HEALTH FINANCING FOR UNIVERSAL HEALTH COVERAGE IN BHUTAN: A LITERATURE REVIEW

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DECLARATION

Health financing for Universal Health Coverage in Bhutan – a literature review

A thesis submitted in partial fulfilment of the requirement for the degree of
Master of Science in Public Health

By:
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Declaration:
Where other people's work has been used (from either a printed or virtual source, or any other source), this has been carefully acknowledged and referenced in accordance with academic requirements. The thesis "Health financing for Universal Health Coverage in Bhutan – a literature review" is my work.

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ABBREVIATIONS

ART	Antiretroviral Therapy
BHTF	Bhutan Health Trust Fund
BIT	Business income tax
BTN	Bhutanese Ngultrum (currency)
CaHE	Catastrophic health expenditure
CHE	Current Health Expenditure
CIT	Corporate income tax
FY	Financial year
GDP	Gross Domestic Product
GGE	General government expenditure
GGHE	General government health expenditure
GNI	Gross National Income
GST	Goods and Services Tax
LMIC	Lower-middle-income country
NRH	National Referral Hospital
OOPE	Out-of-pocket expenditure
PFM	Public Fund Management
PHC	Primary Healthcare
PPM	Provider payment mechanism
SDG	Sustainable Development Goals
SOE	State Owned Enterprises
UHC	Universal Health Coverage
WHO	World Health Organization
VHW	Village Health Worker
VHI	Voluntary health insurance

GLOSSARY OF TERMS

Health Access Quality (HAQ) index is measured on a scale from 0 (worst) to 100 (best) based on death rates from 32 causes that are prevented by high-quality medical care. (1). HAQ index provides information about access to healthcare and its quality and enables monitoring, which is crucial in advancing toward UHC.

Health technology assessment (HTA) is a systematic and multidisciplinary evaluation of the properties of health technologies and interventions, covering both their direct and indirect consequences. It is an interdisciplinary process that aims to determine health technology's value and help make informed decision on its usage in the health system (2).

Human development index is a summary measure of average achievement in key dimensions of human development – Health (life expectancy), education (mean years of schooling for adults 25 years and above), and standard of living (Gross national income per capita) (3).

Performance-based financing aims to improve health services by providing bonuses to service providers (usually facilities, but often with a portion paid to individual staff) based on the verified quantity of outputs produced, modified by quality indicators (4).

Public financial management (PFM) system is a set of rules and institutions, policies, and processes that govern the use of public funds across all sectors, from revenue collection to monitoring of public expenditures (5)

Rationing - Restricting the access to valuable or potentially useful health services due to budgetary limitations (6).

Universal Health Coverage (UHC) effective coverage index, combined with financial protection, provides a more precise measure of UHC and is a valuable tool for policy decisions (7).

ABSTRACT

Background: Despite encouraging progress towards universal health coverage (UHC), Bhutan's health financing (HF) system is facing sustainability and efficiency concerns. The rising healthcare cost presents sustainability concerns and further strains the government fiscal space. On the other hand, there are questions regarding efficiency in spending limited resources, quality of care (QoC) provided, and equitable distribution of the benefits. This study aims to review the health financing (HF) function of the health system, assess its influence on Bhutan's advancement towards UHC, and propose recommendations for HF reforms to realize UHC 2030 goals.

Method: The study was based on a literature review using Kutzin's framework regarding HF influence on UHC intermediate objectives and UHC goals.

Findings: The government accords high priority to health, ensuring stable and adequate funding and lesser reliance on out-of-pocket (OOP) and donor assistance. Yet, for long-term sustainability, further diversification of revenue sources is needed. Although all Bhutanese citizens are entitled to the comprehensive benefit, the utilization was inequitable. Bypassing primary healthcare (PHC) and oversupply of services, including a high rate of antibiotic prescriptions, are some of the leading health system inefficiencies. The passive provider payment mechanism (PPM) via line-item budget is facing considerable challenges in incentivizing providers to deliver quality health services.

Conclusion: Evidence from the study suggests that Bhutan's HF system built on the foundations of pooled public funds is well positioned to attain UHC, but moving forward, it calls for reforms in purchasing strategy for more efficiency gains and improved quality.

Keywords: Universal health coverage, Health financing, revenue raising, risk pooling, Strategic purchasing, efficiency, quality of care.

Word count: 12988

INTRODUCTION

The WHO identified Health financing (HF) as one of the six health system building blocks in 2007. HF is a critical component of the healthcare system to advance toward Universal Health Coverage (UHC) through its' core functions of (i) Revenue raising, (ii) pooling of funds and (iii) purchasing of services (8). UHC means that all individuals and communities receive the health services they need, when and where they need them, without suffering financial hardship. It includes a full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care across the life course (9). A lack of adequate funds can disrupt the rest of the health system functions of providing health services and generating resources, potentially failing to achieve the intended Health system goals (10). Therefore, HF is crucial for health systems' sustaining and improving human wellbeing (11).

The Sustainable Development Goal (SDG) 3 focuses on health that states, "Ensure healthy lives and promote well-being for all at all ages", and calls on all nations to achieve UHC, including financial protection and access to quality essential healthcare (12). Despite the remarkable progress in reducing the poverty rate in a developing country like Bhutan, many households remain precariously and a slight shock away from poverty (13). So, an ill-designed HF arrangement that forces people to pay out-of-pocket (OOP) would be catastrophic. Although the health services are free of charge, there are challenges with the quality of services, efficiency in spending, and inequity of health outcomes. Through my personal experience of working as a medical doctor in the various corners of my country, I have realized what it means to achieve UHC (especially for the poor and the vulnerable) and how HF strategy is fundamental to it. Therefore, this motivated me to explore further in studying how HF influenced Bhutan's UHC progress to propose recommendations for HF reforms to the policymakers.

This study is divided into six main chapters. **Chapter 1** gives a background profile of Bhutan. **Chapter 2** presents the problem statement, justification, and research objectives**. Chapter 3** describes the Methodology adopted and the analytical framework used. **Chapter 4** presents findings in two parts. Sub-chapter 4.1: Review of Health financing functions of Bhutan. Sub-chapter 4.2 presents results on domains of UHC intermediate objectives and UHC goals thematically based on the analytical framework. **Chapter 5** discusses the findings of the literature review. Finally, **Chapter 6** concludes previous chapters and provides recommendations to the Government and the MoH.

CHAPTER 1: BACKGROUND

1.1 Geographical and Demographic profile

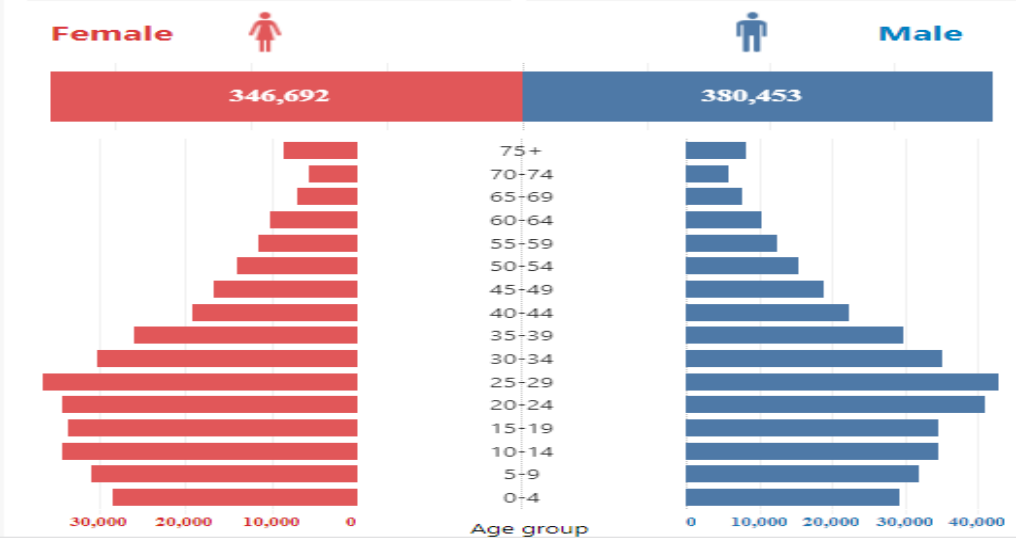
Bhutan is a small landlocked Himalayan country located between China in the north and India to its south (Figure 1). It has a total area of 36,394 sq. km, a population of 727,145, and one of the most rugged mountainous terrains in the world (14). Bhutan's unfavourable geographical terrain and scattered settlement is a big challenge in reaching health services to everyone (15).

Figure 1: Map of South Asia

Source: University of Texas Library

Bhutan has a young population with a median age of 26.9 years (16). The elderly people above 65 constitute only 6% of the total population (Figure 2) but is projected to reach 13% by 2047 (16). The life expectancy of the Bhutanese population has significantly increased from 66.3 years in 2005 to 70.2 years in 2017 (16). Around 62% of the population live in rural, and 38% live in urban areas (16) (Refer to Annexure I for more details).

Figure 2: Population Pyramid of Bhutan, 2017



Source: National Statistical Bureau, Royal Government of Bhutan

1.2 Socioeconomic profile

Bhutan's Human Development Index value for 2019 is 0.654, ranking 129th out of 189 countries and placed in the medium human development category (17). The national poverty rate declined from 12% in 2012 to 8.2% in 2017, while extreme poverty (population living under 1.90 USD per day) is only 1.5% (18). The unemployment rate rose to 5.03% in 2020 from 2.7% in 2019 (14), mainly due to the impact of the COVID-19 pandemic. The literacy rate increased from 59.5% in 2005 to 71.4% in 2017 (16).

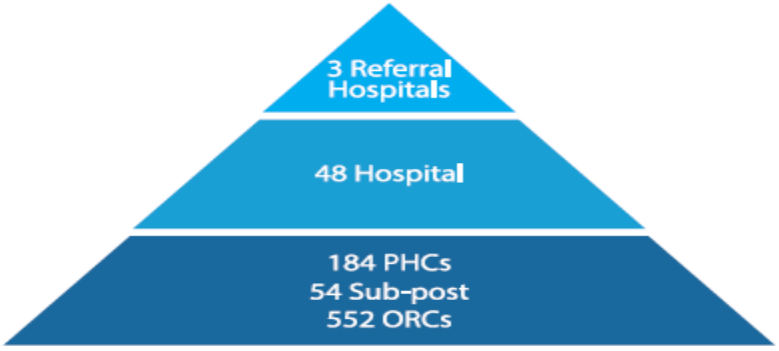
According to the World Bank, Bhutan is a lower-middle-income country (LMIC) but is considered one of the fastest-growing economies in the South Asian region. It has recorded an average growth in GDP of 7.5% over the last three decades (19). Bhutan's GNI per capita increased by about 328.0% between 1990 and 2019 (17). This rapid economic growth is driven mainly by the expansion of the tourism and hydropower sectors. The state-owned enterprises such as hydropower and mining play a significant role in Bhutan's economy, contributing 50% of tax revenue.

However, due to the COVID-19 pandemic, it suffered a drop in GDP by 15.8% in 2020 and negative growth (-7.23%) in Gross National Income (GNI) (Annexure II) (20). The informal sector dominates the economy, forming nearly three-quarters of the total workforce, whereas only 28.1% are categorized as "regularly paid" employees. Agriculture remains the principal source of income, employing 48.6% of the workforce (21). According to an ADB report in April 2019, Bhutan's tax base is narrow, increasing fiscal pressure as Bhutan prepares to graduate from LDC status in 2023. The tax to GDP ratio of 13% in 2020 means the government is limited in its fiscal manoeuvrability (22) (22). The fiscal deficit has widened by 7.4% in 2020 and is expected to increase by 11.25% of GDP in FY2022/23. The total public debt as of 31 March 2022 was BTN 247.681 billion, which is 130.9% of the GDP (23).

1.3 Health system profile

Health infrastructure - Health services are provided through a three-tier structure (Figure 3): (i) basic health units (BHUs), sub-posts and outreach clinics (ORCs) at the primary level; (ii) district hospitals at the secondary level; and (iii) regional referral (RRH) and national referral hospitals (NRH) at the tertiary level. Traditional and allopathic medicine services are integrated. Three satellite clinics in the capital city of Thimphu supplement the NRH to serve the growing urban population (24). The role of private entities is limited to only diagnostic services and retail pharmacy shops. There are four health facilities for every 10,000 people, which has translated to improved accessibility, with 90% of the population living within 3 hours of walking distance of a health facility (21). At the grassroot level, village health workers act as a bridge between the health system and the community and play a crucial role in achieving UHC (25).

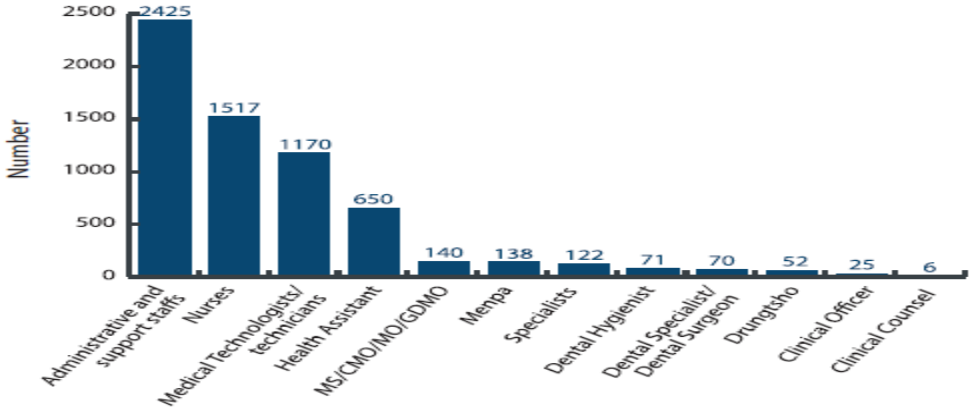
Figure 3: Three-tiered system of health infrastructure.



Source: Annual health bulletin, 2021 MoH (24)

Health human resource – As of 2020, the total health workforce is 6386 (including administrative and support staff), with 4.5 doctors and 20.6 Nurses per 10,000 population. (Figure 4) (24).

Figure 4: Category of the health workforce.



Source: Annual Health Bulletin, 2021, MoH (24)

Health outcomes – Bhutan has made remarkable progress in population health outcomes since modern healthcare began in 1961. Maternal and child health indicators, in particular, have seen significant gains. The under-five child mortality rate has decreased from 128.9 per 1000 live births in 1990 to 32.1 per 1000 live births in 2019 (26). The maternal mortality ratio has reduced from 770 per 100,000 live births in 1984 to 89 per 100,000 live births in 2017 (24). Deliveries attended by skilled birth attendants (SBA) and institutional delivery have reached 99.3%, and 94.5%, respectively and national immunization coverage is 94% in 2019 (24).

The Tuberculosis (TB) treatment success rate (TSR) for drug-sensitive TB was 93% (2019), and 94% for Multidrug-resistant TB (2018) (24). For HIV, as of 2020, 57% of people living with HIV (PLHIV) knew their status, out of which 96.7% were receiving standard antiretroviral

treatment, and 91.8% of those on treatment have achieved viral suppression (24). The health impact on the population due to the COVID-19 pandemic has been mitigated, with only four COVID-related deaths reported out of nearly 60,000 people infected (27).

Nonetheless, Bhutan faces challenges due to the epidemiological transition with a shift in disease patterns towards the increasing burden of NCD, which accounted for 73% of all deaths in 2019 (28). Ischemic heart disease (IHD), Chronic obstructive pulmonary disease (COPD), and stroke were the top 3 causes of death in 2019 (26).

