



Case Study

Roadmap to an effective quality improvement and patient safety program implementation in a rural hospital setting



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ABSTRACT

Implementation lessons: (1) implementation of an effective quality improvement and patient safety program in a rural hospital setting requires collaboration between hospital leadership, Ministry of Health and other stakeholders. (2) Building Quality Improvement (QI) capacity to develop engaged QI teams supported by mentoring can improve quality and patient safety.

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1. Background

Despite remarkable progress made by developing countries towards universal health coverage^{9,17,20}, poor quality of care remains a challenge for many health facilities in low and middle income countries (LMIC)¹⁶. Systems-level issues that affect quality of care in resource-limited settings includes a dearth of supplies²⁴, inadequate training of staff^{21,25}, poor teamwork²¹, staff shortages¹², low staff motivation and high absenteeism^{13,8,12,18}, poor adherence to standardized protocols²² and general financial and resource constraints⁴.

Quality improvement (QI), defined as a systemic process in continuous performance improvement, is an effective approach to address the gaps in health care systems^{5,10,23}. There are some successful examples of QI projects in LMICs using a range of methodologies (Bryce et al., 2005; Chakraborty et al., 2000; Pariyo et al., 2005). An example, Project Fives Alive! in Ghana included capacity building and learning collaborative to address high rates of infant and child mortality. The project reported substantial improvements in maternal and child health outcomes¹⁹; Twum-Danso et al., 2012). However, even with the abundance of QI implementation guidance from Institute for Healthcare Improvement, HealthQual International, and University Research Company, routine application of QI is limited in LMICs¹¹.

2. Organizational context

Partners In Health (PIH) collaborates with the Rwanda Ministry of Health (MOH) to comprehensively strengthen health systems' technical and financial support. The collaboration also supports the development and implementation of innovative interventions and enhance monitoring, evaluation and operational research in three rural districts in Rwanda, serving approximately 1,000,000 people. Health service utilization has remarkably increased in Rwanda since health system reform started in 1999 with the implementation of community-based health insurance (CBHI), commonly known as “Mutuelle” (Ministry of Health, 2014).

With the increase of Rwandan citizens accessing care, an ongoing challenge remains to improve the quality of care delivered in Rwandan health facilities. Several studies^{2,14,22} on healthcare quality in Rwanda have demonstrated the need for quality improvement. To address these quality gaps, the MOH implemented Performance Based Financing in 2006^{3,13}, an outcomes-focused strategy to improve quality and hospital performance. In 2012, the MOH promoted institutionalization of a continuous quality improvement system as a strategy to accelerate health facility accreditation process.

Health centers are the most common first point of care in Rwanda. Staffed primarily by nurses, health centers provide outpatient primary care and limited inpatient services for uncomplicated child-birth deliveries⁵. The Mentoring and Enhanced Supervision for Healthcare and Quality Improvement (MESH-QI) program was developed in 2010 by PIH in collaboration with MOH as a strategy to improve quality of care in rural health centers

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through on-site supervision and mentorship and data use for continuous quality improvement. The MESH-QI program uses nurses with more advanced training and experience in key clinical areas. These expert nurse mentors spend 2 days every 6–8 weeks at each health center working side-by-side with nurses to improve their clinical skills and confidence. The program has resulted in significant improvements in the quality of care^{2,14} and feedback from health facility leadership, mentors, and mentees have been overwhelmingly positive¹⁵.

3. Problem

District hospitals are the highest level of care available in the district; they are staffed by physician-led teams and provide in-patient care and some specialized services (Ministry of Health, 2011). Kirehe District Hospital, rurally located in the Eastern Province, is one of the three PIH-supported hospitals. The hospital serves more than 340,000 people in a highly impoverished area with nearly half of the population living in poverty. (Murangwa, 2012). Thus, with respect to physical and/or monetary cost of travel to seek care, it is important that each person receives the most optimal experience once arriving at a health care facility.

