

Health Landscape of Gelephu

ABSTRACT

This article provides a comprehensive review of the evolution of healthcare services in Gelephu and Sarpang, focusing on the historical development, current challenges, and future prospects. Significant progress has been made in healthcare delivery, particularly in the areas of infectious disease control, non-communicable diseases (NCDs), and traditional medicine. There are also several challenges faced by the healthcare system, including infrastructure issues, increased NCDs, and the integration of traditional and modern medicine. The article concludes with recommendations for improving healthcare services in the region, emphasising the need for evidence-based practices, infrastructure development, and sustainable healthcare policies.

Keywords: healthcare, traditional medicine, non-communicable diseases, public health, universal healthcare

Introduction

The healthcare system in Gelephu and Sarpang began to take shape in the 1960s with the establishment of basic healthcare facilities. The first hospital in Sarpang was established in 1964, with only one doctor, one nurse, and a few support staff. During this period, the focus was on controlling infectious diseases, particularly malaria, which was endemic in the region. The malaria eradication program played a crucial role in reducing the disease burden in the region (Dorji & Melgaard, 2012).

By 1970s, healthcare services in the region had expanded significantly. The establishment of Basic Health Units (BHUs) and the introduction of mobile health units improved access to

healthcare in rural areas. The Gelephu Hospital was started as a small dispensary, which was upgraded to a regional referral hospital in 2005, increasing its bed capacity to 60. The hospital also introduced advanced diagnostic services, including X-ray and ultrasound facilities, enhancing its capacity to handle complex medical cases (Dorji & Melgaard, 2012).

Current Healthcare Services

Infectious Disease Control

The control of infectious diseases remains a priority in Gelephu. The Vector-Borne Disease Control Programme, which evolved from the malaria eradication program, continues to operate from Gelephu. The program has been successful in reducing the incidence of malaria, with only one death reported in 2013 compared to 63 in 1993 (Dorji & Melgaard, 2012). However, the region still faces challenges from emerging infectious diseases such as dengue fever and multi-drug-resistant tuberculosis (MDR-TB). Like the rest of Bhutan, Gelephu faces challenges related to communicable diseases like HIV/AIDS. The country has made some progress in their control. For instance, Bhutan achieved malaria elimination status in 2018 (WHO, 2018), and the TB incidence rate has declined from 182 per 100,000 population in 2000 to 108 per 100,000 population in 2019 (WHO, 2020).

Gelephu has high prevalence of rabies. There have been reports of frequent outbreaks in the past (Tenzin & Ward, 2011). There have been four human deaths due to rabies reported in Gelephu during the period from 2008 to May 2011 (Palden, 2009 & Rai, 2011).

Rise of Non-Communicable Diseases (NCDs)

The NCDs are the leading cause of death and premature mortality in Bhutan, accounting for 69 per cent and 71 per cent of all deaths in

2014 and 2019, respectively (Ministry of Health). Bhutan has the highest age-standardised death rates for NCD per 100 000 population (WHO, 2011) among the World Health Organisation (WHO) Southeast Asia Region member countries.

The predominant physical activity in the country is work-related, involving the rural agricultural population. Bhutan, however, is going through rapid urbanisation, and by 2040, only about 23 per cent of the Bhutanese population is projected to live in rural areas (Yoshikama et al, 2019). This changing lifestyle is also based on the changing economic activities of the population, particularly the young who move away from manual-based jobs.

Outdoor open-air gym equipment has been installed in public areas in all 20 districts and 4 major municipalities in the country to encourage people to engage in physical activities (Ministry of Health, 2019). The resame report shows 57 per cent of respondents had never used open-air gym facilities and just a third of the 19 per cent who used them did so more than once a month.

NCDs, including cardiovascular diseases, diabetes, cancer, and chronic respiratory diseases, are emerging as significant health challenges in Bhutan, including Gelephu. The prevalence of NCD risk factors, such as tobacco use, unhealthy diets, physical inactivity, and harmful use of alcohol, is increasing (Ministry of Health, 2019). Gelephu's healthcare facilities are actively involved in promoting healthy lifestyles and providing NCD prevention and management services.

