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Analysis of Health System for Health Security: Case of Burundi

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Abstract

Health system contributing to health security constituting an approach that harmoniously brings together efforts to strengthen the resources and capacities necessary for the implementation of the International Health Regulations, the components of health systems and those of other sectors for effective management of health emergencies, while maintaining the continuity of essential health services. The countries that have a weak health system face many challenges related to health security. A descriptive study was used during this study to identify if Burundi health system is contributing to the health security. 5health zones have been selected and 350 individuals questioned if they have received health education related to diseases with epidemic potential and if they have suffered from them. A questionnaire which includes the diseases with epidemic potential was distributed to 350 respondents between 20 to 55 years old. The majority (58%) of the respondents were female compared to 42% male. Most (93.0 %) respondents have received health education related to prevention of diseases with epidemic potential. The result shows significant differences in location, gender, marital status, occupation, and several outbreaks (P<0.001). The future research should focus on the re-organization of health systems to respond effectively to different heath threats, especially these can spread locally and globally. Identification of all these issues that can spread to neighbors, and which can cause high morbidity and mortality. of the country, the gaps, and priorities and to know where to convey the efforts for universal health coverage.

Keywords*: Burundi, Epidemic potential, Health system, health security, prevention.*

Introduction

The world is increasingly interconnected and interdependent. People, goods, and related services move easily and quickly between regions and countries. This has contributed to the complexity of achieving national and global health security and brings both challenges and new opportunities [1].

This article is aimed to highlight how Burundi health system is. The article will guide the government, Burundi partners and other people working in health sector and readers what should be done to strengthening the health system for Universal Health Coverage [2].

Burundi as a developing country is facing many challenges related to disease prevention and control. The public health events of greatest concern are those that can cause locally and spread globally [3]. Burundi should have sufficient capacity in terms of preparedness to provide an effective response to serious and large-scale public health emergencies. Major events that Burundi should be prepared include the diseases that have pandemic and epidemic potential such as malaria, COVID-19, Ebola, Cholera, and many others [4].

The country has different needs when it comes to ensuring that it can mobilize resources to respond adequately to health emergencies in

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addition to their usual demands for health services.[5] It needs support to rapidly develop technically skilled and specialized human resources, given the vital role of health personnel in health systems when they become operational, acts to respond to health emergencies. Finally, Burundi struggles to procure the medical equipment and medicines needed to meet the surge in demand during pandemic, due to intense competition [6]

The government of Burundi needs to strengthen and invest in health system, to build a system that is reliable, sustainable, and capable of delivering while improving health security nationally and globally [7].

Establishing and strengthening Burundi health system involves a complex set of conceptual and practical. To these ends, a clear and common narrative and a well-defined framework are needed to build resilient and responsive health system. There is also a need to reinforce messages about investment in food safety, returns and expected outcomes [8].

The Ministry of Health of Burundi should better know and understand (i) what capacities are required for resilient and responsive health system for health security? (ii) Where are the intersections between health system, health security and other sectors, and (iii) how the challenges to these intersections can be overcome and the opportunities exploited for effective multisectoral and multidisciplinary management of health emergencies [9].

Methodology

The methodology describes the research design, population and the sampling procedure used. The instrument for data collection, data collection procedure, data analysis procedure, validity and reliability of the instruments are also described in detail in this part of the study.

Research Design

A descriptive design was used for this study. The data related to the organization of Burundi health system for the study was collected related to the organization of Burundi health system to find if that health system is contributing to health security. The data was gathered in 2022 from the Ministry of health of Burundi and many health experts operating in Burundi have been as well consulted.

Study Area

The research took place in Burundi in the Ministry of health. The study is related to how the Ministry of Public health of Burundi is organized and if this organization is contributing to national and global health security. Burundi's health system is organized in a pyramidal form, and it is articulated on 4 levels: the central level, the intermediate level, the peripheral level, and the community level.

