

# Measuring universal health coverage: a three-dimensional composite approach from Bhutan

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## ABSTRACT

**Background:** In the early 1960s, the Kingdom of Bhutan began to develop its modern health-care system and by the 1990s had developed an extensive network of health-care facilities. These developments, in tandem with wider social and economic progress encapsulated in the Gross National Happiness concept, have resulted in major gains in child survival and life expectancy in the past 50 years. In order to sustain these gains, the country has identified a constitutional and health-policy mandate for universal access to health.

**Methods:** Based on analysis of the literature, and qualitative and quantitative health data, this case study aims to provide an assessment of universal health coverage in Bhutan, and to identify the major challenges to measuring, monitoring and sustaining universal coverage.

**Results:** The study reveals that the wide network of primary and secondary care, reinforced by constitutional and policy mandates, ensures high population coverage, as well as wide availability and accessibility of care, with significant levels of financial protection. This achievement has been attributable to sustained state investment in the sector over past decades. Despite this achievement, recent surveys have demonstrated gaps in utilization of health services and confirmed associations between socioeconomic variables and health access and outcomes, which raise important questions relating to both supply- and demand-side barriers in accessing health care.

**Conclusion:** In order to sustain and improve the quality of universal health coverage, improved measurements of service availability at subnational levels and of the determinants of pockets of low service utilization are required. More rigorous monitoring of financial protection is also needed, particularly in relation to rates of public investment and the impact of out-of-pocket costs while accessing care. These approaches should assist improvements in quality and equity in universal health coverage, in the context of ongoing epidemiological, demographic and social transition.

**Key words:** Bhutan, universal health coverage, UHC, measuring universal health coverage, health policy

## INTRODUCTION

### The contextual background to universal health coverage in Bhutan

The Kingdom of Bhutan (population 720 679)<sup>1</sup> is bordered between China and India, with three distinct regions comprising high mountain ranges contiguous with the Tibetan plateau, deep

hills and valleys, and southern semi-tropical regions. In recent years, Bhutan, a primarily agricultural society and economy, has experienced rapid economic growth and transformation. Secondary and service sectors (particularly hydroelectricity and construction) have now become the main driving forces of the economy, with the share of gross domestic product (GDP) from these sectors now as high as 40%.<sup>1</sup> In recent decades, along with democratic political reforms and expanding trade

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and commerce, there has been increased exposure of the country to outside influences of migration, education and tourism.

Along with these social changes, Bhutan is now proceeding through a period of epidemiological and demographic transition. A recently completed global burden of disease study established that, between 1970 and 2010, Bhutan was at the top of the range globally for changes in life expectancy, with gains of 23–29 years in this period.<sup>2</sup> Total fertility rate declined from 3.8 in 2000 to 2.6 in 2009.<sup>3</sup> Bhutan is also rapidly urbanizing, with 36% of the population in urban areas in 2009, compared with just 25% in 2001.<sup>4</sup> In the past 50 years, infant mortality has more than halved,<sup>5</sup> and the number of malaria cases has declined from a reported 5935 in 2000 to 194 in 2011.<sup>6</sup> Between 1990 and 2010, the mortality rate for children aged under 5 years declined from 162 to 61 per 1000 live births (see Figure 1).

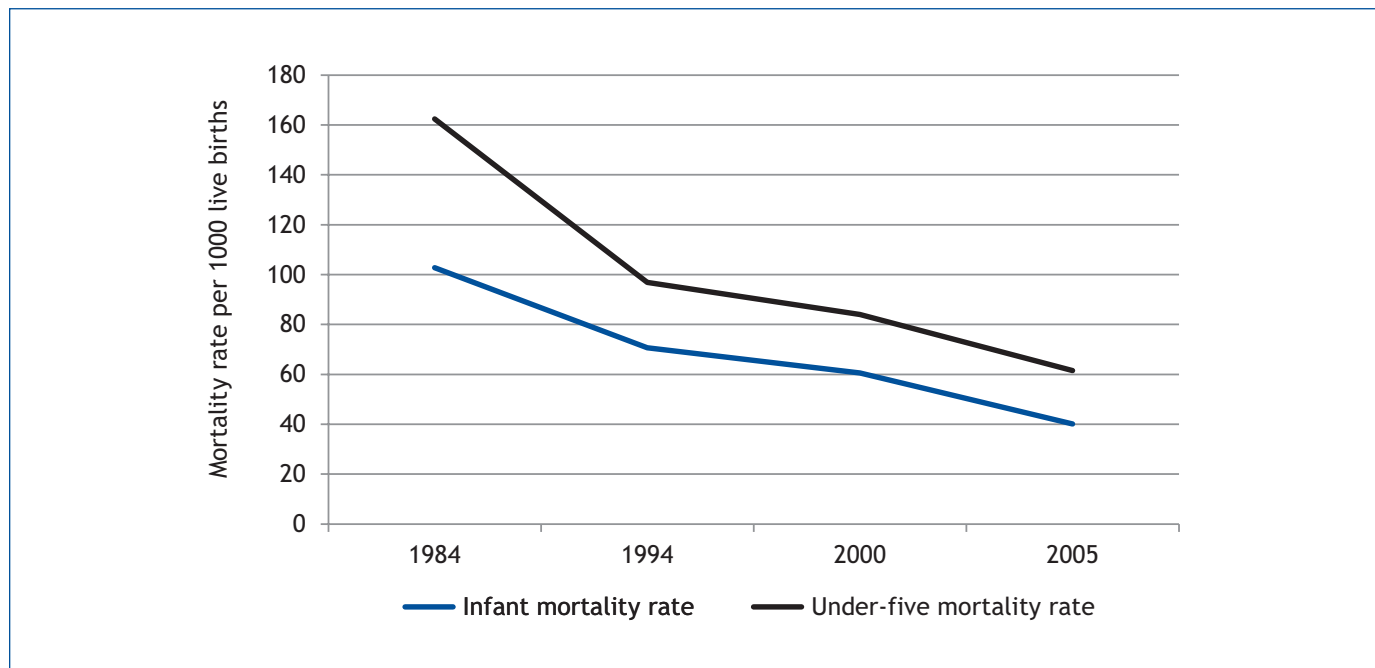
The modern Bhutanese health system has gradually developed since the 1960s, with the country having only 2 hospitals and 11 dispensaries in 1961.<sup>5</sup> Bhutan became a signatory to the Declaration of Alma-Ata on primary health care in 1978,<sup>7</sup> after which there has been sustained public investment to develop the system. By 1985, there were 16 district hospitals and 50 primary care basic health units.<sup>8</sup> By 2008, facility numbers had grown to 31 hospitals (district and regional) and 178 basic health units, staffed with 171 doctors and 567 nurses.<sup>5</sup> Table 1 outlines the current status of health and development indicators in Bhutan from the Gross National Happiness (GNH) index

