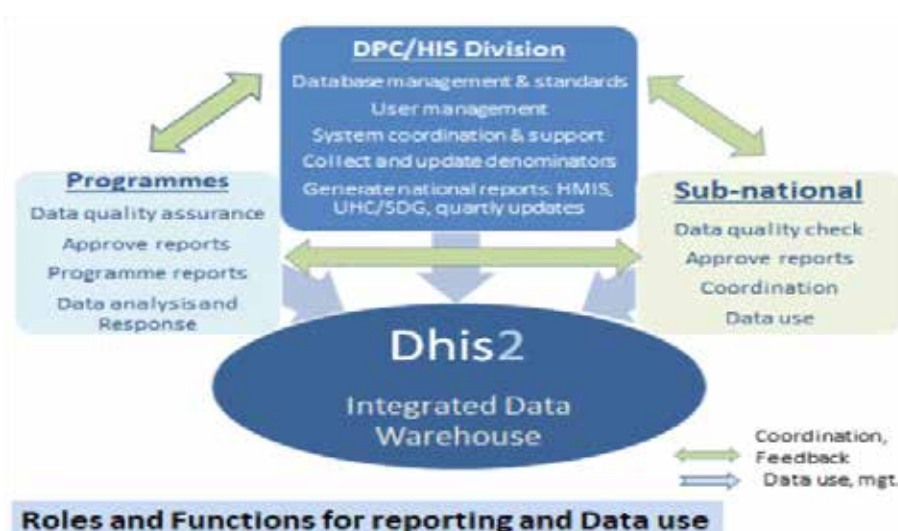
A major challenge for the HIS is the lack of consistent and reliable vital data crucial for estimation of subpopulations and calculation of coverage indicators. A national strategy for civil registration and vital statistics approved in 2017 marked a success in coordination across six ministries, including the Ministry of Health. DHIS2 already captures births and deaths at facilities and the Ministry of Health will work towards harmonization with the civil registration and vital statistics management information system.

Data use, though improved, remains an area that needs further attention. Since 2014, annual health sector progress reports (known as the statistics report) have been published routinely by the Health Information Division in the Department for Planning and Coordination. The most common use of the system is for quarterly and annual reports at provincial level. However, the monthly use of the system for management purposes at all levels and by all programmes, has not been common practice. As a consequence, data quality and data analysis are common challenges faced by all programmes.

Health information system, the way forward

Overall, DHIS2/HMIS as an integrated HIS platform has been well accepted by the health sector leadership at central and provincial levels. The Ministry of Health has recognized its potential in supporting management and overseeing the implementation and the progress of sector performance. The recent Ministerial Directive on DHIS2 together with the current emphasis on accelerating implementation of the health sector reform will be a good opportunity for strengthening and harmonization of the use of the online integrated health information system for planning, programme monitoring and generating evidence for management of all health programmes, ensuring the sector's achievement of its national targets.

Fig. 28 Roles and Functions for reporting and data use







4. PRIORITY PROGRAMMES

The following analysis provides an overview of the priority public health programmes in the Lao People's Democratic Republic. Where possible analysis is provided at the subnational level and with an equity lens to draw out the variations and highlight gaps in coverage. The analysis for RMNCH and EPI is slightly more detailed as these are key focal programmes of the Ministry of Health. Under HSR, RMNCH has been identified as a spearhead programme through which innovative implementation approaches can be tested and demonstrated for other programmes to scale up.

4.1. Reproductive, Maternal, Newborn and Child Health

The past decade has seen significant progress in the country's effort to improve the health status of adolescents, women of reproductive age, mothers, newborns and children. The Lao People's Democratic Republic achieved the MDG4 target of 75% reduction in MMR by achieving a reduction of 77%, although progress has been slower for child and infant mortality indicators.

Through the National Assembly, the Government made RMNCH a prioritized programme to act as a spearhead, demonstrating how various sectoral policies, in particular Health Sector Reform, can be implemented. As such a flagship programme, RMNCH is therefore required to assimilate new ideas as they are introduced to the health sector. Of the 10 indicators identified by the National Assembly to track health sector progress to UHC/SDGs, seven are RMNCH-focused indicators. This in itself highlights the importance that RMNCH holds within the health sector in terms of contributing to progress in reaching the 2020 and 2030 targets.

Momentum has been building over the last decade and current efforts to further strengthen governance and leadership around RMNCH must capitalize on this momentum to ensure targets are met and progress continues to be demonstrated.

The first RMNCH Strategy (2009–2015)

Since 2009 there have been several fundamental shifts in the RMNCH policy environment, the most significant of which has been the implementation of the first national RMNCH Strategy and the development of a new 10-year strategy running from 2016 to 2025. The first strategic document guiding the RMNCH sector was the Strategy and Planning Framework for the Integrated Package of Maternal, Neonatal, Newborn and Child Health Services which ran from 2009 to 2015, aimed at reaching the MCH-related MDG targets.

Achievements under this strategy

The end of strategy evaluations concluded that there was significant reduction in maternal and child mortality over this period and a steady increase in service coverage was observed. Free MCH was introduced during this strategy and was thought to have been instrumental in an increased service uptake. Efforts around human resources resulted in an increase in the production and distribution of Community Midwives, with 43% of health centres having a community midwife in 2014 compared to only 10% in 2010.¹⁵ MCH HMIS data was introduced onto DHIS2 in 2014, leading the way for other programmes to follow suit.

¹⁵ Ministry of Health (2011). The VIIth Five-Year Health Sector Development Plan (2011–2015). Vientiane: Ministry of Health (http://www.wpro.who.int/health_services/lao_pdr_nationalhealthplan.pdf).

Challenges under this strategy

Regardless of the increased service coverage, the evaluations also found low quality and inequity in access to RMNCH services due to a number of factors spanning service delivery as well as governance. The main issues identified were as follows:

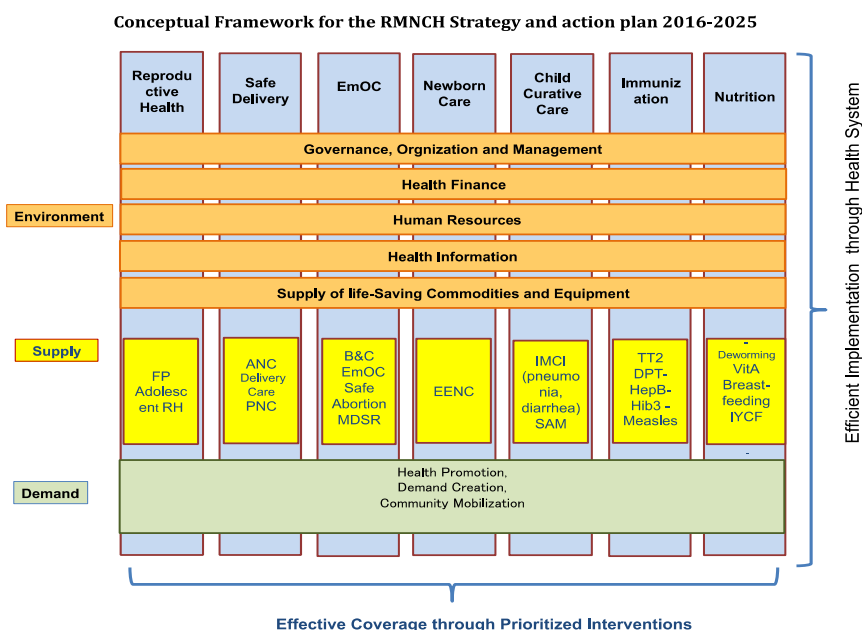
- weak capacities for evidence-based planning and prioritization which resulted in inefficient resource allocation and lack of effective monitoring mechanisms;
- on the governance side, there was no clear responsibility in operationalizing the strategy, especially at the central level, which resulted in lack of engagement and coordination between stakeholders;
- on the service delivery side, there was no guidance to service providers on priority services and regular essential commodity stock-outs; and
- community interventions were sporadic, with a weak sustainable service delivery mechanism.

The second RMNCH Strategy and Action Plan (2016–2025)

The new strategy, the National Strategy and Action Plan for Integrated Services on Reproductive, Maternal, Newborn and Child Health 2016–2025, articulates the vision of the Government reflected in the National Socio-Economic Development Plan, HSDP and HSR as well as the global priorities set out in the SDGs. The strategy aims to achieve a set of results set by the Ministry of Health to continue the momentum and progress made in the MDG-era, yet moving towards an approach focused more on quality and equity.

The major change is that responsibility for implementation of the strategy shifted from being the sole concern of the Mother and Child Centre (MCHC) to being a cross-cutting strategy with clear responsibilities from across the Ministry of Health to achieve the overall goals for RMNCH. Regular technical- and policy-level meetings were integrated into the governance arrangements to encourage evidence-based planning and monitoring for improved accountability.

Fig. 29 Conceptual Framework for the RMNCH Strategy and Action Plan (2016–2025)



Source: Ministry of Health

As detailed in Fig. 29, the RMNCH Strategy is structured around 11 strategic objectives (SOs), of which seven are technical programme areas and four are cross-cutting health system areas. To ensure accountability, as well as shifting responsibility for the strategy to a higher and broader stakeholder group, the current strategy has clearly identified governance arrangements, with assigned individuals in charge of the 11 SOs and an RMNCH Secretariat responsible for coordination, planning and monitoring. A comprehensive M&E framework has been developed to support the monitoring of the implementation by each SO and to help the secretariat oversee the coordination, progress and achievement of the medium-term and long-term targets set by Ministry of Health and the Lao Government, as mentioned in the Governance section.

Achievements under this strategy

Below is a brief overview of key achievements for the seven technical SOs.

- **S01 Reproductive health:** The Ministry of Health has developed Family Planning Guidelines which have been rolled out into pre-service education. National Adolescent & Youth Friendly Service Guidelines have also been developed and endorsed, with a focus on reproductive health.
- **S02 Safe delivery:** In 2017 the Ministry of Health initiated the process of updating the national Antenatal Care & Postnatal Care (ANC/PNC) Guidelines with close support from WHO. This process has already kick-started discussions around quality of care and respectful patient-centred care which are valuable for the health sector as a whole.
- **S03 Emergency Obstetric Care:** The Ministry of Health, with support from WHO and other partners, has developed and started to roll out a package on improving continuous intrapartum and obstetric care, aimed at improvements in providers practice, medical supplies, human resources development, and referral systems. The Ministry of Health also endorsed technical guidelines on preventing unsafe abortion and planned to roll out training. Maternal Death Surveillance and Response has been implemented nationwide for data-based strategic planning to improve health system for reducing maternal deaths.
- **S04 Newborn Care:** The Lao People's Democratic Republic has been engaged in implementing a package of Early Essential Newborn Care (EENC) since 2014, in line with the WHO Action Plan for Healthy Newborn Infants in the Western Pacific Region (2014–2020).
 - EENC coaching has been done in 4/7 (57%) national hospitals, 17/17 (100%) of provincial hospitals, and 46/137 (34%) of district, military and police hospitals, reaching more than 600 health providers. Exclusive breastfeeding before discharge reached 76% in the central and provincial hospitals.
- **S05 Child Curative Care:** The Ministry of Health has developed a National Integrated Management of Newborn and Childhood Illnesses (IMNCI) Scale-up Plan which will be implemented at facility and community level.
- **S06 Immunization:** The National Immunization Programme (NIP) has taken the leading role in the implementation of this SO with technical/financial support from WHO and UNICEF and financial support from GAVI. The inclusion of NIP as SO6 has strengthened the coordination of a programme which used to work as a silo, with separate lines of services and management into an integrated network of MNCH services. For more results, see Section 4.2 EPI.
- **S07 Nutrition:** The development of the National Nutrition Strategy to 2025 and the accompanying Plan of Action for 2016–2020 was a key milestone for nutrition stakeholders. In addition to this, School Deworming Guidelines have been revised and distributed to all schools nationwide, Micronutrient Guidelines have been drafted and the Code of Marketing for Breast-Milk Substitutes Decree has been drafted.

In addition, significant strides have been made in the health system areas of human resources, health financing, health information and commodity and essential medicine supply, as mentioned in Chapter 3 of this document.

Challenges under this strategy

RMNCH, as with other programmes, will face reduction of external funds and requires a mid- to long-term transitional plan to secure domestic funding for essential service provision. Meanwhile, upcoming integration of the free MCH scheme into the National Health Insurance will require particular care to protect mothers, children and the poor in the process of integration. Targeted increases in key service coverage, such as for skilled birth attendance during delivery, need well-coordinated strategies for optimal results.

Additional shifts in the policy environment

Health sector reform and an RMNCH essential service package: Under the remit of HSR there has been a push to rationalize service delivery through the development of a minimum package of essential health services that are to be provided at all public facilities and communities. RMNCH was the first Ministry of Health programme to go through the detailed consultation process to develop such a package, which was expanded to other programmes to follow suit. Furthermore, the RMNCH Secretariat is the first programme to utilize the ESP as a basis for evidence-based gap analysis and planning at the subnational level, in line with HSR (see boxed example below). The RMNCH ESP will also be reflected to the NHI benefits package with the aim of increasing coverage and uptake of basic essential services.

A new RMNCAH policy: A new RMNCAH policy is expected to be finalized in 2018 aiming to support the strategy through the Government's commitment and further developments within RMNCAH. Importantly this policy includes the "A" of adolescent health care, ensuring this vulnerable population group is no longer over-looked.

The RMNCH evidence base

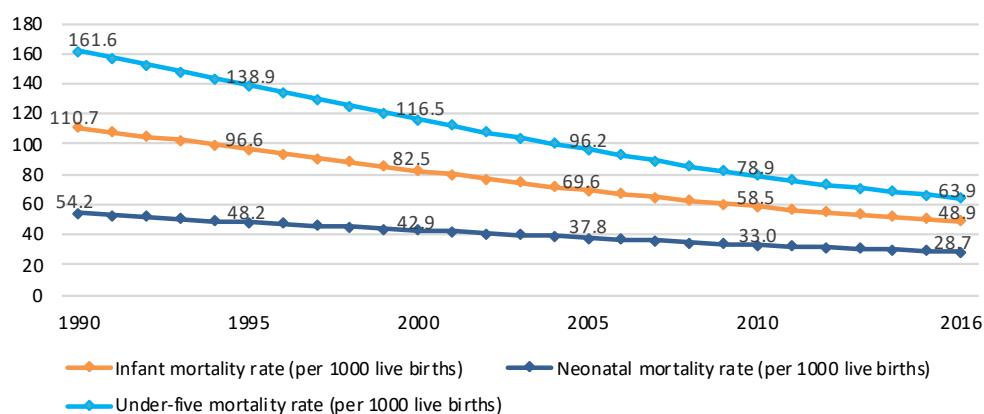
The RMNCH analysis that follows provides an indication of progress, giving a snapshot of impacts and outcomes with a specific focus on the subnational context.

Impact-level progress

The Lao People's Democratic Republic has achieved considerable progress in lowering maternal and child mortality rates over the course of both strategies. The Lao People's Democratic Republic achieved MDG4 target of 75% reduction in MMR, reaching a 77% reduction in MMR over the course of the MDGs and being recognized as the third fastest country in annual reduction of MMR between 2000 and 2013.¹⁶ Although infant and under-5 mortality rates have also undergone a significant drop, progress has not been as impressive and the Lao People's Democratic Republic still reports the highest child mortality rates in South-East Asia.

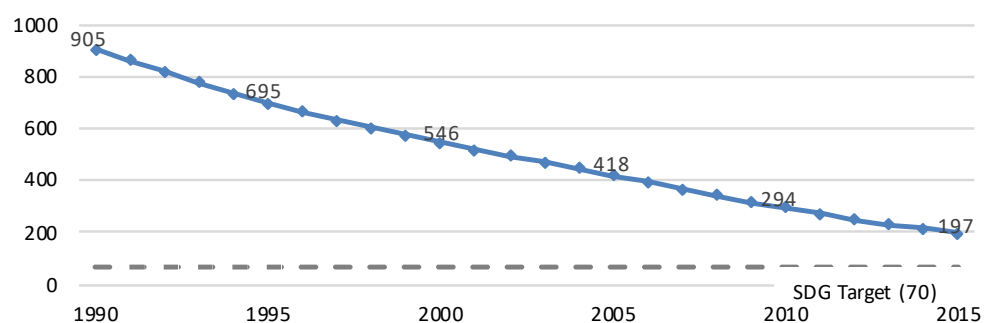
¹⁶ This was among the 75 countries included in World Health Organization (2015). Every woman, every child, every adolescent: achievements and prospects: the final report of the independent Expert Review Group on Information and Accountability for Women's and Children's Health. Geneva: World Health Organization (<http://www.who.int/iris/handle/10665/183585>).