This system should be able to prevent, diagnose, treat, and control events that may affect twelve millions of Burundian specially the diseases that have pandemic and epidemic potential. Burundi is a Central African country member of the East African Community. It borders to the north with Rwanda, to the south and east with Tanzania and to the west with the Democratic Republic of Congo (DRC) [10].

Its area is 27,834 km2 including the surface of territorial waters. It is the third most densely populated country in Africa. The population of Burundi is estimated at 12,309,600 inhabitants, a density of 442 inhabitants/km² in 2020 according to demographic projections from the data of the general population and housing census of 2008. The population growth rate is 2.4% (RGPH 2008). In 2018, he ranked 15th place (0.423) out of 189 countries according to the Human Development Index1 [11]. Nearly 72.9% of their population live below the poverty line. Poverty is rural (71.1%) and affects small farmers. Burundi had 1,182 functional health centers (HCs), including 658 public HCs, 340 private HCs, 144 confessional HCs and 40 associative HCs [12].

Study Population

The focus of the study was the structure of the Ministry of Public Health of Burundi and if that structure is contributing to the population health security. Several workers of the Ministry of Public Health and experts operating in that sector have been consulted to understand the organization of Burundian health system. The following groups of people have been contacted:

1. Decision-makers and public health experts of Burundi responsible for defining coordinate and implement health security strategies. This is not limited to the Ministry of Health, but includes stakeholders from other sectors who are involved, in one way or another, in the management of health emergencies.
2. Partners and donors who support and fund health security capacity building or health systems development.
3. Academic and research institutions interested or involved in research aimed at generating data for the effective management of health emergencies.
4. Other institutions and community leaders are interested or likely to participate in the management of health emergencies. Health system contributing to health security must consider the objectives of UHC (all individuals must be able to access good quality health services at an affordable cost) and those of health security (reducing vulnerability to serious public health situations that endanger the collective health of populations, including across geographical borders).

Inclusion Criterion

Health professionals and workers that have the responsibility of decision making and supporting health system management.

Exclusive Criterion

Health professionals and workers who are not involved in decision making, cannot intervene in health system organization.

This involves a health system that can resist, absorb, respond, adapt, and recover from the effects of health emergencies quickly and effectively.

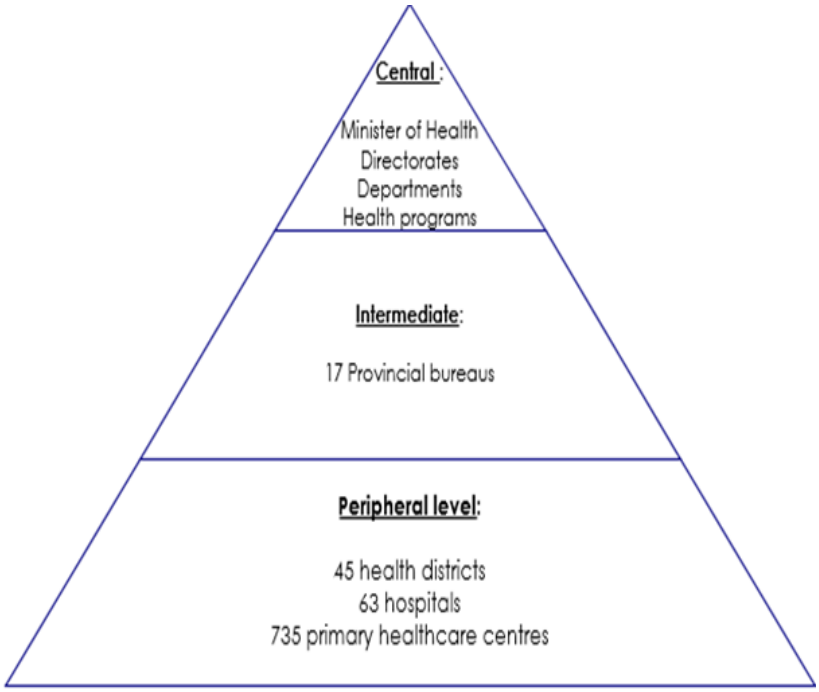

Figure 1. Burundi's Hierarchical Health System Structure [13]