(a single number index developed from 33 indicators categorized under nine domains, including the specific health measures that are included in Table 1).<sup>9</sup>

## Health systems and policies in Bhutan

Health care in Bhutan is overwhelmingly public. All mainstream health services are provided by the government and are free of charge at the point of use. There is no legal framework for operation of the private medical sector in Bhutan. Private-sector engagement in health care is limited to private diagnostic centres (catering mostly for screening of foreign workers) and private retail pharmacies in major district towns. Government resources fund around 80% of the health spending in the country.<sup>10</sup> The remaining funding comprises user charges for selected cosmetic and dental services, out-of-hours services in public facilities, private insurance, and indirect expenses related to health care.

The health-delivery framework runs on a three-tiered system. At the *primary level of care*, there is a system of basic health units (2 levels) staffed by nurses and midwives and with wide population reach, extended by a system of outreach clinics. At the *secondary level of care*, there is a network of district hospitals managed through the dzongkhag (district) level of local administration, but technically advised and supported by the central Ministry of Health. The *tertiary level of care* is provided through a network of three regional referral hospitals, including the national referral hospital, which provide



**Figure 1:** Declines in mortality in infants and children aged under 5 years, 1984–2005

Sources: Royal Government of Bhutan, Ministry of Health. National health surveys. 1984. 1994. 2000. Thimphu: MOH. <http://www.health.gov.bt/national-health-survey/> - accessed 23 November 2014. Royal Government of Bhutan. Population and Housing Census of Bhutan 2005. <http://www.nsb.gov.bt/publication/publications.php?id=2> - accessed 23 November 2014.

**Table 1: Development indicators: Bhutan**

Health and social indicators	Value	Year
GDP per capita (Nu)	138 132 (US\$ 2300)	2012
Population poverty rate (%)	12	2012
Gini-coefficient	0.36	2012
Adult literacy rate (%)	63	2012
Youth literacy rate (%)	86.1	2012
Population growth rate (%)	1.3	2012
Infant mortality rate (per 1000)	47	2010
Under-five mortality rate (per 1000)	69	2010
Self-rated health status “excellent” or “very good” (%)	71.8	2010
Satisfied and very satisfied with health-care services (%)	93.1	2010
Mean walking time to health facilities in rural areas (minutes)	92.8	2010

GDP: gross domestic product.

Nu: Ngultrum, Bhutanese currency.

Sources: Royal Government of Bhutan, National Statistics Bureau. Statistical yearbook of Bhutan 2012. Thimphu: NSB; 2012. <http://www.nsb.gov.bt/publication/files/pub10pp3748yo.pdf> - accessed 23 November 2014.

Royal Government of Bhutan, National Statistics Bureau. Bhutan poverty analysis 2012. Thimphu: NSB; 2013. <http://www.nsb.gov.bt/publication/files/pub6pg3078cg.pdf> - accessed 23 November 2014.

Royal Government of Bhutan, National Statistics Bureau. Bhutan multiple indicator survey 2010. Thimphu: NSB; 2011.

Gross National Happiness. Results of the second nationwide 2010 survey on gross national happiness.

<http://www.grossnationalhappiness.com/survey-results/index/> - accessed 23 November 2014.

specialized medical and surgical care services. Patients are referred outside Bhutan for specialist health services not available in the country, with the costs of care funded by the Royal Government of Bhutan (RGoB). Traditional health-care services are integrated into the modern health-care system at all levels of care.<sup>11</sup> Overall health strategy is guided by the national development approach of GNH, which seeks to promote a balanced approach to human development by emphasizing the non-economic aspects of social well-being. In terms of mandates for universal health coverage (UHC), the Constitution of the Kingdom of Bhutan, and the National Health Policy, guarantee that the state will provide free access to basic public health services in both modern and traditional medicines.<sup>12</sup>

Based on these observations, the following questions are raised in this case study; what is the current status of UHC in Bhutan, and what are the main gaps in measurement and the recommended strategies to address them?

### Analytical frameworks for measurement of universal health coverage

The framework for analysis of UHC by the World Health Organization (WHO) identifies the three dimensions of measurement, including population coverage, service availability and financial protection.<sup>13</sup> *Population coverage* measures the percentage of population reached by the services, *service availability* measures the scope of services that can be provided, and *financial protection* measures the extent to which the population is protected from the financial hardship of accessing needed health care.

In an assessment of UHC in the WHO Western Pacific Region, data sourced from expenditure surveys in six countries of Asia were analysed to make cross-country comparisons of utilization of health-care services and monthly household expenditures on health.<sup>14</sup> Similar methods have been applied in both Cambodia and Lao People’s Democratic Republic, to monitor national improvements towards UHC.<sup>15,16</sup>

The limitations of all these approaches in the context of Bhutan relate to the challenge of understanding the multiple determinants of low utilization of certain services (e.g. poor utilization despite widespread availability of maternal care services), including accounting for socioeconomic and regional inequities of access and outcomes. The multiple determinants of these outcomes will require a much deeper and multifaceted causality analysis. The analytic framework of Tanahashi<sup>17</sup> is highly informative in uncovering these additional “sub-dimensions” for population coverage and service availability. Therefore, although the WHO framework of “dimensions of coverage” is used to broadly classify measures of UHC, the Tanahashi perspective of accessibility and acceptability coverage is also applied, in order to reflect the deeper concerns regarding the reasons for the pockets of lower coverage in areas of Bhutan.

Several “yardsticks” were identified for setting benchmarks for how to measure UHC in Bhutan. The first was the monitoring and evaluation framework for the Eleventh Five Year Plan 2013–2018.<sup>18</sup> This multi-year plan has identified over 100 indicators of impact, outcome and health-system outputs, with identifiable baseline measures from population-based surveys, the Bhutan Health Management Information System (BHMIS), and project management systems. A working guide on essential packages for health-care services was also developed, to

provide some benchmark against which to measure the scope of service provision.

This case study of UHC measurement in Bhutan seeks to contribute to the national and international discourse on this subject, through description of a practical experience in measurement of universal cover in the context of a country on a well-established pathway to UHC. The specific objectives of this case study are to (i) identify current specific gaps in the measurement of UHC, (ii) provide a preliminary assessment of the status of UHC in Bhutan, and (iii) recommend concepts and strategies and next steps for improving measurements of UHC.

