

## Review Article

# Bypassing Primary Health Care in Bhutan: Complex Interplays between Demand and Supply-side Influences

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## ABSTRACT

**Background:** Comprehensive health services delivered through a Primary Health Care (PHC) approach with proper referral to hospital services contribute to equitable access while ensuring health systems efficiency. Yet, designing and enforcing proper referral systems are challenging in developing country context.

Bhutan has adequate availability of and accessibility to PHC; a tax-financed free comprehensive package of health services is provided to the entire population through an extensive PHC network. Yet, bypassing of primary care facilities by patients results in underutilization of rural and urban primary health care facilities and overcrowding of hospitals, particularly the National Referral Hospital, affecting the hospital service quality. Several policy options explored by government of Bhutan in response to this issue could not be implemented due to lack of adequate evidence. Hence, it is necessary to understand the factors influencing the bypassing of primary health care facilities in Bhutan to inform appropriate policy reform. This study may also contribute to other developing countries in strengthening their referral systems.

**Aim:** Given these contexts, this paper describes Bhutan's health systems; PHC in particular, reviews demand- and supply-side factors, both push by PHC facilities and pull by referral hospitals that influence bypassing of PHC facilities, and discuss the complex interplays between these factors. Further, it aspires to identify evidence gaps that require additional research to

support improved policy reform.

**Methods:** The synthesis of data from routine health information systems, national health surveys, annual health bulletins, health system review reports, relevant policy documents including unpublished grey literature kept by Ministry of Health, Bhutan, formed the basis for assessment of factors influencing the bypassing of PHC facilities in Bhutan. Findings from Bhutan were compared with global experiences through review of published studies on PHC system, referral and bypassing PHC.

**Results:** A complex interplay of demand and supply side push- and pull- forces appear to influence the bypassing of PHC facilities in Bhutan. The rapid rural-urban migration and depleting size of rural communities also indicate a critical influence on under use of PHC facilities. However, in absence of adequate data, an in-depth primary research is needed to further assess the complexities to inform effective mitigating policy reform that ensures proper use of PHC facilities, and effective referral to secondary and tertiary hospitals.

**Conclusion:** In Bhutan, further generation of evidence together with series of intensive evidence-informed policy formulation engaging all relevant stakeholders including the general public at the community level would ensure evidence based policy reform towards efficient PHC system and service delivery.

**Keywords:** Primary health care; Bypassing referral system; Health systems.

## Introduction

Comprehensive, integrated Primary Health Care (PHC) services with proper referral to hospital care was advocated by the Alma-Ata Declaration in 1978 [1]; it was re-emphasized at the three-decade PHC review in 2008 [2-4]

and further reiterated in the recent Declaration of Astana in October 2018 [5].

Service delivery through health systems built on an effective PHC framework facilitates efficiency and fairness in health care and was fundamental to achieve the Millennium Development Goals (MDG) [6,7]. Quality and accessible primary health

care, effectively connected to secondary and tertiary levels of care through good referral systems, enabled the advancement of universal health coverage (UHC) in many countries [8-11]. It is a prerequisite for the achievement of the health-related Sustainable Development Goals (SDG) [11].

Responding to the Alma Ata call, the Government of Bhutan invested in PHC system strengthening and provided free comprehensive health services to its entire population. The health service delivery system is organized in a three-tiered structure, consisting of 207 Basic Health Units (BHUs) at the primary level, 28 District Hospitals at the secondary level, 2 Regional Referral Hospitals and 1 National Referral Hospital at the Tertiary level. Bhutan made excellent progress towards UHC through publicly financed comprehensive health services, provided free to all its citizens.

Translating policies on referral between PHC and hospitals into practice is challenging in many developing countries. It is influenced by demand-side factors such as transportation, trust and health-seeking behavior and supply-side factors such as availability of medicines, diagnostic facilities, competent health staff and other financial incentives [12-18].

Poor adherence to referral policies with lack of strict gate-keeping system leads to sub-optimal use of PHC facilities and overcrowding at the hospitals, which affects the quality of hospital services and ultimately results in systems inefficiency in Bhutan. Hence, alongside the challenges of sustaining free health services as mandated by Section 21 of Article 9 of the Constitution of Kingdom of Bhutan, the referral policy is repeatedly discussed at all National Health Policy dialogues and Health Sector Reviews [19,20].