1.4 Health financing (HF)

Healthcare in Bhutan is predominantly publicly funded through a tax-based general revenue. Except for in-patient cabins, dental and surgical procedures for cosmetic reasons, off-hour special consultancy, and obtaining a medical fitness certificate, all services are provided free of charge (15). The state also funds the out-country referral for treatment of complex medical conditions which cannot be managed within Bhutan (15). The out-of-pocket expenditure (OOPE) as a share of current health expenditure (CHE) has remained below 20% since 2017 (Table 1) (29).

Bhutan's total health expenditure (THE) as a share of GDP has been over 4% in recent financial years (FYs); however, the General government health expenditure (GGHE) as % of GDP has remained below the recommended level of 5%. The GGHE as % of general government expenditure (GGE) was 10.4% in 2019, which is the highest compared to other South Asian countries such as Nepal (4.03%), Bangladesh (3.39%), India (3%), and Sri Lanka (9.25%).

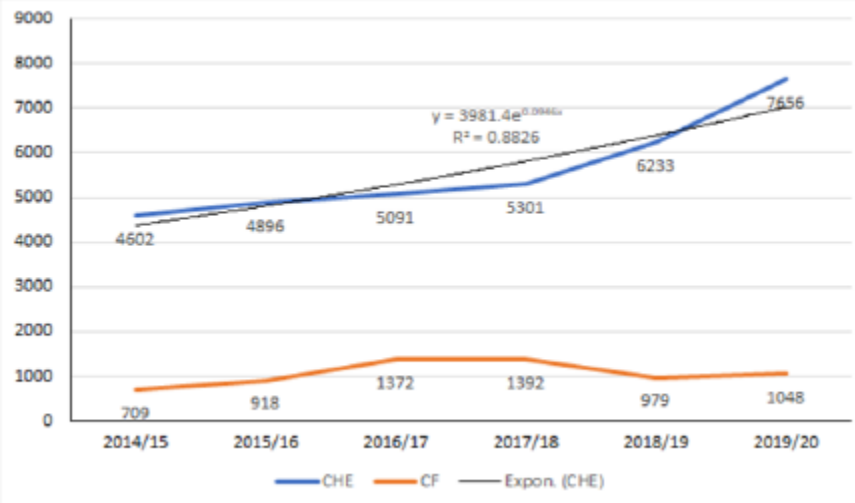
Table 1: Trends in Health financing in Bhutan – Health financing indicators

Indicator	**2015**	**2016**	**2017**	**2018**	**2019**
Current health expenditure (CHE) as % of gross domestic product (GDP)	3.76	3.58	3.34	3.24	3.61
***Domestic General government health expenditure (GGHE) as % of CHE**	74.25	73.95	74.52	79.55	73.57
***GGHE as % of general government expenditure (GGE)**	9.37	8.1	7.59	7.49	10.41
Out-of-pocket expenditure (OOPE) as % of CHE	19.79	20.13	13.31	13.16	17.79
THE per capita (in USD)	98.56	98.91	104.86	102.74	115.98
GGHE per capita (in USD)	76.04	76.50	75.65	80.45	85.32
GGHE as % of GDP	2.79	2.64	2.49	2.58	2.65
Total Health expenditure (THE) – the sum of CHE and Capital formation (CF) as % of GDP				4	4.5

Source: WHO Global Health Expenditure database (29).*The World Bank data.

The CHE has steadily increased over the years, with a 17% rise between Financial Year (FY) 2018/19 and 2019/20 alone (Figure 5). With the current pace of demographic transition, healthcare costs are expected to escalate, putting further strain on the government budget.

Figure 5: Trends in CHE and CF between FY 2014/15 and FY 2019/20



Source: National Health Account (NHA) 2021, MoH (30).

CHAPTER 2: PROBLEM STATEMENT, JUSTIFICATION, AND OBJECTIVES

2.1 Problem statement

Bhutan has made encouraging progress towards UHC through its publicly funded healthcare system. Through its unique system of integrated modern and traditional healthcare, access to comprehensive preventive and curative services is provided to the whole population that is free of charge via all three levels of care Ninety percent of the population has access to a health facility within three hours of walking distance (24). With the government as the primary source of funding for healthcare the OOPE has been maintained below 20% of the CHE in the last five years (34) which is the lowest in the South-Asian region (Table 2).

Table 2: Comparison of key health financing indicators among South Asian countries, 2019

Country	GDP per capita (in US$)	Health spending per capita (in US$)	GGHE (as % of CHE)	OOPE (% of CHE)	GGHE (% of GDP)
Bhutan	3215	116	73.6	17.8	2.65
Nepal	1198	53.25	24.8	57.9	1.1
Bangladesh	1846	45.86	18.6	72.7	0.46
Sri Lanka	3939	161	47.2	45.6	1.93
India	2115	64	32.8	54.8	0.99
Pakistan	1169	39	32	53.8	1.08

Source: World Bank Database available at https://data.worldbank.org/

Despite the promising progress to attain UHC, several challenges confront the Bhutanese health sector today, out of which HF is a significant policy concern. HF is projected to be strained in the near future due to several factors (31,32). The biggest challenge to the HF system concerns its sustainability due to the rapidly rising healthcare cost threat. The ongoing epidemiological transition with the rising burden of NCDs, demographic transition, and technological advancement are predicted to increase healthcare costs. By 2025, 7.3% of Bhutan's population will be above 65 years, so the NCD burden is expected to rise (33). Stroke, IHD, Hypertension, Diabetes, COPD, and Liver cirrhosis contributed to 41% of the total mortality in 2019 (26). All cancers contributed 15.8% of the total deaths in the same year (26). Furthermore, there is an increasing need for the provision of health services in hard-to-reach areas and rising expectations of the population for better and more curative services (31,32). The overall health spending per person is expected to increase by 75% in 2050 compared to 2018, with 81% coming from government spending (34).

Meanwhile, there are issues related to inefficiency of health expenditure, quality of care (QoC), and inequity in resource utilization (32). One key area of inefficient utilization of resources is bypassing the referral system, resulting in underutilization of PHC centres and overcrowding at the secondary and tertiary levels (35). Furthermore, inefficiency is also reflected in allocating resources to providers based on infrastructure size instead of the actual workload (36). Long waiting time to receive services such as endoscopy, CT scan, MRI, and elective surgery are frequent complaints (37). The average outpatient (OP) waiting time in the NRH was over one and half hours in 2017 (38).

Quality and patient safety issues such as misdiagnosis, wrong medication, poor quality equipment, unfriendly staff, and medical malpractice are some common complaints patients raise(39). In addition, incidents like the recent outbreak of healthcare-associated infection (HCAI) in the newborn ward in the NRH resulted in eleven newborns' death, raising further questions about the quality and safety (40). Bhutan's health access and quality index (HAQ)s 47.4 and ranked 134th out of 195 countries (1). Regional neighbours Bangladesh and Sri Lanka are ranked above Bhutan, with HAQ index of 48 and 71, respectively (1).

Although everyone is entitled to all benefits, there are issues about inequity in health utilization and health outcome between the rich and the poor and urban vs rural (41). While the urban population enjoy the luxury of specialist services even for minor illnesses, the rural community are deprived of specialist services even when needed (36).

The UHC effective coverage index is 51 in Bhutan, which is low compared to neighbouring countries like Bangladesh and Sri Lanka (Table 3), which have index scores of 54 and 66, respectively (42). Given the level of expenditure on health, Bhutan is considered among those countries which could achieve more by improving efficiency (42).

Table 3: Comparison among South Asian counties in UHC effective coverage index in relation to Health spending per capita.

Countries	**UHC effective coverage index**	**Health spending per capita (in US$)**
Bhutan	51	116
Nepal	47	53.25
Bangladesh	54	45.86
Sri Lanka	66	161
India	47	64
Pakistan	39	39

Source: Lozano R et al. (42)

2.2 Justification

According to the National health policy document, Bhutan aims to achieve self-reliance and sustainability through improved efficiency and advance toward UHC through a primary healthcare approach (43). In line with this, the RGOB accords priority for health with GGHE as %GGE over 8%, which is one of the highest among South Asian neighbours. However, today Bhutan finds itself challenged with rising healthcare costs and concerns over the sustainability of free basic healthcare. In addition, Bhutan's graduation from the least developed countries (LDC) category 2023 (44) will signal the withdrawal of international donors. While the external sources of funding played a minor role in recent years, it is expected to strain the government fiscal space further. And with the SDG goal 3.8 – "to achieve UHC by 2030" inching closer, it is time for a strategic rethinking of the health financing apparatus as we move forward. Currently, a dedicated health financing policy is lacking to guide Bhutan's road to UHC. Hence, the motivation to conduct this study lies in the urgent need to revisit the health financing functions and their relation to UHC goals to identify gaps in the existing health financing strategy.

Consistent with the core messages of the World Health Report 2010, many countries have committed to UHC and are reviewing, analyzing, and modifying health financing arrangements in their countries. The components of any health financing system are revenue collection, risk pooling and resource allocation. How these functions influence the progress to UHC goals via the intermediate objectives (efficiency, equity of resource distribution and use, and transparency and accountability) form the basis of assessment for any reforms (45).
In Bhutan, a limited number of studies on UHC focused on healthcare utilization, bypassing PHC, OOPE, and fiscal space assessment (31,35,46,47). This study will add to the existing knowledge on UHC progress in Bhutan by critically reflecting on the health financing arrangement's role in attaining UHC. Moreover, the aspect of health purchasing for improving efficiency and quality of services has not been studied, which is one of the research gaps this study aims to fill. The Findings will be used to generate recommendations that will help strengthen the health financing system to accelerate the progress toward UHC in Bhutan by 2030.

2.3 Objectives

2.3.1 General objective

To review Bhutan's health financing system, assess the extent to which it influences the advancement toward UHC, and provide recommendations to policymakers to improve HF strategy.

2.3.2 Specific objectives

1) To review the HF system of Bhutan through its functions of revenue raising, risk pooling, purchasing, or resource allocation.
2) To assess the extent to which the HF system influences the advancement of UHC.
3) To make recommendations to policymakers to improve HF strategy for achieving UHC.

CHAPTER 3: METHODOLOGY

3.1 Study design

A narrative literature review was performed using peer-reviewed articles and grey literature on health financing to achieve UHC in Bhutan, neighbouring South Asian countries, and LMICs, which are similar to Bhutan's context.

3.2 Search strategy and keywords

For specific objective 1), a review of relevant policy documents and reports from the official websites of the MoH and MoF of Bhutan was done. Domestic sources, such as official websites of the BHTF, National Statistics Bureau, and Royal Insurance Corporation of Bhutan Limited (RICBL), were searched for policy documents and relevant data. Official websites of the United Nations (UN) and its specialized agencies such as the World Health Organization (WHO) and World Bank were searched for the latest reports and guidelines. Internationally recognized databases such as IHME and the Global health expenditure database were referred for required data.

For specific objective 2), Peer reviewed articles were searched using Google scholar and Google search engines, Vrije University online library, and PubMed databases using keywords mentioned in Table 4. Further articles were retrieved through the snowballing technique of the primary articles. Relevant news articles and grey literature, including conference notes, were referred to capture information which is not published. Some unpublished reports were obtained directly from the relevant official in the Ministry of Health (MoH) in Bhutan through email correspondence. The author's own professional experiences were also used in the most relevant areas only where there was a lack of any information.

For specific objective 3), recommendations for improving health financing strategy to advance toward UHC were derived from the findings of objectives 1) and 2).

Table 4: Keywords and search strings

	Problem/Issue	**Factor-related terms**	**Geographical scope**
	AND		
OR	Universal health coverage	Health financing	Bhutan
	Universal Healthcare	Healthcare financing	South Asia
	UHC	Purchasing	Lower-middle income country
	Out-of-pocket expenditure	Strategic purchasing	LMIC
	OOPE	Resource allocation	
	OOP	Efficiency	
	Financial protection	Risk pooling	
	Catastrophic health expenditure (CaHE)	Revenue raising	
	Impoverishment	Basic benefit package	
	Quality of care	Provider payment	
	Equity in resource utilization	PPM	
	Healthcare utilization		
	Rationing		

3.3 Inclusion and exclusion criteria

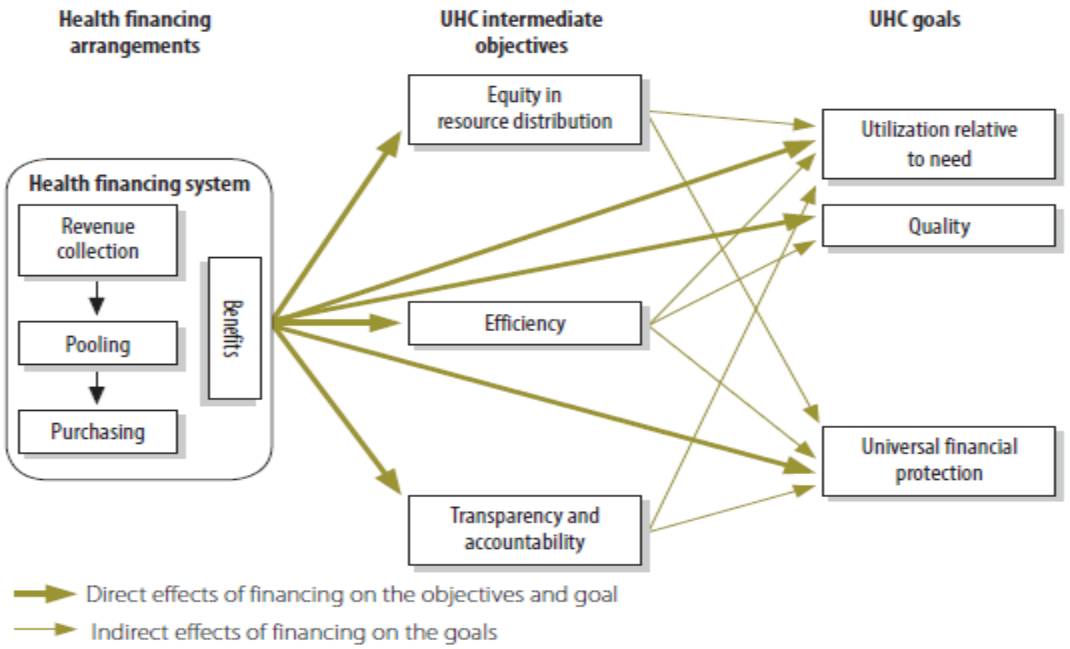
Only those published in the last ten years were selected for peer-reviewed articles. However, literature beyond ten years was also included for specific policy documents. Articles and reports published in English focused on health financing mechanisms or reforms to achieve UHC were selected. However, relevant articles and reports from neighbouring South Asian countries and other LMICs were included to contextualise findings from Bhutan. Studies in developed countries were sparingly used mainly to show best practices and the possibility of adapting to the local context.

Articles published beyond ten years and languages other than English were excluded.

3.4 Analytical Framework

The WHO framework of Health financing for UHC (*figure 6*) developed by Joseph Kutzin illustrates how the health financing arrangements influence the UHC goals directly and via indirect pathways of the UHC intermediate objectives (48). The framework was adapted from the framework on the 'influence of health financing policy objectives on the overall health system goals' (Annexure III).

Figure 6: UHC goals and intermediate objectives influenced by Health financing policy. WHO framework.



Source: Kutzin J. Health financing for universal coverage and health system performance: concepts and implications for policy (7).

The framework firstly illustrates (labelled in dark arrows directed downwards) the interrelationship between the health financing functions. For instance, increased revenue through the greater allocation of public funds by the government for health leads to increased pooled funds that enable better financial protection and utilization as per need rather than one's ability to pay (7).