## METHODS

### Data collection

Data were collected and analysed through review of health information and existing survey results at the Policy and Planning Division of the Ministry of Health. The grey literature in Bhutan was reviewed, by referring to population health surveys conducted within the past 5 years, as well as a recent health-sector review,<sup>19</sup> national health accounts data,<sup>10</sup> health information analyses, and a health-system gap analysis and resource mobilization exercise conducted in 2012. Use of the title search term “Bhutan” in PubMed retrieved 115 peer-reviewed articles published up to May 2013. More than half of these published articles were related to communicable diseases. Only 10 of these articles (8% of total) were health-systems related, some of which are referenced in this paper. This search has therefore identified important gaps in the peer-reviewed literature on health-systems evolution in Bhutan, as well as provided some limited additional historical and public health data to complement data from the health management information systems and grey literature sources located in Bhutan.

Sources of quantitative data (see Table 2) included the database of the Bhutan Health Management Information System (BHMIS), which provides an overall picture, disaggregated to primary health-care facility level, of the International statistical classification of diseases and related health problems (ICD-10),<sup>20</sup> outpatients’ data, and coverage reporting for priority interventions. Epidemiological and demographic data were also sourced from a central database of annual household surveys conducted across the country by staff of basic health units.

Open-ended interviews/consultations ( $n = 20$ ) were undertaken with health managers in the central Ministry of Health, on current data-collection methods and current sources and information gaps for UHC, and with middle-level managers in two districts and primary care providers in two health centres (Paro District and Punakha District). In these interviews, three broad questions were addressed in an open question line, to address the main objectives of the study: what are the gaps in coverage, how is it known these gaps exist, and what needs to be done to address gaps in both information and coverage?

### Data analysis

For the mapping of data sources, an Excel spreadsheet was prepared, which mapped sources of data according to each UHC dimension. Where data gaps became evident through this mapping or through analysis of data in the BHMIS, additional information was sourced through the grey literature and interviews. A list of 100 indicators in the Eleventh Five year Plan<sup>18</sup> was shortened to a list of 15 for the UHC assessment (see Table 4), based on the criteria of (i) inclusion within the current national Five Year Plan 2013–2018,<sup>18</sup> (ii) the degree to which they were specific to the measurement of the three dimensions of UHC, and (iii) the capacity to use the indicator to assess UHC at subnational level. The shortlist was generated based on planners’ assessment of those indicators that can best act as proxy for subdimensions of coverage, including availability,

**Table 2: Data sources and description**

Sources of data	Description
Bhutan Health Management Information System (BHMIS) database	This database provided information on disease reporting, health-facility utilization and health management information by district (dzongkhag). Indicators from the UHC index are sourced from this system.
Dzongkhag health profiles	This information is collected by staff of basic health units annually and is collated at district level. It provides basic health, financing and demographic information at the primary level of care, and complements the data collected through the BHMIS.
Health sector gap analysis	This literature review provided information on current strengths and weaknesses by health-system building blocks.
National Health Accounts <sup>10</sup>	This report provides information on sources of expenditure and trends in health expenditures in the health sector.
Health policy and planning grey literature	This literature, collected through the Policy and Planning Division at the Ministry of Health in Thimphu provided information on planning objectives, strategies and targets, including current policy formulation.
International peer-reviewed literature	As outlined in the methods section, this information provided background on the health system in Bhutan, as well as information on the current concept of universal health coverage.



accessibility and utilization. The indicators selected were those that were assessed to be most specific to measurement of UHC.

A UHC index was then created through allocation of weightings to indicators. All indicators were apportioned an equal weighting, except for the following three:

- utilization of outpatient departments (OPDs) – given a higher priority, as it represents a reasonable measure of population confidence in use of the services;
- measurement of health services availability – given a higher weighting, as it will provide an aggregate of a number of measures of health-service delivery;
- the presence of a UHC policy – also given a higher weighting, as it is a necessary condition for sustainability of UHC.

The different weightings were arrived at through assessment by planners of the degree to which the specific indicator can make a contribution to the achievement of the policy goals of UHC. For example, the development of UHC policy was accorded a higher weighting, because of the recognized role of political commitment (through policy) in stewardship and mobilizing resources to achieve the UHC goals. OPD contacts was provided a higher weighting, because of the capacity of this indicator to assess trends in utilization for a wide range of services, rather than for programme-specific services (such as for antenatal care and coverage of diphtheria–pertussis–tetanus [DPT3] vaccination, for example, which have lower weighting).

Index scores were arrived at by multiplication of the weighting by the most recent coverage assessment for the specific indicator (for example antenatal care coverage has an index result of 0.77, based on a weighting of 1 for this indicator and the most recent administrative coverage report of 77%).

## RESULTS

### Assessment of population coverage

In terms of national health coverage for priority health interventions, Bhutan has demonstrated an impressive track record in coverage, with steady improvements in access to maternal and child health-care services and outcomes since the early 1990s (see Figure 1).

Immunization coverage for DPT3 was 96% nationwide in 2010, and delivery by trained health professionals had increased to 70% in 2010.<sup>3</sup> Improved population coverage for such primary health-care interventions has, without doubt, been a major contributing factor to the declines in infant and child mortality since the early 1990s as can be seen in Figure 1.

Between 2009 and 2011, per capita OPD consultations ranged from 3.17 to 3.14 visits nationally per year. There are limited data on standards for OPD contacts per inhabitant globally or regionally; however, the average across countries of the Organization for Economic Co-operation and Development

(OECD) was reported as 5.6 visits per capita per year in 2003.<sup>21</sup> Subnationally in Bhutan, as demonstrated by Figure 2, there is a wide variation in the pattern of utilization, with consultation contacts per capita ranging from just over two per inhabitant per year in Haa district to about five per year in Sarpang district.

