

Chapter 6 | Health

Mr. SUN Chhai

Proloeng has finished a long day developing code for Kingdom Games, a start-up firm based in Phnom Penh that aims to break into the global e-game market. As is normal on Thursdays, he is heading to football practice in Toul Tompoung's expanded sports district. Today, however, he must stop by the pharmacist en route to pick up his wife's cold and flu medication. Thankfully the process is effortless, as his wife has already sent across her prescription with a note that Proloeng will collect. All he needs to do is confirm his identity through his Cambodian Carte Vitale, and pick it up, and unlike years before, no payment is required. Having picked up the prescription, Proloeng continues on to football. One hour into training he finds himself on the wrong end of a tackle and requires hospital treatment. Fortunately, the ambulance is able to arrive within thirty minutes and take him to the hospital for x-rays. It turns out that Proloeng has suffered a broken leg requiring three months of crutches and rehabilitation. While frustrated by the idea of not being able to play his favorite sport for some time, Proloeng reminds himself that he is lucky to live in a country that takes care of its ill and infirmed. The combination of no upfront medical costs under universal coverage and a well-trained medical workforce help to remove a considerable burden when it comes to medical treatment.

I. Future Health: The Ideal Scenario

It is 2040 and the future of Cambodian healthcare is bright. Citizens have access to a universal healthcare system that has developed to ensure quality coverage for all. As the kingdom has continued its strong economic growth trajectory, the

Royal Government of Cambodia (RGC) has developed effective financing mechanisms to capture a proportion of national revenue for the system. This is supported by enhanced tax revenue capture⁶ that supports the collection of individual contributions in the form of social security. Of particular note has been Cambodia's ability to successfully transition away from a high burden of foreign donation in the sector and move towards a domestically sourced one. As Cambodia has continued its economic growth towards upper-middle income status, the RGC has ringfenced a larger proportion of government revenue funds into the healthcare sector. This has facilitated nation-wide improvements in healthcare infrastructure, with the building of state-of-the-art hospital facilities within each province. In addition, domestic revenue has been effectively utilized to support the development of human capital in healthcare.

In part the transition has been made possible through the adoption of new national forecasting technologies that better predict the requirement of public health expenditure; contingent on an AI prediction of disease incidence. This improvement of, and adoption in, technology has equally supported the quality of coverage in both urban and rural areas, with even the most remote centres able to access real time health data and specialist practitioner advice through the central medical system. Adoption of a Cambodian Carte Vitale system has provided every citizen with a digital health footprint. This has been achieved by providing each Cambodian with a unique national identification number from birth. This number is then utilized as a point of reference to store an individual's medical history, allowing health practitioners to more accurately diagnose ailments, illnesses, and treatments.

Alongside improvements in funding and technology, the RGC has overseen a staggering development of the healthcare curriculum throughout the country. Having broken down healthcare learning into stages, with syllabi developed from the primary level up to the doctoral level. This has resulted in nationwide improvements in preventative healthcare against communicable diseases. At

⁶ For more discussion on the future of tax revenue please read Chapter 3 *Fiscal Policy* by CHEAN Sithykun contained in Cambodia 2040 Volume 1: Economic Development.

the practitioner level, the previous shortages in healthcare professionals have been addressed, with Cambodia developing an educated healthcare workforce. By 2040, this workforce constitutes 95 percent of the total Cambodian healthcare sector, with the remainder comprised of foreign specialists. This has supported the development of a Cambodian healthcare system that provides quality village-level care through general practitioners and nurses, with specialized treatments taking place at a district hospital.

The success in Cambodian healthcare throughout the above-mentioned factors has been made possible through the collaboration of healthcare stakeholders both domestically and internationally. The development of the healthcare system utilized the advice of foreign specialists from international partners and the World Health Organization in order to build out the appropriate infrastructure for a universal healthcare system. Domestically, the system is a collaboration between public and private institutions that operate under the oversight of the Ministry of Health. Cambodian nationals utilize healthcare facilities with no up-front costs to the user.

II. Scenario Space and Key Factors for Future Health

The development of the Cambodian health sector towards an efficient, responsive, and adaptive model is contingent upon the following key factors: *funding; technology; education; model of healthcare; and, collaboration between stakeholders*. Each of these factors will be explored in turn, with a subsequent discussion of the 'kingdom factor': referring to the contemporary Cambodian healthcare system that each factor will develop out from under new reform.

Funding

Pragmatically speaking, the future of the Cambodian healthcare system, as with any healthcare system, is contingent upon its funding. As framed by Tulchinsky and Varavikova (2015), the financing of healthcare systems has evolved from a personal payment at the time of service to financing through a combinational means encompassing health insurance, social security, general taxation, and supplementation, where necessary, by the private sector and non-government

actors. The level of funding, therefore, plays a considerable role in determining the form that the healthcare system takes.

