Original Article

Analysis of hospital performance from the point of view of sanitary standards: study of Bagira General Referral Hospital in DR Congo

Hermès Karemere[1,2], Joseph Mukwege[3], Christian Molima[1], Samuel Makali[1]

[1]Université Catholique de Bukavu, Ecole Régionale de Santé Publique, DR Congo; [2]Université du Cinquantenaire de Lwiro, DR Congo; [3]Bagira General Referral Hospital, DR Congo

Contributions: (I) Conception and design: H Karemere, J Mukwege; (II) Administrative support: H Karemere; (III) Provision of study materials or patients: J Mukwege; (IV) Collection and assembly of data: J Mukwege, H Karemere, C Molima; (V) Data analysis and interpretation: All authors; (VI) Manuscript writing: All authors; (VII) Final approval of manuscript: All authors.

Correspondence to: Hermès Karemere, MD, MPH, PhD. Université Catholique de Bukavu, Ecole Régionale de Santé Publique, DR Congo. Email: hkaremere@gmail.com.

Background: This study determines hospital performance in terms of the operating standards of a General Referral Hospital (GRH) established by the Democratic Republic of the Congo (DRC) Ministry of Health in relation to the organization of a hospital, its package of activities, the resources available, its architectural structure and its environment.

Methods: A descriptive, cross-sectional study conducted in 2017 at Bagira Reference General Hospital in the city of Bukavu, in DRC. Data collection used the literature review, observation and interviews. The data were compiled using Excel spreadsheets, analyzed using Word and Excel, and presented as proportions and qualitative observations. All results were compared to the standards of the Ministry of Health of the DRC for the GRH functioning.

Results: Based on the 5 components analyzed relating to the operating standards of an GRH, the level of performance is variable depending on each component. Standards are sometimes completely achieved, sometimes partially, sometimes not reached. Gaps hampering the operation of the hospital were identified using this standards-based performance assessment model.

Conclusions: Measuring hospital performance according to standards is one of the perspectives that can guide managers to improve the quality of the care provided. The operating standards of the Bagira GRH are on average reached partially, jeopardizing the quality of patient care. While local efforts can be made to raise the hospital's organizational level, improving the quality of the hospital activity package requires significant funding from the government.

Keywords: General Referral Hospital (GRH); health standard; performance; governance; Bagira; South Kivu; Democratic Republic of the Congo (DRC)

Received: 14 October 2019; Accepted: 05 March 2020; Published: 25 March 2020.
doi: 10.21037/jhmhp.2020.03.02
View this article at: http://dx.doi.org/10.21037/jhmhp.2020.03.02

Introduction

The hospital structure is part of a health system and as such it constitutes a system of care. It includes people and all activities and interventions whose primary purpose is to prevent, diagnose and treat health problems (1,2). The hospital will thus have to guarantee that each patient receives the combination of preventive, diagnostic and therapeutic acts which will assure him the best result in term of health, according to the current state of the medical science, at the best cost for the same result (efficiency), at the least iatrogenic risk (efficacy), and for its greater satisfaction in terms of procedures, results and human contacts within this system of care.

In the Democratic Republic of the Congo (DRC), a country that has adhered to the Alma Ata declaration on primary health care, the analysis of the provision of hospital care is generally only considered in the context of functionality of a health zone (HZ). The role of the hospital and in particular the General Referral Hospital (GRH) and its importance for the development of a HZ are reaffirmed (3-5). In addition to the provision of health care as a complementary package of activities (CPA) to the package of activities of the front line structures, the hospital in the DRC also has the mission to provide education and training, retraining of health professionals, operational research, quality control and supervision of first-level health structures namely health centers (HC) (6).

The DRC hospitalis no longer able to fulfill its mission for various reasons, the main ones being: poor governance, under-financing of the health system as a whole and the hospital in particular, weaknesses in the development of human resources, the living conditions of the patient in hospital, the deteriorated infrastructure, medical and non-medical equipment and materials, and inaccessibility to good quality drugs. These issues were carefully analyzed during the development of the strategic plan of the hospital reform in DR Congo initiated by the Ministry of Public Health in 2010 (7). The central problem identified for the entire hospital system of the Democratic Republic of Congo was the poor access of populations to quality health care. Four major direct causes were criminalized, namely: unsatisfactory governance in hospitals, unfair access of populations to health care, inadequate training of health personnel and health research to the needs of the sector, the poor quality of services and care provided to the population (7).