Secondly, it links how the health financing arrangements indirectly contribute to the UHC goal of utilization relative to need, Quality, and financial protection (shown in light

green arrows) via the intermediate objectives. For example, placing efficiency as an intermediate objective signifies that the health financing system and health spending can be more efficient to achieve greater financial protection, better quality and more equitable utilization of health services relative to need. Likewise, improving resource distribution can translate to service utilization equity and better financial protection. Similarly, sharing the information about benefits package and obligations transparently to the population can reduce the gap in service utilization and also helps improve financial protection. Thirdly, health financing arrangements directly influence the UHC goals through direct pathways (illustrated in dark green arrows).

To achieve the study objectives, the application of different dimensions of the framework was made thematically, as illustrated in Table 5:

Table 5: Application of the analytical framework to answer the study objectives

Specific Objectives	**Domains of the Framework**	**Subdomains or subthemes**
1) To review the existing HF functions	Revenue raising	Sources of revenue and collection arrangements. Whether the revenue is adequate, stable, sustainable and equitably collected.
	Risk Pooling	Size, number, diversity and participation of the pools.
	Purchasing and Benefit package	Benefit entitlement and rationing. Provider payment mechanism.
2) To assess the extent to which the HF functions influence UHC	UHC intermediate objectives	Equity in resource distribution
		Efficiency
		Transparency and accountability
	UHC goal	Utilization relative to need
		Quality
		Financial protection
3) To make recommendations to the policymakers to improve HF strategy to achieve UHC	To be derived from specific objectives 1 and 2	

CHAPTER 4: FINDINGS

This chapter will present the findings from the literature search based on the analytical framework in two sub-chapters. Sub-chapter 4.1 will review the existing HF functions to address the specific objective 1). The sub-chapter 4.2 will present the dimensions of the UHC intermediate objectives and the UHC goals, answering the specific objective 2).

4.1 Review of Health Financing functions

This part introduces the different health financing schemes and an overview of the flow of funds, followed by a review of the health financing functions.

4.1.1 Health Financing schemes

Health financing for Bhutan is arranged via five schemes (Table 6): (i) Government (MoH and District schemes), (ii) Non-Profit institutions serving households (NPISH), (iii) Private insurance, (iv) Household OOPE, and (v) Rest of the world (30).

Table 6: Financial flows related to CHE

Institutional units providing revenues to financing schemes (FS.RI)	Revenues of Financing Schemes (FS)	Health Financing Schemes (HF)	Financing Agents (FA)
Government	Internal Transfers from The Government Domestic Revenue	Ministry of Health Scheme	Ministry of Health
	Transfers Distributed by Government from Foreign Origin		
		Dzongkhag Scheme	Dzongkhag administration
NPHISH	Other revenues from NPISH n.e.c	NPISH Scheme	Non-Profit Institutions Serving Households (NPISH)
NPHISH	Other revenues from NPISH n.e.c.	NPISH Scheme	Non-Profit Institutions Serving Households (NPISH)
Corporations	Other revenues from corporations n.e.c.	Private Insurance Scheme	Commercial Insurance
	Voluntary prepayment from employers	Household Out of Pocket Schemes	Households
Rest of the world	Direct Foreign Transfers	Rest of the World Financing Schemes	Rest of the World

Source: NHA 2021

The government scheme is the biggest contributor, consisting of MoH and District schemes, followed by the Household OOPE scheme. The voluntary private health insurance (VHI) under the Voluntary healthcare payment accounts for only 0.2%, and the rest of the world scheme contributed 3% of the CHE (Table 7).

Table 7: CHE in FY 2018/19 and 2019/20 by Financing scheme

Financing scheme	**2018/19**		**2019/20**	
	Amount (in BTN[1])	**%**	**Amount (in BTN)**	**%**
Government schemes and compulsory contributory health care financing schemes (MoH and District government)	4,718,796,755	76.7	6,134,154,189	80.1
Voluntary healthcare payment (Voluntary insurance schemes, NPISH, enterprise financing scheme)	104,513,548	1.8	109,526,951	1.5
Household out-of-pocket payment	1,108,785,197	18.0	1,180,523,599	15.4
Rest of the World financing schemes (Foreign aid programs)	216,300,000	3.5	229,278,000	3.0
Total	6,148,395,500	100	7,653,482,740	100

Source: NHA 2021.

[1] BTN stands for Bhutanese currency (1 US$ = BTN 75 approximately)

The trend in HF landscape in recent years (Table 8) further illustrates that the government has been the predominant financing agent.

Table 8: CHE trend by financing agent

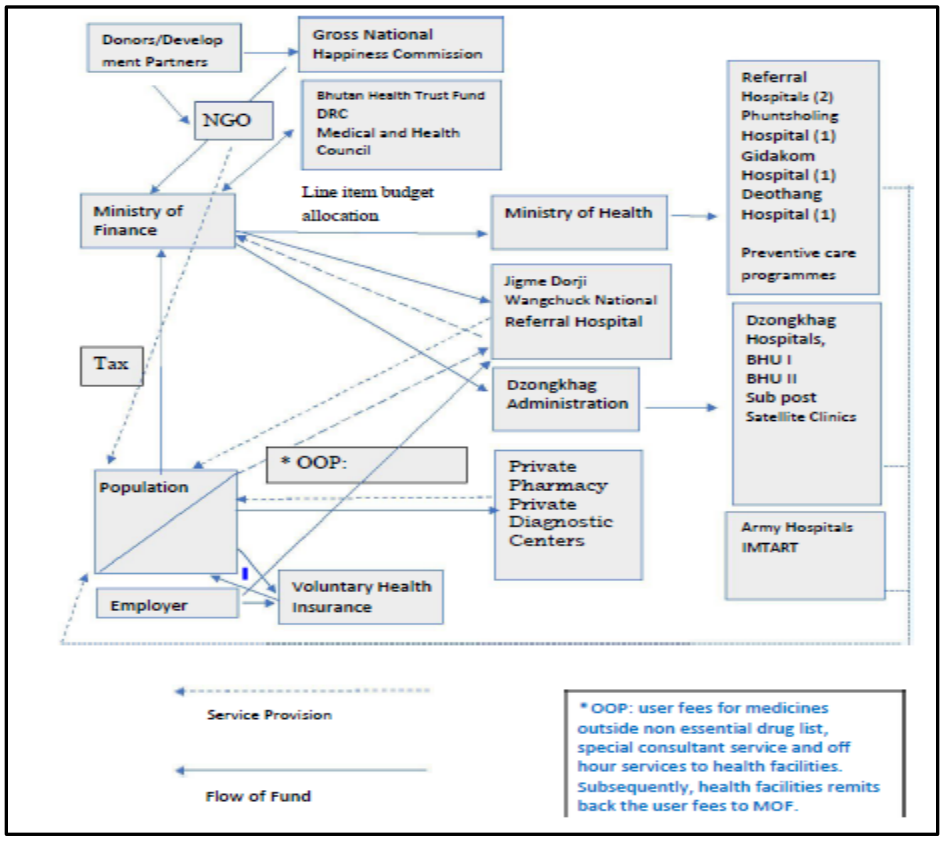
Financing Agent	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
Government	79.10%	83.60%	76.70%	80.10%
Insurance corporations	0.20%	0.10%	0.20%	0.20%
Corporations (other than insurance corporations)	0.20%	0.30%	0.20%	0.10%
Non-profit institutions serving households (NPISH)	0.80%	1.00%	1.30%	1.20%
Households (OOPE)	13.30%	13.20%	18.00%	15.40%
Rest of the world	6.40%	1.80%	3.50%	3.00%
Total	100%	100%	100%	100%

Source: NHA 2021

4.1.2 Flow of Fund

The Ministry of Finance (MoF) pools funds from domestic and external sources (Figure 7). The MoF transfers funds to the MoH, district governments and the NRH, which provide health services via the health facilities. Health facilities in the districts are administratively under the respective district governments, while the MoH provide technical supervision and support.

Figure 7: Flow of funds between the sources, purchaser (MoF) and the providers.



Source: NHA 2021 (30).

4.1.3 Revenue collection

Revenue collection is the HF function that deals with the sources of funds or from whom the funds for healthcare are collected, the collection arrangements, and which organization collects these funds (45). It has four specific objectives as follows (49):

- To raise adequate revenue to progress towards UHC.
- Ensure a stable and predictable flow of funds to the health sector.
- Equity in finance by ensuring financial burden is shared fairly across society.
- Move towards predominant reliance on public sources.

Government Scheme

General Taxes: The government is the primary source of funding for health. The domestic revenue is generated predominantly through Tax (63%), while the remaining (37%) is from non-tax revenue (Table 9) (50). Taxes on income, profits and capital gains contribute the largest share of total revenue (50). However, the proportion dropped from 35.1% in FY 2018/19 to

30.5% in FY 2019/20 due to the decline in contribution from corporate income tax (CIT) and Business income tax (BIT) (50,51). The drop was due to the postponement of tax payments for tourism and allied sectors for 2019 as part of relief measures to counter the economic impact of the COVID-19 pandemic. Personal income tax (PIT) contributed only 4.6% of the total revenue (50).

Table 9: Comparative summary of National revenue for FY 2018/19 and 2019/20 (in millions of BTN)

Sl.No	Source of revenue	FY 2018/19	% share of total revenue	FY 2019/20	% share of total revenue
	Total revenue	35,283.524	100%	37,058.258	100%
	A. Taxes				
1	Taxes on income, profits and capital gain	12,387.491	**35.1%**	11,317.161	**30.5%**
2	Taxes on property	33.480	0.1%	27.239	0.1%
3	Taxes on goods & services	9,682.881	**27.4%**	7,031.494	**19%**
4	Taxes on international trade	702.284	2%	492.960	1.3%
5	Other taxes	4,769.245	13.5%	4,438.879	12%
	B. Non-tax revenue				
6	Current revenue from government agencies	1,197.990	3.4%	1,334.693	3.6%
7	Capital revenue from government agencies	27.203	0.1%	81.024	0.2%
8	Other revenue (property income and social contribution)	6,482.851	18.4%	12,333.808	33.3%

Source: National revenue report 2019-20, Department of Revenue and customs, MoF

Borrowings and grants: As domestic revenue barely meets half of the total annual expenditure, Bhutan relies on external grants and borrowings (External and domestic) from development partners (DP) to fund the capital budget (52). The largest portion of the grant is received from the government of India (Table 10) (51). Borrowings from the International Development Association in FY 2020/21 generated BTN 33.960 million for COVID-19 emergency response and health system preparedness (51).

Table 10: External grants received in the FY 2020-21

Sl. No	Particulars	Grant amount received in 2020-21 (in BTN)	% of GDP
A	Government of India (GoI)	10,323.622	5.59%
i.	Program grant	1,700.000	0.92%
ii.	Project grant	8,623.622	4.67%
B	Other donors	4,558 .667	2.47%
i.	Program grant	Nil	Nil
ii.	Project grant	4,558.667	2.47%
	Total Grant	**14,882.298**	**8.06%**
GDP for 2020-21		**184,715.400**	

Source: Annual Financial statement 2021 (51).

Household OOPE

Private OOPE has remained below 20% of CHE (Table 7). OOPE is mainly incurred on performing religious rituals for illness (58% of total OOPE), followed by transportation charges (26.7%) (13). The expenditure on medicines and health accessories accounted for about 7% (13). Therefore, the indirect cost of obtaining treatment burdens households more than the direct cost. This scenario is comparable to that of Nepal, which also experiences higher indirect expenditure on health (53) whereas in Bangladesh greatest share of OOPE is attributed to the purchase of medicines (54). Although transportation costs and expenses for religious rituals are not considered part of OOPE, it is integral in the context of Bhutan of its rugged geographical terrain and the deep spirituality of its people in terms of health and sickness (13,55).

The direct OOPE is mainly incurred on cosmetic dental procedures, purchasing medicines from private pharmacies, using private cabins for in-patient care, availing services from private diagnostic facilities, and special consultation services (SCS) at the NRH (55,56).

Donor Funding

The leading international donor agencies for health are the Global Fund, Asian Development Bank (ADB), and United Nations Population Fund (UNFPA). The ADB provided USD 6 million project grant to strengthen Bhutan's PHC capacity (57) and the Global Fund's current grant of USD 1.05 million for HIV/AIDS response is until June 2024 (58). The UNFPA co-fund the integrated sexual and reproductive health services (26% of total spending), adolescents and youth program (29%), and Gender equality (26%) in 2021 (59).

Bhutan Health Trust Fund (BHTF)

BHTF was established in 1998 to sustain primary healthcare and to achieve self-reliance in PHC (69). Since then, it has been assisting the government in purchasing vaccines and essential medicines. It also funds the immunisation program's purchase of needles, syringes and cold chain equipment (69).

Source of fund: Donation is the primary source of funds for BHTF. The Fund capitalized from donations is matched by the government contribution of an equal amount based on a one-to-one partnership concept (60). The biggest donor for the fund remains the RGOB thus far (Figure 8):

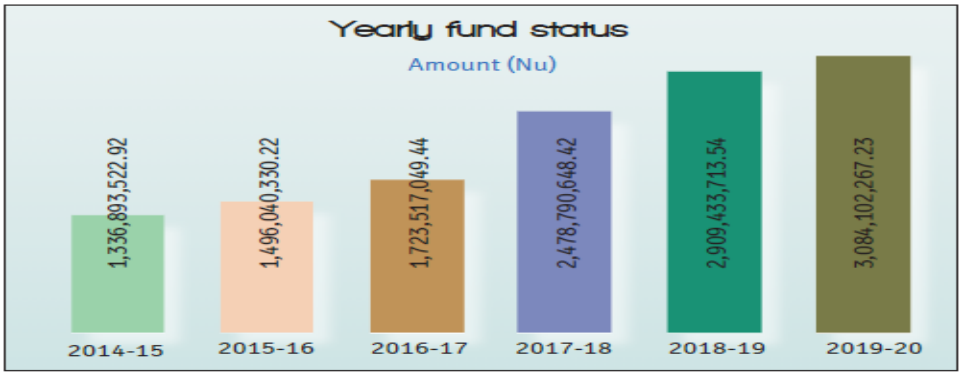
Figure 8: Top donors for BHTF

Sl.No	Name of the Donor	Amount (USD)
1	Royal Government of Bhutan	19,038,182.00
2	Asian Development Bank	5,000,000.00
3	Government of Norway	1,306,371.00
4	Bill and Melinda Gates Foundation	1,000,000.00
5	The Summit Foundation	1,000,000.00
6	Dr. Frederick Paulsen Foundation	100,000.00
7	GAVI	102,000.00

Source: Biennial progress report 2018-20, BHTF (61).

Sustainability: After achieving its initial target fund of BTN 24 million in 2016/17, the total fund has grown to BTN 3.084 billion as of June 2020 (Figure 9) (61). To sustain its fund and become self-reliant, BHTF makes various investments domestically (fixed deposit, annuity and bonds) and internationally through the Royal Monetary Authority (RMA), which is the Central Bank for Bhutan (61).

Figure 9: The growing trend of yearly fund status of BHTF



Source: Biennial progress report 2018 -20, BHTF (61).

Contribution: Routine annual influenza vaccination for high-risk populations, introduced in 2019, was funded by the BHTF with an amount of BTN 26.169 million. It also financed the introduction of the pneumococcal vaccine in 2019, which aims to vaccinate 10,000 children annually, for which BHTF provides BTN 9.2 million yearly (61). similarly, BHTF made a notable contribution to the purchase of pentavalent, Rubella, and Hepatitis B vaccines. Since its inception, BHTF has financed more than BTN 1 billion on essential drugs and vaccines (71).

