# FACTORS CONTRIBUTING TO THE EMIGRATION AND RETENTION OF HEALTH WORKERS IN BHUTAN

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BHUTAN

SEPTEMBER 1, 2023
Master of Science in Public Health (MPH)
Royal Tropic Institute (KIT) and Vrije Universiteit (VU)
Amsterdam

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# DECLARATION

**Factors Contributing to the Emigration and Retention of Health Workers in Bhutan**

A thesis submitted in partial fulfilment of the requirement for the degree of

Master of Science in Public Health (MPH)

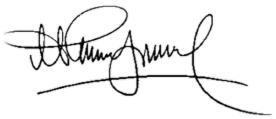
By:

Ugyen Tshering
Bhutan

**Declaration:**

Where other people's work has been used (from either a printed source, internet, or any other source), this has been carefully acknowledged and referenced in accordance with departmental requirements.

The thesis titled **"Factors Contributing to the Emigration and Retention of Health Workers in Bhutan"** is my own work.

**Signature:** 

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## ACKNOWLEDGEMENT

Firstly, I would like to commence by expressing my sincere gratitude to The World Bank for granting me this prestigious scholarship to study Master of Science in Public Health (MPH) at the Royal Tropical Institute (KIT). I also extend my gratitude to my employer, the Ministry of Health (MoH), and the Royal Civil Service Commission for recognizing the importance of professional development and granting me a study leave.

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## ABBREVIATIONS

| | |
|---|---|
| BCSR | Bhutan Civil Service Rules and Regulations |
| CME | Continued Medical Education |
| CPD | Continuing Professional Development |
| EOL | Extra-ordinary leave (sabbatical leave) |
| EXC | Executive and Specialist Category |
| GDP | Gross Domestic Product |
| GNH | Gross National Happiness |
| GNM | General Nurse Midwifes |
| G-to-G | The Government-to-government agreement |
| HR | Human Resource |
| HRD | Human Resource Development |
| HRH | Human Resource for Health |
| IOM | International Organization for Migration |
| JDWNRH | Jigme Dorji Wangchuck National Referral Hospital |
| KIs | Key Informants |
| KGUMSB | Khesar Gyalpo University of Medical Sciences of Bhutan |
| KIT | Koninklijk Institute Voor de Tropen (Royal Tropical Institute) |
| LMICs | Low-and middle-income countries |
| MaX | Managment for Excellence (performance evaluation system) |
| MHPC | Medical and Health Professional Council |
| MoH | Ministry of Health |
| NMS | National Medical Services |
| PHC | Primary Health Care |
| PHCs | Primary Health Centres |
| PMC | Professional and Management Category |
| RGoB | Royal Government of Bhutan |
| RCSC | Royal Civil Service Commission |
| SDG | Sustainable Development Goals |
| SSC | Supervisory and Support category |
| SIIs | Semi-structured interviews |
| UHC | Universal Health Coverage |
| WHO | World Health Organization |
| WHO Global Code | Global Code of Practice on the International Recruitment of Health Personnel by WHO |
| VU | Vrije Universiteit |

## GLOSSARY OF TERMS

- **Brain drain:** "Emigration of highly qualified/skilled personnel in search of a better standard of living and quality of life, higher salaries, access to advanced technology and more stable political conditions in different countries worldwide"[1].
- **Brain gain**: "Positive impact of immigration of highly qualified/skilled personnel and the transfer of knowledge, skills and ideas by returnees to their home country after studying/working abroad"[1].
- **Brain waste:** "Loss of skills that occurs when highly qualified/skilled personnel migrate into forms of employment that do not require the application of skills and experience employed in their former role and/or obtained via education"[1].
- **Circular migration:** The temporary and repetitive of migration by the same person between two or more countries or between home and host country, typically for employment[2].
- **Emigration**: "A type of migration when an individual moves out of the country, crossing a national boundary[3]."
- **Human resources for Health/Health workforce**: "All people engaged in actions whose primary intent is to enhance positive health outcomes"[4].
- **Health workers/health professionals**: Qualified professionals recognised by their country's regulations, responsible for diagnosing, treating, and preventing human illnesses and injuries to enhance the health of individuals and populations through preventive and curative measures[1,5]. In Bhutan, it encompasses medical doctors, nurses, traditional physicians, pharmacists, community health workers and allied health professionals.
- **Immigration**: A form of migration when an individual moves into a country, crossing a national boundary[3].
- **Migration**: "Movement of an individual from one place of residence to another that results in a long-term or permanent change in the usual place of residence"[3].
- **Pull factors:** "Are factors in the recipient level of the health system or country that attract and facilitate the movement of health workers towards that level or country"[6]. Examples include higher pay, career opportunities, better working conditions, or access to good healthcare and education in recipient countries.
- **Push factors:** "Are factors that encourage health workers to leave their country or location of work. Push and pull factors interact with and relate to each other"[6].
- **Return migration:** The process of migrant health workers moving back to their countries of origin after working in another country for a period of time[7].

## ABSTRACT

**Background:** Bhutan faces challenges maintaining an adequate health workforce, exacerbated by a post-COVID-19 exodus. Little is known about the reasons for emigration from Bhutan, known for its happiness and stable governance, and about mitigation strategies. This study aims to identify drivers of emigration and explore potential strategies for improving health worker retention.

**Method:** A narrative literature review was conducted in the context of Bhutan and similar settings, complemented by seven semi-structured interviews with researchers, policymakers, and health managers.

**Findings:** Bhutan has witnessed a surge in health worker departure post-COVID-19, particularly young professionals. Data from various sources underscore its gravity. Better financial opportunities, career prospects and a shift towards a materialistic mindset in Bhutanese community drive emigration. Societal pressure and family are both push and pull factors for health workers. Existing retention policies encompass financial incentives and bonds, but their impact remains to be evaluated. Drawing inspiration from global practices, strategies like circular/return migration, bilateral agreements, task shifting, and community engagement present promising avenues to mitigate emigration and fortify retention initiatives in Bhutan.

**Conclusion and Recommendations:** The study highlights the inevitability of emigration in a globalised world. While financial incentives and career opportunities are crucial, addressing societal factors and social values in retaining health workers is equally essential. Globally proven approaches like circular/return migration, bilateral agreements, task shifting, and community engagement are proposed as mitigation strategies. By upholding the "right to move" while safeguarding the "right to health," Bhutan can foster a sustainable and resilient health workforce.

**Keywords:** Bhutan; emigration; health worker; mitigation strategies; workforce retention.

**Word count**: 13,175

## INTRODUCTION

I work as a Sr. Program Officer for the Ministry of Health (MoH), Royal Government of Bhutan (RGoB). With a background in public health and education from Thailand, I have been actively engaged in strategic planning, capacity building of health workers, and managing various health programs/projects for the past eight years. During the COVID-19 pandemic, my role as Acting Chief for the Ministry's Health Emergency Management Division and Secretariat to the country's COVID-19 Technical Advisory Group brought to light the gravity of our health workforce shortage. I remember the government recalling fifty doctors pursuing their postgraduate studies abroad to address this acute shortage.

As international borders began to reopen, a notable surge in health workers' resignations and subsequent emigration was observed almost on a daily basis. Even within my own family, bidding farewell to loved ones at the airport became a recurring occurrence. Upon my arrival in the Netherlands in September 2022, I consistently encountered social media platforms overflowing daily with news of visa grants and health workers leaving in search of greener pastures, causing distress and uncertainty to those left behind. This phenomenon deeply resonated with me, as I understand the crucial role of the health workforce in improving health outcomes and achieving universal health coverage. Motivated to address this pressing issue, I embarked on a study to explore the factors contributing to the emigration and retention of health workers in Bhutan. This topic that is particularly relevant given the current situation in my country.

This thesis is divided into five main chapters. Chapter 1 provides a comprehensive profile of Bhutan, delving into its health system and workforce dynamics. In Chapter 2, the problem statement is outlined, highlighting the urgency of addressing health worker emigration for the nation's well-being. Additionally, I specify the research objectives, which focus on understanding the drivers of emigration and exploring potential retention strategies. Chapter 3 describes the rigorous methodology and analytical framework used to analyse the collected data. In Chapter 4, I present the findings, shedding light on the interconnected factors influencing health worker migration decisions.

Ultimately, this study aims to contribute to evidence-based policies and interventions that can retain and attract health workers to serve Bhutan. Chapter 5 concludes the thesis by discussing the findings, presenting a relevance of framework for effective retention strategies, and offering recommendations to the RGoB and MoH. By understanding and addressing the challenges faced by our health workforce, we can pave the way for a sustainable and resilient healthcare system in Bhutan.

# 1. CHAPTER I: BACKGROUND

## 1.1 Geographical and Demographic Profile

Bhutan is a small landlocked country in South Asia, sharing its international borders with China in the north and India in the south (Figure 1)[8]. With a total area of 38,394 km², Bhutan is one of the many small countries in the world, comparable in size to Switzerland. Despite its modest geographical extent, Bhutan is known for its unique cultural heritage and pristine natural resources. The county is mountainous, with altitudes ranging from 160m above sea level in the south to over 7500m above sea level in the north. With nearly 70% of the total land under forest cover[9], Bhutan is a carbon-negative country. Bhutan's projected population for 2022 was 756,129, with the rural population making up 62.2%. The fertility rate continued to remain below the replacement level of 2.1, which is a national concern. The population's median age was 26.9 years, indicating a predominantly young population. However, the proportion of people above 65 years is projected to increase from 6% in 2022 to 13% by 2047[10].

## 1.2 Political and Governance

Bhutan has been a democratic constitutional monarchy since July 2008, with the King as the head of the state and the Prime Minister as the head of the government[11–13]. Overall, the country's governance is guided by the Constitution of the Kingdom of Bhutan. The three arms of government, namely the Legislative, the Executive, and the Judiciary, function independently of each other[14]. The legislative power is vested in the bicameral Parliament consisting of Lower House and the Upper House. The judiciary comprises the Supreme Court, the High Court, and District Courts. The country also has a well-defined governance framework that includes nine ministries, various autonomous agencies, and local government. This framework emphasises the principles of decentralisation, accountability, transparency, and citizen participation[12,15].

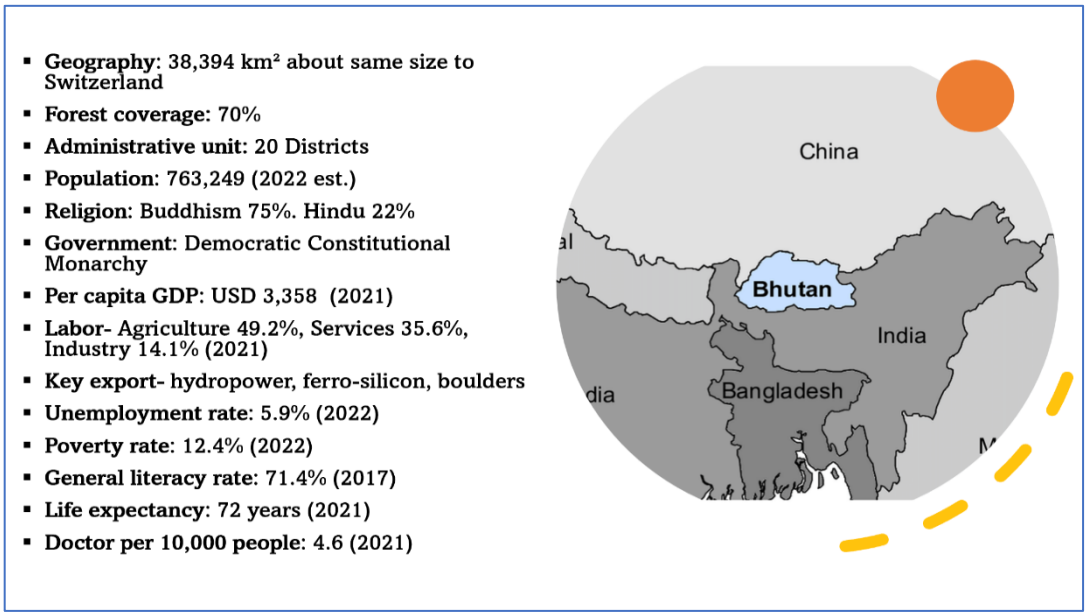


*Figure 1 Bhutan in Brief. Adapted from National Statistical Bureau[16]*

## 1.3 Socio-economic Situation

Bhutan is a lower-middle-income country (LMIC) and is considered one of the fastest-growing economies[17,18]. The gross domestic product (GDP) per capita was USD 3,358 in 2021[19]. Bhutan's economy has grown primarily due to development in hydropower, tourism, agriculture, and forestry[20]. It has helped the country invest in human capital development and significantly improved service delivery, particularly in the health sector[18]. Bhutan was classified into a medium human development status, ranking 129th on the Human Development Index in 2019[21]. The general literacy rate stood at 71.4% in 2017[10]. Bhutan was also ranked 17th most peaceful country in the world by the 2023 Global Peace Index[22].

The national poverty rate in 2022, estimated at a poverty line of Nu 6,204 (70 USD), was 12.4%[23]. The unemployment rate increased from 3.1% in 2017 to 5.9% in 2022. At the same time, the youth unemployment rate rose to 28.6% in 2022 from 12.3% in 2017[24]. Bhutan is also highly vulnerable to climate-induced disasters, which could have enormous implications for its nature-dependent livelihoods and agriculture-based economy[25].

## 1.4 Health System Governance

As enshrined in the Constitution, healthcare services are free to its citizens. Hence, the health system is predominantly financed and managed by the Government[12]. Private sector engagement in the health sector is mainly limited to diagnostic centres, while the involvement of the health insurance system remains minimal. Patients needing tertiary specialised healthcare services unavailable in the country are referred to selected hospitals in India at the government expense[12,26].

The health system is based on Primary Health Care (PHC) principles and is committed to achieving universal health coverage (UHC) by 2030. This pursuit of UHC is deeply embedded in the nation's unique developmental philosophy of Gross National Happiness (GNH)[8,27,28]. Bhutan's UHC service coverage index was 73% in 2019[29]. The healthcare system is delivered through three-tier primary, secondary, and tertiary care[12,30,31]. As of 2022, Bhutan had three referral hospitals at the tertiary level, 49 district and general hospitals at the secondary level, 179 Primary Health Centres (PHCs), and 555 outreach clinics at the primary level[32]. Integrating traditional and allopathic medicines under one roof has given the Bhutanese health system a unique feature.

## 1.5 Health Financing

The allocation of resources to the healthcare sector is reflected in the total health expenditure for the fiscal year 2019-2020, which accounted for 4.5% of the country's GDP. Within this framework, the government played a substantial role, contributing 73.4% of the current health expenditure, while households' out-of-pocket expenditure constituted 15.4%[33]. In 2017, the catastrophic health expenditure at 40% threshold was estimated at 0.51%, impoverishment at 0.32%, and further impoverishment at 1.93%, resulting in a total financial hardship of 2.55%[34]. This indicates that some Bhutanese still faces significant financial hardship despite having free healthcare.

Health system governance is decentralised in line with the government's decentralisation policy. Although planning processes are coordinated at the central level, the needs at the local government

level are identified, and proposed by the local health administrations[12]. Once the plans are finalised and the proposed financial requirements secured, the execution process is implemented by the local health administrations.

### 1.6 Health Outcomes and Indicators

With UHC as a critical health sector aspiration, there have been remarkable strides in improving the health system[12,31]. Around 95% of the population can access the nearest health facility within three hours of walking distance[12]. The life expectancy at birth has increased from 66.3 years in 2005 to 70.2 years in 2017[16]. Since 2010, immunisation coverage has been maintained at over 95%[12]. Improved drinking water services are accessible to 99.4% of the population, and improved sanitation facilities to 95.2%[35]. The significant progress in key health indicators such as maternal and child health, vaccine-preventable and communicable diseases are in Table 1.

However, the country is facing unprecedented challenges in its healthcare system[12,30]. While communicable diseases remain a substantial burden, non-communicable diseases are on the rise[30,36,37]. Apart from the epidemiological transition[35], Bhutan is also undergoing a demographic and nutritional transition[38,39]. The proportion of ageing population(>65 years) is estimated to rise to 7.3% by 2025[40]. Further, health equity requires attention as disparities exist in accessing health services between urban and rural areas, income levels, and regions[41].

### 1.7 Human Resources for Health

In Bhutan, civil servants working in hospitals, PHCs and health institutions such as traditional medicine facilities constitute the human resources for health (HRH). The health workforce forms the second largest occupational group in the country's civil service, comprising 16.3% of the total 30,194 civil servants in 2022[42]. The density of doctors and nurses is slightly higher in the western region due to the presence of the national referral hospital (JDWNRH).

The Royal Civil Service Commission (RCSC) and Ministry of Health (MoH) are responsible for HRH planning and management, including recruitment, retention, and instituting performance management systems[12]. The MoH is the primary employer of health workers in Bhutan[13]. The Bhutan Civil Service Rules (BCSR) and the HRH Master Plan guide the process of HRH planning and management[12]. Within the decentralisation framework, districts can deploy health workers across health facilities under their administrative jurisdiction.

All health workforces are either full-time or contract employees hired for a definite period. They are categorised according to their educational background, roles, and responsibilities (Annex 1). Most doctors and nurses are in the Professional and Management Category (PMC), followed by the Executive and Specialist category (EXC), in line with the civil service structure. Staff nurses with diploma qualifications are placed in the Supervisory and Support category (SSC)[43]. Their salaries are based on a fixed annual budget at par with other civil servants. An additional professional/clinical allowance of 35–60% of their basic salary is also paid[12].

