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CHAPTER 1

Exploring the Feasibility of Universal Health Coverage in Cambodia: Lessons Learned from Rwanda and Thailand

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Abstract

This research intends to identify a feasible UHC model for Cambodia employing the 'most similar system design' as a comparative method by using Thailand and Rwanda as case studies.

Catastrophic health spending, lack of financial health protection for the population, and a fragmented social health system persist as the main concerns to be addressed.

In the case of Cambodia where primary data is accessible, semi-structured interviews and focus group discussions were conducted with key informants including local and international health organizations, government health agencies, and university clinical lecturers and students. The research found that the delivery of quality health services was the main constraint to UHC being achieved followed by fiscal limitations. The paper provides policy recommendations as a roadmap for Cambodia to achieve UHC with full population coverage, financial sustainability and the provision of quality healthcare services.

Abbreviations

CBHI	Community-Based Health Insurance
CHE	Current Health Expenditure
CSMBS	Civil Servant Medical Benefit Scheme
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
LMIC	Low- and middle-income countries
HEF	Health Equity Fund
MMI	Military Medical Insurance
NIPH	National Institute of Public Health
NSSF	National Social Security Fund
OOP	Out of pocket payments
RAMA	Rwanda Health Insurance Scheme
RSSB	Rwandan Social Security Broad
RWF	Rwandan Franc (currency)
SDG	Sustainable Development Goals
SHI	Social Health Insurance
SSS	Social Security Scheme
THE	Total Health Expenditure
UCS	Universal Coverage Scheme
UHC	Universal Health Coverage
WHO	World Health Organization

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Introduction

Despite rapid economic growth, Cambodia has major challenges in its health care system due to the high number of out of pocket payments, poor quality of service, and the fragmentation of the social healthcare scheme. According to the 2018 global Multidimensional Poverty Index (MPI), 35 percent of Cambodians, the majority being in the rural areas, live in poverty, while 21% of the population are vulnerable to poverty after sickness, drought, and unemployment. The sheer numbers of the poor in the population has raised concerns for the government to address the problem and to ensure that all people, especially the poor can gain access to health care with financial protection.

The Cambodian government has a commitment to promote health equity and affordability, in other words, Universal Health Coverage. It is included as one of the visions of the Health Strategic Plan 2016-2020 which states that "All people in Cambodia are to have better health and wellbeing, thereby contributing to sustainable socio-economic development" (Ministry of Health, 2016). Cambodia has made significant progress in promoting health equity through Health Equity Funds. However, the scheme only covers service the poor, approximately 3 million people, or 23% of the population (WHO, 2019). Community-Based Health Insurance is operated by non-governmental organizations, focused on the non-rural poor population and urban workers, who can afford voluntary contributions; this scheme covers less than 1% of the population (Ken, 2018) (WHO, 2015a).

The National Social Security Fund (NSSF) provides an occupational risk and healthcare scheme for formally and privately employed workers (National Social Security Fund, n.d.) while those in the public sector are insured by two schemes: the National Social Security Fund for Civil Servants, and the National Fund for Veterans (Ken, 2018). Thin (2016) as cited in Health Sector progress in 2014-2015 found that approximately one million people in the formal sector are covered by work injury insurance.

The Ministry of Health found that approximately 4.7 million Cambodians or 30 percent of the population were insured by various schemes according to 'Comparing Social Health Protection Schemes in Cambodia' as cited from 'Development of Social Health Protection' (Bun, 2018). Out of pocket payments were unexpectedly high, accounting for approximately 60% of total health expenditures. In 2014, total health expenditures were $1,057.2 million of which out of pocket payments accounted for 62.3%, government revenue was 19.9%, and donor funds obtained 17.8% (Ministry of Health, 2016). The out of pocket payment is a pernicious burden for the poor; about 6.3 percent of the population suffered from healthcare spending and 3.1 percent fell into debt paying for healthcare services (KFW, 2016).

Cambodia currently faces problems with both infectious and non-communicable disease due to the increase of urbanization, demographic and dietary changes, and lack of physical activity in the general population (WHO, 2018). In the next 20 years, Cambodia's demography will shift to an aging population. To address these challenges, Universal Health Coverage (UHC) needs to be implemented as quickly as possible despite the fact that Cambodia is a lower income country.

However, the developing countries of Rwanda and Thailand are close to achieving Universal Health Coverage. In 2016, more than 81.6% of Rwandans were covered by Community-Based Health Insurance (RSSB, 2016). Similarly, Thailand as a neighboring country has fully succeeded in establishing UHC through general taxation. Rwanda's healthcare scheme seems to be a good example for Cambodia since it is also a Least Developed Country (LDC) and suffered from genocide as Cambodia did. Thailand has been included in the case comparison due to its geographic location and its high quality of healthcare. This study aims to examine the feasibility of implementing UHC in Cambodia drawing on lessons from these two countries as supporting case studies.

Literature Review

Universal Health Coverage: A Theoretical Justification

According to neoclassical welfare economic theory, people make rational decisions based on maximizing their own benefit using calculations under varying conditions. The goal of the society is to maximize social welfare. In order to avoid future risk, the rich have health insurance, while the poor are unable to afford coverage that meets their health needs, which makes the approach value efficiency rather than equity. (Ruger, 2007)

Amartya Sen's capability approach argued that humans do not always make rational choices in the real world; such behaviour depends on the individual's exposure to risk or the ability to manage it (Ruger, 2007). When people lack capability or the means to reduce risk, they become insecure (ibid). Sen (1999) emphasized the capability of each individual, especially those who are experiencing hardship, such as the elderly, the disabled, or the seriously ill. These vulnerable groups are unlikely to be able to afford health insurance and are more likely to be impoverished by healthcare costs (ibid).

Nyman (2004) identified that when people are insured, the price of health care becomes zero. This reduction of price leads consumers to purchase more health care than they need, leading to moral hazard. People then use healthcare services in an inefficient way compared to when they pay the real price. Pauly (1968) argued that moral hazard is applicable to medical check-ups, prescriptions, dental care, and other health seeking behaviour; it cannot be applied in the case of critical illness.

Universal Health insurance is a moral approach, which ensures human prosperity and reduces human hardship by coping with and mitigating the risk of illness and financial insecurity (Ruger, 2007). Universal Health Coverage was included as part of the Sustainable Development Goals. All UN member states are committed to achieving Universal Health Coverage by 2030. Universal Health Coverage is the

predominant and overall health goal set out in the SDG declaration, and its specific target is as number 3.8 under SDG health goals (SDG Health and Health-Related Targets, 2016). Achieving Universal Health Coverage in 2030 might not be easy for many developing countries due to limited fiscal space, lack of resources and other constraints.

The World Health Organization (2010) defined Universal Health Coverage as a mechanism to ensure that all people can access the health services they need such as promotive, preventive, curative, rehabilitative, and palliative care with an effective delivery and ensure that those costs do not cause financial hardship. Universal Health Coverage embodies three dimensions: equity of access to health services, quality of healthcare, and financial protection.

Generally, health is intertwined with human development; promoting health is tied to social and economic rationale. Good health improves educational outcomes and workforce productivity; in the long term it leads to economic growth (Bredenkamp et al., 2015). Accordingly, Universal Health Coverage may need to be implemented in order to boost economic growth and fight poverty (ibid). There are two motivations in establishing UHC: first, every individual has the right to good health care, and secondly, poor health produces poor negative externalities, from individual to community and from poor to rich countries (Sachs, 2012). Poverty and poor health are inextricably linked as poverty can be both a cause and a consequence of poor health while poor health can cause a poverty trap (Roberts, 2018). Illness and indebtedness are inextricably interlinked in a vicious cycle, in which more illness requires more money for treatment prompting indebtedness and stress (Ir et al., 2019).

Health Insurance Schemes in Developing Countries

Universal Health Coverage is easy in principle, but it is hard to achieve in practice, especially in the least developed countries. Jacobs et al. (2008) pointed out that low- and middle-income countries (LMIC) have problems with access to affordable and effective healthcare while the out of pocket money remains a major challenge

for the poor. A majority of people in LMIC are either self-employed or work in the informal sector, which makes the expansion of health care insurance more difficult. The study illustrated that the taxation system is insufficient to collect revenue for universal health coverage. It is hard to expand coverage to the informal sector, which is called the “missing middle”. Formal sector workers are insured and pay contributions through payroll deductions while the poor are subsidized by the government (Bredenkamp et al., 2015). A solution to mitigate the problem is Community-Based Health Insurance, which provides insurance coverage in the informal sector (Jacobs et al., 2008). Thin (2016) argues that tax revenue funding for healthcare coverage is the most sustainable way to expand coverage to the informal sector in Cambodia. Moreno-Serra and Smith (2012) showed that countries with poor governance and weak institutions must improve various areas such as public sector administration and provide accountability in order to achieve UHC. Their study also showed that the effectiveness of increasing pooled payments depends on the quality of governance and institutions.

There is no universal standard to reach Universal Health Coverage, so each country has created their own way to achieve the goal based on its own context and available resources (Thin, 2016). The developing country like Rwanda is approaching UHC where more than 80% of Rwandans are covered by Community-Based Health Insurance. Saksena et al. (2010) stated that Mutual Health Insurance (MHI) or Community-Based Health Insurance has a positive impact in increasing access to health services and improves the health of Rwandans in general. Rwanda’s experience has shown that developing countries can achieve Universal Health Coverage based on its own mechanisms. However, CBHI in Rwanda remains a debatable topic when considering the provision of equity to access to health care. Proponents of CBHI argue that it is effective to expand coverage to a larger population that has no financial protection in access to healthcare; moreover, it is implicitly good for the country that national coverage has not existed yet or has insufficient funds in public healthcare (Kalisa et al., 2016). The opponents argue

that overall sustainability cannot be maintained as the scheme heavily depends on subsidies, and the risk pool is often too small (ibid).

The Universal Coverage Scheme (UCS) in Thailand has successfully expanded coverage to the informal sector, which covers the entire population through a tax-financed plan and provides comprehensive healthcare to the population (ILO, 2016). A study found out that the Universal Coverage Scheme increased utilization of both outpatient and inpatient services after its implementation (Thaiprayoon & Wibulpolprasert, 2017). The Health Insurance System Research Office (2012) has indicated that there was a decrease in the number of catastrophic expenditures and household impoverishment from 6.8% in 1996 to 2.8% in 2008 for the poorest quintile of the UCS members and the statistical data dropped from 6.1 to 3.7% for the same duration for the richest quintile.

