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Partnership for Health System
Sustainability and Resilience

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London School of Economics and AstraZeneca

Sustainability and Resilience in the Vietnamese Health System

Tran Thi Mai Oanh, Nguyen Khanh Phuong and Khuong Anh Tuan • March 2021



Authors:

Tran Thi Mai Oanh, Nguyen Khanh Phuong and Khuong Anh Tuan

Health Strategy and Policy Institute, Vietnam



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Contents

1. Executive summary	4
1.1 Introduction	4
1.2 Cross-cutting themes	4
2. Key research findings	6
2.1 Domain 1: Health system governance	6
2.1.1 <i>Sustainability</i>	6
2.1.2 <i>Resilience</i>	7
2.1.3 <i>Summary of key findings</i>	8
2.1.4 <i>Recommendations</i>	9
2.2 Domain 2: Health system financing	9
2.2.1 <i>Key trends and numbers</i>	9
2.2.2 <i>Sustainability</i>	9
2.2.3 <i>Resilience</i>	11
2.2.4 <i>Summary of key findings</i>	12
2.2.5 <i>Recommendations</i>	12
2.3 Domain 3: Workforce	13
2.3.1 <i>Workforce numbers</i>	13
2.3.2 <i>Sustainability</i>	14
2.3.3 <i>Resilience</i>	15
2.3.4 <i>Summary of key findings</i>	16
2.3.5 <i>Recommendations</i>	16
2.4 Domain 4: Medicines and technology	17
2.4.1 <i>Sustainability</i>	17
2.4.2 <i>Resilience</i>	18
2.4.3 <i>Summary of key findings</i>	19
2.4.4 <i>Recommendations</i>	20
2.5 Domain 5: Service delivery	20
2.5.1 <i>Sustainability</i>	20
2.5.2 <i>Resilience</i>	22
2.5.3 <i>Summary of key findings</i>	24
2.5.4 <i>Recommendations</i>	24
3. References	25
4. Appendices	28
4.1 Stakeholders consulted	28
4.2 Team support	28

1. Executive summary

1.1 Introduction

Vietnam is a lower-middle income country in Southeast Asia with a population of more than 97 million people. In 2020, Vietnam emerged as one of the few countries to effectively contain COVID-19, marking its impression on the world as a model for what pandemic response with limited resources could look like. Up to 25 February 2021, Vietnam has recorded 2,420 cases and 35 fatalities. Its 2020 GDP growth rate was at a striking 2.91%.⁽¹⁾ The country was recently ranked 18th out of 53 economies listed on Bloomberg's monthly Covid Resilience Ranking, which analyses "where the pandemic is being handled the most effectively with the least social and economic disruption."⁽²⁾

Despite this relative success, Vietnam's health system has been severely affected by the double burden of infectious diseases and non-communicable diseases (NCDs), with the latter on the rise and accounting for two-thirds of all deaths each year. Social distancing requirements as well as the redeployment of health workforce to covid-hit areas inevitably disrupted the provision of care for patients with chronic diseases at the beginning. The occasional lack of integration between national directives and local implementation, as well as hospital care and primary care, continues to affect both quality and efficiency of services.

There is an urgent need to both comprehensively assess the current state of Vietnam's health system and draw lessons from the country's experience dealing with COVID-19 in the past year, identify room for improvement, and implement evidence-based policy changes in order to strengthen the country's health system. Recovering from this pandemic is the first step that needs to be followed by enhancing the health system's sustainability and resilience so that it can weather future crises.

Sustainability concerns the health system's ability to provide key functions such as provision of services, financial protection, resource generation and responsiveness to population needs in an ongoing way. *Resilience* refers to a health system's ability to identify, prevent, mitigate and rebound from shocks while minimising negative impacts on population health, health services and the wider economy.

As part of the **Partnership for Health Resilience and Sustainability (PHSSR)**, founded by the World Economic Forum, London School of Economics and AstraZeneca, this report serves to provide a rapid assessment of Vietnam's health system and present policy recommendations according to five key domains of the PHSSR Pilot Framework:

- Governance
- Health System Financing
- Workforce
- Medicines and Technology
- Service Delivery

1.2 Cross-cutting themes

Drawing from government documents, various sources of data, and research papers, we have been able to identify the key strengths and weaknesses of Vietnam's health system that affect its sustainability and resilience. Though diverse in nature, these findings point to the following cross-cutting themes that should receive the most attention:

The national vs. local mismatch: National-level leadership and guidelines in Vietnam were particularly strong and effective during COVID-19, however they were not always met with continual and strict adherence at the local level, that is required to avoid oversight in pandemic prevention and control. In terms of service delivery, there is also a wide quality and accessibility gap between upper-level service providers in major cities and primary care facilities at the grassroots level. Many patients are thus inclined to bypass their registered local primary care centres and self-refer to hospitals, resulting in an overcrowding public hospital system and high out-of-pocket spending, amongst various other issues that impact the health system's sustainability and resilience. Besides strengthening grassroots/primary healthcare, which is already high on the Government's priority list, ensuring an integrated cross-level collaboration between all stakeholders in the healthcare sector is also vital.

Digital transformation: COVID-19 has accelerated Vietnam's digital transformation efforts in all sectors but especially in healthcare to ensure patients' access to treatments. Telemedicine, electronic medical records and grassroots-level health information system are projects that are most prioritised recently. Although positive results have been achieved, there lacks an overarching national e-Health strategy that regulates and ensures the inter-operability of existing fragmented IT systems and databases. A comprehensive and regularly updated national health information system as well as national workforce database system are urgently needed to allow for more timely insights and long-term planning.

Monitoring and evaluation: Vietnam has issued a wide variety of policies and run pilot programmes to drastically improve the health system, many of which demonstrate a progressive and patient-centric strategy. However, monitoring and evaluation efforts have been inadequate and inconsistent across the system, and public participation in this process is limited. This results in unclear lines of accountability and missed opportunities to make timely and evidence-based decisions for adjustments. It is imperative to build and enforce these steps more strictly so that policies and programmes achieve what they are designed to do.

Shortages of health staff: Despite progress in expanding the health workforce in the last 10 years, the density of health staff in Vietnam continues to be on the lower end of the world. Although Vietnam did not face a shortage during COVID-19 owing to the effective mobilisation of human resources from other provinces and sectors, the chronic understaffing issues impact not only the workforce's well-being, but also the success of key programmes such as grassroots healthcare strengthening, universal health coverage and digital transformation.

Public-private partnerships (PPP): PPP is encouraged by the Vietnamese Government and Ministry of Health in numerous areas such as health financing, workforce development, R&D, and care provision. Its aim is to simultaneously reduce burden on the public sector and ensure broad access to quality treatment in the context of growing healthcare needs. This shift in national strategy in recent years has moved the country and health sector in the right direction, as cross-border, cross-sectoral and public-private cooperation is crucial to support Vietnam in achieving its health objectives.