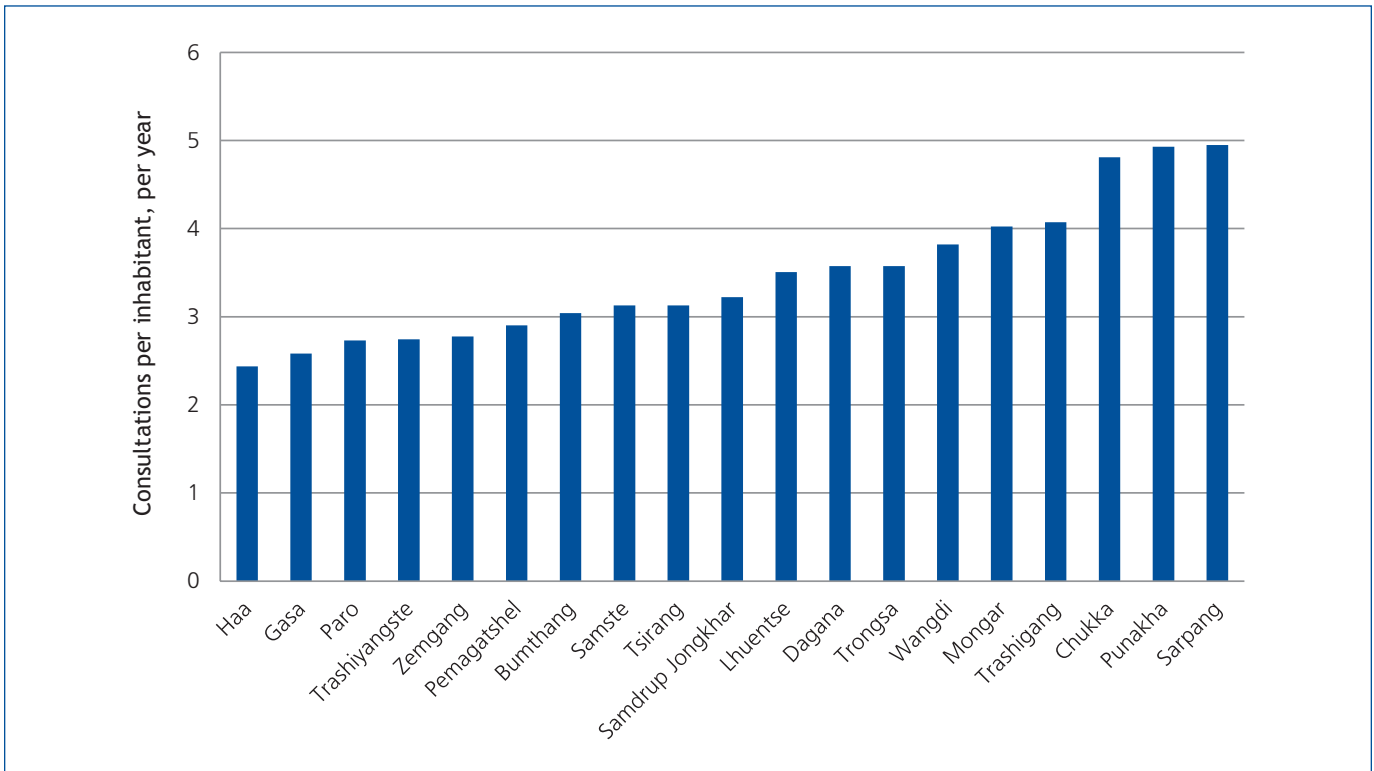
There is also a wide variation in accessibility, with the proportion of population within 3 hours' walking times to facilities ranging from 42% to 93% across districts. It should be noted, however, that these assessments may not take into account the recent development in roads and communications, which means that a much higher percentage of the population would have a shorter travelling time to health facilities by other means than walking.

In terms of acceptability of services, there is a limited demand-side research or information available identifying client perception of barriers to health-care access, particularly for maternal care. The GNH survey conducted in 2010 demonstrated a high level of satisfaction with services,<sup>22</sup> with 93% of the population surveyed indicating they were either very satisfied or satisfied with the treatment they received. However, other population-based surveys demonstrate wide variations in the use of health facilities for delivery, according to both region and socioeconomic quintile (see Figure 3). The BHMIS data also demonstrate a wide variation in rates of delivery at a health facility between districts, with rates of less than 20% in western mountainous and high plateau regions of Haa and Gasa, demonstrating that there are some issues that are likely to relate to acceptability of services for maternal care. The most recent national estimate for institutional delivery is 66%.<sup>3</sup> This gap in coverage would require further investigation, given that maternal deaths, though declining, are still widely reported in Bhutan. Variations in child health outcomes, too, are observable among different socioeconomic profiles (see Figure 4).

Existing data confirm associations between socioeconomic status and health access and outcomes.<sup>23</sup> Consultations in the field indicated that delayed decision-making processes, owing to behavioural factors, poverty, lack of information, and lack of transport and communications, could be the factors contributing to lower utilization of services. It is not yet clear whether existing methods for UHC measurement are sufficiently sensitive or specific in identifying the causes of these utilization and equity gaps, especially in terms of whether they relate to factors of service quality, affordability (indirect costs), community traditions and perceptions, or a combination of these. Further research is required to pinpoint the determinants of these variations in access and outcomes, and to design interventions that are appropriate to the needs of the affected groups.

### Assessment of service availability

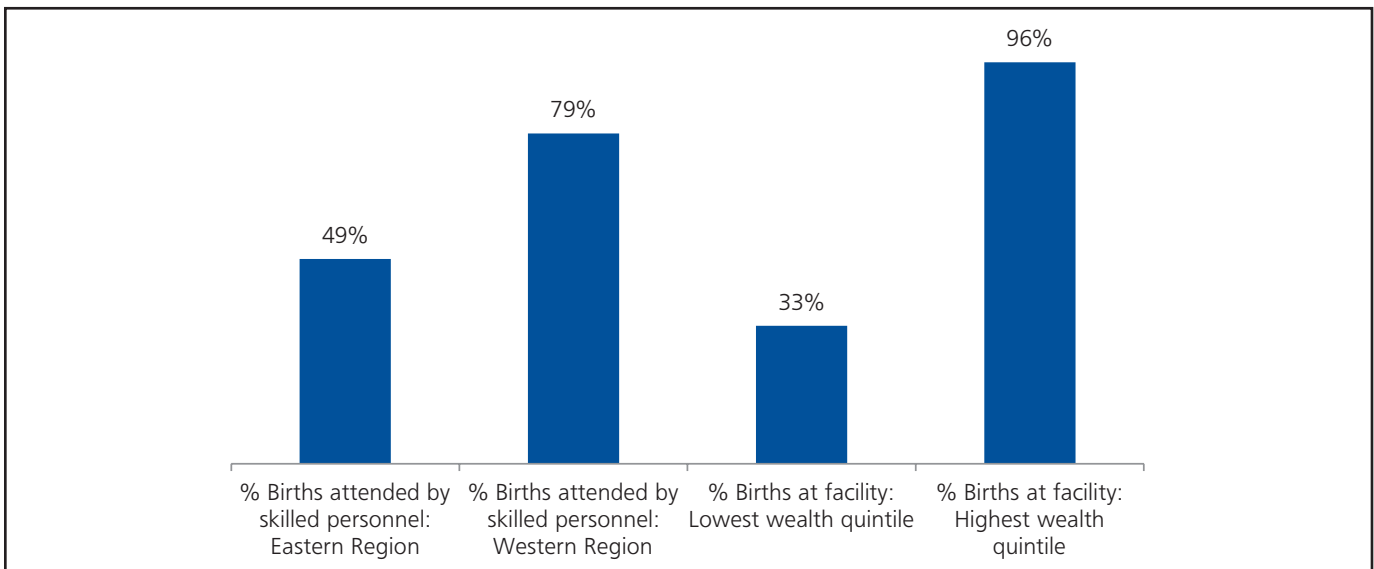
The health-care system, including modern health-care infrastructure, started to develop in the 1950s – and more prominently from the 1960s – with the initiation of the first Five Year Plan. The first hospital was established in 1956,



