ACCREDITATION AND HEALTH SERVICE DELIVERY IN RWANDA - A CASE STUDY OF ACCREDITATION PROJECT OF KING FAISAL HOSPITAL, KIGALI

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Abstract:

Accreditation is a crucial internationally recognized evaluation process used to assess and enhance the quality, efficiency, and effectiveness of healthcare organizations. It is based on the idea that adhering to evidence-based standards can lead to high-quality healthcare services. However, accreditation often involves significant costs, making it essential to evaluate its worth, especially in resource-limited regions like public healthcare organizations in Rwanda. This study examined the contribution of the accreditation project to the quality of healthcare in King Faisal Hospital, Kigali. This study used a retrospective research design with a quantitative approach whereby 354 patient records were reviewed, of which 71 represented the period before accreditation, 169 represented the period after the first accreditation, and 114 represented the year in which the hospital was preparing for the third accreditation. In addition, secondary data analysis was conducted on available data from the Office of Continuous Quality Improvement (CQI), Office of the Chief Executive Officer, and Office of Human Resources. One-way analysis of variance was performed at a significance level of <0.05 to test for differences between the three time periods examined. The findings resulting from this analysis showed that accreditation is associated with improved healthcare service delivery (p < 0.001). The health service provided was permitted for only 11.3% of the patients served before the hospital's accreditation, while it was permitted for 90.5% of the patients served after the accreditation. In addition, the accreditation process optimized management and leadership efforts to improve the delivery of healthcare services through ratification, implementation, and monitoring of clinical policies, guidelines, and protocols, as well as an established workforce capacity-building system. Therefore, it is worth tackling accreditation as a strategic approach to improving the quality of healthcare services.

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1. Introduction

Nowadays' Healthcare Organizations (HCOs) wrestle with multiple paradoxes: they must balance multiple tasks, such as caring for patients and teaching students, with different other multiple responsibilities (managerial, professional, technocratic, and others). They must allow doctors to independently exercise their clinical judgment on the one hand while promoting the standardization of practices on the other. They must practice autonomously, yet in harmony with community players, and they must both innovate and meet expectations. Furthermore, a number of recent publications report the occurrence of serious shortcomings in the quality and safety of services and care delivery hence the HCOs are facing much pressure to improve performance so as to bridge up the gap (Pomey *et al.*, 2010).

Berman, *et al.*, (2011) stated that funding for these priorities has significantly increased, and efficient technologies that can rapidly improve health are available. However, weak performance in health service delivery; affecting more often access, quality, and cost, and through these, health outcomes; is often a cause of impeding health system performance. Berman, *et al.*, (2011) also revealed that in the contemporary period of economic and financial stress, where the potential for large increases in resources is constrained, improving service delivery performance is a key strategy for achieving sustainable progress.

The research done at Kwazulu Natal University in 2003 has proven that concerns about cost versus quality created a climate where decision-makers/policymakers at all levels are seeking evidence-based data guiding to evaluate healthcare organizations and in that regard, the accreditation process has been suggested to be the strongest platform to objectively evaluate healthcare service delivery (Salmon *et al.*, 2003). With this regard, an increasing number of sub-Saharan countries are embracing accreditation of HCOs through both locally developed and/ or international accreditation programmes (Lane, *et al.*, 2014, MINISANTE, 2014). In fact, over 600 HCOs across Botswana South Africa, Swaziland, Namibia, Lesotho, Kenya, Nigeria, Tanzania, Uganda, Zambia, Ghana, Egypt, and Rwanda have worked with COHSASA towards international accreditation status (COHSASA, 2016).

Rwanda has embarked on a journey to improve the level of quality in healthcare service delivery since 1998. In that regard, the Ministry of Health has instituted programs in collaboration with various partners to address priority healthcare-related issues using quality improvement approaches (MINISANTE, 2014).

A formal HCO accreditation was deemed to be a critical component to enhancing quality in health service delivery. King Faisal Hospital, Kigali (KFH, K.) has embraced such a project from 2006 and received its first two years accreditation in 2011 followed by the three years reaccreditation both in 2013 and 2016 www.kfh.rw.

Accreditation, according to Nicklin (2011), is an internationally recognized evaluation process used to gauge and improve the level of quality, effectiveness, and efficiency of health care organizations. In other words, accreditation is grounded on the principles that compliance of the pre-set standards will elevate the level of quality of health care services in an increasingly safe environment. It is also a way to publicly recognize that a health care organization has met international quality standards (Nicklin, 2011).

Salmon, *et al.*, (2003) have defined accreditation as a recognized process by which a certified accrediting body, either private or governmental, evaluates and determines whether or not a healthcare organization complies with applicable, preset, and published evidence-based standards. Accreditation standards are envisioned to be optimal, realistic and achievable, but also, they are intended to promote continuous quality improvement efforts within an accredited organization.

However Pomey, *et al.* (2010) define the accreditation as means of publicly diagnosing that a healthcare organization complies with predetermined national standards. It has been proposed for both the public and private sectors and covers a number of domains including community health care, tertiary care, and healthcare systems as a whole. Recognition of the accreditation process is based on an external peer evaluation of how well an organization adheres to the standards and how well it performs.