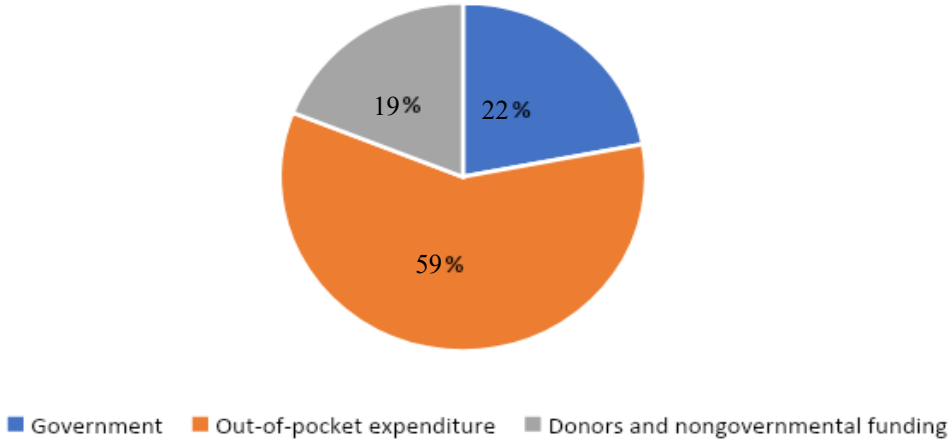
One key source of funding is government revenue in the form of gross domestic product (GDP). Cambodian GDP has increased at a significant rate throughout the past two decades with an average annual rate of 7 percent (WorldBank, 2010). According to the Asian Development Bank (2019), Cambodia's GDP is expected to continue growing at an average annual rate of 6.8 percent in 2020. In the long-run there is an expectation that continued growth will deliver the kingdom to upper-middle income status by 2030, and high-income status by 2050 (Xinhua, 2018). The RGC has developed an ambitious plan to achieve its vision of becoming an upper-middle-income country by 2030 and high-income by 2050 as stated in the Rectangular Strategy Phase 4 (RGC, 2018).

An additional source of funding for healthcare is in the form of external international donors. Over the past decade, Cambodia healthcare received financial support from many international organizations and development partners towards improving the health sector. Based on data from the World Bank in 2016, donor funding accounted for 19% (about USD 18 million) of the total current health expenditure of approximately USD 71 million while the government contributed 22%. The rest came from out-of-pocket expenditures that accounted for 59% (see: Figure 1). A significant proportion of financial contributions came from international donors such as the Global Fund and the Bill & Melinda Gates Foundation which accounted for one-fourth of total donor funding in 2014 (Country Cooperation Strategy 2016-2020, 2016).

The distribution of health expenditure reflects a heavy reliance on international donors and out-of-pocket expenditures. However, recently, funding from external donors has already slightly decreased from 20% to 18% of total health expenditures from 2008 to 2014 and is anticipated to continue declining (Health Policy Project, 2016). This is perhaps a positive trend when we consider it alongside growth in GDP. As noted by Reading (2010), the reliance by the state on non-state and international actors' willingness to aid countries can lead to suboptimal domestic performance towards citizens' healthcare: with additional

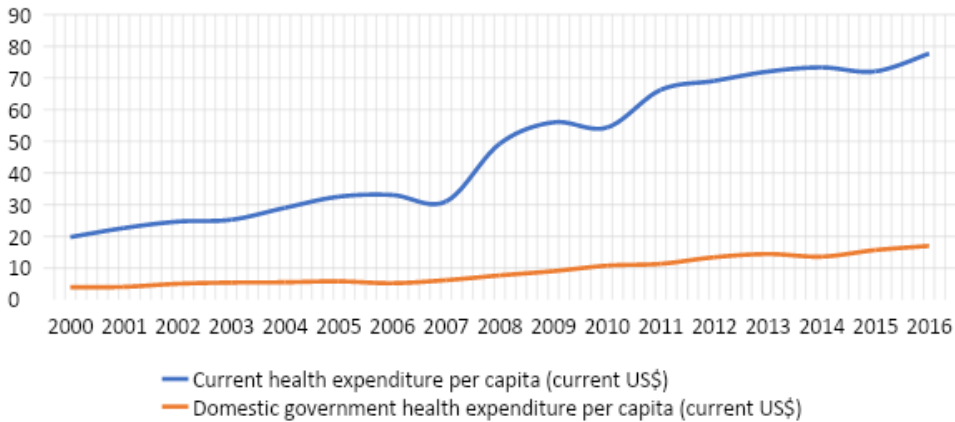
domestic revenue, there is an opportunity to fill the funding gap presently covered by international donors.

