Quality Health Care Strategies in the Improvement of Service Delivery at The National Referral Hospitals in Kenya

Douglas Odhiambo Owino[1] : Mary Wanjiru Kinoti, PhD[2]

This study investigated the effectiveness of quality health care strategies in improving service delivery at the national referral hospitals in Kenya. National referral refers to any process in which health care providers at lower levels of the health system seek the assistance of providers who are better equipped or specially trained to guide them in managing or to take over responsibility for a particular episode of a clinical condition in a patient. The population of this study comprised two national referral hospitals in Kenya, namely Kenyatta National Hospital and Moi Teaching and Referral Hospital which had a total of 96 departments and units. Due to small sample, a census survey was conducted at the two national referral hospitals. A total of 96 questionnaires were administered and 67 were completed and returned which represented 69.8 per cent response rate. The study findings showed that different quality improvement programs had varying degree of linear relationships with structural, process and outcome measures. Adoption of Quality Management Systems and Standards (QMS) showed a significant positive correlation with structural measures, application of ICT on hospitals' operations had a significant positive correlation with process measures, and QMS and Results Based Financing (RBF) had a significant relationship with outcome measures. Specifically, adoption QMS revealed a stronger positive correlation on follow-up systems compared to other quality improvement initiatives. Regarding process measures, adoption of ICT innovations had a significant positive correlation on time taken to discharge patients. Adoption of QMS, and RBF had a significant positive correlation with the level of clients' satisfaction, and to a greater extent with the average rate of mortality and length of stay of in-patients. Quality audits and quality circles, commitment by staff, sensitization and training of staff were noted as critical drivers for quality improvement initiatives. However, the respondents cited biggest challenges as staff shortage, inadequate facilities, staff attitude, inadequate funds, poor maintenance of facilities, inadequate computerization of services, slow response by support departments, inability of some patients to pay for services and congestion in the wards. The quality of health care services provided to clients translated to better clinical outcomes and client satisfaction which corroborates the effectiveness of quality health care strategies in improving service delivery at the national referral hospitals. The study recommends adoption of integrated approach to Quality Improvement Programs (QIPs) and increased uptake of ICT innovations in the hospitals' operations to enhance turnaround time. The hospitals' management should encourage other service delivery innovations at the functional units which are appropriate to their operations and integrate them in the institutional-driven programs. Institutionalization of training programs on attitude change is required for successful implementation of various strategic interventions since staff attitude is one of biggest impediments to implementation of QIPs. The hospitals adopted fragmented quality management systems and it is prudent to adopt an ideal model for implementation of quality health care strategies that is likely to maximize on

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[1] School of Business, University of Nairobi
[2] Senior Lecturer of Strategic Sales and Marketing Management, Department of Business Administration, School of Business, University of Nairobi *m.kinoti@uonbi.ac.ke*

the intended results at different levels of service delivery systems. The study also recommends incorporation of QIPs in the core-curriculum for Health Care Workers. Further study should be conducted on specific strategic interventions that can be used to maximize clinical outcomes in public hospitals in Kenya.

Key Words: *Effectiveness, quality, healthcare, service delivery, referral hospitals, quality management systems*

Introduction

Health care provision varies around the world and almost all wealthy nations provide universal health care except United States of America (USA) (Shah, 2011). According to World Health Organisation(WHO) (2003), indicators on ranking of the overall performance of national health systems and quality of health care varies in different countries. Comparability of cross-national data is also a challenge and there is effort to develop and validate quality indicators that can be used internationally (Rand, 2010). The ranking of various countries by WHO (2003) indicated that France provided the best overall health care, followed by Italy, Spain, Oman, Austria and Japan, and that the USA health systems consumes a higher portion of it gross domestic product compared to other countries.

The Kenya's health care provision and implementation infrastructure include the National Referral and Teaching Hospitals, Provincial, District and Sub-District Hospitals, Health Centres, and Public Dispensaries (Wamai, 2009). Health services are provided through a network of over 4,700 health facilities countrywide, with the public sector system accounting for about 51 percent of these facilities (Government of Kenya(GoK), 2005). Major barriers to entry in the Kenyan health system is cost (Turin, 2010). The rationale for measuring quality health care

strategies is to establish the link in to quality service delivery and hence good health care performance Although the success of health care strategies depends to some extent on the capacity of the implementing health institutions (GoK, 2010).