There seems to be a consensus on the importance of a hospital performing well and measuring its performance in order to improve it, but consensus on the approach to measure this performance does not seem to be established (8,9). The Bagira GRH organizes activities in a concrete context (South Kivu in eastern DRC), unstable (post-conflict armed situations) and changing (unstable human resources, casual partners). In such a context, measuring hospital performance in a conventional manner and then evaluating it can be difficult, costly and even controversial, mainly because of a lack of necessary, reliable and accurate data (1,10).

Through studies conducted in the context of developing countries, several concepts have been used in turn to designate hospital performance, including the operation of hospitals according to standards (6,11), patient satisfaction (12,13), quality of care (14), service delivery (10), service effectiveness (15) or profitability (16,17).

Taking into account all these concepts, dimensions and sub-dimensions that they entail, the performance of a hospital structure can be defined as its ability to establish and maintain a dynamic tension between the achievement of its mission (achievement of goals), the acquisition and control of resources, human resource development (well-being of workers and human development),integration and predictability of its production activities (18).

We have taken the perspective to analyze the Bagira GRH according to the standards set by the Ministry of Health of Congo.The operating standards of a hospital (6) are indeed a modality of regulation of a system of care and have constituted the main analytical framework of the Bagira GRH. The Ministry of Health of the DRC defines the operating standards of a GRH in relation to the organization of a hospital, its package of activities,the resources available, its structure and its environment. In this work, the performance of Bagira GRH is analyzed according to these five components of the standards, in a multidimensional approach. This model is closer to the normative model of Donabedian's rational action system (19). The objective of this study is to measure the hospital performance of Bagira GRH in terms of the operating standards established by the DRC Ministry of Health.

Methods

Presentation of the BAGIRA GRH

BAGIRA GRH serves an estimated population of 131,102 inhabitants (2016). The services it organizes are : Pediatrics, Surgery, Obstetrics of Gynecology, Internal Medicine, Laboratory, Ultrasound, Radiology, Reception, Pharmacy, Consultation, Voluntary Testing and Taking Center in charge of HIV patients, the family planning service, Maternal and Child care service, Administrative Services and Emergencies.

General methodological approach

Type of study

A descriptive, cross-sectional study using document review, participant observation and individual interviews.

Data collection

Document review

The study used the existing data at the hospital, collected

as part of the national health information system (NHIS) between 2013 and 2016. Data collected relates to the patient's situation (rights, satisfaction), organization of the GRH (organized services, organized activities), the resources available at the hospital and the internal and external environment of the GRH. In order to extract this type of information, the documents consulted were: patient cards and various registers of services (consultations, laboratory, reception, transfer, presence, finance, accounting, personnel management, NHIS periodic templates, slip registration, input management sheets, etc.).

Participant observation

It focused on the organization of the hospital, the package of activities offered, the resources available, the structure and the environment. The principal investigator has meticulously reported all his observations weekly in a notebook. He was then medical director at Bagira GRH. The information has then been encoded using Word software by the secretary of the hospital initially formed on the study. The information mentioned in the reports of the services and validated during the meetings of the management committee of the hospital were compared to those collected by the principal investigator for their validation.

Interviews with key players

The interview consisted of oral questions to caregivers and patients during the study period about their perception of hospital benefits. Semi-closed questions were used during the interviews, addressed in particular to 200 patients who had been cared for in the BAGIRA GRH between 2013–2016 and 45 targeted care providers at random. They focused on the status of patients (rights and satisfaction especially), the organization (services and activities), the available resources and the environment of the GRH. A patient was considered to be satisfied with the care when he claimed to know his rights, that these rights were respected and that he could recommend relatives to this hospital.

Data analysis

Data on the status of patients' rights were grouped and described according to the prevailing trend. The information about the activities, the resources and management tools, the architectural structure and the hospital environment were compared to the Health's standards of functionality of a GRH in DR Congo to assess the level of Bagira GRH' performance.