Figure 1: Estimated Cambodian national health expenditure by source (2016)



Source: World Bank (2016)

Already, the World Bank’s data indicates that per capita, current health expenditure and per capita government expenditure are moving in the right, and same direction; although current, overall health expenditure per capita is rising at a much more significant rate (figure 2). During the 2008 to 2014 period, the government increased its public spending on healthcare from approximately 6.8% to 7.6% of the total healthcare budget. However, this increase falls short of the recommended 15% of the government budget to be allocated to health (Health Policy Project, 2016).

Figure 2: Health expenditure (total, millions of USD)

Source: World Bank (2020)

Technology: Technology and healthcare have been intertwined from the beginning. In broad terms, health technology describes the application of knowledge and skills in the form of devices, medicines, vaccines, procedures and systems to solve health problems (WHO, 2020). Accordingly, technology is a key factor in the determination of any health system, and of particular importance in the context of industrialization 4.0; whereby innovation is predicted to improve efficiency in diagnosis, treatment, time, and cost (Javaid and Haleem, 2019).

In the Cambodian context, the advancement of technology will aid the efficiency of both healthcare providers and the government to obtain more accurate information about the population's health and the overall healthcare market. To improve healthcare policy, the government must have accurate information about the entire system. One example of how the government and healthcare providers have successfully curated citizen's health information is the Carte Vitale of the National Health System in France that was introduced in 1998. The card stores information about health background and history of a patient and is also used as a means of payments. This information helps the French government to develop an appropriate price system for various health services and to cut down the cost of administrative work and transaction processing fees. In the long run, the RGC could innovate a similar digital platform.

Education: From a supply-side perspective, Cambodian healthcare is going to be impacted by the availability and quality of domestic healthcare workers; the WHO (2013) recognises the importance of having a healthcare workforce with sufficient capacity and appropriate capabilities. In particular, a suitably educated workforce is essential to the delivery of public health services, including emergency responses to biological, manmade, and natural disasters (Tao et al., 2018).

A likely priority area in Cambodian health education will be nursing. Currently, the kingdom suffers from a lack of nurses, as well as a large variation in quality between urban and rural areas (CCN, 2019). This finding was backed up by a report by Sakurai-Doi et al. (2014) who found that the shortage of qualified staff is indicative of the region, where there are “critical human resource shortages.” Concomitantly, a parallel shortage of doctors affects the roles and responsibilities of nurses.

Platform of Healthcare: The future of the Cambodian healthcare sector will be contingent on the platform that the Royal Government of Cambodia (RGC) develops. The RGC has already developed many healthcare schemes to improve the health outcomes of its population since 1990 when Cambodia emerged as a free-market economy. The schemes are typically supply-side and pro-poor based and aim to expand health coverage and provide basic healthcare services to the extremely poor (Annear, 2006). Some of the essential schemes developed since 1990 are outlined as follows:

- The Universal Health Coverage Plan was introduced in 1995. The RGC implemented this scheme to distribute healthcare facilities in rural areas. In the following year, a Health Financing Charter was adopted to regulate and reduce point-of-service payments at government facilities and provide revenue (Grundy et al., 2009).
- Health Equity Funds were introduced in 2000. HEF is sustained mostly by financial support from international sources. This financing system is a significant supporting role that pays for the poor the costs of access to healthcare services and facilities that include food costs, transportation costs, and user fees. The past studies find that HEF has grown to effectively reduce healthcare costs and enhance facilities-based access for

- the poorest segment of the population (Annear et al., 2007, Jacobs et al., 2007, and Noirhomme et al., 2007).
- Community Based Health Insurance (CBHI) and vouchers were implemented from the mid-1990s to the late-2000s. These schemes targeted the non-poor population segments, especially pregnant women, young children and the elderly. CBHI is a not-for-profit healthcare scheme that provides affordable insurance plans for poorer families who are members of the community (Ensor et al., 2017). Vouchers cover the costs of family planning, antenatal, delivery, and postnatal care and also provide reimbursement for transport to reach the facility for these services (Brody et al., 2013).
 - Other schemes with financing mechanisms have been introduced in the following years to improve health outcomes and minimize financial barriers to health access. Schemes such as Midwife Incentives in 2017, Health Strategic Plan 2 (HSP2) in 2008, National Health Policy in 2014, and Health Strategic Plan 3 (HSP3) in 2016 were innovated and implemented to advance the Cambodian healthcare system towards a universal coverage model.

In the global context, universal health coverage is the main healthcare object for many developing countries. Over the past two decades, an increasing number of low-income and middle-income countries, such as Brazil, India, Mexico, Rwanda, South Africa, and Thailand, have started implementing programs to provide UHC (Fried et al., 2013). Countries have different approaches to finance their healthcare system. Regardless, the common means to increase government public expenditure on the healthcare sector. As depicted by the World Bank's data from 2010 to 2016, countries in Southeast Asia have raised public government expenditure in recent years. Cambodia, Lao, and Myanmar, however, remain at the bottom with domestic general government health expenditure below 1.5 percent of GDP.