Fig. 30 Child mortality per 1000 live births



Source: Global Health Observatory

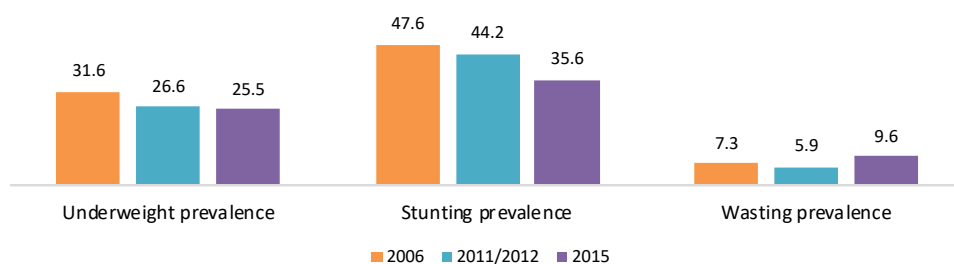
Fig. 31 Maternal mortality per 100 000 live births



Source: Global Health Observatory

One of the factors contributing to the slower rate of reduction of under-5 mortality rates is the poor nutritional status of many children in the Lao People’s Democratic Republic, particularly the poorest children. Child mortality is heavily influenced by socioeconomic group, ethnicity, geographical location and the educational level of parents and as such, equity analysis is key to understanding the context and required actions to address it.

Fig. 32 Nutrition indicators, 2006–2015



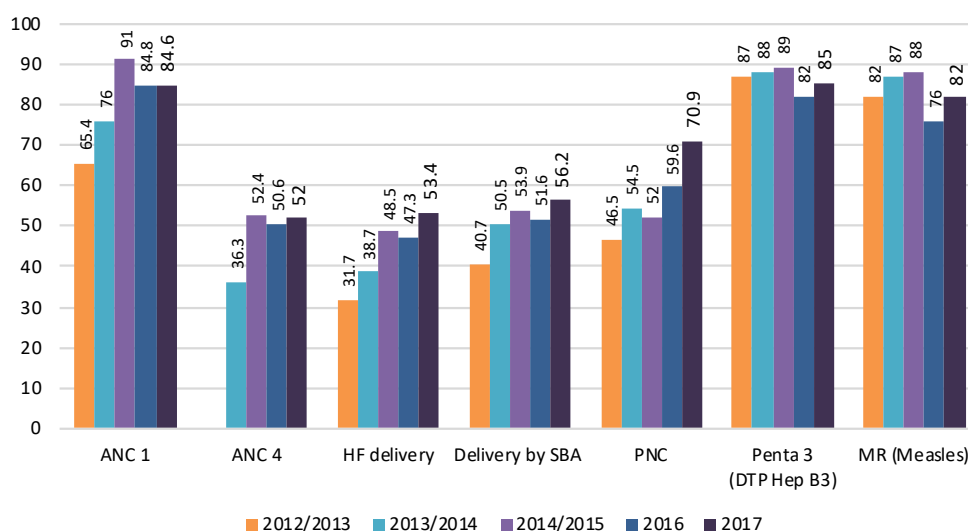
Source: MICS 2006, LSIS I 2011-12, LCAAS 2015

Trends in RMNCH service coverage

At the national level, RMNCH service coverage figures paint a picture of gradual improvement, in particularly the proportion of facility-based deliveries which increased from 32% in 2012 to 53% in 2017 (a 68% increase), and postnatal care coverage which has increased 52% over the same time period (47-71%).

Despite the general upward trend visible here, several of the indicators indicate either a slight stagnation or very little progress in recent years. Of note, ANC1 has a slight downward trend and ANC4 remains around the 50–52% coverage mark. The immunization indicators also show a recent drop in coverage. The considerable drop-out rate from ANC1 to ANC4 is an issue that the Ministry of Health and the MCH team at WHO are well aware of and working to address. The high proportion of ANC1 attendees that do not to return for the recommended four ANC visits is an indication of poor quality of care and low perception of the benefits of antenatal care.

Fig. 33 RMNCH service coverage



Source: HMIS /DHIS2 & NIP data, Ministry of Health

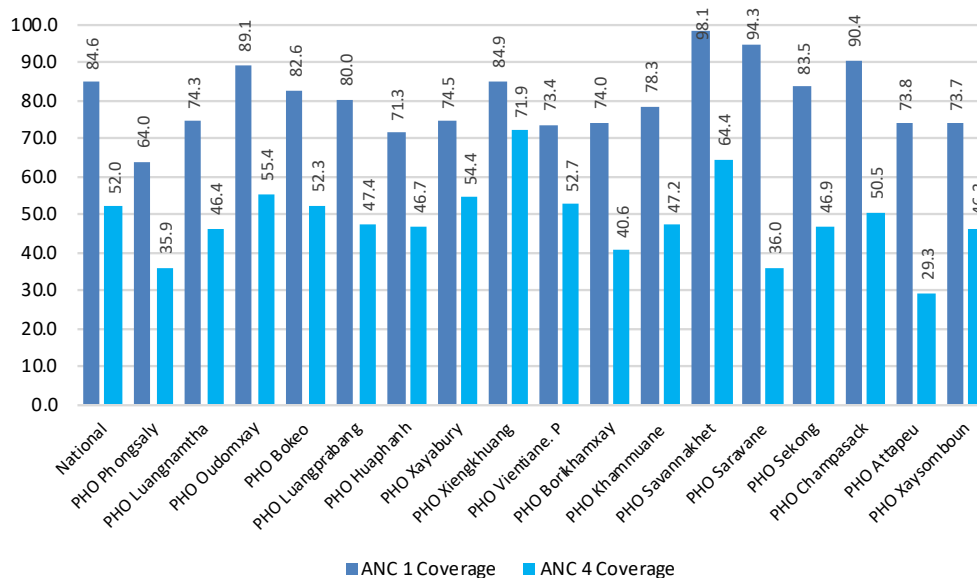
In response to this, WHO has been supporting the Ministry of Health to develop new ANC/PNC Guidelines and an improvement module which place an emphasis on respectful care. This module, together with Early Essential Newborn Care, intrapartum care, and emergency obstetric care programmes that WHO is supporting with other partners, aim to increase coverage and improve the quality of SBA assisted childbirth.

Subnational and equity-related analysis¹⁷

As expected for a country both with significant geographic barriers as well as a diverse socioeconomic and ethnic profile, the context subnationally varies considerably. This variation is demonstrated in the following figures which present antenatal care uptake, delivery location and skilled attendance by province and various equity factors.

¹⁷ Please note this section focuses on selected RMNCH indicators rather than the full spectrum due to space limitations. EPI indicators are analysed in the next section. Similar variations to those shown here exist for all RMNCH indicators

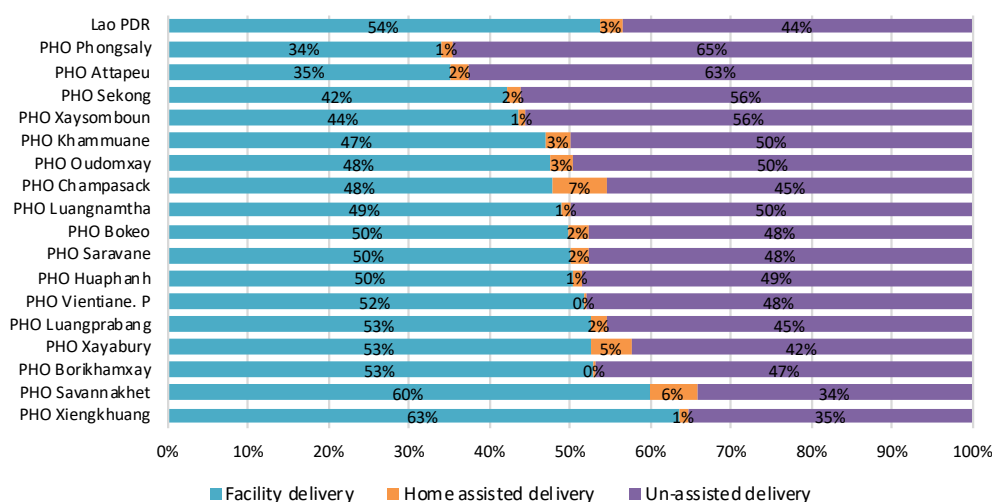
Fig. 34 ANC1 and ANC4 coverage by province, 2017



Source: HMIS/DHIS2, Ministry of Health

At the provincial level ANC1 varies by 34% between the highest (Savannakhet) and lowest (Phongsaly) coverage rates and ANC4 varies by 43% (highest: Xiengkhuang, lowest: Attapeu).

Fig. 35 Delivery by location and assistance, 2017



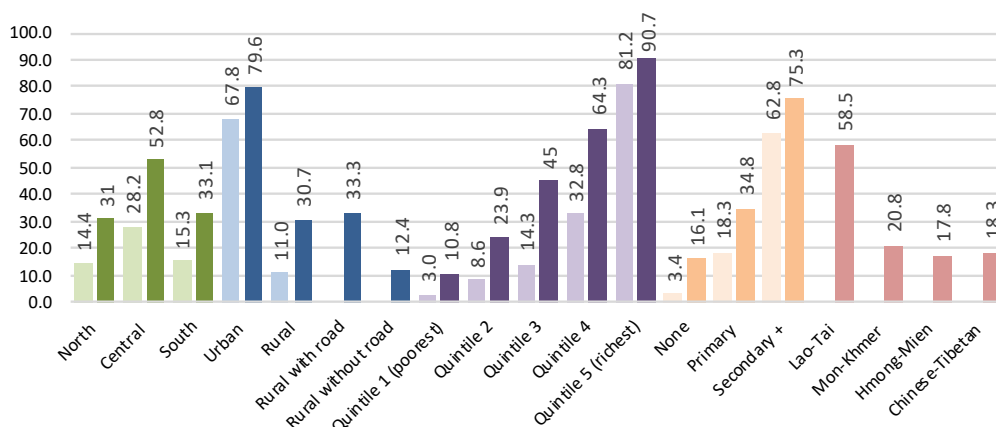
Source: HMIS/DHIS2, Ministry of Health

The most northern and the most south-eastern provinces, Attapeu and Phongsaly, report the lowest facility-based delivery coverage rates (34% for Phongsaly and 35% for Attapeu), both coupled with low home-assisted delivery rates (1% for Phongsaly and 2% for Attapeu). The highest home-assisted delivery coverage rates can be found in Champasack (7%), Savannakhet (6%) and Xayaboury (5%), contributing to the overall SBA

coverage rates for their respective provinces. The highest overall SBA coverage rates (facility-based delivery + home assisted delivery) can be found in Savannakhet (60% + 6%), Xiengkhuang (63% + 1%).

The equity analysis on SBA coverage provided in Fig. 36 shows an even more diverse picture, with the variation between the poorest and the richest quintiles being 80% and the lowest coverage of all groups being among the poorest quintile at 11%.

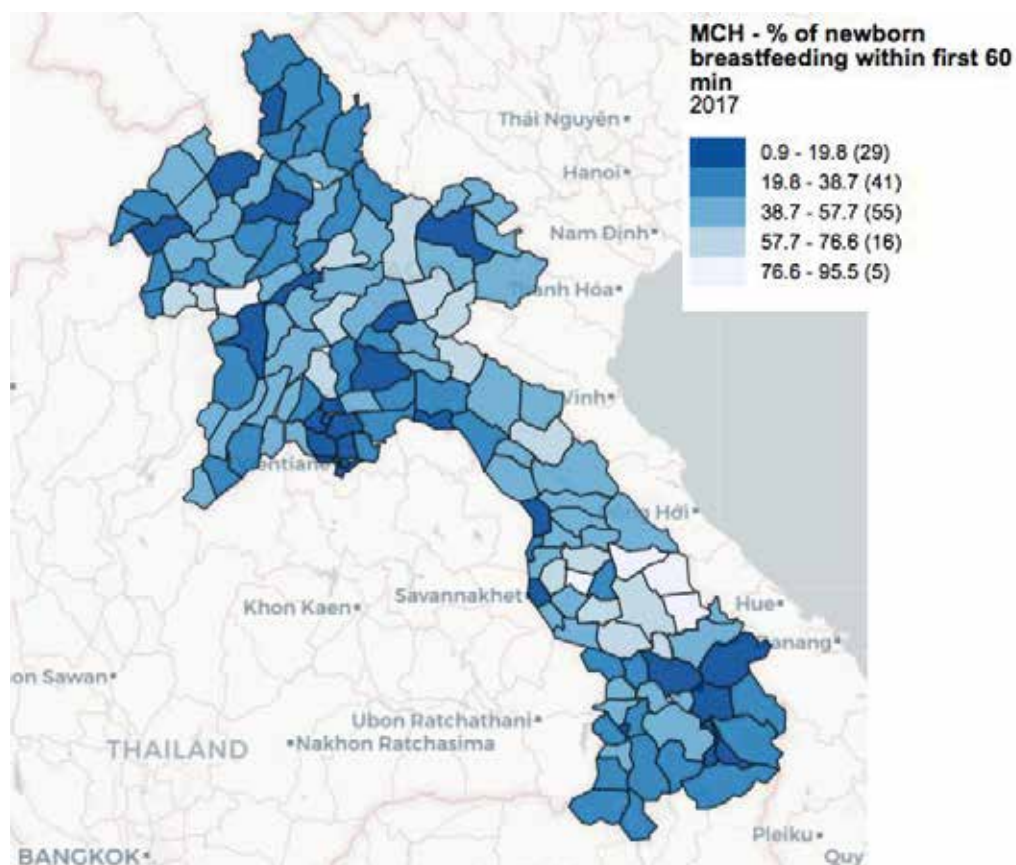
Fig. 36 SBA coverage equity analysis, 2006 & 2011



Source: MICS & LSIS I

Fig. 36 also shows the progress made between 2006 and 2011 in addressing some of these barriers to access. Although at first glance this presents a picture of progress in improving coverage among the poorest quintile (a 73% increase between 2006–2011) compared to an 11% increase in the richest quintile, this can be misleading. If we examine those “uncovered”, the richest quintile has the smallest population whereas the poorest has the largest population. As these are the denominators for the coverage estimates of each quintile, the richest in fact show the biggest progress per population whereas the proportion of uncovered population in the poorest quintile has only reduced from 97% to 89%, illustrating that in fact inequity is increasing.

Fig. 37 Coverage of newborns breastfed within 60 minutes of birth, 2017



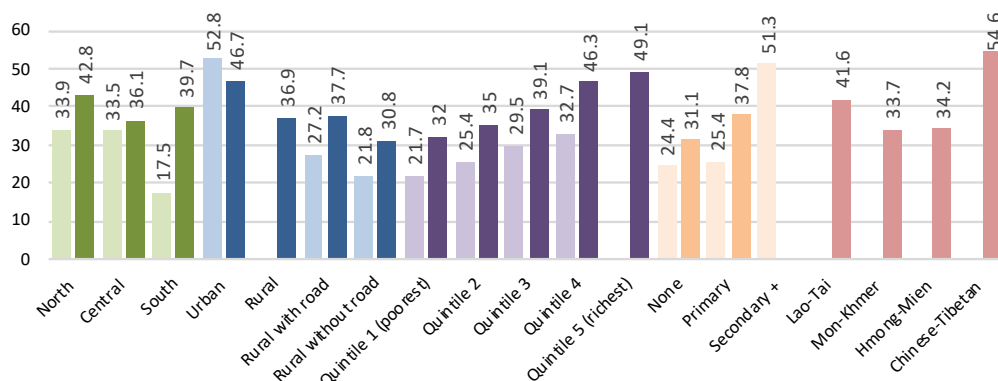
Source: HMIS/DHIS2, Ministry of Health

Fig. 37 provides an overview of early initiated breastfeeding by district, highlighting the pockets within provinces where the practice remains uncommon. From this, it is evident that Vientiane and provincial capitals report the lower rates, highlighting the impact of breastmilk substitute marketing in provincial hospitals, a practice that continues despite efforts to address it. Additionally, it is often in these urban centres where the richer quintiles live and breastfeeding is one of the few indicators that often present a picture of “reverse inequity” with the richer quintiles being able to afford breastmilk substitutes.

The equity analysis for the same indicator (Fig. 38) shows less diversity than we have seen for SBA coverage. The biggest variation is visible among the ethnic group category where there is a 21% difference between the highest (Chinese-Tibetan, who also report the highest coverage of all the subgroups in all categories) and the lowest (Mon-Khmer).

In terms of progress made between 2006 and 2011, the most impressive gains have been made in the South of the country where a 56% increase was reported between time periods. Conversely, in urban areas a 13% decrease in coverage was reported during the same period.

