



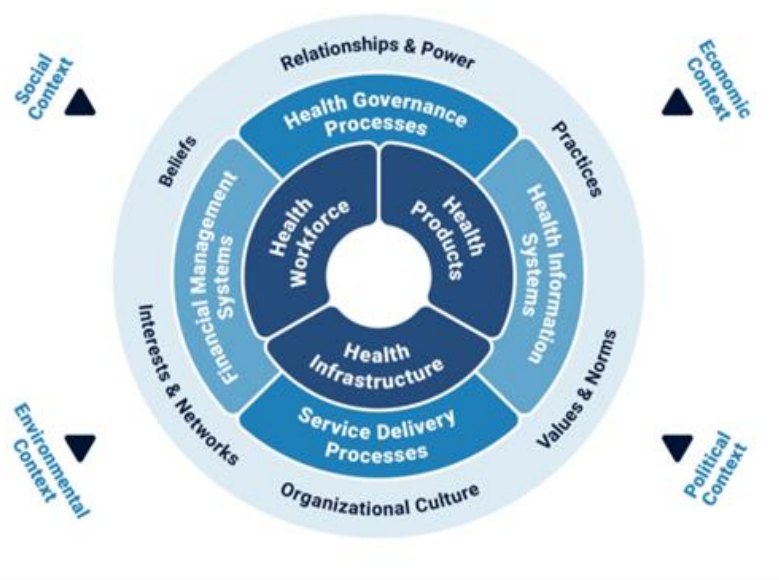
BRIEF ON HEALTH SYSTEMS HARDWARE



1. Background

The health system is a complex, adaptive system. There are at least 13 different elements into which a country needs to invest (human resources, health products, governance systems, etc), each of which has multiple intervention areas. These all interact in unique ways in different situations, times, and contexts to lead to the desired capacities for provision of services. Health System capacity is therefore not only a function of the investments made, but also the way these are mixed and matched in order to produce a desired level of functionality. For instance, better access to services can be achieved through building more facilities, expanding mobile clinics, recruiting special health workers, or even changing governance arrangements. The different elements into which investments need to be made are shown in the figure below.

Figure 1: Health systems elements (source: WHO)