Earmarked Fund

There is no system of earmarked taxes for the health sector. All sin tax on Tobacco and Alcohol goes into the general revenue. The mandatory social contribution of 1% basic salary of all formal employees has been earmarked for the health sector since 2014. The fund directly gets transferred to the BHTF pool. The health contribution for the fiscal year 2019/20 was BTN 287.627 million, which is 0.8% of the total revenue for the year (51).

Efforts to improve the tax base

To improve revenue generation and address tax leakages, the government proposed the Goods and Services Tax (GST) in 2020. However, GST implementation was deferred till 2024 due to the unfavourable economic situation and deficient technology (62). Once implemented, it is expected to replace all indirect taxes with a standardized GST rate of 7%.

Alcohol and tobacco products will be taxed at 100% excise equalization tax (EET) and a further 7% GST upon the existing 100% sales tax, with the final effective tax at 114% (63). Similarly, junk foods and sugar products will be imposed 20% ETT and 7% GST (64). All beer products are levied 100% sales tax and no excise tax, while non-beer alcoholic products are levied 30-75% excise tax only, and tobacco products are imposed 100% sales tax (65,66).

Revenue from sales tax on beer was over BTN 1.4 billion in 2019/20, an increase of 15.7% from the previous year (67). Tobacco taxation has been found to have the dual benefit of reducing consumption (particularly among young and the poor ones who are more price sensitive) and generating more revenue (68,69). The prevalence of tobacco and alcohol use was 23.9% and 42.9%, respectively, according to the STEPS survey 2019 (70).

Is the revenue collected adequate?

Guided by the constitution and the NHP, the RGOB accords high priority for health in the government budget allocation. The GGHE-D as % of GDP is 2.65% in 2019 and GGHE as % of GGE is 10.41%. The GGHE per capita of 317.91 USD in 2019 in purchasing power parity (PPP) at the current international dollar rate (71) is the highest in the South Asian region (Table 11) and approximately threefold higher than the average value of LMICs (at 109.32 USD PPP) (Table 12) (71).

Table 11: GGHE-D per capita comparison among South Asian countries, 2019

Country	GGHE-D per capita PPP, 2019 (in current international dollars)
Bhutan	318
Bangladesh	23
Nepal	44
India	69
Sri Lanka	267
Pakistan	53

Source: Global health expenditure database (29).

Table 12: GGHE-D per capita in PPP, 2019 (at current international $) – comparison by region and economic level

By Region	
Global	865.71
South Asia	64.65
East Asia and the Pacific	681.90
Sub-Saharan Africa	73.01
The Middle East and North Africa	569.82
By economic level	
Low Income	23.46
LMIC	109.31
Middle income	315.79
Upper Middle Income	589.17

Source: Global health expenditure database (29).

The non-contributory HF system with higher government allocation is in agreement with some international experiences and study findings of a non-contributory system being more efficient in generating revenue. A modelling study done in Kenya showed that the non-contributory mechanism of HF generated more revenue and much quicker than the contributory system (72). The study shows that a contributory-based system would also be less favourable for Bhutan's context due to the large informal labour market. Similarly, a study in Nigeria highlights the need to adopt a tax-based non-contributory approach to raise funds to achieve UHC (73).

Is the revenue generated stable and sustainable?

The MoF initiated an assessment of the Public Fund Management (PFM) in 2010 and 2016 using the Public Expenditure and Financial Accountability (PEFA) methodology (74). PEFA conducts PFM performance assessment for 31 indicators and their dimensions across all Ministries, oversight institutions, local government and autonomous institutions. It provides ratings from A (High) to D (Low) against each assessment area based on their performance (75).

The stability of the public fund can be assessed quantitatively by measuring the difference between actual expenditure and the originally budgeted expenditure using the budget report from three years before assessment. The PEFA PI-1 (Aggregate expenditure out-turn) assesses the accuracy of budgeting and the extent to which it is enforced. It is calculated as the ratio between actual and original budgeted expenditures. According to PEFA 2016, the ratio of actual vs originally budgeted expenditure was 105.8%, 95.8% and 98.3% for FY 2012/13, 2013/14 and 2014/15, respectively, indicating high stability of government fund flow (Table 13). A score of over 95% consistently over the preceding three years indicates better performance regarding the stability of funds flow (85).

In addition, the stability of the public funding can also be assessed based on the trend of GGHE-D as % of GGE as described in Table 15, which indicates a stable government commitment toward health.

Table 13: Actual Vs Budgeted expenditure in three years prior to PEFA 2016, Bhutan

	2012/13		2013/14		2014/15	
	Original budget	Actual expenditure	Original budget	Actual expenditure	Original budget	Actual expenditure
Total expenditure	34,515	36,528	36,114	34,610	37098	36,477
Actual/budget %	105.8%		95.8%		98.3%	

Source: PFM reform strategy 2017-2023 (75).

Globally, the sustainability of HF is challenged by a combination of factors - the ageing population, globalization, technological evolution, and economic uncertainties. Bhutan's tax-based HF system with free provision of health services has often come under sustainability questions. However, the evidence tends to lean towards a tax-funded system as a more sustainable source for HF. Liaropoulus and Goranitis posit that a move towards general taxation with progressive taxing of all types of income is more sustainable even during economic downturns (76). Similarly, Okungu et al. also argue that a tax-funded health system is more sustainable than an insurance-based scheme. However, they highlight the importance of increased government priority for health and finding innovative ways for HF to make the tax-funded mechanism more sustainable (72). A study on the resilience of HF policy to economic shocks also recommends tax-based funding over SHI as the former is more reliable and sustainable than the latter during economic shocks (77).

Is the revenue generated predictable?

The PEFA performance indicator (PI 21) – a measure of Predictability of in-year resource allocation – assesses the capacity of MoF to **predict budget requirements and provide reliable information on the availability of funds to the budgetary units** for uninterrupted service delivery (78). Under PI 21, four dimensions contribute to the measurement of fund predictability (Table 14). All four dimensions achieved a rating of 'B and above and a cumulative rating of "B+', indicating a predictable and uninterrupted flow of funds. In comparison, neighbouring Nepal scored a cumulative rating of 'C+' in the predictability of fund availability for the commitment of expenditures in 2013/14 (79).

Table 14: PEFA assessment rating for Predictability of in-year resource allocation (PI 21)

PI 21 Predictability of in-year resource allocation		
Dimension	Rating	Remarks/Description
21.1 Consolidation of cash balances	B	All public funds are deposited in a Consolidated Fund Account (CFA), maintained by the Royal Monetary Authority (RMA) – the government's central bank. Other budgetary bodies are prohibited from operating bank accounts without MoF's approval. **Such measures ensure a centralized pool of revenue that is a more reliable source rather than a fragmented pool**.
21.2 Cash forecasting and monitoring	B	**A full-year cash flow forecast is prepared and updated every quarterly**. The bottom-up approach is implemented whereby the Budgetary bodies submit a budget utilization plan (BUP) based on which funds are released.
21.3 Information on commitment ceilings	A	The departments can plan and commit expenditure for at least six months in advance in accordance with the budgeted appropriations and cash/commitment releases.
21.4 Significance of in-year budget adjustment	A	Significant in-year adjustments to budget allocations take place no more than twice a year and are done transparently and predictably.

Source: PEFA assessment report 2016

Alternatively, the GGHE-D as % of GGE trend over the last decade (Table 15) shows a consistent commitment towards the health sector from the government's general fiscal space, indicating the predictable nature of the government funding. The government allocation for

health was maintained above 7% of the GGE, one of the highest in South Asia alongside Sri Lanka.

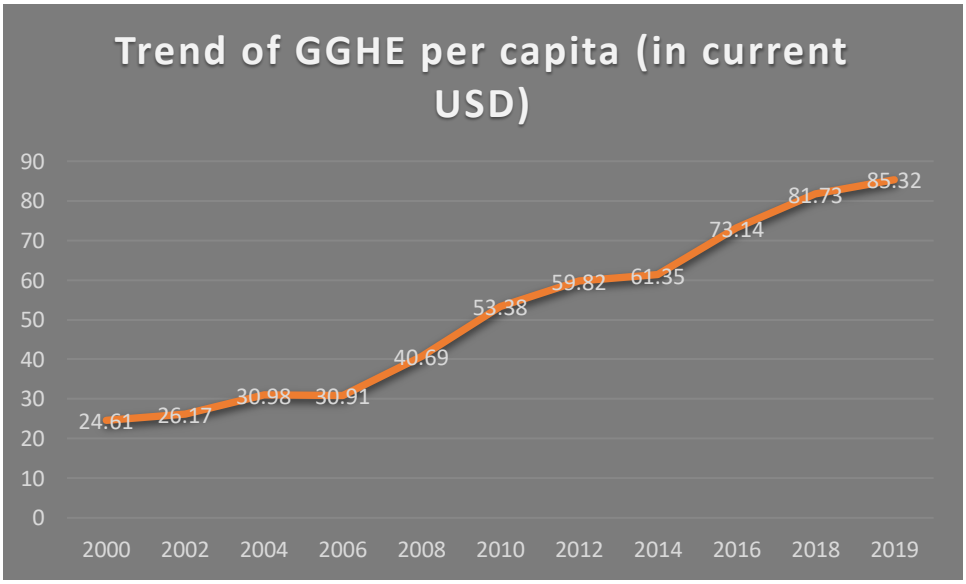
Table 15: Trend of GGHE-D as % of GGE over the last decade (comparison with neighbouring countries

Country	2015	2016	2017	2018	2019
Bhutan	9.37	8.10	7.59	7.49	10.41
Nepal	5.15	5.31	4.51	3.81	4.03
Bangladesh	3.38	3.02	2.99	2.98	3.00
Sri Lanka	8.40	8.56	7.64	9.49	9.25
India	3.38	3.39	3.40	3.13	3.39

Source: Global Health Observatory data repository (80).

Also, the trend of GGHE per capita from the past years (Figure 10) is predictive of future health spending from the government revenue.

Figure 10: Trend of GGHE per capita (in current USD) for Bhutan.



Source: The World Bank Data (71).

Equity in financing

Equity in health financing is known by how progressively revenue is contributed to each financing mechanism (45).

Personal income tax: Personal income is taxed progressively. A net annual personal income of BTN 300,000 (equivalent to USD 4045 approx.) is not liable for tax, whereas a yearly income of over BTN 1,500,000 is liable for 30% tax (Table 16) (81).

Table 16: PIT tax rates for net taxable income

Sl.No	Net Taxable Income	Tax rates
1	Net Taxable Income < BTN 300,000.00	Nil
2	Net Taxable Income >BTN 300,000.00 but <400,000.00	**10%** of the amount by which the Net Taxable Income exceeds BTN300,000.00
3	BTN Nu. 400,000.00 but < 650,000.00	BTN 10,000.00 plus **15%** of the amount by which the Net Taxable Income exceeds BTN 400,000.00
4	>BTN 650,000 but < 1,000,000.00	BTN 47,500.00 plus **20%** of the amount by which the Net Taxable Income exceeds BTN 650,000.00
5	>BTN 1,000,000 but < 1,500,000.00	BTN 117,500.00 plus **25%** of the amount by which the Net Taxable Income exceeds BTN 1,000,000.00
6	Net taxable income exceeds BTN 1,500,000.00	BTN 242,499.00 plus **30%** of the amount by which the total net taxable come exceeds BTN 1,500,000.00

Source: Ministry of Finance (81).

Social health contribution: is generated through a monthly contribution of 1% of the income from all formal employees, which is a fixed rate and therefore proportional.

Inequity in OOPE: In Bhutan, although there is low overall OOPE, the burden is unequally distributed among different population sub-groups. The rural population incurred greater expenditure for transportation costs and spiritual activities by USD 6.50 and USD 7.75 more, respectively, compared to the urban counterpart (82). Higher transportation cost for the rural population was due to the rugged geographical terrain and by-passing of PHC (82). Although expenditure on transportation and spiritual activity is not considered part of OOPE, it is significant in Bhutan's context. Geographically, the population in the eastern part of the country incurred more OOPE than the rest. Individuals with a disability incurred more OOPE (about USD 17.60 more) for OP services than those without disability (82). Likewise, people with chronic comorbidity who needed multiple visits were prone to incur higher OOPE. Visiting a PHC for the first consultation during an illness was associated with a lesser risk of OOPE attributed to lesser expenditure on transportation and spiritual activities (82).

4.1.4 Risk Pooling

Pooling is “the accumulation of health revenue on behalf of the population for eventual transfer to the providers” (49). Pooling aims to maximize the redistributive capacity of the revenue raised (45). From the UHC perspective, the greater the redistributive power of the fund, the better the financial protection and more equity in the utilization of health services relative to need (83).

The MoF functions as a pooling organization which maintains a single pool where the whole population is included as members automatically by their citizenship The RGOB maintains a single pool with the same benefit entitlement for all members, and there are no other competing pools except for voluntary health insurance.

VHI pool: The RICBL is the only firm providing private health insurance in the country (15). VHI covers only about 1% of the total population between 18 to 55 years (risk selection). With an annual premium of BTN 800, the benefit of up to BTN 100,000 is covered. However, the services covered are limited to transportation charges, cabin fees, and fees for SCS since all the essential packages are covered for the whole population (84). Hence, the existing VHI benefits only play a supplementary role to the government package. The share of premium payment is 10% by the individual/households and 90% by the employer (30). The expenditure incurred through VHI was only 0.1% of the CHE in both FY of 2018/19 and 2019/20

Fragmentation across health programs

Disease-specific programs such as HIV, TB, and Malaria are funded separately from the main health system, predominantly through external funding. The programs receive donor funds from the MoF, which then transfer to the districts to conduct program activities. However, this mode of vertical funding resulted in a fragmented approach and inefficiencies both at the program level and in the field (85). A cross-programmatic efficiency analysis conducted by the MoH with WHO support in 2019 reported the following key findings (85):

- The lack of joint budgeting and planning mechanisms among programs and departments results in a vertical and fragmented approach.
- Lack of coordination between donors and MoH in funding disease-specific programs results in fragmentation in management, ownership and flow of funds. The rigidity of funds from external donors hindered reallocation across sectors. Fragmented donor financing also resulted in inefficiencies in the procurement, storage and distribution of medicines and supplies (Annexure IV).

  There was an over-reliance on donor funds for some health programs and vaccine procurement, and the lack of flexibility hindered reallocation within the health system.

For instance, donor funds for Malaria control cannot be reallocated for Dengue activities even if the risk and the need for the population are greater for Dengue control.