Ethical considerations

The study protocol was approved by the ethics committee of the Catholic University of Bukavu. Data collection was carried out in strict compliance with law and order and the moral integrity of the people interviewed. Informed, free and verbal consent was obtained prior to administering the questionnaire. Data was collected anonymously and confidentially, protecting the privacy of each respondent during encoding and data analysis.

Results

Situation of patients' rights at Bagira Hospital

The proportion of patients satisfied with care is 69% during our study. The patient rights situation is summarized in *Table 1*.

Organization of GRH Bagira

The organization and functioning of the Bagira GRH do not always meet the standards (*Table 2*).

Activities of CPA

Degree of achievement of activities of the CPA at GRH Bagira (*Table 3*).

Resources

Human resources

Human resources at Bagira GRH (*Table 4*).

Financial resources

Elements of financial resources (*Table 5*).

Material ressouces and equipment

Material resources and equipment are insufficient. In each service as shown in *Table 6*, equipment and materials planned areincomplete.

Among the material resources management tools, the hospital does not have title deeds or cadastral documents (*Table 7*).

Drug management

Essential drugs are often available even though there have been some ruptures as shown in *Table 8* in 2016.

Table 1 Status of patients' rights at Bagira GRH

Parameter	Result
Proportion of patients satisfied with the care (knowledge of their rights, respect of their rights and spontaneity to recommend their relatives to Bagira GRH)	69% (n=200 patients interviewed)
Existence of a complaint committee at the GRH	No
Informed consent given by the users (surgical and invasive procedures, Anesthesia/ moderate or deep sedation, transfusion, research, radiotherapy, chemotherapy apie...)	50% (verbal consent, no specific text)
Existence of a process allowing patients to make oral or written complaints or suggestions anonymously if the patient wishes	Existence of a suggestion box but not used
Existence of a patient satisfaction questionnaire	No
Respect for others rights of patients (Right to care respecting the values and personal beliefs of the patient, Right to be informed and to participate in decision)	Respected religious beliefs
Right to security, privacy and confidentiality, right to have pain adequately treated, to file a complaint or suggestion without fear of reprisal, Right to know the price of services and procedures...)	Patients received and treated without any discrimination (sex, gender, race, religion, political affiliation, tribe or other)
Existence of a policy that defines its responsibilities for the patient's property	No

GRH, General Referral Hospital.

Architectural structure of Bagira GRH

The dimensions of the buildings proposed by the Ministry of Health to a hospital with the capacity of 100 beds per 100,000 inhabitants are not satisfied. The hospital had originally been designed as a health post before to be transformed into a hospital center and then a GRH in the Bagira HZ without the possibility of compliance with standards. The hospital has kept the old laboratory, maternity, laundry and other services that do not currently meet the standards in every respect.

These dimensions concern the administrative department, the outpatient department, the internal medicine department, the pediatric service, the surgery department, the operating theater, the gynecological obstetric department, the maternity ward, the laboratory, the central office of the health area (if included in the GRH), pharmacy, radiology, laundry room, central kitchen, both incinerators and garage.

The radiology room is not far enough away from busy areas. The electrical installation does not allow to have a three-phase electric current of 240–380 V + neutral + earth 30 to minimum. A 20 KVA breakdown generator and a solar panel are available but often out of order or not functional.

The site where the hospital is located is not polluted, but is close to traffic. The terrain is not spacious enough to allow for possible extension. The site is well connected to the existing road network, the terrain is slightly hilly. Aseptic areas are separated from septic areas.

Hospital environment

Situation of the environment within GRH Bagira (*Table 9*).

Only 14 out of 21 standards of the environment within GRH Bagira are fully met.

Discussion

This chapter is devoted mainly to the discussion of the main results concerning the characteristic of the hospital, the organization of the services, the activities of the CPA, the resources, the structures of the hospital, the internal and external environment of the hospital and the evolution of hospital indicators. Standards are not reached at Bagira GRH.