Despite this achievement, Thailand has had several notable challenges after implementing the Universal Coverage Scheme. Thaiprayoon & Wibulpolprasert (2017) unveiled the increasing demand of health service leading to increased workload of health providers prompting dissatisfaction and negative feelings. Under the capitation system, there was an adverse effect of health personnel allocation as health facilities in small or rural areas tend to receive small budget allocations while health facilities in large provinces, especially in the northeast region received much more due to a relatively larger population being registered. In the first year of implementation, the UCS was initially inundated with complaints from health providers as it was under-financed for inpatient care (Thaiprayoon & Wibulpolprasert, 2017). According to Insurance System Research (2012) as cited from the World Bank report (2011), public health in Thailand has three health system challenges: inequality of utilization and spending among three schemes, the pressure of rising costs, and fragmented financing and the issue of the role of the central and local governments.

Health Insurance Schemes in Cambodia

A report by the EU/ILO project found that social health coverage in Cambodia is limited and inadequate, with low take-up, and of low quality (ILO, 2012). Moreover, the World Bank (2011) revealed that Cambodian health expenditures on procurement was high. The report indicated that the government spent $65 million on pharmaceuticals and $14 million on medical supplies out of a $150 million total health expenditure. Increased efficiency could generate savings up to $50 million each year that the government could spend on other health priorities (World Bank, 2011). The reports conducted by the World Band and USAID found that corruption is common in the public procurement and contracting processes, health service delivering schemes, and public fund management at both the district and national level (Takeda, 2006).

There are several health insurance schemes being utilized in the nation. The Health Equity Fund (HEF) is a pro-poor free healthcare scheme managed by local NGOs and supervised by international NGOs. HEF has successfully addressed financial barriers to the poor; it has increased health access to protect them from financial risk, and reduced debt and the selling of assets to pay for health services (Annear, 2009). HEF targets people living under the poverty line; it insures 75% of the target population (WHO, 2015a). However, Kelsall and Heng (2016) argued that HEF cannot completely address Cambodia's health problems due to limited facilities, poorly qualified staff and rising competition with private providers. The study demonstrated that not all poor Cambodians are insured by HEF; some were excluded involuntarily. The study conducted an interview with local people which found that there was a rumor that provincial governors had increased pressure to reduce the number of HEF cards as there were decreasing numbers of people living in poverty. Moreover, anecdotal evidence was found that commune and village chiefs discriminated against villagers who supported opposition parties. This was given as the reason that some villagers were excluded from the scheme. Another allegation found that village chiefs sell ID Poor cards despite the objections from the officials of the ministry of planning (Kelsall & Heng 2016).

Ovesen and Trankell (2010) pointed out that some concerns should be noted; even though, HEF significantly increased medical treatment to the poor. The authors raised the concern that the coverage is partial, while it was questionable about the sustainability of the scheme since it heavily depends on donor and NGO funds. Also, the scheme is only available at the provincial and district level, and people are reluctant to go to hospital unless the condition is serious. One study found out that HEF reduced the number of out of pocket payments but didn't increase the utilization of public health services (Flores et al., 2013).

Pedregal, Destremau, and Criel (2015) have pointed out that donors and NGOs play an important role in implementing policy in the health sector. Community-Based Health Insurance was created in partnership with NGOs and the government. However, multiple stakeholders do not have complete influence in the government decisions. The Cambodian government has autonomy in the decision making process. According to the study, even though the government has financial constraints in promoting equity to health care access it has shown its willingness to create policy in line with universal access to health care, and reducing the financial risk to users. (Pedregal, Destremau, & Criel, 2015)

Community-Based Health Insurance in Cambodia has several drawbacks, causing its implementation to languish. A report by the International Labour Organization (2012) revealed that CBHI has low up-take and a high drop out rate as there is a lack of information about the entitlements of the beneficiaries. It is hard to convince households to enroll and they can easily drop out. The report also showed that CBHI schemes are not portable. Households insured by CBHI are only covered for health services in specific districts. (ILO, 2012)

Thin (2016) suggested a top-down and a bottom-up approach for Cambodia to achieve Universal Health Coverage. Revenue raising mechanisms (top-down approach) are crucial to progress toward UHC; the study mentioned three finance mechanisms: general taxes, earmarked taxes, and payroll taxes. The study recommended that general tax is the most sustainable finance mechanism. Regarding quality of healthcare (bottom-up approach), the author suggested that

healthcare models from non-profit hospitals such as Kantha Bopha Hospitals, the Angkor Hospital for Children and the Sonja Kill Memorial Hospital, should be adopted. All provide good quality healthcare along with qualified medical staff.

Synthesis

In Cambodia, the high number of out of pocket payments make the poor become even poorer. In addition to these payments, Cambodia is currently dealing with the dual burden of infectious and non-communicable diseases. This is due to the increase of urbanization, demographic and dietary changes, and the lack of physical activity (WHO, 2018). In the next 20 years, Cambodia's demography will shift with the aging of the population. To address those challenges, Universal Health Coverage needs to be implemented to increase affordability, and accessibility to health services, to reduce poverty and stimulate economic growth.

The literature review pointed out the fragmentation of the existing schemes in Cambodia, and showed the different models from other successful countries, Thailand and Rwanda. Thailand's universal health coverage is a prominent model for a developing country like Cambodia to follow as it had also experienced fragmented schemes prior to the implementation of Universal Coverage; moreover, Thailand is located in the same region as Cambodia. In the context of Rwanda, the country has a similar socioeconomic background since both countries have emerged from the effects of civil war and genocide and are low income countries. This study aims to fill the gap in the literature by examining the feasibility of UHC in Cambodia, using experiences from Thailand and Rwanda.

Research Question

Main Question: Is it feasible to implement Universal Health Coverage in Cambodia?

Sub-questions:

1. What are the potentials and challenges for Cambodia to reach UHC drawing on the experiences of Thailand and Rwanda?
2. Given these potentials and constraints, what should be an appropriate UHC model for Cambodia?
3. How can this model be implemented?

Research Proposition:

There are various types of social health insurance plans; however, the Ministry of Health found that approximately 4.7 million Cambodians or 30 percent of the population are insured by these schemes. It has been suggested that UHC isn't feasible in Cambodia due to budget constraints; however, a poor country like Rwanda is approaching full implementation of UHC. This study has two propositions:

1. Cambodian health insurance schemes are rather inefficient given their fragmentation, lack of coordination and the discrepancies in policy and implementation settings.
2. Cambodia can incrementally move forward to UHC by incorporating the experiences of Rwanda and Thailand that share similar characteristics and have been successful in implementing and approaching UHC.

Study Design

Methodology

This study aims to find the feasibility of UHC in Cambodia. To answer the main research question and achieve the objectives, the study employed a qualitative approach to obtain important insights and information. Taking Rwanda and Thailand for a case study, this paper used Most-Similar System Design, in which there are a variety of similarities that two cases have in common and can expect similar results (Anckar, 2008). The most-similar system design emphasizes the comparative cases with similar characteristics but have different outcomes (ibid).

It is employed to examine why two countries: Thailand and Rwanda can achieve better outcomes than Cambodia in terms of Universal Health Coverage. Common variables such as total expenditures, income, GDP, population, background of the country and financial mechanisms for pooling funds into healthcare are taken into account for case analysis. In the case of Cambodia, primary sources including key informant interviews and focus group discussions were employed in addition to the collection of secondary data.

Data Collection

The data collection comprised of both primary and secondary sources. The secondary data was taken from documents, reports, and academic publications such as journal articles, working papers, and policy briefs from the Ministry of Health, World Health Organization, academia, Pubmed, BMC Health Service Research, NGOs, and INGOs.

In order to get in-depth information, semi structured interviews were conducted with key informants from relevant stakeholders such as representatives from government institutions at the Ministry of Health, staff at the international health organizations including the WHO and GIZ, public health researchers, health economists, and medical lecturers and students at the medical university. All participants were purposely selected to include a variety of backgrounds and organizations with the aim to acquire and maximize insights and perspectives pertinent to the study. In addition to the semi structured interviews, two focus group discussions were organized to obtain points of view on the feasibility of UHC from medical lecturers, health facility staff, and public health researchers. Each focus group discussion consisted of seven participants. Both semi-interviews and focus group discussions lasted one hour on average and were conducted in Khmer or English. All interviews and focus group discussions were recorded and transcribed. All respondents were asked questions related to the challenges of the healthcare system and UHC, service coverage, existing policy, and financial mechanisms. The interview questions are included in Appendix 1.

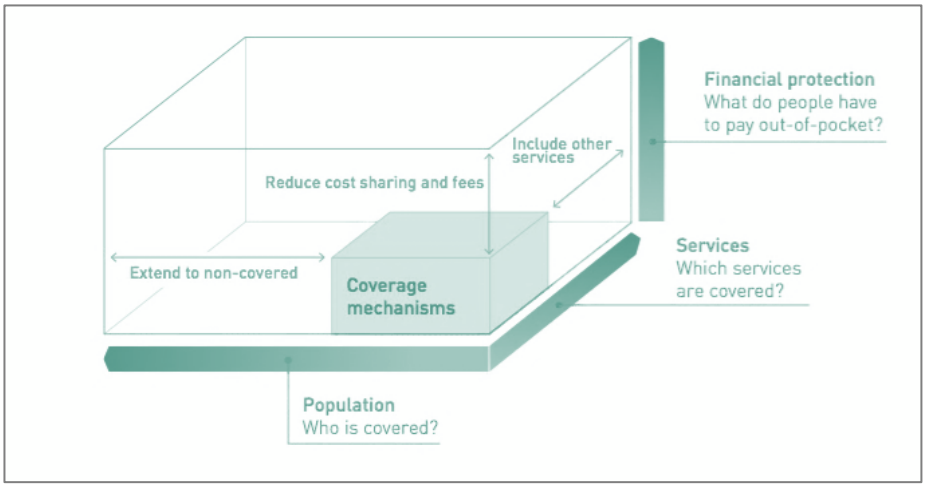
Scope and Limitation

The paper aims to examine the feasibility of UHC in Cambodia with a focus on a financing mechanism for pooling revenue for UHC and increasing the coverage of the population. It also explores the improvement of the quality of service with an emphasis on addressing human resource problems such as increasing staff performance, dealing with the rural and urban distribution of health workers, improving staff motivation and other related issues. Using Thailand and Rwanda as main case studies, Thailand has achieved UHC, while Rwanda is still in the process. Nevertheless, it was included in the case analysis owing to the fact that significant progress has been made in expanding population coverage and a pathway to UHC has been developed based on its own specific needs.