4.1.5 Purchasing and Resource allocation

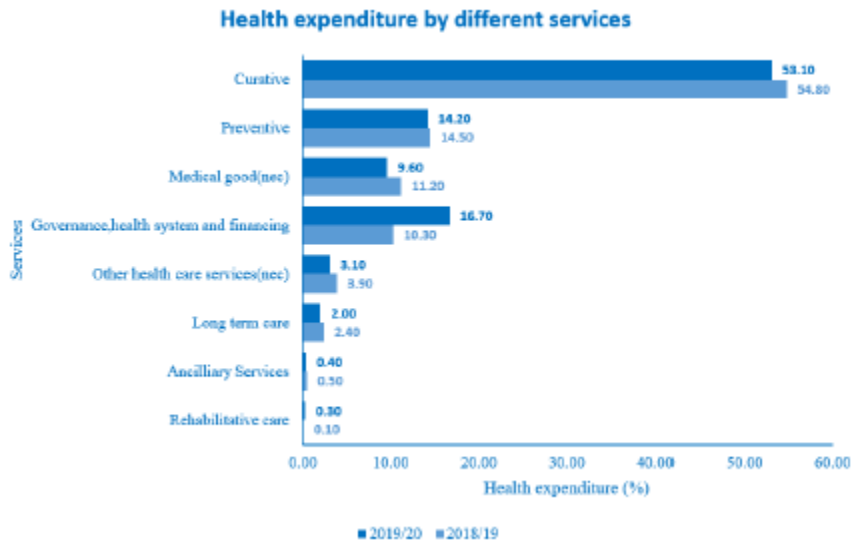
Purchasing is the health financing function that deals with allocating pooled funds to providers delivering health care goods and services (49). The MoF is the only purchasing agency which transfers the fund to providers through MoH and district schemes using a line-item budget based on historical inputs (15). The NRH (an autonomous agency) receives funds directly from the MoF. These funds are mainly for staff's pay and allowances, administrative costs, capital and recurrent expenditure. The procurement of drugs, vaccines, and equipment is all centralized and overseen by the Department of Medical Supply and Infrastructure (DoMSHI) under the MoH (15). The fund for districts from the central government is transferred as an annual grant per the Annual Grants guideline for local government 2020 (86). Therefore, the district budget for health facilities is clubbed under a single district budget package. The unspent amount from the annual grant will lapse at the end of the FY and is adjusted from the outlay of subsequent FY. Limited re-appropriations can be done within the approved budget at the provider level. Still, there is no freedom for the health managers to use the fund to incentivize provider performance. Moreover, the revenue generated from medical certificate fees and in-patient cabins must be deposited in the government exchequer.

In the FY 2020/21, out of BTN 6.437 billion allotted to the health sector – which is 9% of the total allocation - BTN 3.5 billion was apportioned to the MoH and the remaining to the districts. BTN 1.376 billion was spent on procuring drugs and medical supplies for the whole country (87). BTN 689.4 million was allotted to the health flagship program to screen common cancers (Gastric, cervical and breast).

District-wise allocation of funds in 2019/20 was highest for Thimphu, the capital city (34.5%), followed by Sarpang (9.5%), Mongar (7.6%) and Chukha (6.8%), attributed to the bigger hospitals being located in these districts (88).

Expenditure on curative services dominated the preventative services (54% vs 14%) (Figure 11) (88). This is comparable to regional neighbors Nepal (47.3% vs 14.9%) and India (53.7% vs 9%) (89,90). However, there is a call for higher spending on preventative services due to the rising NCD burden(88). Some studies suggest that increased spending on preventive services benefits better population health and economic productivity but cautions against overdoing it to depriving curative care, which will be counterproductive (91).

Figure 11: Health expenditure by different services in 2018/19 and 2019/20



Source: Policy brief on healthcare financing in Bhutan (2018 – 2020)

Is resource allocation driven by information on the health needs of the population?

The budget allocation to health facilities is based on hospital bed capacity, staff strength, and annual budget proposals from individual facilities. The MoF uses the following criteria for resource allocation to districts in general:

1. Population: The population factor is calculated based on actual residency and is accorded 35% weightage from the overall resource pool. This ensures that the Local governments administering larger populations receive higher shares of resources.
2. Poverty: Multidimensional poverty index with a weight of 45%.
3. Geographical area: The geographical size or area carries 10% weightage.
4. Transport cost: The transport cost index gets 10%, capturing remote districts and more hard-to-reach areas that face higher transportation costs.

Services purchased from the pooled funds (Benefit Package)

The state provides health services (preventative and curative) as per the health service standard 2019. It comprises over 30 services, including laboratory and imaging diagnostics and eleven areas in Traditional medicine services (92). The service package includes state-sponsored referral to medical centres in India for complex health conditions. The referral cases include heart diseases, cancer treatment, kidney diseases, and renal transplants. The expenditure for referrals

outside has been gradually rising (Table 17) (93). For the FY 2018/19, the out-country referral expenditure accounted for 3.65% of the total CHE.

Table 17: Annual expenditure on out-country referral

Financial Year	**2015/16**	**2016/17**	**2017/18**	**2018/19**
Expenditure (in BTN)	195 million	198 million	224 million	225 million

Source: The Bhutanese – leading the way (93)

About 9.6% of annual health expenditure is used in procuring medicines (94). The national essential drug list (NEML) was last updated in 2018 and covers 437 allopathic and 114 traditional medicines (95).

Rationing of services

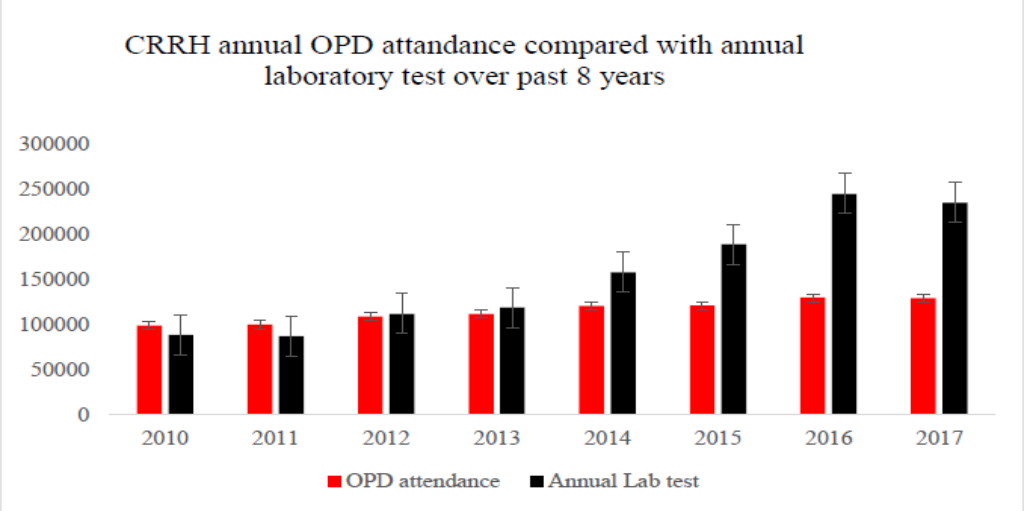
Cosmetic dental and surgical procedures, medical fitness tests, private cabins in hospitals, and special consultation services (SCS) during off-hours in the NRH are charged user fees. The SCS in the NRH was initiated in 2012 to decongest the regular OPD hours and get faster services. It costs patients specific fees: BTN 150 for an X-ray, BTN 500 for a specialist doctor consultation, and BTN 4500 for an MRI (96). Although SCS is voluntary and routine services are available for everyone, the patients have to face a long waiting time - up to two weeks for a routine CT or MRI appointment in the regular services. The strict 9 AM – 3 PM opening and closing time of health facilities with limited days in a week for surgery results in a backlog of patients who need surgery.

Implicit rationing was also noted as stock-out of laboratory reagents, breakdown of equipment and repairing delays, overcrowded OPD, and long waiting time. Stock-outs of medicines had led to frustration and inconvenience to the patients, especially when people were made to purchase during emergencies (97). According to the annual Quality Assurance report 2020, the hospital laboratory service (only 32% reported) was interrupted by an average of 6.7 days due to reagent stock-outs (98).

Effect of provider payment mechanism (PPM) on service provision?

There is no regulatory mechanism in the payment method to check over or under-provision of services. The available evidence suggests an increasing trend in using certain health services. For instance, a study in one tertiary health centre found that the laboratory tests prescribed from 2013 to 2018 increased by 2% annually and showed a rise in terms of absolute number as well as the ratio of laboratory tests to OPD attendance (figure 12) (99).

Figure 12: Graph showing Annual laboratory test comparison with annual OPD attendance from 2013 – 2018 in Central regional referral hospital (CRRH).



Source: Chhetri V et al. Increasing Trend of Clinical Laboratory Testing at Gelephu Central Regional Referral Hospital (99).

Cesarean section (CS) delivery rate in 2015 – 2019 was high, with a national average CS delivery of 21.4% (100). One ecological study reported that CS delivery higher than 10% at the population level was not associated with any further reduction in maternal and neonatal mortality (101). However, the authors advise countries need to contextualize the impact specific to their setting and caution against trying to reduce CS delivery dramatically for those with high CS rates (101). Nevertheless, Bhutan's high CS rate is a cause for concern and warrants a review of obstetric care (100). From the health financing perspective, excessive CS delivery is an inefficient way of health spending and a barrier to UHC goals (102).

4.2 UHC Intermediate objectives and UHC goals

UHC Intermediate objectives

4.2.1 Equity in resource distribution

The redistributive capacity of a pool can be assessed based on the per capita expenditure by the scheme and per capita public spending by geographic region (78). However, due to a lack of data on per capita health expenditure by geographic area, the following alternatives were used:

❖ Health expenditure based on demography and geography:

CHE by age: The majority (around 55%) share of CHE was spent on the population between the ages of 25 to 59 years (Table 18), which can be attributed to the larger number of people in this age range.

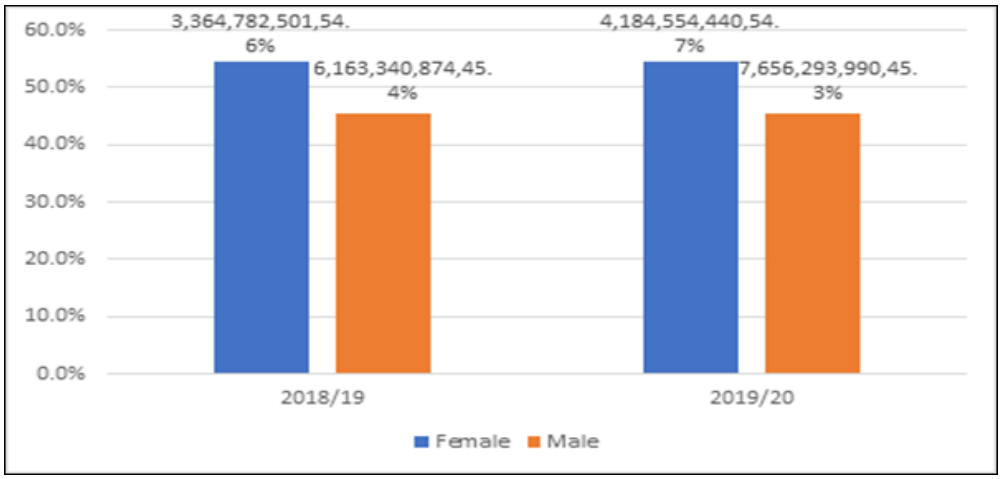
Table 18: Distribution of CHE by age

Age (in years)	**FY2018/19**		**FY2019/20**	
	CHE amount (in BTN)	% CHE	CHE amount (in BTN)	% CHE
< 5	1,104,550,731	17.9%	1,419,132,205	18.5%
5 – 14	586,596,763	9.5%	731,854,367	9.6%
15 - 19	368,285,856	6.0%	456,984,603	6.0%
20 - 59	3,394,319,824	55.1%	4,168,048,962	54.4%
>60	709,587,699	11.5%	880,273,853	11.5%
Total	6,163,340,874	100.0%	7,656,293,990	100.0%

Source: NHA 2021

CHE by Gender: Women received a greater share of health expenditure in FY 2018/19 and 2019/20 (Figure 13), suggesting more gender-responsive health services.

Figure 13: Distribution of CHE by Gender



Source: NHA 2021

CHE by District: Thimphu district, the country's capital city, received the largest share of CHE at around 34% in FY 2018/19 and 2019/20. It was followed by Sarpang (9.5%), Mongar (7.6%), and Chukha (6.8%) (30). This is attributed to the greater health budget allocated to tertiary centres in these districts.

- Based on the share of public benefit received

  The benefit incidence analysis (BIA) of public health expenditure, 2018 (based on BLSS 2012 data) shows that there are disparities in receiving benefits across residence (urban vs rural) and wealth quintile (Table 19).

  Residentially, the share of public benefit received for Out Patient (OP) services against the corresponding population share was more in favour of people in urban areas. The urban population received 34.6%, whereas the rural population received 65.4% of OP benefit against the corresponding population share of 31.1 and 68.9%, respectively, showing a gap for the rural population. This gap is further exaggerated in the people living in hard/very hard-to-reach areas (received public benefit in OP service of 15.2% against a population share of 24%).

  The benefits received in relation to the wealth quintile are highly in favour of the rich. The wealthiest quintile received 30.8% and 28.8% in all OP and In-patient (IP) care against a corresponding population share of 20%. The poorest quintile received only 9.9% and 11.6% in all OP and IP care against a population share of 20%.

Table 19: Share of public benefit received for out-patient (OP) and in-patient (IP) services against the population share

Group	All OP care (%)	All IP care (%)	Corresponding population share (%)
Gender			
Male	39.8	41.1	49.3
Female	60.2	58.9	50.7
Urban-rural residence			
Urban	34.6	27.4	31.1
Rural	65.4	72.6	68.9
Accessible/very accessible	50.1	54.0	44.9
Hard/very hard to access	15.2	18.7	24.0
Per capita expenditure quintiles 1 and 5 *			
Quintile 1	9.9	11.6	20
Quintile 5	30.8	28.8	20

Source: Adapted from Benefit incidence of public health expenditure 2018 (103). *Only wealth quintiles 1 and 5 were mentioned deliberately to illustrate the disparities in benefit received between two extremes of the wealth group.

Likewise, the public benefit share received for obstetric delivery showed a disparity between wealth groups, employment status, and urban-rural residence (Table 20). Pregnant women in urban residences received more benefits relative to their population share (44.3% vs 35.1%), whereas those in rural areas received fewer benefits (55.7% vs 64.9%). This gap further widens for pregnant women living in hard/very hard-to-reach places (11.8% vs 22.1%, a deficit of nearly half).

The share of benefit for all obstetric delivery by wealth quintile is also in favour of the wealthier - pregnant women in quintile 5 received more than their population share (26.6% vs 23.2%). In comparison, those in quintile 1 received only 11.9% against their population share of 17.8%.

Table 20: Share of public benefit received for obstetric delivery care against the corresponding population share.

Group	All obstetric delivery benefits (%)	Corresponding population share (%)
Urban-rural residence		
Urban	44.3	35.1
Rural	55.7	64.9
Accessible/very accessible	44.0	42.8
Hard/very hard-to-reach	11.8	22.1
Employment status		
Regular paid employees	40.9	19.3
Other workers	59.1	80.7
Per capita expenditure quintile		
Quintile 1	11.9	17.8
Quintile 5	26.6	23.2

Source: Benefit incidence of public health expenditure 2018 (103).

4.2.2 Efficiency

This section describes the areas of the health system commonly known for inefficiency in Bhutan's context.

Medicines: Developing countries spend 25 to 70% of overall health expenditure on drugs; therefore, inappropriate use of medicines can lead to waste of scarce resources and inefficiency (104). Irrational prescription of drugs is one of the significant challenges faced by health systems around the globe. The NEML 2016 lists 429 allopathic and 114 traditional medicines fully purchased from the pooled fund (see Annexure V). The comprehensive list is matched by improved quantification, procurement and distribution mechanisms compared to the past (before 2011), ensuring 96 - 100% availability of drugs in the health facilities (105). Further, prescribers comply well with the NEDL, with 98 – 100% of prescription drugs on the list (105). However, there are systemic problems from the procurement to the usage of medicines as described below:

- Inadequate drug storage in health facilities compromises the quality and efficacy (105).
- Drugs meant for higher level facilities found in the lower level risk causing patient harm if inappropriately prescribed (105).
- Named patient drugs purchase is mostly ad-hoc and unsupervised, leading to duplication and procurement burden (105).