The government of Burundi needs to establish a good health system that contributing to health security for the following objectives:

1. Defining the essential components of health systems and other sectors that play an important role in coping with the demands imposed by health emergencies.
2. Defining, prioritizing, and monitoring actions and investments in health security, health systems and other sectors for a multisectoral and multidisciplinary management of health emergencies for better global health security.
3. Welcoming partners and donors better support the country in strengthening health security by identifying where more investment in health systems is most needed, how best to do it, and how funding can be maintained.
4. Highlighting the challenges related to the implementation of health systems contributing to health security.
5. Preventing the population against health threats.
6. Preventing local diseases from spreading globally.
7. Mitigating and controlling health threats when occurred.

Research Questions

The research will help to answer the following questions:

1. Is there health system in Burundi?
2. How is Burundi health system structured?
3. Are there partners supporting Burundi to strengthening health system?
4. What are the most health threats that Burundi health system should combat?

Research Objectives

General Objective

1. Analysis on Burundi health system.

Specific Objectives

1. Overview Burundi health system.
2. Organisation of Burundi health system.
3. Burundi health threats (Diseases).
4. Compare health system of Burundi and other developed countries.

Ethical Consideration

This research does not require ethical consideration but the permission for data collection has been guaranteed by different personalities of the Ministry of Public Health before data collection.

Reliability and Validity

The data collection tool, the questionnaire was pre- tested before the actual data collection. This tested the validity and reliability of the instruments used during data collection.

Results

The crude mortality rate is 10.27 per 1000 inhabitants with life expectancy at birth of 59.7 years in 2020.Epidemiologically, the country faces the double burden of communicable diseases and non-communicable diseases. It also has an increased vulnerability to public health emergencies and malnutrition. The maternal mortality ratio increased from 500 to 334 maternal deaths per 100,000 live births between 2010 and 2017 [14]. A part of these challenges, Burundi has made progress in child health with an infant and child mortality rate falling from 96 to 78 deaths per 1000 live births. The data collected showed that the neonatal mortality rate fell from 31 to 23 deaths per 1,000 live births from 2010 to 2017.Compared to the implementation of primary health care, the rate of fully immunized children is 79.5% in 2019.The rate of assisted deliveries is 98.6% (DHIS2), the coverage rate in ARV in adults is 82.8% and in children it is 32.6%.[15]The therapeutic success rate against tuberculosis is 94%.The government of Burundi through the Ministry of Public Health and partners needs to strengthen the health system in order to correct the negative health indicators[16].

Table 1. Burundi Mortality Rate (2011-2021)

Date	Death s	Mortality Rate
2021	93.808	7,47‰
2020	92.409	7,56‰
2019	87.304	7,35‰
2018	87.902	7,65‰
2017	86.701	7,77‰
2016	86.135	8,18‰
2015	87.275	8,55‰
2014	87.162	8,80‰
2013	88.274	9,18‰
2012	89.792	9,63‰
2011	91.331	10,09‰

On the other hand, there is a need for reinforcement in terms of health promotion: food and nutrition, access to water (only 58% of the population has access to drinking water less than 30 minutes away) and sanitation (Less than 44% of Burundians use improved non-shared toilets). The country cannot reach health security without reinforcing the sector of water and sanitation as many diseases are prevented by hygiene [17].

Table 1 shows the mortality rate between 2011 up to 2021.In short, the mortality rate has decreased compared to 2011(10,09 0/00.) [18].

In relation to access to essential health services, despite the progress made in recent years, significant deprivations persist and undermine health rights.

During my research, the essential health services coverage index was 43 in 2016 against a target of 80.

Organization of Burundi Health System

Burundi's health system is organized in a pyramidal form and is articulated on 4 levels**:** the central level, the intermediate level, the peripheral level, and the community level [19].