Looking into definitions above, the researcher supports the definition according to Nicklin (2011) because the accreditation is all about not only complying with pre-set standards but also implementation thereof thus good performance. This indicates that the compliance to the preset standards will improve the quality of healthcare services in an increasingly safe environment.

2. Statement of the Problem

Although the potential of accreditation to ensure quality improvement remains controversial, thousands of organizations spend significant amounts of money and other resources to achieve and maintain accreditation so that they do not lag behind in the competitiveness of the healthcare industry of the time (Lee & Jonson-reid, 2010). King Faisal Hospital, Kigali has undergone the international accreditation process since first survey in 2006. A lot of efforts and funds have been invested in this project by the hospital in partnership with the Government of Rwanda with hope that achieving the accreditation would improve the service delivery to the hospital's clients. It was therefore in 2011 that the hospital got the award of two years accreditation by Council of Health Services Accreditation of South Africa (COHSASA) which re-accredited the same hospital for a period of three years in 2013 and again in 2016 respectively as evidence of maintaining standards at an international level. Despite all this achievement, an informal observation has revealed that there is still a number of patients complaining against the services delivered at King Faisal Hospital, Kigali which do not meet their expectations.

Moreover, the anecdotal study has revealed some structural irregularities such that there have been now and then changes in administration structure, changes in staffing and stock outs of hospital commodities. Therefore, one would wonder whether these complaints are truthful or not and whether the accreditation award has positively influenced the service delivery at KFH, K. In fact, a literature review on the impacts of accreditation on Healthcare Organization's performance recommends that there is need for more research to validate whether accreditation is truly a leverage point for quality in healthcare services delivery and health outcomes (Haj-Ali *et al.*, 2014); and to the best of our knowledge, no study of this kind was carried out in Rwanda and particularly at KFH, K. This study evaluated the impact of the accreditation on health service delivery at the facility.

2.1 Research Objective
The study aimed to explore the contribution of accreditation project on the quality of healthcare service delivery at King Faisal Hospital, Kigali.

3. Literature Review

3.1 Theoretical Review
Accreditation is a growing, worldwide phenomenon. The growth of healthcare accreditation programmes accelerated globally in the 1980s and in Europe in the 1990s as regional and national strategies to improve the quality of health care. Currently across the world, many hospitals are undertaking accreditation as compulsory or voluntary program to improve quality in healthcare services. It is believed that accreditation has a positive impact on quality of healthcare service delivery and patient satisfaction (Shaw, *et al.*, 2010, Awa *et al.*, 2011).

Every organization, hospitals, agencies, etc. can be accredited provided the pre-requisites are met and millions of people trust in the accredited institutions everywhere. Accreditation as a recognized evaluating process of a HCO vis-à-vis the internationally approved standards, has widely become an accepted indicator of trustworthiness, credibility, and quality (Lee & Jonson-reid, 2010).

Accreditation of HCO is a commonly used system to measure and promote the quality of health service delivery. Most accreditation systems evaluate and rate the organizational performance by assessing their progress and appraising their adherence to the preset standards, using mechanisms such as internal surveys (self-assessment), data review and structured visits by surveyors. Even though the terms certification and accreditation are repeatedly used interchangeably, accreditation normally applies to health care organizations, whereas certification applies to practitioners and other organizations (Nouwens, Van Lieshout, Bouma, Braspenning, & Wensing, 2014).

Accreditation could be a strategy and ways to achieve and improve quality but all depends on the HCO's attitude. Simply means that the accreditation award itself does nothing if the HCO does not strive to maintain standards consistently. Moreover, hospital

accreditation may indicate a progress towards total change and total quality management, but may not necessarily represent a key factor to patient's satisfaction as the latter is more often subjective (Sack *et al.*, 2011).

According to Nicklin (2011), the accreditation of HCOs has brought more impacts on health service delivery as it provides to the organization with a framework based on which systems and processes are established and implemented in order to improve efficiency and health outcomes. In addition, with accreditation internal communication is improved as well as collaboration between internal and external stakeholders which promotes and strengthens interdisciplinary team effectiveness.

Pomey *et al.* (2010) emphasizes that the accreditation process brings change to the HCOs by promoting the use of ethical frameworks, providing health care organizations with a well-defined vision for sustainable quality improvement initiatives, leading to the improvement of internal practices and stimulating sustainable quality improvement efforts which continuously raise the bar with regard to quality improvement initiatives, policies, and processes.

3.2 Empirical Review
3.2.1 Accreditation and Patient Safety
Accreditation has become universal across the international healthcare landscape. As it is the case in other sectors, award of full accreditation status in health care services is perceived, as a tangible signal of high-quality organization's performance. Nevertheless, only a few researches have empirically validated this declaration with mixed findings arising from studies done in developed countries (Lane *et al.*, 2014). The validity of accreditation, therefore, remains debatable, and this continues to be a central legitimacy concern of accreditors, policymakers and researchers. This raises a question on how best to research the validity, impact and value of accreditation processes in health care (Braithwaite *et al.*, 2006; Devreux, 2017).