Literature Review

Zadry and Yusof (2009) posit that TQM has been identified both as a model for good management and a theory of change which emphasis on continuous achievement. According to Barouch (2011) Total Quality Management as defined using ISO standards describes general methods enabling an organisation to be both efficient and effective while demonstrating how such methods should be implemented. Total Quality Management is a philosophy, concept and powerful management approach which involve management and empowerment of people to create satisfied customers and improve organisational performance. Quality Improvement Programmes assists organisations to document and improve processes, understand client requirements and ensure services meet those requirements. Implementing QIPs can be realised using various management models and standards aimed at streamlining relationships between the service providers and clients. t . Zadry and Yusof (2009) also observed that TQM has been recognised and used during the last few

decades by organisations all over the world to develop a quality focus and improve organisational performance. Studies conducted by Levine and Toffel (2010) have shown that ISO 9001 Quality Management System standard have been adopted by organisations to realise changes in organisational outcomes such as profits.

Strategies for Quality Improvement

Improvement occurs through using quantifiable measures in a continuous, rather than one-time process (NCIPH what is the full meaning, 2008). Quality improvement strategies are innovative, interdisciplinary movement aimed to transform entrenched attitudes, practices, and management styles that no longer serve the needs of patients and families (Jennings et al., 2007). In some countries, performance-based payment programmes are an increasingly common strategy for motivating quality improvement (Friedberg et al., 2010). Thus quality-based payment pioneers are using a variety of incentive structures, and are tapping a rich mix of structural, process, and outcome standards to benchmark quality (McNAMARA, 2005). However, reducing healthcare disparities is an equally important policy goal to most developing countries like Kenya, and performance-based payments may hinder vulnerable populations access to quality healthcare (Friedberg et al., 2010).

Measurement of Quality in Healthcare Services

There is a growing recognition of national and local healthcare performance measurement and reporting as essential if these initiatives are to achieve their full potential (Werner & Asch, 2007). Healthcare quality measurement has long been the biggest hurdle in deciding what to measure and how to measure it (Ilminen, 2003). Debates in healthcare quality forums have shifted in recent decades from whether quality can be measured to how best to measure quality in health care (Boyce, 1996). According to American Heart Association (2000) quantifying and improving the quality of healthcare is an increasingly important goal, and a few stalwarts clinging to a notion of quality as being intangible have been left behind. Thus, quality measurements are changing the way we define accountability and financial incentives within our healthcare system (AHA what is the full name, 2000). Health status and other outcome measures may appear to be offered as alternatives to structure or process measures which are in competition with them (Boyce, 1996).

Conceptual Framework

Strategic interventions in the provision of healthcare determine the quality of care provided to patients. Improved service delivery at the national referral hospitals depends on adoption of appropriate Quality Management Standards and Systems, Strategic Leadership Training and Results-Based Financing. This can be established through structural, process and outcome measures in the health delivery system. Thus, structural measures of quality healthcare involve effective and efficient systems. On the other hand, process measures include timeliness of care provided to patients. Outcome measures include mortality, readmission, resource consumption, health status, and satisfaction with care. As illustrated in figure 1, adoption of appropriate strategies is likely to improve service delivery at the

national referral hospitals through the realisation of improved quality of care and

better clinical outcomes.

Independent Variables → **Intervening Variables** → **Dependent variable**

Quality Healthcare Strategies:
1. Quality Management Standards & Systems
2. Strategic Leadership Training
3. ICT innovations
4. Results-Based Financing.

