Delivery of Primary Health Care in times of Epidemiological Transition: Lessons Learnt from Botswana

Keneilwe Motlhatlhedi and Oathokwa Nkomazana provide a narrative on primary health care in Botswana

Introduction

Epidemiologic transition describes the changes in disease patterns and population demographics over time.[1,2] Although it has its limitations the theory proposes that these transitions are influenced by several factors including advances in medicine, industrialization and social factors. The early periods are defined by high mortality mostly from infectious diseases and food insecurities. The population at this stage is younger and has high fertility rates. As innovations in both curative and preventative medicine develop and more people have access to them the scourge of infectious diseases reduces, people live longer and healthier. However, this new era also has its own challenges. The emergence and re-emergence of infectious diseases such as HIV/AIDS and influenza viruses, the rise in non-communicable diseases, mostly related to lifestyles, and more recently the COVID-19 pandemic are serious threats to global health goals. High functioning, adaptable Primary Health Care (PHC) is imperative to ensuring sustained improvement in health through these transitions.[3,4]

Primary Health Care in Botswana

In many low- and middle-income countries such as Botswana the transitions are not quite distinct. The persistence of diseases such as malaria and tuberculosis, the rise in non-communicable diseases coupled with challenging socioeconomic environments has resulted in a double burden of disease. At independence in 1966, Botswana was a poor country with high mortality, food insecurity and low health care access.[5]The successes and shortcomings of Botswana in HIV care highlight the potential of robust primary care systems in dealing with epidemiologic transitions.[6,7] The health system was built up from this time with a model that was intentionally broad based and emphasized primary health care. To enhance universal health access each community in Botswana is within an 8-kilometer radius of a health care center and health care in the public sector is free.

Primary Health Care services are administered through a district health team. Each health district has a district health management team. The levels of health facilities within each health district include a district (or Primary) hospital, primary care center/clinic (with maternity services and or 24-hour service, primary care centers without maternity services, health posts and mobile stops. District hospitals are mainly curative focused whilst clinics/ primary care centers are mostly community based and provide health promotion (health education, child nutrition, contraception) preventive (vaccination, screening etc.) and curative services. Primary Health Care was previously administered through local governments; although this has changed, and PHC is now under the Ministry of Health (central government), it is still linked to local governments at district and community level.

This PHC structure has enabled the country to respond to health care challenges and achieve commendable results in maternal and child health, HIV care and more recently COVID-19 response.

Patients waiting for services at a health Centre

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Primary Health Care Facility in Botswana

PHC response to Recent Epidemiologic transitions in Botswana- achievements

One of the major challenges in health care and especially primary health care is health workforce. This was more evident during times of pandemics. These periods necessitate adaptation including task-shifting and innovation. In the early stages of anti-retroviral treatment roll-out, the administration of HIV care was rolled out to primary care. There were not enough doctors hence some traditionally doctor led tasks were shifted to nurses. These included assessment and monitoring patients on anti-retroviral therapy. Additionally, a nationwide electronic system was for HIV care was rolled out. This allowed for accurate tracking of patients and reporting.

During the COVID-19 pandemic an e-locker system which allowed patients on anti-retroviral therapy to access their medications with minimal contact with other patients or health care workers, was piloted in some mining and public sector hospitals. A short-coming of the innovations developed to address epidemiologic transition episodes is the inadequate roll-out to the entire health system. For example, most primary care services are still paper based as opposed to HIV care which is mostly electronic. Roll-out of the e-locker system had, at the time of writing, not been rolled out to most government facilities.