Devkaran and O'Farrell (2015) have reported that, "*there are many claims about the benefits of accreditation on HCO but there is paucity of empirical evidence to validate them*". However, a number of countries, including the UAE, are commonly embarking on accreditation as means and strategy adopted by governments to ascertain quality of care and improve patient safety.

A study done in King Khalid Hospital in Saud Arabia on impact of accreditation on patient safety, has revealed that the accreditation has positively and tremendously improved the patient safety. The study found that the inter-professional collaboration and identifying patient risk factors for safe drug administration have been impacted positively by the accreditation process thus recommending policy makers to adopt accreditation as strategies to enhance and sustain patient safety (Shammari Al, *et al.*, 2015)

3.2.2 Accreditation and Patient Care Delivery

Although accreditation is widely recognized as a signal for high quality in healthcare services the theoretical and empirical literature on accreditation to validate it, is so scarce especially in the low-and middle-income countries such as in Middle East and Africa.

Some authors proved that the accreditation process strengthens pre-existing quality improvement systems in health care organizations. This has been endorsed by Mumford *et al.*, (2015) in the comparative study carried out in Australia measuring the infection rate between accredited hospitals and their non-accredited counterparts. The study revealed that there is a significant reduction of infection rate in the accredited hospitals as opposed to the non-accredited.

However, the accreditation will not mean that mistakes will never happen, but that accredited healthcare providers are more willing to learn from them, to varying degrees. If a healthcare provider has been accredited by a large international accreditor then patients should be reassured that the care they receive is likely to be of a good standard (Woodhead, 2013).

The study done in the USA on accreditation has revealed that the accreditation has changed a lot to the agencies regarding healthcare service delivery whereby the institutions became more professionalized, services improved by bringing in consistency and quality health care, and communication among healthcare providers improved by enhancing documentation and record keeping. The same study has also proven that the accreditation increased accountability in healthcare service delivery and increased the HCO's adaptation to evidence-based practices (Lee & Jonson-reid, 2010).

Additionally, a 2011 study of Saudi Arabian hospitals indicates that there is reliable evidence that confirms that accreditation programs improve the process of care provided by healthcare professionals. There is considerable evidence to show that accreditation programs improve clinical outcomes of a wide spectrum of clinical conditions. Therefore the accreditation programs should be supported as a tool to improve the quality of healthcare services (Abdullah Alkhenizana and Charles Shaw, 2011).

3.2.3 Leadership and Quality

Most studies focusing on hospital care have revealed that impact of accreditation on organizational systems, processes and financial status as well as clinical practice is inconsistent. However a study carried out in Germany on accreditation and primary care practices revealed that the accreditation improved some aspects of practice in the organization, but the extent at which the clinical performance and health outcomes were affected by accreditation was not demonstrated (Nouwens *et al.*, 2014).

Devkaran and O'Farrell (2015) in their research conducted in a hospital based in Abu Dhabi (UAE) in 2015, have concluded that the preparation for the accreditation process could improve the hospital performance at 74% from 70% baseline (pre-accreditation) rate while the maintenance of accreditation could make the hospital perform up to 90% and this could be observed from 3 years and above post accreditation.

With the paucity of research on accreditation, few studies piloted in sub-Saharan Africa remain vague claiming potential effectiveness of accreditation over quality healthcare service as they did not go beyond complying with standards (Lane, *et al.*, 2014).

Recent publications state that the literature on impact of accreditation on health services is scarce and empirical studies on the same are rarer to be found thus the researcher could not get any empirical data from continent and locally.

4. Methodology

The researcher examined the contribution of the accreditation project to the delivery of healthcare services at King Faisal Hospital, Kigali. A retrospective research design with a quantitative approach was used. 354 patient records were reviewed, of which 71 represented the period before accreditation, 169 represented the period after the first accreditation, and 114 represented the year in which the hospital was preparing for the third accreditation. Moreover, secondary data analysis of available data from the Continuous Quality Improvement (CQI) office, the Chief Executive Officer Office, and the Human Resources office was done. A one-way analysis of variance was performed at a significance level of <0.05 to test for differences between the three time periods examined. The collected data were managed and analyzed using a statistical package for social sciences (IBM-SPSS version 21). Both descriptive and inferential statistics were used in this study. A predefined checklist was used to collect data from patient records and administrative documents. This checklist was developed by the researcher and includes four assessment areas deemed relevant to the current study.

5. Key Result and Findings

5.1 Contribution of Accreditation Project on Healthcare Delivery and Patient Safety

Accreditation programs are grounded on the principle that complying with pre-established evidence-based standards lead to greater healthcare service delivery (Nicklin, 2015). Alongside with this principle, it is recognized that documenting delivered healthcare is very important in that what is not documented is not done (Duclos-Miller, 2016). The following findings are based on the latter principle of documenting healthcare. Moreover, healthcare providers will always ensure patient safety while delivering patient care. Therefore, all aspects pertaining to patient's safety and patient's care are presented together in the tables.