*Table 1 The status of selected national health indicators in Bhutan, 2021. Adapted from Annual Health Bulletin 2022*[32]

| SDGs/equivalent national indicators | Current Status |
|---|---|
| Maternal mortality ratio | 89 per 100,000 live births |
| Deliveries attended by skilled health worker | 98.9% |
| Institutional delivery | 98.1% |
| Under-five mortality rate | 34.1 per 1000 live births |
| Neonatal mortality | 21 per 1000 live births |
| Total new HIV cases | 56 |
| Total TB cases detected | 858 |
| Indigenous malaria incidence | 0.06 per 1000 population |
| Total morbidity cases with acute hepatitis B | 11.5 PER 100,000 population |
| Population 15-75 years who ever used drugs/substance | 2.1% |
| Death rate due to road traffic injuries | 73 per 100,000 population |
| Prevalence of contraceptive use among 15-49 years | 65.6% |
| Unmet need for family planning | 11.7% |
| Women 15-49 years who knew at least one method of contraception | 96.3% |
| Adolescent (15-19 years) birth rate | 14.2 per 1000 women (aged 15-19 years) |
| Percentage of population within 2 hours to the nearest health facility | 87.7% |
| Percentage of death due to illness | 80.7% |

The Medical and Health Professional Council (MHPC) accredits and regulates all health workers, including doctors and nurses[12,15,44]. All council regulations aim to improve and sustain quality services by ensuring that health workers meet the minimum competency level and ethical standards. Health workers are registered and licensed after evaluation of their degrees and certificates. Subsequent license renewal is subject to their earning continuing medical education (CME) credits of 30 points every five years[12].

# 2. CHAPTER II : PROBLEM STATEMENT, JUSTIFICATION AND OBJECTIVES

## 2.1 Problem Statement

The health workforce is the backbone of robust and resilient health systems[45,46]. Only through adequate investment and optimised management of the health workforce can we progress towards achieving UHC[47,48]. The importance of having a strong health workforce has been reconfirmed and starkly demonstrated during the COVID-19 pandemic[49–51] and Ebola outbreak in West Africa[52].

The health worker shortages have become a public health concern and deserve global attention[53,54]. The global deficit of health workers (doctors, nurses & midwives) increased from 4.3 million in 2006[4] to 17.4 million in 2013[55]. The global gap is expected to reach 10-14.5 million in the health and social care sector by 2030[45,56,57]. All countries experience this shortage at different stages of development, but it is primarily felt in LMICs. There is an inequitable health workforce distribution, with a 6.5-fold difference in density between high-income countries (HICs) and LMICs[56]. One important reason for this shortage in LMICs is health workers migrating to HICs in search of improved working conditions, income and better career opportunities[4,58]. This phenomenon of migration of highly skilled and qualified health workers from LMICs (source) to HICs (recipient) is known as "brain drain"[58–61].

Bhutan faces a significant challenge in ensuring an adequate supply of health workers to meet the healthcare needs of the population[12,26,30,62]. This is attributed to the country's limited capacity for health workforce production and inefficient human resource planning and deployment[41,62]. To curb shortage, the MoH recruits expatriate doctors from countries like India, Bangladesh, and Myanmar on a contract basis[63,64]. In 2020–2021, the health workforce capacity was put to the test when the government brought back 50 doctors pursuing postgraduate training abroad for COVID-19 management[65]. The government also engaged trainees from the medical university (KGUMSB) to supplement the existing health workforce in delivering essential health services.

To compound the problem, retaining medical doctors and nurses in the health system has become a massive challenge for the country's health system[66–68]. Between 2011 and 2018, Bhutan lost 39 doctors, representing over 10% of the total doctors in the country[66]. Many departed for HICs to seek better opportunities, including positions in the World Health Organization (WHO). While those who opt to stay in the country join international organisations, and some join prestigious political positions[12]. In 2022, a total of 2,646 civil servants departed from the civil service. Among them, health workers formed the second-largest group, with 290 individuals leaving, while an additional 74 took sabbatical/extraordinary leave (EOL)[42]. A big concern is the number of doctors and nurses resigning or going on EOL.

This study focuses on the emigration of doctors and nurses as they represent a significant proportion of the healthcare workforce in the country. Their indispensable roles in delivering both primary and specialised care make them essential contributors to accessible and high-quality healthcare services.

## 2.2 Justification

The emigration of doctors and nurses has dominated the headlines of every national and international newspaper for the past year[69–75]. This health workers emigration from Bhutan could be linked to several factors, which can be grouped into push and pull factors[58,76–78]. Push factors refer to conditions that motivate individuals to leave a particular place or engagement, whereas pull factors encompass elements that attract individuals to a specific location or activity[6]. Health workers might be leaving for better financial benefits, professional development, career advancement, and better quality of life[62,79,80]. Understanding the interplay between different factors influencing the emigration decisions of health workers is crucial for effective policy formulation[81,82].

The discourse on emigration is often centred around the "right to move" and the "right to health" considerations. It highlights the importance of acknowledging the rights of health workers to migrate in pursuit of better opportunities abroad. Simultaneously, it emphasises the right of populations in the source country to have access to the highest possible standard of healthcare. Besides providing individual gains in professional growth and opportunities, migration benefits source and destination countries[83]. For instance, remittance plays a substantial role in Nepal, contributing up to 26.3% of the total GDP[84]. Similarly, Bhutan has benefitted from remittance, with the country receiving USD 111.2 million in 2020[85,86]. Migration can also contribute to economic growth by addressing labour shortages in destination countries. The Organisation for Economic Cooperation and Development countries have observed net economic gains from the influx of migrants[87]. As such, a complete halt of emigration is neither practical nor desirable, considering its positive impact on both individuals and economies.

Addressing emigration more strategically and improving the retention of health workers in the country is critical to limit the strain placed on the health system already facing many challenges. Shortage and uneven distribution of health workers can lead to limited healthcare access, compromised quality of care, and poor performances, causing reduced productivity and increased burden on the existing health workforce[67,78,88–90]. Ultimately, these factors contribute to poor health outcomes. Inadequate skills and numbers of health workers are attributed as one of the primary causes of the healthcare system's significant shortcomings in patient safety issues in Bhutan[91,92]. Moreover, health worker shortage results in increased inequities to healthcare access[12,41,56] and threatens public health, economic growth and development[78,93].

Extensive evidence and experience highlight the pivotal role of political commitment and policy interventions in health worker retention. Countries like Malawi, Thailand, and Ireland have successfully implemented policy interventions to reverse the "brain drain". These initiatives include revising non-financial incentive packages, offering monetary incentives, increasing research funding, and providing other services and assistance[58,94–98] By adopting these strategies, these countries have demonstrated their dedication to addressing emigration and creating an environment conducive to retaining their health workers.

There are several published studies on the factors influencing migration and interventions to retain health workers in rural settings in LMICs[89,99–102]. However, there remains a gap in understanding why health workers emigrate from Bhutan[66–68], a country renowned for emphasising happiness and government stability[27,28]. Exploring factors influencing their decisions can provide valuable insights into the emigration phenomenon, which Bhutan has not studied. Similarly, describing the type of policies and interventions in place and understanding their potential effectiveness in addressing health worker emigration is also a research gap. Therefore, this study will contribute to filling the gap as it aims to identify and discuss the available evidence related to the emigration of health workers that can mitigate emigration and improve retention in Bhutan's healthcare system.

## 2.3 Objectives

### 2.3.1 General objective

To identify and discuss factors contributing to the emigration of health workers from Bhutan and mitigation strategies used in the country and elsewhere, in order to provide evidence-based recommendations to address migration and improve retention of health workers.

### 2.3.2 Specific objectives

i. To describe the human resource for health (HRH) situation about specific health workers (doctors and nurses) in Bhutan
ii. To identify factors contributing to the emigration of doctors and nurses from Bhutan and countries of similar settings.
iii. To discuss the national response and mitigation strategies for retaining health workers in Bhutan.
iv. To review strategies, best practices and lessons learned on health worker retention to address emigration from other countries of similar settings.
v. To develop recommendations applicable to retaining health workers in Bhutan.

# 3. CHAPTER III : METHODOLOGY

## 3.1 Study Design

A comprehensive narrative literature review on HRH and health worker emigration was conducted in the context of Bhutan and similar settings (explained below). The review involved various relevant sources, including peer-reviewed articles and grey literature. Furthermore, a qualitative study was conducted to gain deeper insights into the subject matter through semi-structured interviews (SSIs) (Table 2).

*Table 2 Mapping of Research objectives to data collection approaches*

| Specific objectives | Peer-reviewed literature | Grey literature | Semi-structured interviews |
|---|---|---|---|
| i. To describe the Human Resource for Health (HRH) situation for specific cadres(doctors and nurses) in Bhutan | ✓ | ✓ | ✓ |
| ii. To identify factors that contribute to the emigration of doctors and nurses from Bhutan | ✓ | ✓ | ✓ |
| iii. To discuss the national response and mitigation strategies for retaining health workers in Bhutan | | ✓ | ✓ |
| iv. To review strategies, best practices and lessons learned on health worker's retention to address emigration from other countries of similar settings | ✓ | ✓ | |

### 3.1.1 Narrative Literature Review

#### a. Search Strategy

An extensive document search was conducted for this study. Peer-reviewed articles were retrieved from PubMed, Embase, and Vrije University (VU) Library databases. In addition, search engines like Google and Google Scholar were also used to expand the literature search. A review of the abstract for relevancy was done for articles to sort the relevant articles. A snowballing technique was also adopted to ensure a comprehensive review, wherein additional literature was sourced from the reference lists of relevant journal articles.

Furthermore, grey literature sources such as national reports, policy documents and publications from the MoH, WHO, World Bank, and other relevant organisations have been included. Incorporating grey literature helps to offer valuable insights and perspectives regarding the topic at hand. Thus, this study gathered a diverse range of relevant documents by employing a thorough search strategy. This approach enhances the robustness of the findings and contributes to a comprehensive understanding of the research topic.

Given the limited availability of literature in Bhutan, this study also relied on documents from neighbouring South Asian countries, primarily from Nepal and India, as well as from other LMICs that share similar contexts with Bhutan. Apart from sharing geographical proximity, these countries display similar characteristics in terms of cultural diversity, ethical outlook, migration patterns, and socio-economic challenges[103], which can provide valuable insights for understanding migration dynamics in Bhutan.

#### b. Inclusion and Exclusion Criteria

The inclusion criteria focused on peer-reviewed articles published from 2010 onwards, which corresponds to the adoption of the groundbreaking instrument, the Global Code of Practice on the International Recruitment of Health Personnel (WHO Global Code) by WHO member states[104,105]and the publication of the WHO guidelines on health workers attraction and retention in rural areas[106]. This likely increased attention to retention strategies and improved data availability for HRH, playing a significant role in shaping discourse, research, and publications in the field.

The researcher excluded editorial articles such as commentaries and opinion pieces due to potential limitations in rigour and evidence compared to peer-reviewed articles. Additionally, studies conducted in HICs, non-English publications, those published before 2010, and studies focusing on non-health worker topics (except for civil servants in Bhutan) were also excluded. For grey literature, there were no considerations to the timeframe. This study also focused on articles and reports published in English to ensure wider accessibility and to tap into the extensive body of existing literature available in English.

### 3.1.2 Semi-structured Interviews with Key Informants

Seven SSIs with key informants (KIs) were conducted between May to July 2023. These interviews provided first-hand perspectives in obtaining a more nuanced understanding of the complex issues related to health worker migration and retention.

Recognizing the importance of capturing diverse perspectives on the subject matter, this study gathered insights from three distinct groups: policymakers, health managers, and academics. Participants were chosen through purposive sampling, targeting individuals with substantial experience and expertise in the healthcare system. The selection was guided by inputs from a KI and the researcher's personal decisions considering their professional background. The study included policymakers, managers, and academicians from MoH, KGUMSB, JDWNRH, Regional Referral Hospital and a District Hospital.

The small community dynamics within Bhutan is an important contextual factor for this study. Due to the close-knit nature of the community, individuals often have personal or professional connections with each other. This unique characteristic provided an advantage in conducting qualitative research as it facilitated access to participants who have vast experience on the subject matter. On the other hand, this close social connections within the community might have created social biases that could influence participants' responses.

### 3.2 Data Collection and Quality Assurance

A topic guide included open-ended questions to explore the insights and experience based on KI's professional capacities. It was pre-tested with a KI to assess their understanding of the questions. A transcript of this interview was discussed with the advisor, and necessary changes were made.

All interviews were conducted virtually through Zoom and recorded while both researcher and KIs spoke in English, one of the Bhutan's official languages. Notes were also taken during the interviews. The duration of the interviews varied from 48 minutes to 74 minutes. These interviews were transcribed verbatim by the researcher. The advisor reviewed the transcript from the first KI, and the relevant comments were shared for further improvement.

The researcher managed the entire data collection, processing, and analysis with continuous guidance from the advisor. Throughout the research process, ethical considerations were of utmost importance. The study adhered to ethical guidelines and received the necessary ethical clearance from the Research Ethics Committee, Royal Tropical Institute (KIT), thereby safeguarding the rights and well-being of the participants. Informed consent was obtained from KIs before the interview. All information was derived, processed, and stored in encrypted folders on a password-protected computer.

To ensure the credibility of the findings, the identified themes and categories were shared with advisers and KIs, who gave critical feedback and suggestions to strengthen the analysis. Member checking was employed by sharing preliminary findings with participants to validate the accuracy and interpretation of their contributions.

### 3.3 Data Analysis

In this study, deductive and inductive methods were applied to analyse both literature and interviews. A deductive approach was initially adopted to develop a coding framework based on the study objectives and pre-determined analytical framework. The list of themes was derived from the study's specific objectives, while factors were derived from the analytical framework. Consequently, three themes were identified: (i) Emigration trends and implications, (ii) Factors influencing emigration, and (iii) Retention strategies and policies. These themes served as the foundation for coding, encompassing seven factors as given in Table 3. NVivo 14 software was used to extract data from the interview transcripts using a coding system based on the identified themes and factors.

The interview transcripts were systematically analysed by categorising them into themes and factors. During the process, the researcher identified and labelled new factors applicable to Bhutan's context from the interviews. This incorporation of emerging concepts reflects the inclusion of an inductive approach. Similarly, the collected literature was carefully reviewed, and relevant information related to the specific factors of interest was extracted and organised using a coding framework. This approach ensured consistency and structure in the analysis process, contributing to the overall coherence and rigour of the research.

*Table 3 Classification of themes and factors(coding framework)*

| ***Objectives*** | ***Themes*** | ***Factors*** |
|---|---|---|
| Objective 1 | Emigration trends and implications | Not applicable! |
| Objective 2 | Factors influencing emigration | Personal origins and values<br>Family and community aspects<br>Working and living conditions<br>Career-related<br>Financial aspects<br>Bonding or mandatory services<br>Other factors |
| Objective 3 | Retention strategies and policies | |

### 3.4 Analytical Framework

Numerous theories and frameworks address broader aspects of HRH, including the WHO's Health Labour Market framework[107]. However, for this study, I have identified three frameworks specifically used to understand the migration and retention of health workers. First, Lehmann, Martineau and Dieleman's framework primarily focused on various environments surrounding the individual, which affects health workers' attraction and retention, especially in remote rural remote rural settings[82]. Padarath et al.'s model is another model often used in the migration. It highlights the interconnected nature of factors that influence migration of health workers from the source to recipient countries[6].

There are both merits and drawbacks to using these frameworks. Some factors mentioned in both frameworks are complex and overlapping, making them difficult to categorise. For example, moral value can act as both push and pull factors, as well as retention factors. To guide the study, I selected the framework from WHO's guidelines on improving health workers retention in remote areas(Annex 4)[106] to better understand and analyse these complex interactions (Figure 2). This framework was originally adapted from Henderson and Tulloch's framework on health worker's motivation and retention[108]. This WHO framework allows more nuanced approach to categorising the factors and exploring their overlapping impacts on health worker emigration.