The National Health Policy 2011 recommended the introduction of strict gate-keeping practices [21] and the recent Five-Year (2013-2018) National Health Sector Plan restricted new investment in and expansion of PHC facilities. Current policy promotes the consolidation of existing health facilities that are least utilized, in order to rationalize the utilization of existing facilities [22]. To address the huge Outpatient (OP) load at the National Referral Hospital, it introduced special off-hour service clinics in October 2010; this aimed to decongest the normal office-hour OP departments and offer alternatives to the patients opting to pay out-of-pocket to see the doctor of their choice, out of hours. It has now expanded to few other District Hospitals in large towns [19], especially in the south of the country, for health screening of foreign workers in the construction sector. However, an in-depth primary research is needed to further assess the complexities to inform effective mitigating policy reform that ensures effective use of PHC facilities, and proper referral to secondary and tertiary hospitals in Bhutan.

Given the scenario, this paper describes Bhutan's health systems context, PHC in particular, reviews demand- and supply-side factors, both push by PHC and pull by referral hospitals that influence bypassing PHC facilities, and discusses the complex interplays between these factors. This review contributes to the identification of evidence gaps for improved policy decision.

## Methods

This article compiled, analyzed and synthesized findings from literatures related to PHC, referral, and overcrowding at hospitals. Data were compiled from routine health information systems, National Health Survey 2012, Annual Health Bulletin 2017, health system review reports and other relevant policy documents in Bhutan, between 2008 and 2017. Findings from Bhutan were compared with global experiences from review of published studies on PHC system, referral and bypassing PHC.

### Search Methods

Using broad key words, the authors searched the literatures and data on health service delivery and utilization, PHC in urban and rural settings and challenges in designing and enforcing Referral Systems, bypassing Referral Systems, health system efficiency and productivity in Bhutan and in other developed and developing countries. Literatures were accessed through the online search engines, namely Google Scholars, PubMed; websites and online resources of relevant Government Agencies in Bhutan and International Organizations such as World Health Organization and the World Bank. Documents also covered grey literatures such as reports kept by the Ministry of Health, Bhutan.

### Selection Criteria

We included literatures and documents that reported on :

- 1) Free Health Service and Universal Health Coverage in Bhutan.
- 2) Referral Policy and Practice between PHC and hospitals, evidence on utilization rate of PHC and hospitals, bypassing PHC, overcrowding and service quality at hospitals, in both Bhutan and other countries either high, low or middle income.
- 3) Supply and demand factors contributing to bypassing PHC including rural-urban migration of population.

### Data collection and analysis

The synthesis from data, reports, reviews and policies included in this study, formed the basis to critically analyze the factors influencing the bypassing of PHC system in Bhutan. As this study is not a systematic review; there was no assessment of the quality of literatures included in this analysis.

## Results

### Bhutan UHC: free access to publicly financed government health services

Bhutan, a lower middle-income country and world renowned in pursuit of Gross National Happiness (GNH), was ranked the 13th most peaceful country in the world in 2017 [23]. With a population of 807,610, the GNI per capita was US \$2,720 in 2017 [24].

The entire citizen population is covered by a comprehensive package of health services, available free of charge at the point of service at all levels of health systems, including referral abroad for services that are not available in the country [19]. This is enshrined in Article 9, Section 21, of the Constitution of the Kingdom of Bhutan 2008; which says, "The state shall provide

free access to basic public health services in both modern and traditional medicines” [25]. Bhutan achieved universal health coverage by covering all its citizens with free access to publicly financed health services; while the out-of-pocket payment for health by Bhutanese households was 19% of current health expenditure (CHE) in 2015 [24].

Allocating 3.5 % of its GDP to health, Bhutan’s CHE per capita was US \$91.1 in 2015. The domestic general government health expenditure as % of general domestic government expenditure was 9% in 2015 [24]. Bhutan achieved good health outcomes with a life expectancy of 70.19 years in 2016. Infant and under-five mortality per 1000 live births in 2017 was 25.6 and 30.8 respectively [24].