Concepts and Operationalisation

The World Health Organization defines Universal Health Coverage as all people having access to health service whenever needed without incurring financial hardship. There are three dimensions: health services, financial protection, and population coverage of UHC which typically are included in the coverage cube. The UHC is comprised of three dimensions shown in Figure 1. The first dimension is population, emphasizing who should be covered. Second is service, focused on which services should be covered with quality assurance. Last dimension emphasizes on what level of financial protection do people have when they access healthcare services (Nicholson, Yates, Warburton, & Fontana, 2015).

Figure 1 Planning of UHC.[1]



To achieve UHC, the size of the coverage mechanisms has to further enlarge to the external cube; thus, it could be indicated that all people are insured with quality service, and financial protection. *Full population coverage* is the first priority and main component of UHC. As a developing and aid dependent country, the *package of services* is an integral component in UHC. Moreover, providing primary, community care services, and general hospital services should be the best and most affordable option for a country that has less funds allocated to public health (Nicholson et al., 2015). *Financial protection* ensures that people are not financially impoverished when they pay for healthcare services. Financial mechanism refers to how funds are collected in order to finance UHC. The quality of service delivery is crucial in achieving effective UHC since its success depends on the ability to deliver quality, efficient, safe services to all people at all places (World Health Organization, n.d).

[1] Adapted from Delivering Universal Health Coverage: A Guide For Policymakers by Institute of Global Health Innovation, 2015.

Empirical Analysis

Thailand

Thailand is located in Southeast Asia with a total population of 68,615,858 and an area of 513 120 square km in 2018 (CIA, 2019). In 2011, Thailand reached upper-middle-income country status at 3.5% of the average GDP growth (World Bank, 2019). Even though it experienced the effects of the Asian Financial crisis, Thailand took 10 years to recover its economy and achieved universal health coverage at GDP per capita $2096.5 in 2002. Thailand's domestic politics could be deemed unstable as research found that there were 13 successful and nine unsuccessful coups in Thai's politics over the last century (Chitty, 2019). However, neither political instability nor economic crises were obstacles in achieving Universal Health Coverage.

The financing of Thailand's health system has been derived from a mixture of sources including general taxes, social insurance contributions, private insurance premiums and out of pocket payments (WHO, 2015b). Thai health expenditures mainly rely on domestic funds, while the donors play a lesser role in the health system. They and their development partners contribute less than 0.5% of Thai health expenditures. (WHO, 2015b). In 2012, 57.7% of Thai total health expenditures came mainly from the government. Table 1 shows the government as the main contributor while the out of pocket payments are considerably lower. The government budget for health care has increased from 12.6% in 2000 to average 16.2% of total government expenditures as the government is committed to UHC goals (WHO, 2017). After implementing UCS nationwide, the government general expenditure significantly increased. Health expenditure as a share of GDP has reached 3.76% since 2000 (ibid). It is apparent that Thailand does not have high fiscal space when compared to the Organization for Economic Co-operation and Development (OECD) as a middle-income country; however, it was not a barrier for the country to pool investment in education and health infrastructure

(Jongudomsuk et al., 2015). Moreover, the reduction of defense spending prompted a budgetary increase for the health sector expansion in 2001 (ibid).

Table 1: Health-care spending by source of funds, percentage of total health expenditure, 1994 to 2012 (selected years)

	1994	2000	2001	2002	2005	2008	2009	2010	2011	2012
Government general expenditure	41.7	50.8	49.6	57.7	56.2	68.7	66.3	66.6	70	68.4
Social Health Insurance	2.9	5.3	6.6	5.6	7.9	6.9	7.6	7.7	7.2	7.3
Out-of-pocket	44.5	33.7	33.1	27.2	27.2	14.7	15.4	14.2	12.4	11.6
Private voluntary health insurance	1.8	3	3.1	2.9	3.3	3.8	5.1	5.6	4.6	4.7
Traffic insurance	2.4	2.6	2.8	2.5	2.3	2.6	2.2	2.3	2.3	1.8
Employer benefit	6.2	4	4.1	3.3	2.3	1.6	2.1	2.1	1.9	1.6
Non-profit-making institutes	0.5	0.6	0.5	0.6	0.5	1.4	0.9	1.1	1.1	0.9
Rest of the world	0.1	0	0.1	0.3	0.3	0.3	0.3	0.3	0.4	3.8
Total	100	100	100	100	100	100	100	100	100	100
Million Baht[2]	127 655	167 147	170 203	201 679	251 693	356 275	371 832	384 902	434 237	512 388

Note *These data are adapted from "Health System Review in Thailand" (2015).*

Prior to the Universal Coverage Scheme, poor people in Thailand were insured by a Medical Welfare Scheme, providing financial protection since 1975. In 1981, the scheme was transformed to become the "Low Income Card Scheme", which

[2] One dollar equal 30 Baht using exchange rate in 2012 from the Bank of England

expanded coverage to the elderly, children, and other groups. In the two following years, Community-Based health insurance pilots were implemented ensuring coverage to those in the informal sector. It was then converted to a voluntary card scheme under the Ministry of Health and was partially subsidized by the government. Thailand also experienced segmented schemes; until 2001, those not insured by the Social Security Scheme (SSS), and Civil Servant Medical Benefit Scheme (CSMBS) were covered by the Universal Coverage Scheme.

From 1975 to 2002, Thailand used different prepayment schemes for different segments of the population prior to Universal Health Coverage (WHO, 2015b). Thailand took approximately 27 years to achieve Universal Health Coverage in which its initial progress started with the "free medical care programme" in 1975 when GDP was only $390 (Thaiprayoon et al., 2017). At the time, only 30% of the population were covered. Later, coverage expanded to the formal sector with Contributory Social Health Insurance in 1992, and to children and the elderly in 1995-1996 (ibid). In 2000, only 71 % of Thai population was covered by social health insurance (Thaiprayoon et al., 2017). While there were several social protections for the poor; most people in the informal sector from low socio-economic groups did not have access to free health care as they were not entitled under any health insurance plans (Langenhove & Tessier, 2016). Thailand's UHC also was pushed by civil societies and NGOs since research had been conducted by a reformist group, the Ministry of Public Health and the Health System Research Institute, illustrating that UHC was "financially and programmatically feasible" (WHO, 2015b).

In 2001, Universal Health Coverage had been one of nine priority agendas of the Thai Rak Thai party during the election campaign with "30 Baht treats all diseases" as its main motto. The new government piloted a Universal Coverage Scheme (UCS) in six provinces in 2001, and it was implemented nationwide in 2002. The Universal Coverage Scheme (UCS) has initiated by combining two schemes: The Medical Welfare Scheme and the Voluntary Health Card Scheme and expanded coverage to the 30% of the population that were not insured. After implementing UCS, the Thai population is covered by three public health insurance schemes: The Social

Health Insurance (SHI) for formal sector employees, the Civil Servant Medical Benefit Scheme (CSMBS) for civil servants and their dependents, and UCS which covers the rest of the population. The membership of the UCS was initially required to pay 30 Baht as co-payment per visit or admission but later the co-payment was abolished by the government for political reasons (Jongudomsuk et al., 2015).

Financed by general tax revenues, UCS, launched in 2001, has expanded coverage to 47 million people equal to 75% of the population not insured by the other two existing schemes. The CSBMS covers government civil servants, retirees, and dependents while the contributory Social Security Scheme (SSS) insures private employees; these two schemes provide health care service to the other 25% of the Thai population (McManus, 2012).

All three public insurance schemes provide a comprehensive benefit package which includes "ambulatory care, hospitalization, laboratory investigation, dental care, disease prevention, health promotion and many expensive medical services such as radiotherapy and chemotherapy for cancer treatments, surgical operations, and renal replacement therapy (RRT) for end-stage renal disease (ESRD) patients" (WHO, 2015b). CSMBS and SHI do not provide preventive and health promotion services while UCS include those additional two services focusing on primary care and gatekeeping functions.

UCS was initially started with 1202 Baht[3] per capita in 2002 and increased to 2693.5 Baht per capita in 2011 with increasing labour costs, rising medical product prices, and the expansion of benefit packages. Moreover, a "sin-tax" was implemented as an additional tax charge on tobacco and alcohol has raised an additional 2% equal to 1.592 billion Baht in 2002 to 2.859 billion Baht in 2009 (US $95 million) (Jongudomsuk et al., 2015).

Thailand has a solid foundation of health infrastructure, which plays an important role in providing effective coverage. In 1977, Thailand invested in health

[3] One USD is equivalent to 30 Baht in 2002.

infrastructure at the district and subdistrict level as health development was included in the 5 year National Economic and Social Development Plan (Nitayarumphong, 1990). The national health development plan (1977-1981) focused on providing the training of primary health care workers, who are at the grassroots of the health system (ibid). Besides providing training to domestic health personnel, the policy increased the distribution of health personnel to rural and other places that did not have enough staff and service (Tangcharoensathien et al., 2018). In the 1980s and 1990s, the investment in health infrastructure was derived from the political commitment which prioritized investing in district health systems while slowing down the investment in provincial health infrastructure (Patcharanarumal et al., 2011 cited in WHO, 2015b).