Fig. 38 Breastfeeding within 1 hour of birth equity analysis, 2006 & 2011



Source: MICS & LSIS I

RMNCH, the way forward

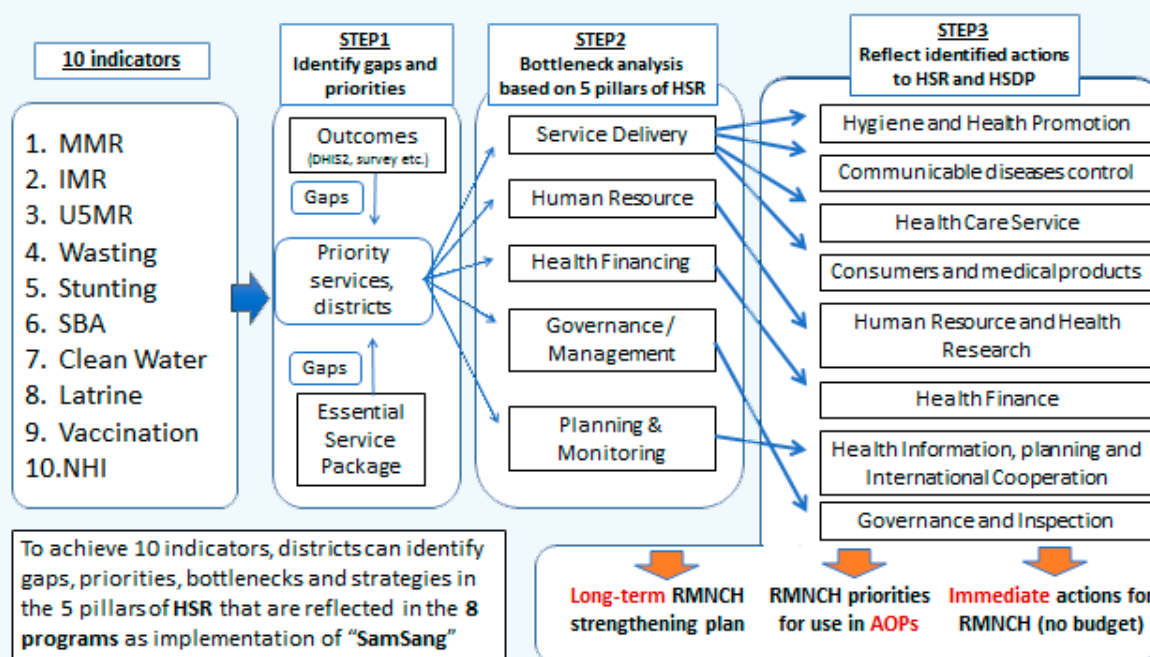
The current strategy and action plan on RMNCH has strongly accelerated implementation of each technical area in RMNCH. However, as the analysis above illustrates, there is much to be done to improve access and uptake of RMNCH services, particularly in the harder to reach socioeconomic groups. There are essentially three areas that capture the focus for the next phase of implementation as the sector pushes towards the 2020 goals set out in the RMNCH Strategy.

- **Coordinated planning and monitoring:** Coordinated evidence-based planning and monitoring at subnational level, led by the Province Health Office, will encourage an active data use culture which will improve data quality, creating a positive feedback loop (see boxed example below). Going forward, the seven technical subcommittees under the RMNCH Strategy need to review their programmatic data needs, data collection systems and reporting requirements to ensure that each SO has a clear framework for effective monitoring and evaluation.
- **Translating policy commitments into implementation:** Although improvements in RMNCH coordination around policy commitments have been made at the central level to some extent, much remains to be done to improve central-province coordination to ensure priorities decided at central level are communicated and acted upon at the subnational level, as well as of coordination between programmes and departments at the province and district level. This is particularly important in terms of policy commitments made at central level around financial and human resources allocations, ensuring rationalized allocation decisions are fed down to subnational levels.
- **Leadership:** The RMNCH committee and its secretariat have provided much needed efforts to strengthen the coordination of such an impressive strategic framework and plan. However, as implementation progresses, together with more demand for reform to ensure the harmonized delivery of quality RMNCH services, more engagement with the leadership of the Ministry of Health and concerned sectors (MPI, Ministry of Finance, National Assembly) is needed.

Box 3. RMNCH evidence-based subnational planning and monitoring

WHO, with funding from the United Nations Joint Programme on RMNCH and KOFIH, has been supporting the RMNCH Secretariat to strengthen subnational capacities for evidence-based planning and monitoring. This has involved developing a workshop module and supporting province and district teams to undertake a detailed process of data and gap analysis to identify their priorities for the next year. This is aligned to the national planning cycle so that it complements efforts by the Department of Planning and Coordination to develop Annual Operational Plans (AOPs). Through this process, an active data use culture is emphasized, and used to identify priorities for implementation; both areas identified as requiring improvement. The module also ties together the five pillars of health sector reform and the eight priority programmes of the HSDP to demonstrate how the 10 indicators of the National Assembly can be achieved (Fig. 39).

Fig. 39 Structure of the RMNCH subnational planning and monitoring module



4.2. Expanded Programme on Immunization

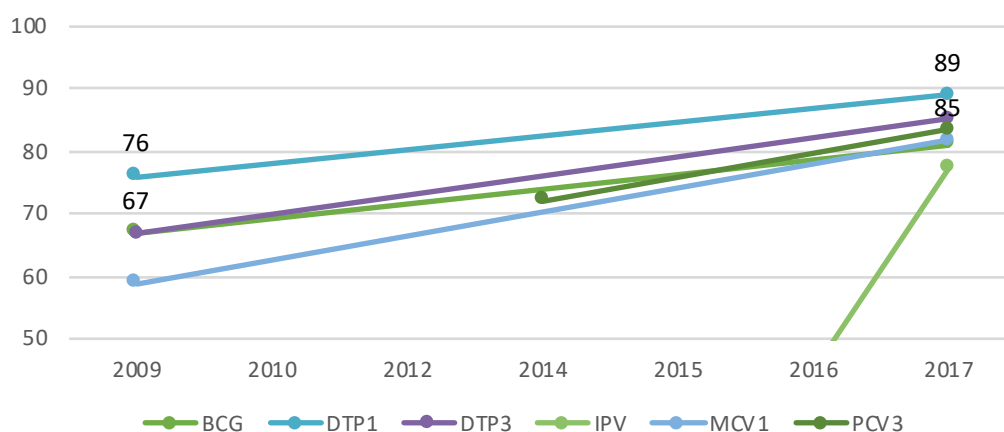
Key achievements

The Lao People’s Democratic Republic has made considerable progress in the area of immunization since 2009. In addition to steadily increasing coverage rates, the National Immunization Programme (NIP) has taken steps to address inequities by focusing on hard-to-reach populations. During this period, several new vaccines have been introduced to protect health and contribute to the reduction of Infant MoIMR and U5MR. These new vaccines include:

- 2009: the “five-in-one” pentavalent vaccine (DTP-HepB-Hib);
- 2010: H1N1 vaccine for high-risk groups;
- 2011: the measles-rubella (MR) vaccine replaced the measles vaccine;
- 2013: pneumococcal conjugate vaccine (PCV) and a demonstration project for human papillomavirus (HPV) vaccines was initiated in two provinces;
- 2015: Japanese encephalitis (JE) vaccine and inactivated polio vaccine (IPV); and
- 2017: a second dose of measles-rubella vaccine targeting children 12–18 months, thereby creating a 2YL (second year of life) platform to reach children with other RMNCH interventions.

National coverage rates for key antigens included in the NIP showed a clear upward trend between 2009 and 2017 (Fig. 40).

Fig. 40 Routine immunization coverage (%), 2009–2017



Source: Ministry of Health, NIP data

EPI related policy and governance progress

The Comprehensive National Plan for Immunization, 2016–2020 addresses challenges of limited access and coverage of vulnerable groups in remote areas through emphasizing the elimination of communicable diseases such as polio, measles, rubella, and maternal and neonatal tetanus, as well as community mobilization for vaccination, the introduction of new and underused vaccines with evidence-based decisions, and the strengthening of logistics management.

Other governance related initiatives include the establishment of a committee to lead the response to adverse events following immunization in 2010 and, importantly, the re-establishment of the National Immunization Technical Advisory Group (NITAG) in 2017. In 2018 it is expected that the National Assembly will approve the new Immunization Law. This represents an important step for the Lao People's Democratic Republic as this law sets forth the principles and regulations regarding the role of immunization to prevent disease and protect health. The law states that the NIP shall be supported by all sectors in order to keep the Lao population, especially women and children, free from the dangers of vaccine-preventable disease.

Key challenges

Continuous sporadic outbreaks of vaccine-preventable diseases, including the 2015 circulating vaccine-derived polio virus (cVDPV) outbreak, indicate that pockets of suboptimal vaccination delivery and utilization persist, mostly in ethnic minority groups and remote rural areas.

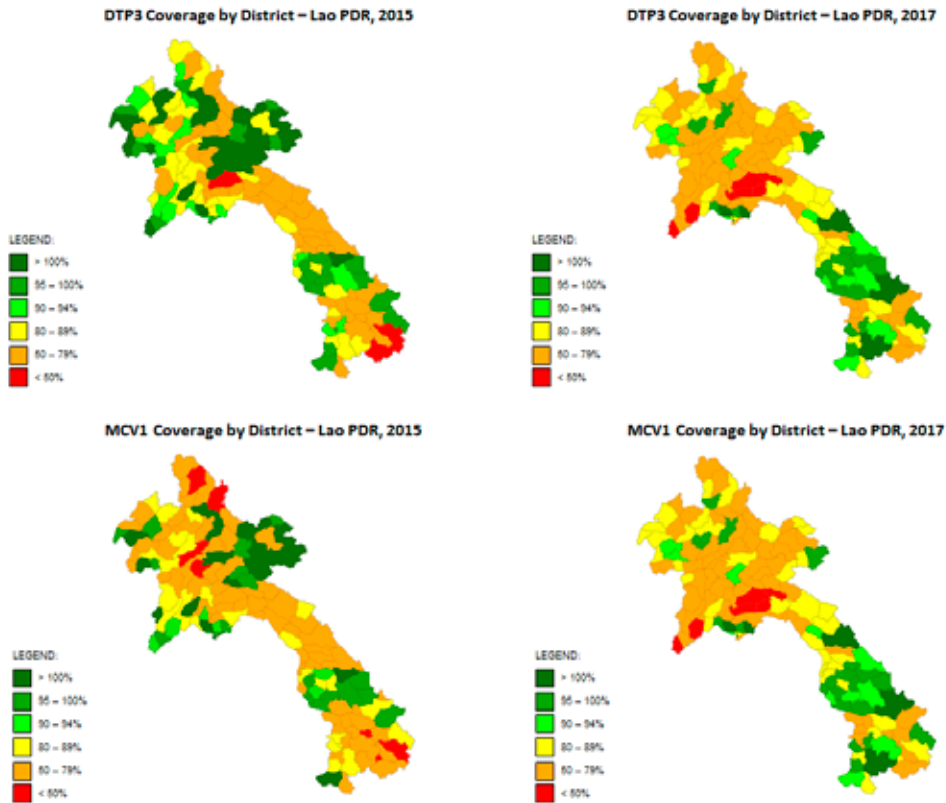
At the national level, financial sustainability is a key challenge. In addition to significant donor support for delivering immunization services, vaccines have been significantly financed by Gavi with the Lao Government providing co-financing. With a GNI per capita now well above US\$ 1580, the Lao People's Democratic Republic entered the acceleration phase for graduation from Gavi support and is expected to be self-financing vaccines by 2022.

As with other services, EPI services remain under-utilized, in part due to demand-side barriers. Insufficient communication between health workers and the NIP and local communities, especially ethnic minority groups with different languages and cultural backgrounds, has also been identified as a main issue. This fuels misconceptions and vaccine-related fears held by communities, potentially influencing vaccine-seeking behaviour.

Subnational and equity related EPI analysis

To address remaining pockets of non-vaccination, a focus on subnational trends is needed. The NIP can share some useful lessons learnt based on its success in responding to the vaccine-derived polio outbreak in 2015 using an intensification programme focused on vaccination of high risk population groups (see boxed example below). Also in comparison with other services, vaccination, here in the case of DPT3 coverage, can achieve strong results regarding equity of coverage. This indicates the potential for immunization services to demonstrate and provide leadership to other programmes in addressing equity issues.

Fig. 41 Heat maps showing immunization coverage by district, 2015 and 2017

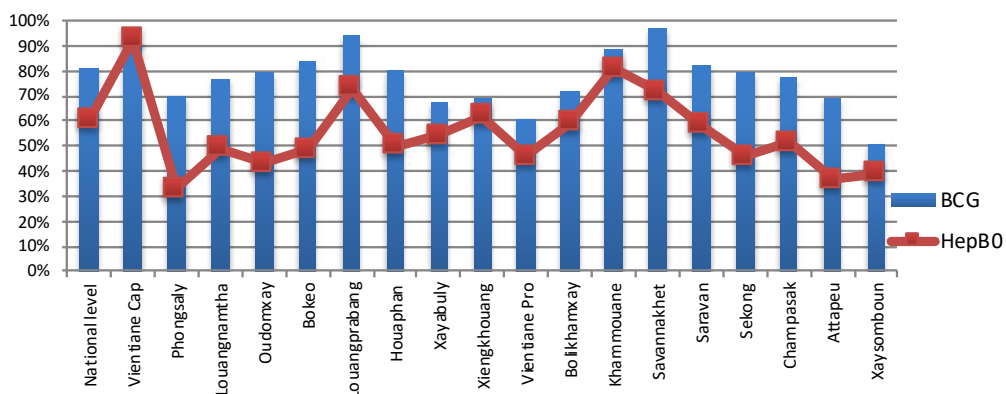


Source: NIP data

The significant and shifting variations in coverage both from geographic and an equity perspective demonstrate the need for up-to-date robust data on community perceptions and demand side barriers to access. The importance of challenging community-held beliefs around vaccination that have the potential to influence vaccine uptake or refusal behaviour is paramount.

Fig. 42 shows gaps in immunization coverage among newborns for HepB0 and BCG. Since both should be given at the time of birth, coverage levels of the two should correlate.

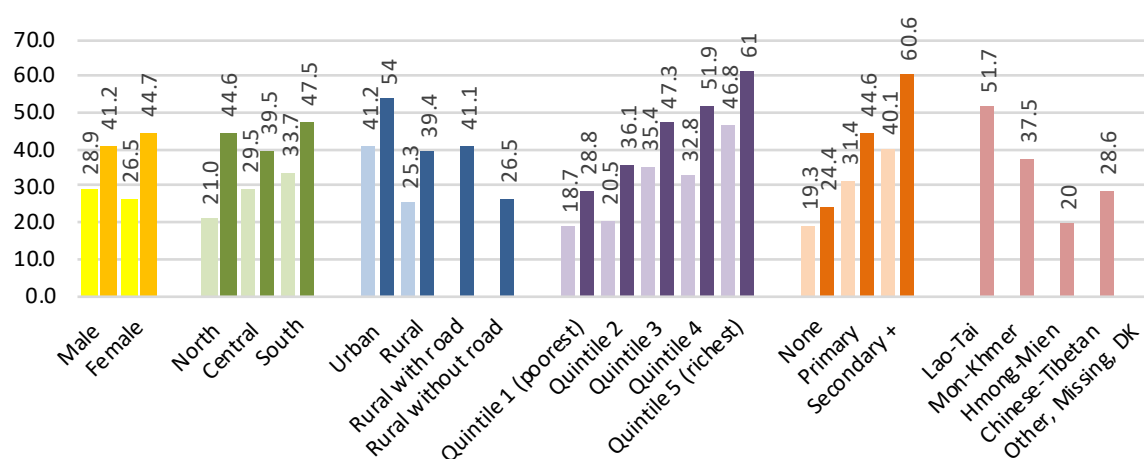
Fig. 42 Newborn immunization coverage, 2017



Source: NIP

Fig. 43 provides further disaggregation of full immunization coverage by population group. The biggest variation between the categories is within the education category, for which there is a 36% difference in coverage between those with no education and those with secondary or higher education. The importance of education is further reflected in the limited increase in coverage for this subgroup between 2006 and 2011. The Northern provinces were most successful in increasing coverage over these same years.

Fig. 43 Full immunization coverage equity analysis, 2006 and 2011



Source: MICS & LSIS I

EPI, the way forward

The NIP has an ambitious agenda for the coming years focusing on three key areas for achieving the targets under the National Immunization Plan. Two new vaccines - rotavirus and HPV - will be integrated into the routine immunization programme beginning in 2019. These vaccines will continue to boost reductions in child mortality and the cancer burden of disease.



NIP distributing immunization sticker to parents

A second focus will be on achieving and sustaining measles and rubella elimination by improving coverage (to reach level of interruption of the transmission of measles and rubella virus). Finally, achieving financial sustainability through the transition period from Gavi support remains a significant challenge.¹⁸ The Government has committed to fully financing the cost of vaccine supplies and operating costs by 2022.

In addition to these three focus areas, WHO will support NIP to continue to improve coverage and equity of routine immunizations as part of the RMNCH service package. To this end, WHO has supported the NIP to develop a simple low-tech tool to spread awareness of the importance of immunizations. A simple sticker has been developed to remind parents about the value of vaccines and reinforce the immunization schedule. These key messages about the 11 vaccine-preventable diseases as well as the importance of timely and complete immunization are helping to improve coverage, equity, and timeliness.

¹⁸ See Section 5.1 for further details on Gavi and Global Fund transitions.

Box 4. Report on cVDPV outbreak in the Lao People's Democratic Republic

Background

An outbreak of circulating vaccine-derived poliovirus type 1 (cVDPV1) started in October 2015. In total, 11 cases of cVDPV1 were detected in three provinces — three in Bolikhamxay, four in Vientiane, and four in Xaisomboun. The last case was detected in January 2016 (for > 24 months).¹⁹

Achievements

Response activities have been conducted nationwide, including supplementary immunization activities, enhanced acute flaccid paralysis surveillance, communication and social mobilization. Since the detection of the first cVDPV1 case, the Ministry of Health has conducted 10 rounds of additional oral polio vaccine (OPV) campaigns between October 2015 and January 2017 in all 18 provinces with national administrative coverage rates reaching between 87% and 101%.²⁰ External monitors participating in the campaigns reported that about 5–10% of children were missed. The village chiefs, village health volunteers and community leaders were actively involved to ensure effective social mobilization and communication for successful achievements of immunization activities.