Structural Measures

Process Measures

Outcome Measures

Improved Quality in Healthcare /Better Clinical Outcomes
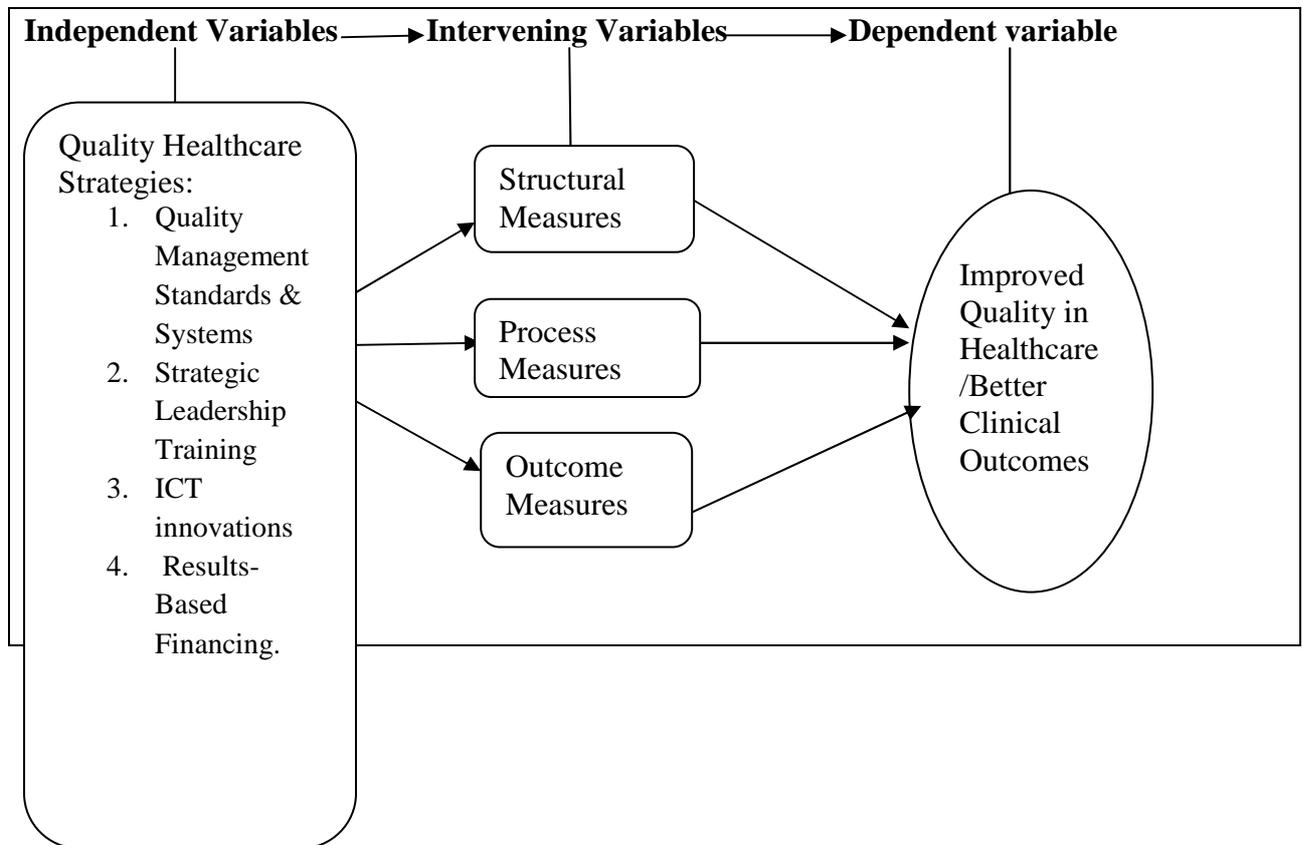
Figure 1: conceptual framework

Methodology

Descriptive survey design was used to describe and portray characteristics of the population of the study. The population of this study comprised two national referral hospitals in Kenya, namely Kenyatta National Hospital and Moi Teaching and Referral Hospital. The two hospitals have a total of 96 departments and units performing clinical and administrative functions. Due to the small sample, a census survey was conducted.Primary data which comprised both quantitative and qualitative data was collected using semi-structured questionnaire. The questionnaire was pre-tested to refine and

improve based on the respondents' feedback. This was to ensure that the validity and reliability of the data collected was embedded in design of questions, structure of questionnaire and the rigour of pre-testing (Saunders et al, 1997). Data were collected from various heads of departments and units, and in-charges of various wards and the questionnaires were self-administered. . To analyze the data descriptive and correlationl statistical analysis were used. Prior to analysis each questionnaire was coded and data entered in SPSS version 17.0.