### PHC: Referral policy and practice

In its three-tiered health service delivery system, Basic Health Units (BHU) at the first tier provides facility-based essential PHC services. Monthly outreach clinics (ORCs) provided by all BHUs and community health units of the hospitals supported by the Village Health Workers (VHWs), boost essential health service coverage. District hospitals at the second tier, provide secondary services and serve as the nodal point of referral from the BHUs. The two Regional Referral Hospitals and the

National Referral Hospital serve as higher referral centers for all the hospitals.

The Jigme Dorji Wangchuck National Referral Hospital (JDWNRH) at Thimphu, provides all specialized services and serves as the apex point of referral. Cases that are untreatable at the National Referral Hospital, owing to the gap in technical and human capacity within the country, are referred to empanelled hospitals in India, through the ‘Referral Abroad’ policy and are fully financed by the Government.

In practice, patients are referred up and down across the three tiers and laterally among District Hospitals, which ensures seamless continuity of care. Patients are also referred between traditional and allopathic health facilities.

In 2017, there were 185 BHU level II, each covering an average population of less than 3,000; there were 25 BHU level I, each covering an average population of 3,000-5,000. BHU I is designed as a small hospital of 10 beds, one doctor, one dentist and basic diagnostic facilities. There are 28 district hospitals, two Regional Referral Hospitals and one National Referral Hospital. This health service delivery system caters to all the Bhutanese living in 205 blocks and 20 districts [26] throughout the Kingdom. Table 1 describes the staff standards and services.

**Table 1: Service and staff standards<sup>1</sup>.**

| Health Facilities by level        | Geographic location and population coverage                                  | Staffing norm and pattern   | Service and facility description   |
|-----------------------------------|--|---|--|
| Outreach Clinic (ORC)             | 1 - 3 hrs walk or 10 to 30 minutes’ drive from the nearest BHUs or Hospitals | One or two health staff   | - Monthly outreach services e.g. immunization, ANC, PNC, environmental health, health education etc.   |
| Sub-post                          | 3 – 4 hrs walk or 1 - 2 hrs drive from the nearest BHUs/ Hospitals           | 1 Health Assistant  | -Health promotion, disease prevention, and rehabilitation services to the hard-to reach population   |
| BHU <sup>2</sup> level II (BHUII) | Ranges from 3 hrs - 3 days walk and 1 - 5 hrs drive from the Hospitals/BHUI  | Two – three health staff preferable with one female staff.  | -Health promotion, disease prevention, and rehabilitation. MNCH <sup>3</sup> activities including immunization and family planning services.<br>-BHUs II usually have only 5 beds. |
| BHU level I (BHU I)               | Located at a district headquarter or a township with 3000 to 5000 people     | A doctor, dentist, nurses and few other technicians   | -Inpatient (IP) services and out patient (OP) services<br>-They normally have 10 beds.   |
| District hospital (Level I&II)    | Located at a district headquarter serving a population of more than 10,000.  | Doctors, nurses, dentist, drungtso <sup>4</sup> and other technicians including ophthalmology, laboratory etc | -IP, OP and emergency medicines and EMOC <sup>5</sup><br>-Hospital I has 20-40 beds and II 40-60 beds.   |
| Regional Referral Hospital        | Located in the Centre of a Region with population more than 10,000           | Doctors, specialists, nurses and other technicians  | -Tertiary levels of care and center for training of health professionals. They have 150 beds each.   |
| National Referral Hospital        | Located in the capital city with population of around 100,000                | Doctors, specialists, super-specialists, nurses and others  | -Specialized Tertiary care, and teaching hospital.<br>-This hospital has currently 360 beds.   |

<sup>1</sup>Source: The kingdom of Bhutan, Health system Review, 2017

<sup>2</sup>Basic Health Unit

<sup>3</sup>Maternal New Born and Child Health

<sup>4</sup>Traditional doctor

<sup>5</sup>Hospital II has Emergency Medical and Trauma Center

\*All facilities provide general public health services including the National Referral Hospital.

### Inefficient use of PHC facilities

Evidence shows that globally, 20-40% of total health expenditure was spent inefficiently [27]. Among other reasons, overcrowding of higher-level facilities and underutilization of lower-level facilities are the main determinants of inefficiency and poor quality services [28].

PHC should promote the rational use of services according to clinical complexity. It is envisioned that higher proportions of simple conditions are managed by PHC, while more complex cases are managed by the hospital or specialized services through timely referrals. Hypothetically, more outpatient (OP) caseload is expected at PHC facilities, with fewer OP loads at secondary and tertiary hospitals. However, Bhutan is yet to achieve this goal.