According to the International Labour Organization (ILO), nearly 50 countries such as Mexico and South Africa have successfully launched some form of universal health coverage schemes and provided substantial social health services. Some countries finance their UHC program through a tax deduction, while

others require a contribution from households. Several other models including Bismarck, Beverage, and NHI are being used to ensure coverage for all citizens in both formal and informal sectors. Such models are mainly followed in developed countries such as Germany, the UK, and Japan.

Globally, developing countries are moving toward UHC or developing healthcare schemes to expand healthcare coverage as the benefits thereof become more obvious. For instance, the UN system, the US Agency for International Development (USAID), Inter-American Development Bank, Bill and Melinda Gates and Rockefeller Foundations, have called for more attention to UHC (Gideon et. al., in Fried et. al., 2010). The note asserts that this call reflects a range of interests and perspectives: reducing or rationalizing health care expenditures, increasing health care and services in resource-poor settings, and securing the right to health - often bolstering the private health care system in the process (Fried et. al., 2010). It is also a United Nations Sustainable Development Goal (SDG) to achieve good health and well-being of the people in 2030 by focusing on providing better quality healthcare, more efficient funding of health system, as well as accessibility to healthcare specialists. With increased participation from all stakeholders, the development of UHC will be more promising in 2040.

Collaboration between stakeholders: The ambitious vision of the RGC to ensure healthcare for all will be more likely to succeed through solid cooperation from all partners across sectors. For instance, the UHC forum provided an important platform for experts from different areas to reflect on the progress of UHC development, financial health risk protection, and other key factors to UHC. Healthcare in Cambodia is comprised of private healthcare providers, public providers, and the support in the form of grants and donations from NGOs to expand basic health care and access to health services.

In April 2018 the Ministry of Health cooperated with other NGOs to organize the Cambodia UHC forum and convene over 120 stakeholders from various ministries, development partners, and overseas institutions to discuss and evaluate the path to UHC in Cambodia (World Health Organization, 2018). Several speakers highlighted that Cambodia needs collaborative actions to carry out the policy frameworks that are already set in place. For instance, RGC's aim, as outlined in

the National Social Protection Policy Framework 2016-2025, to minimize the financial cost of care to access health services by expanding financial protection to more Cambodians. As reported in the Third Health Strategic Plan 2016-2020 (HSP3), there have been impressive gains in providing financial risk protection to the poor through the expansion of Health Equity Fund schemes (HEFs) and the other, diverse demand-side interventions.

Although the progress of health policy development has been somewhat advanced, UHC remains an ambitious target for the Royal Government of Cambodia (RGC). The MoH has committed to moving towards UHC and to achieving the vision of: “All people in Cambodia to have better health and wellbeing, thereby contributing to sustainable socio-economic development” (HSP3). The performance of policy implementation of RGC and MoH to advance to UHC is generally evaluated positively in this report. However, it also acknowledges the limitations and challenges to sustain and to expand coverage within available resources.

Cambodian healthcare overview: Healthcare policy in Cambodia has been heavily shaped by political proactivity in Cambodia over recent decades (Liverani et al., 2018). The work of Grundy et. al., (2016) nicely outlines the background and progress of healthcare policy development in the kingdom:

- *1975-1979 (The totalitarian turning point):* Healthcare facilities, equipment, and hospitals were destroyed and closed down under the Khmer Rouge. Access to modern medicine was restricted to only elites.
- *1980-1989 (The socialist turning point):* Cambodia’s healthcare system went through recovery and rehabilitation with assistance from the international community, mainly from Eastern bloc countries and the United Nations. Hospitals and health administration were re-opened and re-established. Although healthcare services and facilities were improved, a high mortality rate remained.
- *1990 – (The free market turning point):* Healthcare services, facilities, and policy were progressively reformed. There were establishments of more hospitals and health clinics across the country, expansion of immunization and communicable programming, development, and implementation of a healthcare coverage plan, and improvement in health financing

system. In addition, Cambodia achieved the Millennium Development Goals 4 & 5 (MGD) which significantly reduced the mortality rate (2/3 reduction in maternal and infant mortality rates).

Building on recent successes in Cambodian healthcare, the Ministry of Health outlined seven priority areas to target for improvement in their Health Strategic Plan 2016-2020. These are:

1. *Healthcare service delivery*: A set of health programs will be implemented to ensure that the entire population will have equitable access to safe and good quality healthcare services at private and public facilities when needed.
2. *Healthcare financing system*: An increase in healthcare financial risk protection when accessing healthcare services.
3. *Healthcare workforce development*: An increase in the number of health personnel with well-trained, appropriate skill mix and professional ethics to provide support to the healthcare sector.
4. *Essential support systems*: Provide effective medicines and advanced health technologies to improve health outcomes.
5. *Health infrastructure development*: Ensure that basic health infrastructure and facilities are equitably distributed across the country and ready to be utilized.
6. *Health information system*: High-quality and reliable health-related data/information are needed to conduct medical research. The findings are critical for decision-making and strategy choices to improve healthcare services delivery and policies.
7. *Health system governance*: Enhance leadership, management competency, and cooperation of all actors so that they can jointly take effective actions to foster equitable access to healthcare.