**Figure 2:** Per capita consultation rates, by dzongkhag (district) 2010

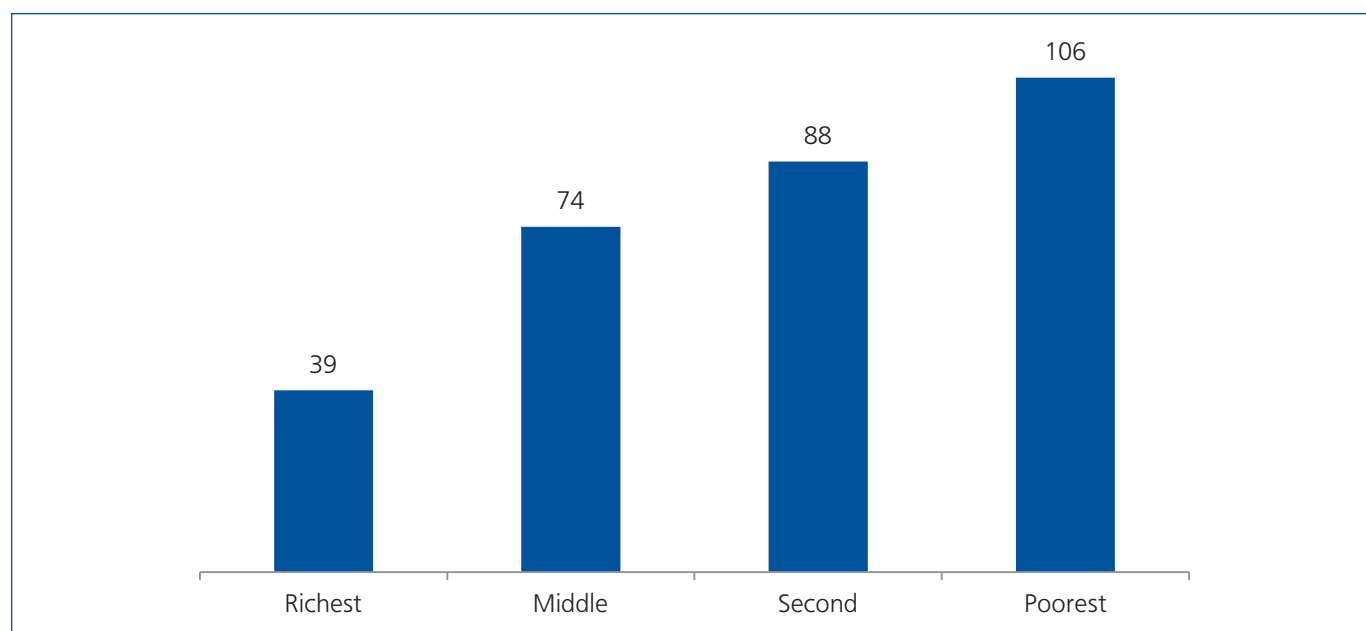
**Source:** Royal Government of Bhutan, Ministry of Health. Bhutan health management information system. BHMIS Database.

**Note:** Thimphu district has been removed from this presentation, because of the limitation of the BHMIS, which does not have an integrated database for the national referral hospital located in Thimphu.



**Figure 3:** Delivery at facility, according to background characteristics of location and wealth

**Source:** Royal Government of Bhutan, National Statistics Bureau. Bhutan multiple indicator survey 2010. Thimphu: NSB; 2011.



**Figure 4:** Mortality rates per 1000 live births in infants and children aged under 5 years, by wealth index

Source: Royal Government of Bhutan, National Statistics Bureau. Bhutan multiple indicator survey 2010. Thimphu: NSB; 2011.

and in 1961 there were just two hospitals, two doctors and two nurses.<sup>5</sup> Since that time, health-facility numbers have continued to expand at a steady rate (see Table 3), along with the introduction of outreach clinics to expand service reach to more remote populations.

An essential medicines list is maintained for each level of the health system. A health-sector review conducted in 2012 indicated that access to essential drugs has been over 90% in all facilities following resolution of a procurement crisis earlier in the year, which had resulted in stock-out of some essential medicines.<sup>19</sup> Availability of human resources across dzongkhags demonstrates wide variation, while levelling out nationally at 2.3 professional health staff per 1000 population.<sup>19</sup>

In terms of service availability of a specific package of services, the Quality Assurance and Standardization Division of the Ministry of Health has developed sets of clinical standards, although a management process for standards assessment has not been clearly defined. Nevertheless, based on existing data relating to supply and coverage of human resources, infrastructure and essential medicines, the proportion of facilities providing essential/standard package of services is estimated at 80% nationally. More accurate assessment will require the development and implementation of a management process and response procedure, to assess service availability across the country.

**Table 3: Growth in health infrastructure and health workforce 2001–2012**

	2001	2005	2010	2012
Hospitals	29	29	30	31
Basic health units	168	176	181	181
Outreach clinics	461	485	518	518
Doctors	114	145	187	181
Health assistants	163	171	366	429
Nurses	569	538	556	723
Hospital beds (per 1000 population)	1.6	1.7	1.8	1.8
Nurses and midwives (per 1000 people)	—	0.24	—	0.98
Community health workers (per 1000 people)	—	0.20	—	0.85

Sources: Royal Government of Bhutan, Ministry of Health. Annual Health Bulletins. 2001. 2005. 2010. 2012. Thimphu: MOH. <http://www.health.gov.bt/national-health-survey/> - accessed 23 November 2014.

The last three rows were sourced from the World Bank online database - <http://data.worldbank.org/country/bhutan> - accessed 23 November 2014.