Patient Satisfaction at Bagira GRH

The proportion of satisfied patients care offered at the GRH Bagira is 69% in our study. The measure of satisfaction is generally based on multiple means, complaints, exit questionnaires, but also specific or general surveys (20,21). One of the limitations of our study is the impossibility of determining the aspects of care on which

Table 2 Organization of services at GRH Bagira

Component	Standard	Reality
Accommodation capacity	1 bed per 1,000 inhabitants	1 bed for 2017 inhabitants
Services	Administrative Services: reception, secretariat, accounting, archiving and library	No library, no office for the administrator manager, the reception service is incorporated in the external consultation box for lack of space; secretarial and accounting work in tight spaces, archiving is not well maintained for lack of space
	Basic Medical Services: Pediatric, Gynecology & Obstetric, Internal Medicine and Surgery	Services exist and are functional
	Emergency and resuscitation service	No existing resuscitation room
		The emergency room is narrow and not equipped
	Medical services: blood bank, dentistry, physiotherapy and orthopedic equipment, nutrition, ophthalmology, Otorhinolaryngology, pharmacy, laboratory, medical imaging (radiology, ultrasound)...	Functional blood bank thanks to a solar fridge, Physiotherapy, orthopedic, ophthalmology and non-organized Otorhinolaryngology services; there are no inputs for nutrition, the pharmacy does not have a qualified pharmacist, the laboratory does not perform several examinations (biochemistry) for lack of inputs, permanent electrical power and some devices, only X-rays of long bones and skull are performed by lack of qualified agent, obstetric ultrasounds are most done for lack of training of Doctors
	General services: laundry, maintenance, carpentry, electrification, logistic, morgue...	All these services are non-existent
Management bodies	Executive Committee (*CODIR*) composed of the Medical Director, the Medical Chief of Medical Staff, the Managing Director(AG), the Director of Nursing (ND), the Pharmacist and a representative of the medical services of the Hospital	*CODIR* meets once a week. It includes the managing director, the managing director, the nursing director, the chief medical officer, the pharmacist and the laboratory manager. In 2016, 40 of the 48 planned meetings were held, representing an achievement rate of 83%
	Management Committee (*COGES*): chaired by the Medical Director of the GRH. It has as members: the Head of HZ, all the doctors of the GRH, the AG, the ND, the representative of the owner (if the structure is private), a representative of the local authority (administrator of the territory or burgomaster), representatives of partners who work at the Hospital and a staff representative	The *COGES* is organized by the HZ Office and is held once a month, in which the MD, the AG and the ND participate. During the course of 2016, out of 12 COGES planned, 10 were made to which the Hospital team actively participated. The recommendations made by the latter concerning the hospital are developed at CODIR which is held every Friday in the presence of all the members
Interaction with other elements of the HZ	Executive team of HZ (*ECZ*)	The ECZ meetings are regular and the hospital is actively represented by the MD and the ND
	Zonal pharmacy	The hospital buys the drugs available at the zonal pharmacy a priori
	HC	MD and ND oversees HC of hospital health area
	Population	Meetings with the population do not take place
	Partners	The relations with the partners are those of complementarity, except for the hierarchy which does not take into account the suggestions of the hospital

GRH, General Referral Hospital.

Table 3 Degree of achievement of activities of the complementary package of activities at GRH Bagira

Degree of organization/availability	
Healing	
Curative consultations, hospitalization of patients, intensive care and emergencies, reference surgical care, management of deliveries, therapeutic nutritional rehabilitation, sterilization of equipment, transfusion safety and rehabilitation activities	- Rooms cramped and poorly equipped for consultations - All referred cases are seen by the doctor, even if the reference conditions are inappropriate (no ambulance) - Inexistence of intensive care or emergency for lack of intensive care unit - The operating room is poorly equipped - Partograph is poorly maintained at the maternity ward - All blood donors are volunteers - Rehabilitation activities are not organized (Physiotherapy, Kinesiology, Equipment)
Preventive	
Consultations referrals, preventive care to pregnant women in the ANC, antenatal-risk pregnancies to mothers, preventive care to new-nés in immediate postpartum vaccination motherhood, promotion of exclusive breastfeeding, family planning, prenuptial consultations	- The whole package of these activities is offered - Vasectomy and IUD are too unacceptable - Breast consultation counseling is only required by 50% of youth who consult, no reference for screening for syphilis or HIV has been done
Promotionals	
Communication for behavior change (CCC) to patients and their families, psychosocial support (mental health, AIDS); e limination and destruction of contaminated equipment at the hospital	- Ineffective CCC - Psychosocial support not performed for lack of psychologist - Presence of a sorting area and waste disposal
Management	
Management of hospital health information, human resources, material resources and finances	- Staff not trained in NHIS, all operations of the NHIS are done by hand - Action research is not carried out - Staff assignments do not take into account standards, the GRH is not consulted - Nearly 40% of required equipment is not available - Unfinished budget, unplanned executed budget
Support of the activity package	
Laboratory exams (parasitology, hematology, bacteriology, biochemistry) and medical imaging (radiography, ultrasound, ECG, EEG)	- 25% of the planned laboratory examinations are not carried out due to lack of material - Biochemical examinations are not performed - X-ray workers are poorly trained - Obstetric ultrasounds are the most performed (70% of ultrasounds) - ECG and EEG are not performed
Management tools	- Incomplete

