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Sustainable Healthcare Financing for SDG3 in ASEAN-6

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Abbreviations

ASEAN	Association of Southeast Asian Nations	**OBA**	Outcomes based agreement
EHCR	Electronic health care records	**OOP**	Out-of-pocket payments
GDP	Gross domestic product	**PHC**	Primary health care
GLP	Good laboratory practice	**RWE**	Real world evidence
GMP	Good manufacturing practice	**SDG**	(UN) Sustainable Development Goals
HFSS	High in fat, salt and sugar products	**SHI**	Social health insurance
IRP	International reference pricing	**SIB**	Social impact bond
JKN	Jaminan Kesehatan Nasional (Indonesia)	**UCS**	Universal coverage scheme (Thailand)
MHIS	Migrant Health Insurance Scheme (Thailand)	**UHC**	Universal Health Coverage
MSA	Medical savings account	**UN**	United Nations
NCD	Non-communicable disease	**WHO**	World Health Organisation

Glossary

Demographic transition:

The historical shift from high birth and death rates to low birth and death rates in societies.

Epidemiological transition:

The change in the pattern of mortality and disease in a population from one of high mortality among infants and children and episodic famine and epidemics affecting all age groups to one of degenerative and human-made diseases, primarily affecting the elderly.

Fiscal gap:

Generally referred to as a measure of a government's total indebtedness, in the present context it is related to the gap between a government's actual spend on healthcare and the 'ideal' government spend on healthcare (benchmarked at 5% GDP in this context).

Fiscal space:

The budgetary room allowing governments to provide resources for a public purpose without impacting financial sustainability.

Universal health coverage:

As outlined in the WHO's 2030 agenda for sustainable development, UHC is one way to ensure that all people regardless of their age, race or income have access to essential healthcare services and medicines. Universal health coverage provides access free of charge or at a low cost without leaving patients to suffer financial hardships.

Executive summary

Rationale

The United Nations Sustainable Development Goal (SDG) for good health and wellbeing (Goal 3) set targets for various aspects of healthy living and healthcare systems. One major component is the target for universal health coverage (UHC) where everyone can access healthcare services regardless of their ability to pay while avoiding catastrophic out of pocket costs. It is a step towards achieving "the enjoyment of the highest attainable standard of health" which, according to the 1948 WHO constitution, is a basic right for every individual regardless of socioeconomic, religious, political or racial status.

In order to achieve UHC, and other targets set out by the SDGs, governments' need to overcome serious health financing challenges, ensure that existing resources are used as efficiently and effectively as possible and secure novel funding sources. Many countries in the Asia Pacific, as well a globally, are experiencing rising healthcare costs driven by increasing raw material costs, increases in the proportion of older people, technological advances, health system inefficiencies, income growth, the transition from infectious to chronic diseases in lower income countries and the disproportionate rise of labour costs compared to productivity growth. Furthermore, health systems generally have insufficient government funding for health and UHC and out-of-pocket (OOP) spending remains high. Aging populations also have consequences for the value of funds raised from the working population due to a shrinking taxable workforce. The ability to raise sufficient funds for UHC in light of these issues is a major challenge. **A key aim should be the creation of fiscal space – the creation of capacity in their (national) budgets that can be used for specific purposes without compromising their financial stability and sustainability.** In general, both fiscal space and UHC are political, rather than technical issues and securing political will is key to achieving progress.

Objectives and methodology

We identified the health financing challenges faced by ASEAN-6 countries – Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam - explored both traditional and innovative health financing methods that may be beneficial for ASEAN health systems to achieve SDG3 and UHC. We aimed to answer four underlying research questions: 1). What progress has been made toward SDG3 goals in ASEAN-6? 2). What are the key organisational and financial challenges in each healthcare system? 3). How large is the fiscal gap in the countries of interest? And 4). What financing mechanisms are acceptable to increase fiscal space for healthcare?

A combination of primary and secondary data sources (A) analysed specific aspects of each country's health system; (B) assessed their macroeconomic performance over time; (C) assessed their progress with a selection of SDG3 goals; (D) garnered stakeholder opinion on the challenges facing the country health systems; (E) determined stakeholder perception of different scenarios relating to funding healthcare services, ranging from raising additional taxes to more innovative options like annuity funds; and (F) developed a number of policy options for healthcare systems to build fiscal space. The primary output of this paper relates to country healthcare challenges, perception of innovative healthcare financing mechanisms and policy options. The remainder of this summary focuses on these outputs.

Assessment of key challenges for achieving UHC

A web-Delphi (Welphi) process was used to gauge the opinion of stakeholders in the countries of interest on 35 potential challenges related to healthcare. Five different types of healthcare challenge were analysed:

1. ***General and UHC-related challenges***

The increasing proportion of the elderly population and resultant increased levels of NCD were seen as key challenges to UHC due to higher utilisation of healthcare resources. This points towards a need to switch the focus of healthcare systems in the region from curative towards preventive and self-care via increased

investment in primary health care. Ineffective prioritisation and institutional rigidity within the health system might make this difficult in some settings.

2. ***Challenges related to UHC financing***

High OOP payments, reduced financial resources and reduced access to innovative medicines concerned those from all countries investigated other than Singapore, which has a relatively high-income, a pre-existing reliance on private health insurance and successful medical savings accounts (MSA).

3. ***Challenges related to the implementation of UHC***

Issues related to consistency in government, the underutilisation of progressive information technology within the health system, unequal distribution of healthcare facilities and issues both producing and retaining sufficient numbers of high-quality healthcare professionals were common across the countries.

4. ***Challenges related to the supply of services***

Increasing raw material, energy, labour and transportation costs as a result of rising inflation, time-consuming pricing and reimbursement process, and differences in the benefits offered by different health insurance schemes were highlighted as challenges across the countries.

5. ***Challenges on the health system demand side***

In general, the quality of healthcare services provided through UHC was thought to be good. The only outlier here being Indonesia. The lack of performance incentives within healthcare was the only demand-side challenge shared across the majority of countries. Issues relating to generic prescribing, co-payments and informal payments to healthcare professionals were not thought to be relevant in the countries looked at here.

Increasing Fiscal Space

The concept of fiscal space has become increasingly popular in policy discussions, both nationally and globally. It must be taken into account as countries move towards UHC. It can be created by both increasing the efficiency of existing healthcare expenditure and generating additional funds through a variety of methods. Using the Delphi process, country stakeholders assessed the feasibility of various financing mechanisms for generating fiscal space. Leveraging these outputs and literature insights, the analysis emphasises consensus-based factors (over 70% agreement/disagreement). A mix of traditional, innovative and efficiency improving mechanisms were explored.

Traditional mechanisms

Eight mechanisms, including taxation policies, health insurance, and social protection, were assessed through the Delphi exercise. Notably, consensus emerged around 'sin taxes,' with 98% overall agreement on their implementation. Sin taxes, placed on items like alcohol, tobacco, and unhealthy foods, have been successfully deployed in a number of contexts, such as the implementation of the Philippines' Sin Tax Law. Other tax-related mechanisms such as environmental and luxury goods taxes garnered varying degrees of agreement. Importantly, implementation of, or modest increases in, user charges received limited support, reflecting limited evidence supporting beneficial impacts of their implementation. The partial privatization of healthcare and MSAs also saw mixed agreement. Notably, MSAs garnered 100% agreement from Singapore participants, aligning with Singapore’s use of MSAs within its healthcare system.

Innovative mechanisms

Our analysis looked at six innovative financing models, including annuity models, risk-sharing agreements, health and social impact bonds (SIB), windfall corporation taxes, earmarking GDP gains for healthcare investment, and taxing inbound medical tourism. Whilst not an exhaustive list these financing options were thought to be the most relevant. Risk-sharing agreements (RSAs) were attractive to respondents from all countries. These performance-based contracts track performance in specific populations over a specific period of time, and utilise agreed-upon measures, either financial or outcomes-based. There are caveats to their utilisation, related to, for example, companies being penalised for exceeding volume-based RSAs whilst trying

to meet patient/market needs in situations of domestic shortage. To prevent such unintended consequences, RSAs should be designed in consultation with manufacturers and suppliers. Earmarking GDP gains to healthcare was attractive to all respondents, despite polarizing debates surrounding such actions. Earmarks are often criticized for introducing budget rigidity, distorting the economy and limiting the implementation of countercyclical policies, but countries may find earmarking attractive for a variety of reasons. The use of annuity bonds (financial models which can provide a regular income stream in exchange for a lump sum or periodic payments) and health and SIBs (which leverage private capital to fund health, social and development programs based on achieved outcomes) seemed less attractive to stakeholders from Singapore, Thailand, and Viet Nam, perhaps due to them being less understood. Their utilisation could play a valuable role in enhancing the fiscal space available for healthcare in southeast Asian countries. Furthermore, the focus on measurable outcomes ensures incentives for high performance building accountability within the health sector. Countries must ensure that they have robust data collection facilities in place in order to successfully implement these innovative financing options. The concept of blended financing, which combines public and private funding sources, presents a promising avenue for advancing healthcare financing goals in the ASEAN-6 region.

Efficiency mechanisms

Efficiency mechanisms play a crucial role in the creation of fiscal space, allowing governments to reduce waste within the healthcare system, maximize the impact of available resources and ensure the efficient utilization of public funds. There was an overarching level of agreement for each of the ten efficiency mechanisms put to respondents suggesting an acceptance that improving efficiencies is an effective way to build fiscal space for healthcare. Examples included the implementation of tools for efficient resource allocation based on the clinical and cost effectiveness of a medical technology, using international reference pricing (IRP) in pricing negotiations to achieve affordable medicines prices (although there are caveats here related to the potential impact of IRP on patient access and global innovation), the introduction or expansion of the national essential medicines list to cover more therapeutic areas, improved health system digitalization and effective regulation and investment in citizen and patient awareness programs. Additionally, stakeholders advocated for the establishment of independent monitoring of health agencies. Stakeholders were less likely to agree with the reallocation of resources from other areas to healthcare, suggesting that this is not a feasible manner in which to build fiscal space for healthcare.

Policy options for increasing fiscal space for healthcare

Decision-makers faced with increased pressure to accelerate towards the goal of UHC and other SDGs need to focus on raising additional resources to fund health services, whilst at the same time reducing wastage in healthcare systems and working towards improving the efficiency with which existing resources are utilized. There are a number of spaces where improvements can be made to enhance the progress made with UHC development, specifically in the six countries of interest here, but also in the wider ASEAN region. The need for sustainable healthcare financing is particularly important in a global economy experiencing increasing material and other costs due to inflationary impact and in countries with significant NCD-related morbidity and mortality. Declining healthcare revenue, as a result of population aging, further supports the need to overcome serious health financing challenges and establish sufficient and sustainable funds to achieve the targets set out by the SDGs by 2030.

Recommendations for ASEAN healthcare systems

Healthcare systems that have traditionally focused on curative, emergent actions rather than preventive services have become less adequate as the primary causes of morbidity and mortality have shifted towards NCDs. These developments must trigger change in the structure and focus of the healthcare system to allow it to work as effectively as possible for the people it serves. As such there are a number of recommendations, based upon the existing literature and identified following consultation with stakeholders, that healthcare systems in ASEAN can work towards:

1. **Give high priority to achieving full population coverage with an affordable package of services delivered via effective primary care services with an increased focus on primary and secondary prevention.**

Ensuring all members of the population, no matter their geographic location or socioeconomic status, have access to a specific level of service, should be the primary goal of all countries in the region. As primary health care is the most cost-effective, inclusive and equitable approach with the capability to deliver almost 90% of essential UHC interventions, it should be the core focus to improve access to healthcare for previously underserved / disadvantaged members of the population and protect vulnerable people from catastrophic out-of-pocket payments.

2. **Improve health system capacity by building additional primary care infrastructure and addressing human resource gaps.**
   An essential component of any efficient health system is the presence of an effectively trained and motivated healthcare workforce, with even distribution across rural and urban areas. There must be suitable training opportunities for future and existing healthcare workers to ensure they can keep pace with developments in healthcare and medical technologies. Incentives should reduce the 'brain-drain effect' and, for nearer term results, governments could consider making it easier for foreign nationals to work within their countries.

3. **Develop processes to objectively determine value of innovation**
   Innovative medicines have revolutionized the way certain diseases are managed and treated. Despite this, stakeholders in some countries may be concerned about the impact of price on their ability to offer affordable access to those who need them. The focus of all countries should be on increasing the 'value of spending' to ensure that maximum value is achieved from any expenditure. In order to effectively regulate this, countries need to ensure systems are in place to objectively determine value.

4. **Enhance investment in and utilization of effective digitalization in the healthcare system.**
   Significant advancement in information technology, digitalization and artificial intelligence (AI) has been seen over the last decade but its utilization in the healthcare space lags behind. Mobile devices, 'wearables' and apps could revolutionise diagnosis, disease management and patient awareness. Countries need to ensure they keep pace with advancements and have sufficient data governance procedures and regulatory policy to utilize digital information in the healthcare space effectively.

5. **Ensure the focus on UHC is cross-government, engages external stakeholders including civil society and the private sector and that political will translates into actionable and measurable outcome.**
   There is no doubt that the Ministries of Health of the countries studied here have UHC firmly set as a political priority. But it is important to note that UHC is not the responsibility of Health Ministers alone. The nature of health is that our environment, socioeconomic status and genetic predisposition all play a role and as such healthcare should not be thought of as 'in silo' but should be considered in an interlinking manner with other aspects related to the social determinants of health. Cohesive action is required across government and must include action by ministers of health alongside those of finance, environment, labour and education among others.

Recommendations to build fiscal space for healthcare

In order to achieve the recommendations above and to effectively recover from COVID, fiscal space must be created and / or expanded, particularly in countries still progressing towards UHC and attainment of the other SDGs. Countries must focus both on raising additional resources to fund health services, whilst at the same time working towards improving the efficiency with which existing resources are deployed. Any method for building fiscal space has potential policy implications related to the political feasibility / acceptability, revenue raising capacity, level of equity and finally the macroeconomic and microeconomic impact of the recommendation. These have been identified below with each recommendation graded using the following values: ○ no impact; ◔ minimal impact; ◑ moderate impact; ◕ considerable impact; ● very significant impact:

6. **Pursue innovative financing models with the private sector to attract additional resources into the health system and fund specific programmes.** The private sector can be engaged to raise resources for UHC, both via foreign investment and blended financing mechanisms using a range of innovative financing mechanisms. Public-private partnerships (PPPs) can be utilized to pursue UHC programs or improve infrastructure within the health system. To effectively implement and exploit innovative mechanisms with the private sector, governments must ensure that mechanisms for blended finance are strengthened and that legislation allows for their development and implementation. Furthermore, local stakeholders should be fully engaged in a collaborative design approach to ensure feasibility in local contexts, and stakeholders must be prepared to regularly monitor and evaluate the effectiveness and impact of the agreements.

Political Feasibility	Revenue Raising Capacity	Level of Equity	Positive Macroeconomic Impact	Positive Microeconomic Impact
●	◕	●	◕	◑

7. **Use of taxation with automatic earmarking for the health sector.** Utilizing taxation, while demanding political resolution, holds potential for bolstering the health sector. Strategic earmarking of taxes, coupled with effective communication, can enhance the appeal of such measures to the public and policymakers. Beyond yielding moderate fiscal gains, increased taxes on alcohol, tobacco and high-fat, salt and sugar foods (HFSS) can convey purposeful policy and political messages, acting as deterrents to consumption.

Political Feasibility	Revenue Raising Capacity	Level of Equity	Positive Macroeconomic Impact	Positive Microeconomic Impact
◔	◑	○	◔	○

8. **Reduce the burden of OOP to prevent catastrophic health expenditure.**
Any health financing scheme dominated by OOP will never achieve UHC. Therefore, the main focus of governments in the region should be to ensure that healthcare financing arrangements are such that extensive or significant OOP payments are not required at the current level.

Political Feasibility	Revenue Raising Capacity	Level of Equity	Positive Macroeconomic Impact	Positive Microeconomic Impact
◕	○	●	◑	●

9. **Enhance efficiencies in healthcare systems to ensure effective utilization of resources.**
Increasing the efficiency of available resources is central to fiscal sustainability to reduce waste in the healthcare system. Options include increased utilization of digitalization, expanding the essential medicines list to reduce the inappropriate use of drugs, developing policies to encourage appropriate prescribing alongside the strengthening of national medicine agencies to ensure the quality of generics and increase public trust.

Political Feasibility	Revenue Raising Capacity	Level of Equity	Positive Macroeconomic Impact	Positive Microeconomic Impact
◕	○	●	◑	◔

10. **Develop processes to ensure that premiums or contributions, as well as income tax payments, are collected effectively from those working in the informal sector.** With up to three quarters of all employment being made up of informal employment without taxable income, tax revenue and/or contribution collection can be extremely challenging. A reduced eligibility for social health insurance can also mean that those working informally are outside the government's social safety nets and pay high OOP costs. As governments work to increase tax collection among the informal sector, efforts need to be directed simultaneously to ensure effective collection of social health premiums and income tax premiums.

Political Feasibility	Revenue Raising Capacity	Level of Equity	Positive Macroeconomic Impact	Positive Microeconomic Impact
◑	◕	●	◕	◔

Country specific priorities

Many of the recommendations described above are applicable to all of the countries of interest here. As some countries are more advanced than others in terms of addressing healthcare challenges and developing sustainable financing options for healthcare there are specific recommendations that countries should prioritise. One important point to note is that, for all recommendations, governments must start with what is easily and quickly achievable. The development of demonstrative pilot projects, or the realisation of certain recommendations on a regional basis, particularly in countries with decentralized healthcare, may be more appealing to governments. Similarly, what is considered to be innovative in one country may already be 'tried-and-tested' in countries that are further along in the process. There is no 'best practice' solution for all countries, rather a need to tailor strategies to each country's unique healthcare challenges and readiness for reform.

	Ind	Mal	Phil	Sing	Thai	Viet
Health system improvement options						
1. Give high priority to achieving full population coverage with an affordable package of services delivered via effective primary care services with an increased focus on primary and secondary prevention	◑	◔	◑	○	◑	◕
2. Improve health system capacity by building primary care infrastructure and addressing human resource gaps	◕	◕	●	◔	●	●
3. Develop processes to objectively determine the value of innovation	◔	◑	◔	◕	◑	◔
4. Enhance investment in and utilization of effective digitalization in the healthcare system	◕	●	●	◑	●	●
5. Ensure the focus on UHC is cross-government, engages external stakeholders including civil society and the private sector, and that political will translates into actionable and measurable outcome	◑	◑	◑	◔	◑	◑
Options to build fiscal space for healthcare						
6. Pursue innovative financing models with the private sector to attract additional resources into the health system and fund specific programmes.	◕	◕	◕	◑	◕	◕
7. Use of taxation with automatic earmarking for the health sector	◑	◑	◑	◔	◑	◕
8. Reduce the burden of OOP to prevent catastrophic health expenditure	◕	●	●	○	◑	●
9. Enhance efficiencies in healthcare systems to ensure effective utilization of resources	◕	◕	◕	◔	◕	◕
10. Develop processes to ensure that premiums or contributions are collected effectively from those working in the informal sector	◑	◔	◕	◔	○	◕

Higher spending does not always improve health, but making the right investments at the right time can.

World Health Organization, 2017

1. Background

The United Nations Sustainable Development Goals (SDG), ratified by all United Nations member states in 2015 and further endorsed in the UN General Assembly High-Level meetings in 2023, sets peace and prosperity for people and the planet at its centre, with the ultimate target being a world free of poverty, hunger and disease (1). Of the 17 goals (and 169 specific targets), applicable to both developing and advanced countries, SDG3 focusses on good health and wellbeing, aiming "to ensure healthy lives and promote well-being for all at all ages" (2). Regions with the highest burden of disease and neglected population groups are specific areas of priority (3). Set within SDG3 are 13 targets focused on, for example, reducing global maternal mortality, neonatal mortality and under-5s mortality, ending epidemics of communicable diseases like AIDS, TB and malaria and reducing premature mortality due to non-communicable diseases (NCDs) (2).

A major component of SDG3 (goal 3.8) is the target for universal health coverage (UHC) focusing on all people having access to the health services they need, when and where they need them, without financial hardship. By 2030, the goal is for at least 80% of the population to be able to access quality healthcare services regardless of socioeconomic status or geographic area. It includes the full range of essential health services, from health promotion to prevention, treatment, rehabilitation and palliative care (4) with three core components: 1) the protection from financial risks for all, (2) access to quality primary health services, and (3) access to essential medicines and vaccines that are safe, effective, high quality, and inexpensive (5). The WHO cube (Figure 1) highlights the difference between a country's current coverage position (represented by the blue cube) and the policy aim of UHC - the larger transparent cube (6). In order to effectively achieve UHC all three factors – services, costs and coverage – need to be effectively addressed by countries.

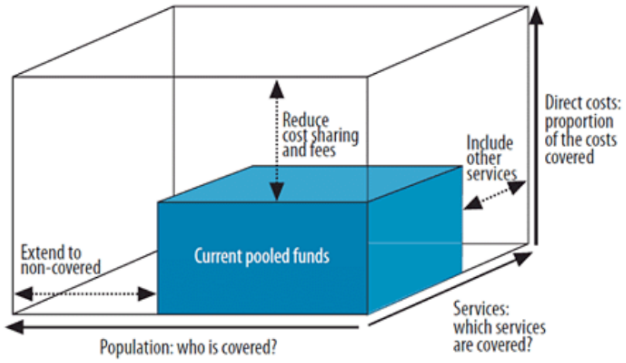

Figure 1: The WHO UHC cube

Many countries in the South-East Asian region have limited government fiscal space[1], and a small or absent social health insurance for the employed sector resulting in insufficient government funding for health and UHC. As such, there is a predicted annual fiscal gap of US$371 billion to achieve SDG3 in low- and middle-income countries (8). High out of pocket (OOP) payments (9) further restrict progress towards UHC and there are specific implications for the 'missing middle' of non-poor informal sector workers and their families (10). As such, the achievement of the targets set out by the SDGs requires overcoming serious health financing challenges through the establishment of sufficient and sustainable funds, protection from financial risks, and efficiency improvements in the selection and delivery of available goods and services. In August 2023 the Asia-Pacific Economic Cooperation (APEC) Health financing forum highlighted the urgency of creating sustainable funding, particularly in light of the recent COVID-19 pandemic (11), the threat of future pandemics and the rising levels of NCDs and co-morbidities. In some countries, securing sustainable financing for health will require the utilisation of more 'traditional' sources of healthcare financing (see Box 1). In other countries, sustainable healthcare financing may require more innovative approaches. As part of the T20 Indonesia framework, various initiatives are being pursued, including SDGs blended financing, the promotion of an

[1] Fiscal space, first defined in 2005, is the budgetary room allowing governments to provide resources to a public purpose without impacting financial sustainability (7).

enabling SDGs financing ecosystem, exploration of SDGs debt swaps, and the introduction of innovative financing methods (12).