The epidemiological transition from infectious diseases to NCDs is a significant challenge for the healthcare system in Gelephu. The STEPS survey shows, 33 per cent of the population in Bhutan is

overweight, 42 per cent consume alcohol, and 28 per cent have high blood pressure. The Central Regional Referral Hospital (CRRH) in Gelephu has established NCD clinics to address the growing burden of diseases such as diabetes, hypertension, and cancer. However, the lack of awareness and preventive measures remains a major challenge.

The rise of NCDs is a major challenge for the healthcare system in Gelephu. The lack of awareness and preventive measures, coupled with changing lifestyles, has contributed to the increasing burden of diseases such as diabetes, hypertension, and cancer. The government has implemented several initiatives, including the National Policy and Strategic Framework on Prevention and Control of NCDs, to address this issue. However, more needs to be done to promote healthy lifestyles and preventive measures (Ministry of Health, 2019).

Healthcare Infrastructure

The healthcare infrastructure in Gelephu has not improved to cater to the demands. The CRRH in Gelephu, inaugurated in 2018 was supposed to be a state-of-the-art facility with advanced diagnostic and treatment capabilities. However, the hospital has faced several issues, including design flaws, construction quality, and maintenance problems. The collapse of ceilings, cracks in walls, and leaks have raised concerns about the safety and sustainability of the facility. The hospital's CT scan machine has been non-functional due to rat infestations, highlighting the need for better infrastructure management (The Bhutanese, 2019).

The CRRH is the primary healthcare facility in the region, serving not only the residents of Gelephu but also patients from neighbouring districts. The hospital provides a wide range of services, including

general medicine, surgery, paediatrics, obstetrics and gynaecology, dentistry, and emergency care (Gelephu CRRH, n.d.).

There are Basic Health Units (BHUs) and Outreach Clinics (ORCs) in the surrounding areas, which offer primary healthcare services to the local population.

Traditional Medicine

Traditional medicine has always been an integral part of the Bhutanese healthcare. The National Traditional Medicine Hospital in Thimphu serves as the referral centre for traditional medicine units across the country, including the one in Gelephu. In 1993, Gelephu Hospital established its own Traditional Medicine Unit, offering services such as acupuncture, herbal medicine, and massage therapy. These treatments are widely used, particularly for chronic conditions such as arthritis, migraine, and gastric disorders (Wangchuk & Tobgay, 2015). Although the sustainability of medicinal plants and the need for evidence-based practices remain significant challenges, the integration of traditional and modern medicine is a key feature of Bhutan's healthcare system, providing patients with a holistic approach to treatment (Wangchuk & Tobgay, 2015).

The government established Menjong Sorig Pharmaceuticals Corporation to promote the sustainable use of medicinal plants (Wangchuk & Tobgay, 2015).

Human Resources for Health

The healthcare workforce in Gelephu comprises doctors, nurses, technicians, and support staff. As of 2021, Gelephu CRRH had a total of 42 doctors, 119 nurses, and 39 allied health professionals, including pharmacists, laboratory technicians, and radiographers (Gelephu CRRH, 2021). The hospital services to patients from five

districts (Tamang, et al, 2024) – Sarpang, Tsirang, Dagana, Zhemgang and Pemagatshel. The total population of the five districts is over 135,000 (Census 2017) bringing the doctor-patient ratio of 1: 3,200. This is well below the WHO standards of 1:1000 doctor-patient ratio. The region faces shortages of healthcare professionals, particularly specialists and skilled nurses. The brain drain phenomenon seen in the last decade has encouraged many skilled health professionals leave the country.

As the future city prepared for population boom, the health professionals are unlikely to meet the growing demands. The healthcare system in Gelephu faces several challenges, including infrastructure issues, resource constraints, and a shortage of healthcare professionals.