Out of 2.5 million OP cases in 2015, 18% were catered by the National Referral Hospital; 7% by the 2 Regional Referral Hospitals; 51 % by the 28 District Hospitals, and only 23% by the 207 BHUs. Furthermore, during 2011-2015, the number of BHUs increased from 184 to 207, but their share of OP load decreased from 25 % in 2011 to 23 % in 2015. Also, the share of OP load by the district hospitals decreased from 52% in 2011 to 51% in 2015, with the number of facilities remaining unchanged. On the contrary, the OP share of the National Referral Hospitals and 2 Regional Referral Hospitals increased from 17% to 18 %, and 6 % to 7 % respectively, between 2011 and 2015 [Figure 1].

The average national level waiting time at the outpatient department was nine minutes at referral hospitals, as compared to two minutes at the district hospitals and BHUs. Further, the average OP waiting time was almost 53 minutes in the western region consisting of more urban cities, including the capital city of Thimphu where the National Referral Hospital is located [19].

In 2017, 53% of diarrhoea and 49.5% of common cold cases were seen as OP cases at both secondary and tertiary hospitals [26] where these self-limited conditions can be easily managed

by the BHUs. The opportunity costs of treating these simple conditions are high, as hospitals lose opportunities to treat more complex cases requiring specialists. Also the patients bear the travel and time cost of bypassing BHUs. Box 1 describes self-referral practice and bypassing scenarios in Bhutan.

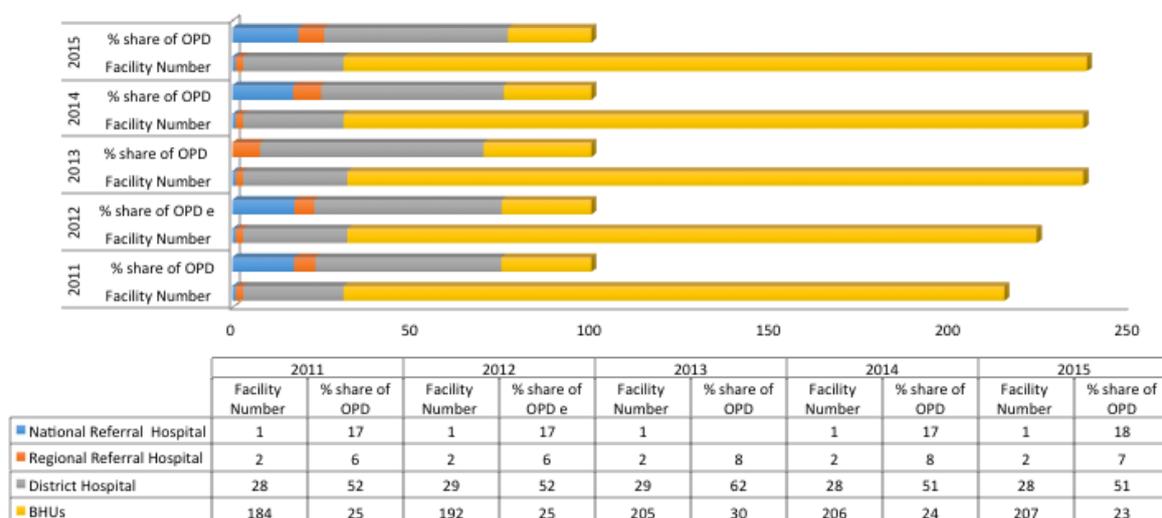
A costing study in 2011 [29] reported that the average cost of treating an OP case at a referral hospital is Ngultrum 635 per visit (US \$13 at exchange rate of NU 47 per US\$, in 2009-2010), which is almost twice higher than that of a district hospital, and almost four times higher than that of a BHU. This is due to high staff cost among specialists, and more costs for diagnostics and medicines. A study in Thailand showed similar findings; the cost of an OP visit to the regional hospital was 3.5 times more expensive than a visit to a district hospital [2]. There is a potential cost saving for funding the running annual cost of 15 BHUs if district hospitals can absorb 10% of the patients who visit referral hospitals, and BHUs can absorb 10% of the patients who visit district hospitals in Bhutan [29].