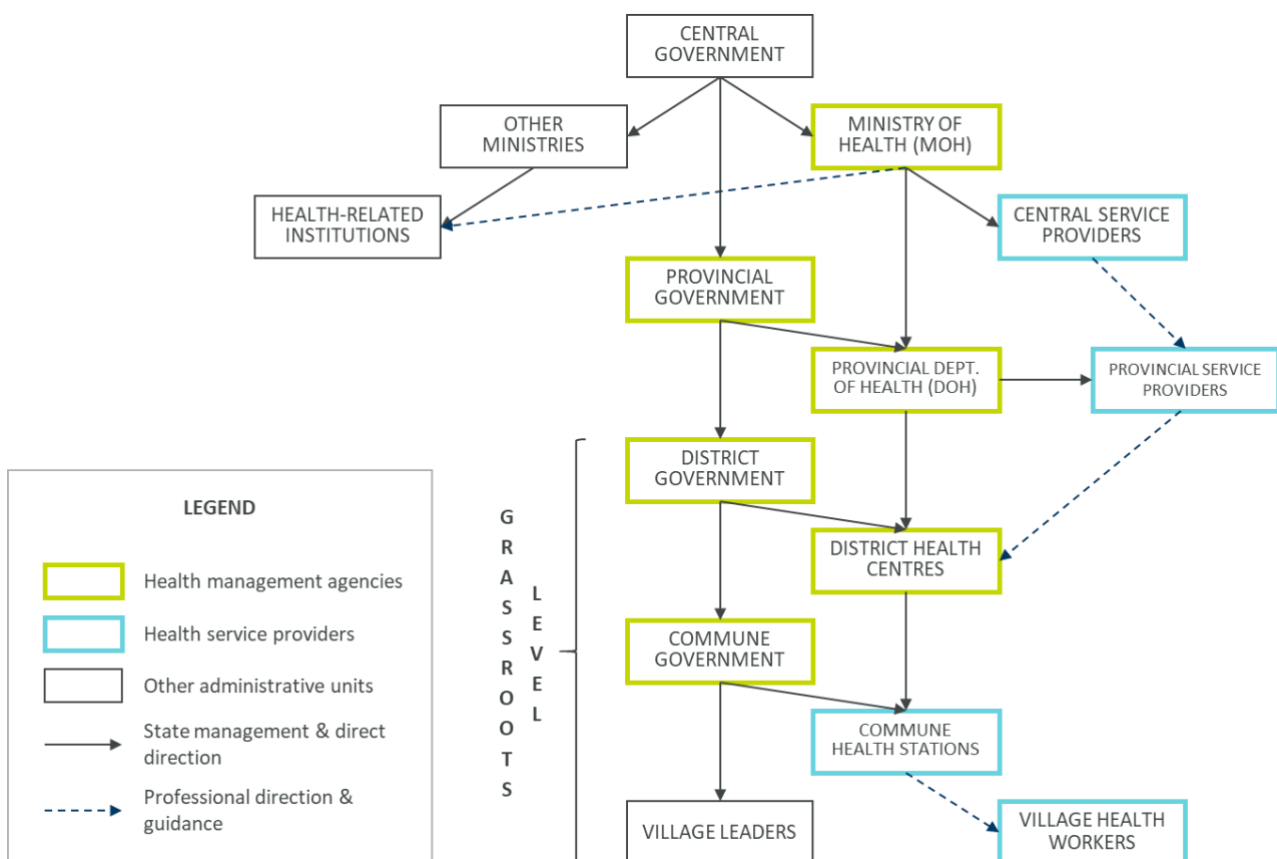
2. Key research findings

2.1 Domain 1: Health system governance

2.1.1 Sustainability

The Ministry of Health (MOH) is the government agency that performs the function of state management over all health-related policies and services. In Vietnam, the governance of health system is decentralised to increase accountability and cross-functional collaboration. While the MOH is responsible for developing health policies and technical guidelines and monitoring policy implementation; local authorities are responsible for the management of health-related activities in their provinces. Vietnam's health system is categorised into four levels equivalent to the state administrative management system – central, provincial, district and commune.

Figure 1: The relationship amongst state administrative units and health management agencies, adapted from (4)



The health policy-making process is usually top-down, decided at the central level and implemented across the system. The process begins with the MOH identifying and developing the policy agenda based on evidence generated with the participation of all related MOH departments, representatives from related ministries/sectors, and research institutes. The proposed policies will then be submitted to the Government or Social Affairs Committee of the National Assembly (NA) for approval. Approved policies will be implemented by the MOH and local authorities and monitored by relevant MOH departments or research institutes as well as the Social Affairs Committee of the NA.

This process has a few limitations:

- The monitoring and evaluation of past/existing policies is not done routinely but usually only before new policies are proposed, hindering timely course correction.
- Representatives from the public are not able to meaningfully participate in policy development. Prior to the submission of policies, drafts are made available to the public for feedback through the Government and MOH's web portals which are not used widely, or through meetings between NA members and their constituents (for draft laws only).
- Accountability is limited as health management agencies and health facilities are generally accountable only to higher authorities such as the central or local governments; they do not yet have an official feedback mechanism to account to the public, media, NGOs and other stakeholders.

Vietnam's unique political structure and traditions help ensure the continuity and stability of policies regardless of the political cycle, as the overall national socio-economic development strategy and plans are renewed every 5-10 years and inform each sector's long-term policy direction. The development of new policies must be based on the evaluation of the previous policies has been completed, to identify successes, constraints and lessons learned.

2.1.2 Resilience

Disaster-preparedness

As one of the first countries in the world to eliminate SARS in 2003, Vietnam gained invaluable epidemic response experience and applied it effectively in 2020 to fight COVID-19. Before COVID-19, Vietnam had already increased investments into its public health infrastructure, including establishing a national public health emergency operations centre (PHEOC), a national public health surveillance system, and four regional emergency operations centres, contributing to its success of managing the spread of previous infectious disease threats such as Ebola, MERS and Zika. The health sector has set up provincial Centers for Disease Control (CDC) for all provinces, while reforms at the central-level CDC are being discussed.

The Law on Prevention and Control of Infectious Diseases was adopted in 2008 to enhance the leadership, regulate different stakeholders' responsibilities, and stipulate plans and protocols when an infectious disease outbreak is underway. Using this existing legal framework, the National Steering Committee for COVID-19 was quickly established in the early stage of COVID-19¹, headed by a Deputy Prime Minister and MOH leaders, joined by representatives of all relevant ministries. Four sub-committees were also established² to take responsibility for different areas of pandemic control, including treatment, communication, logistics, and supervision.

Vietnam's success in containing COVID-19 could partly be attributed to its established surveillance system of infectious diseases, from the central to commune levels. As outlined in a 2015 circular that provides guidance on the reporting of infectious diseases and epidemics³, data must be collected and processed by public and private health facilities across all levels of the health system. All confirmed cases must be entered into a central database within 24 hours, ensuring that the MOH can promptly track epidemiological developments across the country. The National Event-Based Surveillance Guidelines were issued in 2018, introducing event-based surveillance at the community level which empowers all members of the public to report public health events.⁴

¹ Decision No. 170/QĐ-TTg dated 30 January 2020.

² Decision No. 80/QĐ-BCDQG dated 07 February 2020.

³ Circular No. 54/2015/TT-BYT dated 28 December 2015.

⁴ Decision No. 2018/QĐ-BYT dated 28 March 2018.

COVID-19 response

Past experience informed the Vietnamese Government to make swift and decisive decisions in response to COVID-19, including shutting its borders, limiting international flights and placing the country on a nationwide lockdown in the first wave. They also pioneered aggressive contact tracing, testing, quarantining of suspected cases, and hospital treatment of all positive cases regardless of severity, in order to let no potential cases fall through the cracks. A series of guidelines and recommendations on the prevention, diagnosis and treatment of COVID-19 was also released early on and continuously updated throughout the pandemic, ensuring a consistent and adaptable response depending on the situation.

Vietnam's political structure also allows for consistent and science-based public communication campaigns, which are vital in a public health crisis. In February 2020, the Ministry of Information and Communications issued a directive⁵ on strengthening information campaigns for the prevention and control of the coronavirus outbreak. Disease awareness messaging and calls to action were disseminated via a wide variety of channels, including mass media (TV, radio, newspaper), text messages, social media, and print materials in public spaces. During critical periods of the crisis, the Vietnamese Government communicated directly with the public via its official Facebook page and national TV channels, providing timely updates on the details of new cases, actions that the National Steering Committee for COVID-19 were taking, and safety precautions. The Government also took a hard stance against COVID-19-related fake news, issuing new decrees in April 2020 that stipulate that the deliberate creation and spreading of disinformation on social media could be punishable by fines.⁽⁵⁾

2.1.3 Summary of key findings

Table 1: Summary of key findings

	Key findings
Sustainability	<ul style="list-style-type: none"> ▪ Evidence-based policy making process, however there is limited room for public inputs and debate ▪ Strong, trusted and transparent leadership at the central level, especially after COVID-19 response success ▪ Health policy planning is independent from the political cycle with a clear strategic direction
Resilience	<ul style="list-style-type: none"> ▪ Robust disaster contingency plans and protocols, and established epidemiological surveillance and early warning systems ▪ Decision-making during COVID-19 is comprehensive, timely, and science-based ▪ Guidelines are developed and continuously updated ▪ Public health messages are effective and consistent

⁵ Directive No. 5/CT-BTTTT dated 02 February 2020.