### Assessment of financial protection

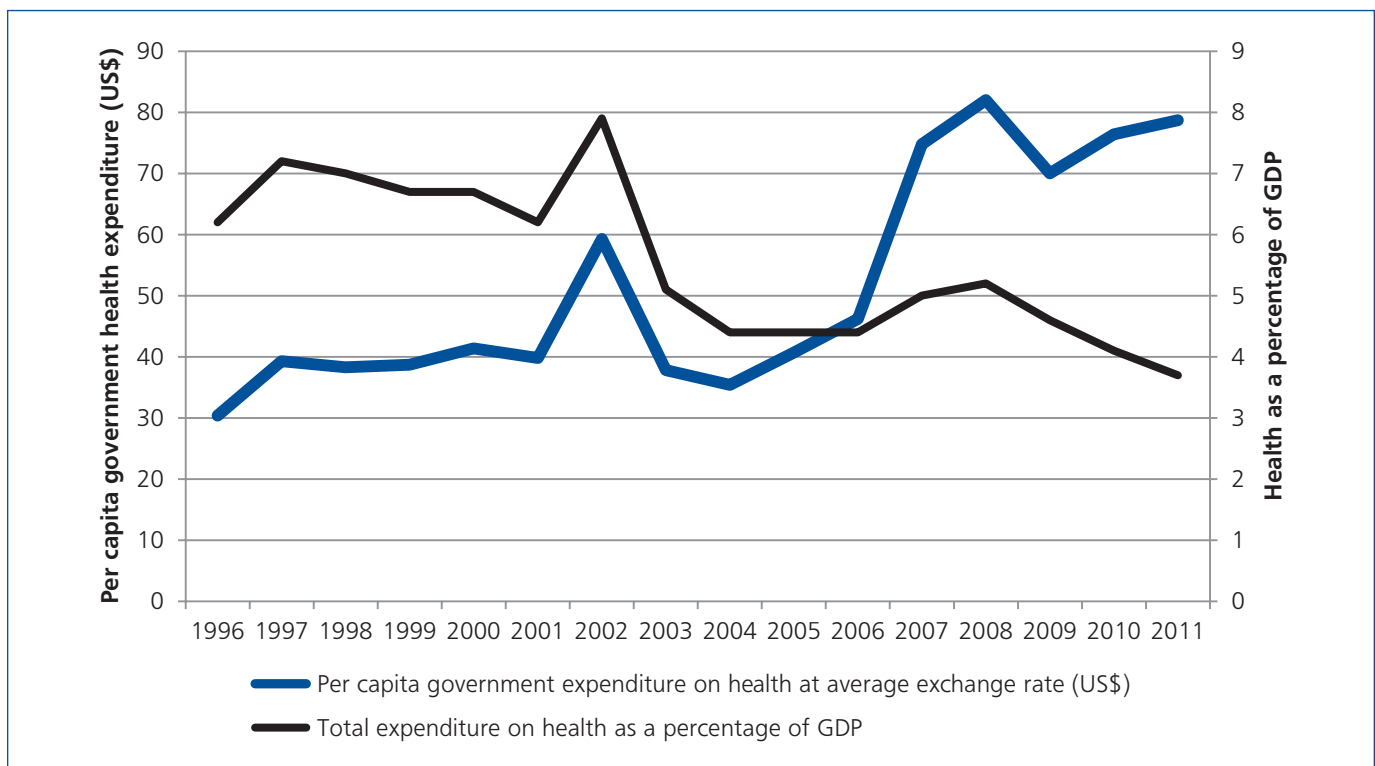
Data at this time demonstrate low out-of-pocket expenditures, which is consistent with the policy of universal free health-care access in Bhutan. It has been estimated that 10.7% of total health expenditure is in the form of household out-of-pocket payments for health care.<sup>10</sup> BHMIS data reveal that direct household expenditures for illness reported for a month ranged from below 100 Nu (1 US\$ = 50 Nu) in southern Samdrup Jongkar district to over 5000 Nu in highland Gasa district. The fact that a recent population survey has demonstrated variations in health access and outcomes across regions and socioeconomic gradients<sup>23</sup> would suggest the need for careful monitoring of out-of-pocket expenditures over the coming years. There is room for consolidation of the evidence and active monitoring of financial risk in health, through better evidence on incidences of catastrophic health expenditures and the incidences of impoverishment due to out-of-pocket health payments.

The other aspect of financial protection is sustained public health financing of the health sector. Government is the predominant source of funds for the Bhutanese health system, and contributes 88% of the total health expenditure of the country.<sup>10</sup> In absolute terms, investment by the government has doubled between 2000 and 2010. Nevertheless, in terms of total

expenditure on health as a percentage of nominal GDP, there has been a decline from over 6% of GDP in 2000 to less than 4% of GDP in 2010 (see Figure 5). The share of government expenditure for health has also declined from 6.7% to 5.6% between the last two Five Year Plans, despite the significant increase in per capita expenditures on health that can be seen in Figure 5. This contrasts with one international norm, which states that low-income governments promoting UHC should aim to devote 15% of their total budgets to health.<sup>24</sup> These trends in health financing raise questions regarding whether the decline is related to heavier infrastructure development in the early 2000s, or is relative to increases in overall GDP as a result of the rapid growth in private capital in Bhutan in recent years.<sup>1</sup> These trends need to be monitored, in order to alert decision-makers of the determinants and risks of a declining share of GDP and government expenditure for health, in terms of sustaining the UHC policy, particularly in the context of rising health-care costs.

### UHC index

Taking into account the above and related results of the UHC assessment, Table 4 provides a summary assessment of UHC in Bhutan, based on information provided in the previous sections and on an “index” analysis as described in the methods section.



**Figure 5:** Trends in health financing in Bhutan

Source: World Health Organization. Global health observatory (GHO) data repository. Health systems: health financing <http://apps.who.int/gho/data/node.main.484?lang=en> - accessed 3 November 2014.