As part of the Rwanda Health Sector Strategic Plan (HSSP III) 2012–2018, all district hospitals and health centers are required to engage in continuous QI efforts⁵. The practice of Performance Based Financing has yielded favorable results for the outcome of Rwanda healthcare services; however, this top-down approach limits ownership and engagement from the front-line health workers.

4. Solution

To support the health sector strategic plan, the MESH-QI program was adapted to support implementation of quality improvement in Kirehe District Hospital in 2013. The MESH-QI model was selected for the hospital quality improvement intervention for two primary reasons: (1) it is a locally designed model proven to be effective, and (2) the MESH-QI program is already integrated into the Rwanda MOH existing supervisory system. While using mentors as a hospital QI intervention is not a new concept (Bradley, et al., 2008), the hospital-based MESH-QI program includes an emphasis on team building among the clinical and non-clinical staff and encouraging a QI culture. We describe the process to adapt MESH-QI in order to implement a hospital-based QI program in Kirehe District Hospital and early results.

4.1. Adapting MESH-QI to district hospitals

Table 1 describes the adaptation of MESH-QI from health centers to hospitals. A key component of MESH-QI is coaching and ongoing support of healthcare workers to build and apply new skills after standard training. When adapting MESH-QI to the district hospital setting, the strong emphasis on coaching remained integral to the program, and the implementation of QI projects to address systems gaps became the central activity. However, unlike MESH-QI's health center program, the emphasis in the hospital adaptation was only on coaching in QI rather than coaching on direct clinical care.

The hospital mentors were either the District QI committee members who had gotten significant exposure on QI or PIH technical advisers with QI expertise. The following steps were critical for establishing the MESH-QI program at Kirehe District Hospital.

4.2. Establishing QI leadership

In August 2013, four partnership meetings were scheduled with PIH and Kirehe MOH leadership to discuss the adaptation of MESH-QI to the hospital. These meetings were attended by the Kirehe District Hospital Director, Clinical Director and chief nurse of the PIH MESH-QI team. The meetings began with an overview of quality improvement and followed with benefits of having a QI-focused hospital staff. Both teams engaged in discussion regarding the program goals, logistics and budget. The hospital leadership agreed to invest their time and maximize resource inputs to implement QI projects.

4.3. QI workshop

Once hospital leadership finalized plans to move forward with MESH-QI, the next step was to build the capacity of the clinical staff. Three QI workshops were held for Kirehe District Hospital staff-two in August 2013 and one in May 2014. The workshop in May served as a means to strengthen the existing Kirehe QI team since many from the August training moved to other hospitals. Led by the MESH-QI technical advisors (PIH) and supported by clinical advisors (MOH) trained in quality improvement and/or quality assurance, pre-tests were administered at the start of the workshop to assess existing knowledge in QI. These 10-question tests were designed with each question addressing the primary workshop objectives. Each workshop was conducted for five consecutive afternoons to minimize disruption in patient care. The workshops were focused on skills building in four core competencies: (1) key concepts of quality improvement, (2) performance

Table 1
Adaptation of MESH-QI from health center to hospital.

| | Health center level | District hospital level |
|---|---|--|
| Facility description | <ul style="list-style-type: none"> • Nurse-led teams • Out-patient services and uncomplicated child-birth deliveries | <ul style="list-style-type: none"> • Physician-led teams • In-patient and outpatient services including, <ul style="list-style-type: none"> ◦ Specialized services ◦ Minor operations |
| MESH-QI core activities (in order of intensity) | <ul style="list-style-type: none"> • Clinical mentoring • Clinical skills trainings • Quality improvement implementation • Quality improvement skills trainings | <ul style="list-style-type: none"> • Quality improvement implementation • Quality improvement coaching • Quality improvement skills trainings • Clinical mentoring |
| MESH-QI staffing | <ul style="list-style-type: none"> • MESH-QI nurse mentors | <ul style="list-style-type: none"> • QI mentors <ul style="list-style-type: none"> ◦ PIH/IMB technical advisers ◦ MESH-QI nurse mentors |

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