GRH, General Referral Hospital.

Table 4 Human resources at Bagira GRH

No.	Professional category	Number according to the standards	Number observed at Bagira Hospital
1	Doctor	6	6
2	Dentist	1	0
3	Pharmacist	2	1
4	A1 or L2 nurses	4	6
5	Nurse A2	10	16
6	Nurse A3	10	6
7	Nurse attendant A1, A2, A3	7	8
8	Medical biologist	2	0
9	Lab technician A1, A2	4	2
10	Physiotherapist A1	5	0
11	Nutritionist A1	2	1
12	Radio technician A1	2	2
13	A1 anesthetist	2	1
14	Pharmacy assistant A2	4	2
15	L2 manager administrator	2	1
16	Manager manager A1	4	1
17	A2 sanitation technician	4	1
18	Secretary	1	1
19	Accounting	1	1
20	Cashier	1	2
21	Statistician and archiving	1	1
22	Billing agent	1	1
23	Receptionist	2	2
24	Driver and DRIVER MEchanic	2	0
25	Laundry staff	3	1
26	Morgue staff	1	1
27	Security agents	2	0
28	Cook	1	0
29	Clerk/bailiff	1	1
30	Maneuver	5	7
31	Surface technicians/Garçosn and maids	6	8
32	Electrician	1	1
33	Carpenter	1	0
34	Plumber	2	0

GRH, General Referral Hospital.

Table 5 Elements of financial resources

Standards	Reality at grh bagira
Funding sources	
Budget allocation of the state	Non-existent
External financing (donors)	Non-existent
Community contributions	Main source of financing
Private Sector Resources	Rare, sporadic
Recovery of care costs	Realized
Free healthcare	Not applied
Flat rate	Flat rate applied
Management tools	Ledger and financial accounting software not available
Cash book, receipt book, biller, voucher book, expense book, cash register, check book if applicable, tariff, receivables register, accounting software and ledger	

Table 6 Availability of basic equipment

Basic equipment for	Observation
Consultation	Incomplete
Sterilization	Incomplete
Care, dressing	Incomplete
Surgery	Incomplete
Medicine	Incomplete
Gynecology	Incomplete
Maternity	Incomplete
Ophthalmology, otorhinolaryngoly, dentistry	Incomplete
Laboratory	Incomplete
Medical imaging	Incomplete

Table 7 Availability of material resource management tools and drugs

Management tools	Observation
Inventory sheet	Existing
Requisition/billing sheet	Existing
Movement sheet	Existing
Medication Management Tools	Existing
Entry register	Existing
Delivery slip	Existing
Purchase order	Existing
Property titles	Non-existent
Cadastral documents	Non-existent

Table 8 Availability of drugs at the Bagira GRH in 2016

Sentinel drugs	Number of days out of essential drug (s) sentinel (s) in 2016
Other medicines	0
Quinine inj	6
Ampicillin inj	12
Gentamycin inj	0
Glucose serum	10
Physiological serum	12
Dexamethasone inj	0
Methergine inj	8

GRH, General Referral Hospital.

patient dissatisfaction is observed due to the absence of a complaint committee at the GRH or a specific satisfaction questionnaire. The suggestion box is not used by patients and misses the hospital's innovative ideas (22) that patients would bring to improve the quality of care.