Table 1: Healthcare delivery before the accreditation project (year 2005)

Items checked	Level of compliance	Frequency	Percentage (%)
Medical history includes current, past medical, surgical and psychosocial history	NC	2	2.8
	PC	66	93
	C	3	4.2
Patient risk factors including risk of fall and allergy are clearly recorded	NC	21	29.6
	PC	50	70.4
	C	0	0
Delivered care reflects respect of patient right	NC	13	18.3
	PC	50	70.4
	C	8	11.3
Details of medical findings, investigation results leading to the diagnosis are clearly recorded	NC	8	11.3
	PC	5	7
	C	58	81.7
Inter-professional collaboration is clear in medical record/file	NC	0	0
	PC	59	83.1
	C	12	16.9
Patient/family education is clearly documented	NC	45	63.4
	PC	18	25.4
	C	8	11.3
Prescribed treatment/therapy/intervention are done timely	NC	1	1.4
	PC	25	35.2
	C	45	63.4
There is evidence of regular patient monitoring	NC	0	0
	PC	27	38
	C	44	62
Ward round is regularly done (2*)	NC	3	4.2
	PC	27	38
	C	39	54.9
Patient Identification present on each sheet	NC	1	1.4
	PC	61	85.9
	C	9	12.7

(*) indicate the number of subjects on which the item was not applicable
Note: C = Compliance; PC = Partial compliance; NC = Non-compliance.

According to Table 1, the level of compliance with essential aspect of quality healthcare delivery was very low in most of the cases whereby the compliance level was ranging into the first quartile for six out of ten items checked for this study. The compliance level was only at least fifty per cent for four out of ten assessed items, with only one item (details of medical findings, investigation results leading to the diagnosis are clearly recorded) meeting the COHSASA accepted compliance level of at least eighty per cent. Two record cases were not considered for evidence of regular ward round as these were concerning day cases.

Table 2: Healthcare delivery after achieving the first accreditation status (year 2011)

Items checked	Level of compliance	Frequency	Percentage (%)
Medical history includes current, past medical, surgical and psychosocial history	NC	0	0
	PC	107	63.3
	C	62	36.7
Patient risk factors including risk of fall and allergy are clearly recorded	NC	10	5.9
	PC	148	87.6
	C	11	6.5
Delivered care reflects respect of patient right	NC	21	12.4
	PC	42	24.9
	C	106	62.7
Details of medical findings. Investigation results leading to the diagnosis are clearly recorded	NC	16	9.5
	PC	3	1.8
	C	150	88.8
Inter-professional collaboration is clear in medical record/file	NC	2	1.2
	PC	8	4.7
	C	159	94.1
Patient/family education is clearly documented	NC	66	39.1
	PC	30	17.8
	C	73	43.2
Prescribed treatment/therapy/intervention are done timely	NC	0	0
	PC	46	27.2
	C	123	72.8
There is evidence of regular patient monitoring	NC	3	1.8
	PC	62	36.7
	C	104	61.5
Ward round is regularly done (11*)	NC	0	0
	PC	37	21.9
	C	121	71.6
Patient Identification present on each sheet	NC	0	0
	PC	49	29
	C	120	71

(*) indicate the number of subjects on which the item was not applicable
Note: C = Compliance; PC = Partial compliance; NC = Non-compliance

According to Table 2, the level of compliance with different aspects of quality healthcare delivery was at least fifty percent for most of the record cases reviewed (seven out of ten of checked items). Item checking whether patient risk factors were clearly recorded had the lowest compliance level (6.5%) with most of record cases reviewed identifying partially patient risk factors (87.6%). However, the compliance level meeting the COHSASA accepted compliance level of at least eighty percent was for only two checked items; that is recorded evidence of inter-professional collaboration in the patient file (94.1) and recording medical findings and or of investigation results details that lead to the diagnosis (88.8%). Eleven record cases were not considered for evidence of regular ward round as these were concerning day cases.

Table 3: Healthcare delivery during preparation of the third accreditation (year 2016)

Items checked	Level of compliance	Frequency	Percentage (%)
Medical history includes current, past medical, surgical and psychosocial history	NC	0	0
	PC	6	5.3
	C	108	94.7
Patient risk factors including risk of fall and allergy are clearly recorded	NC	0	0
	PC	11	9.6
	C	103	90.4
Delivered care reflects respect of patient right	NC	1	0.9
	PC	3	2.6
	C	110	96.5
Details of medical findings. Investigation results leading to the diagnosis are clearly recorded	NC	3	2.6
	PC	0	0
	C	111	97.4
Inter-professional collaboration is clear in medical record/file	NC	0	0
	PC	1	0.9
	C	113	99.1
Patient/family education is clearly documented	NC	10	8.8
	PC	7	6.1
	C	97	85.1
Prescribed treatment/therapy/intervention are done timely	NC	0	0
	PC	20	17.5
	C	94	82.5
There is evidence of regular patient monitoring	NC	0	0
	PC	15	13.2
	C	99	86.8
Ward round is regularly done (2*)	NC	0	0
	PC	19	16.7
	C	93	81.6
Patient identification present on each sheet	NC	0	0
	PC	2	1.8
	C	112	98.2

(*) indicate the number of subjects on which the item was not applicable
Note: C = compliance; PC = Partial compliance; NC = Non-compliance

Table 3 shows the status of healthcare delivery during preparation of the third accreditation as per reviewed record. All the items considered for checking in this study were compliant in more than ninety percent. However, three record cases reviewed (2.6%) did not have recorded details of medical findings and or investigations leading to the diagnosis, while 10 record cases reviewed (8.8%) represent the patients/patient families who did not get healthcare education session regarding their illness and the course of their treatment. Two record cases were not considered for evidence of regular ward round as these were concerning day cases.