Thailand has faced inequitable distribution of doctors as there was both an external brain drain from 1960 to 1975 and an internal brain drain from 1988 to 1997 due to growth in the private health sector. In order to address the inequitable distribution of doctors, rural health development was included as part of a national rural development project in which the policy shifted the resources from cities to rural districts. This led to an increase in the number and capacity of rural district hospitals (Wibulpolprasert & Pengpaibon, 2003). A compulsory engagement protocol was established in 1969. One of the policies to improve the distribution of medical doctors requires them to perform at public health facilities for three years after graduation or otherwise face heavy fines. The policy was extended to dentists in 1983 and pharmacists in 1988 (Jindawatana et al., 1998). Even though compulsory contracts achieved partial success in staff distribution, most medical doctors or specialists who came from urban areas returned to the cities after completing compulsory public service (ibid). Moreover, the initiative which recruited medical students from their hometown provinces and provided with placements in the same province after graduation plays part in dealing with urban and rural staff distribution (ibid). The government has also initiated financial incentives by increasing allowances to the doctors working in rural areas in order

to deal with the geographical maldistribution of health workforce (Pagaiya & Noree, 2009).

Following the period of compulsory engagement, policies such as overtime payment for health personnel and subsidies for medical doctors working in rural areas were initiated in 1975 to create the motivation to work there (Jindawatana et al., 1998). Medical doctors, rare specialists and other positions that are in short supply were initially entitled to receive these financial initiatives; it then quickly expanded to include career development, housing and other facilities (ibid). The medical doctors working in rural areas were granted 50% to 80% more added to their salary as additional subsidies, while freshly graduated medical doctors working at remote district hospitals will receive up to 50,000 Baht or US 1,250 per month, which is equivalent to the salary of the Director General of a central department or 10 times more than the salary of medical doctors 20 years ago (ibid). Although there is a rapid growth of private hospitals in the main cities, Thai health delivery system is dominated by public health facilities. Moreover, the private sector has a shrinking role in health delivery; only 14% of the total outpatient visits and 11.3% of the total admissions was in private sectors (Tangcharoensathien et al., 2018). The shrinking number of patients seeking healthcare in the private sector is a positive sign for public health facilities, which could indicate that the level of trust in the public health sector is high.

Table 2. Characteristics of Thailand's health insurance schemes, 2016

	Civil Servant Medical Benefit Scheme (CSMBS)	Social Security Scheme (SSS)	Universal Coverage Scheme (UCS)
Population coverage	4 Million (6.25%)	12 Million (18.75%)	48 Million (75%)
Beneficiaries	Civil servants + spouse + immediate relatives	Employees in private and public sectors	Those not covered by the CSMBS and SSS
Source of finance	General tax revenue (15,000 Baht/capita)	Tripartite: 1.5% of payroll each (2,500 Baht/capita)	General tax revenue (3,344 Baht/capita)

Provider choice	Free choice of public providers, some services especially emergency and elective surgeries are also provided by the private providers	Annual choice of public and private hospitals (more than 100 beds) as main providers	Annual choice of mostly public primary-care based providers with referral system, mostly in the public systems
Benefit package	Comprehensive, excluding prevention and promotion services	Comprehensive, including some specific prevention services	Comprehensive, including extensive prevention and promotion services

Note *The data are adapted from "Political and Policy Lessons from Thailand's UHC Experience" (2017).*

In summary, Thailand took 27 years from the 1975 launching the Low Income Scheme to achieve UHC in 2002 (Tangcharoensathien et al., 2019). The UHC is comprised of three schemes, which covered 98.5% of the population by 2015 (ibid). The Current Health Expenditures accounted for 512 388 million baht of which 68.4% come from the government in 2012 as shown in table 1. In 2014, the total health expenditure was 4.1% as a percentage of GDP or13.3% as a percentage of the the government expenditures (Tangcharoensathien et al., 2018). The healthcare services are predominantly funded by general taxation through the three major schemes as shown in table 2 (Thaiproyoon & Wibulpolprasert, 2017). Table 2 shows the disparities and differences in terms of benefit packages, source of finance, service delivery, per-capita expense which may cause several challenges for Thailand in the future. However, Thailand has made slow progress in harmonizing the three schemes despite the fact that it has achieved UHC (ibid).

Rwanda

Rwanda is a landlocked country in East Africa with a total population of 11,918,000 (WHO, 2016). The country's GDP per capita was recorded at 748.39 USD in 2017 (World Bank, 2018). It has been torn by war and experienced genocide in 1994, which killed approximately 1 million people. The health system was completely

devastated as health infrastructure and human capital was destroyed while thousands of people were injured and displaced (Pose & Samuels, 2011).

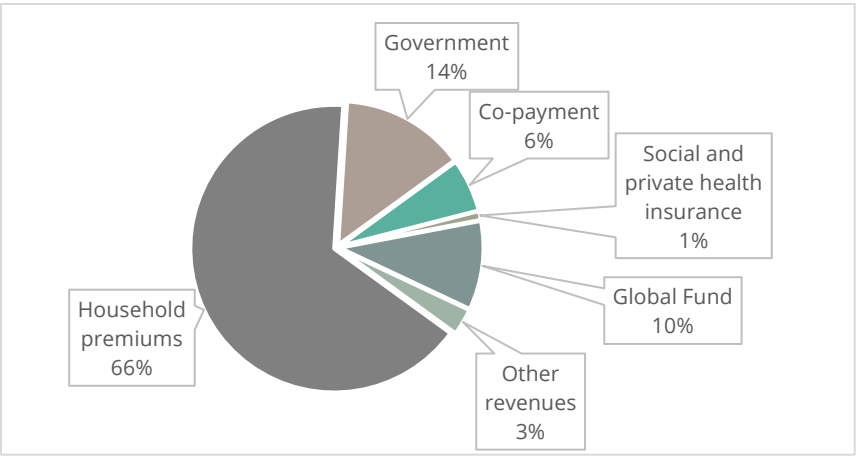
The Rwanda health system is comprised of three main sectors: public health facilities, facilities owned by not for profit faith-based organizations and other NGOs, and private health facilities (WHO, 2009). In 2012, Rwanda spent $757 million on healthcare, while the total health cost per capita is $66 (WHO, 2014). The funds for healthcare came from both external sources 53% and domestic funding 47% (ibid). Rwanda's health expenditures mainly depended on external assistance. The government expenditure on health was 7% of the GDP in 2013, or 22% of general government expenditures (US$41 per capita). The country was classified by the WHO as having a shortage of health workers and was ranked first among ten countries in Africa as having the lowest density of health professionals (ibid).

Rwanda is approaching universal health coverage as 97% of the population was covered by health insurance in June 2010 (Ruberangeyo et al., 2011). The Community-Based Health Insurance (CBHI) covers 91% of the population in the informal sector and rural population. Six percent of the population in the formal sector are insured by several schemes such as the Rwanda Health Insurance Scheme (RAMA), Military Medical Insurance Scheme, and private insurance (ibid). The Rwanda Health Insurance Scheme covered healthcare for civil servants and other public sector employees and is financed by employee's salary contributions of which 7.5% is paid by the employee and 7.5% is paid by the employer (Ruberangeyo et al., 2011). Military Medical Insurance (MMI) covers the armed forces and their families and the contribution to the scheme is paid on the member's salary of which 17. 5% is paid by the government and 5% is financed by the member (ibid).

The community-Based health insurance (CBHI) scheme is designed to improve health access to people in the informal sector, rural population, and especially vulnerable groups through the health insurance system. The scheme was initially purely voluntary but evolved into obligatory enrolment, which prompted the scheme to become the national insurance model (Chemouni, 2018). The scheme is

financially derived from various sources such as member contributions, government subsidies, external donors, and other health insurance schemes (ILO, 2016). Most funds come from member contributions which are pre-paid and use risk pooling of the members as shown in Figure 2. The CBHI largely relies on financial contributions from Rwandans, and the state's capacity to enforce and collect funds at the local level (Financial Times, 2018).

Figure 2 CBHI Source of Funds (2012-2013).[4]



The Community-Based health insurance began as a pilot test prepayment scheme in three districts in 1999. In 2004, the government of Rwanda developed a national policy in order to implement and expand CBHI nationwide responding to the demand for healthcare access and increased health equity among the rural population and people in the informal sector (Kalisa et al., 2016). The government decided to make the scheme compulsory for family membership in order to expand coverage to the entire population in 2006 (Chemouni, 2018). In 2007, CBHI states that "every person who resides in Rwanda shall be obligated to join the mutual health insurance scheme" (Chemouni, 2018). Even though mandatory enrolment was unanimously supported by the government and passed in 2007,

[4] Adapted from the *Ministry of Health Annual Report 2012-2013* by the Ministry of Health, Rwanda.

many donors opposed the compulsory enrollment thinking that the law was too authoritarian (ibid). The new standard of premiums was set; each member has to pay RWF 1000[5] at the health center and RWF 1000 at the hospital level per year. Recognizing that there is a need to increase fairness and equity in paying premium as not all Rwandan will be able to pay equal premiums and to ensure sustainability of the scheme, new CBHI policy was enacted in 2010 and implemented in 2011, which required the wealthier members to pay a higher premium than the poorer members (Kalisa et al., 2016). The government decided to divide the membership into three categories based on socio-economic classification by the Ministry of Local Government known as the Ubudehe categories[6] (USAID, 2016). The CBHI membership divided Ubudehe into three categories. Category 1 households are required to pay RWF 2000 per person and are subsidized by the government and development partners. The category 2 household is obligated to pay RWF 3000 per person while category 3 has to pay RWF 7000 per person. The category 1 is exempt from paying the RWF 200 co-payment, but the category 2 and 3 are liable to pay RWF 200 as co-payment and 10% of the hospital bill (ibid). Recognizing the poor performance of health facilities including hospitals, health centres, and district pharmacies for their inability to provide drug stocks or pay staff on time, the management of CBHI was later handed to the Rwandan Social Security Board (RSSB) (Ntirenganya, 2019).