The last independent outbreak response assessment in March 2017 concluded that improvements of acute flaccid paralysis surveillance quality in the Lao People's Democratic Republic during 2016 make it unlikely that ongoing cVDPV transmission was missed.²¹ This allows the reasonable conclusion that cVDPV1 transmission has ceased. Based on the assessment and reporting by the country, the IHR Emergency Committee pronounced the Lao People's Democratic Republic polio free in 2017 but also underlined that the country remains vulnerable to re-infection by wild poliovirus or cVDPV.²²

The outcome of the response activities towards to routine immunization

The Ministry of Health/NIP has learnt tremendous lessons from the cVDPV outbreak, such as the importance of strengthening routine immunization to boost population immunity. Significant efforts to improve routine immunization were particularly focused on high-risk areas. Coverage by injectable inactivated polio vaccine introduced in 2015, increased from 59% in 2016 to 77% in 2017. In addition, the third dose of OPV coverage increased from 83% in 2016 to 85% in 2017, underlining the commitment of the Lao People's Democratic Republic to achieve polio-free status. With financial support from the WHO Regional Office for the Western Pacific, the NIP used celebrations such as World Immunization Week to catch up many missed children <1 year for routine immunization. Additionally, the periodic intensification of routine immunization was conducted in four high-risk provinces in 2017 providing one dose of IPV to more than 20 000 children <2 years and other routine immunization to children <1 year old who were due or missed. Overall the coverage of IPV among <1 years olds has increased by 15% after the intensification programme in these four high-risk provinces in 2017 (Fig. 44).

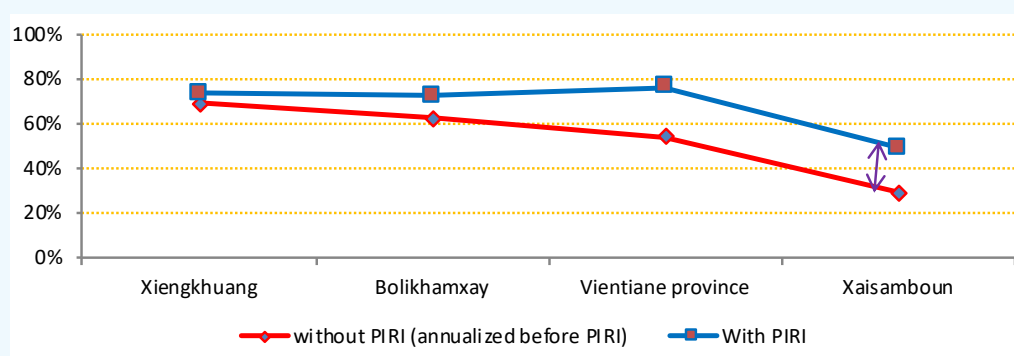
¹⁹ Ministry of Health, National Center for Laboratory and Epidemiology. Weekly surveillance report, acute flaccid paralysis line list (data not available online).

²⁰ Ministry of Health, National Immunization Programme. Administrative coverage report of SIA (data not available online).

²¹ Ministry of Health, National Immunization Programme. Rapid convenience monitoring data analysis (data not available online).

²² World Health Organization (2017). Statement of the 15th IHR Emergency Committee regarding the international spread of poliovirus. 14 November. Geneva: World Health Organization (<http://www.who.int/news-room/detail/14-11-2017-statement-of-the-15th-ihf-emergency-committee-regarding-the-international-spread-of-poliovirus>).

Fig. 44 IPV coverage among children under 1 year old in four provinces with periodic intensification of routine immunization (PIRI) and without PIRI in the Lao People's Democratic Republic, 2017



Combined with communication campaigns and collaboration with all stakeholders including village heads, the periodic intensification of routine immunization has proven to be an innovative strategy to catch up missed children and to allow the Lao People's Democratic Republic to reach and retain polio-free status. The country is currently preparing a round of subnational OPV supplementary immunization activity in 13 provinces to be implemented between March and April 2018.

4.3. Communicable Diseases and Health Emergencies

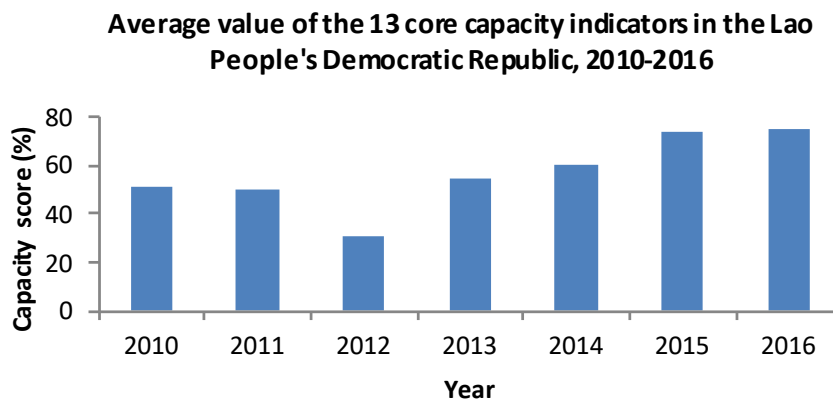
Health emergencies

Key achievements on IHR (2005) core capacity 2009–2017

The Department of Communicable Disease Control in the Ministry of Health has been designated as the National IHR focal point for the Lao People's Democratic Republic. SOPs for reporting and a roster of IHR duty officers are in place. Key events such as pandemic influenza A(H1N1), human infection with avian influenza A(H5N1) and circulating vaccine-derived poliovirus (cVDPV) have been notified to WHO by the National IHR focal point within 24 hours of confirmation.

There are robust coordination and communication mechanisms in place to manage public health emergencies through the National Committee for Communicable Disease Control (NCCDC) and the National Disaster Committee Management, involving relevant agencies and chaired by the Prime Minister. The Lao People's Democratic Republic has also established the National Emerging Infectious Disease Coordination Office to coordinate health with other sectors to prepare for and respond to public health events. The Communicable Disease Law was endorsed by National Assembly in November 2017 to further support IHR (2005) core capacity implementation in the Lao People's Democratic Republic.

Over the past decade, the Lao People's Democratic Republic has been strengthening core capacities under IHR (2005) using APSED III as a framework for action. Since 2010, the average value of the 13 core capacities under IHR (2005) has increased from 51% in 2010 to 75% in 2016.

Fig. 45 Average value of the 13 core capacity indicators in the Lao People's Democratic Republic, 2010–2016

Public health emergency preparedness

In 2015, the Lao People's Democratic Republic revised its National Workplan for Emerging Infectious Diseases, Public Health Emergencies and Health Security to build sustainable national capacities to manage emerging diseases and other acute public health risks or events. The National Workplan based on APSED III covers eight focus areas, including public health emergency preparedness using a multisectoral approach. In addition, the Lao People's Democratic Republic has developed a series of disease-specific preparedness and response plans, including plans addressing Ebola virus disease, MERS-CoV, Zika virus disease, pandemic influenza, avian influenza and dengue. The Lao People's Democratic Republic has also developed a public health emergency plan on IHR-related hazards at the designated point of entry. All of these plans take a whole-of-government and a whole-of-society approach. They have been implemented, tested by simulation exercises, drills and real events.

In 2013, the Lao People's Democratic Republic established a national Emergency Operations Centre (EOC) to coordinate public health response to emergencies. The EOC has been activated to manage major events such as the 2013 dengue outbreak and the 2015–2016 cVDPV outbreak. The EOC is also used to monitor other emergencies such as flooding. Guidelines are in place to manage coordination and communication with other sectors. In 2014, EOC was officially launched in the Ministry of Health by Dr Shin Young-soo, WHO Regional Director for the Western Pacific and the former Minister of Health. The EOC continues to be activated to discuss any public health emergency and remains the key decision-making coordination mechanism for effective response.

Surveillance, risk assessment and response

The Ministry of Health has established indicator-based surveillance and event-based surveillance systems with demonstrated capacity to detect public health threats. These surveillance systems are closely linked to human resources development through participation of Field Epidemiology Training (FET) programme fellows in surveillance and response functions. Information generated through the surveillance system is shared between Ministry of Health departments, administrative levels, sectors and partners to inform public health action. Policy of surveillance and disease control was endorsed by the Prime Minister in 2014. Risk assessment SOPs were developed and are applied routinely at the national level.

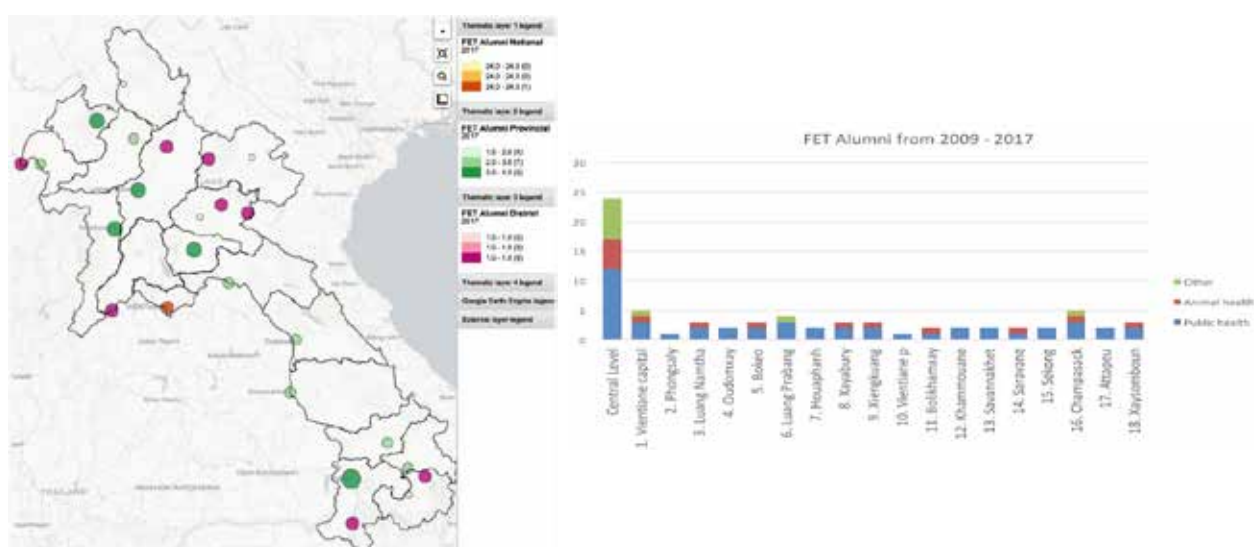
The Lao People's Democratic Republic has demonstrated capacity to analyse surveillance data. The public health staff at both central and provincial levels have the basic skills needed to analyse surveillance data. At the central level, the National Centre for Laboratory and Epidemiology validates and analyses data provided by provincial surveillance units and alerts high-level officials in a timely manner when response is required. The proportion of events responded by subnational levels since 2007 are presented in Table 4.

Table 4. Events responded by subnational level, 2009–2017

Year	No. of events	Events responded by subnational level	% of events responded by subnational level
2009	66	31	46.97
2010	35	25	71.43
2011	50	36	72.00
2012	142	126	88.73
2013	102	83	81.37
2014	44	37	84.09
2015	49	46	93.88
2016	41	32	78.05
2017	36	32	88.89

The Lao People's Democratic Republic established a 1-year modified FET programme in February 2009. Each year, eight trainees from national and subnational levels are selected to participate in the programme from human health, animal health and other related sectors, such as the Ministry of Defence. The FET alumni network now has 63 graduates, with at least one graduate from each of the country's 18 provinces (Fig. 46).

FET graduates are recognized by senior public health officials at national and provincial levels for their technical competencies to support evidence-based decision-making. Graduates and trainees are drawn on to provide surge capacity to support outbreak response and investigation activities in provinces. Their field work findings and recommendations have translated into Ministry of Health policies for the control of communicable diseases. These include, for example, new vaccine initiatives for rubella, seasonal influenza and Japanese encephalitis.

Fig. 46 FET graduates network, 2009–2016



FETs conduct outbreak investigation and response to Hepatitis A outbreak in Vientiane province, 2017.

FETs have contributed to important public health emergency/outbreak investigations and response activities such as pandemic influenza A/(H1N1) 2009, national dengue epidemic in 2013, many outbreaks in seasonal influenza, avian influenza in poultry, hepatitis A outbreak, and vaccine-preventable diseases, including the last vaccine-derived poliovirus (cVDPV1) outbreak response 2015–2017. FET’s involvement to cVDPV1 outbreak response was recognized by national and international networks, where Lao FET received the special Award for Outstanding Public Health Response to the (cVDPV1) outbreak and response in the Lao People’s Democratic Republic. The success of Lao FET was also recognized by Training Programmes in Epidemiology and Public Health Interventions Network (TEPHINET). The Lao People’s Democratic Republic has been selected as the host country for the 9th TEPHINET Bi-Regional Scientific Conference in Vientiane in November 2018.

Zoonoses including multisectoral collaboration

The Lao People’s Democratic Republic’s capacity to prevent, detect and respond to zoonotic diseases has increased considerably following the emergence of highly pathogenic avian influenza. Built on strong multisectoral collaboration to address highly pathogenic avian influenza, the country has expanded collaboration to deal with other important zoonotic diseases. A memorandum of understanding between the Ministry of Health and the Ministry of Agriculture and Forestry was signed in 2008 and updated recently.

The Zoonoses Coordination Mechanism has been in place in 2011. Joint surveillance for five priority diseases including zoonoses was enhanced in 2014 and information sharing between sectors has improved. Rabies strategy was drafted in 2015. Joint Contingency plan for avian influenza (H5N1 and H7N9) was published in 2016, which was tested and applied in the recent avian influenza outbreak in the country. Joint outbreak investigation and responses are conducted for avian influenza, anthrax and rabies. Veterinary staff are part of the FET and Rapid Response Teams (RRT) network.

Prevention through health care

Clinical Management: Since 2009, clinical management guidelines have been developed for priority infectious diseases, such as dengue, MERS-CoV, severe acute respiratory infections, avian influenza and polio. They were disseminated to health workers at all levels. Furthermore, SOPs are available for the handling and transportation of potentially infectious patients at points of entry and isolation facilities.

In the past year, training has been provided for clinical case management on severe acute respiratory illness (SARI) and dengue. Further work is required on clinical management during outbreaks, personnel deployment,

health infrastructure, response medical countermeasures and guidance on other priority diseases, such as chikungunya. Establishing information sharing mechanisms to share best practice through review meetings and working groups is another priority for the future.

Infection Prevention and Control (IPC): A national IPC strategy and SOPs were developed in 2013. These documents have been disseminated to all central, provincial and district hospitals and relevant sectors. Over the past decade, the National IPC Committee has been strengthened with the expansion of its committee to include members from relevant departments within the Ministry of Health. Since 2008, the National IPC Committee and central and provincial hospital IPC committees have been functioning and there are plans in 2017 to expand IPC committees to the district level and at treatment centres.

A hospital acquired infection prevention and control (IPC) programme exists with IPC strategies, committees, SOPs and guidelines available at national and subnational levels, as well as at health-care facilities.

In 2011, an infection prevention and control training unit was established in Vientiane Capital at Setthathirath Hospital. Since its inauguration, IPC basic training has been carried out for around 250 health-care workers from central, provincial and district levels. Since 2016, the assessment of IPC of health-care workers at all levels was carried out to strengthen capacity of health-care workers on basic IPC at health-care facilities.

Risk communication

Since 2010, IHR (2005) implementation status of risk communication has increased in the country based on annual reporting. A National Risk Communication Strategy and Action Plan 2016–2020 and SOPs are in place to guide the actions of trained risk communication officers at central, provincial and district levels. The Strategy and Action Plan has been tested in simulation exercises. Moreover, risk communication is integrated into national emergency preparedness and response plans with stakeholders for risk communication identified.

In 2008, the 166 hotline was established to respond to public health concerns, to deliver health messages and gather reports and rumours from the community, specifically for H5N1 avian influenza and pandemic H1N1 influenza at a later stage. In 2014, the 166 hotline was re-activated with a broader focus on 17 notifiable diseases and other acute public health events. Risk communication has been a key response measure in recent public health events, including the vaccine-derived poliovirus outbreak (cVDPV1) in 2015 and 2016. Community mobilization involving mass organization, local authorities such as village heads, religious leaders and a village health volunteers network has been established and functioning at the community level.

Food safety

Food safety is an important aspect of the consumers' protection programme in the Seventh Five-Year Health Sector Development Plan (2011–2015) and the National Work Plan for Emerging Infectious Diseases and Public Health Emergencies. The country has developed food safety legislation, guidelines and SOPs which included the National Food Safety Policy 2009, Revised Food Law 2013, Food Safety Regulations and Standards, and the National Food Safety Emergency Response Plan.