2.1.4 Recommendations

- Recommendation 1a: Increase the transparency and people-centredness of the health policy making process by inviting civil society organisations to contribute at stakeholder meetings.
- Recommendation 1b: Strengthen policy implementation monitoring and create clear lines of accountability not just to the upper-level government agencies but also to the general public and other related stakeholders. Clarify roles and responsibilities of various stakeholders in health governance system by law.
- Recommendation 1c: Establish an independent committee to periodically audit and evaluate the government's response to each health crisis for timely course correction and better disaster-preparedness in the future.

2.2 Domain 2: Health system financing

2.2.1 Key trends and numbers

According to the latest data up to 2018 from the WHO Global Health Expenditure Database (Table 2), in Vietnam, the total current health expenditure (CHE) accounted for 5.9% of GDP which is relatively high compared to other countries in the region,(6) driven by a rapidly ageing population and increasing burden of NCDs.(7) The total CHE per capita in 2018 was 152 USD, from 2010 had increased at an average annual rate of 8.8%.

Table 2: Key indicators in health financing trend

Indicator	2010	2011	2012	2013	2014	2015	2016	2017	2018
Current Health Expenditure (CHE) as % GDP	6.0	5.9	6.3	6.3	5.8	5.7	5.7	5.9	5.9
CHE per capita (US\$)	79	90	109	120	117	118	124	140	152
General Government Health Expenditure (GGHE) as % of CHE	39.6	38.7	41.9	47.1	42.0	41.8	47.4	46.1	45.6
Out-of-pocket expenditure (OOP) as % of CHE	37.4	37.4	40.8	41.3	41.7	43.5	44.6	45.1	44.9

Source: The WHO Global Health Expenditure Database (GHED) (8)

In the last 10 years, there has been a significant increase in the share of GGHE in total CHE, accounting for 45.6% in 2018. In recent years, the government determined that the growth rate of funding allocation for healthcare should be higher than that of the overall state budget (National Assembly Resolution No. 18). In terms of OOP, Vietnam's latest proportion of 44.9% of CHE is a challenge to attaining both fiscal sustainability and universal health coverage. Health spending by voluntary health insurance is quite low at 4.1% in 2018.

In Vietnam, the total current health expenditure (CHE) is composed of six main sources: General Government Health Expenditure (GGHE) – government budget, Social Health Insurance (SHI), Household out-of-pocket payments (OOP), Official Development Assistant (ODA), voluntary health insurance, and other private health expenditure.

2.2.2 Sustainability

Sufficiency, stability and flexibility

In Vietnam, government budget and SHI are the two key public funding sources for the health sector. At all levels, the Budget Law regulates the health budget planning exercise, conducted by both the government and implementing units with both top-down and bottom-up approaches. Budgets are planned for on a yearly basis and go through a review process before funds are channelled directly to service providers via the MOH (for central hospitals and centrally affiliated agencies) or provincial health/finance departments (for public providers in the provinces). Budget estimates are projected from needs and proposed at the minimum level. In general, the approved budget is dependent on the local budget capacity, meaning that the higher revenue a province generates, the more of its expenses will be approved. However, the final approved budget tends to be less than the proposal of implementing units. To increase the accuracy and sufficiency of government budget allocation, initiatives have been launched, such as piloting a medium-term expenditure framework (MTEF) in the period of 2003-2011. However, up to now, budget planning is still the main mechanism to monitor the health sector's fiscal sustainability. Since 2000, the MOH has been using the National Health Account as an effective tool to track health spending over time as well as for projection purposes.

Regarding SHI, health insurance revenues are handled by an independent state social insurance agency in charge of premium collection, fund management and reimbursement to providers for services used by insured people. This centralised agency works with Vietnam Social Security (VSS)⁶ at the central level and social insurance organisations in 63 provinces. SHI has a mechanism to manage, reserve and reallocate the health insurance budget to ensure a balance of underspending and overspending across provinces. In recent years, the increase in SHI spending has been higher than the growth of its revenue collection, leading to SHI funds continuously in deficits since 2016. Some mechanisms and initiatives have been rolled out to help address this issue and increase fiscal sustainability, for example, global budget with a hard cap for SHI expenditure in each province, IT applications for SHI claims review, reimbursement policy revisions to curb the indication of high-cost medicines, centralised tender, price negotiation, etc.

The key impact factor is the dependency of all healthcare system on government expenditure while the growth of government budget for health is not in parallel with unmet healthcare needs of the people. To help relax the government budget and reform public health financing, since the early 2000s, an autonomy policy with four varied degrees has been applied to public service providers. In 2019, full autonomy was granted on a trial basis for the "super four" central hospitals in Hanoi and Ho Chi Minh City.⁷ The move aimed to encourage proactiveness, creativity and effective use of the hospitals' resources to raise the capacity and quality of medical examinations, treatment and healthcare for people.⁽⁹⁾ However, as providers gain greater financial autonomy and may be exposed to higher financial risk, changes are also needed to strengthen monitoring and accountability. There are currently no mechanisms for bailing out public providers that run into deficits. They are now also allowed to maximise their revenues by attracting more patients with more healthcare services. This has shifted the patient flow from district hospitals to tertiary hospitals and led to a new competition within the public sector. Hospital autonomy policy is therefore a potential factor inducing higher OOP spending despite the Government's steady efforts in expanding social health insurance coverage. On the other hand, it raises concerns that it could fuel other issues such as overcrowding of tertiary hospitals while primary care facilities are underutilised, potential oversupply of expensive treatments and tests, and reduced access to quality care at affordable prices for disadvantaged groups.⁽¹⁰⁾

Coverage and fair financing

According to the Minister of Health, 90.85% of Vietnam's population have been covered by SHI in 2020. The government's goal is to pursue universal health coverage, with the next target being 95% by 2025.⁸ The remaining population not covered by SHI are mostly people from the informal sector and in rural areas which

⁶ Vietnam Social Security (VSS) is a Government-attached agency responsible for the implementation of unemployment, social and health insurance policies.

⁷ Decision No. 33/NQ-CP dated 19 May 2019.

⁸ Resolution No.20/NQ-TW on strengthening healthcare and protection for the people, dated 25 October 2017.

are the most challenging to expand coverage to. Members of SHI are entitled to a benefit package which predominantly focuses on curative services while preventive and promotive care for the whole population (both SHI and non-SHI members) are subsidised by the Government through the state budget. Benefit packages are fairly comprehensive, covering most medical services delivered mainly by public health care providers, though there is increasing demand to improve them to be more cost-effective and appropriate with the country's stated policy objectives.

With regards to the co-payment policy, three different levels of co-payment rate (0%, 5% and 20%) are applied to different population groups to address health equities. The 20% rate is for employees and employers, 5% for pensioners and near-poverty patients, while the remaining groups including people in poverty, children under six, ethnic minorities, etc. are not subject to co-payments.

However, despite many efforts to increase public financing, Vietnamese households' OOP payments still account for almost half of CHE in 2018 and have seen a rising trend in the last 10 years (Table 2.1). Several factors are in play, including but are not limited to:

- Health insurance members still have to pay OOP for drugs, medical supplies and technical services that are not on the Reimbursement Drug List (RDL) which needs more frequent revisions, or for services delivered under public-private joint ventures in public hospitals.
- The cost of treatments increases at higher levels of the health service delivery system and patients are required to increase their co-payment when they bypass primary health facilities, which is an issue discussed in Domain 5.
- Prices of medicines and medical supplies are not well regulated.
- Irrational use of drugs and medical procedures including overprescribing of drugs and overutilisation of high-tech services.

Paying providers

The revised Health Insurance Law⁹ in 2014 allows for three provider payment methods: capitation, fee-for-service and diagnosis-related group (DRG) payment. Currently, providers receive a combination of budget funding and other payments from VSS and directly from patients, of which fee-for-service has been the dominant mechanism since 1995 with the associated risks of cost escalation and fragmentation of service delivery. The MOH is implementing a provider payment mechanism reform consisting of capitation payment for out-patient care and DRG for in-patient care to increase its effectiveness, however with a lot of challenges. Previously, efforts to pilot capitation payment, most recently in 2014 in four provinces¹⁰ – Bac Ninh, Ninh Binh, Thua Thien – Hue and Khanh Hoa – were reported to be unsuccessful with overspending a common problem. DRG payment is being trialled on a small scale but facing governance and technical difficulties due to various stakeholders' lack of determination and agreement.