[5] 725 RWF equal 1USD using exchange rate at 22 June 2015 (Kalisa et al., 2016)
[6] Ubudehe categories divided households into six categories based on socio economic class in Rwanda. The government used the category to decide who is eligible for aid or help. (Nizeyimana et al., 2018)

Table 3 CBHI categories and premiums per person

			Annual individual amount per Category
Ubudehe categories[6]	Corresponding CBHI categories[7]	RWF	USD[8]
1&2	I (fully subsidized by government and 2000 development partners)- 24% of the total population	2000	2.76
3&4	II- 66% of the total population	3000	4.14
5&6	III- 4% of the total population	7000	9.65
Note	The data are adapted from "Community-based health insurance annual report" (2012)		

** Ubudehe categories[7]*

*** Corresponding CBHI categories[8]*

**** USD [9]*

The idea of dividing categories to pay premiums is to increase equity in paying contribution as the wealthy pay more than the poor. However, the 2013 CBHI household survey showed that in 67% of the Category 2 households the premiums were not easy for them to pay and 22% said that they would not re-enrol in the scheme because they could not pay the premium and co-payment (Kalisa et al., 2016). Moreover, lack of financial resources and big family are barriers to CBHI enrolment as they can't afford the premiums for each family member (ibid). A small number of respondents claimed that some CBHI beneficiaries won't re-enrol because of poor health care quality; in contrast, they believe that they will receive better quality health service if they pay their cash on health spending (ibid). Even though the Rwandan government made the scheme compulsory by law population enrolment has unsteadily fluctuated over the years. CBHI enrolment surged to 90% of the total population in 2010 and 2011; the report of the Ministry of Health

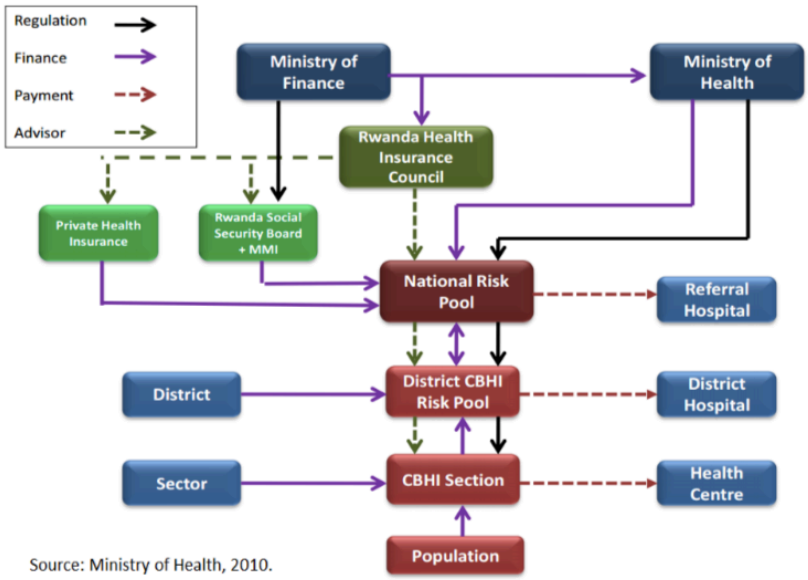
[7] Ubudehe categories divided households into six categories based on socio economic class in Rwanda. The government used the category to decide who is eligible for aid or help. (Nizeyimana, Lee, & Sim, 2018)

[8] The Ubudehe categories are divided into three CBHI broad segments: I for people in abject poverty or very poor, II for the poor or near poor, III for the well to do) (Kalisa et al., 2016)

[9] 725 RWF equals 1USD using exchange rate at 22 June 2015 (Kalisa et al., 2016)

showed that enrolment plummeted recently to 73% in 2013/2014 (USAID, 2016). The poor fund management and the decrease of subscriptions are also main factors for CBHI management being transferred to the Rwandan Social Security Broad (RSSB) (Kwibuka, 2016). However, the latest data of CBHI enrolment by Rwandan Social Security Broad (RSSB) showed that the scheme covered 81.6% of the population in 2015/2016 (RSSB, 2016).

Figure 3 Structure of the CBHI system in Rwanda. Adapted from the *Ministry of Health, 2010,* Rwanda



The beneficiaries of the CBHI are covered for both outpatient and inpatient care at public health facilities throughout the country (Mukangendo et al., 2018). The comprehensive preventive, curative and essential drugs are provided at health centers as benefit packages of CBHI; the benefit packages also include some referral service at the hospitals (Woldemichael et al., 2016). The health center serves as the gatekeeper; the hospital service is covered for those who are referred by lower health facility levels. This is intended to prevent members from the frivolous use of expensive hospital services (Schneider & Diop, 2001). The other two formal health schemes: RAMA and MMI cover all services at all public hospitals

and private hospitals that have been contracted by these schemes (Ruberangeyo et al., 2011).

Rwanda has faced a critical shortage of health personnel. In order to increase the number of staff, the government decided to increase the salaries of health personnel as a financial incentive. The salary of general practitioners is three times more than civil servants with the same level of qualification, while nurses receive salaries four times more than other professionals (Pose & Samuels, 2011). The increase of salaries has attracted medical staff working in the private sector to join public health facilities (Pose & Samuels, 2011). The other incentive that motivates staff to work in public health facilities is harmonization of health sector salaries into categories, so all health personnel have the same salary whether they are paid by NGOs, donors, or the government (ibid).

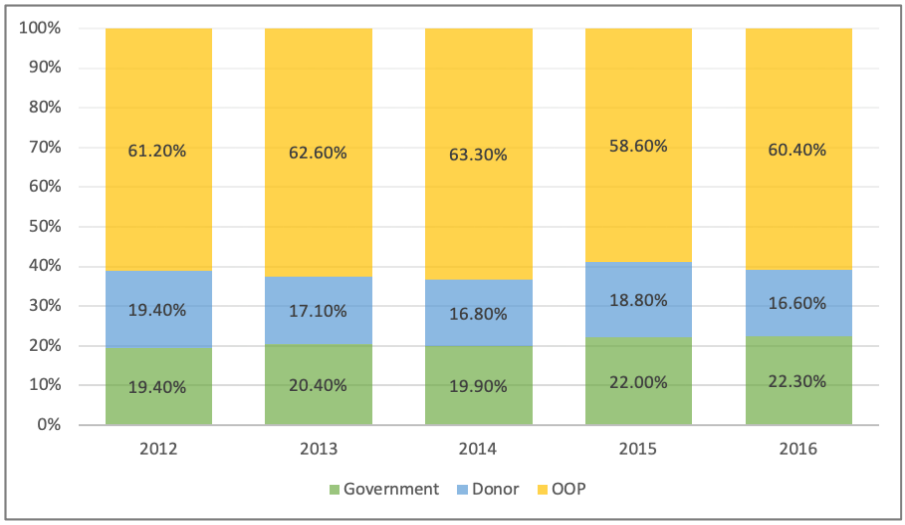
Following the 1994 genocide, the Rwandan health infrastructure was completely devastated. There were only 144 physicians in 2000 (NIS, 2008). Over 80% of health professionals had died or had fled the nation (Kumar et al., 1996). In the post genocide era, many Rwandans were in need of health services. The government set key objectives to rebuild service delivery capacity (Brinkerhoff et al., 2009). Performance-based financing was implemented as a mechanism in which health providers are funded based on their performance (Meessen, Soucat, & Sekabaraga, 2010). This increased the number of health workers as salaries more than tripled (ibid). Besides quality assurance and staff incentives, the Rwandan government has shown strong commitment in pursuing universal health coverage and ensuring the well-being of the population.

Political leadership plays an important role in pushing improvements in the health sector. According to a respondent, Rwanda has done very well in terms of public health; it depends on the top up approach with good management technique (personal communication, WHO, interview 04, October 25, 2019).

Cambodia

Cambodia is known as one of the fastest growing economies in ASEAN. The GDP per capita was 1,512.127 USD in 2018 (World Bank, 2019). Covering an area of 181,035 sq km, the country had a total population of 16.01 million in 2017 (World Bank, 2019). Figure 4 shows that Cambodian health services are financed from the government budget, donor funds, and out of pocket payments. The total health expenditure per capita was $69 in 2014 and as a percent of GDP it was 5.8% in the same year (Health Policy Project, 2016). In 2014, the total health expenditure was $1,057.2 million of which the out of pocket payments accounted for 62.3%, government revenue was 19.9%, and donor funds obtained were 17.8% (KFW, 2016). Cambodia is a low middle income country which depends largely on donor funding. However, Cambodia is going to face a challenge, which is the transition of decreased donor funding; the government budget has to be replaced (personal communication, WHO, interview 04, October 25, 2019).

Figure 4 Share of current health expenditures by source of funds[10]



[10] Adapted from Cambodia National Health Account (2012-2016) by WHO, 2019.

The donor funds decreased from $210.3 million in 2015 to $ 200.1 million in 2016; it is expected to continue to decrease as Cambodia graduates from global health initiative funding (WHO, 2019). Figure 4 shows that the government funding in health care has increased from 19.4% in 2012 to 22.3% in 2016 while OOP slightly decreased but remains high at 60.4% of CHE in 2016. Private clinics take the largest share of current health expenditures. The amount increased from $100 million in 2012 to $380 million in 2016 (WHO, 2019). The 2017 Socio Economic Survey found that most Cambodians seek healthcare from private health providers rather than public facilities (NIS, 2018). Moreover, 60% to 70% of health services are provided by the private sector; however, it is completely unregulated since it is run by profit-oriented enterprises (personal communication, GIZ, interview 02, September 18, 2019).

There are currently three social health protection schemes: the Health Equity Fund for the poor, Social Health Insurance for civil servants and for the private sector in which both SHIs are under NSSF (WHO, 2019). Besides a statutory scheme, there are voluntary health schemes such as private health insurance, CBHI, a vouchers scheme, and other plans under the government (ibid). However, those schemes don't cover the entire population. Approximately 4.7 million Cambodians population are insured by these schemes according to Comparing Social Health Protection Schemes in Cambodia as cited from Development of Social Health Protection (Kolesar, 2019). However, there is no compulsory social health insurance plan to insure the entire population and provide equal access to free healthcare services.