Price of Drugs: Purchase of the essential drugs is made at a competitive price because almost all drugs are procured from India (known for their cheaper drug price). Yet, there are market challenges where supplies are reluctant to participate due to the small pharmaceutical market in Bhutan. There were incidents of failure to supply drugs leading to shortages. In an incident in 2014, sixteen items were not received due to supplier default (105).

Prescription pattern: There is a system to conduct regular prescription surveys. Available survey reports from 2014 and 2017 show consistent patterns of prescription. All prescribing indicators are at par with WHO optimum standard except for a higher % of antibiotic prescriptions at 43.17% (Table 21), although it is lower than the average rate in South Asia (52%) (106). Other parameters indicate good prescribing practice, such as a lower prescription rate of injections which are costlier than oral medicines. Clinicians' high compliance with prescribing generic drugs from the EDL ensures minimal cost and greater financial protection for patients.

Table 21: Prescribing indicators from the 2014 and 2017 prescription survey

Prescribing indicators	**2014**	**2017**	**WHO optimum value**
Average medicine per prescription	RH - 2.8; DH - 2.5; PHC - 2.1	RH - 2.40; DH - 2.77; PHC - 2.50	3
% prescriptions with Antibiotics	RH – 49.3; DH - 41.9; PHC - 40.0	RH – 33.59 DH – 45.46; PHC – 41.3	30%
% patients receiving an injection	4.9%	4.46%	10%
% drugs prescribed by generic name	RH- 78%; Rest of the health facilities - >90%	96.92%	100%
% Drugs prescribed from the NEML	95 – 98%	99.51%	100%
% Drugs actually dispensed	---	98.98%	100%

Source: (105)(106). Note - RH: Referral Hospital; DH: District Hospital; PHC: Primary health centre

Quality of Drugs: The National Drug Regulatory Authority (DRA) is tasked with ensuring the safety and quality of all medicinal products. The DRA conducts regular drug inspections in both public and private facilities. Further, it sends prioritized samples for quality testing abroad and in-country at the National Drug Testing Laboratory (107).

Healthcare acquired infection (HCAI): There is an Infection control program and QASD as technical oversight for all health facilities in the country. Every hospital has a focal person for Infection control and Quality assurance to implement the activities. Despite the effort, the infection control practices were noted to be unsatisfactory. For instance, an observational study on compliance to hand hygiene by health workers in the NRH showed that the overall compliance was only 33.5% (108).

Surgical site infection (SSI) is one of the commonest HCAIs. A study in the NRH found that the incidence of SSI was 30.7% (109), much higher than the 30 days cumulative incidence of 11% reported by a systematic review in 2021 (110). The matter gets more serious when considering the resistance pattern of the microbes to most of the first-line antibiotics (Annexure VI) (109).

Patient safety policy: Bhutan's healthcare quality structure is in a transition phase witnessing a shift from the traditional quality assurance to a newer patient safety approach. An exploratory study in 2018 found 27 patient safety policies, guidelines and protocols. However, most documents were maintained at MoH, NRH and RRH and had not reached lower levels of healthcare (111). The study also pointed out the need for high-quality, scientifically validated guidance documents to avoid patient harm, which could result in higher healthcare costs (111).

Health workers were observed to lack in all three areas of knowledge, skills, and attitude in patient safety matters. For instance, not applying treatment guidelines despite knowing about it and providing services carelessly (124). There was a lack of management support and poor governance regarding patient safety issues in health facilities, as more focus was given on structural matters such as drugs, beds, and staff recruitment (112).

Efficient use of health facilities: The average length of stay in hospitals (DH and RRH) was four days in 2020 (98). Although the length of hospital stay varies with diagnosis and type of facility, a longer hospital stay generally indicates inefficiency in spending and service delivery. A shorter stay is considered safer and more cost-efficient (113).

Bed occupancy rate was higher in tertiary centres (77% in NRH and 65% in RRH) compared to the secondary (55%) and primary care levels (44%) (Annexure VII) (114). Although the data is from 2015, it is still relevant as the trend in admission remains the same, determined by the presence of specialist doctors. For instance, bed occupancy of the maternity ward in the NRH was 95 to 100% resulting in a shortage of beds (115). The underlying cause was the increasing cesarean delivery trend partly due to a lack of efficient post-surgical care provision (115). Implementing the 'enhanced recovery after surgery' program has improved post-surgical care

quality and early discharge (115) indicating that effective care and practices can reduce inefficient use of hospital resources. On the other hand, DH and PHC's low bed occupancy rates - much below the 85% rate for optimal efficiency (116) shows underutilization or excess capacity beyond actual need.

Health worker satisfaction and motivation: A cross-sectional study in 2016 showed that job satisfaction among physicians in Bhutan was 64%, but the primary care physicians (PCPs) were less satisfied than the specialists (73% Vs 55% P=0.04) (117). With a greater need for PCPs, the authors raised their concern over this finding, especially considering the higher attrition rate among PCPs than the specialists (7% vs 2%) between 2011 to 2018 (117). The determinants of the difference in satisfaction rate between the two categories of physicians were - in decreasing order of importance - opportunities for professional growth, freedom to use the desired methodology at work, adequate drugs and equipment to provide quality care, satisfactory working conditions, work-family life balance, and good work hours (117). The motivating factors as stated by the respondents were: higher salary (39%), recognition (37%), Motivational talks and promotion (7% each). Likewise, a study among Nurses in Bhutan showed that 54.09% were satisfied with their job. Interestingly, more respondents (59%) were satisfied with intrinsic than extrinsic factors (49%) (118). However, there is no study on the effect of health worker motivation on their job performance.

Countries have adopted Performance-based financing (PBF) to improve health worker motivation and efficiency, but the evidence is mixed. Ghana has shown that PBF has improved motivation (in the short term) (119), whereas, in Malawi, PBF failed to make an impact (120).

By-passing of PHC: There is a high incidence of by-passing PHC seeking health services from a higher level of care (121). A study in 2015 showed that out of 2.5 million total annual OP visits, only 23% were seen in all 207 PHCs combined (122), which is in contrast to an ideal situation where more OP visits would be expected in primary than at a higher level of care (45). Similarly, in 2017, 53% of diarrhoea and 49.5% of common cold cases were treated as OP in secondary and tertiary hospitals, which could be easily treated in PHCs (122).

Older age, living in an urban area, higher education and economic status were associated with a greater likelihood of by-passing PHC (121). Although there is a lack of specific research to understand the cause, a study suggests that pull factors of better diagnostic services and specialist care could have a bigger influence on patients to bypass PHC (122). Moreover, rising rural-urban migration as an important social determinant of underutilization of PHC has been noted in the study (122). Experience from Sri Lanka also shows a similar problem of bypassing PHC driven by poor QoC, lack of essential services, including laboratory facilities, and lack of specialist care (123). Gatekeeping at the PHC level to curb by-passing is applied in developed countries with better health outcomes and QoC, lower healthcare use and expenditure (124,125). Experience from Japan shows that improving patient experience in the PHCs influences patients against

bypassing PHC even without a strict gatekeeping mechanism (138), indicating a need to focus beyond just gatekeeping to improve PHC utilization.

Task-shifting: The village health workers (VHWs) program is integrated into Bhutan's healthcare system and is considered an essential element of PHC. VHWs act as a bridge between the community and the health system (126,127). The study on the economic impact of VHWs and their effect on hospital admission rates estimated around one thousand USD saved and 100 admissions averted annually (127). Yet, the high attrition of VHWs due to a range of reasons, including lack of remuneration and recognition, is a concern. Studies emphasize the need for intervention based on both financial and non-financial incentives (25,126,128).

Health Technology Assessment (HTA): HTA is vital for the MoH to make health spending decisions on more cost-effective interventions; therefore, it is instrumental for UHC. However, currently, there is low investment in the program from the MoH in terms of budgeting and human capacity building (129).

4.2.3 Transparency and Accountability

Efforts are noted to make entitlements transparent; for instance, every hospital prominently displays a list of services available. Yet, other mechanisms such as gatekeeping and the requirement of a referral from a PHC are unclear and poorly implemented. Although there is no data to substantiate, incidents are common where the patients referred from districts for higher-level care end up consulting the same healthcare provider at the NRH.

As an autonomous agency, the Bhutan Medical and Health Council (BMHC) regulates medical education and practice to promote professionalism and patient safety. It is responsible for investigating medical negligence and malpractices (130). In addition, the MoH established a grievance unit with the toll-free number "1414" for patient complaints to improve health service delivery (131)(132). The NHA and AHB, released annually, ensure transparent reporting of health outcomes and HF indicators. There is a special session in the parliament where the relevant government institutions must report to the people's representatives on plans and progress.

UHC goals

4.2.4 Quality

Input indicators - Breakdown of limited diagnostic equipment leading to complete interruption of services are often encountered (133). Although there are no published reports, from the author's professional experience of working as a health facility manager the following are some of the issues observed:

- Breakdown of critical laboratory equipment is commonly noted, worsened by prolonged repair delays as technicians have to be hired from India.
- There are incidents where the continuity and QoC for their patients were affected when the lone doctor travels out of the station.

Process indicators - The STG for common illnesses is available in health facilities and used by general physicians, nurses and health assistants. Still, no study is done to show the prescriber's adherence to the guidelines. However, problems related to lack of uniformity in diagnosis and treatment of diseases were often experienced in bigger hospitals with variation in practice from one doctor to another (112). This difference was because the physicians in Bhutan were trained in different countries. Efforts are made by the MoH with training for prescribers, but there is a lack of follow-up or monitoring for compliance (134).

Outcome indicator - The prevalence of high blood pressure (HBP) was 26.6% in 2019 (an increase from 19.9% in 2007), out of which a fifth were not on medication (135). The prevalence was higher than the LMICs at 17.5% (135). NCDs caused 56% of total deaths, and cardiovascular diseases were attributed to 28% of the deaths in 2016 (135). Outcomes for TB (93% TSR) and HIV (91.8% viral suppression rate) both met the respective WHO targets (24).

The difference in health outcomes between rural and urban populations was notable, with under-five mortality reported 2.75 times higher in rural areas (136). Childhood stunting was found to be higher in rural (26%) than in urban (16%) population (137). Suicide and mental health burdens were higher among youth and young adults (69%) and rural populations (88%) (138,139).

The average patient satisfaction index (from exit surveys) for OP and IP services at the hospital level was 79% and 84%, and for the PHC level, it was 83% and 84%, respectively (98).

4.2.5 Financial Protection and Equity in Financing

In Bhutan, 1.8% of the population incurred catastrophic health expenditure (CaHE) (OOPE on health which exceeds 10% of total HH expenditure or consumption) (140). Around 4600 people (0.6% of the population) suffered impoverishment from OOPE on health at the USD 1.90 poverty level (140), which is the lowest compared to other neighbouring South Asian countries (Table 22).

Table 22: Comparison of the population suffering CaHE and impoverishment with GGHE and OOPE among countries in the South Asian region.

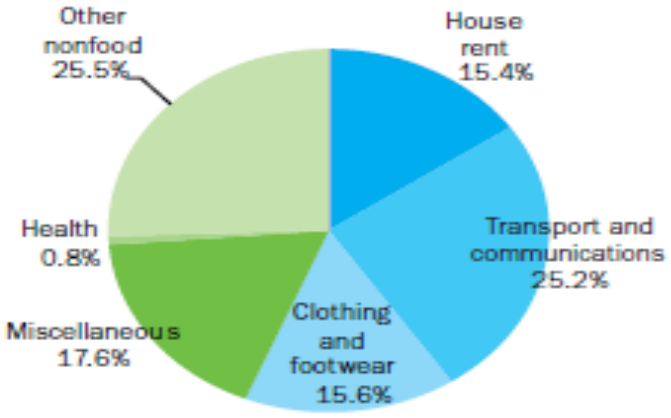
Sl No	Country	Population suffering Catastrophic health expenditure at 10% of HH expenditure	Impoverishment (at 1.90 US$ level)	GGHE as % of GGE	OOPE as % of THE
1	Bhutan	1.8%	0.6%	8.3%	20%
2	Nepal	10.7%	1.7%	5.3%	55.4%
3	Sri Lanka	5.4%	0.7%	8.6%	50.1%
4	Bangladesh	24.7%	7.0%	3.4%	71.9%

Source: Adapted from Global Health expenditure database and 2019 Health SDG profile, WHO (29).

The figures on CaHE and rate of impoverishment are encouraging for Bhutan compared to the neighbouring countries. Further interpretation, in combination with overall OOPE (20% of THE), appears that the system offers good financial protection. However, a cautionary note here is that a lower level of CaHE and low OOPE do not necessarily mean good financial protection. It may also mean that people are not utilizing health services since they cannot afford to pay. Transportation cost is attributed to most of the OOPE for Households (13). OOPE on transportation was one of the factors that discouraged people (mainly in the rural, hard-to-reach areas) from seeking formal treatment during illness (121).

The Household expenditure on health as a share of spending on major nonfood items was only 0.8% (Figure 14) which is the least among all nonfood expenditures (13). 34% of the mean household expenditure is on food (13). According to BLSS 2017, the mean monthly health expenditure per capita out of the total non-food expenditure was BTN 56 (approximately 0.7 USD at an exchange rate of 1 USD = BTN 75), which is only 1.3% of the mean monthly per capita household non-food expenses of BTN 4456 (13). However, the poorest quintile spent a higher proportion (3.1%) of their non-food expenditure on health compared to the wealthiest quintile, who spent only 0.7% share on health, although the wealthiest quintile spent more in absolute amount (13).

Figure 14: Share of major household expenditure on nonfood items



Source: BLSS 2017 (13).

4.2.6 Utilization relative to need

One of UHC's fundamental goals is to utilize health services as per the need rather than one's ability to pay. As described earlier, the prerequisite of effective risk pooling and equitable distribution is essential. According to BLSS 2017, 69% of survey participants who developed some illness or injury in the previous four weeks prior to the survey had visited a healthcare facility (13). Utilization was predominantly for curative services, with over six out of ten (60.2%) persons visiting health facilities for illness care services and just about one out of ten (8.7%) for preventive care services (13). Health service utilization was found to differ between urban and rural populations, between economic status, level of education, and travel distance to a health facility.

- Rural Vs Urban divide in health utilization - Living in urban areas positively influenced the decision to use health services, whereby the probability of using care increased by 4.1% compared to its rural counterpart (121). Further, living in hard-to-reach and very hard-to-reach areas negatively influences health service usage with 3.6% and 16% lower probability than people living in accessible areas (121).

- Utilization by wealth difference and level of care - There is inequity in the use of different healthcare facilities between wealth groups. Compared to the poorest income quintile, people in the third quintile were more likely to use health services by up to a 6.8% increase in probability (121).

  The tertiary level of care (particularly the NRH) is accessed more by the richer quintile population than the poor ones. According to the Benefit incidence of public health expenditure study (Table 23), only 3.7% of the poorest quintile visited the National referral hospital (NRH) compared to 66.7% of them using PHC, while 32.2% of the wealthiest quintile used NRH for health services as opposed to only 19.7% of them using

PHC (103). The richer population is less likely to use primary care than the poorer population (121).