In considering improvements across the sector, Dr. Kumanan Rasanathan (2019), acting WHO representative in Cambodia, noted that the Royal Government of Cambodia has made important progress in providing social health protection for more Cambodians, particularly in rural regions.

III. Policy Initiatives to Achieve the Ideal Scenario

Effective policies are necessary if Cambodia is to achieve a sustainable universal healthcare system. Policy recommendations are envisioned to achieve the ideal scenario outlined in section I. They are outlined below and expanded upon accordingly.

1. The allocation and management of funding.

The government must obtain effective funding management mechanisms for both public expenditure and international donor funding. The RGC and Ministry of Health must carefully monitor the use of funding and ensure that the fund is used efficiently. The good management of international donor funding will contribute to the quality of health programs and attract more funding. The increase in government public health expenditure will benefit a number of areas in the healthcare sector. More funding can be allocated to the construction and operation of healthcare infrastructure throughout the kingdom. In particular, a funding mechanism should be prioritized around the development of infrastructure in rural Cambodia. Many hospitals and clinics at the provincial and district level still utilize old health facilities, buildings, and equipment to provide care. Allocating funding to these hospitals and clinics will bring their standard and quality closer to that of hospitals and clinics in urban areas. The process will somewhat minimize inequality in healthcare and provide low-income people access to good quality healthcare facilities and services. Sachs (2012) asserted that low-income countries would not be able to achieve UHC without external support from donors and development partners. An increase in government public expenditures along with grants and aids from non-governmental segments will excel Cambodia to UHC. In this note, Sachs suggested an international norm called the Abuja Declaration that low-income governments promoting universal health coverage should allocate at least 15% of their total budget to health (Sachs 2012).

The government should heavily invest in a digital platform to collect accurate data on citizens' health and healthcare market information. First, maintaining

patients' information via a central, digitized record is more cost-effective, more accurate, and less time-consuming than paper records. It will cut down administration fees and reduce the amount of work. The technology of Carte Vitale, as noted above, as a card that is used as a means to store health records and payments, would make things more efficient and convenient. Second, accurate and reliable healthcare market data will improve the quality of research and development in the medical field. This will help the RGC to monitor the operation and performance of the health market. Higher quality of market information will also allow both public and private providers to create healthcare products and services to better serve people.

It is also sensible to invest in advanced medical technology. Cutting-edge medical technology will improve health outcomes and reduce the cost of treatments. For instance, A cure for cancer using cutting-edge genomics technology will reduce the use of conventional treatments such as radiation therapy which takes longer and is more costly. Artificial Intelligence is being studied and utilized to diagnose the conditions and symptoms of patients. Effective medicines and treatment methodologies will improve overall care and consume less time to cure patients.

2. Development of national health education programs

There are two main aspects of educational programming that the RGC and MoH must focus on: the supply-side education program and the demand-side education program. On the supply side, it is necessary to increase the number of well-trained and professional nurses and health specialists to provide good care to patients. However, the most important issue is ensuring an equal distribution of nurses and health specialists across the country.

There are several policies that the government can explore. First of all, the MoH can create programs to recruit more people to work in the healthcare sector and provide training to existing nurses and health specialists. The RGC and MoH can create some types of incentives, such as scholarships, to attract people to work in the healthcare sector and to work in remote areas. Second, free tertiary education to train those entering the field can also be effective to produce more skilled health specialists and physicians. This approach has been practiced in

many countries already. Free university tuition allows students to gain a higher education without financial constraints or financial difficulty. Therefore, it contributes to a low cost of public healthcare expenditure since students who become doctors are more willing to work with decent wages (Reid, 2017). A variant of the free education approach has been practiced in Thailand. Thai students can attend public medical school for free, but in compensation, it is compulsory for fresh graduates to serve in rural areas for at least three years (Al Jazeera, 2010)

On the demand side, medical education programs and health literacy have a positive impact on health outcomes such as access to healthcare and self-care (Nutbeam, 2000 and Paschee-Orlow & Wolf, 2007). Such programs will improve preventative behavior and inform people about basic health information. As people are more educated about health and develop good preventative behaviors, they might be less likely to get sick as previous studies have suggested, and therefore decrease demand for basic healthcare services. In addition to medical education, the RGC and MoH must ensure that people are well-informed about health insurance policies or healthcare schemes such as health equity funds. It is necessary for people to be aware of what services are available through insurance plans and how insurance works.