### Factors contributing to bypassing

Patients bypassing referral systems in the absence of a proper gate-keeping function are the most cited reason for underutilization of PHC facilities and overcrowding at secondary and tertiary level facilities in Bhutan [19]. However, many other factors seem to influence bypassing.

### Gaps in translating policy into practice

In 2011, the National Health Policy of Bhutan suggested a strict gate-keeping system [21]. The policy recommended charging the patients demanding advanced diagnostic medical services at the district and referral hospitals without justifiable clinical indications and formal referrals from the designated BHUs. This policy was not translated into action as charging patients can be a major issue in the historical context of free services everywhere. Patients' payment for self-referral needs to be advocated long before its implementation. Furthermore, patients need to be informed on their full right to free services



Source: Data compiled by authors: Facility numbers from Annual Health Bulletins of Bhutan (2011-2016) and OPD load from Kingdom of Bhutan, Health System Review, 2017.

**Figure 1: Outpatient load by different level of health facilities, 2011-2015.**

Box 1: Scenarios of bypassing referral system in Bhutan.

**Scenario 1: Bypassing BHUs and District Hospitals to the National Referral Hospital by the population living in and around the capital city of Thimphu, Bhutan:**

Generally, when the residents of Thimphu, the capital city of Bhutan, suffer from any type of disease, they directly opt for free services at the National Referral Hospital, which is located in the core of the city. By doing that they ignore the free services at Basic Health Units and other hospitals within the city. The distance to the National Referral Hospital does not concern those who visit. Such practice results in overcrowding at the National Referral Hospital, with long waiting times, to the extent of one to two hours, during the normal working day.

To decongest the OPD crowd, the National Referral Hospital introduced a Special Consultation Service during the Off Hrs. Here, people pay out-of-pocket: around Nu 500 (USD 9.4 at the exchange rate of Nu 47 per USD) to see their choice of specialist, and Nu 300 (USD 5) to see a Medical Officer, with extra fees for diagnostic services when required. Many prefer this paid service to the free service available at the BHU and the District hospitals, within an easily reachable distance.

The review of the Special Consultation Service at the National Referral Hospital in 2012 showed that during October 2010 to December 2011, it had 33,980 cases. Among these cases, 19.2% (6,475) was for doctor consultation, 9.8% (3,319) for diagnostics, and rest 71% (24,144) for medical certificates for jobs, further studies and Visas etc. Out of 6,475 doctor consultation cases, the specialists handled 94%, with only 6% by the Medical Officers. This demonstrates people's perception towards quality by choosing the specialist over general doctors. This could be one of the biggest pull factors triggering the bypassing of PHCs.

**Scenario 2: Bypassing BHUs and District Hospitals within the district of current residence, and traveling all the way to the National Referral Hospital located outside a home district, in search of better quality care:**

Bypassing is a common phenomenon in all districts across the nation. It is more evident in districts with populations living in urban cities. People bypass the BHUs and visit the district hospitals as their first point of contact. In some urban districts, there are no Basic Health Units within easy reach, which compels the people to visit the District Hospitals or even the Regional Referral Hospitals. However, in some districts, bypassing also occurs, despite the existence of BHUs close to residences.

Lacking the most advanced diagnostic facilities and specialists; District Hospitals are not able to retain the patients at the district level. In search of more advanced diagnostic facilities and specialists, people travel all the way to the capital city, bypassing the PHC facilities in their districts. In doing so, they pay for extra transportation costs out-of-pocket.

In a survey of 345 individuals visiting the OPD at the National Referral Hospital during working hours and out of hours in 2012; approximately 62% of the total participants were from Thimphu District, while 38% came from the other parts of the country. Hence, findings indicate bypassing across different levels of health system within the districts, and further up the system to the National Referral Hospital that is located beyond the boundary of their districts.

Synthesis by authors based on: Rapid Assessment of Special Consultation Service at JDWNRH. Thimphu: Ministry of Health; 2012.

at BHUs within their domicile, whereas free access to hospital services is subject to proper referral from BHUs or district hospitals respectively. Simultaneously, availability of BHUs for all communities, both in rural and urban areas need to be ensured.

**Factors on demand side**

Demand-side factors such as income, gender, age, occupation, education, distance to the health centers and severity of illness influences the health-seeking behavior of the population. Consequently, they bypass referral systems in search of better quality of services at higher level of care within the public system or shift from public to private services [31].