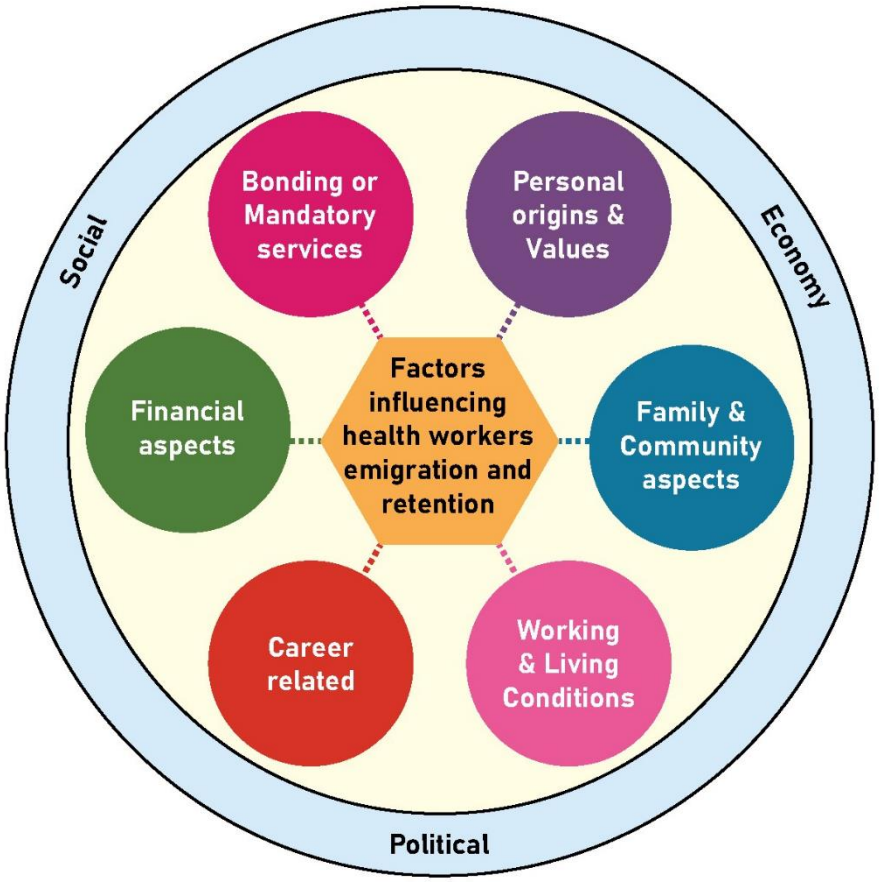


*Figure 2 Analytical framework used for the study. Adapted from WHO guidelines 2010*[106]

A slight modification of the framework was made prior to the data analysis. Initially representing the decision to stay or live rural area, the inner circle was replaced with "factors influencing health worker emigration and retention" to align with the study objective. The WHO framework has not addressed the broader social, economic, and political environment at the national and international levels, which significantly influences the migration and retention. However, this study has duly recognised the importance of these factors. It acknowledges the need to consider the broader context in our framework to ensure a comprehensive understanding of the factors affecting migration and retention. By doing so, we aim to develop a more holistic approach that accounts for the complex interplay between individual, organisational, and environmental factors in retaining health workers.

# 4. CHAPTER IV: FINDINGS

This chapter presents the findings in four sections based on the study objectives. Section 4.1 presents the HRH situation, emigration trends, and implications. Section 4.2 explores factors that influence health workers' migration from Bhutan and countries of similar settings. The national response and mitigation strategies for retaining health workers are discussed in section 4.3. Section 4.4 presents some best practices and lessons learned in mitigating emigration.

The results are derived from both KIIs and the literature review. Seven KIs comprising two policymakers, three managers, and two academicians were interviewed. They have 13-23 years of experience working in the health system. Data was derived from a thorough review of peer-reviewed articles and grey literature obtained from the MoH, WHO, and other international organizations for the literature review. The study included primary research articles from Bhutan, Nepal, and India, as well as relevant articles from other LMICs. National newspapers also contributed valuable information and insights to this study and were considered in the analysis.

## 4.1 HRH Situation, Trends of Emigration, and its implications

### 4.1.1 HRH status and stocks

In 2021, Bhutan had a total health workforce of 6643 including the support staff[32]. This is tenfold increase from just 601 staff in 1985[12]. There is now 1 health worker for approximately every 120 Bhutanese individuals. The doctor-to-population ratio stood at 4.62, and the nurse-to-population ratio was 20.9 (Table 4)[32], both falling below the required thresholds of 7.77 doctors and 58.64 nurses/midwives per 10,000 population for achieving the UHC Service coverage index[109]. Similarly, the combined density of doctors, nurses and midwives (25.9/10,000 population) is also well below the indicative SDG threshold of 45/10,000 as set by the WHO (Figure 3)[45,55,56]. In South-East Asia Region, the doctors' density was lower than all countries except Indonesia while the nurses' density was also lower than all other countries except Bangladesh (Annex 5)[12]. Nevertheless, nurses constitute the largest group of health workers in the country[110].

Based on the Health Service & Human Resource Standard 2022-2026, projections estimate that Bhutan requires additional 195 doctors and 1,595 nurses to fill the gap by 2026[111,112]. Looking at the workforce trend (Table 4) and annual supply projections (Annex 7), it will be a considerable challenge for the country to fill this daunting gap by 2026. Furthermore, in the upcoming year, the demand for doctors, nurses, and other health workers is expected to rise as Bhutan embarks on expanding new specialised health centres such as 500-bedded multi-disciplinary super-speciality hospital, and Royal Centre for Infectious Disease[112,113].

According to the interview, over the years, Bhutan has witnessed a notable increase in the diversity of health workers, including doctors, nutritionists, technologists, and nurses. All respondents recognised the ongoing critical situation in the health sector, driven by rising demands for healthcare services and concurrent health worker emigration. A manager expressed concern about the exodus of health workers can potentially undermine past achievements. Recent policy changes, like

establishing cluster hospitals[i] in certain districts, have led to specialists' shortage, posing challenges for the larger regional referral hospitals, as mentioned by another manager.

*"The exodus of health workers in huge numbers from the system has the potential to undo so many things that we have achieved over the last six decades..."*

*~{Respondent 1- Manager}*

*Table 4 Health workforce trend in last 5 years. Adapted from: Annual Health Bulletin 2022, MoH*[32]

| Sl no | Indicators | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|
| **1** | Number of Doctors* and density (per 10,000 population) | "345 (4.3)" | "337 (4.6)" | "318 (4.32)" | "336 (4.62)" | "354 (4.64)" |
| **2** | Number of Nurses** and density (per 10,000 population) | 1264 (16.2) | 1202 (16.5) | 1364 (18.6) | "1517 20.9)" | "1608 (21.07)" |
| **3** | Number of Pharmacists and density (per 10,000 population) | "36 (0.5)" | "44 (0.6)" | "43 (0.6)" | "42 (0.6)" | "46 (0.6)" |
| **4** | Number of Health Assistants/ Clinical Officers, and density (per 10,000 population) | "636 (8.1)" | "604 (8.3)" | "620 (8.4)" | "650 (8.9)" | "683 (8.95)" |
| **5** | Number of Drungtshos (Indigenous physicians) and density (per 10,000 population) | "55 (0.7)" | "53 (0.7)" | "54 (0.7)" | "52 (0.7)" | "59 (0.77)" |
| **6** | Number of Sowa Menpas (Traditional medicine practitioners) and density (per 10,000 population) | "113 (1.4)" | "113 (1.5)" | "116 (1.6)" | "137 (1.9)" | "146 (1.9)" |
| **7** | Number and distribution of health facilities (per 10,000 population) | "276 (3.6)" | "279 (3.8)" | "288 (3.9)" | "289 (4.0)" | "289 (3.85)" |
| **8** | Ratio of nurses per Doctor (doctor to nurse ratio) | 3.6 | 3.5 | 4.3 | 4.5 | - |
| *includes both specialists and general doctors<br>**includes both clinical nurses and staff nurses | | | | | | |

Both managers and policymakers argue that there is a shortage of health workers, thus hampering the delivery of quality healthcare services. On the other hand, academicians believe that the perceived shortage is more a matter of mismanagement and inefficient utilisation of the available resources. They argue that existing resources could be leveraged more effectively through strategic planning, and equitable distribution of professionals. Academicians pointed out an instance of some departments like surgery and medicine in JDWNRH having more doctors than patients, raising questions about the efficiency of resource allocation. These contrasting views accentuate the situation's complexity and call for a comprehensive understanding of the factors influencing emigration.

[i] central hospital equipped with 5 specialists(gynaecologist, paediatrician, general surgeon, anaesthesiologist, and medical specialist) and caters to two or more districts.

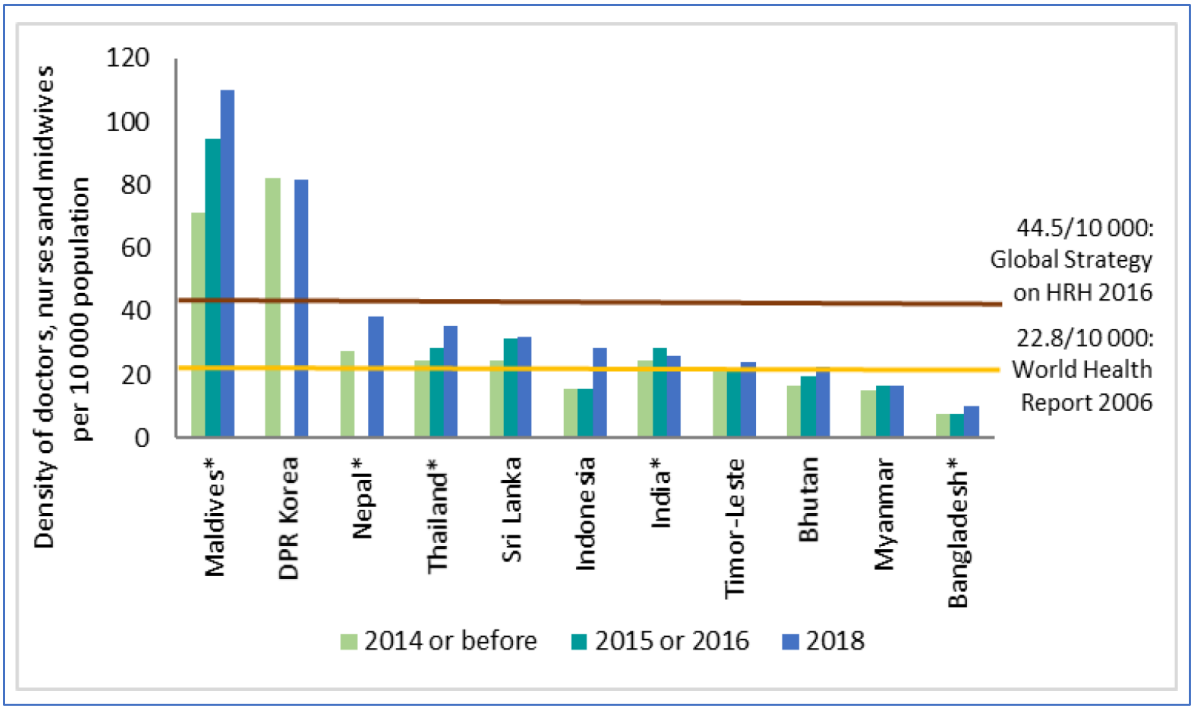


*Figure 3 Trends showing the density of doctors, nurses, and midwives per 10,000 population in SEA Region countries, 2019. Source: WHO SEARO*[114]

### 4.1.2 Recruitment and Training

Currently, the country doesn't produce doctors. Bhutan still depends on neighbouring countries like India, Bangladesh, Thailand and Sri Lanka for medical education[100,115–117]. Government selects top students from secondary schools and sends abroad to study medicine on various scholarship schemes. They are sent on the condition that they return to serve country after the graduation. Like other health workers, medical graduates must serve a duration two times the length of their course[12,116]. Most return to the country to serve in civil service after graduation. As of December 2021, 471 students were studying health-related courses, including medicine abroad[118].

Nursing education had evolved since its inception in 1961, when Bhutan began developing its modern healthcare system. The Faculty of Nursing and Public Health under the KGUMSB played a significant role in nursing education[12,119]. The number of nurses graduated since 1976 is given in Annex 8. Establishing three private nursing colleges has increased the production capability of nurses in the country[120]. Similarly, instituting the Faculty of Postgraduate Medicine under the KGUMSB in 2013 has contributed to addressing the shortage of specialists in Bhutan to a certain extent[13,115,119].

Every year, the graduates in the 'Medical and Health Services' category had the second highest intake into the civil service[42]. The 2023 annual intake of doctors was only 27, while 126 nurses were recruited[121–123]. The MoH also recruits health workers contractually in the middle of the year to cope with the demand[122]. Despite the government's concerted effort in health workers production, the intake of graduate-level health workers, particularly doctors, did not increase significantly. It is

attributed to limited local health workforce production capacities and high dependency on the neighbouring countries for medical education[12,13,115]. On a promising note, Bhutan is set to establish its first MBBS (Bachelor of Medicine, Bachelor of Surgery) programme at KGUMSB this year[124], which is expected to enhance the country's production capability of doctors.

### 4.1.3 Trends of Emigration

#### i. Overall Emigration Scenario

According to the Department of Immigration, Bhutan has witnessed 50,125 migrants from Paro International Airport from January 2015 until March 2023 (Figure 4). This number is equivalent to one-seventh of the country's population. In early 2023, the recorded number of emigrants was 5,000 per month[125,126]. This figure does not include individuals who left through other land exits. From January 2018 and March 2023, 13,583 Bhutanese left for Australia via Paro Airport[125,126]. Figure 5 displays the primary destinations of Bhutanese emigrants.

The median age of migrants to Australia was 28, while migrants to Kuwait was 24[125]. This indicates that most migrants belong to the economically productive age group. This group comprises 5-10 years of working experience who play vital roles in developmental activities or service delivery[127]. Regarding gender, females accounted for 51% of the total migrants[125].

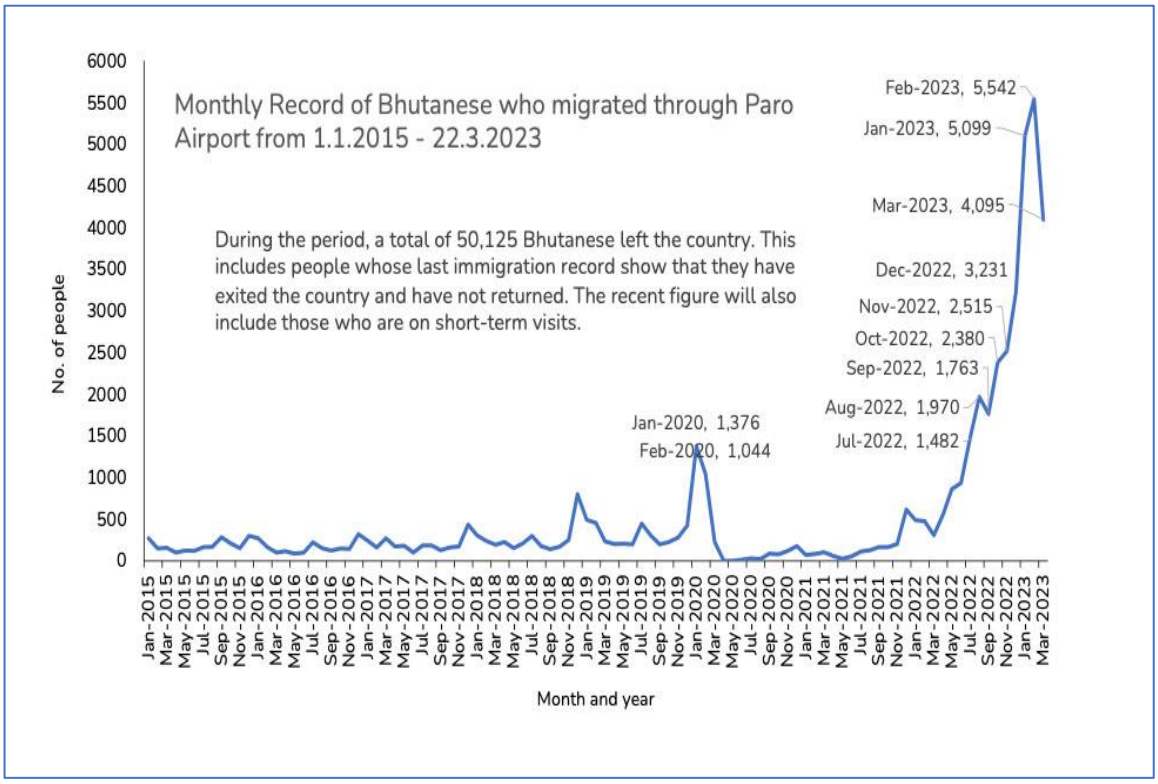


*Figure 4 Monthly record of Bhutanese who left from Paro International Airport[126]*

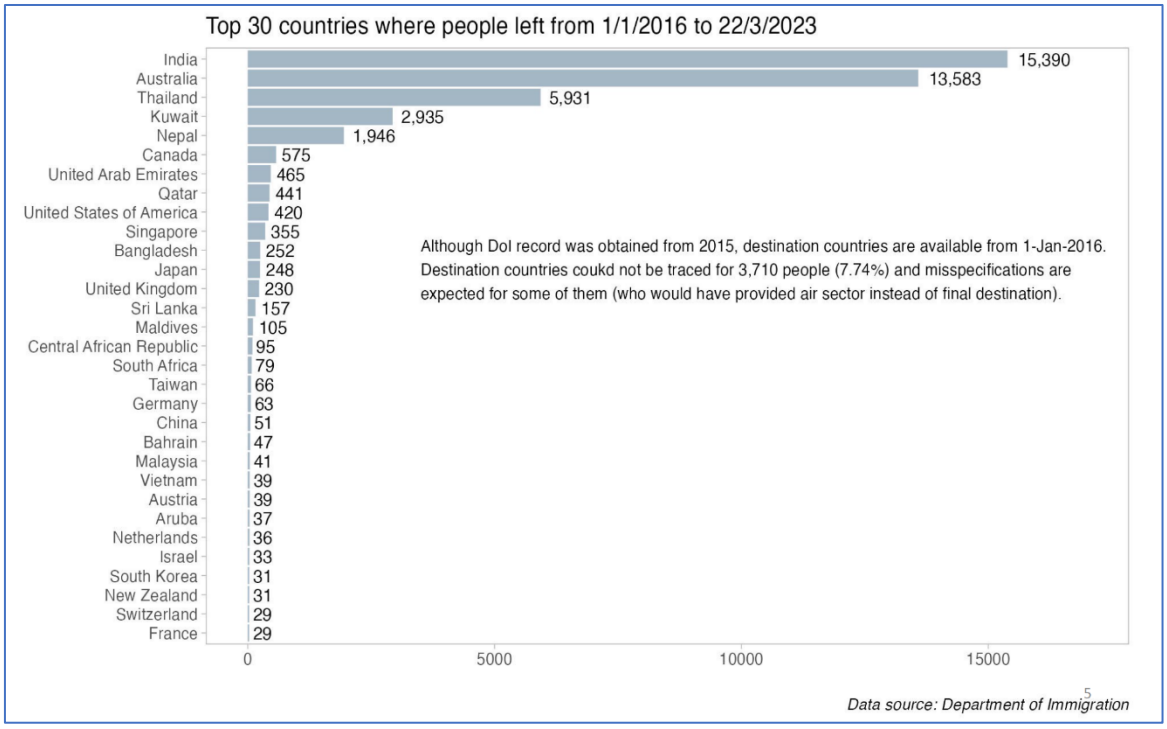


*Figure 5 Top 30 destinations of Bhutanese migrants*[126]

### ii. Health Workforce Emigration

The exact size of the emigration remains unknown[62], as Bhutan's health information management is disjointed and fragmented, preventing it from efficient data sharing and analysis[128,129]. Estimations of emigration have varied widely, with different reports and media sources providing conflicting numbers. In this study, the data have been extracted from various sources.