Table 4: Several comparisons between these three years

Dependent variable	Year (I)	Year (J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Medical history includes current, past medical, surgical and psychosocial history	2005	2011	-.359*	.053	< 0.001	-.48	-.23
		2016	-.933*	.057	< 0.001	-1.07	-.80
	2011	2005	.359*	.053	< 0.001	.23	.48
		2016	-.575*	.046	< 0.001	-.68	-.47
	2016	2005	.933*	.057	< 0.001	.80	1.07
		2011	.575*	.046	< 0.001	.47	.68
Patient risk factors including risk of allergy are clearly recorded	2005	2011	-.302*	.051	< 0.001	-.42	-.18
		2016	-1.199*	.055	< 0.001	-1.33	-1.07
	2011	2005	.302*	.051	< 0.001	.18	.42
		2016	-.898*	.044	< 0.001	-1.00	-.79
	2016	2005	1.199*	.055	< 0.001	1.07	1.33
		2011	.898*	.044	< 0.001	.79	1.00
Delivered care reflect respect of patient right	2005	2011	-.573*	.080	< 0.001	-.76	-.39
		2016	-1.027*	.085	< 0.001	-1.23	-.83
	2011	2005	.573*	.080	< 0.001	.39	.76
		2016	-.453*	.068	< 0.001	-.61	-.29
	2016	2005	1.027*	.085	< 0.001	.83	1.23
		2011	.453*	.068	< 0.001	.29	.61
Details of medical findings. Investigation results leading to the diagnosis is clearly recorded	2005	2011	-.089	.076	.477	-.27	.09
		2016	-.243*	.082	.009	-.44	-.05
	2011	2005	.089	.076	.477	-.09	.27
		2016	-.154*	.065	.049	-.31	.00
	2016	2005	.243*	.082	.009	.05	.44
		2011	.154*	.065	.049	.00	.31
Inter-professional collaboration is clear in medical record/file	2005	2011	-.760*	.039	< 0.001	-.85	-.67
		2016	-.822*	.041	< 0.001	-.92	-.73
	2011	2005	.760*	.039	< 0.001	.67	.85
		2016	-.062	.033	.145	-.14	.02
	2016	2005	.822*	.041	< 0.001	.73	.92
		2011	.062	.033	.145	-.02	.14
Patient/family education is clearly documented	2005	2011	-.563*	.110	< 0.001	-.82	-.30
		2016	-1.284*	.118	< 0.001	-1.56	-1.01
	2011	2005	.563*	.110	< 0.001	.30	.82
		2016	-.722*	.094	< 0.001	-.94	-.50
	2016	2005	1.284*	.118	< 0.001	1.01	1.56
		2011	.722*	.094	< 0.001	.50	.94
Prescribed treatment / therapy / intervention is done timely	2005	2011	-.108	.063	.196	-.26	.04
		2016	-.205*	.067	.007	-.36	-.05
	2011	2005	.108	.063	.196	-.04	.26
		2016	-.097	.054	.170	-.22	.03

	2016	2005	.205*	.067	.007	.05	.36
		2011	.097	.054	.170	-.03	.22
There is evidence of regular patient monitoring	2005	2011	.022	.066	.940	-.13	.18
		2016	-.249*	.071	.001	-.41	-.08
	2011	2005	-.022	.066	.940	-.18	.13
		2016	-.271*	.057	< 0.001	-.40	-.14
	2016	2005	.249*	.071	.001	.08	.41
		2011	.271*	.057	< 0.001	.14	.40
Ward round is regularly done	2005	2011	-.135	.100	.365	-.37	.10
		2016	-.330*	.106	.006	-.58	-.08
	2011	2005	.135	.100	.365	-.10	.37
		2016	-.195	.085	.059	-.40	.01
	2016	2005	.330*	.106	.006	.08	.58
		2011	.195	.085	.059	-.01	.40
Patient identification present on each sheet	2005	2011	-.597*	.051	< 0.001	-.72	-.48
		2016	-.870*	.055	< 0.001	-1.00	-.74
	2011	2005	.597*	.051	< 0.001	.48	.72
		2016	-.272*	.044	< 0.001	-.38	-.17
	2016	2005	.870*	.055	< 0.001	.74	1.00
		2011	.272*	.044	< 0.001	.17	.38

*. The mean difference is significant at the 0.05 level.

To explore more this difference observed across these periods Table 4 shows a multiple comparison obtained through the post hoc comparison Tukey honest of significant difference. In preparation of the third accreditation, healthcare delivery differs positively and significantly in all checked aspects with pre-accreditation period and with the post first accreditation period in most of aspects checked except for inter-professional collaboration (p = .145) and timeliness of delivering prescribed treatment, therapy or intervention (p = .170).