Person two tailed correlation analysis was done to establish the relationships between the dependent and independent variables. Qualitative data was subjected to content analysis to test theoretical issues to enhance understanding and analysis of data, and to summarize data collected into related categories for easy of interpretation (Elo & Kyngas, 2008).

Data collected on background information included type of department, number of respondents in terms of hospital functions, and number of staff segregated in terms of medical and non-medical staff. Majority (20.9%) of the respondents were from units under medicine, followed by Private Wing (10.45%), Mental Health (10.45%) and Surgery (8.96%) as indicated in Table 1

Table 1: The number of respondent according to the departments

Department	Frequency	Percent
Medicine	14	20.9
Reproductive Health	3	4.5
Surgery	6	9.0
Orthopedic	3	4.5
Pediatrics	1	1.5
Accident and Emergency	3	4.5
Dental Services	1	1.5
ENT	1	1.5
Radiology	1	1.5
Renal	2	3.0
CCU	1	1.5
Private Wing	7	10.4
Ophthalmology	1	1.5
Physiotherapy	1	1.5
Palliative Care	1	1.5
Mental Health	7	10.4
Patient Affairs	1	1.5
Not indicated	2	3.0
ICT	1	1.5
Finance	1	1.5
Administration	1	1.5
Laundry	1	1.5
Telephone	1	1.5
Human Resource	1	1.5
Corporate Affairs	1	1.5
Supply Chain Management	1	1.5
Technical Services	1	1.5
Risk and Audit	1	1.5
Risk and Quality	1	1.5
Total	67	100.0

Number of Respondents In Terms of Hospital Functions

According to the findings, 83.58% were from clinical functions and 16.42% were from administrative services of the hospitals as illustrated in Table 2. Clinical care and treatment is the core function of the national referral hospitals as represented by the majority of the respondents in the study

Table .2: Number of respondents in terms of hospital functions

Item	Frequency	Percent
Clinical Services	56	83.6
Administrative Services	11	16.4
Total	67	100.0

Quality Healthcare Strategies for Improving Service Delivery

The study also investigated various quality healthcare strategies adopted by the hospitals to improve their systems and processes which involved training of staff in strategic leadership, Results-Based Financing (RBF), adoption of ICT and quality management systems and standards.

Strategic Leadership Training

According to the findings 32.8% of the respondents considered strategic leadership training as very successful, 32.8% somewhat successful and 11.9% highly successful. Only 4.5% of the respondents indicated that it was unsuccessful as shown in Table 3. Therefore, it can be presumed that training of hospital managers on strategic leadership was successful in improving service quality at the two national referral hospitals.

Table 3 Success of strategic leadership training in improving service delivery

Statement	Frequency	Percent
Highly Successful	8	11.9
Very Successful	22	32.8
Somewhat Successful	22	32.8
Unsuccessful	3	4.5
Not implemented	6	9.0
Non-response	6	9.0
Total	67	100.0

Use mean scores to analyse all likert type scale

The findings are corroborated with the study by O'Reilly et.al. (2010) on consistency of leadership effectiveness on the implementation of strategic initiative in a large healthcare system. They found that only when leaders' effectiveness at different levels was considered in the aggregate that significant performance improvement occurred. There is also evidence that educational interventions to improve quality of care are effective, and that in future it will not be possible to be an effective clinician without both a theoretical and a practical understanding of the science of quality improvement (Hockey and Marshall, 2009).

Results-Based Financing

The findings on RBF showed that, 47.8% of the respondents who implemented Results-Based Financing consider it somewhat successful, 16.4% very successful and 4.5% indicated that it was highly successful as illustrated in Table 5.2.2. However, 13.4% considered RBF unsuccessful. This implies that RBF was successful in improving service delivery systems and processes, leading to improved service quality.

Table 4 Success of results-based financing in improving service delivery

	Frequency	Percent
Highly Successful	3	4.5
Very Successful	11	16.4
Somewhat Successful	32	47.8
Unsuccessful	9	13.4
Not implemented	7	10.4
Non-response	5	7.5
Total	67	100.0

A report by Open Health Initiative (2012) indicated that RBF has proven to strengthen health systems, improve health management information system, increase accountability and strengthen governance. Further, the report noted that RBF motivates healthcare workers to provide comprehensive and quality services, however they observed that RBF must not be seen as a stand-alone intervention. However, investments in structural and organisational changes seemed reasonable during flush times, but were difficult to maintain when the economy or local healthcare market declined, and cutbacks were often necessary (Caroll, et. al, 2007). Therefore, RBF alone may not be relied on for service delivery improvement at the hospitals.