Since health workers are part of the civil services, the RCSC's data provides an overview of the migration trend. As per the RCSC's data series, there has been a noticeable shift in civil servants' recruitment, resignations, and a net increase in 2022 (Annex 9). There was a substantial increase in resignations (2,646), while the recruitment was 1791, resulting in a negative net increase of -855[42]. This indicates a significant reduction in total number of civil servants and a potential challenge in retaining them.

The average number of resignations was 64 civil servants per month between January 2015 to May 2022 (Figure 6). However, resignations rose to 234 per month from June 2022 onwards. A record-breaking 435 resignations was seen in January 2023[42,125]. Further, 2,934 civil servants exited the system between January to June 2023, marking the highest attrition rate in recent years[130]. The attrition rate in 2022 was 8.62%, but in the first six months of 2023, it surged to around 10%[42,130].

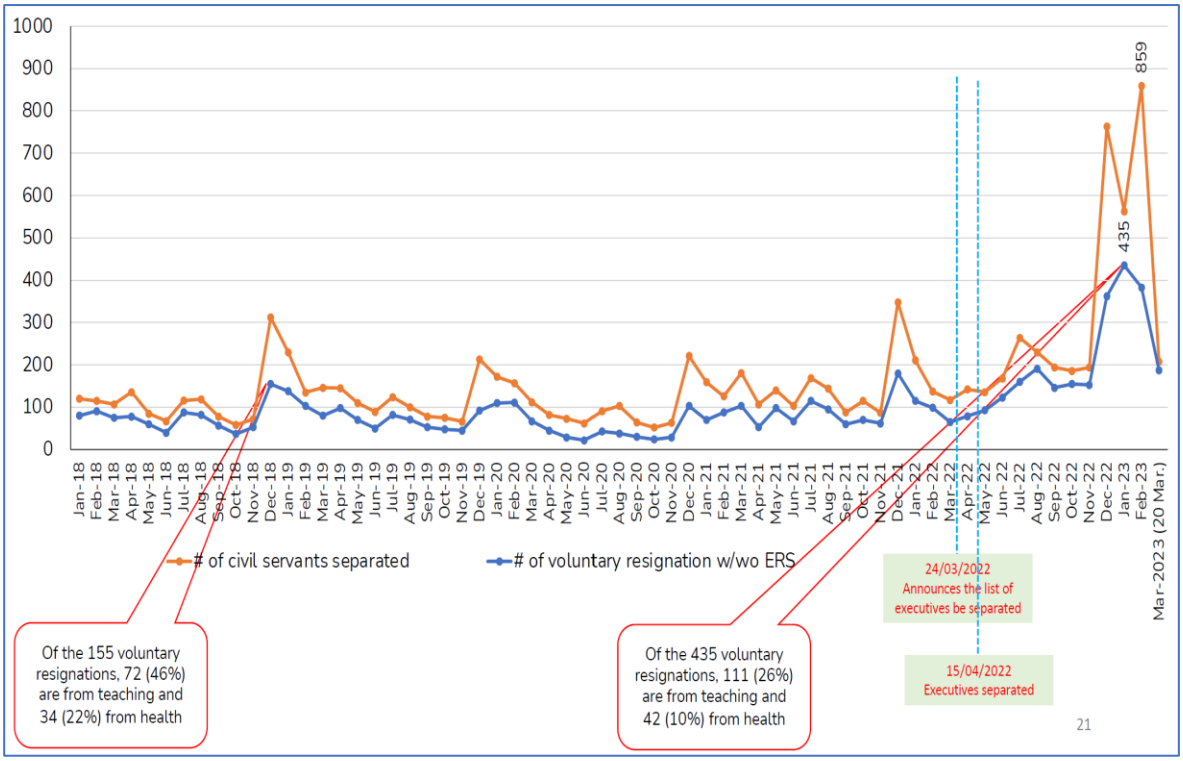


*Figure 6 Resignations of civil servants by types from January 2018 to March 2023*[126]

The health workers emigration from Bhutan has been a persistent phenomenon[66,131] and intensified notably after the COVID-19 pandemic[132]. According to the MoH's Attrition Report 2023, Bhutan has continued to witness an attrition rate of an average of 4% for health workers since 2018[123]. The highest attrition rate (4.84%) occurred in 2022, with 223 health workers leaving the health sector (Figure 7), coinciding with the re-opening of international borders. Nurses have the highest attrition rate at 4.6%, followed by specialists at 2.5% and doctors at 1.7%[133]. Nurses have consistently maintained the highest attrition rate since 2020 (Annex 10). In both the literature and interviews, it was evident that most health workers migrating from Bhutan are nurses.

*"Every day, we have 5-6 recommendation letters to sign for the nurses, to send to either the university or the visa..."*
*~{Respondent 5- Manager}*

Most of them initially take EOL, and eventually, they resign after getting settled in the destination country, with resignation also attributed to the inadequate duration of EOL[134–136]. No official record exists for their whereabouts, but an ever-growing trend shows that many are migrating to Australia[75,125,134,137].

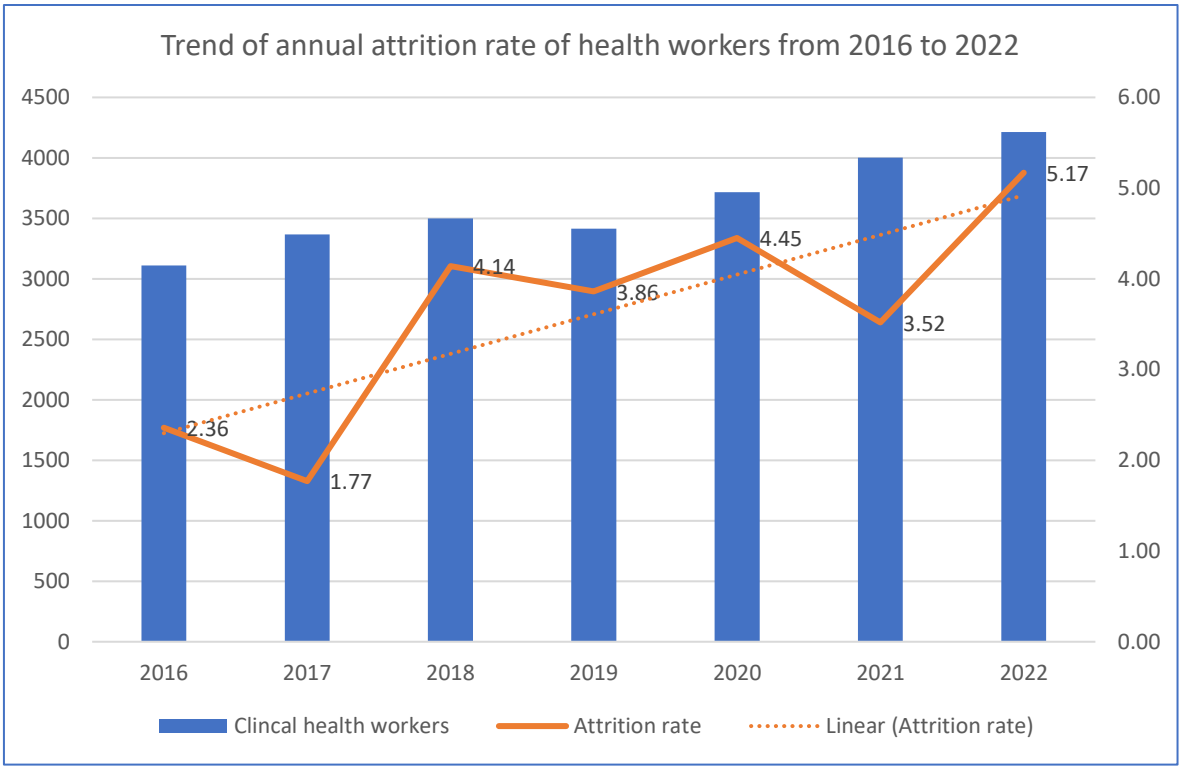


*Figure 7 Trend of annual attrition rate for health workers from 2016 to 2022. Adapted from Attrition Report, MoH*[123]

The interviews highlighted that some young doctors are increasingly preparing for opportunities abroad, particularly in countries like the United Kingdom (UK) and Australia. As highlighted by a manager, emigration predominantly occurs in early-career professionals with 7-8 years of working experience, posing a risk to meeting health workforce demands, especially in rural areas. All respondents mentioned popular destination countries for health workers: Canada, the Middle East, the UK, and the United States (US). Thus, literature and interviews consistently identify the US, UK, Canada, and Australia as the top choices for health worker emigration[81,138–140].

*"… young, general physicians are not interested anymore to apply postgraduate within the country because most of them are busy preparing for opportunities in AMC Australia and the UK."*
*~{Respondent 1- Manager}*

### 4.1.4 Implications of Emigration

The exodus of health workers will have a huge impact at various levels, including the health sector, society, and family. In the health sector, it affects the quality of health service delivery[66,133]. Moreover, the departure of skilled professionals poses challenges in finding immediate replacements, leading to burnout and depletion of workforce[127,141–143]At the societal level, the migration of youths and mid-level professionals will substantially impact on economic growth[127,137]. And at the family level, both left-behind children and carers are more likely to suffer from mental disorders, depression and loneliness back home[144,145].

All respondents highlighted the similar implications of health worker migration. They added that the process burdens the remaining staff with increased responsibilities while remuneration remains unchanged, leading to dissatisfaction and prompting them to seek better opportunities elsewhere. Additionally, respondents expressed concerns about a potential future crisis in competent leadership due to the retirement of older employees. They also highlighted the apprehension that the loss of early-career professionals could jeopardize the functionality of hospitals and the overall healthcare system in Bhutan.

### 4.1.5 Return migration and circular migration

Although some individuals eventually return to their country, no statistics are available for the number of returning migrants from overseas[75]. In a 2021 study, over half of the respondents (N=37) expressed their willingness to return home if given the chance to re-enter civil service in Bhutan. However, it is not possible to rejoin the system once you resign. Others indicated that improved earnings prospects in either private or government sectors would attract them back[134], while 33% stated they have no plans of returning to Bhutan in the near future[134].

Circular migration of health workers remains underexplored, with limited data and research available on this topic[146,147]. Circular migration is a "form of migration that allows migrants some degree of mobility back and forth between two countries." Indeed, it is advocated as a potential 'triple win' solution, offering benefits to source and destination countries and migrant workers[146]. However, a study in India reported that up to one-fifth of the nurses may have been lost to HICs through circular migration[148].

## 4.2 Factor Contributing to the Emigration

In this section, I discuss factors influencing health worker emigration from Bhutan and neighbouring countries, Nepal and India, using the analytical framework that guided my research. The framework and literature underscore various motivations and satisfaction factors influencing individuals to stay or migrate. Thus, the findings provide insights into the complex nature of health worker retention and emigration.

### 4.2.1 Personal Origins and Values

In Bhutan, the traditional social values deeply rooted in Buddhist culture profoundly shape the lives of its people. Values such as *'ley jumdrey'* (cause and effect) and *'tha damtshig'* (sacred commitment) highlight the importance of interpersonal conduct, and social responsibility[149,150]. Health workers were found to be motivated and satisfied by a moral duty to serve others, as indicated in studies[102,151]. Such values can significantly affect their dedication and commitment towards the work and nation. In particular, there was a strong sense of patriotism in the past, focusing on serving the country and its people. However, in modern times, pursuing financial gain seems to be replacing these traditional values[131].

Academicians mentioned a shift towards materialistic mindsets in the Bhutanese community, which may influence the desire to emigrate while compromising spiritualism. Respondents also noted that modern societies are more vulnerable to external influences due to globalisation, decreasing individual resilience. An academician emphasises "individual enlightenment" as a crucial retention

factor highlighting the value of giving back to the country, the role of self-awareness and purpose in their actions. A policymaker expressed the intrinsic fulfilment of serving in the medical and health field, alleviating people's suffering, and positively impacting others' lives, which surpasses monetary reward.

*"The intrinsic reward of serving in the medical/health field, alleviating people's suffering, is a kind of reward that should be valued…"*

*~{Respondent 3-Policymaker}*

Recruiting health workers originated from local communities has been linked to reduced attrition rates in LMICs[60,82], enhancing retention due to their stronger community connections. However, interviews provided limited evidence or insights on this particular matter.

### 4.2.2 Family and community aspects

Studies reported that family members play a crucial role in the decisions to migrate among Indian nurses. Nurses expressed the desire to migrate to better their families lives both at home and abroad[152]. Additionally, family or relatives living overseas were an influential factor in health workers' decision to migrate from India and Nepal[152,153]. The stories of overseas families motivated them to seek a similar lifestyle abroad.

Managers noted that health workers are drawn to countries like Australia for their children's access to high-quality education and improved family prospect. They added that the prospect of gaining permanent residency adds to the appeal. Both policymakers and managers consistently reported the influence of peers and the domino effect. When health workers observe their colleagues leaving the country, achieving success, and improving livelihoods abroad, it triggers a peer-driven consideration of the same opportunity. This peer pressure creates a strong desire to seize similar prospects. Additionally, health workers were observed to emigrate while accompanying their spouses, a push factor contributing to the emigration.

*"Our parents are so committed to the point that they assure us not to worry about our children, as they will take care of them, and we should go to Australia when the opportunity is there."*
*~{Respondent 1- Manager}*

A study in Bhutan revealed that doctors who were married and settled with a family were happier and more satisfied than the young, unmarried ones[66]. Specifically, married doctors demonstrated higher job satisfaction than non-married doctors, as illustrated in Figure 8 and Table 9. Young doctors are usually placed in remote areas facing physical and mental challenges, potentially leading to lower job satisfaction. As a result, they might be more inclined to explore other options, including emigration. This observation aligns with the fact that most health workers who emigrate are young professionals. In contrast, those health workers with stable family lives, and strong social support are less likely to consider emigration[66].

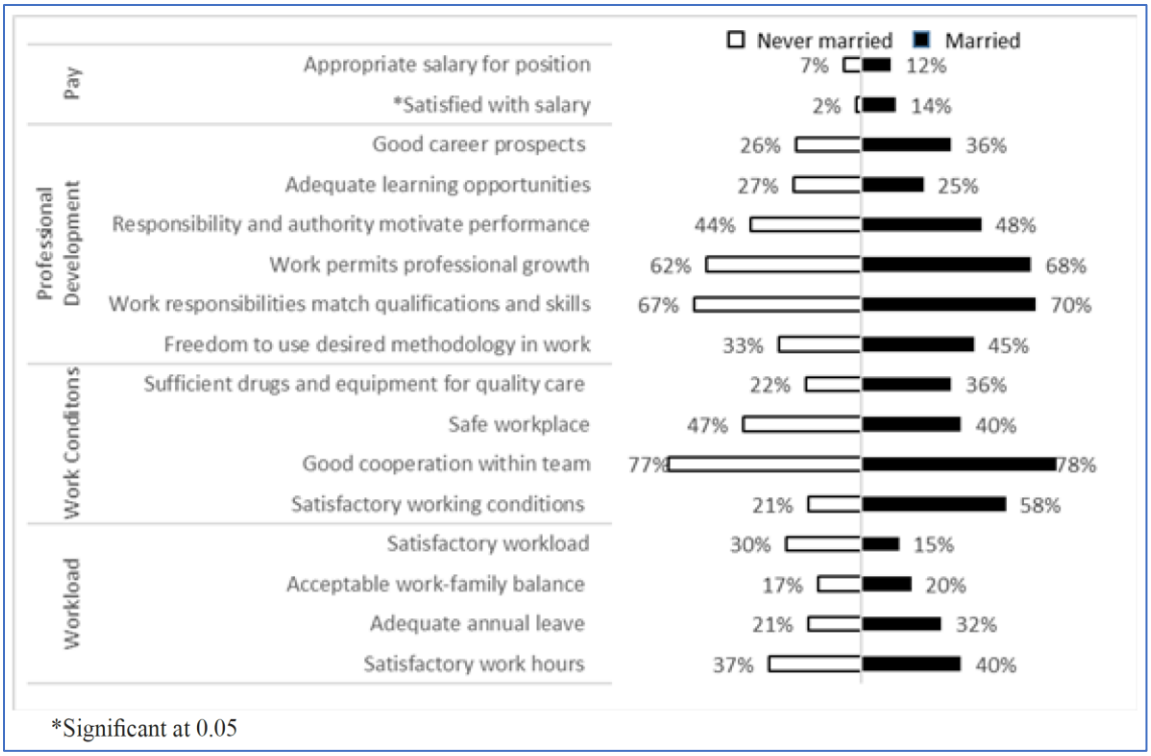


*Figure 8 Percentage of doctors reporting satisfaction with various aspects of a job in Likert survey, by marital status, 2016*[66]

### 4.2.3 Working & living conditions

Poor working environments, such as a lack of essential medicines, equipment, and supplies for patient diagnosis and treatment, have influenced health workers' decision to emigrate to LMICs[139,141,153]. In Bhutan, lack of freedom in their roles was another significant contributing factor influencing the decision-making of health workers[134]. The desire to leave is often attributed to heavy workload pressure and workplace stress in the case of Bhutan and Nepal[66,131,136,141]. Health workers were found to experience stress due to the heavy workload caused by understaffing[43,154]. The sense of belonging to the workplace influenced nurses' migration intention in Nepal[153]. Further, studies in both Bhutan and Nepal reported that the prospect of having better experience or exposure outside was one of the primary pull factors for health workers[134,155,156].