Table 23: Utilization of type of health facilities by wealth quintile and place of residence (based on BLSS 2012)

	Illness during the past four weeks (% of pop. surveyed)	Sought care (%)	No. of visits to public health facilities per capita	Types of Health facility visits (in %)				
				NRH	RRH	DH	PHC	Total
Place of residence								
Urban	13.9	73.2	0.1579	36.3	14.7	34.7	14.3	100.0
Rural	18.6	66.7	0.1920	11.4	11.2	30.2	47.2	100.0
Wealth quintile								
Quintile 1	13.5	52.6	0.1038	3.7	6.8	22.8	66.7	100.0
Quintile 2	15.6	64.8	0.1414	6.5	8.5	30.6	54.4	100.0
Quintile 3	16.6	71.9	0.1779	10.7	15.0	30.7	43.6	100.0
Quintile 4	18.0	72.9	0.2068	20.8	12.6	33.1	33.6	100.0
Quintile 5	22.1	74.2	0.2798	32.2	13.8	34.2	19.7	100.0

Source: Benefit incidence of Public health expenditure 2018 (103) RRH -Regional referral hospital, DH – District hospital

A mobile medical unit was established in 2009 under the command of His Majesty the King to reach healthcare to the hard-to-reach population. Since then, the unit has provided curative care with specialist doctors and screening for high-priority diseases such as NCDs and gastric and cervical cancers (141,142). However, its impact on reducing health inequity among the hard-to-reach population is yet to be studied.

CHAPTER 5: DISCUSSION

The aim of this study was to assess the extent to which the HF arrangements influenced Bhutan's advancement toward UHC and to provide recommendations for the policymakers to strengthen HF strategy. Bhutan's predominantly publicly funded non-contributory health financing system has paid dividends in achieving remarkable population coverage and financial protection. Notwithstanding this, there is inequity in service utilization and disparity in health outcomes between population subgroups. Although financial protection at the population level appears encouraging, disaggregated data indicate that the poorer and those living in hard-to-reach places suffer a higher burden of OOPE. Inefficiency concerns such as bypassing the PHC level and over-provision of services contribute to the wastage of scarce health resources. Meanwhile, the bigger question remains the sustainability of the publicly funded and provided healthcare system in the face of rising healthcare costs.

Health financing arrangements

Revenue raising

Bhutan's high political commitment to health is reflected in its constitution. The constitution (Article 9, section 21) mandates the government to provide free basic healthcare in modern and traditional medicine. The RGOB's priority to health is evident from the greater share of the budget allocation, one of the highest amongst South Asian countries. However, faced with the rising healthcare cost of the all-inclusive health service package, there are calls to define "free basic healthcare" and devise innovative ways to generate more funds to sustain it. Bhutan's bigger informal labour market and a smaller PIT contribution mean greater reliance on other taxation, including BIT and CIT. Bhutan's experience from the COVID-19 pandemic has shown that tax revenue from business and corporate establishments are vulnerable to economic shocks that risk shrinking the country's already narrow tax base.

Nonetheless, evidence and expert opinion lean towards a taxation-based HF strategy on all forms of income. A tax-based HF system is increasingly considered more sustainable than social health insurance through employee contribution (73,76,143). With this knowledge and considering Bhutan's narrow tax base, there is good reason to expand the scope of taxation. However, the politics of taxation must be considered, where taxation depends on government stability and leadership, which can be weak, especially in developing countries (144,145).

Moreover, it is essential to be cognizant of the inherent challenges of tax-based health financing where health often has to compete with other sectors for its allocation share. With the GGHE as a % of GDP below 3% (against the WHO recommendation of 5%), this can be used as leverage for greater allocation to health during budget discussions. However, regional comparison shows Bhutan is the highest among fellow South Asian neighbours; therefore, the scope may be narrow.

Earmarked tax for health is not instituted in Bhutan even though over 80 countries are currently implementing it. Fiscal measures for healthier behaviour, such as the Sin tax on Tobacco and Alcohol products, are implemented. Still, there is more room for increasing tax because of the large consumer base. The GST reform to be implemented from 2024 onwards is expected to address these issues. This presents an opportunity for the MoH to lobby with the MoF for earmarking a certain portion or the whole of the sin tax for health. However, it is noteworthy that earmarking does not always guarantee increased revenue, as it can be nullified by a reduction in the central budget (146). Alternatively, increasing the existing health contributions collected from the formal employees that go to the BHTF pool is a more feasible option.

Risk pooling

The single national pool maintained by the government has allowed better redistributive capacity at the population level. The single pool based on non-contributory participation has also ensured that everyone is entitled to the same benefits.

Conversely, the lack of coordination among the vertical programs and weak coordination between the MoH and donor agencies in funding disease-specific programs are some of the main health sector fragmentations. Overreliance on donor agencies for some programs meant there was little power for the MoH to handle the fund and a lack of ownership at the Ministry and the district level. These findings are similar to experiences in Cambodia and Pakistan, where over-dependence on external donors threatened the sustainability of existing progress, undermining national and community ownership (147). There is a need to develop a joint policy led by the MoH that harmonizes the operational and budgetary functions across health sector stakeholders.

Private VHI under RICBL is the only pool outside the government pool. It covers only a tiny percentage of the population and is subject to cream skimming with only healthier and younger (18 to 58 years) individuals enrolled. Since government covers all health services, VHI plays a minor role in Bhutan's healthcare system, which is likely to remain so. Therefore, in line with the growing suggestions, transferring the insurance premium fund to the government pool seems justified.

Purchasing/resource allocation and benefit package

An efficient resource allocation mechanism should support the desirable state of a single fund pool. The findings suggest that resource allocation can be improved for the health sector by adopting a need-based formula based on the disease burden and population characteristics. The current resource allocation system based on hospital size and staff strength may be convenient administratively but fails to address the actual need of the population.

The single purchaser system with no other competing entities meant that the pitfalls related to multiple purchasers such as duplication, high administrative cost, and provider bias to certain purchasers resulting in inefficiency are avoided. However, the PPM of the input-based line-item

budget has limited the freedom of the health managers to improve efficiency and incentivize QoC. The global trend suggests more countries are moving away from input-based PPM to a more combination and output-based PPM (146). Therefore, PPM for the health sector may need to be adapted to a more output-based approach for Bhutan to realize the quality dimension of the UHC goals. Health spending, disproportionately high for curative than preventive services, may not be the most efficient purchasing decision in the long term from both population health and economic perspectives. Besides, in a system that provides health services free of cost, there may be little incentive for the population to engage in preventive and health-promoting activities unless the government makes a proactive effort. There is a need to reorient HF policy towards primary health care. The RGOB must invest more resources in services that promote a healthy lifestyle, such as building more sports infrastructures, promoting a healthy diet, and counselling and detox services to reduce tobacco and alcohol dependence.

The comprehensive benefits package is entitled to the whole population. But the scarcity of health resources meant that the patients often compete for the limited services. The result is a rationing policy in both explicit and implicit terms. With the rising demand for more advanced curative care, the scope of the service package is expected to expand further. Therefore, perhaps it is the right moment to define "free basic healthcare" and revisit the benefits package. In reality, lessons from other nations (emerging economies) trying to fast-track toward UHC by promising generous benefits packages have fallen short because the required resources were not met (148). When this happens, the poorer and the vulnerable suffer the most.

UHC goals and intermediate objectives

Equity in resource distribution and utilization

The distribution of resources in terms of the share of CHE shows a well-balanced distribution among population subgroups. The greater percentage of CHE spent on women suggests gender responsiveness in health spending and a greater need among women. In contrast, a recent study in India showed higher health expenditure for men (149). The differences may be due to the factors driven by sociocultural and gender norms, which are different between the two societies. Regarding geographical distribution, districts with bigger hospitals received a greater share of health budgets because of input-based budgeting. This formula may not always be justified from an equity perspective as some smaller health facilities have more workloads. Therefore, it is necessary to consider workload criteria during resource distribution.

The inequity in health utilization wherein the poorer, lesser educated, and the rural population suffered greater disadvantage is mainly due to the rural area's geographical terrain with poor access and infrastructure. Nepal saw similar inequity in maternal health service use where the poorer and rural dwellers had lower utilization rates(150). Interventions to reduce the gap go beyond the health sector, which requires a holistic approach by the government to tackle poverty and increase education and rural development.

Efficiency

The WHO estimates that health system inefficiency wastes 20-40% of health spending. Improving efficiency is equally important as increasing health spending to achieve UHC objectives, provided that the saved costs are retained for health (7). In Bhutan, some of the main factors undermining efficiency are –

- The high prevalence of bypassing PHC level, besides overburdening the higher-level facilities, also leads to duplication of services, more OOPE in transportation, inequity, poor service quality, and increased healthcare cost. Although Damrongplasit et al. showed that factors such as education, socioeconomic status, and geographical location influence bypass decision, the study didn't focus on supplier-side factors such as the QoC, which is an important determinant as shown in Sri Lanka (121,123). PHC is the most cost-effective way of spending on health, with studies showing it improves population health while reducing health expenditure (151). Therefore, optimal utilization of PHC must be pursued for the long-term sustainability of healthcare. A potential solution is to consider gatekeeping policy, but the underlying causes of bypassing, including improving patient experience in PHC, must be addressed first.
- Oversupply of services such as higher rate of CS delivery, antibiotic overuse and irrational laboratory investigations not only has cost implications but can also lead to increased workload for staff, higher risk of errors and patient harm.
- Patient safety as a policy is still developing in Bhutan's health system. The lack of clear guidelines and governance at the health centre level is a concern. Despite MoH's initiative thus far, more must be done at the service delivery level to improve the health staff's knowledge, attitude and practice and entrench the patient safety culture in daily routine.
- The lower motivation of PCPs compared to specialist physicians is a policy issue that needs government intervention. Although no studies were done on the effect of low PCP motivation on their work output, it is essential to invest in their welfare since the success of PHC hinges on their service.

Transparency and accountability

Institutional mechanisms to promote transparency and accountability are in place, indicating health system responsiveness and effort to build citizens' trust in the system. Nevertheless, more work is needed to create awareness of benefit packages at different levels of care and obligations

such as referral. It is also necessary to assess patient complaint mechanisms to see if it serves their purpose. Literature suggests that interventions to improve the patient complaint system should address all three stages - collection, data analysis and action on complaints. Some measures are raising awareness of patients' rights and the compliant channel creating centralized data management and timely responses.

Quality

To achieve UHC, expanding the service coverage should be equally matched by ensuring QoC of the services provided. It was beyond the scope of this study to assess QoC in detail. Still, the available findings suggest that the health system is struggling to meet a number of input indicators such as adequate diagnostic services and human resources, which is often at odds with patient expectations. Such trends are typical of the limitations of tax-based systems that usually achieve good health outcomes with less government spending, but patients experience dissatisfaction with service quality in the public sector (152). Disease outcome indicators for TB and HIV were meeting respective global targets. The increase in population with HBP is a concern as the NCD burden continues to rise. There is an urgent need for a proactive approach with multisectoral coordination to reduce the NCD burden. Notably, the differences in health outcomes between different sections of the population do not conform with UHC values and, therefore, must be addressed sooner.

Financial protection

The taxed-based HF system of Bhutan has achieved a remarkable level of financial protection, comparable with high-income countries, which is perhaps the most important driving force behind Bhutan's progress in the UHC journey thus far. Notwithstanding this, OOPE at the HH level is biased against people in rural areas who bear a higher burden. This may further increase in the future with road connectivity reaching all corners of the country. A well-designed gatekeeping mechanism probably might be one solution to limit this impact.

Limitations

The analytical framework was ideal for the study and helped me answer the study objectives. The framework enabled me to link and interconnect the different dimensions of UHC intermediate objectives and UHC goals to each other and to the HF functions. However, due to the framework's complexity covering a wide range of elements, an in-depth description of individual dimensions could not be done.

Another key limitation in this study was a lack of adequate peer-reviewed articles resulting in reliance on grey literature, including newspaper articles. For instance, the scarcity of studies

regarding QoC, such as adherence to STG, the impact of staff motivation on QoC, and health facility performance study on technical and cost efficiency, et cetera, may at times have limited the evidence base for a comprehensive analysis of Bhutan's HF arrangement and its influence on UHC goals. Some of the studies were focused only in the NRH or other RRH, for instance, the study on trend on laboratory tests, and study on the rate of SSI. Therefore, the findings may not be generalizable to the whole country. The data for BIA was based on 2012 BLSS; therefore, the findings may need cautious interpretation in the current setting. Nevertheless, this is to the author's best knowledge the first attempt to comprehensively describe Bhutan's HF arrangement from the UHC point of view. The findings from this study, including lack of peer reviewed articles in some of the key areas will contribute to future research to strengthen the knowledge base in the area of HF and UHC.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

CONCLUSION

This study addressed the aim of assessing how Bhutan's HF system influences UHC advancement by reviewing the existing literature. The study suggests that Bhutan's HF system, built on the foundations of pooled public funds, is well positioned to attain UHC. However, moving forward, it calls for reforms in purchasing strategy to realize its goals.

The government's priority for health ensured stability in funding and lesser reliance on donors and OOPE. Bhutan's tax-based HF system with a single risk pool covering the whole population based on non-contributory participation has been a key element in its progress towards UHC. The single risk pool allowed effective redistribution of resources achieving good financial protection and resource utilization at the population level. However, the findings show that resource utilization at the individual HH level was inequitable, wherein those in higher socioeconomic groups and urban areas had greater health utilization compared to those in the poorest socioeconomic group and living in rural areas. Good financial protection at the population level has not translated to equity in financing, with the greater financial burden of OOPE falling on the rural and the poorer population. Yet, the biggest challenge and also the most amenable to any reform program is the purchasing and resource allocation mechanism. The findings show that the passive purchasing strategy has limited the progress in the quality dimension of the UHC goal. Reforms in PPM to move away from traditional input-based to a performance-based system that incentivizes quality and efficiency of health services may be the remedy. Simultaneously, the current resource allocation that focuses more on curative services may not be the most efficient and sustainable, both from population health and economic perspective.

This study has contributed to the existing body of evidence by attempting to coalesce and align a wide array of information on HF and UHC. The policymakers can use the findings to develop or reform the HF strategy of Bhutan to realize the UHC 2030 goal.

RECOMMENDATIONS

Policy

1. As findings suggest a high prevalence of bypassing the PHC resulting in inefficient healthcare spending, it is recommended to institute a gatekeeping mechanism. This is feasible policy-wise as it aligns with the NHP and infrastructurally as there is a good distribution of PHC centres. However, since much of the factors determining bypass decision are yet to be known, a cautious approach is recommended. It may first be introduced as a pilot program before rolling out to the rest of the country.

2. Although there is stable government funding for health, the findings still suggest the need to diversify funding sources for long-term sustainability. Based on the global evidence that earmarked taxes are a reliable source of revenue for health, it is recommended that the MoH lobby with the MoF to earmark a portion or whole of the new health tax on harmful products to be introduced under the GST reform in 2024. The high prevalence of tobacco and alcohol consumers in Bhutan assures a reliable revenue base. However, MoH must ensure conditions to avoid budget cuts from the main pool.
3. The MoF and MoH should collaborate to reform purchasing strategies that promote efficiency and quality. Based on the global trend of countries moving towards more performance-based payment with findings suggestive of a positive effect on staff motivation and efficiency, it is recommended that the PPM for the Health sector be adapted to introduce performance or output-based system.
4. The MoH should harmonize the fragmented donor funding for disease-specific vertical programs via a policy that allows mutual sharing of power over fund use.

Interventions

5. The MoH should collaborate with MoF and the district governments to increase resource allocation for primary care services in all districts. The district governments should take proactive measures to invest more resources in preventive and health promotion programs targeting risk reduction for NCDs.
6. Findings indicate that the role of HTA will be critical post-LDC graduation. Therefore, the MoH should strengthen HTA regarding human capacity and financial resources.
7. The MoH should leverage the existing quality assurance program that has reached all health centres in the country. The program should be strengthened by linking the performance indicators to the PPM.