Partnership for Health and Development

The coordination of the health sector is done through a consultation framework for health and development partners (CFHD) created in 2007 with a view to synergizing the interventions of all the actors of the health system. Working Groups (WG) have been set up to feed the strategic discussions of the CFHD. These five WGs cover the following areas: (i) WG 1: Health services and the fight against AIDS (with supply and demand for; Programs/projects; Health promotion ; Hygiene ; Sanitation); (ii) WG 2: Drugs, pharmacy, laboratory; (iii) WG 3: Planning and Monitoring-evaluation; National Health Information System); (iv) WG 4: Resources (with Human Resources; Budget; infrastructure; Equipment; (v) WG5: Mother-Child Health/Vaccination which plays the role of Inter-Agency Group for Vaccination[20]. Effectively managing aid in the health sector, a diagnostic on the functioning of the CFHD was carried out by the MSPLS with the technical support of the WHO in 2018 and strengths and weaknesses were identified in order to adapt its architecture to the new environment Short- and medium-term recommendations have been made to improve its operation to maintain these achievements and face the new challenges posed by the implementation of UHC to achieve the SDGs [20].

As part of the fight against malaria, tuberculosis and HIV/AIDS, there is a National Authority responsible for coordinating Global Fund grants. This body monitors the implementation of grants, the mobilization of resources and the alignment of Global Fund

financing with programs and projects financed by other partners to guarantee sustainable actions. For HIV/AIDS, there is the CNLS, which is the multisectoral coordination body for the national response to HIV. Its technical body is the SEP-CNLS [21]. The public-private partnership also contributes to health action.

Health centers, hospitals and private clinics contribute to improving the supply of care and services at the national level. According to data from the 2019, the private sector represents 47.16% for health centers (private, denominational, and associative) and 63.57% for hospitals including clinics and polyclinics [22].

Table 2. State Budget Allocated to Health in BIF

Ministry	**Budget 2012**	**Budget 2013**	**Budget 2014**
MSPLS	68 453 546,62	74 352 093,46	78 835 358,03
Ministry of higher education and scientific research (CHUK)*	2 659 052,88	2 733 600,30	2 565 600,30
Ministry of National Solidarity, Human Rights and Gender (CNAR, Indigents)	**1** 631 318,70	1 816 195,41	36 247 707,00
Ministry of Public Security	1 289 164,99	1 385 164,99	1 385 164,99
Ministry of National Defense and Veterans Affairs (HMK.)	2 037 395,13	2 135 620,36	2 231 620,36
Total budget allocated to health (1)	76 070 478,32	82 422 674,52	85 053 991,39
Total state budget (2)	779 917 598,84	779 282 641,31	813 077 734,03
Percentage of budget that is allocated to health (1 / 2)	9,75	10,58	10,46

For the 2015 and 2016 budgets, the provisional budget laws show a decrease in the proportion of the budget allocated to health. The share of the national budget devoted to health is respectively 10.8%; 13.6% for the budget years 2019-2020 and 2020-2021 [23].

Table 3. Health Human Resources Have Evolved in Quantity and Over Time as shown in the Following Table

Categories of Human Ressources	**Workforce in 2010**	**Ratio RH/Pop**	**Workforce in 2017**	**Ratio RH/Pop**	**WHO Norms**
Nurses	5967	1nurse/1.586hab.	7332	1nurse/1.568hab.	1nurse/3.000hab.
Doctors	418	1Dr /22.634	647	1Dr /17.768hab.	1Dr /10.000hab.
Mid wifes	16	1mw/141.190 Women aged procreate	103	1SF/27.080 Women aged procreate	1mw/5.000Women aged procreate

This Table 3 that the nursing staff is sufficient according to WHO standards. However, these nurses are unequally distributed over the Burundian territory, the urban and semi-urban areas being more served than the rural areas. In addition, human resource needs, particularly for doctors and midwives, remain significant. In addition, the analysis of the

density of health personnel is 0.7, while WHO standards provide for 2.3 qualified personnel (doctors, midwives, and nurses) per 1,000 inhabitants.