Six out of ten of aspects of healthcare delivery assessed in this study were positively and significantly different in favor of year 2011 if compared with year 2005. Aspects with no significant difference included recording of details of medical findings and or investigation results that lead to the diagnosis (p = .477), timely implementation of prescribed treatment, therapy or intervention (p = .196), regular patient monitoring (p = .940), and regularity of ward round (p = .365).

Table 5: The association between accreditation
status and the quality of healthcare service delivery

Accreditation status	Quality of healthcare delivery		Total	X^2	df.	p value
	Not admissible	Admissible				
No	63 (88.7%)	8 (11.3%)	71 (100%)	183.529	1	< 0.001
Yes	27 (9.5%)	256 (90.5%)	283 (100%)			
Total	90 (25.4%)	264 (74.6%)	354 (100%)			

Source: Researcher (2017).

In this study, according to the Table 5, the quality of healthcare service delivery was categorized as either admissible or not admissible. It was admissible healthcare service delivery if the compliance level was at least 80% with the healthcare service delivery assessed criteria. Therefore, with regard to the above table, having accreditation is associated with improved quality of healthcare service delivery (chi-square = 183.529, df = 1, p of < 0.001).

5.2 Deployed Leadership Efforts towards Achieving Accreditation

Accreditation project processes require hospital leaders and managers to draw attention of their staff on the core business of the hospital along with putting emphasis on improving the system by establishing work enablers such as policies and procedures, clinical guidelines, etc. and ensuring workforce competence.

Table 6: Documented system structure other than policies

Item checked	Year	Status
Available strategic plan incorporates strategies for continuous quality improvement	2005	NC
	2011	PC
	2016	C
Exist an established way of reporting and analyzing incidents	2005	NC
	2011	C
	2016	C
Exist an established way of identifying risk, risk prevention and risk mitigation	2005	NC
	2011	C
	2016	C
Identified outcomes/gaps are used to develop strategies to improve organizational structure and processes	2005	NC
	2011	PC
	2016	PC

Note : C = Compliance; PC = Partial compliance; NC = Non-compliance
Source: Researcher (2017).

As per Table 6, in 2005, there was no clearly and formally documented framework that would guide future move of the hospital. Furthermore, the hospital could not formally identify risks and incidents associated with its business with lack of structured strategies to identify systemic gaps and improvement thereof. After the first accreditation this status changed from non-compliance to compliance in most of the assessed aspects. However, much more need to be done with regard to using identified gaps to develop and implement strategies that improve organizational structure and processes henceforth improved outcomes.

As per Table 7, there was no single policy and procedure related to healthcare delivery nor clinical guideline or protocol that would guide clinical staff in their routine healthcare delivery task in the year 2005. Moreover, there was no formal quality improvement team or committee with no quality improvement project done. Once accreditation project was initiated, the system was streamlined resulting in continuous increase in number of policies and procedures regarding how healthcare is delivered as

well as continuous increase of developed and endorsed clinical guidelines and protocols. From zero completed quality improvement project in 2005, three hundred and fifteen quality improvement projects were completed by 2016. Interestingly, the number of quality improvement teams/committees has declined from 71 in 2011 to 10 in 2016 as the system matures.

Table 7: Strategies to guide and monitor healthcare delivery

Variables	Year		
	2005	2011	2016
Number of available healthcare delivery related policies and procedures	0	82	85
Number of available clinical guidelines/protocols	0	22	43
Number of established quality improvement teams/committees	0	74	10
Number of completed continuous quality improvement projects	0	71	315

Source: Researcher (2017).

6. Discussion

6.1 Contribution of Accreditation Project Vis-à-vis Patient's Safety
Embarking into accreditation affirms healthcare organization commitment to quality improvement, patient safety, efficiency and accountability on care delivered.

Findings of this study revealed that patient safety improved in line with accreditation project. Table 4 reveals significant improvement trends vis-à-vis patient safety elements considered in this study lining the joint commission international patient safety goals such as patient identification, effective communication and identification of patient risk factor. The reviewed record cases reveal that patient identification improved from 12.7% in 2005 to 71% in 2011 and to 98.2% in 2016. This is an important thing as information written into patient medical record is specific to that patient and this is checked against other patient identifiers when delivering patient care. Hospitals seeking accreditation through COHSASA accreditation program are required to have and implement a reliable patient identification approach (COHSASA, 2015).

Identification of patient risk factors that include patient's allergy for safe medication and fall risk assessment along with inter-professional collaboration are important aspects to meeting patient safety goals. Compliance with identification of patient risk factors improved from 0% in 2005 to 6.5% in 2011 and to 90.4% in 2016. This improvement can be explained by establishment and implementation of patient fall risk prevention policy and patient fall risk assessment tool along with reinforced proper documentation through regular documentation audits. Williams, Morton, Yendro, & Baker (2018), comparing quality ratings of accredited and non-accredited nursing homes found that patients in accredited nursing homes were less likely to have falls that result in major injuries than those of non-accredited nursing homes.