Adoption of ICT

The study investigated the extent to which ICT is considered successful in improving service delivery at the national referral hospitals in Kenya. The findings showed that 53.7% somewhat successful, 22.45 very successful and 4.5% considered adoption of ICT highly successful. On the other hand, 7.5% of the respondents considered adoption of ICT as unsuccessful. Another, 6.0% of the respondents did not adopt ICT and they indicated that their operations were not automated. It is apparent that application of ICT to improve   Hospitals' service delivery system was successful.

Table 5 Success of ICT adoption in improving service delivery

	Frequency	Percent
Highly Successful	3	4.5
Very Successful	15	22.4
Somewhat Successful	36	53.7
Unsuccessful	5	7.5
Not implemented	4	6.0
Not indicated	4	6.0
Total	67	100.0

The findings conform to the reviews done by British Columbia Medical Association in 2006 on how IT reduced waiting times, particularly time taken to see a specialist. It was observed that telemedicine enabled access to specialists and minimised the need for patients to travel. Therefore adoption of ICT can drastically reduce turnaround time if fully adopted in the operations of the hospitals.

Quality Management Systems and Standards

According to findings, 38.81% of the respondents felt adoption of Quality Management Standards was very successful, 31.34% somewhat successful and 20.9% indicated that it was highly successful as indicated in Table 6 below. It is possible to conclude that adoption of QMS was successful in improving quality of services provided by the hospitals.

Table 6 Success of Quality Management Standards and Systems in improving service delivery

	Frequency	Percent
Highly Successful	14	20.9
Very Successful	26	38.8
Somewhat Successful	21	31.3
Non-response	6	9.0
Total	67	100.0

The findings are corroborated with Heuvel (2001) who observed that integrating ISO and Six Sigma in a hospital operations yielded benefits such as an excellent document control system, an increase in production and a decrease in costs resulting to improved efficiency.

Other Quality Improvement Strategies

In addition to key strategic interventions in improving service delivery, 20.9% of the respondents also indicated that they have put in place other quality improvement programmes to improve their services. These included implementation of GEMBA 5S KAIZEN, Kenya Quality Model for Health (KQMH), clinical audits, use of protocols and on-job training. According to the findings, 50% felt that specific interventions at departmental level was very successful, 29% indicated that the interventions were highly successful, and 21% felt that the interventions were somewhat successful. Berenson, et. al (2013) also observed the need to use quality measures strategically by adopting other quality improvement approaches where measures fall short.

Effectiveness of Quality Health Care Strategies In Improving Service Delivery

This section highlights findings on effectiveness of quality healthcare strategies in improving structures, process and outcomes at the national referral hospitals in Kenya. Specifically, it presents findings on effectiveness of these strategies on follow-up systems, feedback mechanisms, time taken to serve clients, re-admission rates, average rates of mortality, infection and length of in-patient stay, and level of client satisfaction with services provided by the hospitals.

Effectiveness of quality healthcare strategies on service delivery systems and processes

The findings showed a perfect positive relationship between the quality healthcare strategies and service delivery systems, and processes. Although varying degrees of relationship between independent and dependent variables was noted as indicated in Table 7.

Table 7: Correlation between quality healthcare strategies and service delivery systems, and processes

Independent variables	Dependent Variables				
	Follow up systems	Feedback to clients	Time taken to admit patients	Time taken to attend to walk-in patients	Time Taken to discharge patients
Strategic Leadership Training	.207	.748	.875	.302	.946
Results Based Financing	.296	.675	.734	.535	.835
ICT adoption/innovation	.829	.231	.348	.225	.003
Quality Management Standards and Systems	.005	.018	.434	.316	.288
Other Quality Improvement Initiatives	.300	.799	.201	.528	.207

The relationship between application of ICT and follow-up systems had a very high regression coefficient compared to other strategic interventions adopted by the hospitals to improve service quality and delivery systems. This conforms to the findings of MEDPAC report (2004) presented to the USA congress on new approaches to medicare. The report showed that application of ICT provides new ways for health care providers and patients to readily access and use health information, thereby improving the quality, safety, and efficiency of healthcare.