2.2.3 Resilience

In Vietnam, preventive care activities in general and communicable disease control in particular are financially assured by the state budget. Contingency budget, financial reserve and national reserve are additional funding streams available to the health system to support crisis response and management. Under the Budget Law,

⁹ Health Insurance Law No. 46/2014/QH-13.

¹⁰ Decision No. 5380/QĐ-BYT dated 30 December 2013.

the reserve budget is deployed to overcome the urgent consequences of natural and health disasters where funding is not allocated sufficiently in budget estimates.

During COVID-19, the Vietnamese Government has increased the budget for the health sector as well as other sectors important to controlling the pandemic. All expenditure related to COVID-19 is subsidised by public finances. The state budget covers treatment, contact tracing and institutional quarantine of all suspected cases, as well as the supply of drugs, materials, consumables, and biologicals for testing, while health insurance funds cover the testing and treatment of other diseases. The government has also issued a policy that offers special allowances for health staff and other workers who formally contribute to COVID-19 prevention and control.¹¹

2.2.4 Summary of key findings

Table 3: Summary of key findings

	Key findings
Sustainability	<ul style="list-style-type: none"> ▪ Healthcare spending is mainly financed by state budget and SHI, though prioritised by the government, is not increasing as fast as the population’s growing healthcare needs leading to deficits. ▪ Hospital autonomy policy is being implemented to reform public financing and increase service quality, however there are currently no mechanisms for bailing out public providers that struggle with overspending. ▪ SHI coverage is expanding, and fair financing policies are implemented, however OOP expenditure remains high. ▪ Fee-for-service is the dominant provider payment method with issues such as cost escalation and fragmentation of service delivery.
Resilience	<ul style="list-style-type: none"> ▪ Adequate funding was provided by the state budget to subsidise all COVID-19 related expenditure, through the deployment of reserve budgets used for crisis response and management.

2.2.5 Recommendations

- Recommendation 2a: Further increase the share of public financing in total health spending by advocating for higher priority to be given to the health sector in government budget allocation, including at provincial levels as more and more national target programmes are having to be financed from local budget. At the same time, the government should generate additional healthcare funds from tax on tobacco and alcohol.
- Recommendation 2b: Revise SHI law and benefit packages to address constraints and difficulties in expanding SHI coverage to the informal sector.
- Recommendation 2c: Improve the implementation of public hospital autonomy policies with more emphasis on monitoring and accountability measures.
- Recommendation 2d: Accelerate provider payment reform to deploy DRG payment for in-patient services and capitation payment for primary care and out-patient care.
- Recommendation 2e: Better regulate medicine prices and strengthen public procurement process for medicines and medical equipment.

¹¹ Resolution No. 37/NQ-CP dated 29 March 2020.

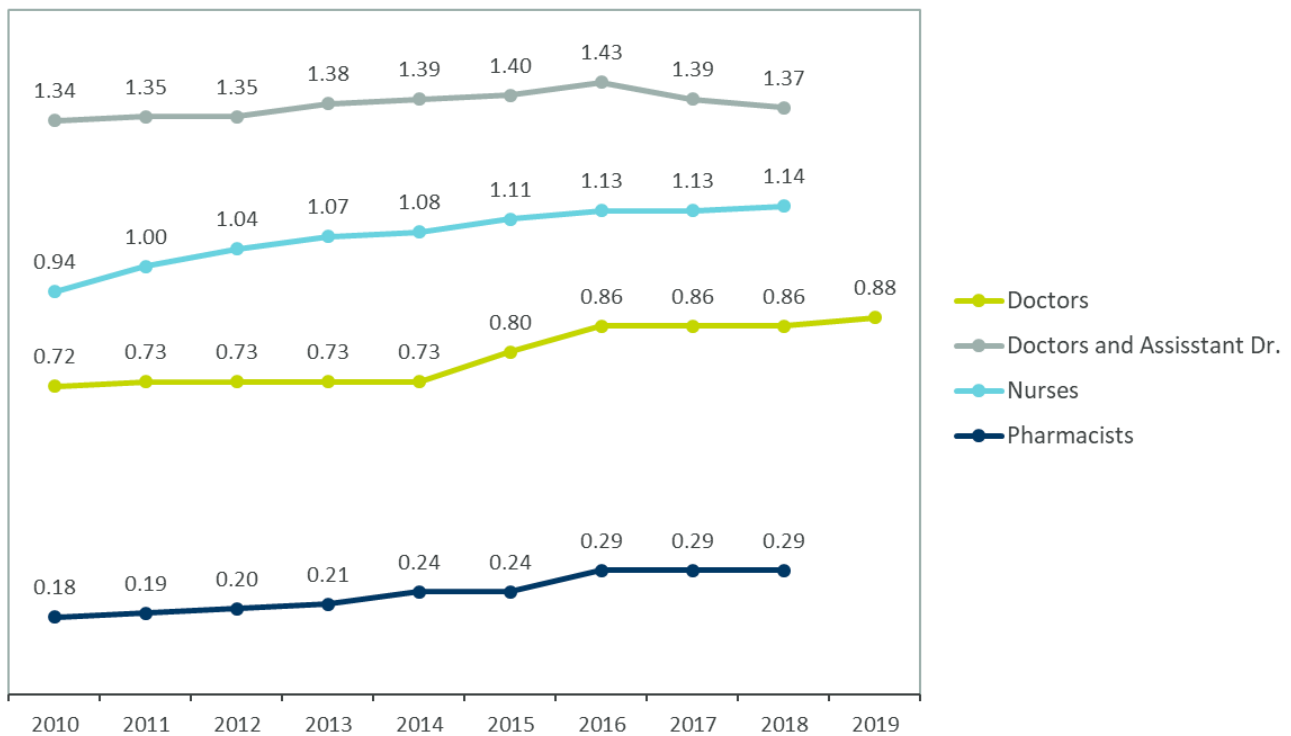
2.3 Domain 3: Workforce

2.3.1 Workforce numbers

Vietnam's Master Plan for Health Workforce Development for the duration of 2012-2020, with a vision towards 2030¹² set out comprehensive measures focusing on: (i) increasing health workforce both in number, distribution, and quality; (ii) improving training and education programs; (iii) capacity building in human resources management; (iv) staff retention in rural and disadvantaged areas.

According to the latest data available from 2019, the size of Vietnam's healthcare workforce has slightly increased over the last 10 years. For example, the number of pharmacists per 1,000 population grew from 0.21 to 0.29, and doctors from 0.73 to 0.88 (Figure 2). The specific targets outlined in the Master Plan that by 2020 Vietnam should have 1 doctor, 0.25 pharmacist and 2 nurses per 1,000 population, thus, have not been reached.

Figure 2: Vietnam's health workforce per 1,000 population, 2010-2019



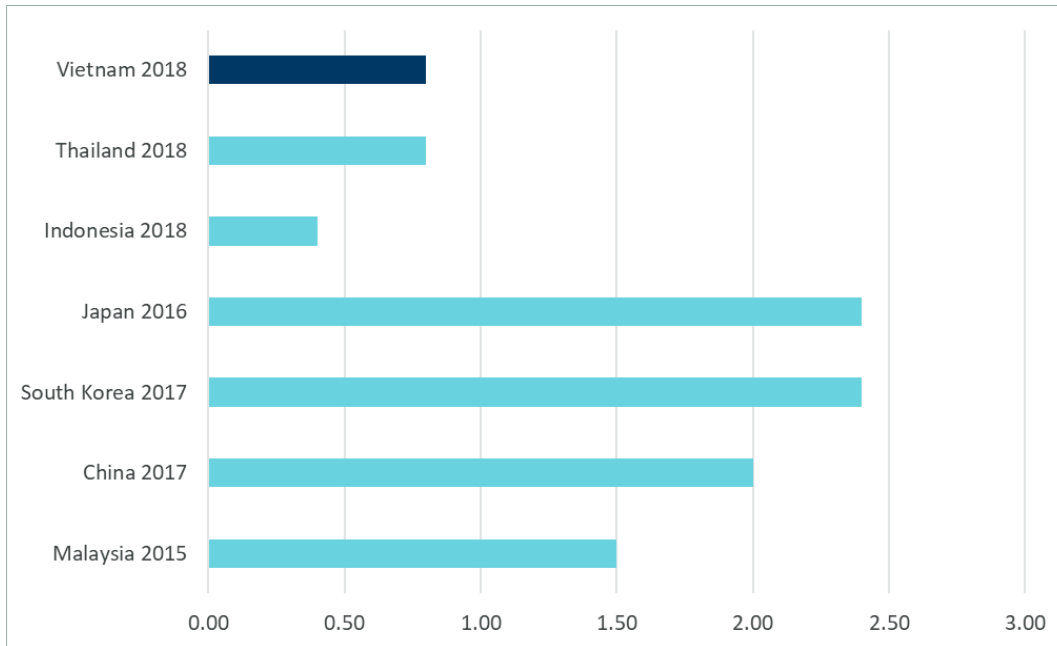
Sources: General Statistics Office, 2019 (11); Health statistics yearbook, MOH, 2018 (12)

The Master Plan will soon be renewed to cover the next 10-year period, and other action programmes for health workforce development are in development, such as the new medical training program for rural areas for the period of 2021 – 2030 as well as other retention policies for rural areas and grassroots level.