Similarly, respondents reflected that health workers face high work pressure, including prescriptive tasks and ad-hoc multitasking. This can negatively impact both their physical and mental health. An academician mentioned that delayed filling of vacancies in the health system burdens existing health workers with increased workload, causing dissatisfaction and motivating further emigration. According to a policymaker, interactions with health workers who migrated to Australia have revealed that the decision to leave Bhutan is influenced not only by salary but also by the working environment.

*"Just a few days back, I was in Australia and met some people who have gone from here. Talking to them, it became clear that their decision to migrate was not driven by only salary, but also the working environment, which played a role in their decision to leave."*
*~{Respondent 7- Policymaker}*

*Table 5 Demographic and job characteristics of doctors by level of job satisfaction in Welcoa survey, Bhutan, 2016*[66]

| Characteristic | *n* (%) | Positive *n* (%) | Negative *n* (%) | *p*-value |
|---|---|---|---|---|
| Total | 147 (100) | 94 (64) | 53 (36) | |
| Age in years, median (IQR*) | 33 (28–40) | 35 (29–41) | 31 (28–37) | 0.09 |
| Gender | | | | 0.68 |
| Male | 107 (73) | 70 (65) | 37 (35) | |
| Female | 40 (27) | 24 (60) | 16 (40) | |
| Marital status | | | | 0.01† |
| Never married | 43 (29) | 21 (49) | 22 (51) | |
| Married/living together | 99 (67) | 71 (72) | 28 (28) | |
| Single | 5 (7) | 2 (40) | 3 (60) | |
| Educational attainment | | | | 0.04† |
| MBBS | 76 (52) | 42 (55) | 34 (45) | |
| MBBS + specialization | 71 (48) | 52 (73) | 19 (27) | |
| Countries where MBBS training completed | | | | 0.29† |
| India | 53 (36) | 39 (74) | 14 (26) | |
| Bangladesh | 24 (16) | 13 (54) | 11 (46) | |
| Sri Lanka | 59 (40) | 35 (59) | 24 (41) | |
| Others | 11 (8) | 7 (64) | 4 (36) | |
| Clinical status | | | | 0.02† |
| Clinical | 127 (86) | 77 (61) | 50 (39) | |
| Non-clinical | 19 (13) | 17 (89) | 2 (11) | |
| Work place | | | | <0.01† |
| District healthcare facilities | 58 (40) | 28 (48) | 30 (52) | |
| Referral hospitals | 88 (60) | 66 (75) | 22 (25) | |
| Administrative responsibility | | | | 1.00 |
| Yes | 68 (47) | 44 (65) | 24 (35) | |
| No | 78 (53) | 50 (64) | 28 (36) | |
| Years in service, median (IQR‡) | 4.5 (1–12) | 3 (1–10) | 7 (2–12) | 0.07 |

*IQR=inter quartile range; †significant at 0.05

The lack of a performance-based and proper feedback system influenced professionals to exit the system in Bhutan[134,155]. The absence of such a system has also been identified as a demotivating factor for younger professionals(<35 years). Furthermore, they attributed emigration to dissatisfaction with office corruption or frustration with the system[134]. In a 2019 study (N=147), only 64% of doctors were satisfied with their job in Bhutan (Table 5)[66]. Another study (N=1009) revealed that doctors and nurses were reported to be the least satisfied professionals, with 62% and 63% satisfaction rates, respectively[68]. The study indicated that although job satisfaction appeared high, enhancing retention may require providing career opportunities and improving work conditions at district hospitals[66].

In the system, younger talents often struggle to come to light as seniors hinder their progress. There have been reports of nepotism, where individuals' connections and family relationships play a significant role in career opportunities[131]. Poor relationships with supervisors, lack of transparency, and job mismatch were also cited as reasons for emigration[131,155]. A study from Bhutan emphasised the need for robust systems, including a strong work culture and monitoring system, to create a better future[67].


*Figure 9 Word cloud for most occurring words from the excerpts of factors influencing health worker emigration*

To visually represent the most prominent factors influencing the emigration of health workers, a word cloud was generated from the excerpts of the KIIs. The word cloud provides a quick overview of the recurring words and concepts that emerged during the thematic analysis. As shown in the word cloud (Figure 9), the size of each word corresponds to its frequency of occurrence in the interviews. Interestingly, the word "***system***" emerged as a key factor influencing health worker emigration, affirming the significance of findings from both literature and interviews.

As part of the ongoing civil service reform, establishing of the National Medical Services (NMS) agency has separated clinical services management roles from the MoH[157,158]. This move entrusts health workers, especially doctors and nurses, with the stewardship of clinical areas, aiming to motivate and instil a greater sense of responsibility in carrying out their duties. Managers noted that the ongoing reform is crucial in bridging the gap between the central agency and field-level workers. A manager adds that it can also streamline health service delivery, particularly by distributing health workers based on population needs and workload.

### 4.2.4 Career-related

#### i. Career Mobility & Advancement

Lack of career mobility and advancement was identified as one of the main factors contributing to the health workers migration in South Asian countries[62,134,155,159]. In Bhutan, limited upward mobility is a significant issue for professionals, given the scarcity of available executive positions[131]. Moreover, since 2016, technical professionals like doctors, engineers and nurses were restricted from proceeding in the executive career pathway of the civil service until recently[67,160]. This could have prevented them from continuing their careers in Bhutan.

In LMICs, a lack of learning opportunities, trainings and promotion was found to stimulate emigration decision[141]. As per a study in Bhutan, 62% of the respondents cited the primary motivation for going to Australia as pursuing long-term training or studies[134]. The absence of training and skill development opportunities was attributed to the emigration of Nepali nurses[154,156,159]. Likewise, doctors expressed lower satisfaction with learning opportunities in Bhutan[66].

All respondents unanimously cited limited career growth and professional development as one of the main reasons for emigration. A manager noted that nurses' career stagnation, which hinders growth and opportunities, prompts a desire to explore new paths. Consequently, they emigrate to seek new experiences. Another manager highlighted that health workers' increasing awareness of global opportunities and higher expectations are significant contributors to the observed emigration trend.

*"Nurses feel stagnant in their careers unless a divine intervention offers a chance for change. Therefore, they desire to explore different paths beyond their current profession..."*
*~{Reference 4- Manager}*

#### ii. Recognition or appreciation

Studies highlighted the lack of appreciation and recognition contributing to heath workers' poor performance[54,155,161]. Many nurses expressed a perception of their work being undervalued[54]. However, the globalization of nursing has elevated its status in India, enabling nurses to advocate improved retention programs.[152] Recognition interventions may include either receiving verbal commendation or being awarded by supervisors, the community, or the government[80,142] A study from Nepal highlighted that creating a culture of appreciation and celebrating the health workers' achievements can foster their sense of value and motivation to contribute to the workplace[156].

The interviews revealed that health workers feel undervalued and disrespected in Bhutan, leading to demotivation, and becoming significant push factors for emigration. This sentiment arises from a perceived lack of recognition and appreciation for their contributions to the healthcare sector. The academician stressed the importance of providing recognition and appreciation, and effective communication of a clear message of respect/value from leaders to health workers.

*"People, especially professionals, feel undervalued and may decide to leave if they do not feel respected and valued for their contributions."*
*~{Respondent 2- Academician}*

### iii. Leadership

The findings underscored the importance of good leadership and engagement in motivating Bhutanese health workers. They recognised that positive relationships with supervisors play a crucial role in retaining them within the system[155]. The support and supervision from superiors, including the ministry, were found to be inadequate and poor[151]. The need for effective bureaucratic leadership to instil a sense of dynamism within the organisation in Bhutan was equally emphasised[131]. In LMICs, inadequate supervision was identified as a significant predictor of health worker's intent to emigrate[142]. An academician emphasized that ineffective leadership, including poor communication and a lack of listening skills among leaders, hampers collaboration and a conducive work environment, contributing to push factors

*"Inappropriate leadership management is one of the classical situations in third-world countries. Our leaders lack listening skills, negotiation, and clarifying ideas, contributing to the push factor..."*
*~{Respondent 2- Academician}*

### iv. Job security

In March 2022, the RCSC managed out 47 executives who did not meet expectations during the leadership assessments[162]. Several people emphasised that fear and job insecurity provoked civil servants to exit the system, as highlighted in national newspapers[131,163]. Likewise, respondents acknowledged that the situation had instilled fear among the younger generation and may have repercussions on emigration trends. An academician expressed that managing seasoned bureaucrats out of the system is a critical error and an unsustainable development strategy.

## 4.2.5 Financial aspects

In many LMICs, poor remuneration and salary differentials have played a significant role in health workers emigration[78,79,81,141,159]. Likewise, studies have identified inadequate salary and benefits as crucial factors for health worker's emigration from Bhutan[131,134,155]. In a notable statement, the Prime Minister highlighted that public servants in Bhutan are paid significantly lower than in other countries, stressing the urgent need to address this disparity[163]. Bhutanese professionals in Australia earned considerably more than their Bhutan-based counterparts, with some having monthly average incomes surpassing the annual earnings of entry-level civil servants in Bhutan[134]. All respondents stated that the pull factors, particularly in countries like Australia, are strong due to the substantial difference in earning potential compared to working in Bhutan. According to them, making a higher income in months rather than years abroad is a major appeal for health workers.

*"The pull factor is equally strong, not just the push factor. The salary difference is simply huge, and the earning potential abroad exceeds what one can earn in Bhutan in two to three years."*
*~{Respondent 1- Manager}*

The study revealed that health workers in the public sector were better paid, providing them with a compelling reason to stay in India[66]. However, despite being the highest-paid civil servants in Bhutan, health workers continue to emigrate abroad[66,164,165]. It supports that non-monetary incentives are equally important in improving motivation among professionals, as reported in the

study[166]. As I wrote this thesis, Bhutanese civil servants received another pay hike in July 2023[167]. However, an academician mentioned that even with salary increases, individuals with a "poor man's attitude" or a mindset of income insufficiency will still migrate to seek better financial opportunities.

### 4.2.6 Bonding & mandatory services

Bonding is adopted in many LMICs to mitigate the migration of health workers[106,168,169]. Bonding schemes offer a scholarship with a term-defined practice requirement upon completing studies[170]. The duration varies from 1-9 years, depending on the country[168]. Bhutanese health workers must serve for a period of two times the length of their courses[12,116]. If doctors pursue specialisation or sub-specialisation, the obligation could become three or four times, respectively. Thus, a doctor is obligated for life-long to serve without the opportunity to explore different settings. Mandatory service in India has faced criticism for potentially escalating turnover rates in health centers[106,168].

Despite lacking formal evaluation, most respondents find bonding programs effective for staff retention. However, there are reservations regarding the strictness of the bonding and its potential impact on health workers' commitment. An academician suggested that shortening postgraduate programmes from four to three years can both reduce bond and improve retention in Bhutan. According to a policymaker, if obligations with the RCSC did not bind doctors, there would be more consideration for leaving. The interviews revealed that contract nurses resign from JDWNRH after a few months of gaining experience, as civil service rules or bonds do not bind them.

*"...Having that bond is also important because somehow they are obliged to serve the country since the government is spending on them. However, the obligation should not be enforced in an authoritarian manner."*

*~{Respondent 7- Policymaker}*

### 4.2.7 Other factors

In the context of health worker retention and emigration, it is evident that various significant factors extend beyond the ones identified in the analytical framework. These factors, including social, economic, and political aspects, will be explored in the subsequent sections.

#### i. Social factor

Bhutan's unique societal values, which emphasise happiness/contentment over a materialistic world, may retain health workers to stay in the country[66,171]. The support and encouragement from their family and spouses were the main reasons for motivation under social factor[151]. Health workers value psychological and emotional support during service delivery, emphasizing the significance of building social networks. Social respect and community support were additional motivating factors for their dedication to people's welfare[151]. In the past, working for the civil service held great prestige, significantly contributing to the retention and recruitment of high-quality staff[172].

On the contrary, the situation seems to be changing. "Word-of-mouth", coupled with societal pressure, played a significant role as early successful emigrants shared positive experiences, motivating more individuals to follow suit, resulting in a continuous increase in emigration[131]. The interviews indicated that health workers face peer pressure and social expectations concerning emigration. Their families often compare their situation with friends and acquaintances who have migrated abroad. Respondents stressed that parents actively encourage their children to seek opportunities abroad, emphasizing the potential for higher income and a better future. The emigration trend, mainly to Australia, has become a common form of greeting, and staying back can make individuals feel undervalued or less successful, creating added pressure.

*"Frequent reminders and pressure from family members about friends doing well in Australia and earning significant amounts of money can influence the decision to explore opportunities abroad."*
*~{Respondent 1- Manager}*

One intriguing finding from the respondents was the potential influence of forming de facto relationships (adopted spouses) contributing to emigration. De facto relationships pertain to partnerships where two individuals legally marry solely to travel to developed countries as dependents, despite not being in a genuine relationship. This phenomenon sheds light on another unique aspect of health worker emigration.

### ii. Political aspect

In many LMICs, political instability, economic collapse, and poverty have considerably influenced health workers' decisions[60,141,173]. Although Bhutan benefits from relative political stability with fewer extreme challenges, its health worker decisions are still affected by broader international political and economic conditions and globalisation.

The demand for skilled health workers in HICs is a vital "pull factor" for emigration, offering better work conditions, higher salaries, and career advancement opportunities[79,131,141]. The increase in demand for health workers in HICs is attributed to the ageing population, economic growth and failure to retain their medical graduates[45,140,170].

Globalization is another crucial factor which exposes individuals to new opportunities and places Bhutan in competition with HICs for its employees[73]. The migration trend is associated with the increased internet penetration and use, which exposes people to better opportunities abroad[131]. Media portrayals depicting a high-quality life abroad have influenced emigration considerations in LMICs[79]. Establishing the Australian and UK joint Visa application centre in Bhutan in 2016 has made visa applications more accessible, contributing to the emigration trend[131]. In some LMICs, recruitment agencies have been known for their involvement in emigrating health workers[174–176].

Likewise, the presence of several education consultancies in the capital city has led to applying for migration abroad, as stated by a manager. Recruitment agencies have a minimal role in recruiting health workers from the country, which is relieving for Bhutan. All respondents unanimously perceived that the favourable post-COVID-19 conditions, such as increased access to financial support,

relaxed migration laws, and economic recovery, have fostered an enabling environment for considering emigration.

### iii. Economic situation

The overall economic situation of Bhutan plays a significant role in emigration, as it has deteriorated due to the COVID-19 pandemic and the effects of the war in Ukraine[18]. At the same time, the unemployment rate has significantly risen in 2022 (5.9%) compared to 2017 (3.1%)[24], which could contribute factor to a spike in emigration[17]. Along the same lines, policymakers and managers highlighted that the country's economic challenges, particularly the aftermath of the COVID-19-induced economic downturn, have played a role. Bhutan's current GDP per capita is around $3,000, which is considered low. Studies suggest emigration trends may reverse at $9,000 - $10,000 GDP per capita. Until then, professional emigration is likely to continue, added the manager.

*"The overall economic situation of our country plays a significant role in emigration. The emigration trend will only reverse when the GDP per capita reaches a certain level."*
*~{Respondent 1- Manager}*

## 4.3 Retention Policies and Interventions

The RGoB has implemented various measures to address health worker retention, aiming to create a conducive environment that encourage them to stay and contribute to the country's health system. However, the effectiveness of these initiatives has not been evaluated. These major interventions are described below in Table 6.