3. Collaborative work with development partners

All stakeholders including NGOs and international donors are important partners and assets to help advance Cambodian UHC. These partners are essential to the development of UHC because of its association with healthcare improvements (Biermann et al., 2016). NGOs and International donors provide both financial support and healthcare delivery. They work closely with people at the community level and fill the lack of healthcare services in the rural regions. The RGC and MoH receive funding from international donors and must work collaboratively with them and adhere to their regulations and plans. It is the RGC's role to prevent any forms of fraud, misuse of funds, and corruption when using donor funding. This is the most critical step to maintain further financial support and attract more external funding in the near term. The MoH should invest in more events, such as the UHC Forum, and encourage more development

partners and health experts from across a diversity of sectors to attend. Events such as these can serve as a focal point for coordination and will help to solidify relationships with all partners; and, most importantly, they can provide extensive evaluation and consultation to the development of UHC in Cambodia.

The private sector also plays an important role in expanding healthcare access by co-sharing the cost of health insurance with its employees. The RGC should encourage private firms of all sizes to provide some form of health insurance to their employees. Insurance through employers will manage the cost of healthcare and reduce the risk of financial difficulty for employees.

4. Innovating healthcare schemes and adopting an appropriate healthcare model

Adopting an appropriate healthcare model is the most fundamental step toward universal health coverage. As of today, Cambodia mainly utilizes an out-of-pocket system that imposes a strong financial burden on the population, especially the low-income segment. Various healthcare schemes have been innovated and implemented to expand healthcare access and increase financial risk protection as outlined in the previous section. Among all of these schemes, HEF seems to be the most practical system that financially supports the poorest who seek healthcare services. There are other models such as the Bismarck model, the Beveridge model and the National Health Insurance model that might be more approachable for the RGC. These models are financed and sustained by a tax system, government subsidies, the private sector, and a contribution from people. Before it is possible to determine what policy framework should be implemented, a better understanding of alternative healthcare models is required, as summarized in the table below. The national health insurance model seems to be more approachable than the other models in that the RGC does not maintain sufficient market power or negotiate for lower costs of health insurance. It will be challenging for the RGC to adopt the Beveridge model because it does not have a solid tax system that can support this model. The same problem goes for the Bismarck model as a multi-payment system is not common among employers and employees. Therefore, a mixed model seems appropriate for the RGC to adopt.

Figure 3: The Diverse Models of UHC

The Beveridge Model	The Bismarck Model	The National Health Insurance
Financed by the government through a tax system	Use multi-payer system. The fund for the insurers is called "sickness fund" that is usually financed jointly by employers and employees through payroll deduction	A mix of the Beveridge and the Bismarck model
Many hospitals and clinics are owned by the government	Doctors and hospitals tend to be private	Public and private providers
Private providers collect healthcare bills from the government	Use insurance system	Payments come from a government-run insurance program that every citizen pays into. Therefore, there is no profit and no financial motives to deny claims
The system tends to have low costs per capital because the government acts a sole payer and can control what doctors can do and charge	There is a strict regulation which gives the government the power to control cost	The single payer tends to have considerable market power to negotiate for low price
Adopted by Hong Kong, The UK, Cuba, and Scandinavian countries	Adopted by France, South Korea, Taiwan, and Japan	Adopted by Canada and Thailand

Source: Reid (2009)

Thailand has implemented the NHI system satisfactorily. It launched the Universal Healthcare Coverage Scheme (UCS) also known as the 30-Baht Scheme in 2001, financed by a tax system and co-payment of 30 Baht, to provide free healthcare at the point of service. Later in 2006, the requirement of the 30 Baht co-payment was abolished, but was reinstated with some exemptions in 2012 (Sakunphanit 2006 in Paek 2016). According to ILO, Thailand's UCS covered approximately 76% of the total population in 2016.

To achieve a UHC, Cambodia needs to improve its tax system and have a clear structure of the allocation of tax revenue, for instance, what percentage of the tax deduction must be allocated to health insurance. The government also needs a contribution from its citizens, and it can follow the example of Thailand by investigating what would be an effective and appropriate amount of co-payment. The RGC must also make it compulsory for employers to create a funding pool for health insurance and co-share the costs of insurance with their employees.

IV. Future Health Under the Baseline Scenario: Business as Usual in 2040

Without strengthened regulation and policy implementation from the Royal Government of Cambodia, universal health care seems to be a long way off for Cambodia. If we look at the data as to government public expenditures on healthcare over the past decades, the growth rate only increases by a small percentage (see figure 2). Cambodia still depends heavily on external funding from international donors and non-governmental organizations as well as the out-of-pocket expenditures. If the RGC continues to allocate the same amount, the quality of healthcare services and infrastructure will not significantly improve. Inequality in healthcare will remain severe, preventing low-income people from accessing an equal standard of healthcare.

A more effective tax system is a must in order to finance UHC. Many of the poorest segments of the population can access healthcare for free thanks to HEF and non-governmental organizations. However, the majority of the population still have to pay with their own funds at the point of service. Therefore, financial risk remains significantly higher for people from all income levels if they experience severe sickness. There are several micro health insurance companies such as BIMA Cambodia that provide affordable plans to cover basic healthcare for low-income and medium-income people. Such affordable plans can somewhat help enhance financial risk protections.