Compared to other Asian countries with a similar level of economic development, the density of doctors in Vietnam in 2018 was higher than that of Indonesia and Thailand, but much lower than in Japan, South Korea, China and Malaysia (Figure 3).

¹² Decision No. 816/QĐ-BYT dated 16 March 2012.

Figure 3: Physicians per 1,000 population in Vietnam compared to other Asian countries



Sources: World Bank, 2020 (13); Vietnam General Statistics Office, 2019; Health statistics yearbook, MOH, 2018

2.3.2 Sustainability

Benefits and working environment

The basic salary of healthcare personnel is about equal to the basic salary of other sectors, at \$163/month (3,873,000 VND/month) but is widely seen as insufficient due to the demanding nature of the healthcare industry.(14) Depending on the professional field and payment policy of different health facilities, the total income of health staff may be 20-50% higher than the basic salary thanks to additional allowances, according to estimations.

The majority of practising doctors, nurses and other health professionals currently work in the public sector (77%) while the rest in the private sector (23%).(15) The private sector is growing and gradually attracting more qualified health staff due to its promise of better pay and benefits, and the government's encouragement of public-private partnerships to reduce the overburden on public health system. Some hospitals have on average only 1.3 to 2 nurses per doctor, with each nurse caring for 10-15 beds, which is significantly lower than the minimum staffing level and poses great risks to the safety of both health workers and patients.(16)

Training and distribution of health staff

The World Health Organisation in 2014 recorded that there were 36 universities, 40 colleges and 81 vocational schools that are certified and managed by the Ministry of Education and Training (MOET) to train healthcare professionals. The most common issues include inadequate investment, overcrowding of students, outdated curricula with limited practice opportunities, and shortage of qualified instructors.(17) Recently, medical education reforms have been introduced in which training curricula for doctors and nurses/midwives are shifted to competency-based, though at early stages. The private medical school system is booming in recent years which contributes to the health workforce development; however, a quality assurance accreditation programme for these medical schools has not been formed and can pose a challenge to MOET's management efforts.

Imbalanced geographic distribution of the healthcare workforce has also been a long-term issue that needs to be addressed. Because health facilities in major cities tend to receive more investment on infrastructure and

equipment, they offer better working conditions and opportunities for professional development. As a result, many medical personnel have moved from rural to urban areas, resulting in a lack of qualified workforce at the grassroots level providing primary care. Amongst medical doctors working in the public sector, 20.8% of them are working at commune health stations, 30.1% at district health facilities, 44.9% at the provincial level, and 4.2% at the central level.(18)

The Vietnamese government recognises the development of health workforce at the grassroots level as a priority, in order to increase the health system's sustainability and resilience through better primary care and disease prevention. Several policies have been implemented, such as special medical training programmes and special allowances for health staff in rural/remote areas, fixed-term rotation of health staff at district and commune levels¹³, and task-shifting between professional groups. Since 2013 under the MOH's pilot Project 585¹⁴, 354 young doctors in various fields have been trained, of which 151 have volunteered to work in 51 poor districts around the country while the rest are still completing their training before moving to assigned areas. And in 2019, the health sector launched a training course wherein doctors and nurses from central hospitals in Hanoi and Ho Chi Minh City are rotated to support their colleagues at grassroots clinics.(19) As a result, in 2020, 90% of commune health stations have had a doctor; 95% of them have an obstetrician or midwife; 99.7% communes have active health workers.(20)

Other key indicators

Long-term care is increasingly important in Vietnam as the population is aging rapidly and there is a growing prevalence of NCDs. However, the long-term care policy framework has not been clearly defined and the long-term care workforce has not been formally recognised.

A lot of data such as of vacancy rates, inflow/outflow of health staff, staff turnover rates and satisfaction of workers, are either not included in the indicators of the human resources management reporting system or not routinely collected. It is thus challenging to accurately assess the movement and wellbeing of healthcare professionals. The national health information system as well as the national health workforce database should be reformed to address these inadequacies. The insights it provides will help to better plan and allocate human resources under different circumstances including public health crises. Such information will also help in developing human resources plans for different types of health workers.

2.3.3 Resilience

Aware of the risk that Vietnam's health system could be pushed to a breaking point if COVID-19 wasn't contained early on, the Vietnamese government swiftly followed the emergency plan and mobilised the whole society to fight the pandemic. Despite the heavy workload in several hospitals and provinces at the beginning of the outbreak, Vietnam did not face a major problem with shortage of health staff for the following reasons:

- COVID-19 patients were detected early and only appeared in some provinces. The pandemic had relatively been controlled by April 2020 and mostly did not spread in the community, except in July-August 2020, and January-February 2021.
- Standing teams with the leadership of ministry-level leaders and central-level healthcare professionals were established quickly in the locations of each new outbreak, in order to focus the support for those affected localities.
- Workers from other sectors and social organisations such as the police, local government staff and community volunteers, were enlisted in activities to control the transmission of COVID-19 in the

¹³ Decision No. 14/2013/QĐ-TTg dated 10 January 2013

¹⁴ Decision No. 585/QĐ-BYT dated 20 February 2013

community, such as contact tracing and managing central quarantine facilities in their areas. Army camps have been used as central quarantine locations across the country, all managed by soldiers. Final-year medical and nursing students have also been mobilised to assist doctors and nurses in case of wider community transmission of COVID-19.

- Strict safety protocols to prevent cross-infection in healthcare facilities were quickly issued and implemented to protect staff. At the time of writing, only 36 health workers have been reported to have been infected with COVID-19, none of them severe cases.
- Medical teams working in COVID-19 areas are part of a routine rotation programme wherein rest period at hotels is allocated to reduce their physical and mental stress. However, further data on health workers' wellbeing during COVID-19 are not available.
- Telemedicine has also been established and used frequently so that local health staff can receive the guidance and support from MOH leaders and central-level experts to treat more difficult cases.

2.3.4 Summary of key findings

Table 4: Summary of key findings

	Key findings
Sustainability	<ul style="list-style-type: none"> ▪ Long-term health workforce development plan is enforced and renewed on a 10-year basis. ▪ Shortage of qualified health staff, especially at the grassroots level, is a persistent issue affecting the provision of primary healthcare and health system sustainability. ▪ Health staff in the public sector, at central and provincial levels, are offered limited wage while working long hours in overcrowded facilities. ▪ Workforce development schemes to increase staff at the grassroots level are being implemented to address the uneven geographic distribution of human resources.
Resilience	<ul style="list-style-type: none"> ▪ Workers from other sectors are mobilised to support healthcare professionals during COVID-19. ▪ Safety protocols are in place and enforced early on to protect health staff. ▪ National efforts are made to ensure the physical and mental wellbeing of the health workforce.

2.3.5 Recommendations

- Recommendation 3a: Improve the benefits and working environment for health workers, especially at the grassroots level, to sustainably increase the size of the health workforce. The number and quality of public health workers such as epidemiologists, microbiologists, lab specialists, etc. should also be ensured for resilience against future crises.
- Recommendation 3b: Develop a long-term care workforce plan to support the rapidly aging and burdened by NCDs population.
- Recommendation 3c: The MOH and local governments to effectively develop a plan for the allocation and utilisation of a limited health workforce based on the actual requirements of service delivery at each level and in each region.
- Recommendation 3d: Build a comprehensive and regularly updated national health information system and healthcare workforce database to provide timely and accurate insights on the availability and distribution of healthcare professionals.