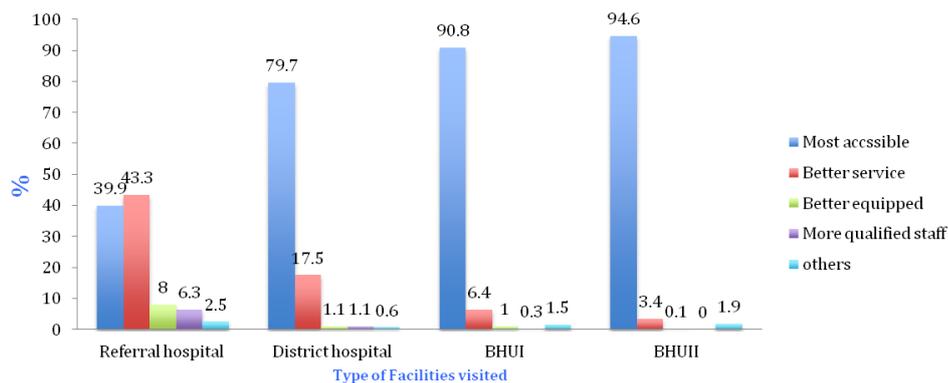
Though there are no specific studies in Bhutan, review of data from the latest 2012 National Health Survey (NHS) [32] indicates a few demand-side factors. For example, 45% of the households reported having a BHU II as the nearest health facility; yet only 39% visited a BHU II as the first point of contact for health concerns. On the other hand, only 28% households had a district hospital nearest to them, yet 33% of the households visited a district hospital for health concerns. Similarly, only 11% of households lived closest to referral

hospitals, but 16% of households visited referral hospitals as the first point of contact for health. Among 16% of the households that visited referral hospitals, 43% went there in search of better services, whereas 40% found them the most accessible. Likewise, among those who visited the district hospitals, 18% went in search of better services and 80% found them the most accessible. See Figure 2 for more details. Similar reasons for bypassing are reported in other countries: for example, rural populations in Australia and Georgia bypassed PHC facilities in search of better quality at a higher level; and Sri Lankan people visited and paid for services at private facilities, abandoning the free government health facilities [35].

Further, a study [36] showed multiple OP visits to primary care, secondary and referral hospitals for the same disease conditions in Bhutan, though the study did not demonstrate the clinical justifications for these multiple subsequent visits.

**Factors on supply side: push and pull dynamics**

In many developing countries such as Tanzania, Burkina Faso, Uganda, Namibia supply-side factors such as inadequate diagnostic services, drugs and specialized care at PHC facilities (although policy does not designate specialized care in PHC,



**Figure 2: Reasons for visiting different types of health facilities** (Source National Health Survey of Bhutan, 2012).

it was expected by citizens) pushed patients to bypass PHC and visit higher-level facilities directly [37-41]. Sophisticated diagnostic services and specialists in tertiary hospitals are key pull factors for bypassing.

The extensive geographical distribution of well-functioning BHUs and District Hospitals has resulted in 100% availability of all drugs listed in the National Essential Medicine List (NEML) at all BHUs, and 95-98% at hospitals at any given time in Bhutan [19]. Also, the 2012 National Health Survey reported a very high level of satisfaction by 96% of people who visited BHU-Is during the past 12 months, 93.9% for BHU-IIs and 89.8% for hospitals. Given this evidence, push factors from PHC facilities should not be the major determinant in Bhutan.

Pull factors for bypassing can be more powerful than push factors. Availability of ultra-sonography and radiology machines in all district hospitals of Bhutan (except those hardest-to-reach) should be able to maintain patients within the district hospitals. Nonetheless, district hospitals lack other advanced diagnostic and curative facilities including specialists [20] and this may trigger patients to visit referral hospitals. Also, the attitude, competency, and availability of female health workers and rapid turnover of staff at BHUs and district hospitals could be other push factors. However, data is limited to be able to confirm these factors.

### Rural-to-urban migration: a major determinant

Generally, increased migration from rural to urban areas, the availability of transport and feeder roads accelerates the bypassing of PHCs to hospital services [42]. Unavailability of urban PHC facilities determine the over-crowding of outpatient care at the hospitals in many countries [43]. Ghana's experience suggests the need for a reorientation of existing rural-focused PHC to accommodate rapid urbanization, catering to the health needs of urban people [44].