Delaying UHC and other SDG3 goals has implications on opportunity costs (13). There is a need to accelerate the development of fiscal space for health whilst recognising that healthcare should not be looked at 'in silo' but in the context of interwoven associations. The nature of health is that multiple factors have an impact, including our environment, socioeconomic status and genetic predisposition, therefore improving (or even maintaining) people's health and reducing health inequalities cannot be achieved by action from the health system alone. This points towards a 'Health in All Policies' with a need to consider, for example, a populations' access to effective transportation, safe housing and constructive employment policies, alongside those issues more traditionally thought of as 'health related'. Health investment is not the sole responsibility of the Ministry of Health but should be a central element in a country's development plan. The impetus at the Ministry of Finance level should be on generating additional sources of financing to widen the fiscal space by utilising innovative financing mechanisms to engage the private sector, already recognised as playing a vital role going forward (14), to fund health interventions across multiple sectors.

Aims and objectives

In the context of the above, in order to identify the most feasible and attractive options in sustainable healthcare financing, the objective of this report is threefold. Firstly, we aim to assess the progress towards some of the SDG3 goals in a select number of ASEAN countries. Secondly, we identify the health financing challenges faced by these countries that require resolution in order to deliver commitments of SDG3 with a focus on the development of UHC. Finally, we aim to explore both traditional and innovative health financing methods used in other country settings that may be beneficial for ASEAN health systems in order to achieve SDG3 and UHC.

The remainder of the report is set out as follows: **Section 2** briefly describes the methodological process; **Section 3** provides brief background information on the study countries; **Section 4** outlines the study results, focusing on key UHC-related challenges experienced by the countries of interest as well as potential traditional and innovative financing models to build fiscal space for healthcare; **Section 5** outlines a number of policy options related to achieving UHC and building fiscal space for healthcare in the countries of interest; and, lastly, **Section 6** provides concluding remarks.

BOX 1 – HEALTHCARE FINANCING MODELS

There are a variety of different healthcare funding models in use globally, all with advantages and disadvantages. What is important is that there is no 'best' strategy suitable for every context. Systems are dynamic and path dependent and countries need a financing system to match. This will depend on the starting point – existing arrangements for health financing and the wider health system, fiscal capacity and the structure of their public administration systems. This need for individually designed systems does not mean that there is nothing to learn from international experience and external knowledge should not be ignored. Countries should focus on moving towards a predominant reliance on compulsory funding sources, as voluntary mechanisms have significant shortcomings.

Social Health Insurance (SHI) - The Bismarck Model

Insurance contributions, obtained from government, employers and individuals, finance a public insurance scheme to pay for services, usually supplied by private providers. Germany, Japan and Korea have such models. Generally, countries focus the schemes initially on particular groups of their populations, such as the formal workforce. These groups are already advantaged and organised and focusing attention and resources here can exacerbate pre-existing inequalities. Furthermore, government contributions are still required for those not covered by the social health insurance or those who cannot afford to pay (15). In situations with multiple insurance schemes there are high administrative costs and reduced negotiating power which is detrimental to cost-containment. Germany has effectively merged fragmented health schemes using a risk equalisation scheme, redistributing funds and risks between different insurance schemes (16). Its recognition that the aging population has reduced the number of wage and salary earners as a proportion of the total population, making it more difficult to fund the SHI system, has meant that the government has injected additional funds from general revenues into the system through the Gesundheitsfond (17).

Tax funded system -The Beveridge Model

The bulk of healthcare services delivery predominantly through the public sector delivery system are paid for from general revenue taxation. The United Kingdom, Sweden and New Zealand have such models. Most hospitals and clinics are owned by the government whilst some doctors are government employees, although private doctors can also collect their fees from the government as well as private hospitals and clinics. Tax avoidance and inefficient tax collection can be problematic, even in high-income countries and in those with large informal sectors (15). Similarly, tax-funded schemes are dependent on economic growth in the country – poor economic performance might diminish the government tax revenue and the amount available for healthcare (16). As countries move towards UHC the entitlement to health coverage is being de-linked from employment. Wage-linked contributions cannot guarantee sufficient revenue in high-income countries, due to aging populations and concerns related to increasing wage-based taxation, or in low-income countries due to the high rate of informal employment (18).

Mixed public/private healthcare model

This combines the public provision of a universal package of health services for all (including the rich and the poor) with private health care provision. This private provision meets consumer demand for 'add on' services, for example, doctor of choice, reduced waiting times, better hospital amenities. This system has been successful in Malaysia and Sri Lanka with both countries spending a relatively low proportion of GDP on health and achieving better health indicators than some high-income countries. An effective mixed system encompasses a government focused on maximising universal (equitable) access to a universal package of services for all, as well as reduced exposure to financial shock, whilst at the same time focusing on minimizing government spend. Vocal middle classes may get 'stuck' in between, being unable to afford the additional amenities and choice offered by the private system but frustrated with lower consumer quality available in the public system (15).

Health Savings Accounts (HSA) or Medical Savings Accounts (MSA)

MSAs allow individuals (and/or households) to withdraw money from earmarked funds to pay health care costs. In Singapore, which has achieved success with MSA, employee and employer contributions are compulsory with risks pooled over time, although not amongst the wider population. The Singaporean system launched in 1984, Medisave, is complemented by MediShield a voluntary high-deductible, catastrophic insurance plan, and Medifund, the Medical Endowment Fund, a safety net for the poor. MSAs aim to: encourage personal responsibility for health and health care, increase choice of provider for patients, enhance financial protection, improve efficiency and control health-care costs. Whilst Singapore is often cited as a successful MSA system, their use in other countries like China, the USA and South Africa, indicate that the schemes can be inefficient and inequitable whilst failing to provide adequate financial protection for populations. The absence of interpersonal risk pooling is a key limitation. Pooling across segments of the population spreads risk in any given year – healthy people help subsidise sick people and the wealthy subsidise the poor (19).

2. Methodology

The methodological process utilized analysis of both primary and secondary data to get a balanced, up to date view of the situation in six countries of interest – Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam. Specifically, we used a three-pronged approach including a data-mining process to gather information on a number of indicators in the countries of interest, a semi-structured literature review process to identify information on healthcare challenges in the region as well as to explore suitable models for sustainable financing. Finally, we used a web-Delphi based approach to gather personal input from a number of stakeholders in the countries of interest. Specific methodological information is reported in Appendix I. Briefly, the literature review encompassed the following steps: 1). Peer-reviewed and grey literature searches were performed on PubMed, Google, World Bank, International Monetary Fund, and the World Economic Forum websites; 2). A screening process was conducted to screen all search results, based on a set of inclusion and exclusion criteria (PICOST Table); 3). Data extraction was performed by categorising all relevant information in six different categories: current health financing, current health system challenges, universal health coverage, fiscal space, traditional financing mechanisms for the healthcare system, and innovative financing mechanisms for the healthcare system. Within each of these categories, a subdivision at the country level was included. The findings of the narrative literature were synthesized at the country, SDG, and topic levels.

Primary data was collected using a web-Delphi process using the Welphi platform (www.welphi.com). This three-round process used an analytical framework developed using captured literature. The final framework consisted of a.) 35 healthcare-related challenges and b.) 25 statements related to financial mechanisms for increasing fiscal space.

We asked a selection of stakeholders, including healthcare experts, members of the pharmaceutical industry, researchers and academics, health economists and decision makers from each of the countries to first comment on the factors then rate their level of agreement / disagreement with the factors using a Likert-scale. A total of 45 stakeholders completed all three rounds. Participants and their affiliations can be seen in Table 1 in Appendix I. Following the completion of all rounds we analysed the levels of consensus amongst stakeholders for each factor – group consensus was considered to have been achieved when 70% or more of the stakeholders chose the same rating (either ‘agree’, ‘disagree’, ‘I don’t know’ or ‘neutral (N/A)’. This allowed us to identify challenges national healthcare systems are faced with and gauge local appetite and willingness for potential financing mechanisms and reform. Stakeholder consensus levels were used as the basis for a number of recommendations related to improving the healthcare space as well as building fiscal space in the countries of interest.

3. ASEAN-6 Region Overview

In Southeast Asia, six nations have made significant strides toward achieving SDG3 on good health and well-being, as well as UHC. While each country has achieved varying levels of success in these areas, challenges remain, particularly in ensuring equitable access to healthcare (Appendix II – Health systems overview and country statistics).

3.1 Country overviews

Indonesia has developed a mixed healthcare system with public and private providers. The government collaborates with the private sector within a decentralized structure, where the Ministry of Health sets policies and provincial and district governments oversee healthcare service management. The introduction of the universal health insurance scheme Jaminan Kesehatan Nasional (JKN) in 2014, aimed to alleviate the burden of OOP expenses (20). To ensure the sustainability of the JKN system, enhancements are needed, such as emphasizing preventive measures and healthy lifestyles to combat the rising costs of NCD, which currently cause 69% of deaths. Investment in digital infrastructure to improve efficiency and addressing the maldistribution of healthcare personnel and facilities is crucial to provide equitable care throughout the nation (21). With an annual GDP growth rate of 3.7% to 4.7%, the country's per capita health expenditure is relatively low at around $120. However, the availability of healthcare professionals poses a potential barrier to healthcare access.

Malaysia has implemented a healthcare system that combines government-funded universal services with a growing private sector. The Ministry of Health oversees public services, while the MySalam scheme offers support to low-income households and specific medical conditions (22). The nation, with a population of around 32.8 million, anticipates 16.8% of its population will be aged 65 and over by 2050 (23). Malaysia's two-tiered structure has contributed to unequal distribution of services, infrastructure and human resources. Investment in infrastructure is essential, particularly to strengthen primary and community health services, including physical, human and digital infrastructure (24).

NCDs remain a substantial health concern in **Malaysia**, contributing to a notable proportion of total deaths. The country maintains consistent and resilient GDP growth, averaging around 3.1% to 4.0%. Malaysia's approach to social assistance spending prioritizes targeted welfare programs. The nation has a relatively high number of healthcare professionals and sufficient hospital bed capacity. Nonetheless, concerns have arisen regarding the mental well-being of healthcare workers, particularly during the COVID-19 pandemic.

In the **Philippines**, healthcare primarily relies on tax-based budgeting, with services delivered through government facilities. The Philippine Health Insurance Corporation (PhilHealth), initiated in 1995, has been instrumental in providing financial risk protection to citizens (25). The country's population stands at approximately 111 million, with expectations that about 9.7% will be aged 65 and over by 2050 (23).

NCDs represent a significant health challenge, responsible for 69% of total deaths in the **Philippines**. Steady GDP growth, averaging 5.7%, characterizes the country's economic landscape. Social assistance programs, particularly conditional cash transfers, play a crucial role in supporting low-income households. While the number of healthcare professionals per 1,000 population is relatively higher in the **Philippines**, concerns arise due to high OOP expenditures. Furthermore, healthcare workers have been affected by mental well-being challenges. To accelerate progress the Philippines Development Plan 2023-2028 targets align with the SDG3 goals (26), the guiding principles encompass digital transformation of government and enhanced partnership with the private sector.

Singapore has earned recognition for its efficient healthcare system, which incorporates government subsidies, insurance coverage, and MSA (MediSave). Singapore is transitioning toward "value-based" healthcare, emphasizing primary and community care. The nation boasts a population of around 5.5 million, and it is predicted that more than 30% will be aged 65 and over by 2050 (23).

The prevalence of NCDs is particularly striking in **Singapore**, accounting for close to 80% of total deaths (27). While the country has maintained strong GDP growth, recent figures indicate a decrease to 2.2%. Singapore's healthcare expenditure per capita is the highest among these nations, reaching $3,537. The nation's healthcare system features a comprehensive social safety net. The government has recognized the need to shift the health system from a reactive to a proactive, health promoting one. Healthier SG, an initiative by the Ministry of Health, aims to empower individuals to become healthier and improve their quality of life by focusing on preventive care and the development of strong patient-doctor relationships (28).

Thailand features a healthcare system that encompasses both public and private sectors, with the government playing a pivotal role in providing essential healthcare services through initiatives such as the Universal Coverage Scheme (UCS), initiated in 2002 (29). Thailand's public sector comprises central, regional, and district hospitals, primary care units, and community health centers, while private healthcare facilities offer specialized services, primarily in urban areas.

Disparities between urban and rural healthcare access remain a challenge in **Thailand** (30). The government, specifically the Ministry of Public Health, is actively working to address these issues through policy development, service regulation, and quality care assurance. Initiatives such as the Village Health Volunteer program aim to bridge these disparities by providing essential healthcare services and health education in rural communities. Additionally, Thailand is focusing on enhancing its healthcare system by expanding coverage, strengthening infrastructure, and directing resources toward primary care (31).

Viet Nam exhibits a healthcare system that encompasses both public and private sectors. The government predominantly funds healthcare services through tax-based universal healthcare, with approximately 87% of the population covered by public health insurance. The public sector encompasses central, provincial, and district hospitals, along with commune health centers. However, access to healthcare services remains more accessible in urban regions compared to rural areas, reflecting the uneven distribution of healthcare resources (32).

Despite improvements in health outcomes and the expansion of health insurance coverage, **Viet Nam** faces emerging challenges. The rising burden of non-communicable diseases and environmental health risks pose significant health threats (27). Ensuring quality healthcare services and achieving equitable health outcomes, particularly for rural populations and ethnic minorities, remains a key concern. The Ministry of Health plays a crucial role in developing and implementing health policies, overseeing service provision, and establishing healthcare delivery standards. The national health insurance program seeks to improve access to healthcare services and provide financial protection for the population. However, there are concerns that domestic funding, such as social health insurance, will be required to fill budget gaps, particularly in light of reduced external aid and rising healthcare costs (33).

Viet Nam's strategic approach can be seen in its Ministry of Health's Direction of Healthcare Activities scheme where a key objective is the shift from higher-level hospitals to lower-level primary health-care facilities (34). There is recognition within government that, to implement its health-care strategy effectively, it needs help. It has established a new Working Group for Primary Healthcare Transformation, led by the Vietnamese Ministry of Health and including diverse actors from the public, non-profit, and private sectors. The low state healthcare budgets, a result of poor income tax compliance, mean there is space for active and robust private sector involvement.

3.2 Review of current progress towards SDG3 across ASEAN-6

Reviewing current progress towards the SDG3 goals specifically those related to UHC, in ASEAN-6 (as a reminder these are Indonesia, Malaysia, Thailand, the Philippines, Singapore and Viet Nam), informs our view of feasible healthcare financing options in these countries. While conducting a comprehensive analysis of progress towards each individual SDG3 goal is beyond the scope of this report, we aim to shed light on key indicators related to UHC for each country.

Table 1 presents a visualization of country performance for specific indicators compared to globally set target values (35). These goals have been carefully selected to encompass essential aspects of healthcare

accessibility, affordability, and quality, which are critical components of achieving UHC, and improving health outcomes for the populations in the region. Notably, ASEAN countries have shown commendable progress in terms of reproductive health, but there is significant variation concerning HIV and TB performance among the countries.

Details of each SDG goal, and their relevance for the six countries of interest, are reported in Appendix II. This section offers a comprehensive assessment of the current status and progress of selected SDG3 goals related to UHC in ASEAN-6. By focusing on specific indicators and goals, we aim to provide valuable and actionable insights that can contribute to the advancement of UHC and better healthcare outcomes in the region.

Table 1: SDG3 goal progress in countries of interest

SDG Goal		Target				Indonesia	Malaysia	Philippines	Thailand	Singapore	Viet Nam
Reproductive and maternal health SDG 3.1; 3.2; 3.7	Maternal mortality rate	**< 70**	**70-105**	**105-140**	**> 140**	172.9	21.13	78.24	28.6	7.45	124.3
	Neonatal mortality rate	**< 12**	**12-15**	**15-18**	**> 18**	11.33	4.21	12.28	4.71	0.75	10.53
	Children <5 mortality rate	**< 25**	**25-37.5**	**37.5-50**	**> 50**	22.17	7.56	25.74	8.29	2.09	20.6
	Adolescent fertility rate	**< 25**	**25-37.5**	**37.5-50**	**> 50**	36	8.6	35.6	31.7	2.1	29
	Births attended by skilled health personnel	**> 98**	**98-94**	**94-90**	**< 90**	94.7	99.6	84.4	99.1	99.6	96.1
Communicable diseases SDG 3.3	Incidence of tuberculosis	**< 10**	**10-42.5**	**42.5-75**	**> 75**	354	97	650	143	48	173
	Incidence of HIV infections	**< 0.2**	**0.2-0.6**	**0.6-1**	**> 1**	0.1	0.2	0.2	0.1	0	0.1
Non-communicable diseases SDG 3.4	Death rate due to NCD	**< 15**	**15-20**	**20-25**	**> 25**	24.8	18.5	24.5	13.7	9.5	21.2
Substance abuse SDG 3.5	Death by drug use	**< 2**	**2-3**	**3-4**	**> 4**	0.64	3.07	2.31	3.45	0.42	2.17
	Alcohol consumption	**< 9**	**9-16**	**16-23**	**> 23**	6.4	9.1	12.1	16.8	32.2	14.4
Injury and traffic accidents SDG 3.6	Traffic deaths	**< 8.4**	**8.4-12.6**	**12.6-16.8**	**> 16.8**	11.3	22.5	12	32.2	2.1	30.6
UHC SGD 3.8	UHC index of service coverage	**> 80**	**80-70**	**70-60**	**< 60**	59	76	55	83	86	70
Illness from hazardous chemicals and contamination SDG 3.9	Death rate attributable to pollution	**< 18**	**18-84**	**84-150**	**> 150**	96.1	76.5	202.8	46.5	23.4	102.8

Notes: SDG indicators are color-coded to indicate the level of achievement towards the targets. A blue rating signifies that the country has successfully achieved the SDG target for that specific indicator, reflecting commendable progress in that area. Green, yellow, and red ratings indicate increasing divergence from the SDG targets.

HEALTH SYSTEM PRIORITIES

INDONESIA
The new Omnibus Law will fast-track health reform, address the severe shortage of doctors and improve the quality of health services (24).

MALAYSIA
The Malaysian government is committed to 'future proofing' the health system and ensuring long-term sustainability. They are focussed on reform through four key pillars: 1) transforming delivery of healthcare services, particularly through prioritising and restructuring primary healthcare, 2) cultivating health promotion and disease prevention approaches, 3) improving the sustainable financing of the health sector through increasing health funding under public sector management, and lastly, 4) strengthening the organisational, governance and stewardship functions of the health system (25).

PHILIPPINES
The Philippine Development Plan (2023-2028) aims to build on the Universal Health Care Act (ACT 11223) by: 1) improving the social determinants of health, 2) enabling healthy choices and behaviours, 3) improving the access, quality, and efficiency of health care and 4) strengthening health systems (36).

SINGAPORE
The MoH is focusing on a preventive medicine initiative 'Healthier SG' encompassing a suitably sized workforce, seamless IT systems for improved integrated care and trusted family doctor relationships. Residents will be empowered to chart their own journey towards healthy and active lives (37).

THAILAND
The WHO Thai Country Cooperation Strategy led by the WHO in collaboration with the Ministry of Health, academia and industry partners highlighted six key objectives moving forward: 1) convergence of digital health platforms and health information systems, 2) enhancing leadership in Global Health Thailand, 3) migrant health, 4) non-communicable diseases, 5) public health emergencies and 6) road safety (38).

VIET NAM
Medical examination and treatment facilities alongside preventive healthcare and testing have been identified as PPP objectives in the healthcare sector. An investment of at least 100 billion dong is required (39).

4. Results

In this section, we analyse a combination of Delphi results and information derived from the literature to comment on 1) the current challenges to achieving UHC, and 2) potential financing mechanisms that can be utilized to generate fiscal space within each country.

4.1 Assessment of key challenges for achieving UHC

In this section we analyse each challenge to achieving UHC highlighted by the Delphi participants, but focus is on the key factors where consensus was reached (i.e., ≥70% agreement or disagreement from within the same country). For many of the challenge-related factors put to stakeholders Singapore tended to be an outlier, reflecting its unique financial position in the region.

4.1.1 General and UHC related challenges

We analysed 12 general and UHC related challenges, most of which experienced general agreement among all respondents. Lower agreement levels were experienced for three of the challenges: *COVID-19 continues to have a negative impact on healthcare resource allocation and patient outcomes* (60%), *particular difficulties supplying paediatric services* (55%) *and reducing rates of routine childhood vaccinations* (40%). Respondents agreed that issues such as the aging population, increasing levels of NCD, low levels of health literacy, institutional rigidity and ineffective prioritisation in the health service challenged UHC.

The rising prevalence of NCDs is straining healthcare resources, with most stakeholders acknowledging this as a challenge to achieving UHC. Statistics indicate that, for all countries except Singapore, the proportion of deaths caused by NCD increased between 2010 and 2019 (40).

The share of ≥65-year-olds is placing a strain on health systems. Stakeholders from Indonesia, Malaysia, Singapore, Thailand and Viet Nam agreed that this a challenge to their healthcare system, in contrast to 50% of Philippine participants disagreeing. Countries such as Singapore and Thailand, have seen a significant increase in the proportion of those aged ≥65, which has increased by 8.5 and 10.3 percentage points respectively since 1990 (23). Comparatively, the increase in the Philippines has been more gradual at 2 percentage points since 1990 (23).

The combined challenge of increasing NCDs and an aging population impact both healthcare financing and demand. Older individuals often require more costly and complex care due to a higher prevalence of NCDs and co-morbidities (41). Effective management of these challenges requires integrated health systems, and a shift in focus from secondary to primary care (42). The UN 2023 High-Level Meeting on UHC confirmed the importance of primary health care, suggesting countries 'Increase financing for primary health care to strengthen health systems and scale up services' (43). Singapore is experiencing longer hospitalisation times and higher admission rates experienced by the elderly, indicating strain on the system (44). Indonesia also retains a strong focus on curative care where a large portion of the government health spend is focused; however, the Ministry of Health recognises the need to reorientate public primary health care to focus on promotive and preventive health services (45).

Financing a healthcare system suitable for an aging population suggests a requirement for increased pooled public funding to support primary care development. The optimal approach for primary health care is thought to be a blended provider payment mechanism with capitation at the core, due to its ability to link the population with services, although the involvement of performance-based payments for specific activities can also be beneficial (46). Research shows that Thailand is projected to become a super-aged society (more than 20% of the population is 65 years or older) (47) and in Malaysia, those over 60 will make up 17% of the population by 2040 (48). Singapore is leading the charge with a change in focus from curative to preventive care (37) and a shift to capitation based payments to enable better care for patients (49).