Regarding the rights of patients, they are welcomed and treated without any discrimination related to sex (gender), race, religion, membership of a political group, tribal or other specific. Patients consider that their right to information is respected, albeit to varying degrees. The right to confidentiality has not been analyzed. However, patients can not protest when their rights are violated because they do not know them. The most effective way

Table 9 Situation of the environment within GRH Bagira

Standard	Reality at the hospital
Internal environment	
Environmental sanitation	
1. Practice of weeding, cleaning of sewers	Realized
2. Availability of an incinerator, hygienic sanitary facilities, sewage and run-off drainage system and drinking water supply system	Realized
3. Existence of accompanying lodges, erection of barriers at dangerous places	Partially realized
4. Location of the healthy hospital (unpolluted environment), spacious and connected to the existing road network	Realized
Protection against harmful insects (flies and mosquitoes)	
5. Installation of an anti-mosquito screen on the windows and other openings of the GRH building	Realized
6. Use of ITNs by hospitalized patients and women who have given birth in hospitals	Partially realized
7. Self-closing doors and fly trap traps in the rooms	Partially realized
Running water	
8. Running water permanently	Non permanent water
Lighting and energy	
9. Connection to the public or private electricity supply network, generator and/or adapted solar device	Partially realized
Solid waste treatment	
10. Existence of an incinerator, a garbage pit (canopy), a placenta hole (canopy) and garbage cans with lids in all rooms and in the yard	Partial existence
Liquid waste treatment	
11. Collection of wastewater in developed canals leading to a lost well	Realized
12. Runoff water channeled to collectors of the public network	Realized
13. Hospital terrain not too rugged, with gradient greater than 10% to facilitate good sewage and runoff drainage	Realized
Protection against sound noises	
14. GRH implanted in a calm zone, protected from heavy traffic and far from sources of vibration	Realized
Fire prevention and power supply	
15. Provide a perimeter of at least 25 m around buildings in rural areas to prevent fire	Realized
16. Place fire extinguishers in strategic places, place emergency exits, provide fire resistant woodwork, electrical circuits must be protected with suitable fuses in urban areas	Realized
17. Properly insulate electrical wires	Realized
18. The electrical cables must be sections conforming to the loads	Partially realized
External environment	
Main actions	
19. Weeding the price of GRH	Realized
20. Drying puddles	Realized
21. Erection of an enclosure/fence to prevent straying of animals and animals in the yard	Realized

GRH, General Referral Hospital.

to protect the rights of patients is either the existence of a person with specialized knowledge of patients' rights or the creation of an internal committee of the hospital (23). The GRH has not developed a policy to strengthen respect for patients' rights. In fact, 50% of the interventions are based on verbal consent and in 50% of the other cases, the consent of the patients is not formalized before surgery.

Organization of services

Standards are not reached in the organization of hospital services. The capacity is 1 bed for 2007 inhabitants but in reality it would be 1 bed per 1,004 inhabitants in view of the low use of the hospital by the inhabitants of Bagira (56% in 2016). The standard defined by the Ministry of Health is disconnected from the reality of hospitals in urban areas and thus requires a revision due to the creation of new structures providing hospital care in the Bagira HZ but also the facility for patients to go to nearby areas seeking non-existent care at Bagira Hospital. Several services planned and useful to the population are not organized; this is the case of the emergency and resuscitation service, as well as so-called specialized services (including ophthalmology, otorhinolaryngology, orthopedic or physiotherapy). General services are also lacking (laundry, maintenance, carpentry, electrification, logistic, morgue...). The use of an hospital can thus be influenced by the organized services and the care offered (24)

CPA activities

The analysis of activities of the supplementary package of activities (CPA) at GRH Bagira demonstrates some deficiencies that would hinder the quality of care and ultimately the performance of the hospital (2). Among these shortcomings are noted, the low equipment (almost 46% of the required equipment is not available), the lack of intensive care and emergency for lack of resuscitation service, the partograph badly held at the maternity, the non-organization of rehabilitation activities (kinesiology, physiotherapy, equipment) or lack of psychosocial support for lack of psychologist.