Table 4 Source of Total Health Expenditure[11]

Health Financing indicator	2012	2013	2014	2015	2016
CHE in US$ million	1028.9	1060.1	1049.9	1115.8	1207.0
GGHE as share of CHE	19.4%	20.4%	19.9%	22.0%	22.3%
External source as share of CHE	19.4%	17.1%	16.8%	18.8%	16.6%
OOP as share of CHE	61.2%	62.6%	63.3%	58.5%	60.4%
CHE per capita in US$	73.4	72.5	71.0	74.5	79.6
OOP per capita in US$	44.9	45.4	44.9	43.6	48.1
GGHE per capita in US$	14.2	14.8	14.1	16.4	17.7
CHE as share of GDP	7.3%	7.0%	6.3%	6.1%	6.0%
GGHE as share of GDP	1.4%	1.4%	1.2%	1.3%	1.3%
GGHE as share of GGE	6.4%	6.4%	5.9%	6.3%	6.4%

Note *The data are adapted from the "Cambodia National Health Account 2012-2016", 2019.*

Cambodia took a different path to expand coverage from other developing countries by not providing social health insurance for civil servants and private employees; the kingdom initially expanded coverage to the poor. The Health Equity Fund (HEF) is a well-known scheme to increase health access to the poor with financial protection. The scheme was initially implemented in 2000 and is operated by local NGOs as third-player payers under MOH contracts with administrative support from international NGOs. The scheme has expanded nationwide and covers 3.1 million pre-identified Health Equity Funds beneficiaries. The beneficiaries of HEF are covered for the cost of user fees for service at Health Centres and Referral Hospitals or for higher services if needed, as well as food, transport, and funeral expenses to the beneficiaries. In 2012, the HEF total national cost was $9.5 million, which funded 1.1 million cases at health-care facilities for an

[11] CHE: current health expenditure; GDP: gross domestic product; GGE: general government expenditure; GGHE: general government health expenditure; OOP: out-of-pocket expenditure.

average cost of $8.40 per visit. The HEF initially only covered referral hospitals; it was then extended to 45% of all Health Centres. The in-patient treatment cost was $29.32 per case. (WHO, 2015a)

In contrast to HEF, Community-Based Health Insurance (CBHI) is a voluntary system which targets people in the informal sector, and the rural population. The scheme was not implemented nationwide. It provides service through public health facilities. In 2012, Community-Based health insurance had 19 schemes, which covered two National Hospitals, 17 Referral Hospitals and 231 Health Centers; the scheme covered less than 1% of the population (WHO, 2015a). Even though the premium for CBHI seemed affordable for people living above the poverty line, each person is required to pay $5-15 per year (ibid). It is hard to expand population coverage since it is voluntary health insurance. The report from ILO (2012) found that CBHI has low participation and a high dropout rate as there is a lack of information about the entitlements of beneficiaries; moreover, it is hard to convince households to enroll. The potential reason for CBHI's failure is that its service is not portable as households are only covered in specific districts (ibid).

The National Social Security Fund (NSSF) insures formally employed workers. Since 2008, the NSSF has provided both occupational risk (work injury) and healthcare insurance to registered employees, while the draft law on pension provision was approved by the Council of Ministers in early August (Phnom Penh Post, 2019). The scheme requires employers to pay contributions based on the average of a worker's monthly wage (Phnom Penh Post, 2018). According to the ILO report on Health Protection for Workers, 1.4 million employees from larger enterprises were registered with the NSSF in September 2018 (ILO, 2019). However, the scheme is currently facing challenges to expand to all workers. Moreover, those working in the informal sector are involuntarily excluded from the scheme. While the NSSF declared the proposed plan would allow informal workers such as maids and construction labourers to be eligible, it is hard to expand as most of these informal workers are bonded by short-term contracts or no contracts at all, and most construction workers are paid daily.

Various other schemes focus on reproductive health, voucher schemes targeting the destitute, family planning and safe abortion services (WHO, 2015a). These schemes covered 108 000 people with a total expenditure $ 396 000 in 2012 (ibid). The reproductive health scheme only provided service in nine out of 79 Operational Districts, five of 83 Referral Hospitals and 118 of 1024 Health Centres. A recent study evaluating the scheme found that the proportion of home births fell in districts and the probability of delivery at a public facility increased significantly after the implementation of the voucher scheme (Poel et al., 2014).

Table 5 Social Health Insurance in Cambodia

Scheme	Operator	Target Population	Benefit	Coverage
Health Equity Funds	NGOs	Destitute people below poverty line	MPA[12],CPA[13] service: food, transport, and funeral expenses	3.1 million
Community-Based Health Insurance	NGOs	People in the informal workforce living above poverty line	MPA, CPA services: food, transport, funeral expenses	Less than 1% of the population
National Social Security Fund	NSSF, NSSFC	Formal-sector workers and civil servants	MPA, CPA, transport, maternity, disability benefits	1.4 million
Voucher Scheme	NGOs	Poor women	Reproductive health services	108 000 of population

Note *The data are adapted from "the Kingdom of Cambodia Health System Review", "ILO report on Health Protection for Workers", "UHC in Cambodia (Ir, 2016)".*

In synthesis, social health insurance in Cambodia is limited, fragmented and lacks the coordination of being under a single institution. Similar to other developing countries, Cambodia has a challenge to expand coverage to the total population as

[12] The Minimum Package of Activities (MPA) consists mainly of preventive and basic curative services are provided at Health Centre (WHO, 2015a).
[13] The Complementary Package of Activities (CPA) is provided by referral hospital (WHO, 2015a).

the majority of people are self-employed or working in the informal sector. Health coverage initially insured people in the formal sector and was expanded to the poor through government subsidized schemes. The challenge is depicted as the NSSF covers workers in the formal and private sector, while HEF provides free healthcare services to the poor. Yet those in the informal sector are not insured in what is called the "missing middle". Normally, people in the missing middle mainly pay out of pocket for healthcare and are not able to access affordable and effective healthcare. This could easily cause them financial hardship. Even though voluntary health insurance such as Community-Based Health Insurance and other private health insurance plans are available for purchase, the coverage is limited. In addition, many people are reluctant to buy insurance unless there is a subsidy from the government, foreign donors, or public funding.

Figure 5 Distribution of the population according to the four schemes of health protection in Cambodia.1415

Higher Income

↕

Lower Income

	Actual coverage (percentage of the total population)	Intended coverage (State objective)
Wealthy: Private Health Insurance	0.1-0.2%	5%
Formal sector: SHI (NSSF)	1.4 million = 9%	15%
Informal sector (irregular incomes, excluding the poor) Voluntary CBHI coverage	1%	50%
The poor: HEF and other subsidies	3 million = 23%	30%

[14] Adapted from Cambodia: Developing a Strategy for Social Health Protection by Annear, 2009

[15] Source: Strategic Framework for Health Financing 2008-2015 (Ministry of Health, 2008), Cambodia Health Account 2012-2016 (WHO, 2019)

The majority of patients are satisfied with the services of public health facilities, but there are several areas where there are dissatisfied patients such as staff paying inadequate attention toward the needs of patients, the unavailability of staff at night, unclean facilities, and poor communication regarding disease diagnosis and prevention (Peou & Depasse, 2012). The salaries of public health staff are low, making the delivery of the public health service low (WHO, 2007). The poor condition of facilities, low staff numbers, and lack of staff motivation are barriers to quality (WHO, 2015a). It is hard to expect underpaid health professionals to work effectively. "The doctors at Kantha Bopha perform better since they get a high salary despite the fact they come from the same university as doctors in public hospitals," stated by respondents (personal communication, GIZ, interview 02, September 18, 2019). Consequently, Cambodians seek healthcare at private health providers as their first choice rather than using public health providers (NIS, 2018). However, the private health facilities are not tightly regulated, and there is unequal access to quality healthcare (Asante et al., 2019). The low-quality health service remains a concern for both public health and private health facilities (WHO, 2015a). According to WHO (2016), the staff quality of health service is intertwined with a lack of qualified staff, staff motivation, adequate compensation for public health staff, and poor regulation on quality and safety.

Besides seeking healthcare at private clinics, WHO (2015a) suggested that there are an increasing number of Cambodians seeking healthcare in neighboring countries, particularly Thailand and Vietnam. The transfer of patients to Singapore, Thailand, and Vietnam in case of critical disease or injury is made if the medical fee can be paid (ibid). The provider side has many challenges such as lack of medical ethics, technical knowledge and resources prompting a portion of the population to seek medical care abroad; moreover, people lose trust on the local health facilities (personal communication, focus-group discussion from medical experts at a medical university, 18 August, 2019).

Moreover, maldistribution of health personnel is a critical challenge in the health care system. The doctors are centralized at the urban and provincial level, while

nurses and midwives outnumber doctors in rural areas (WHO, 2015a). Recognizing the poor quality of health facilities, increasing the incentives to personnel, and increasing utilization of public health facilities, the Health Equity and Quality Improvement Project was created in 2016 under the administration of donors with the support from the Ministry of Health to financially and technically support the Second Health Sector Support Program (HSSP2), particularly Health Equity Funds (HEFs) and Service Delivery Grants (SDGs) (Ministry of Health, 2018). One component of H-EQIP is to provide performance-based payments motivate health personnel to make quality improvements. Health facilities are evaluated every month by scoring them from 0 to 100. Financial incentives will be given based on the score that each health facility gets from the evaluation (personal communication, NIPH, interview 03, 19 September 2019). Dealing with maternity rates, the Midwifery Incentive Scheme was created in order to increase institutional deliveries as the maternal mortality rate was considerably high (472 per 100 000 live births in 2005) (WHO, 2015a). The scheme grants $15 as an incentive to midwives when they deliver births at Health Centres and $10 per live birth at Referral hospitals (ibid).

Discussion

Table 6 Comparative country data and health expenditure indicator between Cambodia, Thailand, and Rwanda[16]

	Cambodia	Thailand	Rwanda
Population	16.01 million	68,615,858	11,918,000
GDP per capita	1,384.42 US	6,593.82 US	748.39 US
Average GDP growth rate	7%	3%	7.5%
% of population in the informal sector	73%	76%	73.4%

[16] Source: Cambodia National Health Account, Thailand Health System Review, ADB, Knoema, ILO, World Bank

Current health expenditure in US $ million	1207.0	1707.93[17]	573
General government expenditure, as % of CHE	22.3%	68.4%	33.9%
General government health expenditure, as % of GGE	6.4%	11%	8.9%
Current health expenditure on health, as % of GDP	6%	4.5%	6.8%
Coverage	30%	99%	87%

Note *GGE: general government expenditure: CHE: current health expenditure; GDP: Gross domestic product.*

Table 6 shows country comparative data and health expenditure indicators among three countries in which each country has different outcome regarded to the progress of UHC. Regarding current health expenditure, Thailand's excess Cambodia for approximately $500 million while Rwanda's is far lower than Cambodia's. However, these countries have different progress in UHC; there are several hidden or notified factors behind those countries' outcomes.