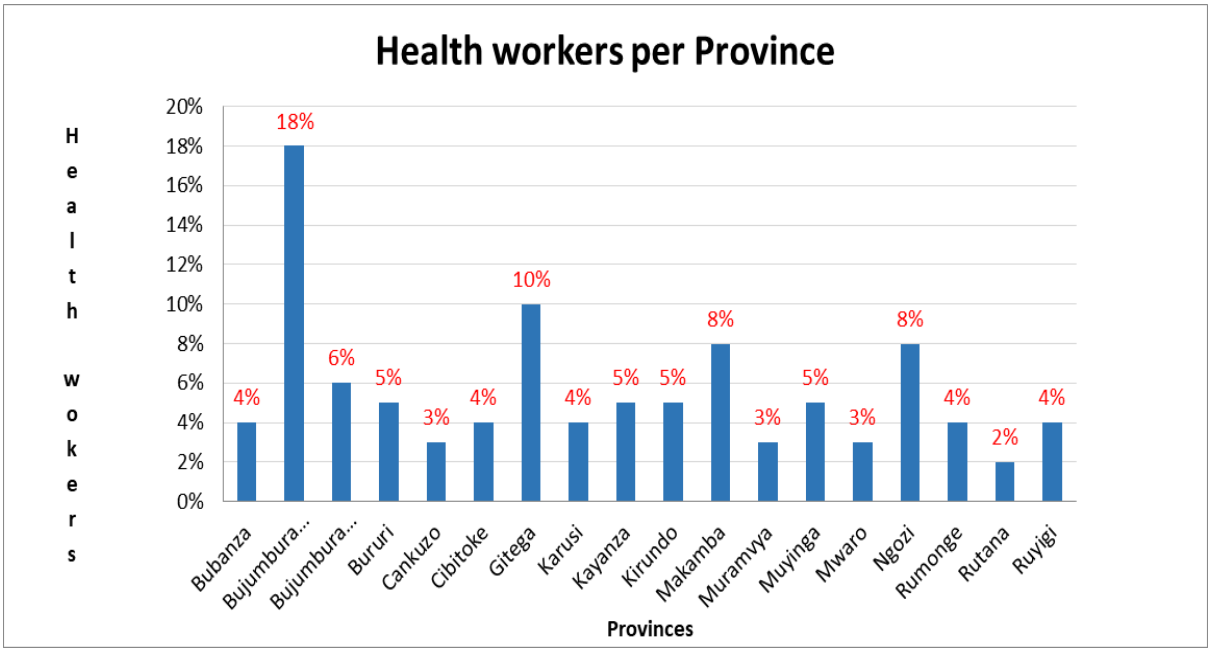

Figure 2. Distribution of Public Sector and Licensed Health Personnel by Province (HRs Mapping: 2017)

Directorates, Programs and Health services

According to Decree No. 100/093 of November 9, 2020, on the organization and functioning of the MSPLS, there are Departments / Directorates at the central level in different general directorates as describe in the Table 4:

Table 4. Structure of Burundi Health System

Directorate General for Health Services and the Fight against AIDS	**Directorate General of Planning**	**Directorate General of Resources**	**Directorate General for the provision of modern and traditional medical care**
Department of Health Promotion, Care Demand, Community and Environmental Health	Department of Planning and Monitoring- Assessment of Health policies	Human Resources Department	Accreditation Department
Department of Medical Biology Laboratories	Department of Health Information System	Budget and Procurement Department	Department of Care Quality Assurance, Hygiene and Safety in the Workplace care
The National Technical Unit and Performance-Based Financing		Department of Infrastructure and Equipment	Directorate for the Promotion of Traditional Medicine, Balanced Diet and Natural Diet for Therapeutic

		The Unit Responsible for Public Procurement	Purposes
		The Unit Responsible for Logistics and Carriage	

Based on the situation and the epidemiological scale, the country has implemented specific programs to strengthen interventions relating to certain health issues.