Resources of the Bagira Hospital

Overall, the resources at Bagira Hospital do not support the standards. The total number of staff is 61 in 2017 instead of 43, which is 42% more. Some human resources are missing (anesthesiologist, physiotherapist), others are more numerous (nurses). Caregivers represent 75% of all staff compared to 25% of administrative and support staff. The levels of competence and motivation of staff can influence the performance of a hospital (25); they do not were measured in this study.

The payment of care by the population is the main source of funding for the hospital (78% in 2016). The State budget allocation is non-existent, cost recovery is 63% mainly due to the poverty of the population in DR Congo (26,27). The flat rate is applied to the Bagira hospital offering an advantage of access to care for the poorest and a disadvantage for the managers to measure the real cost of the acts of care.

Material resources and equipment are insufficient. In each service, equipment and materials planned are incomplete.

This negatively interferes with the quality of care provided and the use of the hospital (2). The availability of drugs is an important factor in the quality of care. Despite a few days of stock-outs observed at Bagira Hospital, the latter has worked well in recent years.

Hospital structures at the architectural level

The building does not meet the standards in terms of dimensions. The Hospital was before designed as a health post and has become a GRH with the same facilities that do not meet the structuring standards. In such buildings and premises, some services are difficult to operate with an impact on the quality of patient reception and care. The hospital architecture must be the factor and the instrument of the hospital cure (28).

Environment (Water-Hygiene and Sanitation) at Bagira Hospital

At the Bagira hospital, 67% of hygiene standards are fully respected, 29% partially respected and 4% not respected. The non-permanence of water in the hospital is the most crucial problem. The analysis of knowledge of healthy practices in relation to hygiene was not carried out as part of this study.

Limitations of the study

The main limitations of this study primarily concern the methodological approach based on standards. Indeed,

the study could not explore the other dimensions of performance (29,30) due to limited data collection from the start. Secondly, the tools used to measure patient satisfaction (23) as well as those used to assess their rights could not be representative of all aspects.

Conclusions

The objective of the study was to contribute to the performance and the good functioning of the BAGIRA GRH by identifying the information on the current operation of the BAGIRA GRH against the standards; the main factors that can reduce performance and to identify interventions adapted to the context may improve performance.

The study shows that the standards are not met and describes the limitations of the study, essentially from a methodological point of view. The study also questions the relevance of certain standards such as hospital capacity or the number of employees by occupational category, particularly in urban areas.

Efforts should be made at different levels to improve the performance of the Bagira Hospital in relation to the organization of services, the organization of activities of the CPA, the availability of resources, the development of structures at the architectural level and the internal and external environment of the hospital. The approach used can be improved in another hospital to produce a hospital performance assessment tool.

Acknowledgments

Funding: None.

Footnote

Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at http://dx.doi.org/10.21037/jhmhp.2020.03.02). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). The study protocol was approved by the ethics committee of the Catholic University of Bukavu. Data collection was carried out in strict compliance with law and order and the moral integrity of the people interviewed. Informed, free and verbal consent was obtained prior to administering the questionnaire. Data was collected anonymously and confidentially, protecting the privacy of each respondent during encoding and data analysis.

References

1. WHO. The world health report 2000: health systems: improving performance. World Health Organization; 2000.
2. Seitio-Kgokgwe O, Gauld RD, Hill PC, et al. Assessing performance of Botswana's public hospital system: the use of the World Health Organization Health System Performance Assessment Framework. Int J Health Policy Manag 2014;3:179-89.
3. Keugoung B, Meessen B. Du système d'information sanitaire à l'intelligence collective. Atelier Health 4 Africa 2015.
4. MSP-RDC. Stratégie de Renforcement du Système de Santé (SRSS). Ministère de la santé publique 2010 (a).
5. OMS. Les soins de santé primaires: maintenant plus que jamais. Rapport 2010; Organisation Mondiale de la Santé.
6. MSP-RDC. Recueil des normes de la Zone de Santé. Ministère de la Santé Publique 2012.
7. MSP-RDC. Plan de la réforme hospitalière. Ministère de la santé publique 2010 (b).
8. Caballer-Tarazona M, Moya-Clemente I, Vivas-Consuelo D, et al. A model to measure the efficiency of hospital performance. Mathematical and computer modelling 2010;52:1095-102.
9. Mohammadkarim B, Jamil S, Pejman H, et al. Combining multiple indicators to assess hospital performance in Iran using the Pabon Lasso Model. Australas Med J 2011;4:175-9.
10. Solon O, Woo K, Quimbo SA, et al. A novel method for measuring health care system performance: experience