The inspection body (Bureau of Food and Drug Inspection) responsible for monitoring and surveillance was established in 2011. SOPs for food inspection, control and standards have been developed by the inspection body. The country participates in the International Food Safety Authorities Network (INFOSAN) and has attended several regional INFOSAN meetings. The INFOSAN emergency contact point is based in the Food and Drug Department in the Ministry of Health. Additional INFOSAN focal points are based in the Food and Drug Department and the Bureau of Food and Drug Inspection, as well as with the Ministry of Agriculture and Forestry (Agricultural Regulatory Division).

In 2014, the Lao People's Democratic Republic participated in an IHR-INFOSAN communication exercise to validate the accessibility of national IHR focal points and INFOSAN emergency contact points, and to facilitate communication and collaboration between them during a foodborne disease emergency event.

Points of entry

The Lao People's Democratic Republic has four international airports, 23 ground crossings (including five friendship bridges) but no sea ports. The four international airports are located in Vientiane Capital, Luang Prabang, Savannakhet and Pakse. So far, only Wattay International Airport in Vientiane Capital has been designated as a point of entry under the IHR (2005) in 2012.

A Point of Entry Work Plan 2016–2020, Public Health Emergency Contingency Plan, SOPs for Public Health Emergencies of International Concern (PHEIC), and Pandemic Preparedness and Response Plan are in place. Under the agreement with the Minister of Health and Ministry of Public Works and Transport, two health staff from the Vientiane Capital Health Department work at the point of entry during business hours, and on-call assistance is available after office hours.

Mechanisms are in place for prompt assessment and care of ill travellers at the point of entry. Surge capacity for emergency medical care is also in place and will be provided by Sikhottabong District Hospital. A multisectoral coordination mechanism supported by a memorandum of understanding was signed in 2016 between the Department of Civil Aviation, Ministry of Public Works and Transport, and Department of Communicable Disease Control, Ministry of Health.

The Lao People's Democratic Republic joined the Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation Asia Pacific in 2016 to further improve public health protection at the airport. Training on IHR (2005) requirements at designated point of entry was conducted for health and non-health stakeholders, and priorities are identified after POE assessment using the IHR tool in 2017.

Monitoring and evaluation

The Lao People's Democratic Republic has integrated M&E in the planning and review process of IHR (2005) core capacities since 2007. In the past decade, the Lao People's Democratic Republic has made solid progress through their annual planning and review meetings for their National Work Plan for Emerging Diseases, Public Health Emergencies and Health Security using the APSED III as a framework. The Ministry of Health has revised national work plans to reflect updates from the three iterations of APSED III. Over the past few years the country has conducted after-action reviews and participated in exercises, including the annual WHO Regional Office for the Western Pacific IHR Exercise Crystal, and is the third country in the Region to conduct an IHR Joint External Evaluation (JEE).

Box 5. Monitoring and evaluation of IHR (2005) core capacity using the JEE in the Lao People's Democratic Republic

In February 2017, the Lao People's Democratic Republic hosted a JEE of core capacities under IHR (2005). The JEE was a collaborative process and involved interviews with key technical experts in relevant ministries, plenary sessions with multisectoral and international partner participation, and field visits to assess all aspects of the IHR (2005) JEE.

The evaluation found that the Lao People's Democratic Republic has made strong progress in establishing and strengthening IHR (2005) core capacities in recent years. Notable achievements have been made in the areas of IHR communication, coordination and advocacy; surveillance; national laboratory capacity; and multisectoral outbreak response. The evaluation identified several overarching challenges, including sustainable financing for health security, human resources capacity, intersectoral collaboration and coordination, and the formalization and documentation of procedures.



Dr Shin Young-soo WHO Regional Director for the Western Pacific (fourth from the left) contributes to the panel discussion during JEE 2017.

Key challenges

Although the Lao People's Democratic Republic has made good progress in working towards IHR (2005) requirements, many technical capacities that relate to detecting, preventing and rapidly responding to emerging infectious diseases and public health emergencies remain under development and capacities at national and subnational levels differ. These include sustainable financing for health security, human resources capacity, intersectoral collaboration and coordination, and the formalization and documentation of procedures.

The National Work Plan for Emerging Infectious Diseases and Public Health Emergencies has been developed, but it requires sustainable financing in order to be implemented effectively. Developing and retaining a trained public health workforce is a major challenge, particularly at subnational levels. In some areas, legislative frameworks and processes to support key public health functions are not yet formalized, or still need to be developed.

Communication and information sharing across sectors functions well during emergencies, but it should also be improved for routine purposes between events. It is vital to empower the National IHR focal point to perform their mandated communication and coordination function, especially across relevant sectors. Cross-sectoral collaboration could also be enhanced in priority areas through approaches including One Health that address antimicrobial resistance (AMR), zoonotic diseases, food safety and novel disease emergence.

The way forward, health emergencies

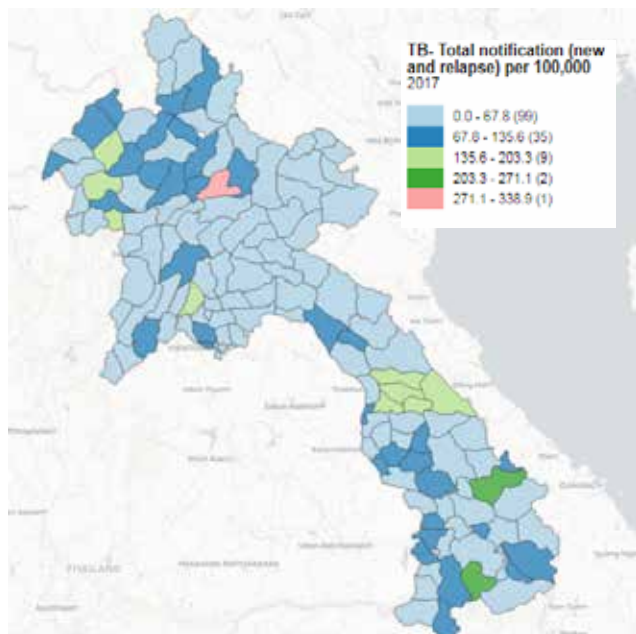
To strengthen the country's capacity to effectively manage public health emergencies and meet its obligations under the IHR (2005), the Government may consider the following recommendations.

- Revise the National Work Plan for Emerging Infectious Diseases and Public Health Emergencies to take into consideration the recommended priority actions from the JEE mission, as guided by the third APSED III.
- Increase and ensure sustainable financing for health security, including essential public health functions such as surveillance and response.
- Implement the National Health Workforce Strategy 2016–2020 and ensure the strengthening of a health security workforce, including public health and veterinary field epidemiologists.
- Implement functional measures for multiple sectors to collaborate, coordinate and communicate on preparedness and response to all public health emergencies.
- Foster a culture of review, learning and continuous improvement in the area of health security including outbreak reviews, regular exercises and IHR JEEs.
- Review and formalize draft laws, policies and SOPs related to health security with due consideration of international obligations.

Tuberculosis (TB)

Situation

Figure 47 TB notifications per 100 000 population by district, 2017



Source: DHIS2/HIS.MOH

Key achievements

TB prevention and care are integrated at all levels of the primary health care in 168 hospitals and more than 1000 health centres countrywide. Using rapid molecular testing (Xpert MTB/RIF) 50% of 45 000 presumptive TB patients were tested and 5934 TB patients (all forms) were notified, achieving 49% TB treatment coverage in 2017 (up from 28.1% in 2008). Mobile outreach teams conduct systematic TB screening among high-risk groups including prisoners.

The National Reference Laboratory received support from the Global Fund, WHO and the Korean Institute of Tuberculosis (KIT) to conduct the first national anti-TB drug resistance survey with international standards (2016–2017). The proportion of cases with rifampicin resistance was 1.2% [95%CI 0.5–2] among new cases and 4.1% [95%CI 0–9.6] among previously treated cases. The proportion of multidrug-resistant TB (MDR-TB) cases was 0.5% [95%CI 0–1] in new cases and 2.3% [95%CI 0–6.7] in previously treated cases, in line with routine surveillance by molecular testing. None of the MDR-TB patients had resistance to second-line injectables or fluoroquinolones. Diagnosed RR/MDR-TB patients have received shorter 9-month MDR treatment since 2013 with technical support from the WHO Regional Office for the Western Pacific Regional Green Light Committee (rGLC).

TB and HIV programme collaboration has facilitated TB screening of all persons living with HIV and HIV testing of TB patients (93%) and provision of antiretroviral therapy (ART) to 80% of TB-HIV co-infected patients in 2017. Moreover, TB services are included in the ESP, which ensures that TB control and care are available at all health facility levels; and TB data management began the integration into DHIS2 in late 2017.

The Lao People’s Democratic Republic has a high TB burden with an estimated TB incidence of 175/100 000 population or 12 000 new TB cases and over 3000 deaths per year.⁵ In 2010–2011, the first national TB prevalence survey found TB prevalence to be two times higher than in previous estimates. However, the national TB programme achieved the MDG and the Global Plan to stop TB 2006–2015 targets, halving all forms-TB prevalence in 2015 compared to 1990. With WHO technical support, the National TB Control Programme developed the National Strategic Plan 2017–2020 adopting the WHO End TB Strategy and the Regional Framework on implementation of the End TB Strategy 2016–2020. The programme has been awarded US\$ 7.8 million from the Global Fund for the period 2018–2020 with a resilient and sustainable systems for health grants embedded within it. The Minister of Health and Ministry of Finance representatives attended the first Ministerial Conference on End TB in the SDG Era in Moscow and they have adopted the Moscow Declaration to End TB in November 2017.

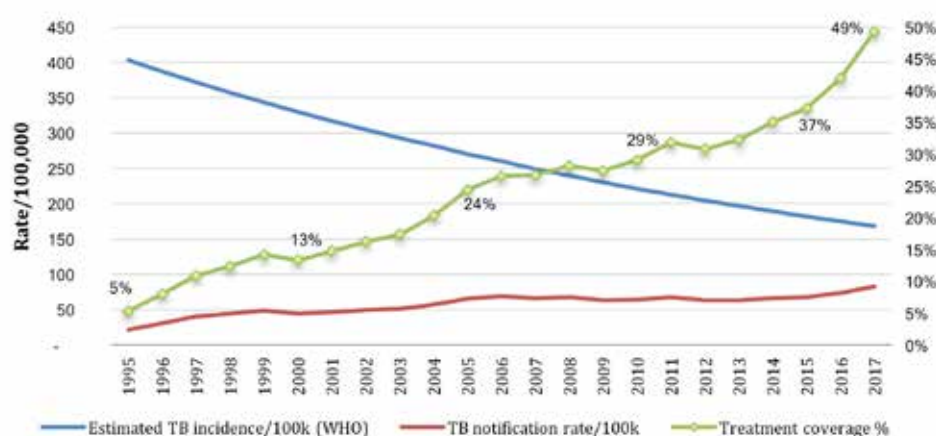
Key challenges

TB treatment coverage remains insufficient and challenges exist in implementing TB interventions in all provinces due to frequent staff rotation and changes in organizational restructure. Clinical TB diagnosis, particularly in children, is also limited. Budget needs to be secured for the relocation of the National TB Reference Laboratory in the newly reconstructed Mahosot Hospital.

TB – the way forward

NSP have set an ambitious 70% TB treatment coverage target by 2020 to achieve a 20% reduction in incidence. Current discussion on LDC graduation puts additional pressure on the Lao Government to receive external funding for the TB control programme. The Ministry of Health has committed 20% co-financing to the Global Fund new grant 2018–2020, and continues brainstorming to increase sustainable domestic funding and resource mobilization beyond 2020. Continued collaboration between the Ministry of Health and WHO for technical support and policy development will ensure progress and sustainability in TB prevention, treatment and care.

Fig. 48 TB case detection rate, 1995–2017



Source: National TB Control Programme, Ministry of Health

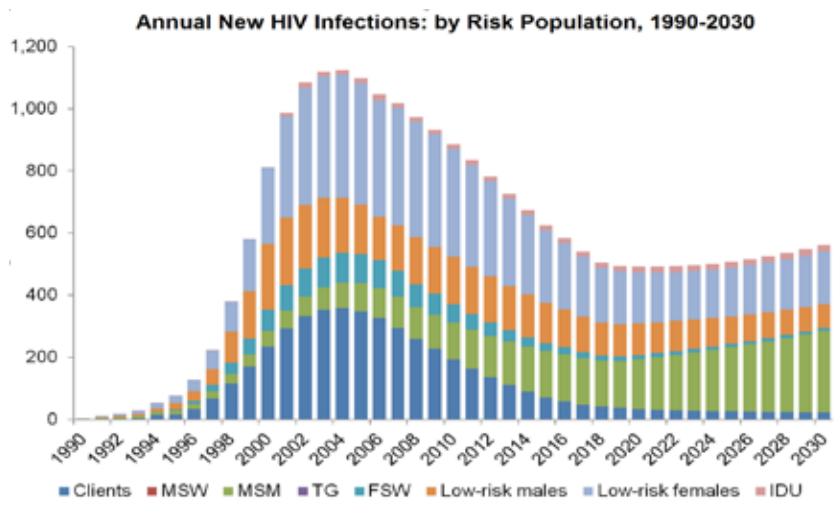
HIV/AIDS & sexually transmitted infections (STIs)

HIV/AIDS prevalence in the general population aged 15–49 years in the Lao People's Democratic Republic remains low at 0.3% in 2017; an increasing trend from 0.16% in 2003.²³

The number of people living with HIV (PLHIV) was estimated at 11 716 in 2017. The 2014 Integrated Biological and Behavioural Survey (IBBS) revealed that the highest prevalence of HIV was found in the key affected populations (KAP), mainly men who have sex with men (MSM), 1.6%; and sex workers (SW), 1.4%. Another KAP is people who inject drugs (PWID), but no prevalence data is available.

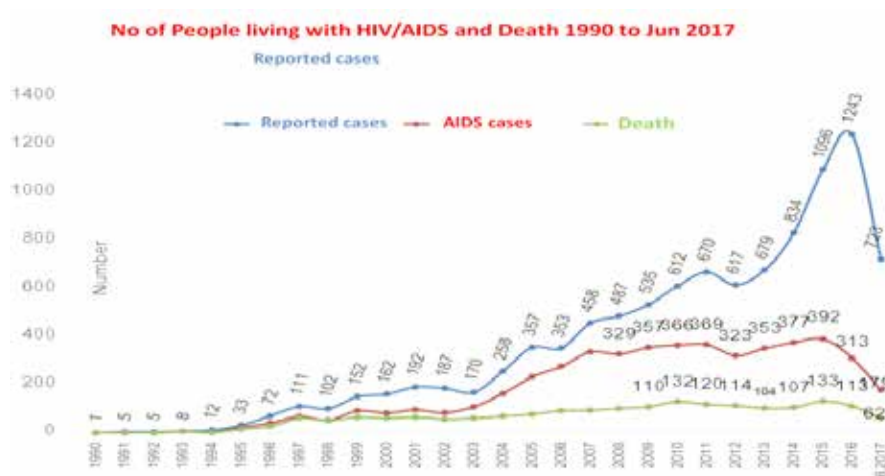
²³ Ministry of Health, Centre for HIV/AIDS/STI. Report on HIV – Asia estimation and projection model; 2017.

Fig. 49 Annual new HIV infections by risk population, 1990–2030



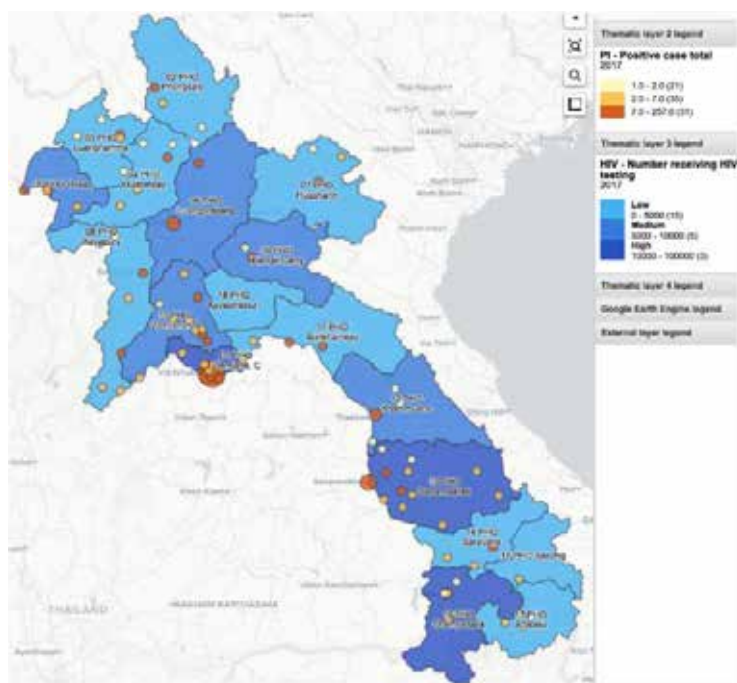
Vientiane Capital, Luang Prabang, Savanakheth and Champasack reported the highest number of people coming for testing as well as the highest accumulated number of HIV positives. Populations of SW and MSM and transgender are the highest in these areas. These provinces experience much cross-border migration. Movement across the borders from neighbouring countries with high HIV prevalence highlights the role that migration has played and may continue to play in the Lao People’s Democratic Republic’s epidemic.