2.4 Domain 4: Medicines and technology

2.4.1 Sustainability

Adoption of health technologies

The Drug Administration of Vietnam (DAV) is the MOH department responsible for a variety of tasks, namely the establishment of drug policies, drug registration, clinical trials, management of pharmaceutical businesses and pharmacy practice, drug quality, drug advertising, pharmacovigilance, drug prices and tendering process.(21)

Due to the DAV's heavy administrative workload and impact by COVID-19, there has been unnecessary delays in the drug registration process, possibly affecting patients' access to new treatments. The Vietnam Pharmaceutical Companies Association (VNPCA) highlighted in June 2020 the pressing challenges pharmaceuticals had been facing, which included delays in the issuance of certificates of a pharmaceutical product (CPP), maintaining the registration's validity, renewing the registration number.(22) The DAV recognised these issues and provided solutions to assuage concerns. In order to speed up these processes, circulars designed to implement provisions outlined in the Law on Pharmacy have introduced electronic submission, shorter review times, fast-track approval, clinical trial waivers, and the establishment of the Advisory Council on Drug Registration. However, it will take some time for these reforms to have a significant impact.(23) They will play a critical role in ensuring both the sustainability and resilience of the health system, especially during times of crisis and supply chain disruptions.

In February 2020, Vietnam was amongst the first Asian countries to conditionally authorise COVID-19 Vaccine AstraZeneca for emergency use in the country based on a rolling submission of data, demonstrating that Vietnam can make swift yet science-based decisions to adopt new treatments and protect public health during crisis times.

Evaluation of cost-effectiveness and Reimbursement Drug List (RDL)

According to the Minister of Health, 90.85% of Vietnam's population have been covered by Social Health Insurance (SHI) in 2020. The government's goal is to pursue universal health coverage, with the next target being 95% by 2025.(24) The scope of the current health insurance benefits is quite comprehensive, including all emergency services, medical care (inpatient and outpatient), medicines and medical supplies. The benefit package of SHI is quite generous including modern and costly technical services and therapeutic services such as kidney replacement, organ transplantation, treatment of invasive cardiovascular diseases, computerised tomography and magnetic resonance imaging and 81 different drugs for cancer. This generosity can be seen as a threat to fiscal sustainability, thus Health Insurance Law revisions are being proposed to modify not only the scope of benefit package but also its process of development. However, to ensure patient access to these innovative and sometimes high-cost medicines and technologies without overburdening the government budget, a mechanism can be introduced to provide further referencing and assessment of new healthcare solutions.

There are four key criteria used to consider whether to list in or out medicines, which include safety, clinical effectiveness, budget impact, and cost-effectiveness. However, since the development of Health Technology Assessment (HTA) in Vietnam is still at the early stage, only a limited number of products can provide cost-effectiveness and budget impact analysis reports to meet those criteria. Guidelines on the methodology and process of HTA implementation in Vietnam have been developed but not yet adopted for formal use. The infrastructure for HTA development is quite poor due to a weak health information system, leading to difficulties in generating local cost-effectiveness evidence.

For some time in the past, the Reimbursement Drug List (RDL) – list of medicines and medical supplies to be covered by health insurance – was established mainly based on the recommendations of healthcare

professionals, rather than cost-effectiveness evidence. In recent years, significant efforts have been made to work towards an evidence-based assessment and adoption of new medicines or de-adoption of low-value/obsolete medicines and technologies. The latest updated list of medicines for SHI reimbursement showed significant progress in developing the RDL, following the MOH's Decision 5315 in 2018 defining the criteria and processes for listing-in or listing-out a medicine. Revisions are anticipated to be made on a more frequent basis in the future and informed by HTA.

Research and development (R&D)

In general, the supply of medicine in Vietnam is largely dependent on importation, for both raw materials and finished products. Thus, the health system is quite vulnerable to supply chain shocks during crises. Spending on R&D is quite low. A survey of domestic pharmaceutical companies in Vietnam, conducted by the Health Strategy and Policy Institute – MOH in 2020, indicated that 61% of enterprises spent less than 5% of their revenues on R&D. The number of applications for pharmaceutical patents accounts for only a small percentage of the total number of applications, with most filed by multinational companies. Leading pharmaceutical patent registration companies in Vietnam are well-known pharmaceuticals that specialise in prescription drugs for NCDs such as cardiovascular diseases, diabetes, hypertension.

However, during COVID-19, Vietnamese companies have demonstrated great innovation to aid the country in its fight against the pandemic. Four domestic companies have entered the global race to develop COVID-19 vaccines, amongst which Nanogen Pharmaceutical Biotechnology's Nanocovax has proceeded to human trials. Two other COVID-19 vaccine candidates are expected to also conduct clinical trials soon.(25) During the first COVID-19 outbreak in Vietnam when the country faced a serious shortage of medical devices, Vingroup – a domestic conglomerate – took advantage of their car manufacturing infrastructure to produce first ever “made in Vietnam” ventilators and donated 3,200 of those to the MOH.(26)

2.4.2 Resilience

Digital health and health information technology

The Vietnamese government recognises the importance of digitising the health system and leveraging the use of digital technology to improve healthcare services, which has been underway since pre-COVID-19. However, the pandemic has presented an urgent need to accelerate the digital transformation of healthcare to ensure that patients' access to treatments is uninterrupted and increase the system's capacity and resilience. While all the recent initiatives on digitalisation are remarkable, Vietnam lacks a comprehensive and overcharging national strategy for e-Health which creates an abundance of duplicated and/or fragmented health information systems. There are also difficulties in hiring and training health staff to reliably implement sophisticated IT software.(27)

Of particular interest to the MOH is enhancing telemedicine services during COVID-19 where many patients are reluctant or unable to visit health facilities because of coronavirus infection concerns. Telemedicine services have been used at 1,500 health facilities in Vietnam. The Health Insurance Department of the MOH is tasked with working with Vietnam Social Security and related agencies to develop a legal framework for telemedicine and teleconsultation services to be covered by SHI funds. Vietnam's high smartphone use rate aids the implementation of these services, though its ability to be widely adopted still hinges on its inclusion in the SHI reimbursement policy. Other notable digital health initiatives during COVID-19 include the electronic medical declaration and Bluezone mobile app for contact tracing.

Against this backdrop, the Public Health Portal has been launched and a variety of information such as prices of drugs, medical equipment, examination and treatment has now been made publicly available to improve transparency. The MOH also recently announced the results from three major digitisation initiatives (28):

- The “Vietnam healthcare network” – an internal MOH network system – has connected more than 500,000 healthcare professionals across the country and fostered knowledge and skills exchange
- 98 million digital personal health records were created by the MOH and VSS in preparation for the nationwide implementation of electronic medical records (EMRs)
- “V20” – an integrated health information system for grassroots health facilities – will be deployed by 10,600 commune health centres to increase their operational efficiency

Security of supply

According to the 2012 National Reserve Law, national reserves consist of supplies, equipment, and goods under state management, which are used to proactively prevent, control, and overcome the consequences of disasters, fires, and epidemics, as well as financing national defence and public security activities. Based on the annual state budget estimates, the Ministry of Finance allocates funding to the responsible ministries, and the Prime Minister is authorised to decide on the release of national reserves following the provisions of the law. Of these reserved goods, the MOH is assigned to manage essential medicines for epidemic prevention and control, and chemicals for disinfection and decontamination of water.

Vaccines for emergency use and personal protective equipment (PPE) have not been included in the national reserve list – a serious shortcoming that needs to be addressed as it affects health system resilience. The country experienced a shortage of PPE during the first COVID-19 outbreak but was quickly addressed by increased domestic production. The fact that funds to procure vaccines are not already accounted for requires the government to quickly build public-private partnerships and alternative agreements. Vietnam also joined the WHO-led COVAX scheme, through which 30 million COVID-19 vaccine doses will be delivered to the country in 2021.(29)

In 2020, Vietnam as Chair of ASEAN led joint efforts of the bloc to deal with COVID-19. They set up the ASEAN COVID-19 Response Fund, Strategic Framework for Emergency Public Health Response, the Regional Reserve of Medical Supplies, and the Centre for Public Health Emergencies and Emerging Diseases. Vietnam has proposed to establish an ASEAN initiative on collective purchasing agreements for essential supplies. Whether these initiatives were successful has not been assessed.