Strategic Leadership Training, RBF and specific strategic interventions by the departments showed a higher significant relationship with time taken to provide feedback to clients. On the other hand, time taken to attend to walk-in patients had a stronger positive relationship with RBF and specific strategic interventions by the departments to improve service quality.

It was also noted that time taken to admit and discharge patients had a higher significant relationship with RBF and strategic leadership training. A study conducted by Weiner (2009) noted that some of the most promising organisational changes in healthcare delivery require collective, coordinated behavior change by many organisational members involving quality improvement programs and patient safety systems. On the other hand, Brook et.al. (2000) also observed that financial incentives directed at health system level have can cause positive effect on quality of care and treatment.

It is possible to conclude that effective leadership is critical in improving service quality but it should be complemented with key strategic interventions at all functional levels, including but not limited to provision of requisite resources. This implies that concerted effort and or building of synergies are critical in improving service quality in the hospitals.

Effectiveness of quality healthcare strategies on improving service delivery outcomes

The findings showed a perfect positive relationship between quality healthcare strategies and service delivery outcomes as indicated in Table 8. These included re-admission rates, average rates of mortality, infection rates, length of in-patient stay, time taken to serve clients, average waiting time and level of client satisfaction with services provided by the hospitals.

Table 8 Correlation between quality healthcare strategies and service delivery outcomes

Independent variables	Dependent Variables							
	Readmission rate	Mortality rate	Infection rate	Length in-patient stay	Time taken to serve internal clients	Time taken to serve external clients	waiting time	Level of client satisfaction
Strategic Leadership Training	.974	.856	.145	.650	.343	.310	.403	.265
Results Based Financing	.677	.816	.229	.824	.379	.392	.422	.034
ICT adoption/ innovation	.187	.012	.236	.529	.037	.046	.035	.975
Quality Management Standards and	.497	.351	.105	.719	.005	.005	.007	.146
Other Quality Improvement Initiatives	.971	.656	.380	.778	.305	.261	.298	.784

According to the findings, Strategic Leadership Training, RBF, and quality improvement interventions at the departmental level had a high significant relationship with rates of readmission, average mortality, and to lesser extent time taken to serve clients and average waiting time to be served. It was also observed that quality healthcare strategies adopted by the hospitals had a positive effect on average rate of infection, albeit with minimal difference in the degree of relationship.

Strategic interventions at the departmental level and rates of infection indicated a slightly significant relationship compared to other study variables.