The success of Thailand and good progress of Rwanda's model on UHC demonstrated that countries with limited financial budgets and resources can move forward to Universal Health Coverage. Achieving Universal Health Coverage requires a strong political commitment from the government. The achievement was credited to a new Thai government that came to power in 2001 with this political commitment. Moreover, there are several factors that pushed Thailand to achieve UHC. Thailand had a solid foundation of health infrastructure as it has invested at district and subdistrict level since the 1970s. Not unlike Cambodia, Thailand had an internal brain drain and staff maldistribution. In order to deal with those challenges, it introduced compulsory contracts for freshly graduated medical doctors, financial incentives, as well as other incentives such as career

[17] 5123888 million baht equal 1707. 93 million dollar using exchange rate of 1 dollar equal 30 Baht according to the bank of England (2012)

development, housing, and facilities. Thailand's health delivery system is mainly dominated by public health facilities while the private sector plays a small role. The small role of the private sector in healthcare indicates that public health facilities provide quality healthcare. Moreover, as more patients use public health services, more funds can be generated for sustaining them. The large government budget for healthcare largely contributes to the success of UHC.

Regarding the socio-economic background, Rwanda is a developing country like Cambodia, but Rwanda has taken steps ahead of Cambodia toward UHC. As a poor country, the majority of the population are self-employed or work in the informal sector. General taxation might not be good revenue pooling for Rwanda; thus, the country decided to implement Community-Based health insurance nationwide and it evolved from being a voluntary scheme to become mandatory. However, population enrolment fluctuated unsteadily over the years. CBHI enrolment had surged to 90% of the total population in 2010 and 2011; then it plummeted to 73% in 2013/2014 (USAID, 2016). The fluctuating number of enrolments caused by some population drop out from the scheme because they could not afford the premium according to the 2013 CBHI household survey (Kalisa et al., 2016). However, the rapid coverage expansion mainly derives from commitment of the Rwandan government in generating funds to support the scheme; even though, the Community-Based Health Insurance is a voluntary scheme. Moreover, political leadership, effective governance, strong accountability mechanisms and zero tolerance of corruption plays an important role in pushing UHC achievement.

Despite the fact that Cambodia and Rwanda have a few things in common, it is not certain that Rwanda's model will be successful in Cambodia. The first and foremost reason is Community-Based Health Insurance already exists in Cambodian society, but it is not a successful scheme. Having been launched in 1998, the scheme still has low numbers of enrolment. By 2012, the scheme only covered 166,663 persons or less than one percent of the population (WHO, 2015a). The report from the ILO found that CBHI has low take-up and high dropout as there is a lack of information. It is hard to collect funds from people in the informal sector despite the fact that

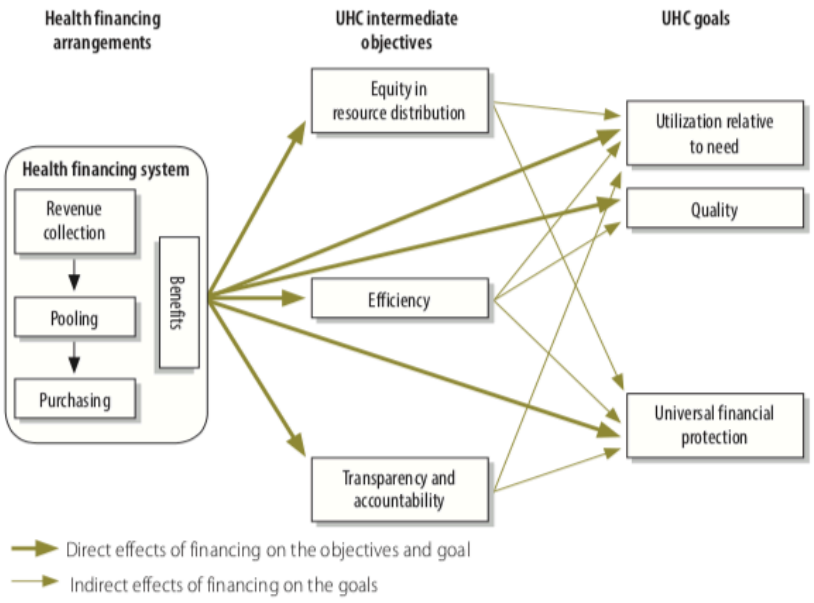
the premium is low (personal communication, NIPH, interview 03, September 19, 2019). When the members do not use health services using CBHI this year, it is likely that they will not enrol in the next year. This is one of the reasons that the scheme has low take up. The failure of the CBHI model showed that Cambodia is different from Rwanda's as the Rwandan model was fully supported and had the political commitment from government and local authorities. It is unlikely that CBHI will rejuvenate if it is implemented nationwide in Cambodia. One of the key informants made the following statement, "The Rwandan model cannot be implemented in Cambodia since Rwanda's system is disciplined, so it is easy to collect funds. Suppose we force Cambodian to join CBHI or other schemes and they don't want to join and we collect premium from them; they will negatively react to the government." (personal communication, NIPH, interview 03, September 19, 2019). Moreover, the global evidence shows that voluntary health insurance is not an ideal path to achieve UHC. In contrast, it will cause adverse selection; people will enrol when they realize that they need health service; it causes the scheme to become bankrupt. It is difficult for the poor to depend on funds from tax generation; however, enforcing mandatory health schemes is complicated for the informal sector as well as politically difficult for the government (Chemouni, 2018).

Most of the respondents suggested a mixed system similar to Thailand as a roadmap to UHC since Cambodia has few health insurance schemes as a foundation. It just needs the government to inject money and expand either the existing scheme or creating a new scheme for people in the informal economy as Thailand did. In addition, Thailand had a fragmented social insurance scheme background similar to Cambodia. Thailand has expanded the coverage to the informal sector through UCS financing from general taxation making the country achieve the UHC in 2002 when the country's GDP per capita was $ 2096.5. With rapid economic growth at 7% and GDP per capita at $1512, if the economy maintains this growing trend, it is optimistic that Cambodia could achieve UHC in the near future (personal communication, NIPH, interview 03, September 19, 2019).

Feasibility of UHC in Cambodia

The UHC is not a "one size fits all" concept. Each country has to develop its own path following the economic, social, and cultural context (Oxfam, 2013). Social Health Insurance (SHI) is recognized as a route to achieve UHC in many developed countries where there are high numbers of people employed in the formal sector; however, it is not an appropriate path for low income and middle income countries to replicate as those countries have the majority of their population in the informal sector (ibid). This does not mean that those countries could not achieve the UHC. As an example, Thailand has provided free healthcare to people in the informal sector that are not insured by social health insurance through Universal Coverage Scheme (UCS) with financing from the general taxation. Rwanda provided approximately 80% health coverage to the population utilizing Community-Based Health Insurance by collecting premiums from people in the informal sector. Cambodia is on the right track to UHC as it initially expands coverage to the poor by Health Equity Funds and people in the formal sector by NSSF. However, only 30% of the population are insured by those plans. The government has set a goal of covering 50% of the population through a social health protection scheme by 2020 (WHO, 2019). Nevertheless, the country faces challenges such as low population coverage, limited quality of service, and a low fiscal budget. Despite the fact that each country has to develop its own path to achieve UHC, it all has to fit the definition of UHC as well as the UHC goals shown in Figure 6. This study will examine the feasibility that Cambodia can consider to scale from 30% coverage to a full, 100% coverage.

Figure 6 Intermediate objectives and final goals of universal health coverage (UHC) that health financing can influence.[18]



Population Coverage

The coverage needs to be expanded to people in the informal sector in order to achieve a full population coverage. Currently, there are three social health protection schemes: The Health Equity Fund for the poor, social health insurance for civil servants and social health insurance for the private sector under the NSSF (WHO, 2018). Expanding the coverage to people in the informal sector should be either through HEF or NSSF. Eighty percent of the Cambodian population live in the rural areas and work in subsistence agriculture, in the informal sector or are self-employed (WHO, 2015a). The majority of the population in the informal sector does not provide a positive environment to scale up the coverage to the people in the informal sector through NSSF. Therefore, it should be expanded through Health

[18] Adapted from Health Financing Policy: A guide for Decision-Makers by Kutzin, 2013

Equity Fund to the informally employed population. However, the government has to play an important role in providing service through HEF as the scheme does not require the members to pay premiums or extract the member's salary for the scheme's contributions. Choosing this path would require the government to inject a lot of money in order to achieve full coverage in terms of quality, population coverage, as well as financial protection for the population. As an exemple, the Thai government spent 68.4% of total health expenditure in 2012 as shown in Table 1. Thus, it would take a long time for Cambodia to reach the same stage since Thailand has a solid foundation of health infrastructure and it took almost three decades to achieve UHC. However, the ideal path which was endorsed by many organizations and publication is to expand health coverage to the whole population by starting with priority service packages (Nicholson et al., 2015). Accordingly, scaling up the coverage could be done through the Health Equity Fund with priority service at first; the service package could further expand when the government has enough budget allocated. Currently, the expenditure in the HEF account is approximately $15 million annually covering 3 million people, which is equivalent to 23% of the population (WHO, 2019).

The Progress of the Health Sector in 2018 has shown that HEF cost $12,552,344 (excluded non-medical benefit), which was spent on 2,810,697 cases in 2018. Based on the data, the average consultation fee per case would be $4.43. Due to various demographic characteristics, the demand of healthcare utilization will vary as well since older adults and young children tend to use health care services more than younger group. Therefore, an averaged utilization is suggested to be five times for each person per year if there is implementation of UHC (personal communication, WHO, interview 04, October 25, 2019). Table 7 shows the cost of scaling up HEF to 14,849,798[19] population, in which the cost is approximately reckoned at $328.92

[19] According to the World Bank (2019), Cambodian population was 16,249,798 in 2018 and approximately 1.4 million employees from large enterprises were registered healthcare insurance scheme of NSSF (Roy & Langenhove, 2019). Therefore, 14,849,798 people are not insured by NSSF and is used as baseline data to scale up through HEF.

million per year. The cost might not be too costly for the government to pool money to expand the scheme to the uninsured population. Moreover, $328.92 million is accounted for the cost of scaling up HEF to uninsured population; it is not the whole cost of the UHC. To make an effective UHC, quality of service delivery should be improved, and the government should allocate more funds in improving service delivery, which is the main challenge in Cambodian healthcare system.