*Table 6 Interventions used to improve attraction and retention of health workers in Bhutan*

| ***Thematic interventions*** | ***Specific interventions or policies*** | ***Short Description*** | ***Remarks*** |
|---|---|---|---|
| **A. Education** | i. Establishment of in-country residency programme | Established in 2013 at the KGUMSB to address the shortage of specialists[116] | Retain their service while training and post-training (bonding) |
| | ii. Introduction of the MBBS programme | Expected to start in 2023. It will enhance the country's production capability of medical doctors[124] | |
| | iii. New eligibility criteria for nursing admission since 2021 | Students from commerce & arts streams can apply diploma in nursing programme[136] (the MHPC amended the criteria) | |
| **B. Regulatory** | i. Bonding & mandatory services | Health workers are required to serve for a duration of two times the length of their courses[12,116] | Mitigate the emigration |
| | ii. Requirements of CME for professional licensing | Renewal of license is subject to earning 30 CME credit points every five years[12] | MoH & KGUMSB developing online courses for CME credits[116] |
| | iii. Special recruitment considerations | Retired specialists are retained by offering a two-year contract with a special package<br>Government to take returnees on contract basis[177] | Retain specialists in the country & serve as motivation<br>Encourage return migration |
| | iv. Exemption of civil service's preliminary exam | The doctors are exempted from doing civil service's preliminary exam[178] | Others must pass the civil service exams[116] |
| **C. Financial incentives** | i. Revolutionary pay hike for health workers in 2019 | A professional allowance of 35-60% was added to basic pay depending on their qualifications and seniority[12,66] | Made health workers the highest-paid civil servants in the country |
| | ii. Other financial incentives | Difficulty allowance, and high-altitude allowance for those serving in rural districts since 2006[12]<br>Uniform allowances have paid annually since 2014[12] | Financial incentives and recognition make staying in the country more attractive |
| | iii. Substantive salary revision in July 2023- the highest raise in the history | It includes a raise from 55-75% for all civil servants[179,180]<br>Professional allowance raise (General doctor- 55%; Specialist- 70 %; Sub-specialist- 80%) | Expected not only to retain existing health workers but also to attract young graduates to join the civil service[167] |
| **D. Professional & personal support** | i. Doctors career path | RCSC has reformed the career path with an amendment of BCSR rules[66,181] (privilege in entry grade, early promotion, consider active service while doing residency[117]) | Incentivize doctors to stay, leading to improved retention and discouraged emigration |
| | ii. Specialist Retention Strategy | Developed in 2017 to retain specialists. Proposal for on-call allowance sub-specialist allowance were made[64,117] | Sub-specialist allowance was endorsed |

| | | | |
|---|---|---|---|
| | iii. Virtual platforms for CMEs | MoH and KGUMSB developing more online courses to update their knowledge and earn CME credits[116] | Professional development and incentives |
| | iv. Technical open competition for Executive posts | RCSC to hire candidates for executive positions from specialist category and outside the civil service[182]<br>Technical professionals like doctors, engineers and others can compete for the relevant executive positions[160] | Attract and retain talent pool in the system |
| | v. Promoting work-life balance | Introduced an annual leave of 21 days from June 2023 in addition to other existing leaves[183,184]<br>Access to in-compound housing facilities in most of the health facilities[116] | Improve motivation and job satisfaction |
| | vi. Introduction of management of excellence (MaX) | Introduced in 2017 as a new performance management system[166]<br>Performance based incentive being explored! | Boost employee motivation |
| | vii. Retirement age for civil servants increased | In April 2023, RCSC has increased the retirement age for civil servants, 3 years for ESC (from 60 to 63), 2 years for professional levels (58 to 60), and a year for the SSC staff (57 to 58)[185] | Retain the skills & services of skilled professionals |
| **E. Policies & strategies** | i. Policies & strategies relevant to retention of health workers | -National Health Policy 2011: Emphasizes the need for appropriate incentives to attract, motivate, and retain productive health workers[15]<br>-HRH Master Plan 2011: roadmap for HRH planning & capacity building for the period 2011-2023[12]<br>-Health Services and HR Standards 2022-2026: currently in the draft stage[111]<br>-National Strategic Direction for Nursing & Midwifery 2021-2025: touches upon the development, motivation, retention and leadership of nurses[110]<br><br>However, currently, there is no comprehensive national retention strategy for health workers with clear visions and actions. | |

## 4.4 Best Practices and Lessons learned

Given the scarcity of evaluated interventions for retaining health workers in LMICs[142], identifying best practices and lessons learned was challenging. As a result, valuable insights were drawn from successful interventions implemented in both HICs and LMICs, outlined below.

### i. Government to Government agreement

Formal agreements between source and destination governments (the G-to-G agreements) are a valuable practice adopted by some countries. They ensure that emigrating professionals receive comparable employment rights and benefits to domestically trained professionals. These agreements also help regulate the number and qualifications of emigrating professionals, mitigating the negative consequences on source country health systems. One example is a bilateral agreement signed between Germany and Vietnam in 2012. This agreement addresses shortages in geriatric care nurses in Germany while providing training and employment opportunities to Vietnamese health workers. Participants received prior training, including integration and language courses, to support their transition into new healthcare system[170]. Similarly, Indonesia has established a bilateral agreement with Japan to supply nurses[62,186].

### ii. Task shifting

Task shifting is one of the most commonly used methods to address health workforce shortages[170,187]. It involves transferring responsibility for 'simple' tasks from high-skilled but scarce health workers to those with less expertise and lower pay. Nurses' success in advanced roles as nursing practitioners in countries like the Netherlands, Canada, Australia, and the US is one example of task shifting. This has resulted in higher patient satisfaction, reduced hospital admission, reduced workload, and improved retention[170]. Similarly, the authority to initiate ARV treatment was given to nurses in South Africa. In Burma and the Philippines, volunteer health workers use village-based microscopy to diagnose malaria. Some countries have trained non-physician health workers to perform surgical procedures such as abscess drainage, hernia repair, and caesarean sections[54]. Thus, task shifting may reduce the workload and stress of health workers, improving their retention and motivation.

### iii. Circular migration program

Circular migration is a type of migration that allows migrants a certain degree of mobility to move back and forth between two countries[146]. Such migration practice is widely practised in Europe. Irish nurses migrate to the UK for training and work experience, intending to return to Ireland. Similarly, nurses from Finland work in Sweden and Norway before returning at the end of their careers. European doctors also migrate to gain work experience during their training phase in countries like the UK, Switzerland, and the US, often returning home for leadership positions in hospitals[147]. Another example is the Pacific Mobility Scheme, which allows health workers from Kiribati, Nauru, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu to work in Australia for up to three years. The program aims to improve opportunities for health workers and their communities, and address the labour shortages in Australia[111].

### iv. Policies on ethical migration

There are some global and regional codes of practice aimed at guiding the ethical recruitment of health workers internationally. These policies emphasize fair practices in recruiting and retaining health workers, seeking to prevent exploitation of the health workforce in source countries and

mitigate the negative impacts of emigration. One such notable code is the WHO Global Code, adopted in 2010[188,189]. Sixty-four countries have incorporated code provisions into their national laws, policies, or international bilateral agreements. If effectively implemented, destination and source countries would benefit from such agreements[47]. Another example is the European Code of Conduct on Ethical Cross-Border Recruitment and Retention, adopted in 2008.

### v. Continued Professional Development

Continued Professional Development (CPD) is a critical strategy for recruiting and retaining health workers. CPD was the second reason for attracting recruits to rural programs in Australia after financial incentives. Similarly, it was also one of the enablers in Canada and a primary factor in retaining nurses in Ontario[170].

### vi. Social accountability of medical schools

Strong evidence suggests that recruiting rural students and providing positive rural exposure during training boosts later rural retention[82,88,116]. Recently, "social accountability" in medical schools has focused on reinforcing rural service ethic, showing promising results in retaining health workers[170].. Universities in the UK, the US, Northern Ontario and Northern Norway have also achieved positive outcomes by prioritizing social accountability[170,190].

### vii. Thailand- a special recruitment programs

Two special projects called the "Collaborative Project to Increase Production of Rural Doctor", and "One District, One Doctor" were introduced in 1994 and 2005, respectively to attract and retain doctors in rural and public health services. Medical graduates under these special recruitment schemes were approximately 2.4 times more likely to stay employed in the Ministry's health services for three years than their regular track counterparts[191,192]. An evaluation study on these projects recommended focusing post-graduate medical education programs on recruiting civil servants to retain physicians in public hospitals[191].

### viii. Canada- New Graduate Nursing Initiative

Ontario introduced a comprehensive strategy in 2008, to provide full-time positions, facilitate recruitment and transition into practice for newly graduated nurses[193]. The evaluation of the strategy indicates its success in stimulating new employment opportunities and retaining nurses. Nurses expressed satisfaction with the immediate hiring process, mentorship, and decreased considerations of emigration[170].

### ix. Potential for dual practice

Dual practice is common among health workers in many countries, especially in LMICs. It involves public sector-based health workers taking additional work in the private sector to supplement their income and improve their skills[194]. Some studies suggest that dual practice can help retain health workers in the public sector by providing them with financial and professional incentives, and reducing their dissatisfaction and frustration[194,195].

# 5. CHAPTER V: DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

## 5.1 DISCUSSION

The discussion is organized based on the study's specific objectives. Objective 2 will be detailed through thematic factors aligned with the framework. I will also explore the framework's adaptation and relevance, along with acknowledging the study's limitations.

### i. HRH Situation, Trends of Emigration and its Implications

The health workforce in Bhutan have evolved significantly over the years since the first introduction of modern healthcare in 1961. However, the current number of doctors and nurses still falls below the WHO's recommended threshold of 4.45/1000 population. Bhutan continues to grapple with shortages of health workers, mainly due to maldistribution and the expansion of healthcare services. The significant emigration of doctors and nurses to HICs further exacerbates the situation, although precise figures remain unknown.

The presence of only one medical university in the country affects the production of an adequate number of medical graduates. Additionally, the high costs and the challenges of securing slots in foreign universities limit the intake for training. On the other hand, the local training capacities for nurses are considered adequate with the presence of public and private nursing colleges in the country.

The implications of emigration extend to multiple levels, including families, society, and the health sector. A noteworthy concern arises from the departure of the youths and mid-level professionals, which will likely impact the country's overall economic growth considerably. As Their Majesties the Kings have repeatedly emphasised, the future of the nation and its nation-building efforts rest upon its youth. However, if the current emigration trend continues, the country's future prospects may appear less promising. It is crucial to recognise that this issue extends beyond mere comparisons of attrition rates or emigration numbers; it reflects a more profound challenge that requires careful consideration and thoughtful solutions.

The intersection of the "right to move" and the "right to health" significantly influences health worker retention and emigration dynamics. The "right to move" gives health workers the freedom to explore better opportunities and living conditions abroad, and it is unrealistic to expect emigration to come to a stop completely. At the same time, balancing this "right to move" with the "right to health" in Bhutan is crucial.

### ii. Factors Contributing to Emigration

Various factors mentioned in the framework and literature are associated with motivation and satisfaction, which can encourage health workers to stay in the country or emigrate.

As evident from the findings, many health workers in Bhutan are driven to emigrate in pursuit of improved career prospects, higher remuneration, economic security, and improved living standards for their families. The allure of settling down and gaining permanent residency further adds to the appeal. These factors contribute to the brain drain phenomenon in Bhutan, similar to other LMICs.

Based on the findings, career-related aspects emerged as the key factors influencing health worker emigration. Lack of career advancement, inadequate learning opportunities, ineffective leadership, job security concerns, and poor recognition have driven them to seek better prospects abroad. This finding is consistent with previous studies conducted in other LMICs, where the absence of career progression has been linked to migration[142,196]. To address this, policymakers should prioritise career growth opportunities, invest in CPD/CME programs, foster a culture of appreciation/ recognition, strengthen leadership engagement, and create a conducive work environment. Implementing a performance-based and feedback system can also enhance job satisfaction and retention among health workers.

Among the various policy interventions, a significant focus was placed on improving the financial incentives for health workers as a strategic approach to retaining them. However, competing solely on financial incentives with developed countries presents challenges for Bhutan. Therefore, equal attention should be given to non-financial aspects, such as enhancing working conditions, promoting recognition and appreciation, mentorship opportunities, and performance-based incentives. Even in HIC like Ireland, retaining doctors proves challenging due to similar reasons[140,197]. Hence, these complementary measures are essential in tandem with financial incentives to address the retention challenges effectively.

A concerning factor for Bhutan is the potential depletion of its intrinsic traditional values, such as social responsibility and contentment. There is a perceived shift towards more materialistic mindsets within the community, contributing to the desire to emigrate. For instance, despite health workers being the country's highest-paid civil servants, with senior specialists earning more than the Cabinet Secretary[164], the highest position in the civil service, it is disheartening to witness such a trend. This reinforces the notion that financial incentives alone cannot be considered a panacea for the emigration issue.

The findings from the literature and interviews shed light on the influence of societal pressure, which is both a push and pull factor for health workers. On one hand, it may encourage individuals to pursue opportunities abroad for the promise of a better future, as illustrated in the "word-of-mouth" communication mentioned during the interviews. On the other hand, societal expectations might also pressure them to stay in the country despite personal aspirations for global exposure and professional growth. Similarly, the findings highlighted the significant influence of family members on migratory decisions, driven by the desire for stability in their families' lives. Conversely, health workers with strong family and social networks exhibited greater job satisfaction and lower likelihood of emigration.

Social values, family dynamics, and societal influences are key factors impacting health worker retention in Bhutan, aligning with LMIC studies, particularly in African countries[6,79,88,101]. However, current retention strategies primarily emphasize financial incentives and career prospects, overlooking these essential intangible aspects. This omission could result in insufficient emotional and personal engagement of health workers, a vital factor for a committed workforce and retention. To bridge this gap, Bhutan should actively promote social values, cultural appreciation, community engagement, and a sense of belongingness. Bhutan will introduce Gyalsung, the one-year national integrated training program mandatory for all youths attaining aged 18 from 2024. This program

aims to cultivate sense of belongingness, instil social values, and foster life skills, potentially mitigating brain drain in the country[132].

The bonding requirement has been widely implemented in Bhutan. Despite the limited study on its effectiveness in the country, the study suggests that bonding programs have successfully retained staff. This finding is consistent with evidence from LMICs and higher- and middle-income countriess[106,168–170]. However, there is a concern about the excessively stringent bonding scheme, potentially influencing health workers' migration decisions.

On the other hand, the concept of "brain gain" is also worth considering in the context of HRH in Bhutan. "Brain gain" refers to the potential benefit of returnees to their home country with enhanced skills, ideas, and global exposure. As we address the challenges of "brain drain", it becomes crucial to recognise the potential benefits of "brain gain" and develop strategies that encourage health workers to return to their homeland after gaining valuable experiences abroad through return or circular migration.

### iii. Potential Mitigation Strategies

Based on the evidence and lessons gathered, it's clear that a single intervention may not provide a sustainable solution for mitigating health worker emigration. Hence, a comprehensive approach is crucial, focusing on factors that retain health workers and evaluating policies that could hinder their return.

Return migration and circular migration present promising mitigation strategies. Return migration involves encouraging health workers who have gained international experience to return and contribute to their home country. By leveraging their expertise, skills, and cross-cultural exposure, they can positively impact the quality of healthcare delivery services. Initiatives like offering competitive salaries and conducive working conditions can encourage health workers to return to their homeland, fostering a mutually beneficial "brain gain" phenomenon.

However, returning health workers may experience difficulties in integrating with their community or profession, as reported in countries like India, Jamaica and Botswana[139,169,198]. A study found that many employers and government representatives were unfamiliar with the concept of circular migration, leading to various barriers and challenges in its implementation[147]. These obstacles include legal and administrative issues, lack of coordination, ethical concerns, skills recognition, etc. Therefore, identifying these barriers and exploring opportunities to encourage health workers' homecoming is crucial. Conducive policies and well-designed support systems are essential in aiding and assisting the returnees in facilitating successful reintegration.

For instance, the existing BCSR pose a major obstacle, as health workers who have resigned are currently not eligible to rejoin. Besides, the age limit is 35 years to join the service. Many individuals may have gained valuable experience, but the government lack provisions to absorb them. However, the recent government announcement regarding the potential of allowing returnees to join civil service on contract gives us a promising ray of light[177].

Circular migration entails facilitating temporary work arrangements for health workers to gain international experience while maintaining strong ties with their home country. This can be achieved through bilateral agreements with other countries or participation in international health exchange

programs. Drawing lessons from the Bhutan military's successful engagement in the United Nations Peacekeeping mission[199], the health sector can implement similarly structured programs for health workers, offering international exposure and attractive incentives to encourage their return.

Bhutan can also draw insights from countries like Vietnam and Indonesia, where they have utilized bilateral G-to-G agreements with HICs, as mentioned earlier. These agreements can incorporate provisions for return migration, encouraging professionals to return home after overseas assignments. Moreover, adopting the WHO Global Code can streamline negotiations and advocacy efforts with HICs to establish such arrangements.

There is a growing discourse on privatising certain healthcare services in the country, owing to high demand and low growth in the public sector. This measure is seen as a means to reduce the burden on public hospitals, ensure quality healthcare services and retain health workers. A suggested approach is to permit health workers to partake in dual practice. Nonetheless, the evidence on the impact of dual practice on health workers retention is mixed and inconclusive[108,194,195].

Task shifting has emerged as a viable approach to tackle health workforce shortages. However, the current MHPC regulations hinder effective task shifting as they do not grant prescriptive rights to nurses. Despite this challenge, Bhutan can capitalize on existing Clinical Officers and Health Assistants as a strong foundation for addressing workforce shortages. These health workers' cadres are less likely to emigrate as their qualifications are not fully recognised abroad. By strategically shifting tasks to existing Clinical Officers or introducing Nurse Practitioners, Bhutan can build on the system by empowering other professionals. This approach retains skilled workers and offers a sustainable solution for workforce challenges.