Table 4: UHC Assessment Index: Bhutan

	Data source	Indicator result 2011	Weight	Score
<b>Population coverage</b>				
Proportion of districts with DPT3 coverage >80%	BHMIS 2011	19 out of 20 dzongkhags	1	0.90
% of pregnant women completing 4 antenatal care visits	BHMIS 2011	77	1	0.77
% of births in health facilities	BHMIS 2011	63	1	0.63
OPD contacts	BHMIS 2011	3.1 (if >3 per capita = 2)	2	2
% of population living within 3 hours' walk of health facility	BHMIS 2012	76	1	0.76
% of women aged 20–60 years who have undergone pap smear screening at least once	BHMIS 2011, Eleventh Five Year Plan <sup>18</sup>	25	1	0.25
Total			7	5.31
Result				<b>76%</b>
<b>Service availability</b>				
% of facilities providing essential package according to standards	Estimate	80	5	4
Proportion of dzongkhags with >2.3 staff per 1000 population	HRD database	8 out of 19 dzongkhags	1	0.42
Proportion of dzongkhags with no stock-out of essential drugs in last 12 months	BHMIS 2012	5 out of 19 dzongkhags	1	0.26
Patient satisfaction rate at facilities (%)	Eleventh Five Year Plan <sup>18</sup>	85 with target of 95	1	0.85
National average OPD waiting time from 9 to 11 am	Eleventh Five Year Plan <sup>18</sup>	Maintain at 23 minutes	1	1
Total			9	6.53
Result				<b>73%</b>
<b>Financial protection</b>				
% of non out-of-pocket expenditures on health	National Health Accounts [NHA] 2009–2010 <sup>10</sup>	NHA Estimate	1	0.91
% of nominal GDP allocated to health	National Health Accounts [NHA] 2009–2010 <sup>10</sup>	3.68 (target of 5)	1	0.74
Government health expenditure as % of total government expenditure	National Health Accounts [NHA] 2009–2010 <sup>10</sup>	5.6 (target of 8)	1	0.70
Constitutional/policy commitment to UHC	National Health Policy 2010 <sup>12</sup>	Yes	2	2
Total			5	4.35
Result				<b>87%</b>

BHMIS: Bhutan Health Management Information System.

HRD: Human Resources Division (Ministry of Health, Bhutan).

The respective index scores for the three dimensions of UHC represented by population coverage, services availability and financial protection are estimated at 76%, 73% and 87%, respectively.

## DISCUSSION

Overall, the picture for UHC is positive in Bhutan, with generally high population coverage for most health programmes, and widespread service availability through the networked three-tiered health-care system, and with constitutional and health-policy mandates for universal access. This universal access has been translated into substantially improved health-care coverage and health outcomes, particularly in the past 25 years. All of these improvements have taken place in the context of rapid social and political transitions in the country, which is trending towards a more urbanized and economically robust society. Nevertheless, the evidence of variations in health access and outcomes from population-based surveys, and the pockets of low utilization for specific services across the country, indicates that there are a number of threats to and opportunities for sustaining and improving the quality of UHC in the Bhutanese context.

Rapid economic growth presents significant opportunities for UHC in terms of additional mobilization of resources for

health through increased fiscal space. Double-digit economic growth was recorded in 2010, and the expansion of the hydropower sector in the coming years is expected to add significantly to government tax revenues.<sup>1</sup> Nevertheless, this pace of growth presents threats too, particularly in terms of the potential for widening socioeconomic disparities as incomes rise and middle classes emerge. Also, the decline in share of GDP for health in recent years highlights the supply-side risks of financial protection. This will require ongoing monitoring, particularly given the experience of increased health-care costs in the past decade, which is associated with a rise in the number of noncommunicable disease (NCD) conditions and referrals at health facilities in Bhutan (see Figure 6). The cost of treating patients abroad, which represents 6% of total government expenditure on health care,<sup>10</sup> is similarly expected to escalate.

Bhutan is currently undergoing *rapid health and social transitions*. The expansion of a market-based society is accelerating rates of migration and urbanization, as populations seek higher educational and income opportunities. The shift to a more urban-based society is giving rise to epidemiological and demographic transitions, with ageing of the population and the rise of NCDs. The main threat to UHC is that the epidemiological and demographic transition will outpace the capacity of health and social sectors to respond to it. It is not clear from the available data that the system capacity to respond to the rise in NCDs is being adequately measured, particularly