As for the healthcare market, there are only a few health insurances companies that mainly target medium income to high-income people in urban regions and the regulatory system for this sector remains minimal. Less competition in the market allows private health insurance companies to have overwhelming market power on pricing their products. The RGC should subsidize private health insurance companies in order to attract more insurance companies and increase the incentives for them to innovate affordable health insurance plans. This will encourage more firms to enter the market and increase competition.

The government has innovated and implemented different healthcare schemes in the past that contribute to the development of UHC. As mentioned earlier, HEF is a fundamental step toward achieving UHC in 2040. HEF has significantly supported the poorest in getting access to healthcare at the point of service without having to pay the fees. The goals of HEF - to increase financial risk

protection and to encourage more people to rely on healthcare services with HEF - will push Cambodia one step further toward the UHC if the goals are met. Yet, it will be very challenging for the RGC to achieve UHC in 2040 without substantial additional investment across all factors health-related.

References

- ACLEDA. 2019. "Health Savings Account" Source: https://www.acledabank.com.kh/kh/eng/ps_dehealthsaving
- Annear, P. (2006). Study of financial access to health services for the poor in Cambodia. Phase 1: Scope, design, and data analysis. For the Ministry of Health, WHO, AusAID and RMIT University.
- Annear P, Bigdeli M, Ros CE, James P. "Study of Financial Access to Health Services for the Poor in Cambodia". Phase 2. In-depth analysis of selected case studies. Ministry of Health, WHO, AusAID, RMIT University (Melbourne), Phnom Penh, 2007
- (www.who.int/healthfinancing/countries/experiences/en/index1.html).
- Asian Development Bank. 2016. "ADB Data Library." Available at: <https://data.adb.org/search/type/dataset>
- Biermann O, et al. "Collaboration Between Non-Governmental Organizations and Public Services in Health - A Qualitative Case Study From Rural Ecuador." *Global Health Action* vol. 9, pp. 32237. 15 Nov. 2016, doi:10.3402/gha.v9.32237
- Bliss, F. "Free Access for the Extremely Poor" Development and Cooperation, 21 October 2018. Source:<https://www.dandc.eu/en/article/health-equity-fund-improving-access-health-care-poorest-people-cambodia>
- Brody C, Freccero J, Brindis C, Bellows B, "Redeeming qualities: exploring factors that affect women's use of reproductive health vouchers in Cambodia" *BMC International Health and Human Rights*, vol 13, 2013, pp. 13. <https://bmcinthealthhumrights.biomedcentral.com/articles/10.1186/1472-698X-13-13>
- Cambodia-WHO: Country Cooperation Strategy 2016-2020. Phnom Penh: World Health Organization; 2016. Print
- CCN. (2019). Nursing in Cambodia. [online] Available at: <http://cambodiancouncilofnurse.com/nurses-services/> [Accessed 16 Feb. 2020].
- Ensor T, Chhim C, Ton K, McPake B, Edoka I, "Impact of Health Financing Policies in Cambodia: A 20 Year Experience." *Social Science & Medicine*, Vol 177, 2017, pp. 118-126, <https://doi.org/10.1016/j.socscimed.2017.01.034>.
- Fried et al., "Universal Health Coverage: Necessary but Not Sufficient." *Reproductive Health Matters*, vol. 21, no. 42, 2013, pp. 50-60.

Grundy J et., "Health System Strengthening in Cambodia—A Case Study of Health Policy Response to Social Transition." *Health Policy*, vol. 92, no. 2-3, 2009, pp. 107-115.

Grundy J et al. "Turning Points in Political and Health Policy History: The Case of Cambodia 1975–2014." *Health and History*, vol. 18, no. 1, 2016, pp. 89–110. JSTOR, www.jstor.org/stable/10.5401/healthhist.18.1.0089.

Health Policy Project. "Health Financing Profile: Cambodia" Health Policy Project, May 2016. Source, https://www.healthpolicyproject.com/pubs/7887/Cambodia_HFP.pdf

Jacobs B, Price N, Sam SO. "A Sustainability Assessment of a Health Equity Fund Initiative in Cambodia". *Int J Health Plan Manage*, vol. 22, 2007, pp. 183–203.

Javaid, M. and Haleem, A. (2019). Industry 4.0 applications in the medical field: A brief review. [online] Available at: https://www.researchgate.net/publication/332536137_Industry_40_applications_in_medical_field_A_brief_review [Accessed 16 Feb. 2020].

Langenhov T. & Tessier L. "Universal Health-care Coverage Scheme." International Labor Organization. November 2016, source: <https://www.social-protection.org/gimi/gess/RessourcePDF.action?ressource.ressourceId=54059>

Liverani, M., Chheng, K. and Parkurst, J. (2018). The making of evidence-informed health policy in Cambodia: knowledge, institutions and processes. *BMJ Global Health*.