Inter-professional collaboration has also improved from 16.9% (2005) to 94.1% (2011) and to 99.1% (2016). Poor inter-professional collaboration was named in literature to hamper patient safe healthcare delivery and approximately 82% patient safety

incidents were resulting from communication failure among healthcare providers (Ammouri *et al.*, 2015; El-jardali *et al.*, 2011). Therefore, by improving inter-professional collaboration among healthcare providers KFH, K might have reduced patient safety incidents as a result of established strategies associated with accreditation project.

6.1 Influence of Accreditation Project on Patient Care Delivery

Patient history taking is fundamental for any healthcare delivery process. Medical history that includes past medical, surgical and psychosocial history of the patient is a prerequisite to holistic patient care, hence vital to high quality healthcare delivery. Prior accreditation project, only 4.2% of record cases reviewed included past medical, surgical and psychosocial history of the patient versus 36.7% in post first accreditation (2011) and 94.7% in preparation of third accreditation (2016) periods. This significant difference (p < .001) can be explained by introduction of different clinical forms that served as reminder to clinicians regarding this vital aspect of care among others. With this regard, researchers in patient safety recommend the use of checklists to get rid of medical errors associated with memory reliance (Barnes *et al.*, 2015; Dirckx, 2010; Institute of Medicine, 2001; Lyons & Popejoy, 2014).

In addition to improved patient history taking observed with accreditation project, clear and detailed recording of medical findings, investigation results leading to diagnosing have significantly improved (p ≤ .007). Thus, details of medical findings, investigation results leading to diagnosis were clearly recorded for 81.7% (2005); 88.8% (2011); and 97.4% (2016) of case record reviewed. This significance recorded can be associated with the maturity in accreditation as pre-accreditation findings on this aspect of care were not significantly different with those of post first accreditation

Among others common themes of accreditation standards is patient rights (Grepperud, 2015). With this respect, hospital processes should support access to care and patient rights as one of the requirements to get accreditation (COHSASA, 2015). Patient rights encompass a person's right to privacy, right to quality medical care without prejudice, right to make informed decisions about care and treatment options, and right to refuse treatment (Shreedevi, 2013).

Prior to accreditation project in 2005, delivered healthcare was reflecting respect of patient rights in only 11.3% of case records reviewed and equally was patient/family health education. In post accreditation periods (2011 and 2016), this changed positively and significantly (p < .001) for both patient/family education and respect of patient right reflected in healthcare delivered. We believe that this change is associated with various initiatives brought by accreditation project and the approval of patient rights and responsibilities by the Rwandan cabinet and subsequent dissemination of these (Minister in charge of Cabinet Affairs, 2009) that served as an eye-opener for both patients and clinicians. Assessing how Indian hospital were prepared for accreditation with respect to the patient rights and education, Shreedevi found that existent practices related to patients' rights and education were not up to the standards therefore requiring establishment of corrective actions (Shreedevi, 2013).

Timely implementation orders, regularity of patient monitoring and ward rounds were other aspects of healthcare delivery assessed in this study. There was no significant difference recorded neither between pre-accreditation period (2005) and post first accreditation period (2011) nor between post first accreditation period (2011) and the period of preparation of the third accreditation (2016) on all these aspects of health care delivery. However, there was significant ($p \leq .009$) difference between pre-accreditation period (2005) and the period of preparation of the third accreditation (2016). Studying predictors of the effectiveness of accreditation on hospital performance, Bogh and colleagues found that patient monitoring improved during accreditation preparatory work to decline in post-accreditation period (Bogh, *et al*., 2017). This contrasts our findings as we have observed constant improvement across all aspects assessed.

6.2 Deployed Leadership Efforts towards Achieving Accreditation

Most if not all healthcare organizations aspire to deliver high quality services to their clients. Given the nature of hospital's clients (most time sick patients), the healthcare service delivery is so complex thus requiring well-coordinated leadership efforts to ensure workforce competence and conducive working environment. Though these efforts are prerequisite for accreditation, it is also remarkable that they are good drivers of the healthcare service delivery therefore worth for discussion in this study.

6.2.1 Leadership and Management

KFH, K sought accreditation through COHSASA accreditation programs that uses a systems-based approach focusing on technical, managerial, administrative, and infrastructural and support systems (COHSASA, 2018a). Table 6 accounts for some of structural measurements considered for the purpose of this study. Structural measurements are vital in ascertaining adequacy of plans, healthcare providers and care settings vis-à-vis the healthcare delivery though adequacy of structural measures might not result into high quality healthcare delivery (Morris & Bailey, 2014).

Prior, KFH, K embarked on COHSASA accreditation program, there was no documented strategies for continuous quality improvement consequently, lack of established ways of identifying risk, risk prevention and risk mitigation. Moreover, unavailability of these strategies explains impossibility to learn and improve organizational structure and processes based on identified outcomes or gaps. Additionally, incidents were not reported and analyzed to form a basis for future incident prevention and risk mitigation. Accordingly, Sebastianelli and Tamimi cited in (Aungsuroch, Hospital, & Yai, 2008), report that lack of planning for quality and lack of leadership for quality are barriers to total quality management.

For both periods; year of first accreditation and during the year of third accreditation preparation, remarkable changes were recorded as far as structural measurements in this study are concerned. Our findings corroborate with those of Nicklin (2015); who in his literature review on the value and impact of accreditation

found positive impact on organizational learning, and increased credibility of an organization.