Research

8. For an in-depth understanding of the factors determining bypassing of PHC, it is recommended to conduct a qualitative study covering both the supply and demand side of the factors. This will enable evidence-informed decision to introduce gatekeeping mechanism.
9. There is a lack of adequate study on health facility efficiency to enable health managers make evidence informed decision to improve performance. Therefore, Health facility efficiency studies should be done using widely accepted methods such as data envelopment analysis which is an adaptable and feasible tool.
10. There is a paucity of research in the quality dimension which is one of the UHC goals. More studies should be done regarding quality of care focusing on the process indicators and not just input and outcome indicators.

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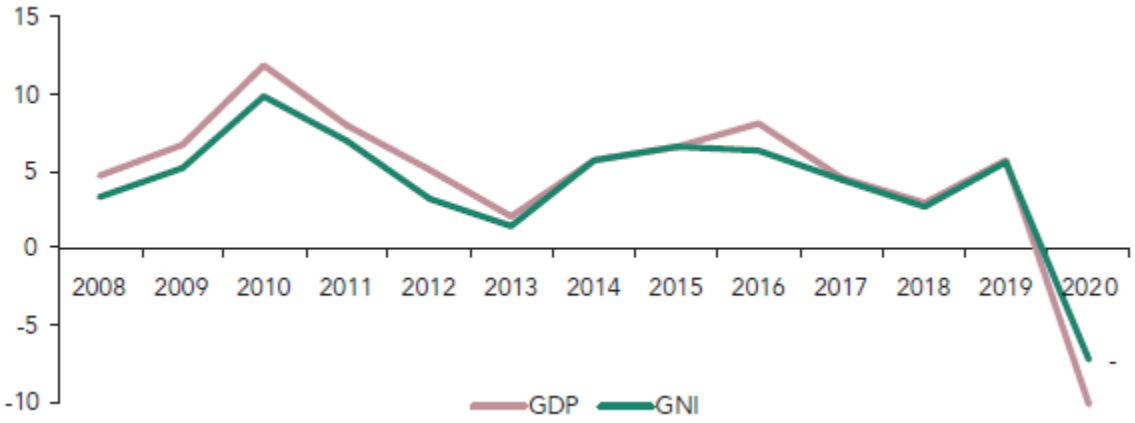
ANNEXURE

Annexure I: Key sociodemographic indicators

Indicators	Area		Sex		Both Sex
	Urban	Rural	Female	Male	
Total population (numbers)	274,967	452,178	361,525	410,087	771,612* (in 2019)
Population density (per sq.Km)					19.0
Number of Households	60,394	102,607			163,001
Sex Ratio					110.0
Total dependency ratio					47.0
Median age			26.6	27.2	26.9
Life expectancy (years)			71.7	68.8	70.2
Crude birth rate (CBR)	17.8	14.0			15.5
Crude death rate (CDR)	5.5	7.5	6.3	7.1	6.7
Total fertility rate (TFR)					1.9*(2020)
Infant Mortality Rate (IMR)	12.0	17.5	13.5	16.6	15.1
Under 5 Mortality Rate	25.3	40.8	31.9	36.0	34.1
Disability prevalence rate	1.1	2.8	2.3	2.0	2.1
General Literacy Rate**	81.7	58.3	73.4	59.2	66
Unemployment Rate (%) **	4.6	0.8	2.2	1.8	2.0
Poverty Rate (Population living below poverty line at 1.90 USD PPP/day)***					8.2%

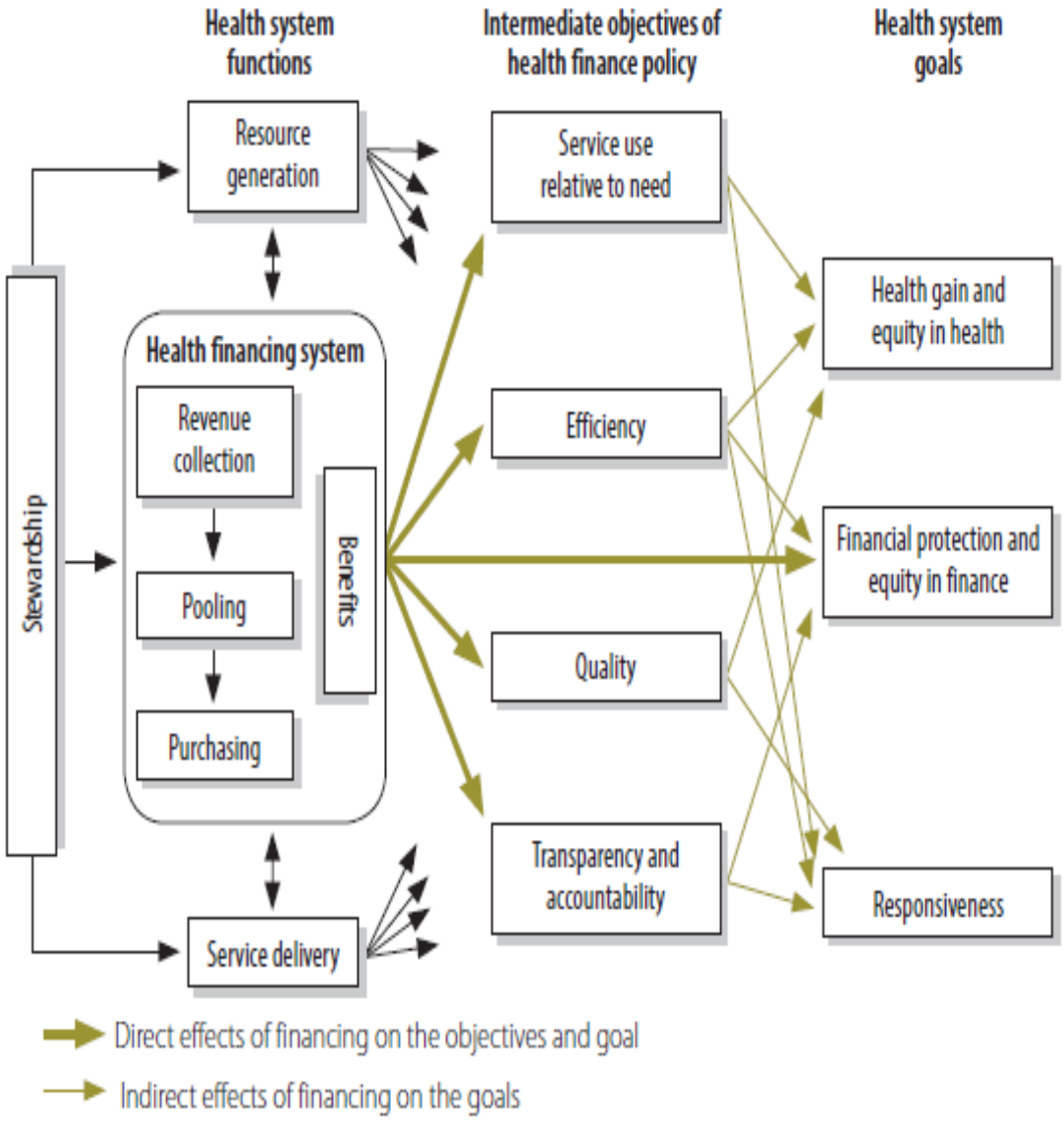
Source: Adapted from Statistical Yearbook of Bhutan 2021, National Statistics Bureau, Royal Government of Bhutan. *Source: Adapted from Worldbank data. **Source: BLSS 2017. ***ADB

Annexure II: Trend of GDP and GNI growth (in %) for Bhutan



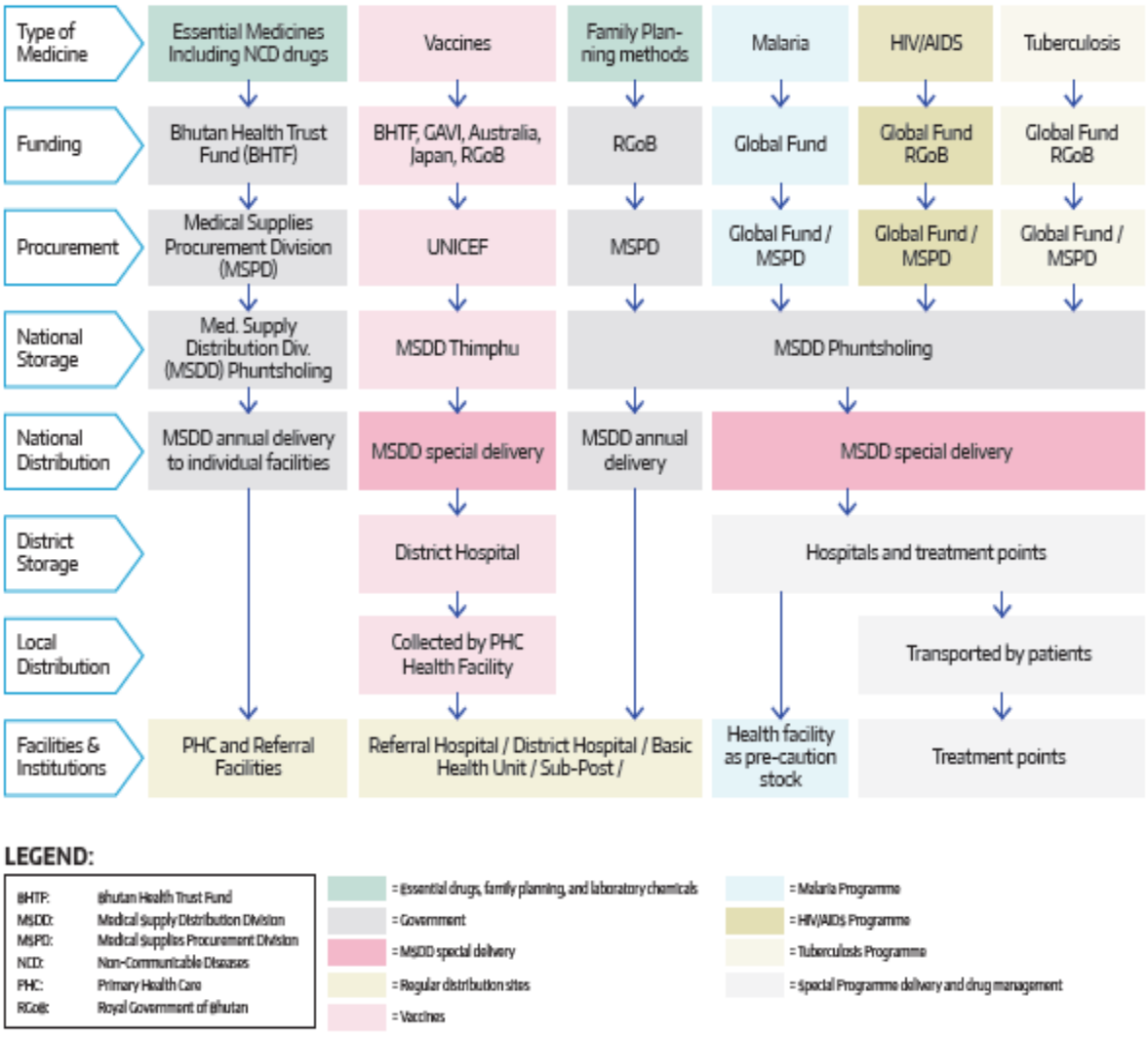
Source: National Accounts Statistics 2021, National Statistics Bureau, Royal Government of Bhutan

Annexure III: Link between overall health system goals and health financing policy objectives



Source: Kutzin J. Health financing for universal coverage and health system performance: concepts and implications for policy (7)

Annexure IV: Financing, procurement and supply chain management



Source: WHO: Bhutan. The policy brief, Cross programmatic efficiency analysis. 2019 (85).

Annexure V: Summary of National Essential Drug List, 2016

Summary of NEML (Allopathic)

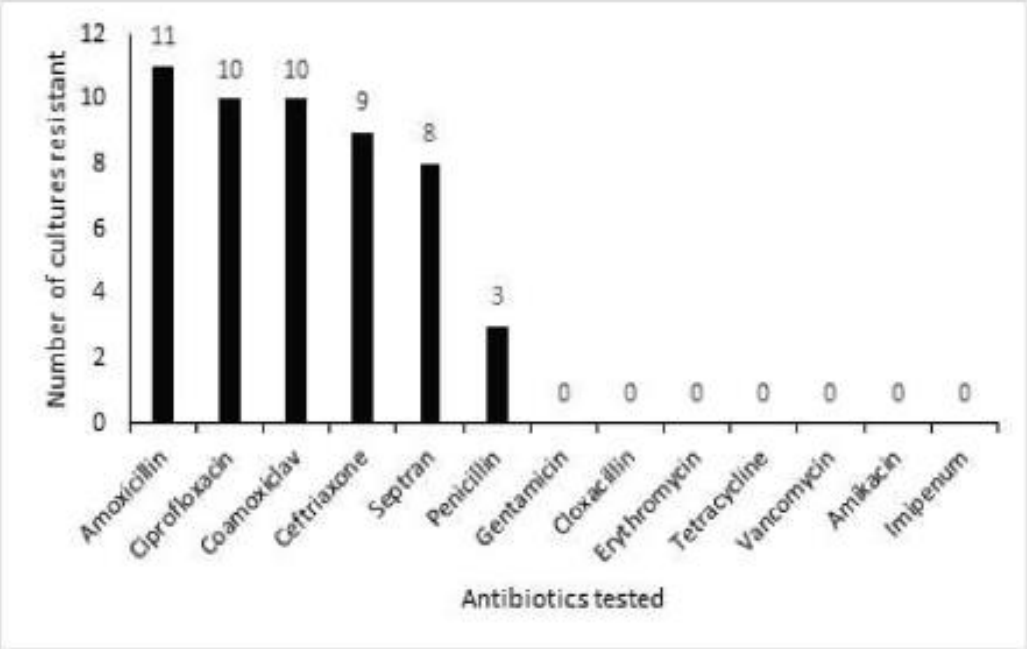
VEN	NRH	RRH	DH	BHU
V	144	138	76	33
E	250	209	122	62
N	35	33	27	13
Total	**429**	**380**	**225**	**108**

Summary of NEML (Traditional)

VEN	NTMH	RRH	DH	BHU I	BHU II
V	57	45	45	34	34
E	47	45	43	16	15
N	10	10	10	4	3
Total	**114**	**100**	**98**	**54**	**52**

Source: Essential Medicine and Technology Division, MoH (95)

Annexure VI: Figure showing number of culture resistance to common antibiotics from SSI samples in NRH surgical ward in 2017



Source: Jamtsho S et al. (109).

Annexure VII: Hospital Administration and Management Transformation (HAMT) KPIs comparison across health facility levels, 2015.

Sl	KPIs	Matrices to be reported	National Referral Hospital Baseline	Regional Referral Hospital Baseline	District Hospital Baseline	BHU-1 Baseline
1	Bed Occupancy Rate (%)	Bed Occupancy Rate	77	65	56	40
2	Patient Discharge (%)	Patients discharged before 11 am	44	80	0	0
3	Average Length of Stay (days)	Average Length of Stay	6	5	5	6
4	Staff Unavailability (%)	Percentage unavailability	5	6	11	7
5	Emergency Response Time (min)	Average emergency response Time	10	11	8	6
6	OPD Waiting Time (min)	Average waiting Time	53	9	2	2
7	SSCL (%)	Surgical Safety Checklist	40	2	0	0
8	Drugs bellow reorder level (%)	% drugs bellow reorder level	0	15	2	2
9	Infection Control System (%)	Infection Control System and waste management	81	82	79	73
10	Utilization of SSCL (%)	Percentage utilization of SSCL	40	81	0	0

Source: QASD, MoH. (114).