 It was also noted that quality healthcare strategies adopted by the hospitals had a very significant relationship with average length of in-patient stay. On the other hand, application of ICT and specific strategic interventions by the departments to improve quality of services had a higher significant relationship with the level of client satisfaction. A study by Agbor (2011) of three Service sectors in Umeå showed that interventions to improve service quality dimensions and customer satisfaction are significantly related. The findings by Health Foundation report (2012) also showed that participation in leadership programmes catalysed improvements in hospitals.
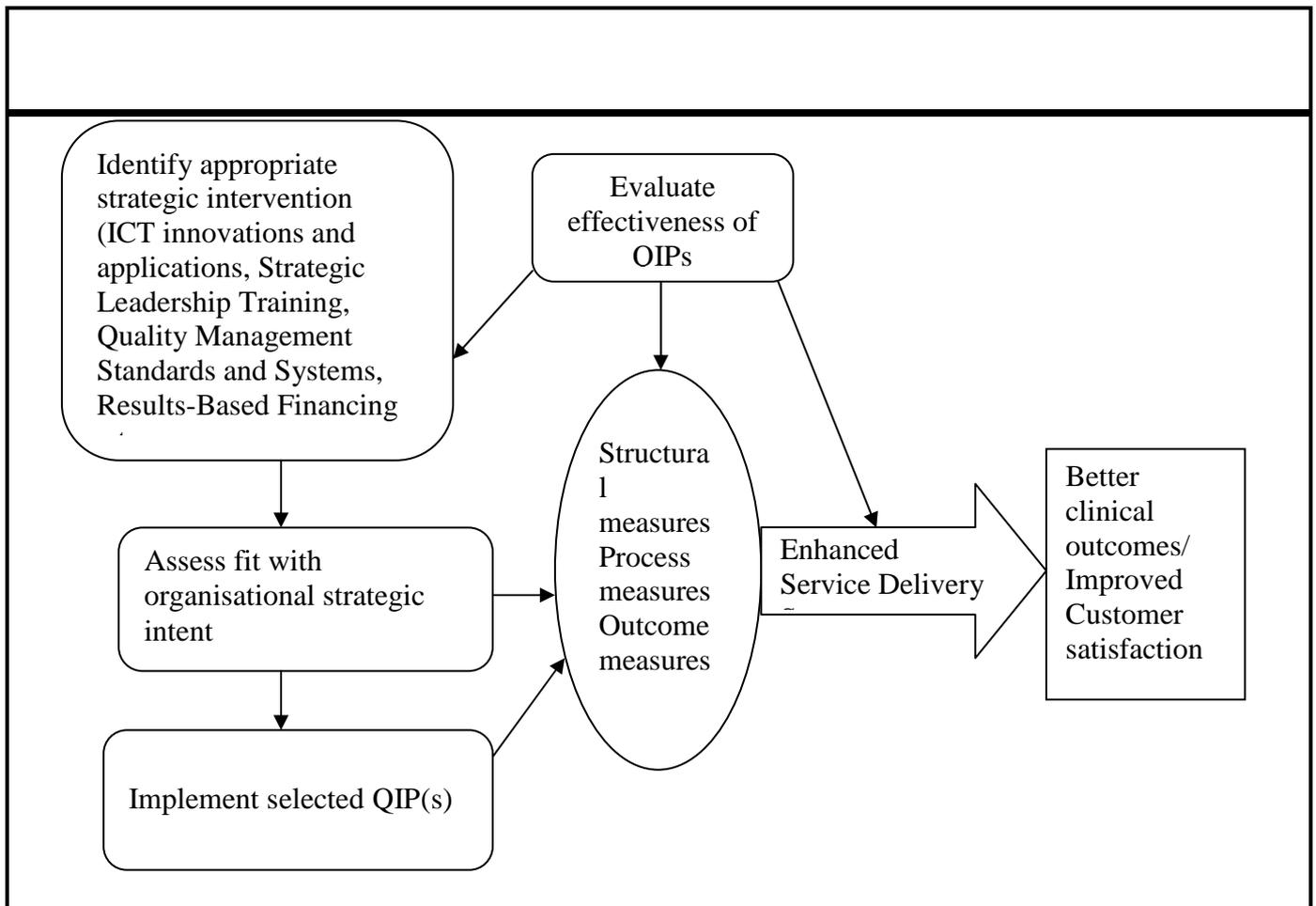
Figure 2 : Model for implementation of quality healthcare strategies

Conclusion

The study investigated effectiveness of quality healthcare strategies in improving service delivery at the national referral hospitals in Kenya. The findings showed that adoption of various healthcare quality strategies are effective in enhancing services provided by the hospitals. It has also been noted that different quality improvement strategies had varying degrees of relationships with structural, process and outcome measures. Holistic approach that focuses on standards, resources and people is required to ensure positive results at all levels in the hospitals' service delivery system. Therefore, it is necessary to adopt an integrated approach in the implementation of strategies to improve quality of healthcare services. Based on the findings, it can be presumed that improving quality of care services in resource poor settings as in the case of the two national referral hospitals requires concerted efforts albeit with challenges. Some of these challenges are inadequate funds and staff. However, challenges that require attitude change can be addressed through appropriate interventions aimed at organisational transformation.

Recommendations For Policy, Theory And Practice

The Government should consider developing a policy to institutionalise adoption of QIPs in public hospitals in the country. In addition, quality management should form part of core curriculum for

health workers and should be made a mandatory requirement for healthcare managers. For sustainability of this policy initiative, quality improvement programmes should be integrated in the performance management in various public hospitals. The study findings have also shown that the hospitals adopted fragmented quality management systems and the Government should consider developing national accreditation framework for both public and private hospitals to assure quality healthcare at the national and county level.

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