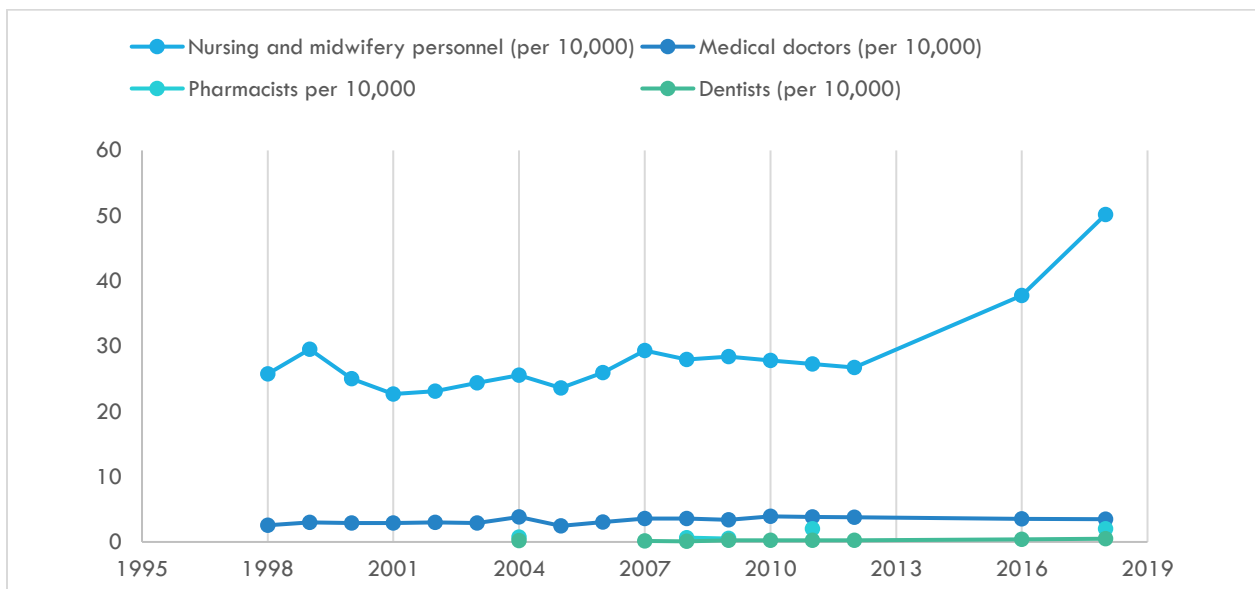


2. Progress in human resources for health

The achievements of the **health workforce** to date are significant, and it has improved the availability and access to services. With the expiration of the 2016 health workforce strategic plan, there is no evidence-based guidance to the quantity, quality, and deployment of health workers.

The high attrition of health workers from the public to the private sector, though considered undesirable, keeps the health workforce in the country and available to provide services to the population. Aside from addressing the fundamental reasons for this attrition (non-competitive conditions of service), innovative way should be considered to still access the expertise that is now in the private sector at an affordable price for the population.

Figure 1: Density of selected health workers (per 10,000) (source: WHO)



Health Workforce Summary

- Good progress with:
 - Production of human resource augmented with the construction of a teaching hospital and introduction of local training of doctors and specialists; and
 - Decentralization of recruitment and promotion of lower cadres of staff at the district level;
 - Availing expat specialist in the public health sector, to bridge gaps in specialized service.
- Challenges:
 - There is an absence of comprehensive data on the health workforce for effective planning, monitoring and evaluation,
 - Mismatch between the production of HRH and actual need of cadres in the ground,
 - Necessity for maximizing productivity, and implementation of attractive retention packages



Botswana

Technical Brief on Health System



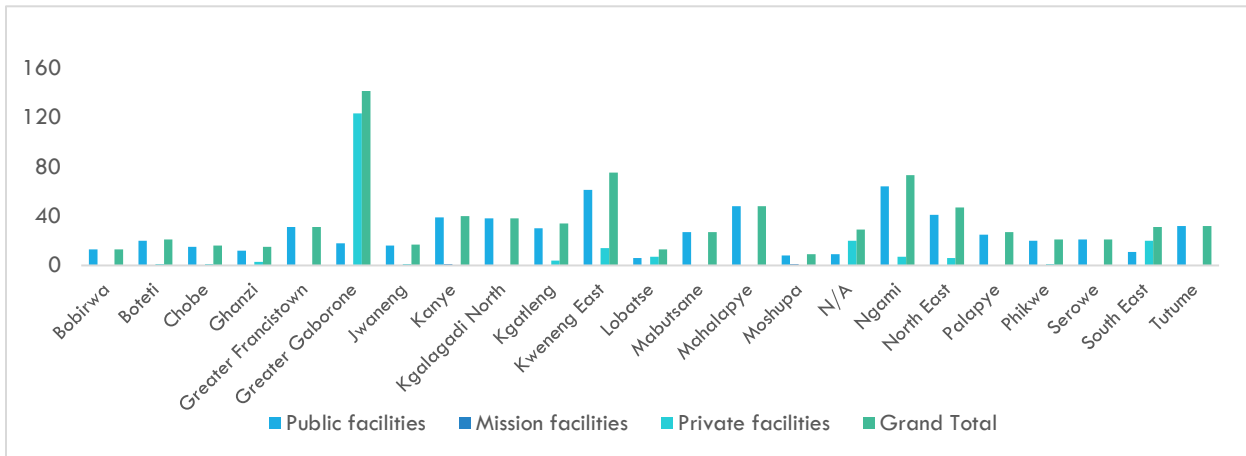
3. Progress in Infrastructure

The sector has made good progress in infrastructure and equipment development in the last ten years. This has led to improved physical access to health services including specialized services and hence contributing to progress towards UHC. The public sector has been the main provider of infrastructure-a situation that guarantees sustainability in investments. The heavy investments in the infrastructure (health facilities and equipment), is however not yielding the desired health outcomes on account of inefficient utilization