2.4.3 Summary of key findings

Table 5: Summary of key findings

	Key findings
Sustainability	<ul style="list-style-type: none"> ▪ Drug registration process is facing unnecessary delays, possibly affecting patients’ access to new treatments. ▪ Significant efforts have been made to work towards an evidence-based assessment and adoption of new medicines or de-adoption of low-value/obsolete medicines and technologies. HTA is still in the early stage. ▪ Digitisation has been implemented with positive results, but initiatives remain fragmented. ▪ Supply of medicine is dependent on importation, vulnerable to supply chain disruptions.
Resilience	<ul style="list-style-type: none"> ▪ Digital transformation was accelerated during COVID-19. ▪ Public-private partnerships helped mobilise resources quickly to meet urgent demands in response to COVID-19. Domestic companies demonstrated R&D and innovation in COVID-19 vaccine and medical device production.

- Vietnam as ASEAN Chair in 2020 initiated programmes to support the bloc in dealing with COVID-19.

2.4.4 Recommendations

- Recommendation 4a: Further simplify the drug registration process and regularly update the RDL based on a transparent and participatory process using HTA.
- Recommendation 4b: Build an overarching national e-Health strategy that regulates and ensures the inter-operability of existing fragmented IT systems and databases.
- Recommendation 4c: Increase government budget for R&D in the health sector and encourage new drug development with the application of innovative technology in domestic drug manufacturing. Incentivise pharmaceutical companies to invest in new drug R&D activities – following international standards.
- Recommendation 4d: Revise the national reserve list to include vaccines and PPE for emergency use.

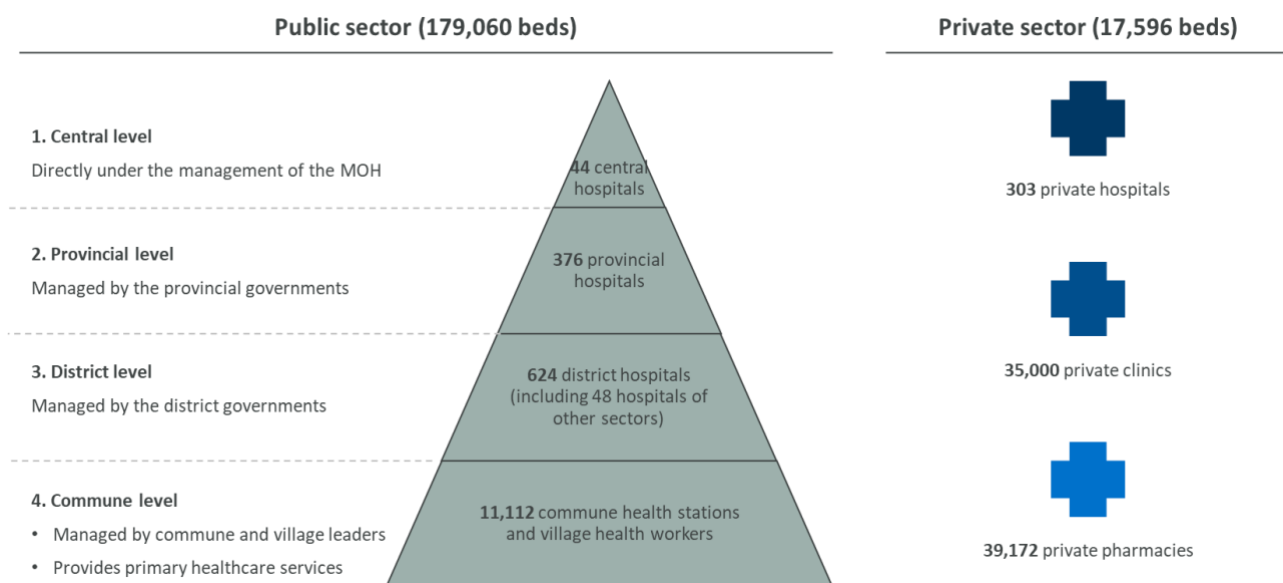
2.5 Domain 5: Service delivery

2.5.1 Sustainability

Model of care

The health service delivery network in Vietnam includes both public and private sectors with the public sector playing a more substantial role, providing services to 83.4% of total inpatients and 72.1% of total outpatients.(30) Public health facilities are currently linked to the state administrative management system: central, provincial, district and commune levels, with the latter two making up the grassroots healthcare network. The private sector is growing fast, driven by the increasing number of people in urban areas willing to pay for more rapid treatment in modern facilities. The government has also been encouraging public-private hospital partnerships to ensure adequate service provision to match the rising healthcare needs.

Figure 4: Health service delivery model in Vietnam



Sources: Health statistics yearbook, MOH, 2018; Medical Services Administration, MOH, 2021

Hospital care quality

With an aim to encourage hospitals to innovate and improve the safety, quality and efficiency of their service provision, in 2016, the MOH issued a set of 83 criteria to measure hospital quality.¹⁵ These criteria serve as a guide for hospitals to self-assess their service quality and make timely interventions for improvement, and also as a tool for the Medical Services Administration (MSA) – an MOH department – to monitor progress and rate/rank the hospitals. According to the draft Law on Examination and Treatment, the MOH is proposing that hospital quality will be used as a criterium to determine the prices of medical services. This monitoring system will create a financial incentive for hospitals to make improvements and attract more patients. Grassroots health facilities across the country use a separate set of national criteria to gauge their service quality,¹⁶ however no similar financial incentive mechanism is applied to them.

Bed occupancy rates in Vietnam are high, often close to 100% especially at the central and provincial hospitals, leading to their severe overcrowding and reflecting the highly hospital-centred nature of the system. Even though 80% of insured people have registered for primary care at grassroots facilities, according to VSS, they have yet to play the gatekeeper role because the government allows inpatients to freely self-refer to any other health facilities. Many patients have to opt for hospital care because of the limited staff and range of services provided at the primary care level, or oftentimes limited medicine supply or short duration of prescription period. The average length of hospital stay per inpatient in Vietnam has decreased from 7.3 days in 2010 to 6.1 days in 2018.⁽³¹⁾ Data on readmission rates are not available in Vietnam.

Though hospital quality continues to be hotly debated in the media, patients' satisfaction of public healthcare has increased over time. The average patient satisfaction index (PSI) in 2018 improved slightly to 4.04/5, or 80.8% of their expectation, compared to 3.98/5 and 79.6% in 2017.⁽³²⁾ The 2019 Provincial Governance and Public Administration Performance Index (PAPI) showed that the bribe-taking issue at district public hospitals has reduced significantly – from 9% of participants reported having to bribe medical staff to get better care in 2017, to 0.4% in 2018.⁽³³⁾ PAPI also indicated that while reports of bribery were slightly lower in private hospitals, there was little difference between central, provincial and district hospitals. Similarly, in terms of satisfaction with service, it was once again slightly higher in private hospitals, with no difference between the three levels.

In order to reduce overcrowding at tertiary hospitals, besides strengthening grassroots health facilities, the MOH is also expanding the satellite hospitals initiative wherein lower-level hospitals receive technology and skills transfer from the upper-level to reduce overcrowding in major public facilities.¹⁷ As of September 2019, 138 satellite hospitals have been established. The rate of patients transferred to central hospitals for treatment has reduced in 85% of satellite hospitals.⁽³⁴⁾

Strengthening grassroots healthcare provision

As Vietnam has a fast aging population and non-communicable diseases (NCDs) which account for 77% of all deaths,⁽³⁵⁾ the government recognises that enhancing disease awareness, early detection and prevention through primary healthcare is key to building a sustainable health system. The government has implemented reforms to shift healthcare from hospital-based to primary healthcare, disease prevention and health promotion. The grassroots healthcare network plays a vital role as more than 65% of Vietnam's population live in sub-urban and rural areas. Since 2016, these facilities have been upgraded to share the responsibility of managing and treating NCDs locally.¹⁸ Changes include investment in district health centres and commune health stations, staff rotation to strengthen capacity for district health workers, and adding preventive services

¹⁵ Decision no. 6858/QĐ-BYT dated November 2016.

¹⁶ Decision no. 4667/QĐ-BYT dated November 2014.