Lastly, the findings highlighted the importance of three broad factors: social, economic, and political aspects, that merit consideration in developing/adapting new analytical frameworks for understanding the subject matter. While the existing framework's six factors offer valuable insights into individual motivations and local conditions, a comprehensive framework will encompass the broader systemic and global forces that influence health worker decisions. The decision to migrate or stay is not solely affected by personal factors or local circumstances but is interconnected with larger socio-economic and political contexts. For instance, better economic opportunities in source and destination countries can significantly impact health workers' choices. Similarly, the global health labour market plays a pivotal role in shaping the emigration trend[173,200]. By incorporating these broader aspects, the new framework can offer a more holistic understanding of health worker retention and emigration dynamics in Bhutan and similar settings.

### iv. Strengths and Limitations

This study is a pioneering contribution to health worker emigration, being the first of its kind in the country. A mixed-method approach involving a thorough literature review and insightful KIIs offers a comprehensive and rich understanding of the subject. This study lays the groundwork for future research and serves as a reference for other researchers. The results hold crucial policy implications for health worker retention and emigration strategies. Furthermore, it contributes to the broader understanding of health worker migration in LMICs, informing similar studies in other settings.

Determining the precise extent of health worker emigration proved challenging due to the lack of official records and a fragmented health information system. Nevertheless, an estimate was gleaned from RCSC & MoH resignation records, offering a partial understanding of the emigration scale. The sampling methodology, utilizing KIs' guidance and purposive sampling provides unique insights, but might have introduced bias. The selection process could overlook certain perspectives or individuals who could have provided valuable insights. Further, the small community dynamics may lead to participant homogeneity, restricting the representation of diverse perspectives and potentially overlooking the voices of underrepresented groups.

## 5.2 CONCLUSION

The health workers emigration has become a longstanding and persistent phenomenon in our increasingly globalised world, and Bhutan is no exception. The post-COVID-19 period has witnessed a significant surge in the exodus of health workers, particularly young professionals, raising national concerns. While the exact magnitude of emigration remains unknown, the data from various sources underscore the gravity of this issue and its significance for the country. Evidently, this challenge extends beyond mere attrition rates or numerical comparisons; it calls for profound considerations and thoughtful solutions.

Acknowledging the "right to move" that allows health workers to seek better opportunities abroad is essential, and it is unrealistic to expect emigration to come to a stop completely. However, it is equally vital to balance this right with the "right to health" of the Bhutanese population. To strike this balance, Bhutan must adopt a comprehensive approach that addresses underlying factors contributing to emigration while implementing evidence-based strategies to improve health worker retention.

The study sheds light on the concerning trend of diminishing social values and sense of belongingness and shifting materialistic mindset in the Bhutanese community. The study also highlights the influence of societal pressure and family members, which can be both a push and pull factor for health workers. Thus, giving equal emphasis on upholding social values while strengthening social support networks and family-related policies is crucial.

Since 2006, improved financial incentives have been a prioritized intervention to retain health workers, although its effectiveness remains unassessed. The existing gap emerges from the exclusive emphasis on financial incentives, overlooking crucial societal factors and social values. To address this gap, the government should adopt initiatives that foster community engagement, social values, and a sense of belongingness. Strengthening the emotional bond between health workers and their country can cultivate a committed healthcare workforce. Achieving this involves promoting cultural appreciation, recognizing contributions, and instilling pride among them.

To explore potential mitigation strategies, it becomes evident that a single intervention may not effectively address the complex issue of health worker emigration. Instead, a multi-sectorial and multifaceted approach tailored to the local context is crucial for developing sustainable retention

strategies. Such an approach must not only consider financial incentives and career opportunities but also focus on addressing critical societal factors and social values among health workers.

Circular/return migration, G-to-G agreements, and task shifting are promising strategies to curb health worker emigration and enhance retention. Circular/return migration leverages the expertise of health workers with abroad experience, while G-to-G agreements safeguard their interests and facilitate international exposure. However, enforcing G-to-G agreements can be challenging due to their voluntary nature and lack of restrictions on recruitment agencies hiring for private companies. Task shifting is another critical approach for Bhutan's health workforce challenges. By empowering and upskilling existing health workers, Bhutan can optimize its human resources and alleviate pressures leading to emigration.

In conclusion, tackling health worker emigration in Bhutan demands a comprehensive approach encompassing individual motivations, social influences, and broader socio-economic factors. This can be achieved by fostering social values, addressing societal factors, and offering non-financial incentives and career prospects. Embracing effective strategies like circular/return migration, G-to-G agreements, and task shifting will bolster retention, fortify the health system's resilience, and ensure long-term sustainability.

## 5.3 RECOMMENDATIONS

Building on the study's findings and best practices in mitigating emigration, this section presents a set of recommendations, categorised into Policy, Interventional, and Research domains, targeting specific stakeholders. These proposed measures target the drivers of health worker emigration in Bhutan and aim to foster retention.

### 5.3.1 Policy recommendations

#### i. MoH, NMS and Policymakers:

- Lobby for bilateral agreements with destination countries while respecting health workers' right to migrate. This can improve regional migration and facilitate circular/return migration for essential expertise.
- Develop a comprehensive and multifaceted national retention strategy for health workers, encompassing both financial and non-financial incentives, addressing the work-life balance needs of health workers.
- Conduct a comprehensive review of existing policies to identify and address any barriers to return migration. By making necessary adjustments to existing policies, particularly those related to the civil service, Bhutan can create a conducive environment that encourages the reintegration of returnees into the workforce.
- Integrate the importance of retaining skilled health workers into the upcoming revision of the National Health Policy, signalling the value of their contributions and commitment to creating a conducive environment for their growth and satisfaction.

#### ii. RCSC & Ministry of Finance

- Explore the possibility of introducing performance-based incentives to motivate health workers and improve job satisfaction. By recognizing and rewarding performance, this approach can encourage professionals to remain committed and motivated in their jobs.

#### iii. RCSC, MOH & NMS

- Develop a system for recognizing and rewarding health workers who exhibit exceptional dedication and cultural appreciation to their profession and country. This can contribute to fostering a sense of pride, loyalty, and commitment among them.

### 5.3.2 Interventional recommendations

#### i. Ministry of Education & Skills Development

- Introduce cultural education as a compulsory subject in schools, emphasising Bhutanese traditions, customs, values, and the importance of community engagement. By instilling these cultural values from a young age, future generations will develop a deep sense of pride and loyalty towards their country, increasing the likelihood of staying and serving in Bhutan.

#### ii. KGUMSB

- Integrate community service programs into the curriculum for nursing and medical students. Such initiatives may include engagement in community health camps, rural health facilities and interaction with local communities to comprehend healthcare needs. Direct exposure to the positive outcomes of their efforts in people's lives can cultivate a sense of attachment, inspiring commitment to careers in Bhutan.

#### iii. NMS & MoH

- Introduce mentorship and support programs for early-career health workers to bolster their skills and job satisfaction, fostering a conducive environment for their professional growth and development.

### 5.3.3 Research recommendations

#### i. KGUMSB & MoH

- Conduct comprehensive studies on the following topics:
    - Evaluate the effectiveness of existing retention strategies to make informed decisions, refine policies, and allocate resources more effectively.
    - Evaluate the residency program's duration to ensure that any change in the bonding scheme aligns with the best interest of both the health system and the doctors it seeks to retain.
    - Investigate the experiences of returning health workers to understand factors that influenced their decision to return home.

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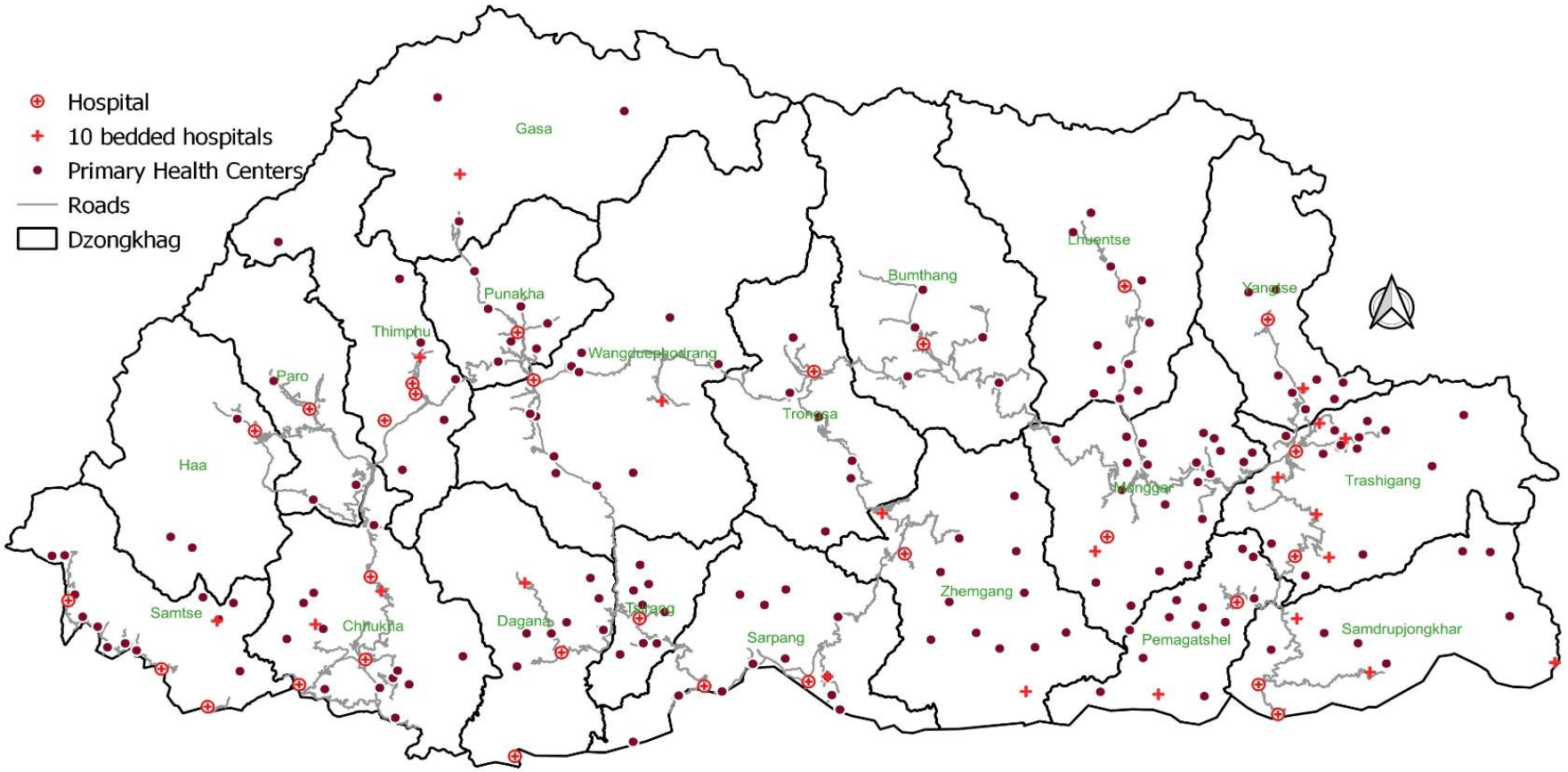
## ANNEXURES

### Annex 1: Spatial distribution of health facilities across Bhutan 2023. Source: HMIS, MoH



## Annex 2: Categories of health workers. Adapted from the Health System Review, 2017

| Categories of health workers | Brief description |
|---|---|
| **Specialists** | Specialists have a postgraduate degree and sub-specialization in their field. They work in referral hospitals and other selected hospitals. |
| **Doctors** | Doctors have a bachelor's degree in medicine (MBBS) and are placed in hospitals. |
| **Dentists** | Dentists have a bachelor's degree in dentistry and are placed in hospitals. |
| **Drungtshos** | Traditional medicine physician with a bachelor's degree in traditional medicine and are placed in hospitals. |
| **sMenpas** | Traditional medicine practitioner with diploma in traditional medicine, and are placed along with Drungtshos |
| **Clinical officers** | Clinical officers are health assistants (HAs) with additional training in clinical care and are highly experienced in healthcare service delivery. They work in hospitals and satellite clinics. |
| **Health assistants (HAs)** | HAs have basic education of 12th standard with science background and have a diploma in in community health from KGUMSB and are licensed to perform public health programmes and treatment of minor illness in community. They work in PHUs and community health units (CHUs). |
| **Clinical nurses** | Nurses have a basic education of 12th standard with science background and are further trained in Bachelor of science in nursing. In addition of doing what staff nurses and assistant nurses do, they are responsible for performing critical nursing care, holistic patient care and carry out research for evidence-based practice. Team management falls within their responsibilities. |
| **Staff nurses** | They are nurses with a diploma in nursing. Besides the fundamental nursing care, they take some additional responsibilities such as developing and implementing nursing care plan, assisting the clinical nurses and doctors during advanced life support and perform functions according to their specific responsibilities. |
| **Assistant nurses** | Assistant nurses have a basic education of 10$^{th}$ standard with an additional certificate course in nursing. They are responsible for fundamental nursing care such as bedside care and hygiene, monitoring and recording of vital signs, assisting patients to collect samples, and feeding |
| **Pharmacists** | Pharmacists have a bachelor's degree in pharmacy and are engaged in administering drugs and educating patients and the public on use of drugs. They work in hospitals. |
| **Physiotherapists** | They have bachelor's degree in physiotherapy and are engaged in improving and sustaining physical health of patients. They work in hospitals. |
| **Technologists** | Technologists hold degrees in various medical science fields and are responsible in supporting doctors and specialists in hospitals. |
| **Technicians** | Technicians are diploma holders, engaged in providing services in their respective technical fields. |
| **Dieticians/Nutritionists** | Dieticians hold a bachelor's degree in diet and nutrition, and they work in hospitals. |

### Annex 3: Search strategy table showing the key words for the literature search

| *[Topic/object] Problem/issue terms (OR)* | | *[What I want to know about my topic/object?] Factors-related terms (OR)* | | *[Where is it?] Geographical scope terms (OR)* |
|---|---|---|---|---|
| "Human resources for health" | | Retention | | Asia |
| "Health workforce" | | Migrat* | | "South Asia" |
| HRH | | Emigrat* | | "South-East Asia" |
| "Health worker" | | Attrition | | Bhutan |
| "Healthcare worker" | | "Brain drain" | | "Developing count*" |
| "Health personal" | ***AND*** | Motivation | ***AND*** | LMICs |
| "Health professional" | | Satisfaction | | "Low- and middle-income count*" |
| "Medical doctor" | | "Push and pull factors" | | |
| Doctor | | "Barriers and enablers" | | |
| Physician | | "Return migration" | | |
| Nurse | | "Circular migration" | | |
| | | Performance | | |
| | | Resignation | | |
| | | Factors | | |
| | | "Health system" | | |
| | | "Working environment" | | |
| | | "Living conditions" | | |
| | | Social | | |
| | | Economy | | |
| | | Political | | |
| *: truncation symbol used to enable search | | | | |

## Annex 4: Interview/topic guide for data collection

**A. Introduction**

1. Could you share with me your professional experience and background?
    - Position, public/private sector, technical staff or management etc?
2. Overall, how long have you been working in the health system or affiliated with the health sector?

**B. HRH situation- emigration trends**

3. How do you describe/perceive the current state of the health sector in Bhutan?
4. What is your perception on the current health workforce? How does it enable or hinder the provision of quality services?
    - What are the reasons for the current shortages or imbalances in the health workforce?

    Note- probing question will depend on the response
    - If migration is mentioned, go to next question 5. If migration is not mentioned, try to add probing question on migration!
5. You mentioned that one of the reasons is migration, what is your impression about migration of health workers? Who are leaving? And where do they typically migrate to?
6. Did any health workers who were working under your supervision or someone you know recently leave the country?
    - Can you please tell me more about it? (health worker cadres, number of years served, destination country, others…)

**C. Consequences and implications**

7. How does the emigration of health workers affect the quality, accessibility, and overall functioning of the country's healthcare system? What are health worker emigration's potential consequences or implications on the country's healthcare system?

**D. Factors Influencing Emigration**

8. What are the main reasons or factors that contribute to the emigration of health workers from the country?
    - salary, job opportunities, career, working conditions, healthcare system, etc.
9. According to you, which health professional groups and specific demographics are more likely to emigrate? If so, why do you think that is?
    - specialists, physicians, nurses, dentists, laboratory technicians, others…?
10. How do socioeconomic and social factors, such as income, job opportunities, and family conditions, influence the decision of health workers to emigrate?

**E. Retention Strategies and Policies**

11. How does Bhutan address the migration and retention of health professionals in its healthcare policy?

- Are there any specific policies or strategies in place to tackle this issue?

12. What measures do you think can be implemented to motivate health professionals to stay in Bhutan? Additionally, do you have any knowledge or personal experience with retention strategies or initiatives in this context? (Ask for more details!)
13. Which public institutions and/or authorities can or do play a role in the processes of health workers' migration? How would you assess their role?