Thus, Burundi currently has 9 vertical programs listed below:

1. The National Integrated Malaria Control Program (PNILP).
2. The National Integrated Food and Nutrition Program (PRONIANUT).
3. The National Integrated Leprosy and Tuberculosis Program (PNILT).
4. The Expanded Vaccination Program (EPI).
5. The National Reproductive Health Program (PNSR).
6. National Program for the Fight against AIDS and Sexually Transmitted Infections PNLS/STI.
7. The National Integrated Program for the Fight against Chronic Non-Communicable Diseases (PNILMCNT).
8. The National Integrated Program for the Fight against Neglected Tropical Diseases and Blindness (PNIMTNC).
9. Health System IT Management Program (PROGISSA).

Discussion of Results

Burundi health system is Burundi's health system is organized in a pyramidal form and is articulated on 4 levels.

The central level is responsible for defining health policy and developing intervention and planning strategies, as well as defining and evaluating quality standards for health care and services.

The intermediate level is made up of 18 Provincial Offices for Health and the Fight against AIDS. These are responsible for coordinating health activities and the fight against AIDS at the provincial level.

The peripheral level is made up of 47 health districts. These are governed by a district executive team (DET) within the Office of the District Health and Fight against AIDS. Their responsibility is to ensure decentralized planning, to ensure the delivery of quality care and to ensure the proper functioning of Health Centers (HCs), associative structures for the fight against AIDS and health promotion and hospitals.

The community level provides a package of activities made up of promotional, preventive, and curative care. It includes local associations, health committees, community health workers, traditional midwives, and traditional healers. Come together in a group of Community Health Agents (GCHA) and play the interface between the community and the health centres. Traditional medicine has been used to improve people's well-being and it continues to play a vital role in health care in Burundi.

The traditional medicine is not yet integrated into Burundi health system, advances in this area need to be mentioned particularly:

1. The celebration of the African day dedicated to traditional medicine since 2003 until today.
2. The signing by His Excellency the President of the Republic of Burundi of Decree Law No. 100/253 of November 11, 2014, regulating traditional medicine and the art of traditional medicine.
3. The implementation of ministerial orders for the application of the said decree towards the end of 2018.

4. The existence of the database of all traditional healers grouped together within the Directorate for the Promotion of Traditional Medicine, Balanced Diet and Natural Diet for Therapeutic Purposes.
5. The establishment of the National Network of Associations of Traditional Practitioners and provincial branches of this network.
6. The existence of the laboratory for the analysis of the active ingredients contained in traditional medicines at the INSP.
7. The creation of the Directorate General for the Offer of Care, Modern and Traditional Medicine, Food and Accreditations which dates from 09/11/2020 with Decree No. 100/093 on the organization and functioning of the Ministry of Public Health and the Fight against AIDS.

Despite the efforts already made in this area, major challenges remain:

1. The large-scale cultivation of medicinal plants is increasing.
2. Integration of traditional medicine data into the national routine health information system.
3. Lack of reagents to analyze the active ingredients contained in traditional medicines at the INSP.
4. The state budget allocated to traditional medicine is very minimal.
5. The reluctance of traditional healers to collaborate for information useful to research.
6. The texts and standards governing traditional medicine have not yet been drawn up.

Burundi had 1,182 functional health centers (HCs), including 658 public HCs, 340 private HCs, 144 confessional HCs and 40 associative HCs. The HC is the gateway to the care network and offers a minimum package of activities (MPA) including promotional, preventive, and curative care. It should be noted that certain preventive, promotional and curative care is offered at the community level under the supervision of the HCs with the support of community health workers (CHWs).

As for hospitals and clinics, there were 149 of which 51 public, 28 religious, 69 private and 1 associative.