The urban population growth rate in Bhutan was 5.7% per year between 2000 and 2010, one of the highest rates among South Asian countries, mostly due to internal migration [45]. Accordingly, urban populations increased from 20.5% in 1995 to 39.4% in 2016 [24]; a two-fold increase in two decades. Depletion of the rural population results in the low utilization of BHUs, while supply-side capacities do not match the increased demand for urban BHUs among urban residents; this creates a

major policy concern.

For instance, out of 3,292 urban households, only 9.1% and 10.2% reported having BHU-II and BHU-I as the nearest facilities. Almost 32.8% had a district hospital and 35.4% had a referral hospital as the nearest facility [32]. Taking a closer look at the capital city of Thimphu, where the National Referral Hospital is located, 53.2% of households resided closest to the National Referral Hospital, with only 7.7% and 9.3% closest to BHU-I and BHU-II [32]. Furthermore, there are no district hospitals in the districts where two Regional Referral Hospitals and the National Referral Hospital are located. From this scenario, the Ministry of Health has yet to fill the gap of urban PHC facilities.

In addition, acceptability of existing BHUs is also a policy concern. The capital district of Thimphu had 12 BHU-II and one BHU-I by 2015, and the numbers of BHUs are even more in other districts. Some of these BHUs are located not too far away from the core city, easily accessible with good road connectivity. By distance, the BHU-I in Thimphu is located just around 15-20 minutes' drive from the National Referral hospital. Yet, people choose to visit the National Referral Hospital searching for advanced diagnostics and specialist services. Many opt to pay out-of-pocket for the services offered by the special clinic at the National Referral Hospital operating out of hours, for minor health conditions like aches and pains, neglecting the free services offered by nearby BHUs. Many come from districts outside Thimphu to visit the National Referral hospital, not caring about the travel cost and time consumed. More details and evidence is in Box 1.

Such scenarios demonstrate high public expectations for quality of care, where medical technologies and specialists are perceived as 'quality'. The gap between patients' expectations and diagnostic capacities and availability of specialists at BHUs, district hospitals and referral hospitals are part of the complex nexus, which determines bypassing.

### Evidence Gaps

Though the current evidence adequately demonstrates efficiency gap in service utilization across the PHC system in Bhutan, the evidence is not adequate enough to identify the specific determining factors in order to support appropriate policy interventions. No primary research was conducted in

Bhutan to assess the characteristics, the resident domiciles, and the exact reasons of visiting the District and Referral hospitals or reasons for bypassing PHC facilities. For example, it is not clear how much of the overcrowding at the National Referral Hospital is caused by the influx of bypassing patients from the urban or rural areas within the district, or due to cross-boundary visits by patients from other districts outside the location of this hospital. Preliminary evidence shows quite a number of patients coming from other districts in search of better services.

The current routine information system does not capture the magnitude and motivations of self-referrals. These gaps challenge the design and enforcement of gate-keeping mechanisms. Monitoring and research to understand self-referral can support the design of effective interventions. Evidence on the efficiency and productivity of urban and rural PHC facilities is critical in supporting policies on the consolidation of PHC facilities, but it is currently missing.

### Conclusion

A complex interplay of factors between demand side and supply side - push and pull forces appear to influence the bypassing of PHC facilities in Bhutan. However, the existing data and evidence is not adequate enough to inform appropriate policy reform.

In Bhutan, further generation of evidence through primary research together with a series of intensive evidence-informed policy formulation that engage all relevant stakeholders including the general public at the community level would help inform the Government's policy decisions. Such process would determine the specific influencing factors that can inform policy reform towards efficient use of PHC facilities, and effective referral to hospitals in Bhutan. It can further guide the current government's plan on consolidation of existing health facilities in Bhutan to ensure efficiency in service delivery.

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Ethics approval and consent to participate: "Not Applicable"

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### Authors Contributions

SW, WP and VT significantly contributed in the conception and design of this manuscript. SW did the literature review and drafted the manuscript. SW, TD and KW contributed in data acquisition; all authors contributed in analysis and interpretation of data. VT, SW, WP, TD and KW together did the critical review and revision of this manuscript. VT supervised the overall process of drafting this manuscript. Manuscript was read and agreed by all authors.

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