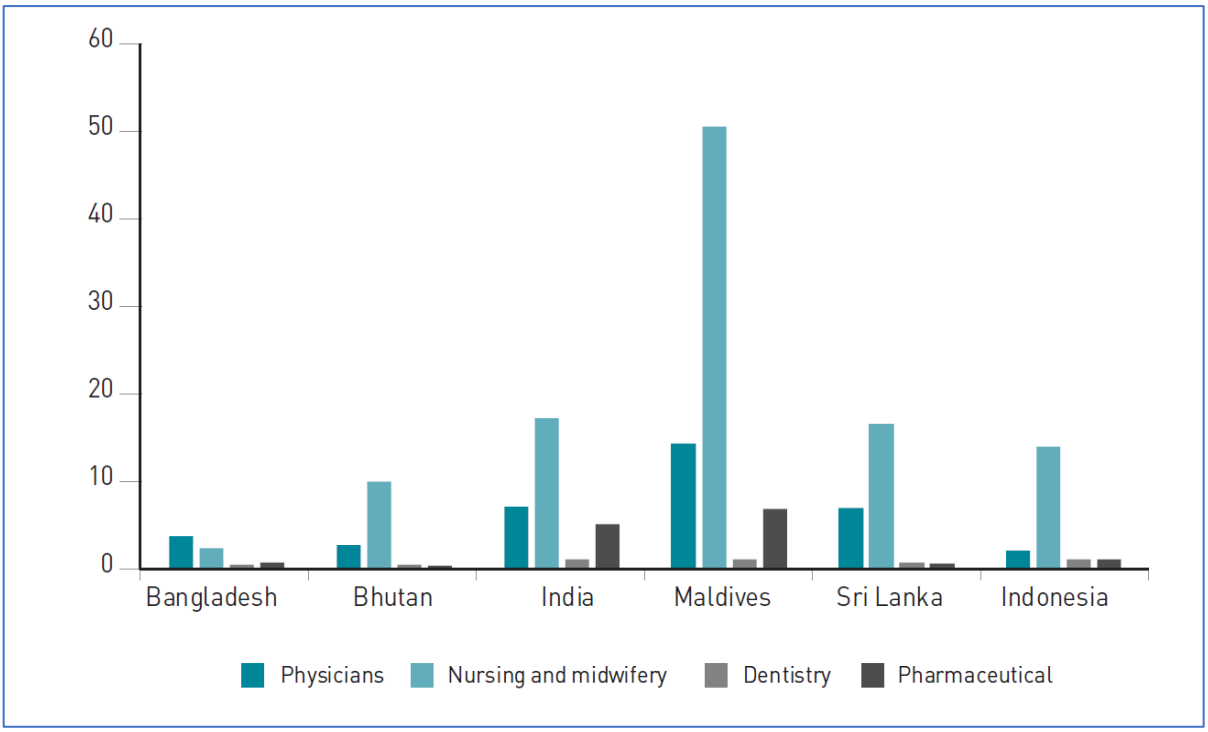
**F. Recommendations/Closing remarks**

14. Based on our discussion today, is there any additional information or perspective you would like to share? Any final thoughts?

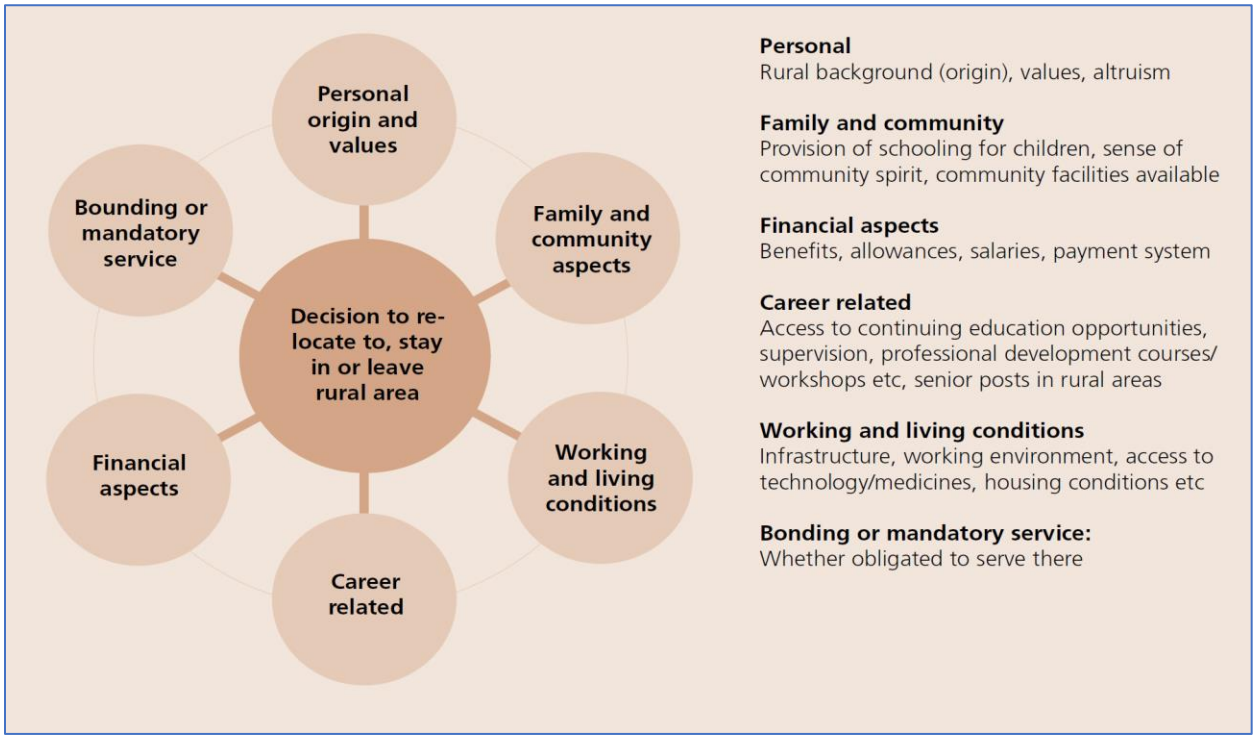
***Additional questions**

- How do education and training contribute to the migration of health workers and the development of a skilled healthcare workforce? (For academicians)

**Annex 5: Figure showing the density of health workers per 10,000 population in Bhutan, 2015. Source: WHO SEARO**



## Annex 6: Original analytical framework from WHO guidelines 2010

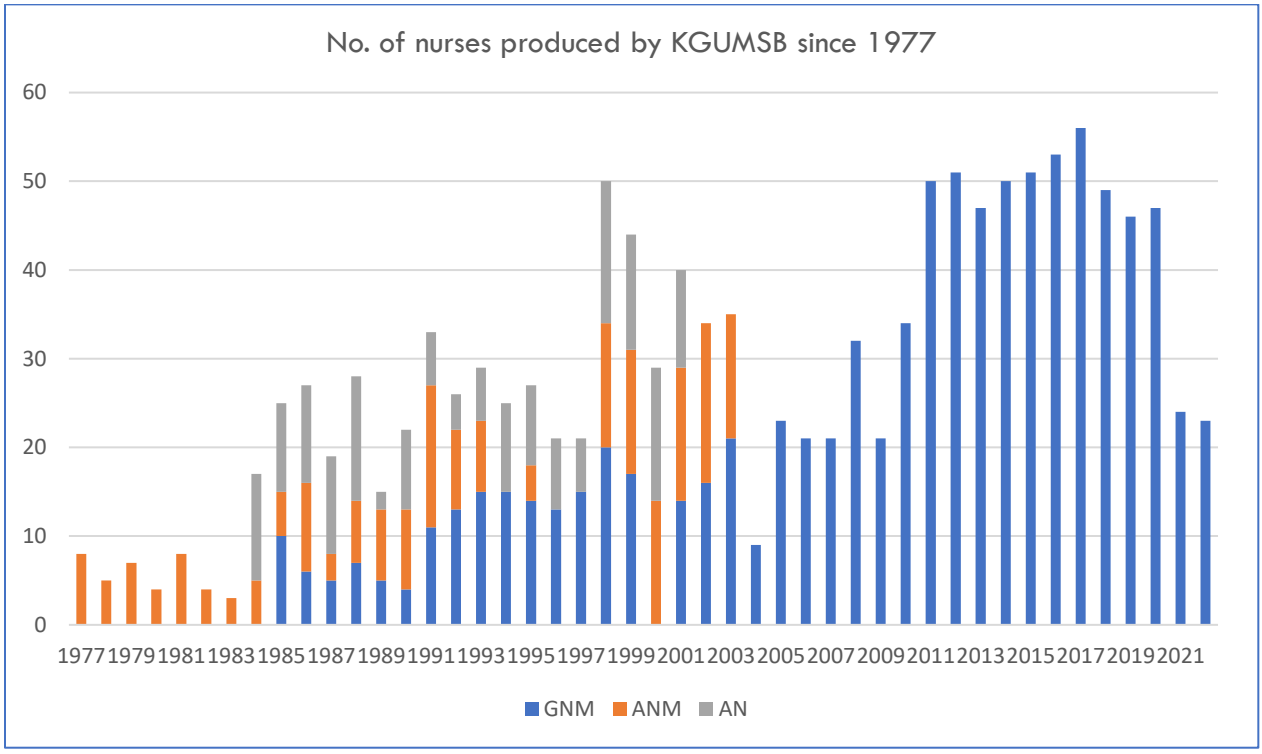



## Annex 7: Projection of annual supply of health workers. Source: Dept. of Adult & Higher Education and KGUMSB

| Sl No | Course | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Total |
|---|---|---|---|---|---|---|---|---|
| 1 | B. Entomology | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2 | B.Sc. Medical Lab Technology | 7 | 1 | 8 | 3 | 0 | 0 | 19 |
| 3 | B. Optometry | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 4 | B. Pharmacy | 3 | 7 | 0 | 8 | 0 | 0 | 18 |
| 5 | B.Sc. Medical Imaging Technology | 2 | 0 | 3 | 1 | 0 | 0 | 6 |
| 6 | B.Sc. Physiotherapy | 0 | 5 | 2 | 2 | 0 | 0 | 9 |
| 7 | B.Sc Nutrition and Dietetics | 2 | 2 | 1 | 2 | 0 | 0 | 7 |
| 8 | B.Sc. OT Technology | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9 | B.Sc. Cardiovascular perfusion/CVT | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 10 | **B.Sc. Nursing** | 28 | 36 | 46 | 79 | 0 | 0 | 189 |
| 11 | B.Sc. Dental Surgery | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 12 | **MBBS** | 36 | 27 | 16 | 61 | 43 | 40 | 223 |
| 13 | Drungtsho | 8 | 7 | 8 | 8 | | | **31** |
| 14 | Menpa | 14 | 11 | 13 | | | | **25** |
| 15 | **Staff Nurse** (Diploma) | 75 | 90 | 169 | | | | **165** |
| 16 | Health Assistant | 20 | 25 | 25 | | | | **45** |

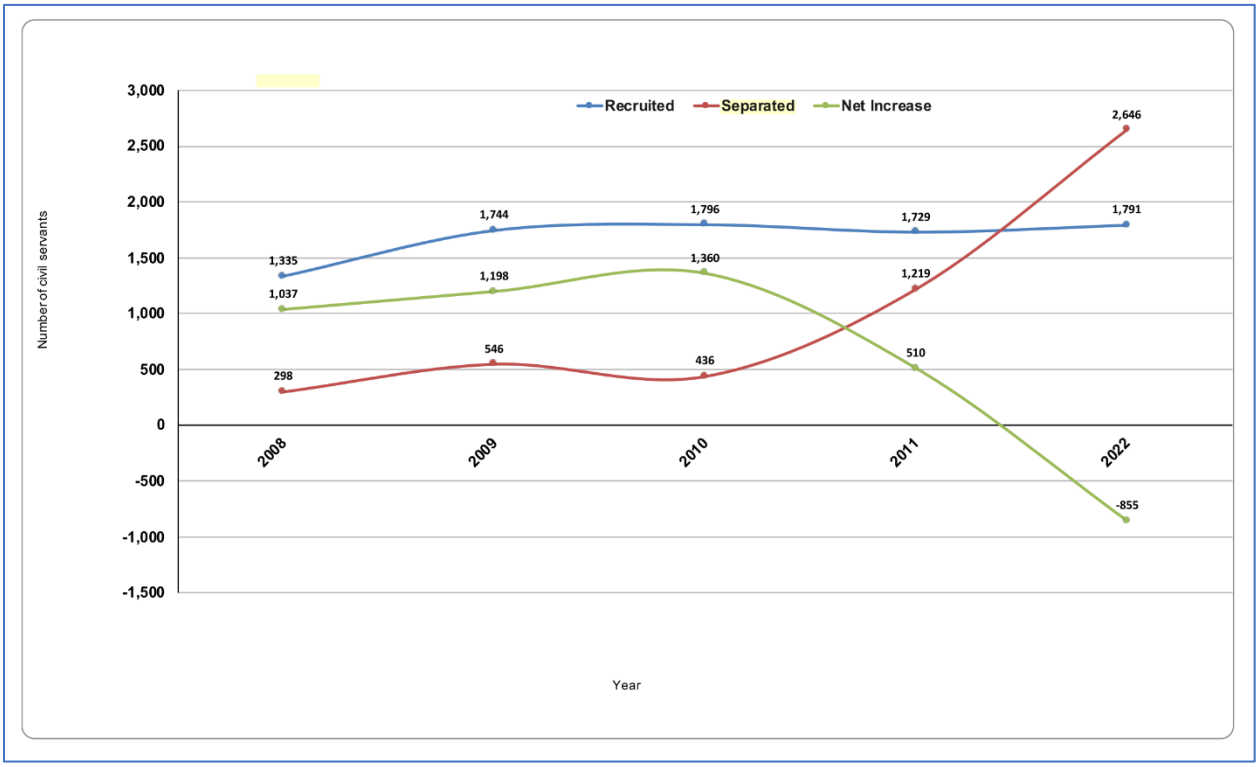
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 17 | Dental Hygienist | 6 | 5 | 4 | | | | **11** |
| 18 | Dental Technician | 6 | 5 | 5 | | | | **11** |
| 19 | Laboratory Technician | 14 | 15 | 11 | | | | 29 |
| 20 | Radiographer | 10 | 10 | 10 | | | | 20 |
| 21 | Pharmacy Technician | 10 | 16 | 8 | | | | 26 |
| 22 | Physiotherapy Technician | 5 | 5 | 8 | | | | 10 |
| 23 | EMR | 21 | 20 | 21 | | | | 41 |
| 24 | ENT Technician | 2 | 6 | 1 | | | | 8 |
| 25 | OT Technician | 4 | 5 | 1 | | | | 9 |
| 26 | Ortho Technician | 3 | 5 | 2 | | | | 8 |
| 27 | Ophthalmic Technician | 4 | 8 | 5 | | | | 12 |
| | **Total** | **281** | **312** | **86** | **167** | **43** | **40** | **929** |

## Annex 8: Overview on the production of nurses by KGUMSB. Source: KGUMSB administrative data




**GNM- General Nursing & Midwifery; ANM- Auxiliary Nursing Midwifery; AN- Assistant Nurse*

## Annex 9: Figure showing the trends of civil servants recruited, resigned & net increase from 2008 to 2018. Source: RCSC




## Annex 10: Trend of attrition rate of health workers in selected categories from 2020 to May 2023. Adapted from the Annual Attrition Report, MoH

| Year | Staff Category | Total Employees | Total Recruitment | No. of separation | Average employees per Year | Attrition Rate (No. of separations /average employee*100) |
|---|---|---|---|---|---|---|
| 2020 | Doctor (incl. Specialist) | 336 | 22 | 3 | 346 | 0.87 |
| | Dental Surgeon and Specialist | 70 | 6 | 1 | 73 | 1.37 |
| | Nurse | 1549 | 227 | 68 | 1629 | 4.17 |
| | Laboratory Officer and Technician | 339 | 22 | 3 | 349 | 0.86 |
| | Pharmacist and Pharmacy Technician | 226 | 32 | 12 | 236 | 5.08 |
| | Health Assistant | 650 | 52 | 31 | 661 | 4.69 |
| 2021 | Doctor (incl. Specialist) | 379 | 47 | 14 | 396 | 3.54 |
| | Dental Surgeon and Specialist | 73 | 5 | 2 | 75 | 2.67 |
| | Nurse | 1634 | 177 | 81 | 1682 | 4.82 |
| | Laboratory Officer and Technician | 348 | 33 | 10 | 360 | 2.78 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Pharmacist and Pharmacy Technician | 237 | 18 | 4 | 244 | 1.64 |
| | Health Assistant | 655 | 28 | 2 | 668 | 0.30 |
| 2022 | Doctor (incl. Specialist) | 396 | 36 | 14 | 407 | 3.44 |
| | Dental Surgeon and Specialist | 76 | 2 | 4 | 75 | 5.33 |
| | Nurse | 1644 | 72 | 66 | 1647 | 4.01 |
| | Laboratory Officer and Technician | 361 | 10 | 14 | 359 | 3.90 |
| | Pharmacist and Pharmacy Technician | 251 | 15 | 3 | 257 | 1.17 |
| | Health Assistant | 661 | 31 | 14 | 669 | 2.09 |
| 2023 | Doctor (incl. Specialist) | 388 | 35 | 7 | 402 | 1.74 |
| | Dental Surgeon and Specialist | 77 | 6 | 2 | 79 | 2.53 |
| | Nurse | 1657 | 131 | 79 | 1683 | 4.69 |
| | Laboratory Officer and Technician | 366 | 20 | 15 | 369 | 4.07 |
| | Pharmacist and Pharmacy Technician | 253 | 12 | 4 | 257 | 1.56 |
| | Health Assistant | 667 | 27 | 14 | 674 | 2.08 |