Reduced rates of childhood vaccination. Vaccines are vital preventative measure. Life course immunization could prevent as many as three million infectious disease-related deaths per year and is widely recognized as one of the most cost-effective solutions available (50). Stakeholders were divided on the status of routine childhood vaccinations in their countries. Those from the Philippines all agreed that reduced rates of childhood vaccination challenged effective UHC, whilst the majority of respondents from both Singapore and Thailand disagreed. Statistics on childhood immunization rates confirm this with generalized reductions in rates visible in Indonesia, Malaysia, Philippines and Viet Nam, but not Thailand or Singapore, where compulsory vaccination laws have been put in place over recent years (40). Whilst evidence of the 'anti-vacc' movement is present in ASEAN-6 (51,52), there are additional factors affecting access to routine childhood vaccinations, such as geographical variation and religious norms/beliefs (53). For example, in Indonesia, regions where the majority of the population are Muslim had reduced acceptance of vaccination, despite halal certification of vaccines like the measles-rubella vaccine (53). Reflecting issues with reduced childhood vaccination in Indonesia and the Philippines, stakeholders from these countries also believe there are **particular difficulties supplying paediatric services.**

Geographical and other challenges affect access for vulnerable groups. The majority of stakeholders within the cohort, apart from Singapore, were of the opinion that people in geographically isolated (i.e., archipelagic or mountainous areas with limited road access) and disadvantaged areas (i.e., limited public transport) continue to experience poor access to healthcare services in their countries. The literature currently reports inequalities in health between different regions, ethnic and income groups in Viet Nam (54). Unequal geographic distribution of hospitals is also problematic with high quality facilities and medical staff concentrated in urban areas and provincial hospitals in rural areas suffering from a shortage of advanced facilities and human resources (55). The experience is similar in Indonesia (56), Malaysia, (57), Thailand (58) and the Philippines (59), where poorer states and provinces and rural areas have few public and private hospitals in contrast to wealthier states.

Health literacy and awareness of health system offerings. Alongside issues with access as a result of rural locations, certain vulnerable groups have limited health literacy and a poor understanding of how the health system can help them, leading to reduced access and poor outcomes. This can be exacerbated by limited resources on how best to navigate the health system and its offerings. Again, stakeholders agreed that this was an issue in Indonesia, Malaysia, Philippines, Thailand and Viet Nam.

Progress of tobacco- and alcohol- related policies. Across all participants, 75% agreed that their tobacco- and alcohol-related policies have not had a significant impact. This tended to be reflected when looking at individual country responses. In the Philippines and Thailand, most participants agreed but did not reach consensus. In Thailand, it's been predicted that smoking resulted in significant loss to the economy, approximately $2.2 billion in 2009 (60). In Viet Nam, which has one of the highest smoking rates in the world, research has confirmed the limited effectiveness of tobacco control programs with concerns being raised about the effectiveness of the country's smoke-free regulations and the likelihood of reaching 2030 targets in men (61). Similarly, Viet Nam reports a high level of alcohol consumption, compared to the global average and again, there are concerns that the level of excise tax on alcoholic beverages, low compared to other countries, may be insufficient to reduce alcohol consumption amongst poorer people (61).

High proportion of informal workers. A significant portion of the ASEAN region's workforce is engaged in informal employment characterised by casual employment and a lack of formal contracts. In 2018, it was estimated that as many as three quarters of adults worked in the informal sector (including employment in the informal sector and informal employment in the formal sector) (62). The informal nature results in issues collecting public revenue from income-related taxes and regular contributions to health insurance (63,64). Stakeholders in Indonesia, Malaysia, the Philippines and Viet Nam agreed that the high proportion of the population working informally is a challenge for achieving UHC. In Viet Nam, the informal sector remains uninsured, and they are often not 'poor enough' to qualify for subsidised government membership to health insurance schemes as their income is difficult to quantify. Although insurance is mandatory by law in Viet Nam, there are no direct penalties for not participating, hence the system is de-facto voluntary (65). Those with no insurance would be subject to high OOP costs when requiring healthcare services. Respondents from Singapore and Thailand did not reach consensus on this factor, indicating that informal working is not as

prevalent in these countries, or at least not as problematic for the healthcare system. Thailand is recognised in the literature as both a leader in UHC and in the development of mechanisms to ensure migrant workers have access to healthcare coverage (66). Documented migrants are able to enrol in the government social security scheme, if relevant, or the Migrant Health Insurance Scheme (MHIS), self-funded through migrant contributions. Undocumented migrants are also able to make use of the Migrant Fund – a donor and contributor financed scheme (67).

Impact of increased healthcare privatisation. Any functioning, effective healthcare system must be pluralistic in nature – utilising the private sector in both a productive and positive manner, for example, via the provision of health care services to add private sector hospital capacity to the public sector, private health care provision meeting consumer demand for 'add on' services or via financing of the healthcare system. Engagement of the public sector with the private sector is a key factor in the achievement of UHC in Southeast Asia, where private healthcare is already entrenched (68). For example, in the Philippines, health services are provided by the public sector in facilities run by the national and local governments. The private sector is more market-orientated, filling shortfalls in the public service offering by providing services at clinics, laboratories, pharmaceutical companies and pharmacies (69). It is often an innovation driver, offering improved access via novel delivery models and increased efficiency. The ingenuity and innovation often seen in the private sector can be developed and scaled to help manage ongoing health challenges and future health crises (70). Throughout the region, the two sectors must work in harmony to limit issues related to, for example, unbalanced human resource levels between the two systems, and inequality in access, borne out of an ability to pay for care. Comments received during the Delphi process suggests there are perceptions that the private system contributes to a 'brain drain' from the public system in some countries. Despite this, there is the potential for common regulators and regulations, pooled purchasing and the benefits of economics of scale to avoid waste, lower costs and improve access to innovative products (68).

Institutional rigidity limiting adaptation. The bureaucratic nature of institutions can mean that they are slow to change and adapt when necessary and can develop unnecessary 'red tape', creating inefficiencies in the healthcare system. Intuitional rigidity can result in an inability to adapt to changing priorities in a timely manner Most stakeholders from all countries agreed that this was a problem, although this factor is relatively subjective with limited opportunity for measurable outcome.

Ineffective health system prioritisation affecting resource allocation. Similarly, the majority of stakeholders agreed that a lack of effective prioritisation within the health system leads to inefficient resource allocation due to competing needs within the health system. The importance of expanding health coverage to the entire population, and at the same time, the requirement of the provision of high-quality health services, particularly in primary care, has been confirmed as a priority in the 2023 UN High-Level Meeting on UHC (71). Furthermore, ensuring systems are in place to objectively determine value, will also ensure effective prioritisation within the health system to areas where the greatest impact will be seen.

4.1.2 Challenges to the financing of UHC

Three challenges relating to the financing of UHC were presented and generally agreed upon by respondents. Issues surrounding the availability of innovative medicines in public health facilities (89%), the limited availability of financial resources (84%) and high OOP burden (73%) were thought to challenge healthcare.

Availability of innovative medicines in public health facilities. Respondents from all countries, apart from Singapore, agreed that the limited access to innovative medicines in public health facilities challenges their healthcare system. The 50% split in Singapore may reflect, on one side, the ability of Singaporean public and private insurers to reimburse innovative medicines, but on the other, it may be a sign of the increasing cost of innovative medicines. The perception of increasing costs may impact access in the five other countries, leading to higher agreement rates among those respondents. However, countries should be aware of the value of innovation to meet rising healthcare demands. In this context, innovative products include novel, branded pharmaceuticals but also innovative processes, medical technologies and devices, alongside the potential

positive impact of innovative digitalisation in the healthcare system in general. Systems to effectively determine value should be employed by all countries to ensure that the potential value gained by innovation is not ignored.

Limited available financial resources. Representatives from all of the countries, except Singapore, agreed that insufficient annual budget allocation for healthcare challenged UHC implementation. Other than Viet Nam, all countries considered here have faced significant increases in their annual health expenditure as a share of GDP over recent years (72); however, different GDP growth rates have been experienced by the countries, ranging from 2.59% in Thailand to 8.69% in Malaysia in 2022 (73). Nonetheless, general growth in a country's health expenditure as a share of GDP may not necessarily reflect a higher or more appropriate financial resource allocation, as this additional expenditure may be the result of varying demographic, economic, and health factors, such as higher demand for treatments, aging populations and/or health system inefficiencies.

Fear of high out-of-pocket burden. Finally, OOP expenditure, i.e., direct payment made by individuals and/or households for healthcare services not reimbursed by public or private forms of insurance, was considered by respondents from Malaysia, the Philippines, and Viet Nam to be a challenge. On the contrary, 60% and 100% of Thai and Singaporean participants respectively disagreed. Excluding Thailand, OOP expenditure as a percentage of the total health expenditure is relatively high in the considered countries: in 2019 it ranged from 30.15% in Singapore to 42.95% in Viet Nam. The corresponding figure in Thailand was only 8.67% (74), potentially explaining the fact that respondents here do not see it as a challenge to UHC.

4.1.3 Challenges to the implementation of UHC

Of the eight challenges related to the implementation of UHC considered, four experienced general agreement among all the respondents. These included *inconsistency in government* (71%), *reduced use of consistent IT and patient information systems within the healthcare system* (91%), *inequity in the distribution of healthcare facilities and healthcare professionals between rural and urban areas* (87%), and *issues producing and retaining sufficient members of high-quality healthcare professionals* (84%). On the contrary, lower agreement levels were observed for three challenges: *leadership challenges and governance barriers related to UHC policies* (55%), *price and access variation caused by decentralization* (67%), and *reduced access to primary care* (62%). Finally, 89% of the respondents disagreed that *policies to achieve UHC were not a government priority*.

Governance of UHC policies. The majority of respondents from the Philippines, Malaysia and Viet Nam agreed that prioritisation and governance contributed to the challenge of achieving UHC in their country. This could result from a bureaucratic focus on volumes over outcomes, alongside policies and interventions relating to the implementation of UHC not being applied and/or monitored effectively. On the contrary, no Singaporean respondents considered this a challenge.

Lack of consistency in government. When asked to consider whether consistency in government had an impact on achieving UHC, a much higher aggregate consensus was achieved (71%), with only Singaporean respondents unanimously disagreeing. It is worth noting that government activity and therefore its consistency, can depend on the expectation and the role that each government plays in delivering healthcare. Some countries may have a decentralized fiscal and health system, such as in the case of Indonesia (75), or a mixed financing system, with the large predominance of a public statutory insurance system, such as in Singapore (76). The differing system's features can lead to different expectations on how active, and therefore consistent, the national government should be.

The role of decentralization in practise variation, access variation and service delivery. When it comes to assessing the role of decentralization in determining different levels of access, service delivery and quality, the intensity of the agreement varies across countries. In all countries, excluding Singapore and Malaysia, most respondents agreed that decentralization can lead to price variation, access variation and service delivery via multiple providers. Evidence from Indonesia highlights the impact decentralization can have on price and access variation. Following the decentralization reform in 2001, when budget responsibility shifted from the central to district governments, fees per patient increased by 50% on average, and almost doubled in some areas (75). However, this does not necessarily reflect how decentralization reforms fared in other countries – recent empirical evidence reports a non-linear relationship between decentralization and health system performance (77).

Lack of easily accessible primary care. Decentralised and flexible budgetary financing mechanisms, together with other policies, are supposed to provide higher accountability when strengthening primary health care. However, the perceived impact of accessible primary care on achieving or strengthening UHC greatly varies across the considered countries. Respondents from Singapore, Indonesia, and Malaysia did not agree that accessibility problems within primary care challenged UHC (respectively 43%, 50% and 13% agreement), while the majority of respondents from Thailand, the Philippines and Viet Nam saw reduced primary care access as a challenge (respectively 70%, 100% and 90% agreement). In Thailand, primary-care reforms from the 1970s to the 1990s, together with infrastructure investments and the introduction of incentives to retain the health workforce, led to better population health outcomes, particularly in relation to childcare (79).

The unequal distribution of healthcare facilities and professionals between rural and urban areas was seen as a challenge to achieving UHC in all countries, but Singapore**.** This was likely observed as a result of the very small territory, and the high-income nature of Singapore compared to the five other countries, all larger in terms of both population and geography.

Finally, for the final two implementation challenges included in the Delphi, i.e., *inconsistent IT and patient information systems within the healthcare system*, and *issues producing and retaining sufficient numbers of high-quality healthcare professionals*, there is a similar pattern across country respondents, with all countries excluding Singapore tending to agree to the relevance of these challenges in reaching UHC.

Lack of consistent IT and patient information systems. The development of an effective UHC system is intertwined with the development of effective healthcare-related information technology systems. For example, in Thailand, the introduction of the Universal Coverage Scheme in 2001 led to the implementation of IT systems, such as the beneficiary registration system, the Thai Diagnosis Related Group system, and the "Disease Management Information Systems (80).

Production and retention of sufficient numbers of high-quality healthcare professionals. Across the six countries of interest, Singapore and Malaysia have the highest number of physicians, 2.5 and 2.3 per 1000 population in 2019, respectively. While countries like Indonesia, Philippines, Thailand, and Viet Nam recorded less than one physician per 1,000 population, with Indonesia reporting the lowest value (0.6 physicians per 1,000 population in 2020) (81).

4.1.4 Challenges to the supply of services

We analysed responses to seven challenges related to the supply of services. These included issues with cost-containment, non-transparent and complicated procurement systems, health insurance benefits, pricing and reimbursement delays, increasing costs, and issues with availability of high-quality prescription medicines. Of these seven challenges, three reached consensus for agreement on an aggregate basis, including: *difference in the benefits offered by different health insurance schemes* (73%), *time-consuming pricing and reimbursement process* (71%), and *increasing cost of raw materials* (89%).

Issues achieving cost-containment. When it comes to considering issues with cost-containment due to weak negotiating power of the governments, only respondents from the Philippines and Indonesia agreed that this was a challenge to UHC, indicating that they do not perceive that their national governments are successfully tackling the rising costs in the pharmaceutical and healthcare sector. On the contrary, 100% of Singaporean respondents disagreed that this was a challenge facing the country.

Lack of transparency and overly complicated procurement systems. The issue of non-transparent procurement systems delaying and/or disrupting supply gave mixed results. 75% of the respondents from Singapore did not consider this a challenge, while respondents from Thailand were equally divided. Respondents from the remaining countries did consider this to be a relevant challenge (71% in Indonesia, 75% in Malaysia, 80% in Viet Nam, and 100% in the Philippines). Worldwide Governance Indicators from the World Bank provide measures of government effectiveness which are relatively consistent with the country responses to our Delphi; in 2021, Singapore is placed in the top 100% percentile rank, while the Philippines report the lowest value (57.69% percentile rank).

Difference in benefits offered by different health insurance schemes. In Thailand and the Philippines, all respondents agreed that this is a challenge, while in Malaysia and Indonesia there is a relatively less

pronounced agreement level (respectively 75% and 57%). In the two remaining countries, Singapore and Viet Nam, only 50% of the respondents consider this a challenge. When assessing perceptions on whether there is **inadequate health insurance coverage for the most vulnerable**, respondents from Malaysia and the Philippines all agreed that health insurance coverage is inadequate for the most vulnerable sectors of the population. Comparatively, in Indonesia, Singapore, and Viet Nam the absolute majority of respondents disagreed (respectively 29%, 25%, and 30% agreement). This suggests potential coverage and access issues in Malaysia and the Philippines.

Pricing and reimbursement delays, raw material costs and availability of high-quality prescription medicines. National pharmaceutical agencies and governments may also cause a delay in the commercialisation of new treatments, because of lengthy bureaucratic processes. This issue is particularly seen as relevant in the Philippines and Viet Nam (respectively 100% and 90% of agreement). The absolute majority of respondents across the ASEAN region agreed that this may constitute a challenge alongside the issue of **raw material price increases**. It is not difficult to interpret this, given the alarming inflation levels seen in the last two years worldwide.

Finally, 64% of respondents agreed that **shortages of high-quality prescription drugs** constituted a challenge. However, it is worth noting that none of the Singaporean respondents considered this a challenge, while 100% agreement levels were reported from respondents from Indonesia and the Philippines and 80% from Vietnamese participants. Several reasons could explain this variation, including infrastructural issues, payers' administrative and economic capacity, market attractiveness and/or substandard regulation resulting in poor-quality medicines.

4.1.5 Challenges on the health system demand-side

Finally, we analysed the impact of challenges linked to the demand-side of the health system. Specifically, we looked at five challenges ranging from issues related to performance incentives, the use of generic products and the quality of health services provided through UHC. Of the five challenges, only one reached consensus across all respondents – *lack of performance incentives for healthcare facilities and healthcare workers* (89%).

Lack of performance incentives. More than 90% of participants from Malaysia, Philippines, Thailand and Viet Nam agreed that the lack of performance incentives, both financial (i.e., pay for performance/results) and non-financial (i.e., utilisation review, prioritisation policies, clinical guidance), to motivate healthcare providers challenged the achievement of UHC in their country.

Low generic prescribing. Prescribing branded medicines over generic alternatives due to a higher level of trust among both patients and physicians can lead to low generic market penetration and higher costs to the system. Increases in generic uptake can be influenced by a number of different factors and policies such as generic substitution, education campaigns to increase generic acceptance, and improved regulatory oversight to ensure high-quality and effective generics (82). The absence of consensus regarding the issue of low generic prescribing implies that these policies are relatively effective within the region. It is important to note here that originators are part of a strong health system rather than purely a competitive force with generics. The presence of both originators and generics ensures that patients have access to a stable supply of quality medicines, with each contributing to a sustainable healthcare system. Appropriate prescribing is a vital component of any healthcare system to ensure greater impact and fewer consequences should an originator be removed from the market.

Two of the challenges related to the demand-side of healthcare that were assessed – '***co-payment structure does not distinguish between socioeconomic status / health status***' and '***informal payments to healthcare professionals are widespread***' did not receive any consensus in terms of agreement, both on an aggregate and country-specific level. This indicates that these factors are not thought to challenge healthcare in any of the countries looked at here.

Quality of UHC services. Finally, we asked respondents if they thought the quality of health care services provided through UHC was poor. The stand-out responses here are from Singapore and Malaysia – all stakeholders disagreed – and Indonesia, where most stakeholders agreed that the quality of healthcare provided under UHC is poor, in line with research that showed that inequalities in access to *quality* healthcare

exist in Indonesia (83). In many low and middle-income countries poor quality health care is responsible for more deaths than insufficient access to care (83).

4.2 Building fiscal space for healthcare

This section focuses on analysing the potential mechanisms to increase fiscal space for healthcare. Participants in the Delphi exercise were asked whether they believe certain financing mechanisms could be used in their country contexts to generate fiscal space for healthcare. The analysis incorporates Delphi results and information from the literature to link stakeholder responses to their context. To provide a clear and concise analysis, the key factors where stakeholders reached consensus (≥70% agreement or disagreement) are prioritized. Graphs display the average response per country and the average response of the whole cohort of participants (horizontal line in red).

Before analysing methods suitable for building fiscal space for healthcare, it is first important to define fiscal space and address the fiscal gap experienced by each country. McIntyre et al (2017) suggest that governments should be spending at minimum 5% of their GDP on healthcare in order to achieve the sustainable development goals and provide UHC to their citizens (84). It is argued that this is the most appropriate target for fiscal sustainability as it takes into account a country's relative level of wealth, although it makes it clear that increasing spending on health should not be at the expense of other social services. The most equitable route to achieving UHC is through government expenditure, rather than overall health expenditure incorporating inequitable OOP payments and private health insurance. Box 2 outlines examples from Japan, France, and Brazil, which can be considered early achievers of UHC.

A country's fiscal gap can be defined as the difference between the actual domestic general health expenditure and the 'ideal' government healthcare spend of 5% GDP. The fiscal gap has been calculated for each of the countries of interest (Table 2). Singapore, as expected, has the smallest fiscal gap at 1.83% of GDP[2] corresponding to a monetary figure of approximately $7 billion. Contrastingly, Indonesia has the largest fiscal gap at 3.12% which corresponds to approximately $37 billion dollars, although it is important to note that Indonesia has the largest economy and GDP by a significant amount at approximately $1 trillion.

Table 2: Fiscal gap of government expenditure on healthcare

Country	GDP ($)	Domestic general government health expenditure (% of GDP)	Domestic general government health expenditure fiscal gap (% of GDP)	Government health expenditure fiscal gap ($)
Indonesia	$1.1 trillion	1.88%	3.12%	$37.0 billion
Malaysia	$373 billion	2.18%	2.82%	$10.5 billion
Philippines	$394 billion	2.49%	2.51%	$9.9 billion
Singapore	$397 billion	3.17%	1.83%	$7.3 billion
Thailand	$506 billion	3.07%	1.93%	$9.8 billion
Viet Nam	$366 billion	2.11%	2.89%	$10.6 billion

Note: The fiscal gap in percentage terms was determined by subtracting the domestic general government health expenditure as a percentage of GDP (World Bank, 2020) from the ideal percentage of GDP allocated to health expenditure (WHO benchmark figure of 5%). The corresponding monetary value was calculated by multiplying the GDP percentage fiscal gap by the country's GDP (World Bank 2021). These calculations provide insights into the gap between current health expenditure and the desired level of investment in healthcare for each country.

[2] It is also worth noting that the medical savings account system in use ensures that Singapore already meets the WHO benchmark and that their fiscal gap is lower than that presented here.

BOX 2 – EARLY ACHIEVERS OF UHC

JAPAN

Japan is considered to have one of the best healthcare systems in the world with almost all members of the population having had access to employee- and community-based social health insurance since 1961. Patients have full freedom to choose their own healthcare providers and all approved drugs are covered by insurance. They have looked at innovative mechanisms to reduce issues related to geographic disparities in the distribution of physicians. For example, prefectural governments subsidize the tuition and living expenses for a number of attendees at the special medical school whose graduates are obligated to work in remote areas. Hospitals in rural areas are able to offer higher salaries for doctors than those in urban areas – they can offset this higher cost for physicians salaries by offering lower salaries to nurses and other support staff who are more willing to work for lower wages (85).

Spend on healthcare is above most OECD countries at 9.8% GDP (86) and the Japanese population has the longest life expectancy amongst the OECD countries. Households are protected from financial risk by the capping of co-payments and the provision of coverage for catastrophic health spend. More than 3000 insurance plans exist but Japan has standardised benefits and provider payments leading to fairness. They have not been able to create an integrated risk pool, as better-off groups do not want increased premium rates. Whilst redistributive mechanisms, including intergovernmental subsidy transfers and transfers between separate funds, maintain contributions and expenditures (87), these mechanisms are not keeping up with the rapidly aging population - by 2060 40% of the population will be over the age of 65. Disparities are now widening in the premium rates collected by the various risk pools and insurance plans. The aging population also means that the current tax policy is unsustainable as a source of funding for the healthcare system due to the shrinking taxable workforce. The country is seeking to reduce the reliance on payroll premium contributions and has looked at other forms of tax revenue such as an increase in consumption tax (87). This highlights the importance of continual analysis and adjustment of healthcare financing processes in order to maintain UHC in the face of changing demographic structures, even in countries with established, effective systems. The Ministry of Finance and the Ministry of Health, negotiate the fiscal subsidy each year, with the fee schedule and payment systems being adjusted every two years in order to ensure effective health allocation.