One in two households (49%) takes less than 30 minutes to access a health facility, 46% use between 31-120 minutes, while 5% say they use more than 120 minutes. The District Hospital is the first referral level and offers a complementary package of activities (CPA) for patients coming from HCs. In addition to District hospitals, there are public, professional, and private hospitals offering a package comparable to that of the district hospital. The country has 44 district hospitals.

However, three (3) health districts (Vumbi, Busoni and Nyabikere) do not have district hospitals.

The regional hospital is defined as a second referral level that receives patients from district hospitals. The country has 5 regional hospitals, namely: Bururi, Mpanda, Ngozi, Gitega and Rumonge Hospital.

The National Hospital constitutes the apex of the healthcare network and offers specialized services. There are seven (7) of these National Hospitals, of which six (6) are in the economic capital, which causes a problem of equity: Hospital Prince Regent Charles, Prince Louis Rwagasore Clinic, University Hospital Center of Kamenge, Military Hospital of Kamenge, Neuro-Psychiatric Center of Kamenge, National Police Hospital and Natwe Turashoboye of Karusi.

In terms of availability and access, all preventive and promotional services are subsidized. In addition, curative care for children under five and pregnant or giving birth has been free since 2006. This has boosted the use of health services with a rate of births attended by skilled personnel from 60.7% to 98.6% between 2010 and 2019.

To continue serving the national population, the government of Burundi is supported by partners like the World Health Organization

(WHO), International Monetary fund (IMF), the World Bank (WB) etc.

Table 1 shows the mortality rate between 2011 up to 2021.In short, the mortality rate has decreased compared to 2011(10,09$^{0}/_{00.}$). This means that the Burundi health system is trying its best to be more organized and ensure that all Burundi population and neighboring countries are safe.

Burundi has made enormous efforts to finance the health system. Data in this area are not updated, because the latest national health accounts date from 2013.

These showed the following situation: (i) decrease in household contribution to health expenditure from 40% in 2007 to 19% in 2013 (standard being less than 20%), (ii) establishment of prepayment mechanisms, in particular 100% financing of the CAM by the government with satisfactory adherence of 85% of the target of 90%, (iii) A health care cost study carried out in 2019 for a proposal for new pricing of medical and paramedical services, (iv) vaccination and care (children under 5, pregnant women, pathologies linked to pregnancy, tuberculosis and cases of uncomplicated malaria) are provided free of charge to beneficiaries, (v) the establishment of performance-based financing with a 1.4% increase in the overall government budget each year and extension in progress to the community level (the government's share is 32% in 2017), (vi) the establishment of an internal and external control and audit system.

The provisional budget laws show the decrease in the proportion of the budget allocated to health. The share of the national budget devoted to health is respectively 10.8%; 13.6% for the budget years 2019-2020 and 2020-2021.

The nursing staff is sufficient in Burundi according to WHO standards. However, these nurses are unequally distributed over the Burundian territory, the urban and semi-urban areas being more served than the rural areas. In addition, human resource needs, particularly for doctors and midwives, remain significant. In addition, the analysis of the density of health personnel is 0.7, while WHO standards provide for 2.3 qualified personnel (doctors, midwives, and nurses) per 1,000 inhabitants.

The structure of Burundi health system entailed of direct generals with different programs. Directorate General for Health Services and the Fight against AIDS Directorate General of Planning Directorate General of Resources Directorate General for the provision of modern and traditional medical care.

Each program has its specific area of work to contribute to the health security of the population.

A study on health financing in Burundi carried out in 2014 and was followed by the development of a national financing strategy which has not yet been validated?

These programs are structures at the central level which collaborate with the intermediate and peripheral levels for the implementation of specific interventions. These are structures that have a certain autonomy in decision-making, and which benefit from substantial support from technical and financial partners, in addition to government subsidies.

To strengthen the monitoring of peripheral activities, some programs have assigned focal points in the provinces and/or health districts to ensure close monitoring of the interventions carried out by the program concerned. However, it has the disadvantage of perpetuating the weak integration of program activities in the operation of the district with weak appropriation by the latter's officials. It should also be noted that the lack of program integration disrupts the planning and accounting of Provincial Health Offices (BPS), District Health Offices (BDS) and hospitals.