Fig. 50 Number of people living with HIV/AIDS and deaths, 1990 to June 2017



Source: CHAS, Ministry of Health

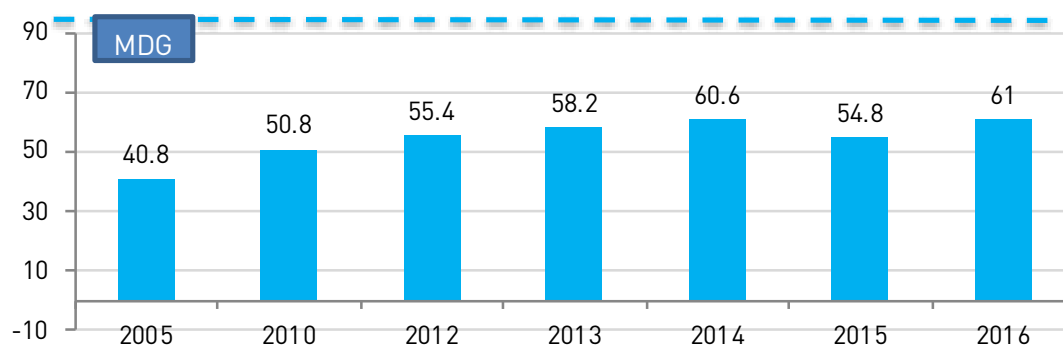
Over the past decade, the Government’s response to HIV was shaped by the two National Strategic Action Plans covering 2011–2015 and 2016–2020 and the AIDS Law, which was passed in 2015. Both plans focus on improving access to, and quality of, HIV services, strengthening national capacities for delivering HIV services and improving the organizational structure and financial sustainability of the programme. This legal framework is consistent with the ASEAN Declaration on HIV AIDS: Fast-Tracking and Sustaining HIV and AIDS Responses to End the AIDS Epidemic by 2030, which was adopted in Vientiane in 2016.

Fig. 51: Map showing HIV testing and positive cases, 2017

Source: HMIS/DIHS2, Ministry of Health

positive. In 2017, the national treatment guidelines were updated for “Treat All Policy” in accordance with the 2016 WHO guidelines. This policy has been implemented in all treatment sites to treat people regardless of their CD4 cell counts. Since then, access to antiretroviral therapy of people living with HIV has improved greatly.

HIV testing and counselling (HTC) services have been scaled up to 170 sites in 17 provinces and ART services are now available in 11 sites across the country. The treatment rate has only increased by 10% over the past 10 years despite the fact that more PLHIV are receiving ART (from 3800 in 2009 to 7800 in 2017) and the cost for drugs has gone down in the past 10 years, indicating that more needs to be done to improve treatment coverage.

Fig. 52 Proportion of adults and children with advanced HIV infection receiving ART

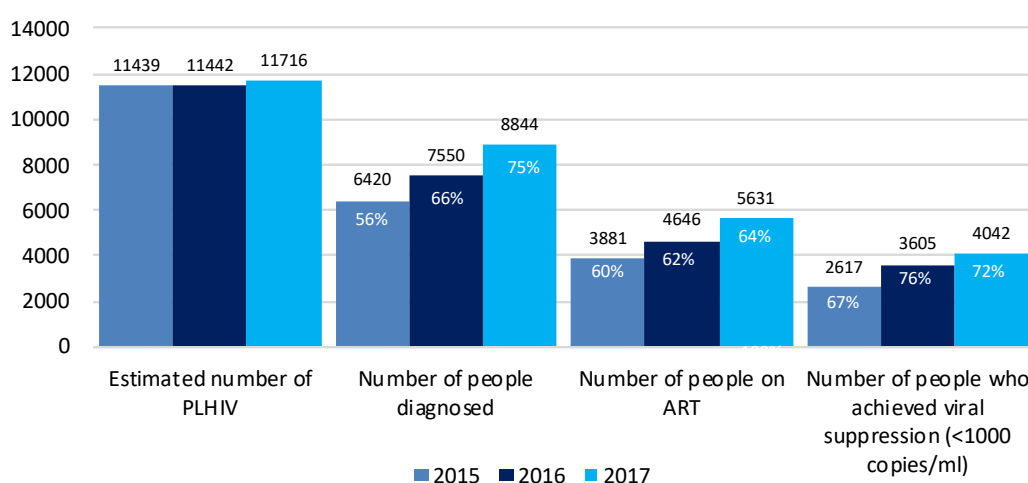
Source: CHAS, Ministry of Health

The implementation of the programme has benefited significantly from external funding, especially from the Global Fund; United States Government agencies; ADB and related initiatives; and from WHO technical assistance. Financial sustainability is a key issue to ensure transmission rates will remain low. Allocations by the Global Fund have already been reduced from the last round (2016–2017) and the current 2018–2020 grant, calling for increased levels of co-financing from domestic budgets.

Since 2015, the Lao People’s Democratic Republic has implemented the national treatment policy by initiating ART in people who have been diagnosed with HIV and AIDS in accordance with the treatment as prevention policy. Much effort has been made to improve counselling and testing by providing same day results of HIV testing and getting people onto ART when tested

Monitoring data suggest that achieving the 90-90-90 targets by 2030 will be a challenge. The ability to achieve epidemic control in the Lao People’s Democratic Republic is constrained by a health system that does not provide an integrated continuum of prevention, HTC, care, treatment, and support services that respond to the needs of priority populations, such as MSM and TG and their partners.²⁴ Stigmatization and low awareness among non-specialized health personnel further complicates the enrolment of patients into treatment. Close collaboration with maternal and child health teams will be necessary to avoid mother-to-child transmission.

Fig. 53 HIV Cascade and progress in 2017 towards the 90-90-90 targets



Source: CHAS, Ministry of Health

Prevalence of STIs particularly chlamydia in female sex workers is very high. The latest IBBS conducted in 2014, revealed that almost a quarter (21.4%) of female sex workers were infected with chlamydia. The prevalence of *Neisseria gonorrhoea* (7.5%) can be seen as a proxy for unprotected sex, while *Chlamydia trachomatis* could provide an indication of provision of STI services. Prevalence of STIs, especially chlamydia in men who have sex with men, ranges from 8.2–13.2% (IBBS 2014). It is thought that low condom use among this population group is leading to high prevalence of STIs. Female sex workers reported high condom use with their clients, but condom use among regular partners is low (40%).

Similar challenges in testing and access to treatment apply to other STIs. Of particular concern is also the transmission of viral hepatitis B (8.7%). Given the prevalence of the disease in the Lao People’s Democratic Republic and still low effective vaccination coverage at birth (52%), low access to testing and absence of policy and guidelines for diagnosis and treatment of viral hepatitis remain an issue.

The Centre for HIV/AIDS and Sexually Transmitted Infections (CHAS), under the Department for Communicable Diseases, has taken the lead to integrate external funding and HIV operations, including data management into existing government systems. HIV and syphilis testing for all pregnant women has already been integrated into the essential service package. Collaboration with the MNCH programme in addressing the issue of prevention from mother-to-child transmission has been in place. Changes to the HIV treatment guidelines expand eligibility for ART treatment to all PLHIV regardless of their CD4 count.

²⁴ World Health Organization (2015). Health in 2015: from MDGs to SDGs. Infectious disease: snapshot on HIV/AIDS. Geneva: World Health Organization (<http://www.who.int/hiv/pub/progressreports/mdg-sdg-hiv-snapshot/en/>).

Malaria

Epidemiological profile

The major malaria species in the country are *Plasmodium falciparum* and *P. vivax* and the major mosquito vector species are *Anopheles dirus*, *An. minimus* and *An. maculatus*. Malaria affects males more than females, as well as age groups above 5 years old. Higher transmission levels are traditionally associated with the southern provinces where environmental and social factors are positively associated with higher transmission risk.

Recent national malaria control strategies have been guided by a succession of strategic policy documents that set out key programmatic targets and milestones, specifically:

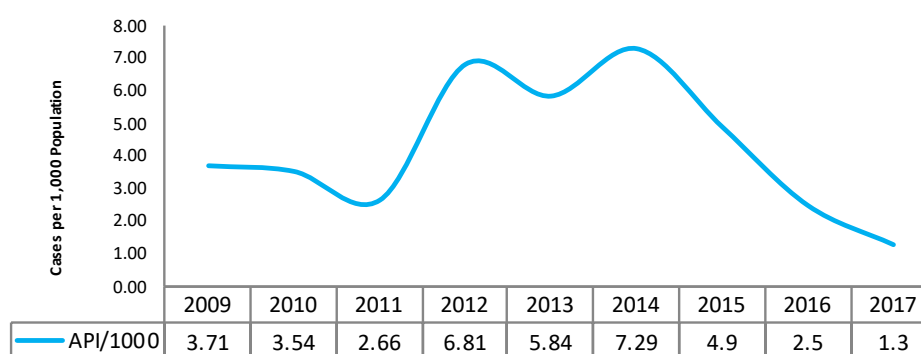
- 2011–2015: intensified control in hot spot provinces to reduce overall burden and the number of *P. falciparum* cases;
- 2016–2020: reduce the burden of malaria in the five southern-most provinces while eliminating *P. falciparum* malaria in the northern provinces;
- 2025: elimination of *P. falciparum* malaria and *P. vivax* from all northern provinces and elimination of *P. falciparum* in the five southern-most provinces; and
- 2030: national elimination of malaria.

Achievements since 2009

In terms of disease impacts in the Lao People’s Democratic Republic, between 2000 and 2017 the number of probable and confirmed cases fell by 92%, from 279 903 cases to just 9336. This translates to a recent reduction in incidence rates of nearly seven cases per 1000 people in 2012 to only 1.3 cases per 1000 people in 2017 (Fig. 54). Malaria-related deaths have also decreased dramatically, from 24 in 2000, to now being consistently below five deaths per year. The proportion of cases caused by the more deadly *P. falciparum* parasite have decreased from 99% of all cases in 2009 to less than 50% of reported cases in 2017 (Fig. 55).

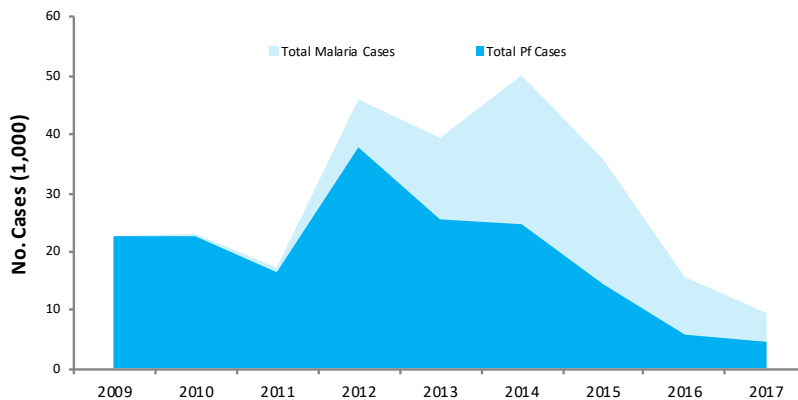
There have been significant successes in national malaria programme outcomes with the percentage of parasitologically confirmed cases receiving a first-line treatment being above 95% since 2015, and the dramatic improvements in completeness and timeliness of monthly malaria reporting, which in 2017 was 100% and 50% respectively (2017, NMIS). The proportion of targeted populations protected by long-lasting insecticidal nets (LLINs) in high-risk groups was 97.6% in the last household malaria survey (2012).

Fig. 54 Malaria parasite incidence rate, 2009–2017



Source: CMPE, Ministry of Health

Fig. 55 Total malaria cases and *P. falciparum* cases, 2009–2017



Source: CMPE, Ministry of Health

Implementation from 2009 to 2017

Point-of-care rapid diagnostic tests (RDTs) have been adopted at almost all lower-level health facilities (including community level) across the country as well as at some private pharmacies that are enrolled in a Public Private Mix (PPM) programme. The successful roll-out of this simplified quality-assured diagnostic tool has allowed malaria case management capacity to be effectively built at the community level through the Village Malaria Worker programme. This programme has been very successful and the new 2016 Malaria NSP builds on this success by increasing coverage to 100% of malaria hotspot villages (about 700 villages) by 2018. The expansion is critical for extending the ability of the programme to reach into the communities with the most at risk populations.

Malaria surveillance has transitioned from a vertical paper-based system to web-based system that is integrated into the national health information system (DHIS2), and is being repositioned as a core intervention within the programme. In 2016, the first mass distribution campaign of long-lasting insecticidal nets targeted all at risk populations was conducted. In relation to monitoring and managing the risk of artemisinin resistance in the country, treatment efficacy studies indicate that the current National Malaria Treatment Guidelines are still effective, however, the confirmation of artemisinin resistance in the southern provinces indicates that the situation needs to be monitored closely.

Challenges

Increased economic growth and population movements in high-risk forested areas remain a major challenge in controlling malaria. Mobile populations associated with forest occupations in areas bordering Viet Nam and Cambodia increase the chances of resistant parasites being introduced and spreading in southern regions. The military is another major at-risk group that is associated with forest malaria which needs particular and focused attention. The only major source of funding for the programme has been with external funding through the Global Fund, and to sustain the impacts that have been made, the Government will need to increase local investment in the programme.

Malaria, the way forward

For the programme to successfully accelerate towards malaria elimination goals, improvements are needed in the ability of provincial and district staff to analyse and utilize data from the malaria surveillance system for better targeting of interventions. Other priority areas include the continued close monitoring of parasite resistance; the expansion of early diagnosis and treatment service at community level with involvement of private sector; and ensuring future mass LLINs distributions are able to reach and cover the highest risk groups of mobile/migrant populations. Finally, increasing ownership, leadership and investment of the malaria programme by the Government is essential to sustain the successes of malaria control and achieve elimination in the country.

Antimicrobial resistance

Recently, antimicrobial resistance (AMR) has become a significant public health priority with high-level attention evident. In 2015, the AMR Surveillance and Control Committee was established and the following year, the National Action Plan on AMR 2017–2020 was developed with plans for endorsement this year. The National Action Plan consists of five strategic objectives to be aligned with the Global Action Plan on AMR and covers human and animal health sectors.

Moving forward, substantial work remains to combat AMR in the Lao People's Democratic Republic, including the endorsement and implementation of the National Action Plan on AMR. Although the country has capacity to detect some antimicrobial-resistant pathogens in human and animal sectors, there is a need to develop national plans for detection and reporting of priority antimicrobial-resistant pathogens. Moreover, that there is no national plan for antimicrobial stewardship and coordination within and beyond the Ministry of Health remains an issue.

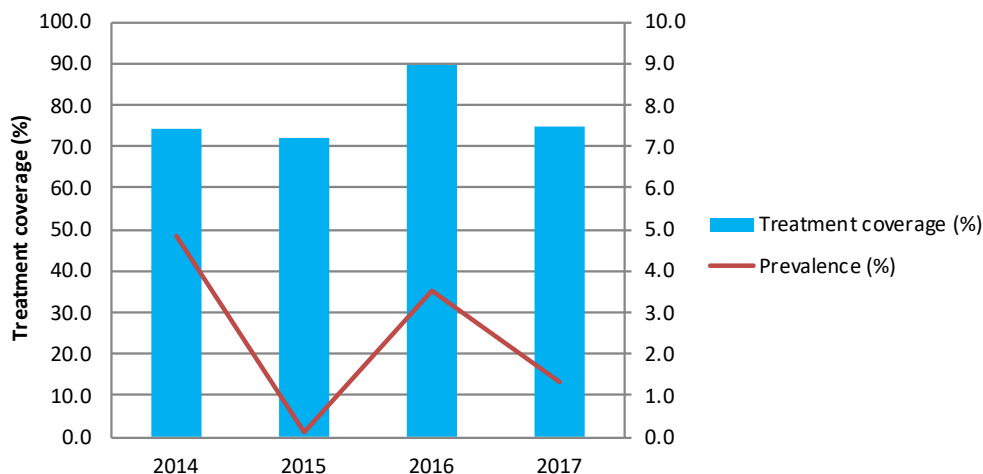
Neglected tropical diseases (NTDs)

Schistosomiasis

Schistosomiasis has been considered a public health problem in two districts (Kong and Mounlapamok districts) of Champassack Province since 1980. Mass drug administration (MDA) was conducted between 1989 and 1995, and 1995 to 1999. This dramatically reduced the prevalence of the disease from more than 50% to less than 2%. As a result of this drop, MDA was discontinued in 1999. However, the results of stool surveys in 64 villages conducted in 2003 showed a resurgence of the disease with prevalence ranging from 13% in Mounlapamok to 47% in Khong districts. MDA has therefore been continued to the present day with a prevalence infection of less than 5%.