FRANCE

France has a mandatory social health insurance system which, until the end of the 20th Century, was funded exclusively via payroll contributions from employers and employees. From 1998, it was recognised that a decline in the share of working-age adults curtailed fiscal space so employee payroll contributions were substituted with the General Social Contribution (CSG), an earmarked tax levied on income from financial assets and investments, pensions, unemployment benefits, disability benefits and gambling. It is now one of the main sources of funding for the insurance system at 34%, alongside sin taxes on tobacco and alcohol and taxes on the pharmaceutical industry, which contribute 12% (18). Recent reforms focused on improving the quality of healthcare workers via incentivisation. Pay-for-performance targets were used with physicians meeting targets related to the use of computerised medical charts, using electronic claims transmissions, delivering preventive services like immunisations, meeting targets for diabetic patients and those with high blood pressure and generic prescribing, receiving roughly EUR5000 per year (88). The increased use of digital tools aims to reduce the disparities in access felt by people living in ‘healthcare deserts’ – geographical areas where there is a shortage or absence of medical professionals (90) – whilst other pay-for-performance targets recognise the increasing impact of chronic non-communicable disease in the country. As in other early achievers of UHC, France has learned from the shortcomings of earlier policies and made adjustments without forgetting the principles of UHC (85).

BRAZIL

Brazil's decentralized, universal public health system is funded via tax revenues and contributions from federal, state, and municipal governments (90). The momentum for UHC grew during a period of slow economic growth, pushed by the movement for democracy, and social activists held government accountable for expanding coverage. Multiple programs were integrated into a single, publicly funded Unified Health System (SUS) in 1988. This covered the whole population and was financed via general taxation. The Ministry of Health coordinates policy development, planning and financing, while state governments govern at the regional level and coordinate strategic programs and the delivery of specialized services not decentralized to municipalities. Health departments in the 5570 municipalities manage SUS at the local level by co-financing and coordinating health programs and the delivery of health services. There is significant social participation, guaranteed by constitution at all levels of government, via health councils and conferences which deliberate public health policies and monitor their implementation (90).

Recently, SUS underfunding has led to expansion of the private sector alongside private health insurance programs as many have been driven to the private sector to avoid bottlenecks in the public sector. This has increased out-of-pocket spend, generally concentrated amongst the wealthiest, although it has also affected low-income households. Despite these issues, investment in the Family Health Strategy (ESF) and Community Health Agents Program (PACS) has ensured achievement of near universal health coverage. The ESF gives high priority to providing quality primary care coverage to families lacking access. This has improved financial protection as patients are less likely to side step clinics providing primary care to directly target costlier secondary and tertiary care centres (85).

Having initially concentrated on comprehensive access to primary care, Brazil is now focusing on managing expenditure to meet the growing demand for more comprehensive coverage and higher quality care whilst also managing the emergence of a two-tier system with the increased use of the private sector. Innovative initiatives, for example, public-private partnerships, are now underway to change the outpatient specialist model of care, although integration is challenging and access to specialist services can still be affected by bottlenecks in SUS (90). The unification of financing for primary care, complex health services, pharmaceutical care and health surveillance and management has been suggested by the federal government to reduce bureaucracy and increase flexibility for municipalities but there are concerns about underfinancing in some areas.

The concept of fiscal space has become increasingly popular in policy discussions, both nationally and globally and it is recognized as an important element that must be taken into account as countries move towards UHC (91). Fiscal space can be created by both increasing the efficiency of existing healthcare expenditure and generating additional funds through a variety of methods. In the analysis below, we first cover the mechanisms to increase fiscal space that are considered more 'traditional', then cover those more innovative financing mechanisms before finally discussing those mechanisms which increase efficiency and reduce waste.

4.2.1 Traditional mechanisms

The traditional mechanisms involve established approaches for generating additional revenue for healthcare services. Examples of traditional mechanisms include taxation policies, health insurance schemes, and social health protection programs. A total of eight traditional financing mechanisms were assessed during the Delphi exercise.

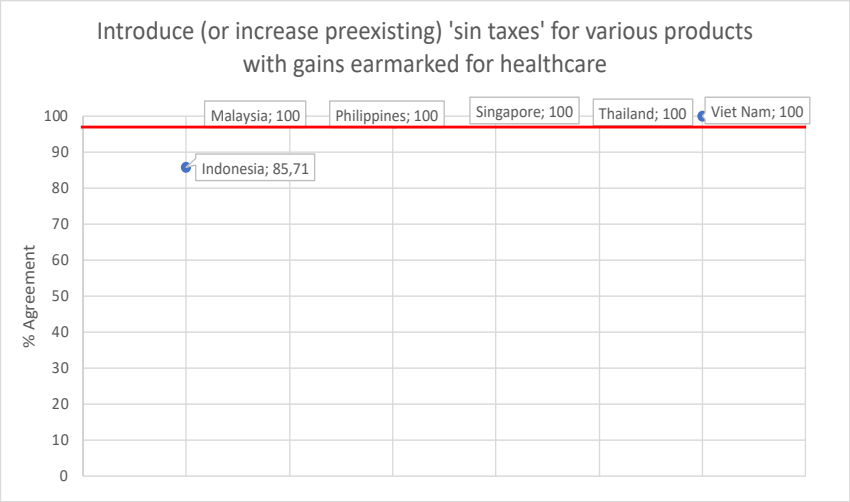

Figure 2: Delphi Results - Introduce (or increase pre-existing) 'sin' taxes for various products with gains earmarked for healthcare

One mechanism that garnered significant agreement across all participants in the region was the proposition to **introduce or increase 'sin taxes' with their revenue gains earmarked for healthcare**. This mechanism received an overall agreement of 98% of participants indicating strong support for its implementation within the context of their respective countries and healthcare systems (Figure 2). Sin taxes are excise taxes placed on items like alcohol, tobacco, fast food, and sugar based on their negative impacts on health and added strain on the health system. Evidence shows that if all countries increased excise taxes to raise prices on tobacco, alcohol, and sugary beverages by 50 percent, worldwide, over 50 million premature deaths could be averted over the next 50 years and over US $20 trillion of additional revenues would be generated (92). However, it is important that sin taxes from a single, specific good should not be relied upon. For example, in Taiwan, tobacco tax is dedicated to immunisation. Revenue for this relies upon high rates of smoking, which the tax actually discourages. Sin tax funding should therefore come from multiple sources rather than just one single source. Box 3 outlines examples of sin tax utilisation.

Other examples of increasing specific taxes were included in the potential mechanisms, such as an **increase in VAT/consumption tax, subjecting luxury goods to a special tax,** and **introducing or increasing environmental tax with gains allocated to healthcare** (Figure 3). In all three cases, Thailand and Viet Nam had a low agreement on these options as potential mechanisms to build fiscal space for healthcare in their countries, contrasting with Malaysia and the Philippines where agreement levels were higher. All respondents from Singapore agreed with increasing consumption tax rates, in line with their current move to increase goods and service tax from 8% to 9% from the 1st of January 2024 (97). This was in contrast with the suggestion of **subjecting luxury goods to taxation** – all Singaporean respondents disagreed with this as an option. Singapore currently taxes luxury cars and property whereby the tax rate increases with the cost; furthermore, it was announced in the 2023 budget that luxury car taxes will increase further (98). The levels of disagreement seen for this factor may reflect the already increased levels of tax in the country, and the fact that the country hosts a large number of high net-worth residents – there is likely a concern that increasing levels of taxes will result in the country being unattractive for some residents.

BOX 3 – SIN TAXES

Sin taxes have been used in many countries as levies on products considered to have negative effects on population health (92-94). Generally, the products targeted by these excise taxes are tobacco, alcohol, and sugar-sweetened beverages (SSBs). The main rationale is to introduce a levy with three consequences: 1. Reduce consumption of the targeted harmful good(s); 2. Improve population health; and 3. Generate fiscal space through the new tax revenues (95). There is significant evidence of revenue generation following sin tax implementation from different settings. For instance, in 2017 it was predicted that a (average) 50% increase in tobacco tax in the Latin American region would generate US$7 million revenues. Related revenues would increase by almost a third whilst tobacco consumption would fall by 7%. Similarly, excise taxes on SSBs would reduce consumption and improve population health, particularly in areas with consistently high consumption levels.

Mexico implemented a tax on SSBs in 2014 which led to a sustained reduction in purchases of these products, particularly in households from lower socioeconomic groups which had traditionally purchased higher levels of SSBs (92). It has been estimated that an additional 20% increase in the tax would lead to additional revenues totalling US$1.9 billion over nine years (93).

Generating this additional fiscal space could be crucial in countries where UHC has not yet been achieved (95). In Asia, a number of countries have introduced excise taxes on harmful goods to, among other things, finance their health systems. In Thailand, a 2001 law introduced an excise tax on SSBs, tobacco and alcohol that led to fiscal generation of US$128 million in 2012. These funds were allocated to improve preventive activities and health and social welfare promotion (96). Similarly, in the Philippines, a 2012 fiscal reform introduced an excise tax on alcohol and tobacco that generated a fiscal space of US$1.25 billion in the same year. 80% of this additional revenue was allocated to Philhealth, while the remaining 20% was managed by the national health department. In the same year, a tobacco control law was issued in Viet Nam, specifically on all cigarettes either imported or produced in the country. It was estimated that the Vietnamese tobacco tax generated US$13.91 million in 2012 only. These additional funds were used for health promotion programmes and preventive activities (96). These country examples demonstrate that increasing sin taxes on products like cigarettes, alcohol, and sugary beverages can positively impact consumption patterns and health outcomes, while also raising additional revenues that may further support health system financing (92,93).

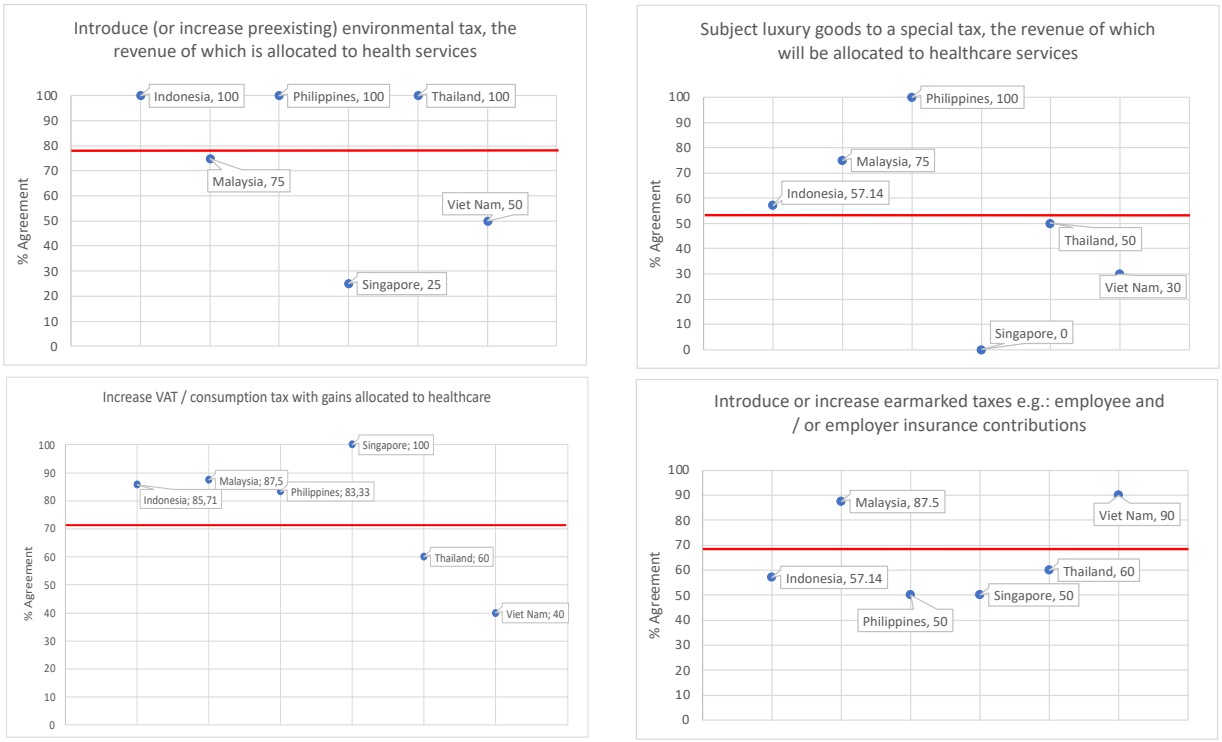

Figure 3: Delphi Results - Country specific agreement on the potential of tax-based financing mechanisms

Lastly, there was limited agreement over participants for 1) **partially privatising health service provision to increase competition and reduce cost at 58% overall agreement**, and 2) **introduce medical savings accounts (MSAs) or increase contribution rates of pre-existing MSAs** at 56% overall agreement (Figure 4). However, Singapore had a 100% agreement regarding MSAs which is expected as a result of MSAs being introduced into the Singaporean healthcare system in 1984. Medisave in Singapore is mandated by the government, individually controlled, and funded through salary contributions. MSAs are thought to be a viable solution to increase health insurance coverage and improve the efficiency of individual spending decisions on healthcare by putting the responsibility into the hands of the individual.

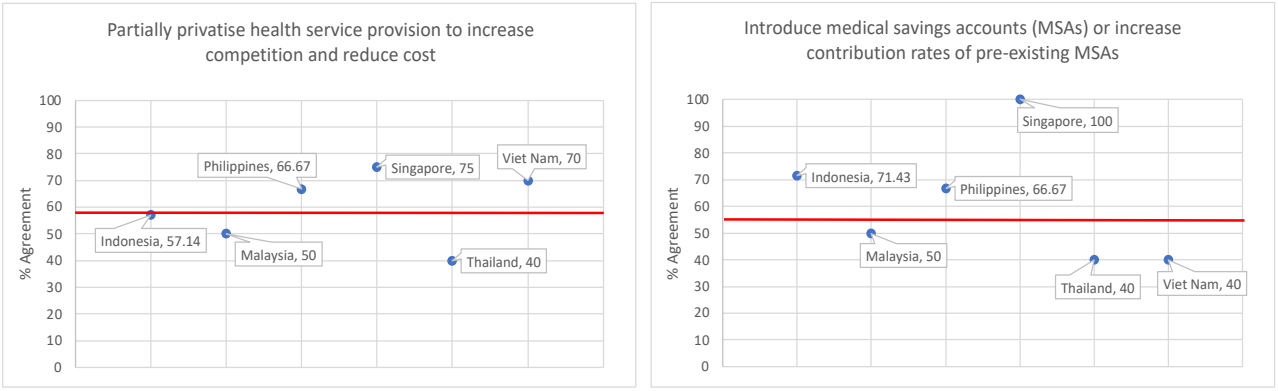

Figure 4: Delphi results - Country specific agreement on Medical Savings Accounts and partial privatisation of health services

4.2.2 Innovative mechanisms

Innovative mechanisms explore unconventional approaches to generate revenue to address health needs (100). Public-private partnerships, where private entities contribute resources or funds to healthcare infrastructure, are one example. Alternative financing models, such as social impact bonds or health impact funds, can also attract investments specifically for healthcare initiatives. This section analyses the attractiveness of a number of innovative mechanisms in the countries of interest using results from the Delphi

process. The list of innovative mechanisms described here is by no means exhaustive with additional mechanisms including, among others, the International Finance Facility for Immunisation, Green Bonds, Debt Conversion Development Bonds, diaspora bonds, a levy on foreign exchange transactions and 'Netflix-style' health subscriptions. We were unable to analyse all available options so have prioritised those that are frequently used in other settings and are most accessible for the countries of interest here. Box 4 discusses innovative healthcare financing mechanisms and presents case studies on their implementation in various settings.

BOX 4 – INNOVATIVE FINANCING MECHANISMS

Innovative financing mechanisms in healthcare refer to novel approaches for raising and allocating funds compared to more traditional financing mechanisms, such as funding healthcare through general taxation or compulsory social health insurance schemes (100,101). In some cases, these mechanisms may be useful for addressing health needs in low- and middle-income countries. Innovative financing mechanisms can be grouped into three categories: 1) Novel funding mechanisms that tap into new revenue sources or improve the efficiency of existing funds like taxes, voluntary contributions, or donor commitments; 2) Mechanisms to stimulate innovation and R&D, using push and pull incentives like patent pools, prizes and advance market commitments for desired technologies; 3) Mechanisms that incentivize performance and results rather than just providing funding inputs, i.e., incentives conditioned on meeting benchmarks (102). However, there is no one-size-fits-all approach when it comes to implementing these mechanisms in different countries. Different economic, geographic, and health system-related factors may determine the effectiveness of specific innovative financing mechanisms. For instance, in the USA innovative financing mechanisms like public-private partnerships are preferred, whilst purely public mechanisms involving tax changes or multi-year funding obligations are less attractive (102).

In Europe, the Autonomous Community of Madrid in Spain issued the country's first social bond in 2020 (103). The €52 million social bond was dedicated to supporting the regional health system during the COVID-19 crisis. By turning to the capital markets and aligning with the growing sustainable debt market, the community of Madrid was able to raise targeted financing for health infrastructure and services. The social bond framework allowed the region to transparently direct funds to defined COVID-19-related expenditures (103).

Similarly, the health impact bond issued by the Region Stockholm represents an innovative financing mechanism for preventive health initiatives (104,105). It enables up-front funding for preventative programs, with the returns tied to outcomes - in this case, the prevention of type 2 diabetes progression in a high-risk population. The mechanism incentivises preventive care and risk-sharing between the public and private sectors. With evidence of successful prevention, the Region and investor both benefit through healthcare savings and positive returns respectively. This innovative model has the potential to scale cost-effective preventive practices and alleviate the growing burden of chronic illnesses (104,105).

Programmes including innovative financing mechanisms have been developed for low- and middle-income countries. These include mechanisms aimed at accelerating access to medicines, including advance market commitments securing future vaccine purchases to incentivize development and the priority review voucher rewarding developers products targeting neglected disease (106).

Innovative financing aims to raise supplementary funds, stimulate development, and access to health technologies, and improve aid effectiveness. However, what is considered innovative for one country may already be standard practice in another. For example, while advance market commitments were innovative when proposed, some countries have long used similar procurement mechanisms. Furthermore, in some cases sustainable health financing does not necessarily require innovation - countries with established health systems may simply need adequate tax revenue and public spending dedicated to health (102). The appropriateness of different financing approaches depends on a country's existing policies and fiscal capacity.

Annuity models

Annuity models are financial models which can provide a regular income stream in exchange for a lump sum or periodic payments. Therefore, high-value therapies can be paid for as if they were ongoing treatments instead of systems being charged one-time lump sums. Annuity payments are often used in combination with outcome-based remuneration schemes to help to reduce decision uncertainty and increase patient access without exceeding net budget impact tests (107). Moreover, governments can leverage annuity models for infrastructure development, service provision or equipment procurement, allowing private companies to bear the upfront costs while receiving periodic payments over an agreed upon time. One of the key benefits of annuity models is the predictability of annual costs, enabling better financial planning.

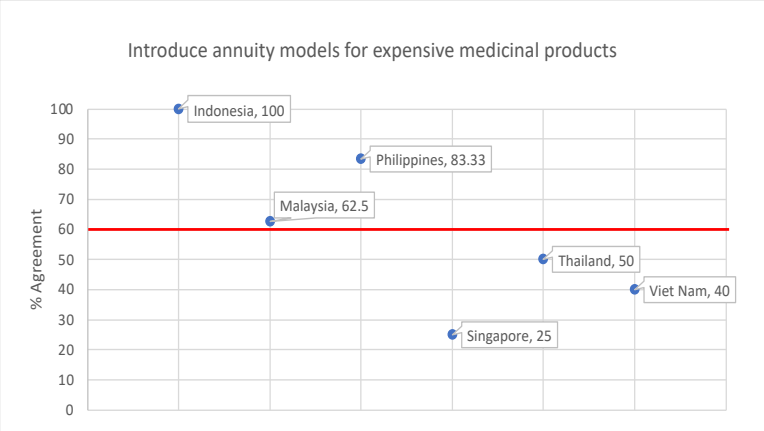

Figure 5: Delphi Results - Introduce annuity models for expensive medicinal products

Annuity models were proposed as a potential method of innovative financing in the Delphi, particularly for the example of financing expensive pharmaceutical products. They were met with significant agreement. All respondents from Indonesia and 83% of those from the Philippines agreed with the implementation of annuity models. Those from Singapore, Thailand and Viet Nam were less convinced (Figure 5). Singapore's minimal agreement could be a result of the belief that they have reasonable access to innovative medicines as discussed in the previous section, thus annuity models are not believed to be essential in their system. However, in other countries, the use of annuity models could play a valuable role in both improving access to innovative medicines and creating fiscal space through enabling predictable costs which are spread over time with their risk shared.

Risk-sharing agreements

Risk-sharing agreements can be defined as pre-planned contracts based on agreed-upon measures, financial or outcomes-based. They are performance-based agreements whereby performance is tracked in a specific population over a specific amount of time. These agreements can be used when paying for health technologies, particularly those with limited evidence, and when paying for health services.

In the context of ASEAN-6, where the countries often face limited resources and budgetary constraints, risk-sharing agreements can be a potential tool to optimise health expenditure and improve access to medicines, a key goal within the SDGs. However, the ability to undertake risk-sharing agreements requires a certain degree of centralized decision-making, a dominant 'single-payer' for negotiation of terms, the infrastructure and ability to collect and manage data to collect Real World Evidence (RWE) to demonstrate outcomes (108). There may be potential issues with agreements based on volume that need to be considered. Drug shortages may adversely impact the agreement as some companies may increase production in order to help with local supply, for example if domestic producers fall short or if there is a recall/withdrawal. This

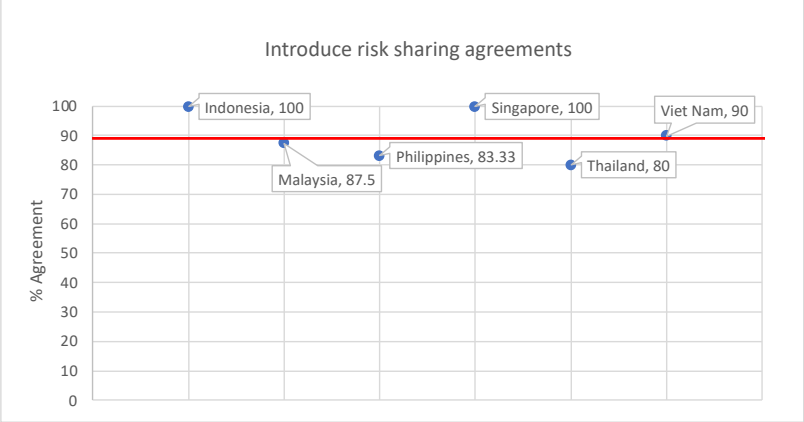

Figure 6: Delphi Results - Introduce risk sharing agreements

could result in volumes being exceeded and the company penalised for meeting patient and market needs; this is something that needs to be factored in when designing and monitoring the performance of these agreements. Many of the ASEAN-6 countries have inadequate digital infrastructure and data collection mechanisms to showcase outcomes and monitor performance. However, there was an overall strong consensus between participants from all countries who agreed that this financing mechanism could generate fiscal space in their context (Figure 6).