As part of the 2019-2023 PNDSIII, the strategic plans for health services and programs are aligned with national strategic orientations and strengthen the integrated care package for each level of the health pyramid. This package

includes high impact interventions with a quality assurance system.

According to the findings from the 5 health zones visited, the Burundian population are aware on how to protect themselves against epidemic diseases like malaria, cholera, Ebola, COVID-19, Marburg etc. The ministry of public health is well structured, and functions are well defined. In the country, the diseases of priority are known, and the government is doing all possible to fight against them. Health care professionals are sufficient even if most of them are concentrated in urban areas. To cope with this, it is very crucial to decentralize and deploy healthcare professionals in rural areas. There is an annual budget allocated to health projects and the government has partners to fund health projects again. The government of Burundi is also working with other international organization like World Health Organisation (WHO) to ensure the health security of all. Some of these organization provide technical expertise and other funds. The provision of health equipment remain a serious challenges for the government as there is no national factory that is trying to produce medical equipment, all medical equipment used in Burundi are from abroad and this makes a setback for achieving high quality health services. If the ministry of Public Health continues to educate the population on how to prevent diseases, especially with epidemic potential, morbidity and mortality will continue to decrease.

Burundi has a health system which is organized according to the needs of the population and the diseases to fight. This health system is organized in pyramidal of 4 levels, from the central level to the community level.

Burundi cannot function without support from other countries, and this is the reason why the country has partners that are supporting the ministry of Public Health in different health projects such as vaccination, health promotion, laboratory, research, supply chain and logistics, providing medical equipment and supplies, construction of health infrastructures and sponsoring the outside training for ministry of health.

The most health threats that Burundi health system should combat are these threats that may cause high morbidity and or mortality. In terms of disease, Burundi has put in priority to fight against some diseases. The most prevalent diseases in this category are malaria, HIV/AIDS, tuberculosis, diarrheal diseases, vaccine-preventable diseases, and acute respiratory infections. Diabetes and high blood pressure coexist in 30% of cases, according to a study done at the Kamenge University Hospital Centre and are responsible for 73.17% of degenerative complications.

The health situation in Burundi was precarious in 2008. The crude mortality rate was 15 per 1000 (2008 Population Census). This situation was associated mainly with the fragility of the health system, the heavy burden of communicable diseases, chronic noncommunicable diseases, neglected tropical diseases, the vulnerability of mothers, children and adolescents, and the role of the determinants of health (demographic pressure owing to a density of more than 310 people per km2, and very high rates of acute and chronic malnutrition, 6% and 58% respectively, in children between 0-5)[13].Comparing these data of 2008 to 2020 data, we can say that the health system of Burundi is capable to reduce, to fight against health treats for the health security of the population.

Conclusion

In an interconnected world, Burundi as a country needs to achieve the highest possible level of health security and maximizing international collaboration is vital, regardless of its development level. Many things have been achieved by the ministry of health to ensure health security of the population but to fully address health security requires new investments in health systems as well as other sectors. To be effective and efficient,

prevention, preparedness and response to emergencies need to rely on strong and resilient health system and reinforcement from other sectors to meet increased demands, adapt flexibly to changing needs and mitigate their impact on the provision of essential health services to recover rapidly or to achieve a new state of stability, particularly in the event of a protracted crisis. This requires a primary health care approach.

Recommendation

It is very crucial that Burundi government continues funding health projects to prevent and eradicate health threats specially that can occur locally and globally. Identify that issues that affect many Burundians. There is a need to proactively identify and respond to challenges for effective implementation of health systems contributing to health security.

Burundi ministry of health should work together with other health professional, organizations, and funds and improve international cooperation to build, strengthen and sustain capacity for effective health emergency management.

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Conflicts of Interest

The author declares no conflicts of interest.

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