MDA alone is not sufficient to interrupt transmission of schistosomiasis by 2025. WHO supports the Ministry of Health to conduct the community-led initiative to eliminate schistosomiasis and reduce soil-transmitted helminthiases (CL-SWASH). CL-SWASH is being implemented to complement the MDA efforts towards eliminating this disease in 202 villages in the Lao People's Democratic Republic by 2020. The approach aims at improving the sanitation and hygiene and water quality in the villages where communities are at risk from schistosomiasis infection. The CL-SWASH approach builds on the Water Safety Plans and also takes into account NTD and nutrition components. The CL-SWASH was initiated in 2015 in a model village in Khong District under the leadership of Nam Saat and was expanded into 24 out of 202 villages.

Fig. 56 Prevalence and treatment coverage for schistosomiasis 2014–2017



Source: Ministry of Health

Trachoma

The National Ophthalmology Centre (NOC) conducted a National Trachoma Survey from 2013 to 2015. The results showed that prevalence of trachomatous inflammation-follicular in children aged 1–9 years is less than 5%. Therefore, the Lao People’s Democratic Republic achieved validation from WHO on eliminating trachoma as a public health problem on 12 July 2017.

Lymphatic filariasis

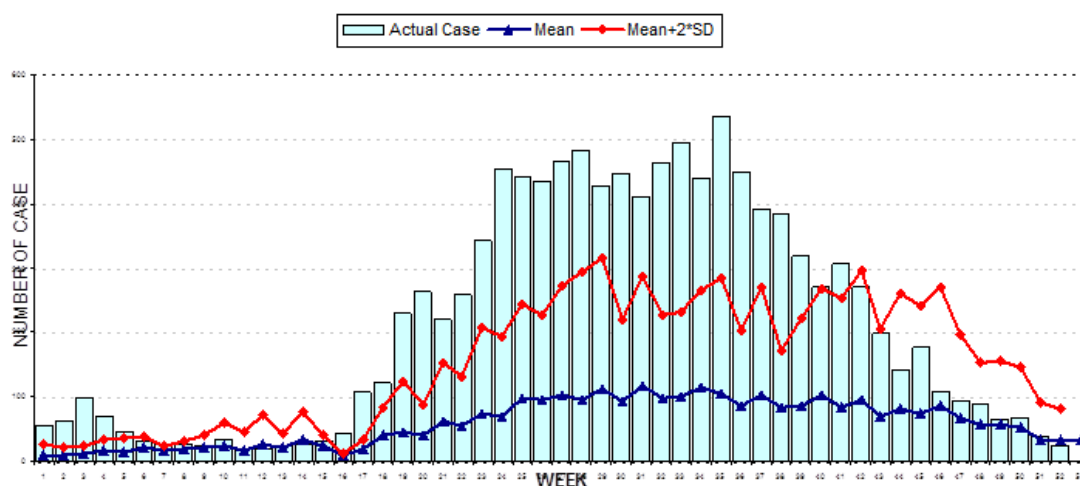
Lymphatic filariasis is close to the elimination phase. The First Transmission Assessment Survey was conducted in September 2017 and no positive cases were identified. Lymphatic filariasis elimination is on track for validation in 2021.

Soil-transmitted helminthiases

Ongoing control of soil-transmitted helminthiases is implemented by Ministry of Education and Sports together with Ministry of Health. Treatment coverage is over 90% and the prevalence of infection was reduced to 19.8% in 2017 from 66.3% in 2002.

Dengue

Dengue is endemic in most areas of the country. Since 1985, dengue has been recognized among other diseases as a public health problem. In 2013, there was a large dengue epidemic with 44 250 cases resulting in 95 deaths. In 2017, there were 11 067 cases resulting in 14 deaths.

Fig. 57 Dengue cases by week, 2017

Source: Ministry of Health

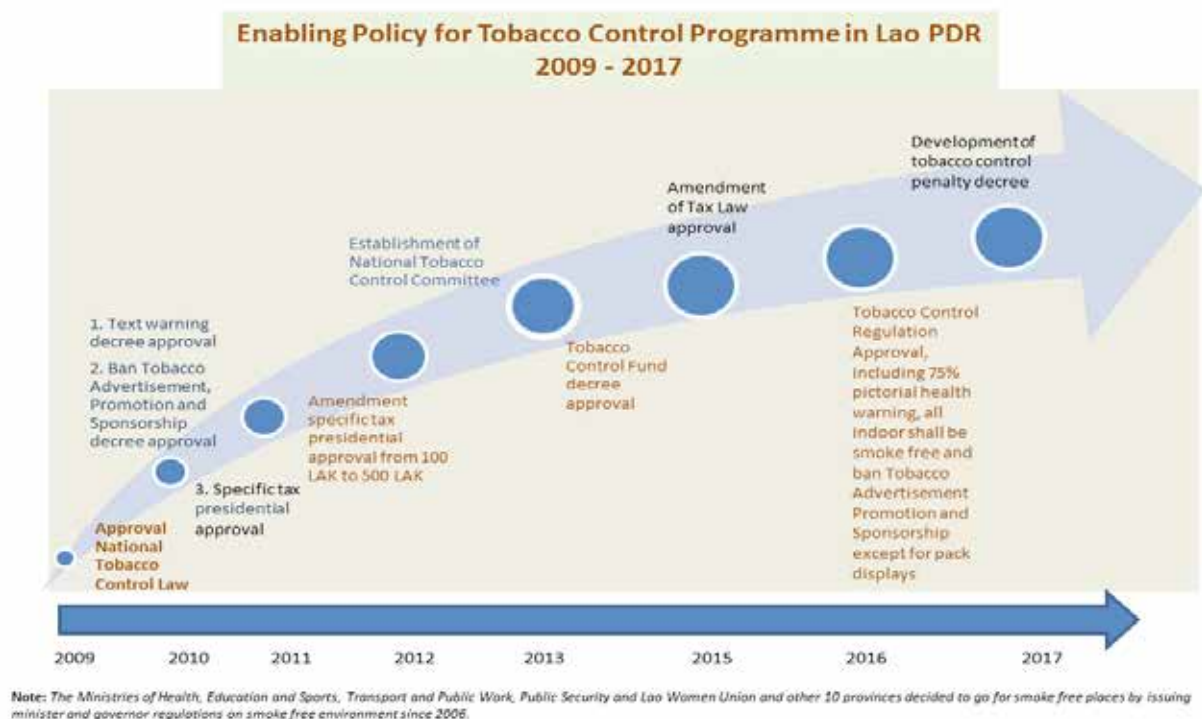
4.4. Noncommunicable Diseases

In 2014, the Health Minister approved the Noncommunicable Diseases Control and Prevention Policy as well as the National Multisectoral Action Plan for the Prevention and Control of Noncommunicable Diseases, 2014–2020. It has been aligned and integrated into existing programmes for implementation, for instance, improving the diagnosis and treatment of cancers, heart diseases, lung diseases and diabetes in central and provincial hospitals. The capacity-building was done by the Division of NCD and Health through the Life-Course, WHO Regional Office for the Western Pacific, through regional trainings and workshops on Leadership and Advocacy for NCD Prevention and Control (LeAd-NCD), Intercountry Training on Subnational Initiatives for Cardiovascular Disease Prevention, Control and Management and Leadership for Cancer Control (CanLEAD). In 2017, The Ministry of Health established a Division of NCD under the Department of Health Care to oversee and implement the NCD policy and multisectoral action plan.

The WHO Package of Essential Noncommunicable Diseases (PEN) Intervention for Primary Health Care was also adapted into LAO PEN and endorsed in early 2014 by the Health Minister. The pilot project was started in Champasack Province in the second quarter of that year with technical and financial assistance from WHO. The pilot project assessment took place in the fourth quarter of 2015 and results indicated that facilities and services were gradually improved during the pilot project. Thus, the Ministry of Health decided to dedicate funds from its annual health budget to support the implementation and expansion of a PEN project to other provinces, starting with Vientiane Capital, Xayabouly and Luang Prabang provinces in 2017.

Tobacco control programme

Fig. 58 Timeline of key events in tobacco control, 2009–2017



The Lao People’s Democratic Republic became a party to the WHO Framework Convention on Tobacco Control (FCTC) in 2006 and the Law on Tobacco Control was approved by the National Assembly in 2009. Since then, tobacco control is one of the priorities under the health promotion of the Department of Hygiene and Health Promotion, Ministry of Health. Many articles of the FCTC are implemented at national and subnational levels to protect the health of the people, promoting healthy lifestyles, reducing noncommunicable diseases and boosting development.

In 2010, the Prime Minister issued a decree on collecting 100 LAK/pack specific taxes from tobacco companies. One year later this increased to 500 LAK/pack. This helps to increase the Government’s annual budget. In 2016, with technical support from WHO, the Lao Government made a landmark achievement in passing a Health Minister Regulation on Tobacco Control. This regulation stipulated: all indoor areas shall be smoke-free; both local and import tobacco companies shall print 75% of pictorial health warning on their cigarette packs; a ban on tobacco advertisement, promotion and sponsorship, except at point-of-sales. The primary objectives are to protect the health of non-smokers from exposure to second-hand smoke, ensuring vulnerable groups such as the poor, youth and low literacy populations have access to accurate information on the harmful effects of tobacco use to discourage them from initiating smoking.

Tobacco companies interference is another big issue that the Lao Government needs to address to ensure law and regulations on tobacco control are fully implemented. Tobacco companies try not only to weaken the law and regulations, but also delay implementation, for example, the printing of the 75% pictorial health warning on the cigarette packs.

Alcohol beverages control

The National Alcohol Beverage Control Law was endorsed by the National Assembly in December 2014 and it became effective immediately after the gazette registration. Even though the law was not fully enforced, there is a progressive achievement in implementing the law, for example, reducing the alcohol beverage market through limiting advertising on television, radio and newspapers. However, there are huge challenges in implementing the law because there is no enforcement tool available. The Ministry of Health with technical and financial support from WHO is developing a Prime Ministerial decree on alcohol control in 2018 and this will be a legal tool for the Government to apply in implementing the Law. The draft decree will be submitted to the Government meeting in December 2018 for consideration and approval.

4.5. Environmental Health

Background

The country's multifaceted burden of disease is increasingly facing threats caused by environmental changes and pollution. In 2015, about 84% of the population were estimated to have access to improved sources of drinking water and 71% to have access to improved sanitation. This means that the number of people having access to safe water and sanitation has improved three-fold since the 1990s.²⁵

Regulatory environment

The Ministry of Health successfully consolidated its leadership role to improve regulation related to environmental and occupational health through strong multisectoral coordination and engagement. The National Environmental Health Strategic Action Plan for 2016–2020 identifies priorities for the next few years related to outdoor and household air pollution, chemical safety management, hazardous waste management and environmental health emergencies. The first regulatory framework on occupational health and safety was developed in 2015. It defines the minimum requirements for occupational health and safety, the obligations of the Government, employers and employees, and a basic set of occupational health and safety services.

Water, sanitation and hygiene

WASH services are being provided at all levels and organizational development is taking place in combination with strengthening the regulatory environment. The Provincial Water Suppliers have adopted Key Performance Indicators and are developing corporate plans. The Water Resources Act has been approved in 2017, an overarching WASH policy is in line for approval by the Prime Minister and an Urban Sanitation Strategy, 2016, led by Department of Water Supply, Ministry of Public Work and Transport is under preparation. In addition, regulatory support has been provided by Ministry of Health through the Drinking Water Quality Guidelines 2014 together with extensive capacity-building support for the introduction of water safety plans in Urban and Rural Water Supply schemes. A surveillance programme was initiated by DHHP in 2016 for testing of various water quality parameters. The Ministry of Education and Sports (MoES) is working with partners to raise the quality and sustainability of WASH services provided in schools, through design standardization and hygiene promotion (HAPIS)²⁶.

²⁵ United Nations in Lao PDR (2015). Country analysis report: Lao PDR. Analysis to inform the Lao People's Democratic Republic–United Nations Partnership Framework (2017–2021). Vientiane: United Nations in Lao PDR (<http://www.la.undp.org/content/dam/laopdr/docs/Reports%20and%20publications/2015/Country%20Analysis%20Report%20Lao%20PDR%202015.pdf>).

²⁶ World Health Organization, United Nations Children's Fund (2017). Progress on drinking water, sanitation and hygiene: 2017 update and SDG baselines. Geneva: World Health Organization and United Nations Children's Fund (<http://apps.who.int/iris/handle/10665/258617>).

Table 5. Progress in water supply coverage and access to sanitation

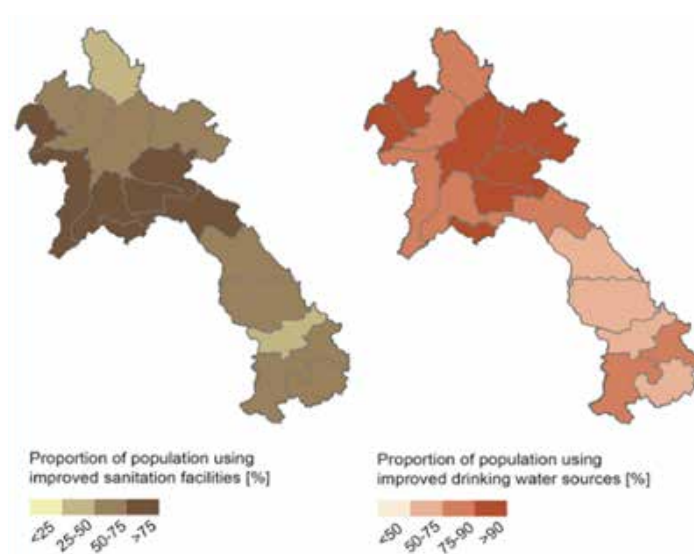
	Urban	Rural	National
Water supply coverage (%)			
2006	83	53	60
2011/12	88	64	70
2015	94	79	84
Access to sanitation (%)			
2006	85	38	48
2011/12	91	48	59
2015	94	60	71

Source: JMP 2008, LSIS 2012, Census 2015

The investments and efforts of the last decade by the Government and development partners have resulted in increased coverage of water supply, sanitation and hygiene services and achievement of the MDGs for water supply and sanitation.²⁷ The development of coverage by 2015 is shown in Table 5, using data from the Lao People’s Democratic Republic Census 2015, LSIS 2012 and JMP 2008.

Starting from a low coverage status in water supply and sanitation some 20 years ago, the Government, its development partners and the people have worked together to increase access to services. In the process, priorities were considered and decisions made that allowed rapid progress. However, some villages without roads, less developed districts and remote communities have not yet been served. Limited district-level capacity and shortfalls in financing and human resources have constrained the extension of services. Donor -funded projects and NGOs have kept service delivery at fair levels, but integration with district-level planning and coordination could be further improved.

Fig. 59 Population coverage of improved sanitation and drinking-water sources



Source: Census 2015

²⁷ World Health Organization, United Nations Children’s Fund (2015). Progress on drinking water, sanitation and hygiene: 2015 update and MDG assessment. Geneva: World Health Organization and United Nations Children’s Fund (<http://apps.who.int/iris/handle/10665/177752>).

Fig. 59 shows the comparison of the proportion of population using improved sanitation and drinking water facilities with calculations based on the 2015 census (Coulomb, Harold, et al). Significant disparity exists with limited services available to the poorer quintiles of the population. Absent or poor WASH services reduce opportunities among households and communities for protection of health and economic development, thus sustaining inequities in human development.

An overarching WASH Policy was developed in 2016 with the main objective to provide universal access to safe, reliable and affordable WASH services for all. The National Strategy for rural Water Supply, Sanitation and Hygiene for 2018–2030 follows that principle. This strategy and the National Action Plan aim to achieve and reduce open defecation to zero, to provide Basic and Safely Managed Water Supply and Sanitation for households and institutions (schools, health facilities and markets) and hygiene promotion.

Adequate water, sanitation and hygiene services are essential to minimize the risk of health-care acquired infections but also for improving staff morale, patient dignity, uptake of services and to reduce the cost of health care.²⁸ Results from the service availability and readiness assessment conducted in 2014 showed more than half of health centres and district hospitals do not have functional improved water or sanitation services.²⁹ In response, the Ministry of Health developed national regulations on health care waste management, environmental health standards and a tool for improving WASH at health facilities.

Access to water and sanitation is also affected by the effects of climate change and unregulated waste disposal. A national strategy and action plan for assessing climate risks and building a climate resilient health system has been developed and will have to be operationalized in the coming years.

In conclusion, although the WASH sector in the Lao People's Democratic Republic has made great strides in recent decades, continued efforts are required to provide improved water and sanitation services to unserved populations and at the same time upgrade services to meet the criteria required under the Sustainable Development Goals to provide safely managed water and sanitation for all. The SDG indicator "safely managed drinking-water" provides an additional tool to strengthen political support for water safety planning and surveillance.

Box 6. WHO/DFAT support for the development of water safety plans

With support from the Australian Department of Foreign Affairs and Trade (DFAT), WHO worked with the Ministry of Health and the Ministry of Public Works and Transport to develop the legal framework for ensuring safety and quality of drinking water. Water safety plans were identified as the main implementation tool. The initial success of developing 69 plans was multiplied through mobilizing additional funding by the Government and other development partners to develop an additional 41 plans. In addition, water safety plans are mainstreamed into all relevant policy documents and the standardized training programme provided to all water operators by the Ministry of Public Works and Transport. Impact of the project also reached beyond the WASH sector. Water safety plans are included as supplementary activities in other interventions addressing the elimination of schistosomiasis, control of typhoid and dysentery outbreaks or improving the nutrition of children.