Health Indicators

To evaluate the effectiveness of Gelephu's healthcare system, it is essential to examine key health indicators, such as life expectancy, infant and maternal mortality rates, and the prevalence of communicable and non-communicable diseases.

Life expectancy: Bhutan's life expectancy at birth has increased over the past few decades, reaching 71.8 years in 2019 (World Bank, 2021). While specific data for Gelephu is not available, it is reasonable to assume that the town's life expectancy mirrors the national trend, given the region's access to healthcare services.

Infant and maternal mortality rates: Bhutan has made progress in reducing infant and maternal mortality rates. In 2019, the infant mortality rate was 21.6 per 1,000 live births, and the maternal mortality ratio was 89 per 100,000 live births (World Health Organisation, 2021). Gelephu's healthcare facilities, especially the

CRRH, have contributed to these improvements by providing quality maternal and child health services.

Challenges And Future Prospects

Health Information Systems

Gelephu, like the rest of Bhutan, needs to strengthen its health information systems to improve data collection, analysis, and utilisation for evidence-based decision-making. Robust health information systems will enable healthcare providers and policymakers to monitor health trends, evaluate interventions, and allocate resources effectively.

Bhutan has a rich tradition of indigenous medicine, known as ‘Sowa Rigpa’. Integrating traditional and modern medicine can help Gelephu's healthcare system provide comprehensive and culturally sensitive care to its population. The government would invest in research and capacity-building initiatives to promote the integration of these healthcare systems.

Climate Change And health

Bhutan is highly vulnerable to the impacts of climate change, which can affect the health landscape of Gelephu. The region may experience increased incidences of vector-borne diseases, waterborne diseases, and respiratory illnesses due to climate change-induced events such as floods, landslides, and temperature fluctuations. Gelephu's healthcare system needs to develop climate-resilient health strategies to address these emerging health challenges.

Mental Health And Psychosocial Support

Mental health remains a neglected area in Bhutan's healthcare system, including in Gelephu. The region needs to strengthen mental

health services, promote awareness, and reduce stigma associated with mental health issues. Training healthcare providers in mental health and psychosocial support and establishing dedicated mental health facilities can help address this gap.

Health Promotion And Education

Gelephu's healthcare system should prioritise health promotion and education to empower individuals and communities to take charge of their health. This includes raising awareness about healthy lifestyles, disease prevention, and available healthcare services. Collaborating with schools, community organisations, and media can help disseminate health information effectively.

Recommendations

To address the challenges faced by the healthcare system in Gelephu, the following recommendations are proposed:

- *Infrastructure development:* Invest in the development and maintenance of healthcare infrastructure, particularly in rural areas. Address design flaws and construction quality issues in existing facilities.
- *Preventive measures:* Promote healthy lifestyles and preventive measures to address the rising burden of NCDs. Implement community-based health promotion programs and increase awareness about the risks of unhealthy behaviours.
- *Evidence-based practices:* Promote evidence-based practices in traditional medicine. Conduct high-quality research to validate the efficacy and safety of traditional therapies.
- *Sustainable use of medicinal plants:* Implement sustainable practices for the cultivation and harvesting of medicinal

plants. Establish protected areas for the conservation of endangered plant species.

- *Capacity building*: Invest in the training and development of healthcare professionals. Address the shortage of healthcare workers.

Conclusion

The healthcare system in Gelephu has made progress over the years but needs further improvements to prepare itself for a mega city. Several challenges remain, including infrastructure issues, the rise of NCDs, and the need for evidence-based practices in traditional medicine. The new government in GMC require a concerted effort to address these challenges. By investing in infrastructure, promoting preventive measures, and supporting evidence-based practices, the healthcare system in Gelephu can continue to improve and meet the needs of the population.

Additionally, addressing climate change impacts on health, strengthening mental health services, and promoting health education can contribute to the overall well-being of Gelephu's future residents.

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