The collaboration between Primary Health Care service delivery and communities is important for PHC in Botswana. Buy-in from political, administrative and traditional local government structures was instrumental in mobilizing Village Health Committees (VHCs) and community volunteers in the care of HIV/AIDS patients through programs such as home-based care. Non-governmental organizations (NGOs) were also enlisted in the care of patients with HIV/AIDS and more recently in COVID-19 response. There is linkage between community-based organizations and PHC. This linkage augments treatments such as direct observed treatment for Tuberculosis and ensures patients diagnosed with HIV (and more recently COVID-19) are not lost to follow-up. This robust response was instrumental in the country surpassing global the 90:90:90 goals for HIV treatment.[7]

An understanding of the health needs of communities and integrating services is demonstrated in the provision of fortified food supplements to children under the age of 5 years. These rations are provided on a monthly basis at the child welfare clinics. Food rations such as these not only help improve child nutrition but also helps enhance under-5 child welfare clinic attendance where growth monitoring and vaccination occurs.

Botswana was amongst the first countries in Africa to introduce Family Medicine training and to recognize Family Medicine as a registrable specialty.[8] Training of Family Physicians as well as other primary health care professionals such as Public Health specialists, community health nurses and Family nurse practitioners, enables the development of strong primary health care teams. These teams lead and support services such as case identification, contact tracing and restructuring of primary health care services at times of need such as during the COVID-19 pandemic.[9,10]

International partnership has also played an important role at times of epidemiologic transition. At the height of the HIV pandemic many international partnership (most of which were PEPFAR funded) were developed.[11,12] These helped to train health care workers, develop guidelines at administrative and service provision level as well as provide service. Many of these partnerships still exist today. Perhaps out of necessity, most of the response was focused only on HIV/AIDS, tuberculosis and Malaria.

PHC response to Recent Epidemiologic transitions in Botswana-challenges

Despite all the achievements, there are challenges in the provision of Primary Health Care in Botswana which have at times limited the response during deflection points in epidemiologic transition. Primary care services are

Community Outreach Wellness Event

mainly paper based. More recently an electronic records system was introduced at primary care level, however, with the current system each facility generates its own electronic records which cannot be accessed outside of the facility. There are efforts currently to create and roll-out a more comprehensive electronic records system which will allow coordination at primary care level and even between primary care and higher levels. Another challenge as was previously mentioned is the focus on secondary and tertiary care. Although Botswana has a broad-based system with more primary care services, health care administration is still highly centralized. This may affect identification of threats and responses at primary care level.

During the COVID-19 pandemic it became evident, in Botswana, as with many countries in the world that primary care should be more engaged with local structures.[13] Community profiling and attending to social determinants of health may not only curb the rise in lifestyle diseases but could also help to rapidly identify and respond to health threats within communities. For example, when there were movement restrictions throughout the country, the government provided food rations.[14] Accurate community profiles and mapping would have identified the most vulnerable in society and linked them not only to food rations but also ensured continued health service provision when needed.

The presence of international partners although critical has in some cases resulted in internal brain drain. Funded programs tend to offer higher salaries and get better service provider ratios. In retrospect the inadequate integration of these responses may have inadvertently negatively affected Primary Health Care in Botswana. Instead of the wholistic nature of primary health care the country now operates in a somewhat parallel system where HIV services are seen as separate from usual care. This may result in redundancy and duplication of cost. There is now a move toward integration of care.

Ensuring sustained delivery of health care services even as we respond to emerging health care challenges remains a challenge. The response to the HIV pandemic destabilized the existing Primary Health Care model. During the COVID-19 pandemic a failure to ensure ongoing care for chronic disease patients may have resulted in poor control and a rise in mortalities.

Conclusion

While Botswana has achieved a lot through challenging transitions in epidemiology there is a need for the health care system and indeed the country to learn and prepare for future transitions. Firstly, strengthening databases at primary health care level and ensuring rapid and efficient reporting will enable the early identification of threats and of those most vulnerable. The adoption of innovations such as telehealth would enable continued care and support. Empowering communities to take part in their health care may enhance future responses or even abate some emerging diseases. Revitalization of Primary Health Care with an emphasis on community oriented, adaptable and innovative primary health care with a focus on affordability, comprehensiveness, continuity coordination and accessibility remain challenges for all health care systems.