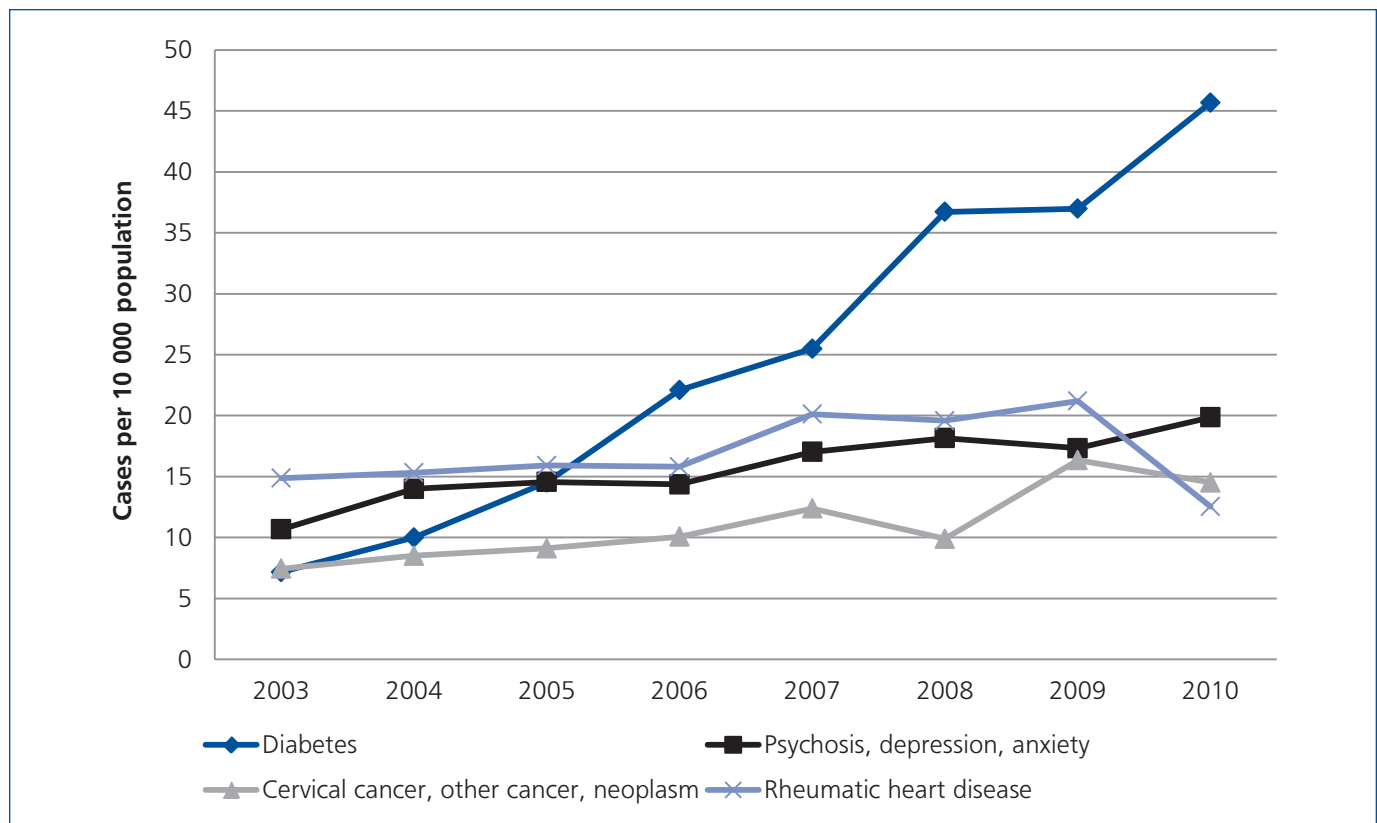


Figure 6: Selected noncommunicable diseases in health facilities, 2006–2010

Sources: Royal Government of Bhutan, Ministry of Health. Bhutan health management information system. BHMIS Database. Population figures were sourced from the World Bank online database. <http://data.worldbank.org/country/bhutan> - accessed 23 November 2014.

in the light of the fact that the three leading causes of death in Bhutan's health facilities were alcohol-related liver diseases, "other cancers" and "other circulatory diseases".<sup>25</sup> A steady rise in consultations for NCDs is reported (see Figure 6), and assessments demonstrate limited capacity for implementation of essential NCD interventions.<sup>26</sup> In addition to the issue of NCDs, the new economy, with expanded trade and commercial investment, is accelerating patterns of globalization, migration and urbanization. These social trends will require timely UHC policy responses to the needs of specific subpopulation groups, including migratory workers, adolescents and the urban poor, as well as to the persisting disease threats of HIV/AIDS, tuberculosis and malaria.

*Political transitions* (democratization, decentralization, private- and civil-sector emergence) will also put additional pressures on the health sector to increase its managerial responsiveness to emerging political and civil pressures for reform, particularly with regard to civil voice, decentralization and the potential for private-sector development in the medical sector. In recent years, a Local Government Act has been legislated, which now places accountability for health in the hands of local government officials.<sup>18</sup> A Civil Society Organizations Act of Bhutan<sup>27</sup> has been passed, which is an acknowledgement of the growth of civil society actors in recent years, and their potential to contribute to improved public health.

Although there is currently no legal framework for *private medical sector* operations, the growth of middle classes is likely to result in increasing demand for private-sector health-care services in some form, which will ultimately require some form of health-policy or regulatory response. Overall, current health policy is keeping pace with socioeconomic and political transitions, although the health effects of these transitions will continue to demand ongoing monitoring, regulatory and policy responses to maintain and consolidate UHC pathways in Bhutan.

As this assessment demonstrates, although there is sufficient information to describe the UHC situation generally, there are *gaps in information* in relation to causality analysis, particularly with regard to issues of accessibility and acceptability of health-care services, as articulated in the Tanahashi framework.<sup>17</sup> Measurement of UHC in the context of Bhutan illustrates that acceptability and accessibility are, in fact, cross-cutting themes of the three dimensions of UHC. That is, acceptability may relate to the level of population coverage, service availability, or even financial protection (in terms of affordability of health care relating to indirect costs). Acceptability and accessibility issues then translate into pockets of low utilization, owing to regional or socioeconomic exposures. A major limitation of this assessment, however, is the absence of detailed *facility standards* for all levels of the health system, along with a system for assessing these standards, which limits capability to monitor service availability in a uniform manner on a nationwide basis. In this regard, there are also limitations in assessing service availability in the absence of a policy definition of essential medical and health-care packages. Quality of data is a critical issue in making valid assessments of district-level health-system performance. The present assessment relies heavily

on the routine management information system, which needs further standardization of data variables and indicators, as well as institution of more rigorous quality checks. Although health financing is being monitored through national surveys and the National Health Accounts process, further research is required to assess the impact of indirect costs on access to care, and the consequent incidence of catastrophic health expenditure and impoverishment for lower socioeconomic groups. The main determinants of the decline in the share of GDP for health in recent years will also require further investigation, robust monitoring and active advocacy. The index scores must be interpreted with a lot of caution. As a prioritized list, the UHC index does not represent a comprehensive health-system assessment. There are issues of data quality with some indicators. Furthermore, the index may not be directly generalizable to other settings, since it draws heavily on the values underpinning Bhutan's Eleventh Five Year Plan<sup>18</sup> and the overarching GNH development framework.<sup>5</sup>

The centrality of the concept of UHC to the principles of GNH,<sup>5</sup> and hence to broader development and political strategy,<sup>28</sup> should position health planners and policy-makers well in terms of securing adequate resource allocations for the health sector, as well as resource mobilization for development investments that are highly conducive to improved health outcomes (education, agriculture and rural development). It is important, however, that these wider health-development gains are not compromised by pockets of health and social disadvantage, as evidenced in the variation in coverage and accessibility across districts. The main logic for closer subnational tracking of the UHC index is the fact that relatively high national aggregates for population coverage and service availability may mask deep spatial and localized inequities in health-care access, particularly for scattered subpopulation groups, including remote populations, the urban poor, the migrant workforce and nomadic populations. In this way, UHC strategy can either be a "friend or foe",<sup>29</sup> in so far as aiming for high population coverage as a principal strategy exposes the risk that pockets of disadvantaged populations may be left to last in the rush for high population targets. Given that the issue of inequity is largely one of implementation, it is important to highlight development and implementation of a subnational assessment and planning methodology, to monitor and take action on variations in health-system performance at subnational and subpopulation levels.

## CONCLUSION

The pathways to UHC in Bhutan are well established by the legal and policy mandates for universal access, the values enshrined in the GNH concept, and the substantial investments in health-sector development undertaken by the RGoB since the early 1960s. In meeting the challenges of epidemiological, demographic and social transition, this country clearly illustrates the growing observation internationally that "every country will develop its own path to UHC, reflecting its own culture and legacy from existing health systems".<sup>30</sup> Despite the well-established pathways for UHC in Bhutan, there are, however, identifiable gaps in service availability and population coverage, and a requirement for ongoing careful monitoring

of financial protection. This increases the importance of measuring UHC performance regularly and more rigorously, in order to ensure that health outcomes continue to improve and that the health contribution to human development is shared equitably across all social classes and regions.

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