Health and social impact bonds

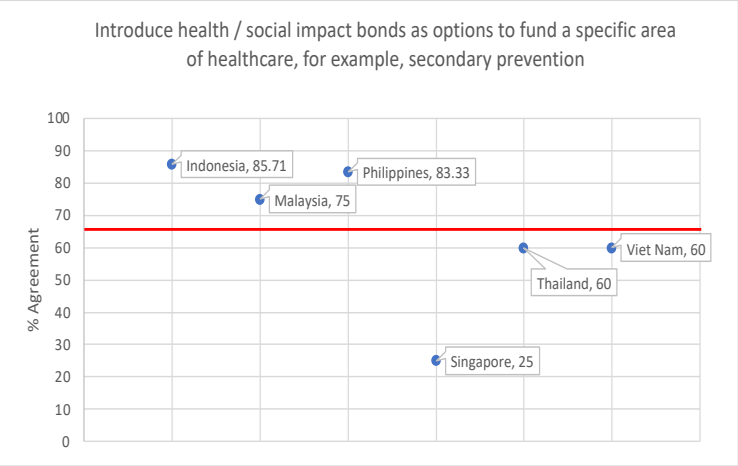

Figure 7: Delphi Results - Introduce health/social impact bonds as options to fund a specific area of healthcare, for example, secondary prevention

Health and social impact bonds (SIBs) leverage private capital to fund health, social and development programs based on achieved outcomes. In SIBs, private investors provide initial flexible capital to healthcare providers and governments then reimburse those investors based on the outcomes achieved by the individuals receiving the services. Unlike traditional volume payment models, SIB contracts only enable reimbursement based on previously agreed outcomes of the program, which are often demonstrated improvements in health (109). This ensures that health systems only pay for health and social programs that provide tangible results, with private investors taking on the financial risk rather than governments.

SIBs represent an innovative approach to contracting, financing, and delivering services, bringing together diverse stakeholders, including government agencies, private investors and non-profits, to improve outcomes of government programs typically constrained by resource availability. By establishing unambiguous metrics for assessment and rewards for investors, SIBs promote accountability and clear expectations from all parties involved (109). Within our participant cohort, Indonesian, Malaysian and Philippines participants agreed that SIBs could be a potential option for their contexts. However, Thai, and Vietnamese participants were less certain with only 60% of participants agreeing for both countries (Figure 7). 75% of Singaporean participants disagreed with this option.

While SIBs have gained prominence throughout Europe and North America, there are currently limited examples within Southeast Asia. In Japan, the first batch of SIBs was launched in three municipalities during 2017 and 2018. These focused on severe diabetes prevention in Kobe and colorectal cancer screening in Hachioji and in Hiroshima Prefecture. Whilst the funds involved were relatively small at ¥24 million and ¥9.7 million respectively, the involvement of major banks as investors suggests potential for mainstream investors (110). The slower uptake in developing nations and particularly South-East Asia could result from the need to rely on donor agencies to provide the initial capital. However, SIBs hold significant potential for the region and the current push for countries to achieve UHC could catalyse progress. Firstly, through the ability to attract private investment to countries with limited resources to fund UHC programs independently. Secondly, SIBs can help improve the efficiency of healthcare delivery, through the focus on outcome-based payments. The focus on measurable outcomes helps ensure there are incentives for high performance and efficient and effective use of resources. Lastly, SIBs have the opportunity to build accountability within the health sector. Providers are held accountable for their performance as investors are only paid if outcomes are achieved. According to the Impact Bond Dataset from the Government Outcomes Lab of Oxford, a few neighbouring countries have launched SIBs with outcomes related to the SDG goals demonstrating their regional potential. For example, a bond was launched in 2019 in Cambodia, focusing on improving sanitation in rural communities (111).

Despite the potential impact of SIBs, some notable questions and criticisms are associated with their implementation. One concern is the significant time commitment and the steep learning curve involved due to the involvement of numerous stakeholders. Additionally, SIBs tend to focus on small populations, raising questions about scalability if positive results are achieved. Furthermore, SIBs are very expensive to develop, with successful implementation requiring robust data collection abilities by providers and significant research to determine the appropriate data to collect to showcase impact. This can present a significant challenge in countries with limited digital infrastructure and data collection abilities.

Overall, SIBs cannot be used as the sole mechanism for creating fiscal space but do hold promise for creating fiscal space and driving positive health outcomes in Southeast Asia, but careful consideration must be given to the challenges and limitations associated with their implementation. Further research, stakeholder engagement, and tailored approaches are necessary to fully understand and unlock the potential of SIBs in the region.

Windfall corporation tax

A windfall tax is a surtax levied on profits that ensue a sudden windfall gain for a particular company and/or industry (112). Banks and energy companies, in particular, may generate excess profits as a result of favourable market conditions thus capturing windfall gains. Therefore, a windfall tax on the profits of such companies could be earmarked for healthcare purposes, with the aim of enhancing access, quality, and affordability of healthcare services.

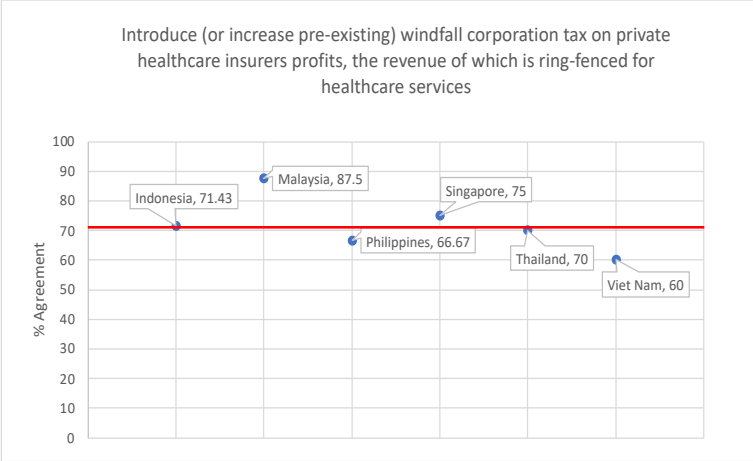

Figure 8: Delphi Results - Introduce (or increase pre-existing) windfall corporation tax on corporation profits, the revenue of which is ring-fenced for healthcare services

Stakeholders from Indonesia, Malaysia, Singapore, and Thailand have acknowledged the potential advantages of implementing these taxes within their respective contexts (Figure 8). Despite the unrelatedness to the healthcare sector, several examples of windfall taxes from these countries demonstrate their willingness to implement such measures. In Malaysia, the application of windfall profit levies on crude palm oil and crude palm kernel oil when prices surpass certain thresholds is already familiar. Additionally, the Windfall Profit Levy (Validation) Bill 2023 (113), currently under consideration, aims to validate previously imposed windfall profit levies within a specified timeframe. This validation process covers various sectors, including crude palm oil, crude palm kernel oil, oil palm fruit, and electricity. The purpose of this validation is to safeguard the government, as the previous windfall profit levies did not fully comply with the requirements outlined in the Windfall Profit Levy Act 1998.

Singapore has implemented a risk-based capital framework that includes levies on insurance companies, including private health insurers (114). These levies, calculated based on insurers' risk profiles, ensure sufficient reserves to protect policyholders and maintain stability in the insurance sector. The revenue generated from these levies is effectively utilized to support policyholders and strengthen the sector. Similarly, Thailand applies windfall levies to combat inflated property prices resulting from transport infrastructure projects (115). Thailand's need for such taxes arises from its relatively small tax base, which is heavily influenced by the extensive informal economy. With tax revenues accounting for only 17-18% of the GDP (116), implementing mechanisms like windfall corporation taxes in the healthcare sector could foster greater fairness in tax payments by addressing gaps in the tax collection system, particularly through expanding the tax base.

Earmark GDP gains

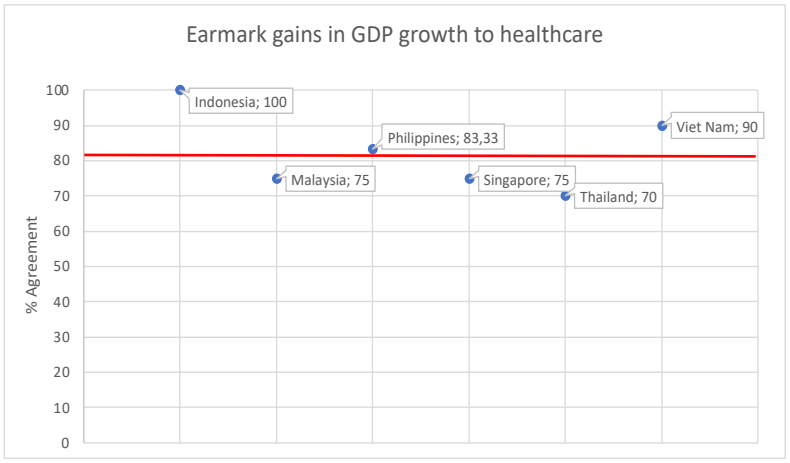

Figure 9: Delphi Results - Earmark gains in GDP growth to healthcare

When a country experiences an increase in GDP, it indicates that the overall economic output and income within the country are growing. Earmarking these gains implies allocating a specific percentage or amount of the increased GDP to fund healthcare initiatives, programs, or services (117). Debates surrounding earmarking can be polarizing, with both positive and negative aspects to consider. On the negative side, earmarks are criticized for introducing budget rigidity, distorting the economy, limiting the implementation of countercyclical policies, increasing fragmentation, reducing solidarity, and promoting regressivity. However, countries may also choose to explore earmarking for various reasons. Some objectives are financial, directing revenue towards the health sector as a whole or specific health programs. Others are technical, aiming to increase efficiency, accountability, cost awareness, or flexibility (118). By allocating a portion of GDP growth to healthcare, the intention is to ensure that the healthcare sector receives adequate financial resources to improve access, quality, and affordability of healthcare services. It recognizes the importance of investing in healthcare as a fundamental component to achieve UHC and related SDGs.

Two countries of interest within our group, Indonesia and Viet Nam, have a general practice of earmarking expenditures for the health sector by specifying the portion of total government spending allocated to healthcare. In Viet Nam, a government resolution ensures that increases in government health spending are not lower than the overall increase in government spending, thus maintaining the health sector's share of the total budget (117). By earmarking gains in GDP growth for healthcare in these countries, it becomes possible to address shortcomings in the healthcare system, expand healthcare coverage, improve healthcare infrastructure, invest in medical technologies, and support the development of the healthcare workforce. This approach serves as a strategic method to prioritize healthcare funding and strengthen the overall healthcare system of each country. Currently, health expenditure as a percentage of GDP ranges from 2.9% in Indonesia to 5.0% in Viet Nam in 2019 (72), leaving room for potential increases in healthcare investment. The WHO recommends allocating at least 5% (84) of GDP to healthcare. Figure 9 illustrates the overall agreement among stakeholders from these countries regarding the benefits of earmarking mechanisms, highlighting their potential for increasing fiscal space in the healthcare sector. Notably, Indonesia, with the lowest GDP expenditure among the countries in the group, demonstrates complete unanimity in supporting the earmarking approach. On the other hand, Thailand has successfully achieved and maintained universal coverage without depending on earmarked financial commitments specifically dedicated to UHC. This may explain the comparatively lower level of agreement towards earmarking GDP gains among the group (Figure 9).

Tax on inbound medical tourism

Medical tourism has emerged as a significant industry in Southeast Asian countries, attracting international patients seeking high-quality healthcare services. In 2019, Malaysia generated substantial healthcare travel revenue from Indonesia and China, particularly through fertility treatment for Chinese couples. Malaysia has attracted travellers from Singapore, the US, Australia, and the UK due to its comparatively cheaper medical care. Similarly, Thailand, with the highest number of medical tourists in Southeast Asia, generated revenues of $1.8 billion in 2019, with government plans to grow the sector by 5% in the coming years (119).

As the potential economic benefits of medical tourism continue to grow, discussions have arisen about leveraging this industry to increase fiscal space for healthcare. Taxing medical tourism involves imposing levies or fees on medical services provided to international patients. This strategy aims to generate revenue that can be allocated to the healthcare sector, ultimately increasing the financial resources available for healthcare investments. The concept of taxing medical tourism has garnered attention as countries seek innovative financing mechanisms to meet the growing demand for healthcare services.

Figure 10 shows the high levels of consensus among stakeholders in Thailand regarding the implementation of taxes on inbound medical tourism. The presence of international medical tourists, who are willing to pay substantial treatment expenses, allows private hospitals to enhance their profitability by escalating medical service charges (120). Suggestions have been made to levy a tax on foreign patients seeking medical treatment in Thailand, with the generated revenue earmarked for investment in the country's healthcare infrastructure and the training of new physicians. Concerns have been raised about the potential collapse of Thailand's entire healthcare system due to the exorbitant costs of medical care in private hospitals. Consequently, appeals have been made for increased government investment in enhancing the quality of public healthcare facilities and a re-evaluation of health tourism policies (121). Despite these challenges, private hospitals in Thailand continue to observe steady growth, driven by the increasing number of foreign patients seeking medical treatment and the high demand from affluent Thai residents. However, numerous Thai nationals encounter prolonged waiting times and limited accessibility to healthcare services.

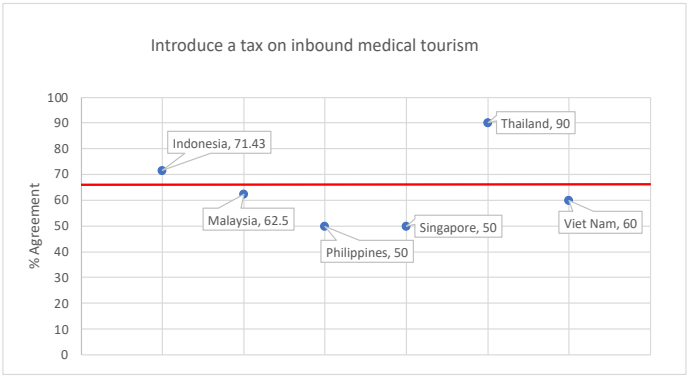

Figure 10: Delphi results - Introduce a tax on inbound medical tourism

4.2.3 Efficiency mechanisms

Opportunities to achieve more with the same resources are available to all countries. Efficiency mechanisms play a crucial role in the creation of fiscal space, allowing governments to maximize the impact of available resources and ensure the efficient utilization of public funds (122). These mechanisms focus on improving the efficiency, effectiveness, and equity of healthcare service delivery, ultimately leading to better health outcomes for the population. Efficiency in healthcare can be defined as the ability to deliver high-quality healthcare services while minimizing waste, reducing costs, and optimizing resource allocation. It involves streamlining processes, eliminating unnecessary expenses, and enhancing the overall productivity of the healthcare system (122). Achieving efficiency is not solely about cost reduction but also about improving the overall healthcare experience for patients, ensuring timely access to care, and achieving better health outcomes. It means achieving more with the same or fewer resources, thus making healthcare systems more sustainable and resilient. By enhancing efficiency, these mechanisms can also expand fiscal space, allowing for increased investments in critical healthcare areas and improving overall public health.

The overall consensus among participants was generally positive, indicating a favourable response to the proposed measures. The **use of international reference pricing (IRP) in pricing negotiations** received an 80% consensus, with varying levels of agreement across countries, ranging from 75% in Singapore to 90% in Viet Nam. It is important to note that this mechanism is already implemented in Thailand (123). Caveats are important here as IRP can have negative consequences on patient access and global innovation. **Increasing funding for primary prevention and enhancing stakeholder engagement to improve efficiency** garnered a high consensus of 96%. The **reallocation of resources to healthcare** received a 54% agreement, with Malaysia (75%) and Viet Nam (70%) being the only countries with consensus. The **introduction or expansion of national essential medicines lists to cover more therapeutic areas** achieved a strong consensus of 93% agreement across all countries. **Encouraging generic substitution of 'branded' / 'off patent' medicines** and **establishing independent monitoring of health agencies** also garnered high consensus, both at 89% and 93% agreement, respectively, with unanimous agreement from all countries. Similarly, there

was strong agreement (96%) among all countries regarding the **improvement of health workforce knowledge** and **the implementation of tools for efficient resource allocation based on clinical and cost effectiveness** (96%). Lastly, achieving a perfect consensus, all countries supported the **initiatives to improve health system digitalization and effective regulation** as well as **invest in citizen and patient awareness programs**, each receiving a 100% consensus (Box 5 discusses digital innovation and presents a case study on its implementation). Overall, the results demonstrate a general consensus among the participants regarding the importance of these strategies to address the challenges of affordability and efficiency in healthcare systems.

BOX 5 - DIGITAL INNOVATION

Digital innovation has the power to transform all aspects of healthcare and the care delivery pathway to deliver better value to patients. The COReHealth project, initiated by the Regional Agency for Health and Social Affairs in Puglia, Italy, uses innovative technologies to allow patients with chronic conditions to be treated from home. It focuses on self-management, reducing the need for hospitalisation and clinician visits and in turn reducing the use of hospital resources and waiting times. A mobile phone app allows patients to meet with their doctors via video call whilst medical devices like oximeters allow patients to measure parameters in real time. Healthcare professionals have access to a cloud platform to analyse these parameters allowing for constant monitoring. This system enhances equity of access, continuity, and improves quality of care for conditions like diabetes, hypertension and breast cancer (124).

Whilst valuable in high-income countries, it is important that any introduction of digitalization reduces inequalities rather than adding to them. In middle-income countries, where high-speed internet access may be lacking, it is important that any digital innovation is considered on a step-by-step basis. Countries need to ensure that the basic infrastructure required to use novel processes is in place throughout the country to prevent the introduction of a two-tiered system disadvantaging the poor or those living out with cities and towns.

These findings provide insight on the efficiency mechanisms that can be employed to enhance fiscal space in the healthcare systems of the countries examined. The results indicate varying levels of consensus among the participating countries regarding the identified mechanisms. The implementation of tools for efficient resource allocation based on the clinical and cost effectiveness of a medical technology plays a crucial role in optimizing resource utilization. This mechanism involves rigorous assessments of medical technologies to determine their clinical effectiveness and cost-efficiency. When coupled with value-based procurement, these mechanisms work in synergy (125). The clinical and cost-effectiveness evaluations inform value-based procurement processes, ensuring that healthcare systems procure products and services offering the best value for money. While the impact on consumer cost sharing varies, the long-term effects of these efficiency mechanisms may stimulate price competition and foster innovative cost-cutting measures in healthcare products and processes. By combining these approaches, healthcare systems can make informed decisions, prioritize investments, and procure interventions that provide the best value in terms of improved patient outcomes and cost-efficiency, ultimately contributing to the overall efficiency and sustainability of healthcare systems.

At the same time, encouraging the substitution of branded / off patent medicines with generics also emerged as a supported approach, as it can offer cost savings (123), although it is important to recognise that both originators and generics should be part of a strong health system to ensure patients have a stable supply of quality medicines. Additionally, reallocating resources from non-essential areas to healthcare was acknowledged as a viable mechanism, although consensus on this aspect was limited. The introduction or expansion of national essential medicines lists, and independent monitoring of health agencies garnered strong consensus, highlighting the importance of streamlining healthcare processes, and ensuring cost-effective resource utilization. Furthermore, digitalization of health systems and effective regulation received unanimous support, emphasizing the role of technology and robust governance frameworks in optimizing efficiency. Lastly, investing in citizen and patient awareness programs was universally acknowledged to empower individuals and promote informed decision-making, ultimately leading to improved health outcomes and reduced healthcare costs.

SUMMARY

- A country's fiscal gap can be defined as the difference between the actual domestic general health expenditure and the 'ideal' government healthcare spend of 5% GDP. Singapore, as expected, has the smallest fiscal gap at 1.83% of GDP corresponding to a monetary figure of approximately $7 billion. Contrastingly, Indonesia has the largest fiscal gap at 3.12% which corresponds to approximately $37 billion dollars, although it is important to note that Indonesia has the largest economy and GDP by a significant amount at approximately $1 trillion.
- The concept of fiscal space has gained prominence in policy discussions worldwide, particularly in the context of striving for UHC, a pivotal SDG. The focus is on two primary strategies to create fiscal space: enhancing the efficiency of current healthcare spending and generating extra funds through diverse approaches. Innovative mechanisms explore unconventional approaches to generate revenue to address health needs.
- Traditional financing mechanisms involve established approaches such as taxation policies, health insurance schemes, and social health protection programs. The report assesses eight traditional mechanisms, with a particular focus on the proposition of introducing or increasing 'sin taxes' on items like alcohol, tobacco, fast food, and sugar, with revenue gains earmarked for healthcare. The Philippines serves as an example with its successful Sin Tax Law that generated revenue for universal health coverage and public health improvements.
- Innovative financing mechanisms present promising opportunities to create fiscal space and enhance healthcare services in Southeast Asian countries. Annuity models and risk-sharing agreements are potential approaches to finance expensive pharmaceutical products and optimize health expenditure while ensuring patient access. Health and social impact bonds offer an innovative way to leverage private capital for achieving better health outcomes, although challenges in implementation should be carefully considered.
- Windfall corporation taxes provide a means to capture excess profits from industry (such as energy firms), redirecting funds to strengthen the healthcare sector. Earmarking gains in GDP growth for healthcare can prioritize funding and address shortcomings in healthcare systems, supporting the achievement of UHC and SDGs.
- As medical tourism grows in the region, taxing medical services for foreign patients can generate revenue to invest in healthcare. However, the potential impact on healthcare accessibility must be weighed against the economic benefits.
- For innovative mechanisms, there is strong country stakeholder support for annuity models, while opinions are mixed for risk-sharing agreements and health and social impact bonds. As for traditional mechanisms, there is overwhelming support for 'sin taxes' earmarked for healthcare, while other options like increasing specific taxes and introducing user charges have mixed agreement levels. Singapore, having already implemented some of these mechanisms, shows specific preferences and concerns.
- Efficiency mechanisms focused on improving healthcare service delivery to maximize the impact of available resources and ensure efficient utilization of public funds. Strategies identified include enhancing digitization of health system, (for example, electronic patient records), international reference pricing, primary prevention funding, reallocation of resources, essential medicines lists, promotion of appropriate prescribing, independent monitoring, and health workforce knowledge improvement. These strategies received varying levels of consensus, with some measures garnering strong support from all countries.