Even though HEF provides free health care services to 3 million people living under the poverty line and other vulnerable groups, many households with HEF entitlement still experience distress in their finances (Jacobs et al., 2016). Many HEF beneficiaries seek healthcare in the private sector which are not covered by HEFs (Jacobs et al., 2018). This has prompted a negative implication of the public health sector as people with HEF entitlement tend to choose the private sector rather than free service at the public facilities. Thus, there should be an initiative to redirect the patients back to the public health sector. Also, in order to ensure the whole population is covered, compulsory insurance law should be enacted.

Table 7 Calculated fund to scale up to full population coverage

	Number of people covers	Number of Utilization	Average consultation cost per case (2018)	Cost of scaling up
Health Equity Funds	14,849,798	5 times per year	$4.43	$328.92 million

Finance

Expanding health insurance to the population nationwide is daunting for lower income countries as limited fiscal budgets remain one of the barriers. Even some highly developed countries like the US do not have universal coverage yet as it heavily relies on voluntary insurance (Oxfam, 2013). Thus, the fiscal budget might not be a constraint for Cambodia in providing UHC. The problem mainly depends on efficient government spending. Cambodian government funds are mainly allocated to health system administration and financing rather than at health

centres (WHO, 2019). While the government expenditures on health increases, the budget allocation at the Ministry of Health is lower than the Ministry of Defense and two times lower than the Ministry of Education (Khmer Times, 2018). The government draft budget expenditures for 2020 will be $8.2 billion next year; 25.8% will be spent on defense while 37 percent will be allocated to education and health which are in need for reform and investment (VOA, 2019). Making the health sector a priority will positively impact the progress of establishing Universal Health Coverage. Thailand reduced defense spending to allow the health sector to expand in 2001 (Jongudomsuk et al., 2015).

Cambodia has sustained economic growth at an average rate of 8% between 1998 and 2018. There is significant improvement of tax collection; the government has unveiled that 2019 tax revenue exceeded the previous year by 30%. and the revenue has raised equivalent to $4.567 from customs and taxation in the first nine months (Phnom Penh Post, 2019). The stable economic growth and improvement of tax collection is a positive sign to the universal coverage policy. The “sin tax” on alcohol and tobacco, and high sugar content food should be imposed as it could raise additional revenue, reduce the number of consumers and improve general health (Oxfam, 2013). Other innovative finance mechanisms such as property taxes and taxes on luxury goods such as cars and electronics could generate more funds to finance UHC (ibid).

Quality Assurance

Improving the quality of care is needed in order to achieve meaningful UHC; however, it is still a concern in both the public and private sectors. Poor condition of facilities, low number of staff and lack of staff motivation are mitigating factors (WHO, 2015a). The issue of staff motivation could be addressed by using financial and other incentives. The Midwifery Incentive Scheme, and performance-based payment does a good job in providing additional funds to the health workforce and improves performance as well. The unequal distribution of the workforce remains a challenge in the rural areas. Doctors are centralized at provincial health facilities,

national hospitals and non- profit hospitals while nurses and midwives prevail in the rural area (WHO, 2015a). In order to deal with the maldistribution of the workforce and increase the number of medical doctors in rural areas, financial incentive alone won't be sufficient; it needs to be extended to career development, housing and improved facilities incentives as was done in Thailand. Compulsory contracts should be introduced in order to increase the workforce in the public sector as well as in rural areas. Most of the public health personnel also work in the private sector due to insufficient incentives (WHO, 2015a). In order to deal with the internal brain drain, harmonization of salaries should be considered; thus, all health personnel would get the same salary whether they work in the public, or private sector. Sufficient incentives and salaries will ameliorate the performance of the public health personnel, which could expand the role of public health services.

Many Cambodians seek healthcare from private providers as their first choice, especially private clinics. This attracts the largest share of current health expenditures; however, it is not tightly regulated tightly and deemed to be of low quality (WHO, 2019) (Asante et al., 2019). There should be a policy to monitor the price and the provision of health services for quality assurance (WHO, 2019). However, this is more easily said than done. Moreover, it is important to improve the quality of the public health providers in order to attract patients to seek healthcare there as well as to shrink the role of private health providers.

Impact Evaluation

Achieving Universal Health Coverage might be costly, but it is a goal which all countries are committed to achieve by 2030. Thailand shows that UHC can be expensive as the cost of the policy was equivalent to US$ 14 809 million (Sumriddetchkajorn et al., 2019). However, there are great benefits for investing in health.

It is not limited only to improving the health of the population but is also linked to economic returns and social benefits (Nicholson et al., 2015). The report by the Lancet Commissions found out that health improvement has a significant impact

on increasing GDP, education, investment, access to national resources, and demographics (Jamison et al., 2013). Health investment might not show obvious straight forward outcomes like education and infrastructure; however, it has clearly proven results by improving population health (life expectancy). Moreover, the health system indirectly impacts the economy through the workforce as individuals with better health have more opportunities for economic participation (such as later retirement) and more earnings (Cylus et al., 2018). Correspondingly, a healthy population also attracts direct foreign investment.

The prime function of the UHC is to address social inequity by giving the poor and the sick the opportunity to be secure when they spend on health care; this reciprocally helps the poor have good living standards (Cylus et al., 2018). Launching UHC could significantly benefit the poor, by protecting them from financial distress. Thailand has reduced by more than 300,000 the number of people suffering from catastrophic health care costs (Kim, 2013).

In Cambodia, about 60% of the health expenditures are derived from out of pocket payments; the National Social Protection Policy Framework has recognized the challenge and tried to expand health coverage especially for vulnerable groups (WHO, 2019). Expanding financial health protection could decrease out of pocket payments in the future. Moreover, the out of pocket payment is pernicious to the poor as 6.3% of the population suffered from healthcare spending and 3.1% fall into debt for spending on healthcare services (KFW, 2016). Providing health coverage to all of the population could contribute to the reduction of poverty as people are no longer impoverished by healthcare spending.

Conclusion

Universal Health Coverage has been included in the vision of the Third Health Strategic Plan 2016-2020, which shows Cambodia's commitment to achieve UHC by 2030. Cambodia is a leading example of a low-income country for quickly achieving health goals related to Millennium Development Goals. However, there

are several challenges to achieving UHC. There is a need to rejuvenate the problem of both supply side and demand side. The quality of care could hinder the effectiveness of UHC since there are limitations of health infrastructure, low density of health workers, low availability of hospital beds, and low service delivery. The 2017 Socio Economic Survey found that Cambodians seek healthcare from private health providers rather than public health facilities. Even though the Health Equity Funds cover health services to over 3 million of the poor and vulnerable groups the beneficiaries still experience financial distress in healthcare spending because they use the private sector, which is not covered by HEF (Ir et al., 2019). This is one of the challenges on the demand side, which indicates that people don't normally seek health services in the public sector despite the fact that they could access it free. Besides demand and provider problems, there are several segments of social health insurance covering only a small portion of the population, particularly formally employed workers and the poor which shows the importance of expanding coverage to the entire population.

This study takes the lessons learned from two countries synthesizing their best features. It aims to provide policy recommendations with an emphasis on three dimensions: quality, population coverage, and financial mechanisms.

Population coverage:

- Expansion to the informal sector should be either through the HEF or the NSSF.
- Expanding health coverage to the whole population from the start with priority service packages.
- A compulsory health insurance law should be enacted in order to guarantee that all people have health financial protection.

Financing mechanism

- Use funds more efficient.
- Generating revenue from general taxation.

- Sin Tax on “alcohol, tobacco, and sugar content food” and innovative tax on “luxury goods such as cars and electronics” should be imposed, which could generate more revenue for UHC.

Quality assurance

- In order to deal with low density of staff distribution, financial incentives, career development incentive, housing and facilities incentive should be provided to health workers.
- Harmonization of salary should be considered and taken into account in order to deal with internal brain drain; thus, all health personnel could get the same salary whether they work at public, or private sector.
- The initiative recruited medical students from their hometown provinces and provided with placements in the same province after graduation plays part in dealing with urban and rural staff distribution.
- Compulsory contract should be introduced in order to increase health workforce to work at the public sector, especially in rural areas.

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Appendix

Government stakeholders, Public health researcher, Medical doctor and clinical lecturer

What is your perception of UHC?

As you have worked in public health for several years, what is your experience or what have you done in this field?

What do you think about the possibility of UHC in Cambodia?

- Challenges

1. What are the main challenges for the Cambodian health system?
2. What are the main challenges for Cambodia to achieve UHC?
    a. What do you think about out of pocket payments?
    b. Do you think that "out of pocket payments" are a problem in the healthcare systems? What do you think about how it can be reduced?
    c. Do you think that the poor quality of health services in Cambodia are a barrier to UHC?
    d. How to expand to the informal sector?

- Service coverage

1. To what level of healthcare should UHC in Cambodia cover the population? Why?

- Existing policy

1. What do you think about the existing social schemes in Cambodia?
    a. Do you think that the various social schemes in place in Cambodia are inefficient and fragmented? If so in what way?
    b. In your opinion, is it good to coordinate existing the schemes under one institution or combine the schemes together to achieve UHC?
    c. What do you think about a "compulsory health insurance law"? Should one be passed? Why?

- Financial mechanism

1. There are different pathways to UHC. Which financial mechanism should be implemented in Cambodia?
    a. What is your opinion of expanding Social Health Insurance as a way toward UHC?
    b. Taxation is a long term and sustainable approach for UHC. In your opinion, could Cambodia use this approach? How to sustain it?
    c. In your opinion, is a mixed system a better alternative? Social Health Insurance and General taxation.
    d. What is your policy recommendation?

- What is the government going to do? / NGO role?

1. What has Cambodia done to reduce health impoverishment and increase health equity? WHO role
2. The Cambodian Government is committed to achieving UHC by 2030. Do you think that it is possible?
3. In which way do you think UHC contributes to poverty reduction?
4. What do you think about the role of educational institutions in UHC? How can health professional education strengthen health care systems and UHC?

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