The improvement recorded in structural measurements in post accreditation periods is believed to root from the hospital management commitment regarding acquiring accreditation status given that COHSASA accreditation standards focus on management of the organization to address among others issues related to leadership of the organization; management of information; quality management and creation and maintenance of a safe environment for patients (COHSASA, 2018b).

The KFH, K leadership and management commitment to accreditation and quality healthcare delivery is expressed also in Table 7. Before embarking to accreditation, health care providers lacked clinical policies, guidelines and protocols to guide and back them up while providing care to the patients. There also were no management established formal teams to deal with quality improvement issues, thus, lack of quality improvement projects.

Embarking into accreditation resulted in development and ratification of clinical policies, guidelines and protocols by KFH, K management. Beside this, the hospital management established many steering quality improvement teams (71 teams) to prepare for accreditation which were transformed into 10 permanent quality teams tasked to maintain accreditation as the quality system matured. These managerial efforts towards meeting accreditation and eventually quality system, explain continuously increasing number of completed quality improvement projects. This is in accordance with El-jardali *et al.*, (2014), who reported the vital role of strong leadership and support from management in implementing and improving quality of services in public healthcare centers in Lebanon.

6.2.2 Workforce Competence

Competence includes knowledge and skills and healthcare providers gain competence through pre-employment, continuous professional development and on job experience. Healthcare provider competence influences healthcare organization preparedness to providing quality health services to its client, therefore the more competent healthcare providers are, the more likely high quality healthcare services are provided. Embarking into accreditation program has triggered important aspect of hospital staff capacity building across KFH, K. Aspects of reinforcing professional development that were inexistent prior accreditation program were initiated to attempt meeting accreditation standards that require establishment of personnel orientation, induction and education (COHSASA, 2015).

The hospital management established hospital wide orientation program for newly employed staff and each unit identified and submitted specific unit new staff orientation program for management approval. Along with this orientation program, there have been established in-service or on job continuous professional development program. All these staff capacity building programs are regularly monitored through Human Resources office. In accordance with this, El-Jardali *et al.*, (2014) in their study

found that accreditation was an opportunity for professional development of staff through implementation of training and education that improved the quality of healthcare services. Similarly, a study done in the state of Paraná found that accreditation related trainings resulted in important changes in practice (Oliveira & Matsuda, 2016).

Studying the impact of Saudi hospital accreditation on quality of care, Almasabi & Thomas (2016), report that hospital employees were trained about identifying and acting on quality improvement opportunities as part of accreditation process though this declined in post accreditation period. In contrast to this finding, our study found consistency in hospital employees training even after accreditation status was acquired. This is an important aspect that may explain steady continuous quality healthcare delivery expressed in patient record reviewed for this study. The literature shows that for a training to be effective, it needs to be sufficient, continuous, well designed and well delivered, demonstrably relevant to the day to day activities and focused on equipping individuals with the understanding and tools to improve the quality of healthcare (Almasabi & Thomas, 2016).

7. Conclusion

A retrospective research design adopting a quantitative approach was used to answer questions related to accreditation and healthcare delivery at KFH, i.e., what is the contribution of the accreditation project concerning patients' safety and what is the influence of the accreditation project on patient care delivery. And what were the leadership efforts deployed to achieve accreditation? With regard to the first question, the accreditation has improved the patient identification practice, identification of patient risk factors, and inter-professional collaboration, which are very important facets regarding patient safety. Regarding the second question, accreditation has positively changed patient care delivery in that HCPs have improved the way they gather and keep patient information, which enhances holistic care delivery. Alongside, patients' rights and patient/family health education have been improved, as have the timeliness and regularity of healthcare delivery. Concerning the third question, the accreditation project streamlined management and leadership efforts that resulted in the ratification, implementation, and monitoring of clinical policies, guidelines, and protocols that were inexistent before accreditation. More over Staff capacity building was also enhanced through staff orientation and induction and regular in-service training programs. Therefore, it is worthwhile to embark on accreditation as a strategic approach to improving the quality of healthcare services.

8. Recommendations

Based on the findings of the study, the first recommendation is that the Ministry of Health continues its support for international accreditation in the reference hospitals that have started the international accreditation program, as accreditation makes a positive

difference in various aspects of hospital management, leadership, staff competence, Patient safety and healthcare delivery in general. In addition, the Ministry of Health should also continue and expand its national accreditation program for various health facilities in Rwanda.

The second recommendation emphasizes that King Faisal Hospital, Kigali, should maintain a consistent practice of auditing its services and leverage the resulting data to consistently address identified the gaps. This ongoing process will lead to a continuous enhancement of healthcare service quality. Furthermore, the hospital should encourage all its staff to take active ownership of the accreditation project as an integral part of their daily responsibilities. It's important to recognize that accreditation is a continuous journey rather than a final destination, and it requires collective teamwork.

The third recommendation focuses on policymakers adopting accreditation projects as one of the strategies to improve the quality of healthcare in Rwanda, thereby supporting any projects that may have been initiated by the Ministry of Health.

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Conflict of Interest Statement

The authors declare no conflicts of interest.

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