5. Policy options

There are a number of spaces where improvements can be made to enhance the progress made with UHC and wider SDG development in the six countries of interest here, as well as in the whole ASEAN region. In this section, we suggest a number of recommendations for both the healthcare space in general as well as recommendations to build fiscal space. The need for sustainable healthcare financing is now more important than ever, particularly in a global economy experiencing increasing raw material and other costs due to inflationary impact. The epidemiological transition from infectious to chronic diseases in lower income countries has resulted in significant NCD-related morbidity and mortality in the region whilst simultaneously countries recover from one of the most financially damaging communicable diseases in recent decades – COVID-19. At the same time, population aging may contribute to declining revenue for healthcare in the future: although aging may not be a driver for higher healthcare related costs by itself, the likelihood of a declining proportion of the active workforce may result in less income generated for health and social security (126,127). Now is the time to push for reform to overcome serious health financing challenges and establish sufficient and sustainable funds, alongside protection from financial risks, and improve efficiency in the selection and delivery of available goods and services to achieve the targets set out by the SDGs by 2030 and ensure that no country is left behind.

5.1 Cross-region recommendations

Many of the recommendations borne out of this report are applicable to multiple countries in the region (as well as those outside of ASEAN) due to shared circumstances and experiences, although it is important to note that there are some outliers. We will first consider those recommendations related to the health system as a whole before moving on to look at recommendations focused on building fiscal space.

5.1.1 Recommendations for ASEAN healthcare systems

Healthcare systems have traditionally focused on curative, actions rather than preventive services (45). This was more relevant when the majority of ill health was the result of infectious disease. As the region has transitioned, most ill health is now due to preventative NCDs. At the same time the proportion of older people in the population has increased due to lower death rates and increased longevity. These developments must trigger change in the structure and focus of the healthcare system to allow it to work as effectively as possible for the people it serves.

1. Give high priority to achieving full population coverage with an affordable package of services delivered via effective primary health care services with an increased focus on primary and secondary prevention. Ensuring all members of the population, no matter their geographic location or socioeconomic status, have access to a specific level of service, should be the primary goal of all countries in the region. Countries prioritizing full population coverage with a smaller package of benefits outperform those targeting higher benefit packages for select population groups in terms of health outcomes. Primary health care is the most cost-effective, inclusive and equitable approach to strengthen health systems and ensure coverage for all (128) with the capability to deliver almost 90% of essential UHC interventions. It should be the core focus to improve access to healthcare for previously underserved / disadvantaged members of the population and protect vulnerable people from catastrophic OOP payments (129). Focusing on preventive healthcare, including both primary and, particularly important with NCD, secondary prevention will reduce the impact of

diseases like cancer (e.g., through screening plans), diabetes, heart disease and obesity. This will lead to long-term cost savings by reducing the burden of preventable disease (12).

Key Actions:

- ⇒ Prioritise full population coverage.
- ⇒ Ensure medicines supplied in primary health care systems are publicly financed.
- ⇒ Prioritise primary and secondary prevention using disease prevention campaigns and detection programs, like cancer screening, alongside public health education to improve knowledge around preventable actions.
- ⇒ Use financial rewards to link prevention and wellness programs to insurance, whereby premiums decrease if, for example, healthy behaviors increase.
- ⇒ Look beyond NCD to ensure that every member of the population has the opportunity to be as healthy as possible and build as successful a life as possible. Examples include encouraging effective and consistent ophthalmologic care for children to enable efficient learning, and improving access to dental management and treatment to allow for effective nutrition.
- ⇒ Incorporate vaccinations into the compulsory schedule via the UHC system and reverse dis-information related to vaccines via health literacy programs.

2. Improve health system capacity by building additional primary care infrastructure and addressing human resource gaps. An essential component of any efficient health system is the presence of an effectively trained and motivated healthcare workforce, with even distribution across rural and urban areas. The limited government spend on health in much of the ASEAN region has led to underinvestment in human resources and as such there are insufficient numbers of nurses, midwives, doctors and specialists, particularly in the public system in poorer or more rural areas due to migration from low- and middle-income countries to more resource-rich countries as well as from rural to urban areas (55–57). There are also issues of workplace safety, particularly for women in the health-sector, and discrepancies in levels of pay between male and female healthcare workers (130).

Key Actions:

- ⇒ Ensure that there are suitable training opportunities for future healthcare workers, including both university level and postgraduate, specialist positions.
- ⇒ Guarantee opportunities for continued professional development to ensure healthcare workers keep pace with developments in healthcare and medical technologies.
- ⇒ Develop incentives to reduce the 'brain-drain effect' from low-income to higher income countries, from the public to the private system and from rural areas to more urban areas to ensure staff are available where required. I.e., financial incentives could be given to healthcare workers to ensure they remain employed in rural areas for a certain number of years.
- ⇒ Ensure salaries are in-line in both public and private settings and that discrepancies in levels of pay between men and women in the same role are reduced.
- ⇒ Make it easier for foreign nationals to work within the healthcare system.

3. Develop processes to objectively determine the value of innovation

In recent decades innovative medicines have changed the face of disease management and treatment. Despite this, many stakeholders may be concerned about the impact of price on their ability to offer affordable access to those who need them. As such, sustainable access to innovation is now a growing area of concern, particularly in low- and middle-income countries (131). It is important that Ministries of Health and Ministries of Finance do not ignore the potential benefit of innovation to meet rising healthcare demands, both in terms of novel branded pharmaceuticals but also innovative processes, medical technologies and devices and digitalization. The focus of all countries should be on increasing the 'value of spending' to ensure that maximum value is achieved from any expenditure. Countries need to ensure systems are in place to objectively determine this value.

Key Actions:
- ⇒ Establish, or update pre-existing, structures to assess value.
- ⇒ Ensure that investments are focused on innovations that drive value.
- ⇒ Develop regulatory systems to allow accelerated market access for medicines with significant potential benefit.
- ⇒ Routinely collect data to be used in evaluating the effectiveness of medicines outside the clinical trial context. This could be used to inform clinical practice guidelines as well as coverage and pricing.
- ⇒ Work to rebuild stakeholder trust around the work of the pharmaceutical industry and the benefit it delivers.

4. Enhance investment in and utilization of effective digitalization in the healthcare system. There has been significant advancement in information technology, digitalization and artificial intelligence (AI) over the last decade but its utilization in the healthcare space lags behind the speed of innovation (132). The COVID-19 pandemic highlighted the positive impact of technologies such as virtual appointments (133), beneficial in rural areas to improve access, and electronic health care records (EHCR), which improve patient management and integration, vital as the population age increases and the proportion of, often co-morbid, NCD increases requiring more complex care pathways.

Key Actions:
- ⇒ Develop sufficient data governance procedures and regulatory policy to ensure that digital information can be used in the healthcare space effectively.
- ⇒ Ensure suitable levels of internet connectivity are available throughout individual countries.
- ⇒ Invest in data management infrastructure and data collection activities through, for example, national registries.
- ⇒ Use effective data collection and predictive analytics to determine future healthcare requirements for specific areas of the country or members of the population. This will encourage efficient resource allocation, evidence-based decision-making and promote accountability within the system.

5. Ensure the focus on UHC is cross-government, engages external stakeholders including civil society and the private sector and that political will translates into actionable and measurable outcome. Sustained political leadership, commitment and will are essential in order to embed UHC as a goal in national policy frameworks and budgets. There is no doubt that the Ministries of Health of the countries studied here have UHC firmly set as a political priority, but achieving UHC is not the responsibility of Health Ministers alone. The nature of health is that our environment, socioeconomic status and genetic predisposition all play a role. The intersectoral nature of health requires a 'Health in All Policies' approach with focus for example on transport, housing and employment policies alongside those issues more traditionally thought of as 'health related'.

Key Actions:
- ⇒ Cohesive action is required across government.
- ⇒ Health in All Policies should be pursued to guide action beyond the health sector and support health in all areas.
- ⇒ Ministry of Science and Technology, industry and other sectors that support start-ups, as well as research & development, Ministers of finance and the environment must all play a role.

5.1.2 Recommendations to build fiscal space for healthcare in ASEAN

It is clear that in order to achieve the recommendations above and to effectively recover from COVID-19, fiscal space must be expanded. This is particularly important in countries still progressing towards UHC and attainment of the other sustainable development goals. To do this there needs to be a focus both on raising additional resources to fund health services, whilst at the same time working towards improving the efficiency with which existing resources are deployed. For each fiscal space building recommendation, we have identified the potential policy implications related to the political feasibility / acceptability, revenue raising capacity, level of equity and finally the macroeconomic and microeconomic impact of the recommendation. In each case the policy impact of each recommendation is graded using the following values: ○ no impact; ◔ minimal impact; ◑ moderate impact; ◕ considerable impact; ● very significant impact.

6. Pursue innovative financing models with the private sector to attract additional resources into the health system and fund specific programmes. The private sector can be engaged to raise resources for UHC, both via foreign investment and blended financing mechanisms using a range of innovative financing mechanisms. Public-private partnerships (PPPs) can be applied to pursue UHC programs or improve infrastructure within the health system. Nonetheless, there are limited examples of utilization of innovative financing methods in the healthcare sector, suggesting that there may be barriers to their implementation. To effectively implement and exploit innovative mechanisms with the private sector, governments must ensure that mechanisms for blended finance are strengthened and that legislation allows for their development and implementation. Furthermore, local stakeholders should be fully engaged in a collaborative design approach to ensure feasibility in local contexts, and stakeholders must be prepared to regularly monitor and evaluate the effectiveness and impact of the agreements.

Key Actions:

- ⇒ Ensure any private sector involvement to build fiscal space for healthcare aligns with and complements the overall goals and priorities of the public sector.
- ⇒ Design and implement incentives to attract private sector investments in healthcare.
- ⇒ Strengthen the capacity of key government agencies to engage in PPPs, such as providing training and support for agencies to effectively negotiate and manage partnership agreements.
- ⇒ Generate a standard impact bond structure with streamlined documentation and clear terminology to enable SIBs to be used more readily and easily scaled.
- ⇒ Work together to create a regulated impact bond marketplace where government / international organisations can find investors by sector and country.
- ⇒ Utilise demonstrative pilots with local governments to test feasibility and effectiveness in certain regions.
- ⇒ Generate educational schemes and information to raise awareness and understanding of innovative financing mechanisms in the South-East Asian context.
- ⇒ Ensure legal and regulatory frameworks support the development and implementation of innovative financing mechanisms.
- ⇒ Ensure collaborative design approaches, involving all key stakeholders.
- ⇒ Build capacity to enable governments to implement and manage models effectively.
- ⇒ Establish robust monitoring and evaluation systems to assess the effectiveness and impact of agreements.

Recommendation	Political Feasibility	Revenue Raising Capacity	Level of Equity	Positive Macroeconomic Impact	Positive Microeconomic Impact
Pursue innovative financing models	●	◕	●	◕	◑

7. Use of taxation with automatic earmarking for the health sector. Introducing, or increasing, taxes is never considered desirable by all members of a population and their utilization takes a certain level of political resolution. Such taxes can be considered more 'desirable' by electorates and governments in general if they are effectively earmarked, ex ante, and if this earmarking is effectively communicated (134). Over and above the potentially moderate fiscal gains to be made from increased alcohol and tobacco taxes, their taxation can send strong policy and political messages, deterring people from consumption. Taxing foods high in fat, salt and sugar (HFSS) is the next step offering both moderate fiscal return and improved population health (12). Similarly, levying environmental taxes offer an additional policy option. The important thing to note is that these indirect taxes are often thought of as 'stealth' and regressive due to their tendency to unfairly target lower socioeconomic groups. There is therefore legitimate argument that any benefits accrued as a result of these taxes should be utilized to benefit weaker socio-economic groups and improve their access to services and care (12).

Key Actions:

⇒ Ensure any new taxation implemented is earmarked for health and that the earmarking is communicated effectively.

⇒ Ensure any benefits accrued as a result of these taxes are used to benefit weaker socio-economic groups, improving their access to services and care.

Recommendation	Political Feasibility	Revenue Raising Capacity	Level of Equity	Positive Macroeconomic Impact	Positive Microeconomic Impact
Use of taxation with automatic earmarking for the health sector	◔	◑	○	◔	○

8. Reduce the burden of OOP to prevent catastrophic health expenditure. The primary requirement across the ASEAN region in terms of fiscal space and health expenditure is to remove the burden of OOP as much as possible from all levels of society. OOP payments are not an effective way to generate funds as they significantly impact low-income families, in terms of both catastrophic financial burden and poor health outcomes. Any health financing scheme dominated by OOP will never achieve UHC (5). **Key Actions:**

Key Actions:

⇒ Ensure that healthcare financing arrangements are such that extensive or significant OOP payments are not required at the current level.

⇒ Create unified population registries and databases to enable pro-poor targeting.

⇒ Explicitly target publicly financed coverage towards the poor and lower informal barriers to access such as childcare costs and lost wages.

⇒ Explore the developments of Medical Savings Accounts as in Singapore.

Recommendation	Political Feasibility	Revenue Raising Capacity	Level of Equity	Positive Macroeconomic Impact	Positive Microeconomic Impact
Reduce the burden of OOP to prevent catastrophic health expenditure	◕	○	●	◑	●

9. Enhance efficiencies in healthcare systems to ensure effective utilization of resources. Research shows that at least a fifth of health sector resource allocation is wasteful (135). As such, increasing the efficiency of available resources is central to fiscal sustainability.

Key Actions:

- ⇒ Reduce and / or remove any unnecessary government 'red tape' present in the healthcare system that affects efficient resource utilization.
- ⇒ Optimize practices including regulatory processes, procurement systems and importation procedures to ensure streamlined access procedures.
- ⇒ Increased utilization of digitalization in the healthcare system (which links with recommendation 4).
- ⇒ Focus on outcome improvement by considering value in reimbursement and procurement systems to build system-wide savings and enhance efficiencies.
- ⇒ Improve health workforce knowledge as well as general population health literacy.
- ⇒ Expand the essential medicines list, specifically for public primary healthcare facilities, to reduce the inappropriate use of drugs (for example, the over prescription of antibiotics).
- ⇒ Strengthen national medicine agencies, increase regulatory capacity and ensure strict adherence to GMP and GLP to ensure the quality of generics and increase public trust.
- ⇒ Promote confidence in the quality and use of generics through communication with regulators in terms of the evidence required for market access and the creation of evidence-based guidelines for their use.
- ⇒ Establish independent regulatory agencies to monitor health agencies to ensure compliance with laws and regulations.
- ⇒ Implement tools to determine clinical and cost effectiveness of new medical technologies to ensure efficient resource allocation and ensure patients can access high quality, effective products and services.

Recommendation	Political Feasibility	Revenue Raising Capacity	Level of Equity	Positive Macroeconomic Impact	Positive Microeconomic Impact
Enhance efficiencies in healthcare systems to ensure effective utilization of resources	◕	○	●	◑	◔

10. Develop processes to ensure that premiums or contributions, as well as income tax payments, are collected effectively from those working in the informal sector. With up to three quarters of all employment being made up of informal employment (136) without taxable income, tax revenue and/or contribution collection can be extremely challenging. Reduced eligibility for social health insurance can also mean that those working informally are outside the government's social safety nets and pay high OOP costs (10). As governments' work to increase tax collection among the informal sector, efforts need to be directed simultaneously to ensure effective collection of social health premiums and income tax premiums.

Key Actions:

⇒ Follow Thailand's example and enable documented migrants to enrol in a government social security scheme, funded by employee, employer and government contributions.

⇒ Offer a migrant health insurance scheme for self-funded migrant contributions for those unable to join the government scheme.

⇒ Develop a fund, involving both donor contributions and contributions from undocumented migrants.

⇒ Develop a small benefits package to cover informal workers charging smaller premiums than the wider package for formal workers.

Recommendation	Political Feasibility	Revenue Raising Capacity	Level of Equity	Positive Macroeconomic Impact	Positive Microeconomic Impact
Develop processes to ensure that premiums or contributions are collected effectively from those working in the informal sector	◑	◕	●	◕	◔

5.2 Country-specific priorities

There are a number of priorities for each country to focus on and thus governments must prioritise. Using pilot projects to test out specific recommendations, or starting small projects on a regional basis, particularly in countries with decentralized healthcare, may be more feasible and can enable learning and improvement before implemented nationally. Table 3 identifies key priorities for each country. Closed circles (●) indicate that the country must give full priority to the recommendation in question; '◕' means that, whilst some minimal progress has been made in the area, significant action is still required; '◑' indicates that moderate progress has been seen in the country but there is still room for action; '◔' means that significant progress has been made in the country but there is still room for improvement; and finally 'O' means that the country has managed to realize the recommendation so no additional work is required.

Table 31: Country-specific priorities for addressing suggested recommendations

	Ind	Mal	Phil	Sing	Thai	Viet
Health system improvement options						
1. Give high priority to achieving full population coverage with an affordable package of services delivered via effective primary care services with an increased focus on primary and secondary prevention	◑	◔	◑	O	◑	◕
2. Improve health system capacity by building primary care infrastructure and addressing human resource gaps	◕	◕	●	◔	●	●
3. Develop processes to objectively determine the value of innovation	◔	◑	◔	◕	◑	◔
4. Enhance investment in and utilization of effective digitalization in the healthcare system	◕	●	●	◑	●	●
5. Ensure the focus on UHC is cross-government, engages external stakeholders including civil society and the private sector and that political will translates into actionable and measurable outcome	◑	◑	◑	◔	◑	◑
Options to build fiscal space for healthcare						
6. Pursue innovative financing models with the private sector to attract additional resources into the health system and fund specific programmes.	◕	◕	◕	◑	◕	◕
7. Use of taxation with automatic earmarking for the health sector	◑	◑	◑	◔	◑	◕
8. Reduce the burden of OOP to prevent catastrophic health expenditure	◕	●	●	O	◑	●
9. Enhance efficiencies in healthcare systems to ensure effective utilization of resources	◕	◕	◕	◔	◕	◕
10. Develop processes to ensure that premiums or contributions are collected effectively from those working in the informal sector	◑	◔	◕	◔	O	◕

Key: '●= Full priority required' '◕=Significant priority required' '◑= Moderate priority' require '◔= Minimal priority required' 'O=Recommendation already realized'

6. Conclusion

Similar to many Western countries, the ASEAN-6 nations are currently facing significant demographic changes, primarily marked by a notable rise in the proportion of individuals aged 65 and over within their populations. This demographic transition brings with it a set of challenges that require close attention and strategic planning. One prominent consequence of this shift is the surge in the prevalence of NCDs, such as cardiovascular conditions, diabetes, and certain types of cancer. These chronic health issues demand a shift in healthcare strategies from the traditional model of managing acute conditions to a more proactive approach centred around preventive medicine. As the prevalence of NCDs continues to grow, healthcare systems in these countries face the critical task of emphasizing preventive measures and lifestyle management. The objective is not only to enhance the overall health and well-being of their populations but also to secure the long-term sustainability of healthcare financing. Addressing these emerging healthcare challenges calls for innovative healthcare delivery methods, the integration of digital solutions, and the equitable distribution of healthcare resources. All of these elements will play pivotal roles in shaping the future of healthcare in the ASEAN-6 region.

There is a global emphasis on the achievement of the Sustainable Development Goals and growing concern regarding the significant fiscal gap between actual and ideal healthcare spend across the region limiting their achievement. The need for diversified fiscal strategies – encompassing innovative, traditional and efficiency focused mechanisms - is evident. However, what is classed as ‘traditional’ to one nation, could be considered as ‘innovative’ to another, emphasizing the importance of context-specific evaluation.

Recommendations given here include the restructuring of health systems with a preventative focus, leveraging digitalization and cultivating inter-sectoral collaboration. In summary, the journey towards universal health coverage and achievement of the SDG3 targets cannot be achieved through a singular blueprint; it requires a holistic government approach and ‘health in all policies’ rather than total reliance on the Ministry of Health. Sustainable improvements will require a blend of approaches, embracing both innovation and tried-and-tested methods to generate fiscal space. The co-creation of pilot projects and regional initiatives may offer practical starting points for governments seeking to address these complex issues; however, the essence lies in the need to tailor strategies to each country's unique healthcare challenges and readiness for reform.

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Appendix I. Methodology

1.1 Literature Review

1.1.1 Data Mining

Key publicly available data sources were searched to measure progress towards indicators for the UN SDG3. Key indicators were grouped under five data categories: 1. Demographic data; 2. Health indicators; 3. Health care system variables; 4. Macroeconomic environment and policies; 5. UHC specific measures. A total of 90 indicators were considered for data mining. Various data sources were used including World Bank, World Health Organisation, Organisation for Economic Cooperation and Development, Price Waterhouse Coopers, and International Monetary Fund.

1.2 Narrative Literature Review

1.2.1 Approach and endpoints

A narrative literature review was conducted to identify the features of the current health financing systems and the key challenges faced by the health systems of ASEAN-6. The selection of the review topics and the geographical scope were based on the list of SDG indicators provided by the United Nations (3). The focus of the review was on the six ASEAN countries that are examined in this report. The objective of this phase of the research was to identify potential shortcomings in terms of achieving UHC and the available fiscal resources that can be utilized to address these gaps.

1.3.1 Conceptual Framework Development

Following identification of challenges faced by healthcare systems in the ASEAN region as well as potential financing mechanisms to enhance fiscal space using the available literature, we firstly developed a framework for the web-Delphi process. The initial framework consisted of 1.) 30 healthcare-related challenges split across five areas: (i) general and UHC associated challenges; (ii) challenges in the financing of UHC; (iii) challenges in the implementation of UHC; (iv) challenges in the supply of services; and (v) challenges on health system demand side) and 2.) 27 statements related to financial mechanisms for increasing fiscal space. Notably, this framework focused on addressing gaps and/or validating the information found in the literature.

1.3.2 Participant Selection

The expected sample size for Delphi panels are often modest as they are not reliant on achieving statistical power (137). In general, 10-18 experts in total are recommended for a Delphi panel in order to reach consensus (137–139), however, given we wished to capture input from several stakeholder groups across multiple countries, we aimed for at least five respondents per country and at least 30 participants overall.

A selection of stakeholders from the countries of interest were invited to participate. These included healthcare experts, members of the pharmaceutical industry, researchers and academics, health economists and decision makers. Participants were paid $300 upon completion of all three rounds of the Delphi. All panellists were informed of the study objectives and data confidentiality procedures in place and were asked to provide online written informed consent to indicate their understanding of the study conditions and their agreement to participate. Their answers remained anonymous throughout the Delphi process. A list of contributory participants can be seen in Table A1.