Further investments must be carefully thought out and informed by the current context of population demand, changing disease landscape, geographical norms, and availability of other health inputs. The current health facilities density is at 3.49/10,000 population

Figure: Health facilities distribution by ownership and density by districts (Source: Botswana MFL)



- Good progress:
 - Infrastructure is recognized as one of the key successes in Botswana Health system, with a total of 819 health facilities comprising of health posts, clinics, clinics with maternity, district hospitals, primary hospitals, and referral hospitals.
 - The provision of medical equipment and diagnostic capacity has increased, similar to the ICT infrastructure across the levels of care.

Challenges:

- Functionality of the equipment (such as CT scans and MRI) and preventive maintenance need to be strengthened nationally



4. Progress in Health products

The country has developed tools and guidelines including a strategic procurement plan developed with R4D to guide on more efficient procurement; Essential Medicines List (EML), national policy on transplantation (Liver and kidney transplants) 2014, National action strategy for AMR, national policies on rational use of medicines, and standards for regular monitoring of medical equipment maintenance.

There is improved infrastructure and digitalization for commodity management (such as IPMJ, PIMS, GAPs, and transition from analog thermometer fridges to digital ones), which has enabled progress. However, inadequate progress was noted in the capacity to manage procurement and supply chain management (PSM) and systems for estimating and quantifying commodity requirements across all levels.

Figure 3: Guidelines and protocols developed, and their implementation (source: BOMRA)



Health products:

- Good progress with:
 - Tools and guidelines for procurement and supply chain management.
 - Establishment of the regulatory body, which was made operational in 2018.
 - National transfusion services have expanded to 6 operation centers nationally.



Challenges:

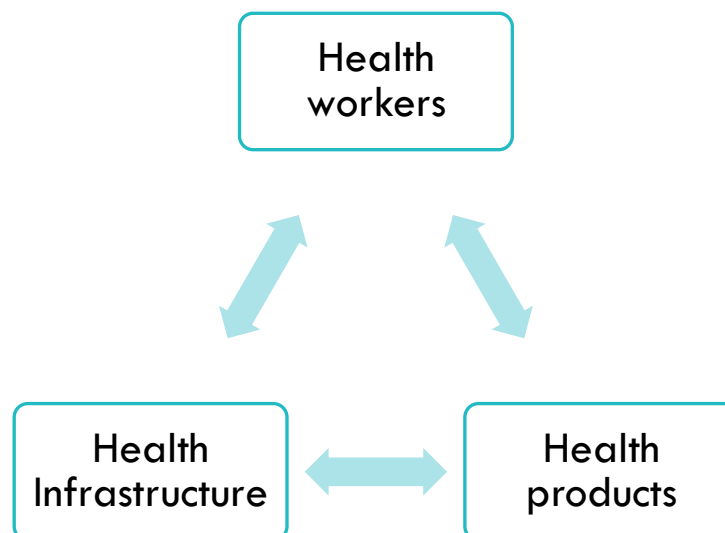
- The sector has significantly faced challenges with frequent stock-outs of essential medicines and commodities recently.
- Although the micro-procurement allowance at facility level was designed to be used as supplementary, facilities have had to resort to it as the main approach for procuring essential medicines.