²⁸ World Health Organization, United Nations Children's Fund (2015). Water, sanitation and hygiene in health care facilities: status in low and middle income countries and way forward. Geneva: World Health Organization and United Nations Children's Fund (<http://www.who.int/iris/handle/10665/154588>).

²⁹ Ministry of Health, World Health Organization. Service availability and readiness assessment; 2015.

Climate change and environmental health

The Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report concluded that: in Asia, heatwaves will increase morbidity and mortality in vulnerable groups in urban areas, transmission of infectious diseases will be affected due to changes in temperature and rainfall, and nutritional status will be at risk from crop losses. These changes will lead to marked increases in heatwaves and more modest increases in the risk of floods and droughts.³⁰ In response to these climatic changes, a multicountry approach for responding to climate change induced health risks in Asian LDCs, through WHO/UNDP support has been approved by the Global Environment Facility (GEF) in January 2018 with a budget of US\$ 9 million for April 2018–March 2022. The Ministry of Health will be supported to incorporate climate risks and opportunities into national plans, policies of WASH, a disaster management plan, climate sensitive diseases and climate-related health outcomes.

Elimination of asbestos use

A National Action Plan for Elimination of Asbestos-related Diseases is under development in 2017–2018 with leadership from the Health Minister and the Department of Hygiene and Health Promotion (DHHP) with joint support from the Australian Union Aid Abroad (APHEDA) and WHO. This includes a ban on chrysotile asbestos use in the country by end of 2020.

³⁰ Intergovernmental Panel on Climate Change (2014). *Climate change 2014: impacts, adaptation, and vulnerability*. Cambridge, UK and New York: Cambridge University Press (<http://www.ipcc.ch/report/ar5/wg2/>).



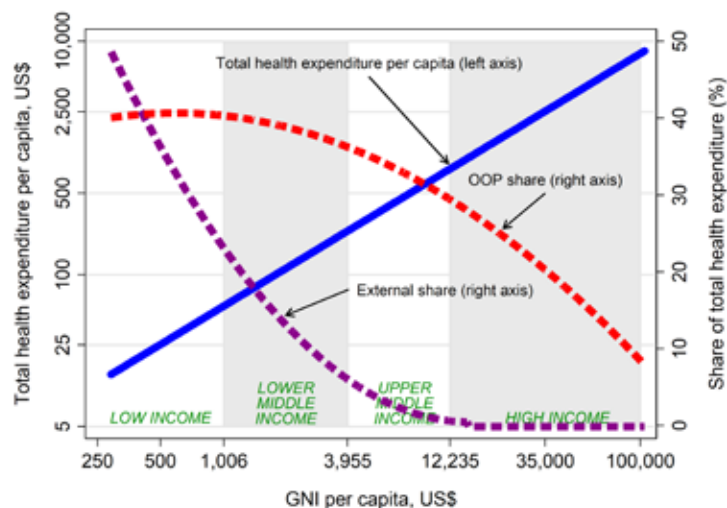
5. THE WAY FORWARD

5.1. Health in Transition

In addition to demographic, epidemiological, and nutrition-related transitions, sustained economic growth in the Lao People's Democratic Republic has also led to changes in health financing systems. There has been a consistent increase in health expenditure per capita, a decrease in OOP expenditure on health as a share of total health expenditure, and a rising share of financing from pooled sources.

As the country's economy is projected to grow rapidly, external financing will reduce. Gavi, the Global Fund, and UNFPA have already announced specific plans, and Gavi has supported the Lao People's Democratic Republic in developing a transition roadmap. Allocations from other development partners are also expected to decrease over the long term.

Fig. 60 The health financing transition



Source: World Development Indicators; WHO Global Health Expenditures Database

Phasing out of external support puts pressure both on financial and programmatic sustainability of health service delivery. Increased requirements for co-financing by Gavi, the Global Fund and also other donors, has already achieved slight increases in domestic financial allocations to the respective programmes. Recent alignment and integration of project management units into the Ministry of Health structure, such as the integration of the principal recipient management structure into the Department of Finance, the Department for Planning and Coordination and the Department of Communicable Disease Control in 2017, encourages better integration with other Government-funded activities. Finally the integration of malaria, HIV, TB and EPI reporting into DHIS2 HMIS, finalized in 2017, provides necessary data for integrated planning and monitoring.

Service delivery is not only the central pillar of HSR but can also serve as the platform for ongoing discussions on transition among partners and the Government. Costing of the basic service package will allow development of cost projections for funding needed for UHC, identifying financial gaps resulting from a decrease in external funding and facilitating systematic priority setting to identify the best use of available funding. Implementation of an integrated service package will also allow the Lao Government to streamline and integrate multiple mechanisms, not only for financing, but also for delivery of health services. Multi-skilled health workers will be able to deliver services more efficiently and respond to the changing burden of disease, an area that was difficult to achieve under vertical programmes. Clear guidance on services to be provided at different levels of the health system, for example, ensures prioritization of certain areas for outreach services. Identifying the most appropriate mechanisms, avoiding duplication and use of evidence-based planning will facilitate gains in efficiency and effectiveness, and as such, support financial and programmatic sustainability in the health sector.

5.2. Challenges

Coordination, governance and management

- Throughout the implementation of various strategies and policies, including health sector reform, coordination has been one of the major challenges. Issues with planning and budgeting, funding flows, silo programmes and the continuing mentality of the project-based approach have created an unfavourable environment for the concept of results-based management.
- The fact that there is a lack of one specific body within the Ministry of Health, apart from the inspection division, to oversee legislation for the health sector leaves a gap in the harmonization of sector legislation and its enforcement, that urgently needs to be addressed. This gap can affect the implementation of not only all the strategies and work plans in the health sector, but also that of multisectoral programmes that the health sector is part of, such as road safety; climate change; AMR; nutrition; and food security.
- Shifting from central planning and operation to Sam-Sang is a strategic and crucial shift in terms of governance and management. However, translating national into subnational targets, as in the case of National Assembly monitoring, might not be an optimal way for the health sector to achieve such targets. The challenge for the Ministry of Health is to transcribe national targets to the subnational context, thus helping provincial and district authorities to take ownership of implementation and realize their contribution to the national programme while central government can focus on ensuring the achievement of all targets.
- There has been an increasing involvement, investment and contribution from the private sector and nonconventional donors (South-South collaboration, China's "One Belt, One Road" policy and ASEAN partnership are some examples) taking place in health service delivery in the Lao People's Democratic Republic. In addition to increasing contributions of the existing army and police sectors in the health-care network, the management of overall health service provision has been and will be an increasing challenge. PPM, private sector, other government sectors and health-care services all target the same population that traditionally has been under the health sector. Strong legislation, service standards and requirements together with effective collaboration and management will play a critical and vital role for the Ministry of Health and the Lao Government in meeting their targets of UHC by 2025 and SDGs by 2030.
- The use of national and international development targets as a driving force for national development, generating financial and human resources, setting priorities through result-based planning, monitoring and management, remains problematic. This concept has been introduced in the HSRF and remains a challenge when translated into implementation because this concept is still not fully aligned with the planning mechanism within the Lao Government.

- The programme-specific challenges that have been identified include the following.
 - Health Sector Reform initiatives needed for reaching UHC by 2025 remain concentrated at national level and only slowly trickle down to subnational implementers.
 - Planning, prioritizing, and budgeting follows separate processes based on historical pathways instead of an evidence-based strategic approach.
 - Integration of coordination mechanisms for reporting on national priorities under the Sam-Sang decentralization policy, Health Sector Reform, and for sector-wide donor coordination is not yet operational.
 - Successful multisectoral coordination in development of policy guidance related to environmental health for example, has not yet translated into joint implementation by several sectors.
 - Poor private sector engagement.
 - Low engagement in active data quality assessment and feedback processes and limited data use for evidence-based planning, prioritizing and decision-making, particularly at the subnational level.
 - Enforcement of legislation and regulations is limited so despite the array of legislative documents, their actual implementation requires strengthening. Although there is an array of health sector policies and strategies, it is common that they are not fully implemented, indicating a divergence between commitments made and implementation capacity.
 - Diverse geographic and ethnic make-up of the country presents numerous barriers to access.
 - Lack of effective and systematic quality of care monitoring systems aligned to the essential service package.
 - Limited improvement of service utilization of basic primary health-care services at the lower levels, is putting unnecessary strain on higher-level tertiary facilities.

Technical and financial capacity of the health sector

- Although the government domestic budget for health has been gradually increased in the past four years, 5.3% of the government domestic budget for health is still far short of the target of 9% that was set in the HSRF. To convince the Ministry of Finance and the National Assembly of the need for an increased health budget, efforts are required to strengthen overall public finance management, planning and budgeting, as well as donor funding harmonization. All these areas are new and at initial stages which poses a challenge for the Ministry of Health to implement the Health Financing Reform Roadmap and to convince the Ministry of Finance and the National Assembly for more funding.
- The NHI will no doubt have reached its target by the end of 2018 in terms of geographical roll-out. However, the utilization and management of NHI, while merging the other six existing schemes into a sustainable and beneficial one for both service providers and users will not be easy. More work needs to be done in setting up standards based on the essential service package, together with payment mechanisms and hospital management.
- Quality of services depends on two key areas: technical competency and an enabling environment. To transfer from centralized, quota-based HRH management to performance-based according to the level of health care, ensuring a good skill mix will require a coordinated effort from the Ministry of Health.
- Limited capacity and resources at subnational level lead to difficulties in putting policies into practice.

- Some specific challenges foreseen:
 - fragmentation of external donor support puts high transaction costs on the Ministry of Health;
 - bottlenecks in the process of requesting, approving, transferring and disbursing domestic funding, limit the financial absorption capacity of the sector;
 - low allocation of public funding to the health sector competes with national policies on reducing OOP spending on health;
 - transition from major external funding such as Gavi, the Global Fund and UNFPA, require increased efforts from the Government to achieve financial and programmatic integration and sustainability;
 - setting up standards and certifying mechanisms for health professional registration and licensing is new and requires cross-sectoral efforts and collaboration;
 - lack of effective and systematic quality of care monitoring system aligned to the essential service package (although this is in the pipeline); and
 - with the change to a tax-based scheme, monitoring implementation and utilization rates are even more important to ensure that coverage translated into effective financial protection and equity of coverage will be another challenge.

Coordination with development partners and other sectors

- The Vientiane Declaration of Aid Effectiveness has created good groundwork for donor support harmonization. To put this policy into effective practice requires strong leadership and harmonization within the Ministry of Health to ensure the goodwill of development partners is used efficiently through evidence- and results-based planning and prioritization. More dialogue is required between the Ministry of Health and partners.
- Very little has been officially recorded and monitored regarding the investment and practice of the private sector. The Ministry of Health kept records of the clinic registration but so far, activities under private hospitals, especially international ones, have not been captured in the management scope of the Ministry of Health. Setting standards and ensuring reporting from private service providers will remain a challenge while the country strengthens its law enforcement.

5.3. Next Steps

This section has been developed based on the content of this report as well as a series of presentations and discussions at a joint Ministry of Health and WHO seminar held on Monday, 30 April 2018.

Resilient health systems towards UHC

- The enabling environment for effective implementation of the government-approved essential service package needs to be reviewed and strengthened. This will require health system-wide efforts to: define and roll out financial and human resources needs; develop a monitoring and assessment system; improve quality-of-care standards, guidelines and procedures; and review and develop strategies to guide implementation (such as finalizing a community health strategy).
- Improve harmonization and enforcement of health sector legislation through improved coordination, communication and ownership of different administrative levels.
- Strengthen overall collaboration and engagement with other sectors (such as the private sector, mass organizations, the police, army and the education sector) for improved service delivery, reporting and enforcement of regulations at all levels.

- Support the Ministry of Health to strengthen governance at subnational level, starting with the selected priority provinces as referred to by the Ministry of Health, and aligned to the priorities of Health Sector Reform. Key to this will be the strengthening of national and subnational planning, prioritization and budgeting in line with results-oriented and evidence-based approaches.
- Improve equity and equality of opportunity in the deployment of health personnel through: improving performance based HRH management; strengthening planning, development and management of HRH based on the requirements of the ESP; and supporting the operations of the Health Professionals Council, especially on licensing and registration of health workers.
- Strengthen social health protection mechanisms towards reaching UHC through setting up standards based on the essential service package, together with payment mechanisms and hospital management.
- Continue to generate evidence to advocate for increased expenditure on health to reach national targets. Key to this will be strengthened and more transparent public financial management and accounting systems.
- Implement the Transition Roadmap in preparation for the country to deal with the reduced official development assistance funding streams when it reaches middle-income country status.
- Streamline monitoring and reporting on international and national priorities under UHC, SDGs, Health Sector Reform and sector-wide coordination. The newly developed UHC/SDG monitoring framework can be used as a tool for planning as well as a driver for prioritization and budgeting.
- To complete and strengthen the use of DHIS2 as the integrated health information system for budgeting, planning, decision-making and monitoring progress towards national and regional targets. This will involve strengthening data quality, analysis and use, particularly of subnational health staff.

Enhanced health security

To strengthen the country's capacity to effectively manage public health emergencies and meet its obligations under the IHR (2005), the Government may consider the following recommendations.

- Annually review and update the National Work Plan for Emerging Infectious Diseases and Public Health Emergencies to take into consideration the recommended priority actions from the JEE mission, as guided by the third APSED III.
- Prepare an investment case to increase and ensure sustainable financing for health security, including essential public health functions such as surveillance and response.
- Implement the National Health Workforce Strategy 2016–2020 and ensure the strengthening of a health security workforce, including public health and veterinary field epidemiologists.
- Implement functional measures for multiple sectors to collaborate, coordinate and communicate on preparedness and response to all public health emergencies.
- Foster a culture of review, learning and continuous improvement in the area of health security, including outbreak reviews, regular exercises and IHR JEEs.
- Review and formalize draft laws, policies and SOPs related to health security with due consideration of international obligations.
- Further work is required on clinical management during outbreaks, personnel deployment, and information-sharing mechanisms, health infrastructure, response medical countermeasures and guidance on other priority diseases, such as chikungunya.

Priority public health programmes

- Develop better planning and targeting of service delivery to ensure no one is left behind, avoiding marginalization and inequity in service access and use by different population groups.
- Improve quality of basic primary health-care services at the lower levels to increase service uptake at the health centre and district hospital level, thereby relieving the strain on higher-level tertiary facilities.
- Encourage service delivery models based on patient-centred care which emphasize the need to respond to the specific needs of the individual.
- Strengthen the capacity of the NRA in overall management and governance of the essential medicine and drug supplies for the health sector to ensure adherence to best practice on the rational and effective use of medicines.
- RMNCH: coordinated evidence-based planning and monitoring at subnational level, led by the Province Health Office and aligned to the essential service package. This should be based on an updated RMNCH monitoring and evaluation framework and annual list of priorities developed at the central level. This is particularly important in terms of policy commitments made at central level around financial and human resources allocations, ensuring rationalized allocation decisions are fed down to subnational levels.
- RMNCH: improved quality of RMNCH service delivery through provision of services detailed in the RMNCH essential service package at all levels, with a particular focus on targeted service delivery to improve equity.
- EPI: an increased focus on maximizing the equity of immunization coverage by addressing geographical, wealth, ethno-linguistic, and gender-related barriers. This will involve better understanding and addressing demand-side barriers.
- EPI: careful planning and a significant increase in domestic financing to cover the costs of vaccine procurement and operating costs through the transition period from donor support to self-financing.
- TB/HIV/Malaria: continued efforts to increase sustainable domestic funding of TB, HIV and malaria programmes as the Global Fund gradually reduces the level of external support for these programmes.
- TB: continued efforts to reach the ambitious 70% TB treatment coverage target for 2020.
- HIV: strengthen response efforts to provide a better integrated continuum of care for HIV, spanning prevention, counselling and testing, care and treatment, as well as linkages with other sectors for support services.
- Viral hepatitis B: increase efforts to improve vaccination coverage at birth as well as to improve access to testing. Policy and guidelines for diagnosis and treatment of viral hepatitis require development.
- Malaria: improve the ability of provincial and district staff to analyse and utilize data from the malaria surveillance system for better targeting of interventions and monitoring of parasite resistance. Expansion of early diagnosis and treatment services at the community level with involvement of the private sector; and ensuring future mass LLINs distributions are able to reach and cover the highest risk groups of mobile/migrant populations.
- AMR: endorsement and implementation of the National Action Plan on AMR. Develop national plans for detection and reporting of priority antimicrobial-resistant pathogens and for antimicrobial stewardship and coordination within and beyond the Ministry of Health.

- NTDs: enhance efforts to eliminate schistosomiasis through implementing CL-SWASH in 202 villages by 2020.
- Tobacco control: continue to implement the WHO framework convention on tobacco control.
- Alcohol beverages control: endorsement and enforcement of the Prime Ministerial decree on Alcohol Control.
- Environmental Health: continued efforts are required to provide improved water and sanitation services to unserved populations and at the same time upgrade services to meet the criteria required under the SDGs to provide safely managed water and sanitation for all.

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