Table A1. Delphi participants

Country of Expertise	Name	Affiliation / Stakeholder Group
Indonesia	Dr Suyuti Syamsul	Head of Provincial Health Office of Central Kalimantan
Indonesia	Ms Mutia Sayekti	Industry Expert
Indonesia	Mrs Lily Kresnowati	Director of Health Care Insurance, Indonesian Social Health Insurance Agency
Indonesia	Ms Ida Setianingsih	Research & Policy
Indonesia	Jum'atil Fajar	Medical Care Manager
Indonesia	Dr Gregorius Virgianto Arpuji Anggoro Putro	Health Program Officer, Indonesian Social Health Insurance Agency
Malaysia	Prof Adeeba Kamarulzaman	Professor of Infectious Diseases, Faculty of Medicine. University Malaya
Malaysia	Dr Gan Saw Chien	Public Health Physician, Ministry of Health
Malaysia	Dr Feisul Idzwan Mustapha	Consultant Public Health Physician and Deputy Director (Public Health), Perak State Health Department
Malaysia	Anonymous Participant	Research & Policy
Malaysia	Anonymous Participant	Research & Policy
Malaysia	Anonymous Participant	Research & Policy
Malaysia	Dr Zainal Ariffin Omar	President of the Malaysian Public Health Physicians Association
Malaysia	Dr Khor Swee Kheng	CEO Angsana Health
Malaysia	Ms Chan Li Jin	Executive Director, Pharmaceutical Association of Malaysia
Philippines	Anonymous Participant	Decision Maker
Philippines	Anonymous Participant	Patient Organisation Representative
Philippines	Anonymous Participant	Industry Expert
Philippines	Dr Kenneth Hartigan Go	Senior Fellow, Ateneo Policy Center, Ateneo School of Government
Philippines	Dr Anna Ong Lim	Professor and Section Chief of Infection and Tropical Disease, University of the Philippines General Hospital
Philippines	Dr Amado Tandoc	Chief, Laboratory Research Division, Research Institute for Tropical Medicine
Singapore	Anonymous Participant	Healthcare Professional
Singapore	Mr Chuan De	Adjunct Fellow, Saw Swee Hock School of Public Health, National University of Singapore,
Singapore	Anonymous Participant	Industry Expert
Singapore	Anonymous Participant	Research & Policy
Thailand	Mr Paul Cheh	Deputy Secretary General, Thailand National Health Foundation
Thailand	Dr Pattara Leelahavarong	Deputy Chief of Siriraj Health Policy Unit, Faculty of Medicine Siriraj Hospital, Mahidol University
Thailand	Anonymous Participant	Healthcare Professional
Thailand	Anonymous Participant	Research & Policy
Thailand	Anonymous Participant	Research & Policy
Thailand	Dr.Lalitaya Kongkam	Deputy Secretary General, National Health Security Office
Thailand	Anonymous Participant	Decision Maker
Thailand	Dr Kittima Sriwatanakul	Industry Expert
Thailand	Ms Orajitt Bumrungskulswat	Associate of General Secretary and Manager of Heart to Heart Foundation
Thailand	Mr Ekawat Suwantaroj	VP of Thai Hemophilia Patient Club
Viet Nam	Dr Due Ong The	Vice Head, Department of Health Financing and Health Technology Assessment, Health Strategy and Policy Institute, Ministry of Health
Viet Nam	Dr Pham Nu Hanh Van	Department of Pharmaceutical Administration & Pharmacoeconomics, Hanoi University of Pharmacy

Viet Nam	Anonymous Participant	Research & Policy
Viet Nam	Anonymous Participant	Decision Maker
Viet Nam	Anonymous Participant	Decision Maker
Viet Nam	Dr Dao Lan Huong	Health Specialist, World Bank
Viet Nam	Anonymous Participant	Decision Maker
Viet Nam	Anonymous Participant	Decision Maker
Viet Nam	Anonymous Participant	Industry Expert
Viet Nam	Dr Todd Pollack	Country Director of the Partnership for Health Advancement

Note: Some participants preferred to remain anonymous. The opinions provided during the Delphi process represent the participant's views rather than the organisations with which they are affiliated.

1.3.3 Delphi Panel Design and Implementation

The process consisted of three internet-based rounds: in round one, participants were asked to review the conceptual framework, providing comments and feedback on the wording, or proposing additional factors. These inputs contributed to an updated conceptual framework. The updated framework (Table A2) consisted of 1.) 35 healthcare-related challenges and 2.) 25 statements related to financial mechanisms for increasing fiscal space. Round one ran from 8th February 2023 until the 28th February 2023.

In the second round, participants were tasked with assessing their level of agreement on the 'updated' conceptual framework using a 5-point Likert scale ('strongly agree', 'agree', 'N/A' for UHC challenges or 'neutral' for fiscal space mechanisms, 'disagree', or 'strongly disagree'). This involved reflecting on the following statements: 'Please rate whether the following statements pose a challenge/barrier to achieving UHC within your country of expertise'; and 'please rate how much you agree that the following mechanisms are useful sources for generating (or potentially generating) additional fiscal space. Participants were given the option to indicate that a value statement was outside their expertise by selecting 'I do not know'. This was to ensure that those ranking the value dimensions felt confident about their responses. Round two ran from 21st March 2023 to 17th April 2023.

Table A2: Final Delphi Framework

Value Domain	Factor
Challenges to healthcare and UHC	
General and UHC related challenges	COVID-19 continues to have a negative impact on healthcare resource allocation and patient outcomes
	The proportion of the population aged over 65 is increasing
	The proportion of the population working informally is high
	Increases in privatisation of healthcare diverting resources from the public health system
	Increase in non-communicable diseases (NCD) prevalence leads to higher utilisation of healthcare resources
	There are geographical and other challenges affecting access for vulnerable groups
	Tobacco- and alcohol-related policies have modest effectiveness
	There are particular difficulties in supplying paediatric services
	There are reducing rates of routine childhood vaccinations
	Limited health literacy and poor awareness of health system offerings
	Institutional rigidity within the health system results in an inability to adapt to changing priorities
	Lack of prioritisation within the health system can lead to inefficient resource allocation

Challenges to the financing of UHC	Limited financial resources as a result of insufficient annual budget allocation for healthcare
	(Fear of) High out-of-pocket burden
	Limited access to innovative medicines in public health facilities
Challenges in the implementation of UHC	Policies to achieve UHC are not a government priority
	Leadership challenges and governance barriers related to UHC policies
	Lack of consistency in government
	Decentralisation leads to practice variation, access variation and service delivery via multiple healthcare providers
	Lack of easily accessible primary care
	Lack of consistent IT and patient information systems within the healthcare system
	Inequity in the distribution of healthcare facilities and healthcare professionals between rural and urban areas
	Issues producing and retaining sufficient numbers of high-quality healthcare professionals
Challenges to the supply of services	Cost-containment, through price reductions, is difficult to achieve due to weak pricing policies and small negotiating power
	Lack of transparency and overly complicated procurement systems cause delay and disruption of supply
	Difference in the benefits offered by different health insurance schemes
	Incomplete / inadequate health insurance coverage for the most vulnerable
	Time consuming pricing and reimbursement process
	Raw materials are increasing in cost
	Shortages of high-quality prescription drugs
Challenges on the health system demand-side	Lack of performance incentives (financial and other) for healthcare facilities and healthcare workers
	Co-payment structure does not distinguish between socioeconomic status / health status
	Informal payments to healthcare professionals are widespread
	Low generic prescribing due to high brand loyalty
	The quality of health care services provided through UHC is poor
Options for increasing fiscal space for healthcare	
Traditional financing mechanisms to build fiscal space	Increase VAT / consumption tax with gains allocated to healthcare
	Introduce (or increase pre-existing) 'sin taxes' for various products with gains earmarked for healthcare
	Subject luxury goods (e.g., jewellery, expensive watches and clothing) to a special tax, the revenue of which will be allocated to healthcare services
	Introduce (or increase pre-existing) environmental tax, the revenue of which is allocated to health services
	Introduce or increase earmarked taxes e.g., employee and / or employer insurance contributions
	Introduce medical savings accounts (MSAs) or increase contribution rates of pre-existing MSAs
	Partially privatise health service provision to increase competition and reduce cost
	Introduce modest user charges or increase statutory fixed fees at point of use and/or increase or introduce co-payments for prescription drugs
Innovative financing mechanisms to build fiscal space	Earmark gains in GDP growth to healthcare
	Introduce a tax on inbound medical tourism
	Introduce annuity models for expensive medicinal products
	Introduce health / social impact bonds as options to fund a specific area of healthcare, for example, secondary prevention

	Introduce risk sharing agreements
	Introduce (or increase pre-existing) windfall corporation tax on private healthcare insurers profits, the revenue of which is ring-fenced for healthcare services
Mechanisms to increase efficiencies in the health system	Use of international reference pricing in pricing negotiations to achieve affordable medicine prices
	Increase funding in primary prevention (e.g., cancer screening, disease detection, cardiovascular disease monitoring) and improve key stakeholders' engagement to increase efficiency
	Improve efficiency by allowing people to purchase supplementary health insurance
	Reallocation of resources whereby reduced spending in one area is reallocated to healthcare
	Introduction or expansion of the national essential medicines list to cover more therapeutic areas
	Encourage generic substitution of prescription medicines
	Establishment of independent monitoring of health agencies
	Improvement of health workforce knowledge
	Improve health system digitalisation and effective regulation
	Invest in citizen and patient awareness programmes
	Implementation of tools for efficient resource allocation based on the clinical and cost effectiveness of a medical technology

In round three participants were again presented with the same list of factors as well as an anonymous summary of the overall responses of their fellow participants from the second round. Accordingly, participants had the opportunity to maintain or revise their previous responses in light of the opinion in their respective panel. Round 3 ran from 19th April to 1st May 2023. Reminder emails were sent to participants at least twice during a round to encourage completion. Those not completing round two were not able to proceed to round three.

1.3.4 Completion and Demographic Statistics

189 participants from the six countries were approached for involvement in the Delphi panel. Of these, 55 participants completed round one. 48 participants completed round two and 45 of these completed round 3. Table A3 shows the number of participants in each round as well as their country of location.

Table A3: Number of Participants and R1 to R3 Dropout Rate

Country	Participants			Dropout rate (%): Round 1 to Round 3
	R1	R2	R3	
Indonesia	9	7	7	22
Malaysia	12	10	8	33
Philippines	6	6	6	0
Singapore	5	4	4	20
Thailand	12	11	10	16
Viet Nam	10	10	10	0
Total	55[1]	48	45	18.2

[1] This total includes one participant who did not define their country.

1.3.5 Analysis

Participant Consensus

In order to establish agreement/consensus amongst participants for each factor in rounds two and three, descriptive statistics were used to calculate the percentage agreement, a commonly used analysis method for Delphi panel data (139–146). The 'strongly agree' and 'agree' responses and 'strongly disagree' and 'disagree' responses from the 5-point Likert scale were grouped together, according to the methodology used in similar studies (139,141,143). Percentage agreement was calculated by dividing the responses in each category of the scale by the total completed responses for each value dimension. Agreement amongst participants was achieved when a factor was ranked by participants with a percentage agreement equal to or higher (≥) than 70% in the grouped 'strongly agree' and 'agree' responses, thus approved by qualified majority (140–146). Consensus was calculated both on a whole group and a 'by country' basis.

Consensus Stability

To analyse whether the level of agreement amongst participants with each value dimension was stable between each round, we calculated the percentage change in the group responses for each factor from round to round. As in other studies, consensus was considered stable if group responses for each value dimension changed by 10% or less between rounds 2 and 3 (125–131). Across the 60 factors there were only six cases where the % change was more than 10% (indicating instability in answers between round 2 and 3). In each of these cases the % change was no more than 11% indicating minimal reduction stability and suggesting that participants were unlikely to change their opinions based on the opinions of other stakeholders, both from their own and other countries.

Level of Agreement Across Stages

In order to determine whether participants generally agreed with each other within each stage of the access pathway the inter-rater agreement for each stage was calculated for each round. This was calculated using Gwet's kappa co-efficient, to assess whether participants independently ranked a value statement similarly, mitigating the risk that possible agreement might have occurred only by chance (147,148). This analysis was performed using Stata 16.1.

Appendix II. Country overview

The countries in this study include Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam. Whilst they have all experienced certain levels of success with SDG3 goal attainment and UHC development, there is still progress to be made, particularly when it comes to ensuring UHC is actually as widespread as it should be.

1. Health system overview

1.1 Indonesia

The Indonesian health system is a mixture of private and public healthcare providers, with the public system following the decentralized government structure. The Ministry of Health plays a central strategic role in setting policies, regulation and coordinating services, while the provincial and district governments oversee the management, coordination and monitoring of healthcare services (20). Private providers are also present in the form of not-for-profit, charitable organisations and for-profit providers.

Healthcare financing involves a combination of government tax-based financing and OOP payments which are primarily used in private health insurance. In response to high OOP expenditure and its impact on the poor's access to health services, Indonesia introduced a universal health insurance coverage scheme named Jaminan Kesehatan Nasional (JKN) in 2014. There are also other social health insurance schemes catering to specific groups, such as military personnel, civil servants and so forth. JKN offers a standardised package of benefits for all citizens and residents and minimal user fees, pooling contributions from the government and members under a single health implementing agency.

1.2 Malaysia

The Malaysian healthcare system is a combination of tax-based universal services provided by the government and a growing private sector. Public sector health services are administered by the Ministry of Health through its central, state, and district offices, while other government departments cater to specific populations. Primary care in urban areas is primarily delivered by private practitioners, while the private health sector focuses on curative and diagnostic services in urban areas. Most healthcare funding in Malaysia comes from the government, primarily through taxes, with additional financial protection provided by the MySalam scheme for low-income households and individuals with specific medical conditions. Private health insurance coverage is limited, with only around 10% of the population having such coverage (22).

Malaysia has demonstrated its commitment to healthcare through the Harapan Manifesto, a political manifesto introduced in 2018 that includes promises to improve access and quality of health services for all communities, particularly focusing on the underprivileged households in the bottom 40% income range (B40).

1.3 Philippines

Health in the Philippines is a human right guaranteed by the Philippine Constitution of 1987. Healthcare is predominantly funded through tax-based budgeting, where services are delivered through government facilities within the national and local governments. The Ministry of Health monitors specialty and regional hospitals, the provincial government operates district and provincial hospitals and lastly the municipal government provides primary care (25). Primary care is provided via barangay health stations, health centres and rural health units, and is focused on anticipatory care and health maintenance. Healthcare provision consists of the private and public sectors. The private sector includes both not-for-profit and for-profit providers, with care predominantly paid through user-fees.

The Philippine Health Insurance Corporation (PhilHealth), a Social Health Insurance scheme, started in 1995 with the aim of enabling financial risk protection for the Filipino people. PhilHealth has six major membership categories, consisting of: (1) 'formal' sector, (2) 'Indigents' who are subsidized by the government for poverty reduction, (3) 'sponsored' members' who are sponsored by their local government, (4) 'lifetime' members who are non-paying retirees and pensioners, (5) 'senior citizens' who are 60+, and (6) the informal economy,

including migrant workers. PhilHealth reimburses both government and private healthcare and reportedly covered 92% of the population in 2018, 40% of which is subsidized by the government for premium payments due to low-income levels. Financial protection is actually limited, with high levels of OOP spending due to the share of bills covered by PhilHealth being on average 30%, only reaching 52% in 2018 (25).

1.4 Singapore

The Singaporean healthcare system is well-known for its positive healthcare outcomes and efficiency. Singapore has a mixed financing system that includes government subsidies, insurance coverage and employer and employee contributions. Their public statutory insurance system, MediShield Life, covers significant hospital care and certain outpatient treatments. Patients pay premiums, deductibles and co-insurance above the claim limit. Primary care, outpatient specialist care and prescription drugs are generally not covered by MediShield Life; however, it is complemented by a compulsory MSA called MediSave which can help patients pay. MediSave is paid through employee and employer contributions and individually controlled with the aim of improving the efficiency of individual spending decisions. Primary care at 'polyclinics' offered both publicly and privately, with care subsidised by up to 75%. For prescription drugs, income-based subsidies are available for high-cost non-standard drugs, and there is cost-sharing for up to 50% of the cost for medically necessary/standard drugs. For low-income individuals, Medifund covers drugs considered medically necessary.

Singapore's healthcare system has been dealing with increased stress reflected in high OOP payments, shortages in acute hospital beds and long-term care facilities and services (149). As a result, they are moving towards 'value-based' healthcare, directing more care provision towards primary and community care through the Beyond Healthcare 2020 Strategy. There is a focus on the 'Three beyonds': beyond healthcare to health, beyond hospital to community, and beyond quality to value (149).

1.5 Thailand

In Thailand, the healthcare system comprises both public and private sectors, with the government playing a significant role in providing healthcare services through initiatives like the Universal Coverage Scheme (UCS). The UCS, implemented in 2002, aims to ensure access to essential healthcare services for most of the population, financed through general taxes (29). The public sector consists of central, regional, and district hospitals, as well as primary care units and community health centres that deliver a range of healthcare services. Private healthcare facilities, particularly in urban areas, offer specialized services and cater to individuals seeking personalized care or specific healthcare providers.

Despite efforts to expand healthcare services, challenges persist in achieving equitable access and resource distribution across Thailand. Disparities exist between urban and rural areas, with better access to healthcare services found in urban regions. Initiatives like the Village Health Volunteer program seek to address this disparity by providing basic healthcare services and health education in rural communities. The Ministry of Public Health oversees the healthcare system, working to develop policies, regulate services, and ensure quality care. Thailand remains committed to improving its healthcare system by expanding coverage, enhancing infrastructure, strengthening primary care, and addressing resource allocation disparities to provide equitable access to quality healthcare for all citizens (31).

1.6 Viet Nam

In Viet Nam, the healthcare system consists of both public and private sectors, with the government primarily funding healthcare services through tax-based universal healthcare. Approximately 87% of the population is covered by public health insurance, and the public sector includes central, provincial, and district hospitals, as well as commune health centres. Private healthcare mainly focuses on curative and diagnostic services in urban areas, where primary care is primarily provided by private practitioners. However, healthcare resources are unevenly distributed, with better access to services in urban areas compared to rural regions (32).

Despite progress in improving health outcomes and expanding health insurance coverage, Viet Nam faces challenges such as the rising burden of non-communicable diseases and environmental health risks. Ensuring quality healthcare services and achieving equitable health outcomes, particularly for rural populations and ethnic minorities, remain areas of concern (33). The Ministry of Health plays a crucial role in developing and

implementing health policies, overseeing service provision, and establishing standards for healthcare delivery. The national health insurance program aims to improve access to healthcare services and provide financial protection for the population. Despite increases in economic growth, there are concerns that the public health budget will not increase by a suitable amount (150). When combined with a reduction in external aid, it is clear that domestic funds like social health insurance will be required to fill the gap and there are concerns that health insurance funds will soon be in deficit, as a result of rising prices (151).

2. Country statistics

This section provides an overview of key indicators pertaining to the six countries of interest. These nations showcase distinctive cultural, economic, and social characteristics, rendering their statistical data indispensable for gaining insights into their developmental trajectories. The primary objective of this section is to shed light on the progress, trends, and variations observed within the landscapes of these Southeast Asian countries.

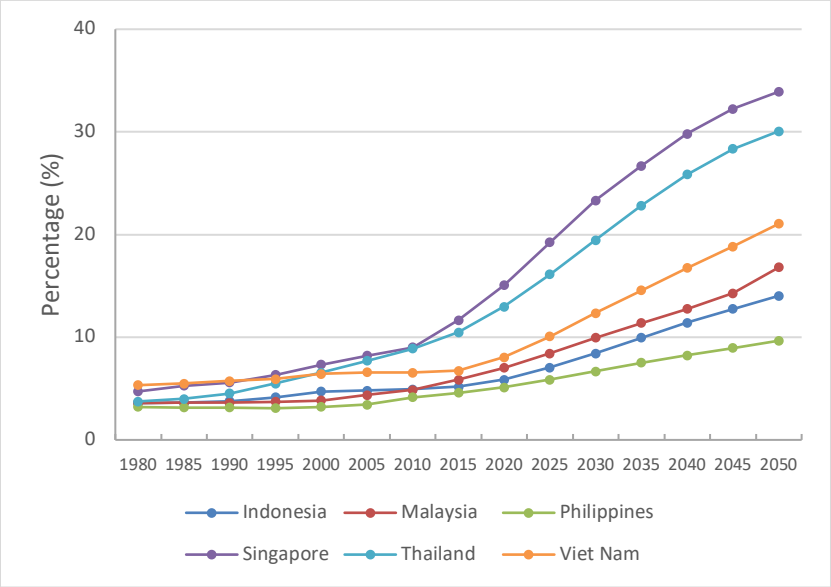


Figure A1: Percentage of Population Aged ≥65 to Total Population, 1980–2050

Source: Asian Development Bank

2.1 Country demographics

The countries have diverse populations and varying population sizes. Singapore, with around 5.5 million people, stands out as a small but densely populated nation known for its economic prosperity. Indonesia, the world's fourth most populous country, has approximately 276.4 million people. The Philippines, with about 111 million people, is also an archipelago nation, while Malaysia has a population of only 32.8 million. Viet Nam, a densely populated nation has approximately 98.2 million people, while Thailand, has a population of around 70 million (152).

By 2050, the proportion of the population aged 65 and over is predicted to vary among the focus countries (as depicted in Figure A1). Singapore and Thailand stand out with significant proportions, both exceeding 30% of the population. Values in Malaysia, Indonesia, the Philippines, and Viet Nam are lower at 16.8%, 14.0% , 9.7% and 21.0% respectively (23). These figures provide insights into the aging trends and demographic characteristics of these countries.

2.2 Disease prevalence

NCDs are rising in prevalence throughout the world, and South-East Asia is no different. The proportion of total deaths as a result of NCD range from 69% in the Philippines to 81% in Viet Nam (Figure A2). The increase in NCD across the region can be attributed to the ongoing epidemiological transition (Figure A3). As countries experience economic development and urbanization, there is a shift in the disease burden from infectious diseases to chronic conditions. Lifestyle changes, such as unhealthy diets, sedentary behaviour, tobacco use, and excessive alcohol consumption, contribute to the rise in NCDs. Conditions like cardiovascular diseases, diabetes, cancer, and respiratory illnesses are becoming more prevalent. The aging population in some countries also plays a significant role in the rise of NCDs, as older individuals are more susceptible to chronic

health issues. The challenge for healthcare systems in the region is to address both communicable and non-communicable diseases effectively while adapting to the changing epidemiological landscape (27).