National Institute of Statistics and Directorate General for Health. 2014 Demographic and Health Survey of Cambodia. Phnom Penh: Directorate General for Health, Ministry of Health; 2014.

Noirhomme M, Meessen B, Griffiths F, Ir P, Jacobs B, Thor R, et al. "Improving Access to Hospital Care for the Poor: Comparative Analysis of Four Health Equity Funds in Cambodia". *Health Policy Plan*, vol. 22, 2007, pp. 246–62.

Nutbeam, Don. "Health Literacy as a Public Health Goal: A Challenge for Contemporary Health Education and Communication Strategies into the 21st Century." *Health Promotion International*, Vol 15, Issue 3, September 2000, pp. 259–267, <https://doi.org/10.1093/heapro/15.3.259>

Paasche-Orlow M. K., & Wolf M. "The Causal Pathways Linking Health Literacy to Health Outcomes." *American Journal of Health Behavior*, Vol. 31, SUPPL. 1, 2017

Paek S, Meemon N and Wan T. (2016). "Thailand's Universal Coverage Scheme and its Impact on Health-seeking Behavior." SpringerPlus. Vol. 5, pp. 1952, 2016, doi:10.1186/s40064-016-3665-

Ponniah K and Chhay C. "Money Still Owed in Global Fund Scandal." The Phnom Penh Post, 17 September 2014.

Newspaper Source, <https://www.phnompenhpost.com/national/money-still-owed-global-fund-scandal>

Rasanathan, K. "Primary Healthcare Remains the Foundation for all in Cambodia." The Phnom Penh Post, 08 April 2019.

Newspaper Source, <https://phnompenhpost.com/opinion/primary-healthcare-remains-foundation-all-cambodia>

Reading J. "Who's Responsible for This? The Globalization of Healthcare in Developing Countries." *Indiana Journal of Global Legal Studies*, vol. 17, no 2, 2010, pp. 367-387

Reid, T. R. *The Healing of America: A Global Quest for Better, Cheaper, and Fairer Health Care*. New York: Penguin Press, 2009. Print.

Ross, Russell R, and Library of Congress. Federal Research Division. *Cambodia: A Country Study*. Washington, D.C.: Federal Research Division, Library of Congress: For sale by the Supt. of Docs., U.S. G.P.O, 1990. Pdf. Retrieved from the Library of Congress, <www.loc.gov/item/89600150/>.

Sachs J. "Achieving Universal Health Coverage in Low-income Settings" *The Lancet*, vol. 380, 2012, pp. 944-947.

Sakurai-Doi, Y., Mochizuki, N., Phuong, K., Sung, C., Visoth, P., Sriv, B., Amara, S., Murakami, H., Komagata, T. and Fujita, N. (2014). Who provides nursing services in Cambodian hospitals?. *International Journal of Nursing Practice*. 1.

Tao, D., Evashwick, C., Grivna, M. and Harrison, R. (2018). Educating the Public Health Workforce: A Scoping Review. *Front Public Health*, 6(27).

"Thailand: The Price of Health -101 East" Al Jazeera, October 21, 2010, <https://www.youtube.com/watch?v=qL3a57YvuJU&t=1219s>

The Third Health Strategic Plan 2016-2020 (HSP3). Phnom Penh: Department of Planning & Health Information; 2016. [http://hismohcambodia.org/public/fileupload/carousel/HSP3-\(2016-2020\).pdf](http://hismohcambodia.org/public/fileupload/carousel/HSP3-(2016-2020).pdf)

Tulchinsky, T. and Varavikova, E. (2015). *The New Public Health*. 3rd ed. Elsevier.

Who.int. (2020). WHO | What is a health technology?. [online] Available at: <https://www.who.int/health-technology-assessment/about/healthtechnology/en/> [Accessed 16 Feb. 2020].

World Bank. 2016. "World Development Indicators." Available at: <http://data.worldbank.org/products/wdi>.

World Health Organization. "Journey Toward Health for All in Cambodia." World Health Organization, April 7, 2018. Source, <http://www.wpro.who.int/cambodia/mediacentre/releases/20180407-whd/en/>

World Health Organization (2013). Transforming and Scaling Up the Health Professionals' Education and Training.. World Health Organization Guidelines. Geneva, Switzerland.

World Health Organization. (2020). Universal Health Coverage. [online] Available at: https://www.who.int/healthsystems/universal_health_coverage/en/ [Accessed 16 Feb. 2020].

Xinhua. (2018). Cambodia aims to become "developed country" by 2050: PM - Xinhua | English.news.cn. [online] Available at: http://www.xinhuanet.com/english/2018-03/15/c_137041624.htm [Accessed 16 Feb. 2020].