from QIDS in the Philippines. Health Policy Plan 2009;24:167-74.
11. Jonaidi N, Sadeghi M, Izadi M, et al. Comparison of performance indicators in one of hospitals of Tehran with national standards. Iran J Mil Med 2011;12:223-8.
12. Sacks GD, Lawson EH, Dawes AJ, et al. Relationship between hospital performance on a patient satisfaction survey and surgical quality. JAMA Surg 2015;150:858-64.
13. Péfoyo AJK, Wodchis WP. Organizational performance impacting patient satisfaction in Ontario hospitals: a multilevel analysis. BMC Res Notes 2013;6:509.
14. Pai DR, Hosseini H, Brown RS. Does efficiency and quality of care affect hospital closures? Health Systems 2019;8:17-30.
15. Sarto F, Veronesi G. Clinical leadership and hospital performance: assessing the evidence base. BMC Health Serv Res 2016;16:169.
16. Büchner VA, Hinz V, Schreyögg J. Health systems: changes in hospital efficiency and profitability. Health Care Manag Sci 2016;19:130-43.
17. Lee HJ, Lee DW, Jeong JY. The Influence Factors on the Performance of Regional Public Hospitals. Health Policy Manag 2019;29:27.
18. Karemere H, Ribesse N, Marchal B, et al. Analyzing Katana referral hospital as a complex adaptive system: agents, interactions and adaptation to a changing environment. Confl Health 2015;9:17.
19. Berwick D, Fox DM. "Evaluating the quality of medical care": Donabedian's classic article 50 years later. Milbank Q 2016;94:237-41.
20. Merkouris A, Andreadou A, Athini E, et al. Assessment of patient satisfaction in public hospitals in Cyprus: a descriptive study. Health Sci J 2013;7:28-40.
21. Yesilada F, Direktör E. Health care service quality: A comparison of public and private hospitals. African Journal of Business Management 2010;4:962-71.
22. Graban M. Lean hospitals: improving quality, patient safety, and employee engagement. Productivity Press; 2018.
23. Merakou K, Dalla-Vorgia P, Garanis-Papadatos T, et al. Satisfying patients' rights: a hospital patient survey. Nursing Ethics 2001;8:499-509.
24. Mahmoud AB, Ekwere T, Fuxman L, et al. Assessing Patients' Perception of Health Care Service Quality Offered by COHSASA-Accredited Hospitals in Nigeria. SAGE Open 2019;9:2158244019852480.
25. Karemere H. Analyse des attitudes et comportements des médecins et infirmiers en tant que levier stratégique de la gestion des ressources hospitalières. Pan Afr Med J 2015;21:193.
26. Moummi A. Analyse de la pauvreté en République démocratique du Congo. African Development Bank Group; 2010.
27. Ngeleza GK, Diao X, Ulimwengu JM, et al. Tendances de long terme pour la croissance et la réduction de la pauvreté en RDC: Une approche d'équilibre général. 2014.
28. Foucault M. L'incorporation de l'hôpital dans la technologie moderne. Hermès (Paris 1988), 1988, N° 2, fascicule thématique "Masses et politique" 1988.
29. Sicotte C, Champagne F, Contandriopoulos A, et al. A conceptual framework for the analysis of health care organizations' performance. Health Services Management Research 1998;11:24-41.
30. Sicotte C, Champagne F, Contandriopoulos AP. La performance organisationnelle des organismes publics de santé. Ruptures (Univ Montr Groupe Rech Interdiscip Sante) 1999;6:34-46.

doi: 10.21037/jhmhp.2020.03.02
Cite this article as: Karemere H, Mukwege J, Molima C, Makali S. Analysis of hospital performance from the point of view of sanitary standards: study of Bagira General Referral Hospital in DR Congo. J Hosp Manag Health Policy 2020;4:5.