Although infectious diseases and NCDs are typically categorized separately they are intertwined. Infectious diseases can lead to chronic conditions, and NCDs can make individuals more susceptible to infections. In the ASEAN-6 countries, there are ongoing health challenges that require attention. Malaria remains a concern, particularly in remote areas, and efforts to control its spread are still in progress. Dengue fever is also a significant issue that needs continuous monitoring and preventive measures. The focus is on preventing HIV/AIDS, providing treatment for those affected, and reducing the stigma associated with it. Tuberculosis is also a major problem, particularly among vulnerable groups. While progress has been made in controlling many contagious diseases, it's important to remain vigilant for outbreaks of illnesses like influenza. These countries are dealing with the continuing challenges of dengue fever, malaria, and tuberculosis by using well-rounded strategies and specific actions to tackle them. Despite significant progress, communicable diseases still require attention and resources to ensure their effective control and prevention (153).

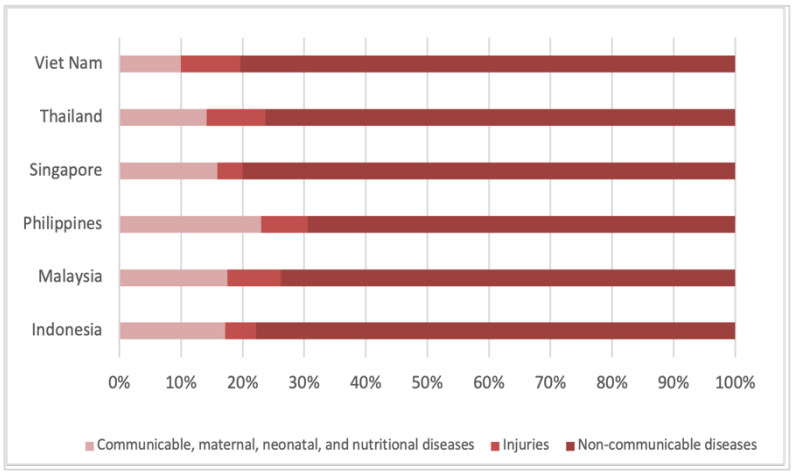


Figure A2: Deaths (%) by burden of disease groups (all ages combined), 2019

Source: The Institute for Health Metrics and Evaluation

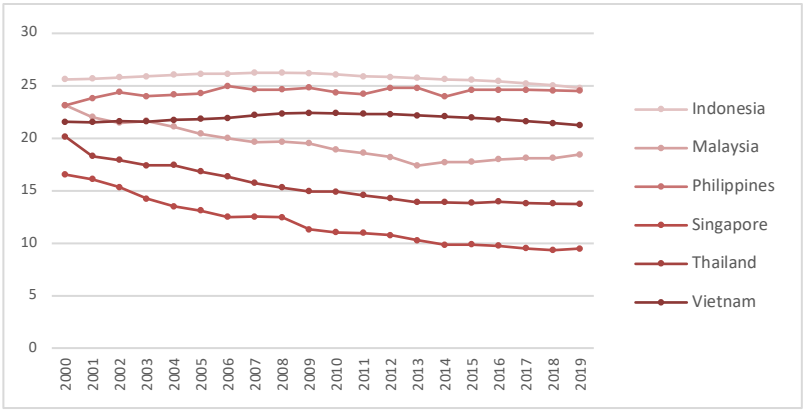


Figure A3: Death rate due to NCDs in adults aged 30-70. Trend 2000-2019.

Source: Sustainable Development Report Dashboard

2.3 Macroeconomic performance

The microeconomic performance of Indonesia, Malaysia, Thailand, the Philippines, Singapore, and Viet Nam reveals interesting insights into the economic landscapes of these Southeast Asian countries. Key indicators such as GDP growth, military spending, social assistance spending, and health expenditure offer a comprehensive understanding of their economic priorities and challenges.

GDP growth serves as a key indicator of economic performance. Indonesia has demonstrated robust growth, with an average annual GDP growth rate of around 3.7% to 4.7% (Figure A4) Malaysia has maintained consistent and resilient growth, averaging around 3.1% to 4% in recent years. Thailand has experienced moderate growth, averaging approximately 1.5% to 3.8%. The Philippines has shown steady GDP growth, with an average GDP growth rate of 5.7% in recent years. Singapore, although known for its strong economic fundamentals, has experienced a decrease in GDP growth, declining from 8.9% to 2.2%. Viet Nam, as an emerging economy, has recorded high growth rates, averaging around 2.4% to 6.4% annually.

Social assistance spending plays a crucial role in promoting inclusive growth and poverty reduction. Indonesia has implemented various social assistance programs, with expenditures accounting for a significant portion of

the national budget. Malaysia focuses on targeted welfare programs and subsidies to support vulnerable groups. Thailand has an extensive social security system and welfare programs, with increased expenditure in recent years. The Philippines has expanded its conditional cash transfer program, providing assistance to low-income households. Singapore has a comprehensive social safety net, with various schemes supporting healthcare, housing, and retirement. Viet Nam has been progressively enhancing its social assistance programs, although expenditure levels are relatively lower compared to other countries (154).

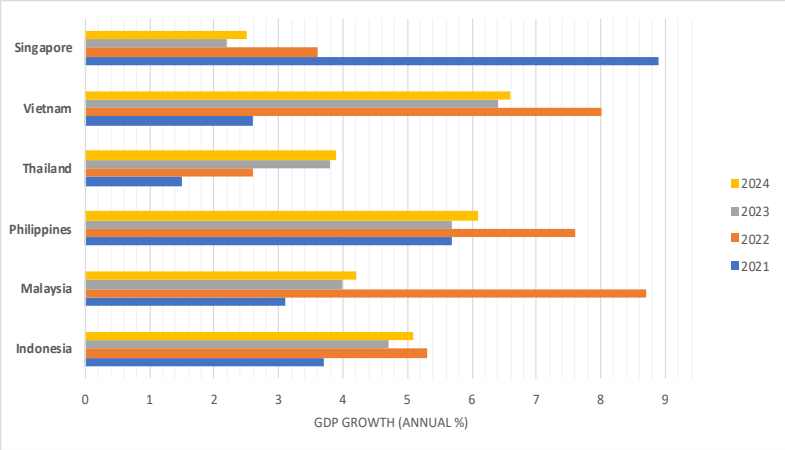


Figure A4: GDP growth (% annual)

Source: World Bank

2.4 Health expenditure

Singapore stands out with the highest healthcare expenditure at US$3,537 per capita compared to the other countries which range from $120 to $142 per capita (Table A4). Singapore also has a lower percentage of out-of-pocket spending, suggesting more evenly distributed healthcare costs. In comparison, Indonesia, Philippines, Malaysia and Viet Nam have a lower current health expenditure per capita and higher OOP spending, suggesting a considerable financial burden on individuals. Thailand strikes a balance with low to moderate health expenditure per capita and a lower percentage of OOP spending at 10% compared to 30-48% seen in the other the countries in the group. This indicates Thailand has a relatively comprehensive healthcare financing system. Similarly, Thailand leads with the highest public health expenditure as a percentage of current health expenditure (70.36%), indicating a substantial governmental role in healthcare financing. Conversely, the Philippines and Viet Nam display worryingly high OOP expenditure, pointing to potential financial strains on individuals in these countries. Singapore and Thailand rely minimally on external health expenditure, highlighting their self-sustained healthcare systems.

Table A4: Health spending in ASEAN6 countries, 2020

	Health expenditure	Health expenditure per capita, PPP	Public health expenditure	Private health expenditure	Out-of-pocket expenditure	External health expenditure
	% GDP (2020)	$ (2020)	% current health expenditure (2020)	% current health expenditure (2020)	% current health expenditure (2020)	% current health expenditure (2020)
Indonesia	3.41	132.96	55.05	12.66	31.79	0.5
Malaysia	4.12	418.66	52.75	11.34	35.89	0.01
Philippines	5.11	164.74	44.63	9.6	45.02	0.745
Singapore	6.05	3,537	52.41	28.62	18.97	0
Thailand	4.36	305.09	70.36	19.02	10.54	0.08
Viet Nam	4.68	166.23	45.11	14.46	39.6	0.82

Note: Private health (% current health expenditure) was calculated by subtracting out-of-pocket expenditure (% current health expenditure) from private health expenditure (% current health expenditure) data per the World Bank.

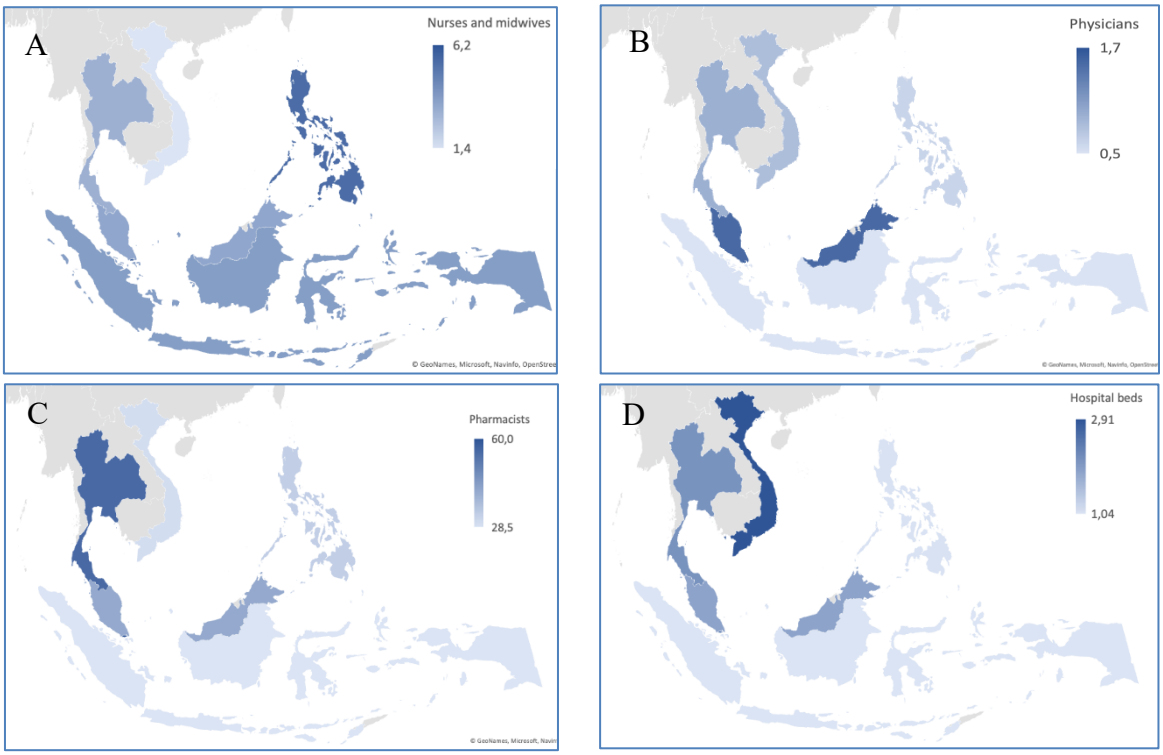
Sources: All data from World Bank

2.5 Health System Workforce and Delivery

In terms of healthcare resources, the number of physicians, nurses and midwives, pharmacists, and hospital beds per 1000 population varies among the selected countries. Indonesia exhibits a lower number of physicians and pharmacists, and limited availability of hospital beds, indicating potential challenges in healthcare access (Figure A5) Malaysia, on the other hand, shows a relatively higher number of physicians, nurses and midwives, and pharmacists, along with sufficient hospital bed capacity. The Philippines faces a lower number of physicians, while data regarding nurses and midwives, pharmacists, and hospital beds per 1000 population shows higher numbers compared to their neighbouring countries. Singapore stands out with a well-established healthcare system, potentially indicating a higher number of physicians, nurses and midwives, pharmacists, and hospital beds per 1000 population. Thailand and Viet Nam show similar numbers to other countries in the area (155).

The complex interplay of these factors significantly influences the mental well-being of healthcare professionals across ASEAN-6 countries, particularly during critical periods like the COVID-19 pandemic. These challenges encompass moderate anxiety, moderately severe depression, and varying degrees of job burnout. Singapore reports the highest rate at 39%, followed by Indonesia, Malaysia, the Philippines, and Thailand, all within the 18% to 24% range (156). Notably, Manila grapples with a high incidence of "Employee Presenteeism," where employees work while unwell, potentially leading to productivity loss, health issues, exhaustion, and broader workplace problems. Jakarta faces a distinct set of challenges, with a substantial number of employees working over 48 hours per week, minimal vacation time (often 14 days or less), and enduring extended commutes due to traffic congestion. Hanoi, while contending with elevated stress levels, also deals with employee presenteeism. In Malaysia a significant portion of the healthcare workforce falls short of the recommended seven hours of daily sleep. On the flip side, cities like Bangkok outperform the average in various employee burnout indicators, including stress levels, motivation, annual work hours, and mental health (157). These nuanced findings provide a comprehensive perspective on the multifaceted challenges experienced by healthcare professionals, offering insights into the diverse landscapes across ASEAN-6 cities.

Figure A5: Distribution of healthcare workers in the region



A. Nurses and midwives per 1000 population; B. Physicians per 1000 population; C. Pharmacists per 1000 population; D. Hospital beds per 1000 population.

Source: World Bank

3. Review of current progress towards SDG3 across ASEAN-6

3.1 Reproductive and maternal health

SDG3.1 *By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.*

SDG3.2 *By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.*

SDG3.7 *By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information & education, & the integration of reproductive health into national strategies.*

On average, the maternal mortality ratio in the ASEAN region has gone down slightly in the last 10 years. Major challenges remain in Indonesia regarding the number of women between 15-49 who die from pregnancy-related causes while pregnant or within 42 days of termination of pregnancy (158). Studies suggest that achieving further reductions in maternal mortality rates may require a shift in focus to address the existing issues with the quality of skilled birth attendance care. This includes initiatives such as increasing the number of doctors and improving access to functional Comprehensive and Basic Emergency and Obstetric Care facilities (159). Challenges also persist in countries like the Philippines and Viet Nam, although they are making progress towards lowering their maternal mortality rates to achieve the SDGs. This includes initiatives such as increasing the number of doctors and improving access to functional Comprehensive and Basic Emergency and Obstetric Care facilities (159). Challenges also persist in countries like the Philippines and Viet Nam, although they are making progress towards lowering their maternal mortality rates to achieve the SDGs.

Despite persistent challenges in maternal mortality, all countries in the ASEAN-6 region are either on track or have achieved the SDG goal concerning the number of newborn infants who die before reaching 28 days of age. According to studies, the improvements observed in these countries can be attributed to socioeconomic progress and a consistent policy focus on child health programs, as well as well-coordinated health system components. Notably, the presence of a stable and strategically deployed health workforce, combined with supportive financial mechanisms, has played a significant role in Malaysia and Thailand (160). Similarly, progress in reducing under-five mortality is observed in all six countries. While some challenges remain in the Philippines, they are on track to achieve the long-term objective for preventable deaths of newborns and children under five (161).

In terms of the adolescent fertility rate, the ASEAN region has shown improvement over the last decade. The number of births per 1,000 females between the ages of 15 and 19 has consistently decreased, ranging from 2.1 in Singapore to 36 in Indonesia. The reasons for this decline in adolescent birth rates vary from country to country and reflect a combination of factors such as increasing age at marriage, higher levels of girls' educational attainment, greater job opportunities for women, urbanization, and increased rates of contraceptive use (162).

Regarding births attended by skilled health personnel, the ASEAN region has experienced a slight improvement, with the percentage rising from 92% of all live births in 2016 to 94.3% in 2020 (163). However, the challenge remains in ensuring that births are attended by personnel who are trained to provide the necessary supervision and care to women during pregnancy, labour, and the postpartum period, conduct deliveries independently, and care for newborns. This continues to be a challenge in countries like the Philippines, although the current situation in the country is yet to be fully known due to the unavailability of recent data (164).

3.2 Communicable diseases

SDG3.3 *By 2030, end the epidemic of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.*

The prevalence of tuberculosis (TB) remains a significant and complex challenge for Indonesia, Malaysia, the Philippines, Thailand, and Viet Nam. Despite widespread political commitment, these countries face multiple challenges arising from limited human and financial resources, as well as complex sociodemographic issues. The identification of TB cases at an early stage is further complicated by factors such as social stigma, insufficient awareness, and inadequate investment. The rise of drug-resistant TB (DR-TB) poses an increasingly alarming concern, while some countries also bear a heavy burden of HIV co-infection (165). In terms of new HIV infections, the average figure for ASEAN countries has decreased from 0.48 to 0.31 per 1,000 uninfected population. This indicates a positive trend in the region's efforts to combat HIV transmission. All six countries have either maintained or reduced the number of newly infected individuals with HIV in 2021. This progress puts them on track to achieve the objective set for this SDG.

3.3 Non-communicable diseases

SDG3.4 *By 2030, reduce by one third premature mortality from non-communicable diseases through prevention, treatment and promote mental health and well-being.*

In the region, NCDs account for 62% of all deaths, affecting approximately 9 million people (166). The risk of premature mortality between the ages of 30 and 70 years from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases presents a challenge in Indonesia, Malaysia, the Philippines, and Viet Nam. On the positive side, Thailand and Singapore have made commendable progress.

Despite some progress in the prevention and control of NCDs in the region, advancements have been slow and uneven, revealing significant gaps in policy implementation and healthcare scale-up. Policymakers should give thoughtful consideration to the relative burden of diseases while prioritizing their efforts. While cardiovascular diseases may be the primary cause of NCD mortality in specific countries, other conditions may also require special attention. Accounting for the unique health challenges faced by each country will aid in devising effective prioritization strategies (167).

In Southeast Asian countries, addressing NCDs has become a priority, with most nations having treatment guidelines and national policies in place. However, variations in policy implementation influence healthcare systems' capacity to effectively tackle NCDs. Common gaps include inadequate NCD surveillance, suboptimal health insurance coverage, and limited primary care capacity. To fill these gaps, innovative public-private partnerships, a comprehensive "whole-of-government" and "whole-of-society" approach, and policies considering health in all aspects are essential. Primary healthcare services play a crucial role in delivering NCD care, but existing systems lack consistency in providing preventive interventions and long-term chronic care for NCDs. Shortage of resources and mental health facilities further contribute to the treatment gap. Strengthening primary care, adopting a collaborative approach, expanding roles of healthcare professionals, and incorporating technology-based solutions are proposed to improve NCD management (27).

The ASEAN member states have recognized the importance of addressing NCDs and adopted declarations to accelerate actions against NCDs through engagement with multiple stakeholders, NCD screening, health promotion, strengthening health systems, and working towards UHC. To enhance NCD care, an interprofessional, collaborative approach is essential, involving patients, families, and communities. Empowering individuals by creating health-promoting environments, integrating NCDs and mental health into UHC, and collaborating with businesses are crucial steps endorsed by both this report and an independent WHO high-level commission (27).

3.4 Substance abuse

SDG3.5 *Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.*

The six considered countries face different challenges in tackling substance abuse that lead to physical and mental illness. Within the SDG goal framework, two indicators are assessed, which are related to death by drug use and alcohol consumption. In 2020, only two out of the six countries met the target of less than 2 deaths caused by drug abuse per 100,000 people, i.e., Indonesia (0.64) and Singapore (0.42) (168). The Philippines and Viet Nam respectively reported 2.31 and 2.17 deaths per 100,000 population, while the countries facing the highest divergence from SDG targets are Malaysia (3.07) and Thailand (3.45) (168).

A different picture emerges when it comes to assessing progress related to alcohol consumption. Indonesia met the SDG achievement of consuming less than 9 litres of pure alcohol per capita in 2020 (at 6.4l), whilst Singapore reported the highest consumption across the six countries (32.2), and are the furthest from achieving the SDG target (168). There is a relatively wide variation in alcohol consumption amongst the remaining countries, ranging from 9.1 in Malaysia, 12.1 in the Philippines, 14.4 in Viet Nam, and 16.8 in Thailand (168). This picture provides a complex composition of the prevalence of abuse from harmful goods, with countries meeting the SDG targets for some substances, but severely lagging on others.

3.5 Injury and traffic accidents

SDG3.6 *By 2020 halve the number of global deaths and injuries from road traffic accidents.*

Progress on the SDG goal related to injury and traffic accidents has been measured by estimating the road traffic death rate per 100,000 population. On average, ASEAN-6 are not progressing well on this SDG target, with three out of six countries falling in the bottom target category of more than 16.8 deaths per 100,000 people – Malaysia (22.5), Viet Nam (30.6) and Thailand 32.2 (2019 data) (169). The Philippines and Indonesia respectively reported in the same year 12 and 11.3 deaths per 100,000, while Singapore is the only country that largely achieved the SDG target with 2.1 deaths per 100,000 people. However, it is important to note that Singapore had low traffic death rates prior to the implementation of the SDG goals in 2015. Overall, there is a general decreasing trend in traffic deaths in the other five countries, more pronounced in some (e.g., Indonesia, which moved from 12.28 deaths in 2015 to 11.3 in 2020), and milder in others (Malaysia, Philippines, Thailand). Finally, Viet Nam is the only country that, from 2015 to 2020, reported an increase in estimated traffic-related deaths (169).

3.6 Implementation of UHC

SDG3.8 *Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.*

The UHC index of service coverage ranks the UN countries based on a composite measure which takes into account the average coverage, capacity and access to essential health interventions. The index ranges from 0 to 100, where 0 represents the lowest value and 100 the highest value, i.e., highest average coverage, capacity and access to essential health interventions. The six considered countries historically reported different values within this index, ranging from Indonesia and the Philippines at the lower end, and Thailand and Singapore at the highest end. However, since the SDG report, Indonesia and Thailand reported the most marked progress within this index, i.e., Indonesia moved from 50 in 2015 to 59 in 2019, while Thailand moved from 76 to 83 in the same period (170). Singapore and the Philippines had a slightly lower value in 2019

compared to 2015, with Singapore moving from 87 to 86, and the Philippines from 57 to 55 (170). Overall, Indonesia and the Philippines remain the countries farthest from the SDG target.

3.7 Illness from ambient and household pollution

SDG3.9 *By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.*

Although with different intensity, pollution from hazardous chemicals and contamination represents an issue for all ASEAN-6 countries. In fact, none of the six countries achieved the SDG target value of less than 18 deaths per 100,000 population attributable to ambient and household air pollution in 2019. Death rates vary across the six countries, with values ranging from a minimum of 23.4 deaths per 100,000 in Singapore to a maximum of 202.8 in the Philippines. From 2016 to 2022, only two out of six countries reported a decreasing mortality rate attributable to ambient and household air pollution, i.e., Indonesia and the Philippines, while Malaysia, Thailand, Singapore and Viet Nam saw a marked increase in deaths (171).