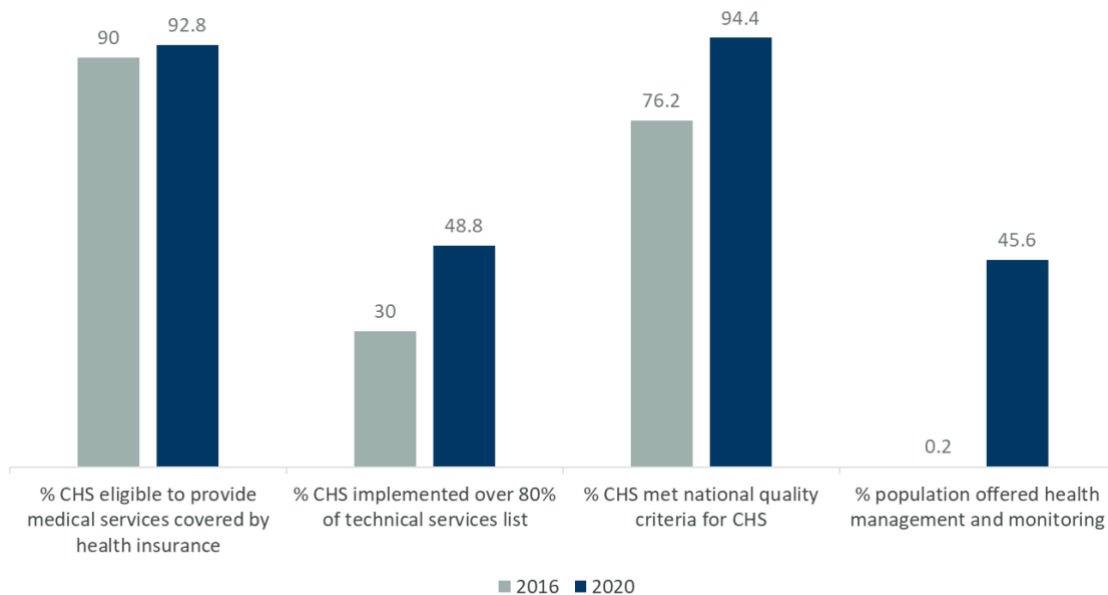
¹⁷ Decision no. 92/QĐ-TTG dated 09 January 2013.

¹⁸ Decision no. 2348/QĐ-TTg dated December 2016.

to the scope of services covered by health insurance. The family medicine model is being introduced at commune health stations to ensure comprehensive care for the population. Funding, though still limited, has increased with an OAD of 110.6 million USD from Asia Development Bank, and 80 million USD loan from the World Bank.(36)

The MOH provided statistics in January 2021 that show impressive progress has been made in strengthening grassroots healthcare since the policy issuance five years ago (Figure 5). VSS reported in 2019 that 69.7% of insured patients used curative health services at district hospitals and commune health stations (CHS). However, the proportion of people using outpatient services at the CHS is seeing a downward trend, from 17.7% of the population in 2016 to 15.9% in 2018 because of the open-referral policy that allows people to freely seek healthcare at district or upper-level service providers. Grassroots facilities continue to face challenges in disadvantaged areas, and their contributions to personal health management, early screening for disease detection, and chronic disease management, are still limited. More funding, advanced equipment and skilled health staff are required for these grassroot facilities to gain people’s trust and become their first healthcare contact point.

Figure 5: Key indicators of grassroots healthcare strengthening programme, 2016-2020



Source: Ministry of Health, 2021 (37)

2.5.2 Resilience

COVID-19 inevitably impacted care for patients with chronic diseases in several ways (38):

- Public screening programmes such as part of the National Cancer Prevention and Control Programme were postponed.
- Patients have been less likely to visit health facilities out of fear of contracting the virus, while telemedicine services are new and need time for wider adoption.
- Shortage of essential medicines due to supply chain disruptions or administrative delays.

In response to these issues, the MOH demonstrated commendable resilience by swiftly implementing several measures to ensure both the safety of healthcare professionals and patients and the continuity of routine services:

- Frequently updated hospital safety criteria and guidance during COVID-19.(39)
- Guidelines for NCD management and treatment services during COVID-19, including increasing the regular drug prescription period from one month to three months to lessen the contact required to renew prescriptions.
- Recommendations for the elderly and people with chronic diseases on COVID-19 prevention and disease self-management.
- On-site medical examination and treatment services for patients at high risk or living in quarantine areas.
- Assigning NCD management strictly to the grassroots level; central hospitals to only admit patients with severe and critical conditions that exceed the professional capacity of the lower-level facilities.
- Increasing use of telemedicine services and online disease awareness programmes.
- Establishing supply chain systems for essential medicines with a central bidding policy.
- Functional health information management systems continuing to timely detect and inform response to the emergence of other infectious diseases such as dengue fever, measles, diphtheria, etc.

Early in the pandemic, the Vietnamese government had been aware of the health system's humble resources and prepared contingency plans in case domestic COVID-19 transmission gets out of hand. Several field hospitals with capacity of thousands or hundreds of beds were built in the last year, and intensive care units (ICU) have been reinforced with newly procured ventilators. Workers from other sectors or community volunteers have also been recruited to support the frontline healthcare workforce, as discussed in Domain 3.

Vietnam has experienced three COVID-19 outbreaks, with the third wave still ongoing since January 2021. Although the government has taken the right course of action to prevent and combat COVID-19 at the national level, local implementation and monitoring needs to be further strengthened to avoid oversights. Vietnam managed to keep most hospitals safe and covid-free, except two where community transmission has occurred due to the lack of continuous and serious adherence to the MOH's safety guidelines. Only 36 health staff have been reported to have contracted the virus (and all have recovered), putting Vietnam amongst the countries with the least health workers infected with COVID-19.(40) However, this could have been better prevented had safety training programmes been carried out more thoroughly and frequently and received more attention from local authorities and hospital managers.

2.5.3 Summary of key findings

Table 6: Summary of key findings

	Key findings
Sustainability	<ul style="list-style-type: none"> ▪ Health service delivery model is heavily hospital-centred and provided by the public sector that is overcrowded, though changes are being implemented to shift towards primary healthcare, health prevention and health promotion. ▪ Hospital quality is measured with concrete set of criteria, patients' satisfaction of public healthcare services has increased over time. ▪ Many patients bypass primary care facilities and self-refer to hospitals for better treatment options and insurance coverage. ▪ Disease prevention and early detection are prioritised, though limited funding and workforce at the grassroots level continue to pose challenges to advancing primary healthcare.
Resilience	<ul style="list-style-type: none"> ▪ Several measures are promptly implemented to ensure both the safety of healthcare professionals and patients and the continuity of routine services during COVID-19 ▪ Guidelines and recommendations are effective on the national level but local implementation and adherence needs improvement

2.5.4 Recommendations

- Recommendation 5a: Continue to prioritise grassroots healthcare strengthening initiatives, especially increasing investment into workforce development and medical equipment upgrades, to enhance disease prevention and control.
- Recommendation 5c: Change the open referral policy in the health insurance system so patients must first visit their registered health facility to obtain referrals to upper-level service providers.
- Recommendation 5c: Improve the enforcement and training of hospital crisis preparedness and hospital safety guidelines to ensure proper use of resources and staff/patient safety, especially amidst hospital autonomy policy implementation.

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4. Appendices

4.1 Stakeholders consulted

The following experts provided important insights to support the research team in assessing the health system and making practical recommendations in the five domains.

Takeuchi Momoe	Coordinator of Universal Health Coverage and Healthy Lifestyle and Environment team, WHO Vietnam
Nguyen Thi Kim Phuong	Technical Officer (Health Financing), Universal Health Coverage Unit, WHO Vietnam
Annie Chu	Technical Officer (Universal Health Coverage), Universal Health Coverage Unit, WHO Vietnam
Dao Lan Huong	Senior Health Specialist, World Bank Vietnam
Nguyen Thanh Huong	Senior Lecturer, Former Vice Rector, Hanoi University of Public Health

4.2 Team support

The following project team members have offered valuable support in various areas throughout this pilot phase in Vietnam.

Ong The Due	Researcher, Health Strategy and Policy Institute, Vietnam's Ministry of Health
Nitin Kapoor	Chairman and General Director, AstraZeneca Vietnam
Tran Khanh Linh	Strategic Communications Lead, AstraZeneca Vietnam