5. Analysis and implications

The hardware elements of the health systems are pivotal inputs, that require balance in distribution of quantity and quality across the different levels of care. The sector review noted that there are critical areas that should be focused going forward:

- The frequent **stock-outs of essential medicines** and other health products significantly threatens the progress made in Botswana towards universal health coverage, health security and broader areas of health and wellbeing supported by across the health determinants. Access, more specifically, equitable access to health products across the country, should be prioritized
- The **high attrition of health workers from the public to the private sector**, though considered undesirable, keeps the health workforce in the country and available to provide services to the population. Aside from addressing the fundamental reasons for this attrition (non-competitive conditions of service), innovative way should be considered to still access the expertise that is now in the private sector at an affordable price for the population
- The sector has made good progress in infrastructure and equipment development in the last ten years. Focus on improving **availability and functionality of utilities** and innovative approaches may be applied for engagement of the private sector, with a clear framework for more effective and efficient investments





6. Recommendations

	Operational	Strategic	Policy
Health Workforce	<ul style="list-style-type: none"> • Conduct a health workforce productivity review. • Conduct a health labor market analysis. • Put in place an in-service training plan. • Document, review and expand the current rotation program • Establish a comprehensive Human Resource Information System 	<ul style="list-style-type: none"> • Develop and use Medium Term Health Workforce planning. • Put in place a program for improving staff workplace well-being. • Explore deepening of outsourcing of non-technical services to private sector (cleaning, laundry, catering, security). 	<ul style="list-style-type: none"> • Explore a health service commission as a separate entity from districts and MOH to manage the health workforce • Accelerate movement towards a multiskilled health workforce
Health Products	<ul style="list-style-type: none"> • Revamp the current procurement practices, within the existing legal framework. • Expand the LMIS to cover the whole logistics chain. • Put in place a monitoring program for rational use of health products. • Monitor the medicines pricing. 	<ul style="list-style-type: none"> • Put in place and use a health products management platform. • Undertake the global regulatory body maturity assessment. • Engage with and establish strategic frameworks with traditional medicine practitioners. • Monitor, disseminate and take action on findings from rational use of medical products. • Expand provision of services for medical products of human origin to all districts. 	<ul style="list-style-type: none"> • Promote local manufacturing through useful collaboration with a focus on internal and external markets • Have the Botswana Medicines Regulatory Authority as a Centre of Excellence for regulating medical products in Botswana, in the context of SADC and AU medicines regulatory mechanisms • Have a zero-tolerance mindset and approach for essential health products stockouts
Health infrastructure	<ul style="list-style-type: none"> • Map the health infrastructure and equipment availability, functionality and readiness in all health facilities. This should build on the existing Master Facility List, to identify priorities for ensuring effective use of health infrastructure. • Put in place preventive maintenance units at each district. These should bring together and plan - medium term - the maintenance needs, away from the current adhoc process and have biomedical engineers in each. 	<ul style="list-style-type: none"> • Develop health infrastructure and maintenance investment plans for each district. • Explore use of resources from other sectors for maintenance and management of infrastructure. • Ensure ICT infrastructure exists in all health facilities. 	<ul style="list-style-type: none"> • Implement innovative mechanisms of acquisition and maintenance of medical equipment such as leasing of equipment, outsourcing the maintenance function



Botswana

Technical Brief on Health System

References

1. End-term review of the Botswana health sector strategy report, 2022
2. Integrated African Health Observatory (iAHO)

Sources

Data on Universal Health Coverage (UHC) come from World Health Organization: [integrated African Health Observatory](#)

Production of the infographic was supported by the Integrated African Health Observatory.

Photography: <https://photos.hq.who.int/>, <https://photos.afro.who.int/>

Check out our other Fact Sheets in this iAHO country health profiles series: <https://aho.afro.who.int/country-profiles/af>

Contact us at: iAHO@who.int

Connect with us on LinkedIn: <https://www.linkedin.com/company/iaho/>

Fact sheet produced by: Solyana Kidane, Serge Bataliak, Boingotlo Ramontshonyana, Madidimalo, Tebogo, Juliet Bataringaya, Tesfaye Erberto