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TECHNICAL REPORT

Uganda's Health Care Quality Improvement Journey

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DECEMBER 2018

This report on Uganda's Health Care Quality Improvement Journey was prepared by University Research Co., LLC (URC) for review by the United States Agency for International Development (USAID) and was authored by Rachel Gutierrez of URC, Sofia Teshome of the Institute for Healthcare Improvement (IHI), and Matthew Neilson of the World Health Organization (WHO). The work described in this report was supported by the American people through the United States Agency for International Development (USAID) with funding support from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). It was implemented under the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project.

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Acronyms

5S	Sort, set in order, shine, standardize, and sustain
AGYW	Adolescent girls and young women
ANC	Antenatal care
ART	Antiretroviral therapy
ARV	Antiretroviral
ASSIST	USAID Applying Science to Strengthen and Improve Systems Project
CAO	Chief Administrative Officer
CBO	Community-based organization
CQI	Continuous quality improvement
CSO	Civil society organization
DHO	District health officer
DHT	District health team
DREAMS	Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe
ECSA-HC	East, Central, and Southern Africa Health Community
GoU	Government of Uganda
HC	Health center
HSDP	Health Sector Development Plan
HSSIP	Health Sector Strategic and Investment Plan
IHI	Institute for Healthcare Improvement
IP	Implementing partner
JICA	Japanese International Cooperation Agency
KM	Knowledge management
LMIC	Low- and middle-income countries
M&E	Monitoring and evaluation
MoH	Ministry of Health
NCD	Non-communicable disease
NDP	National Development Plan
NGO	Non-governmental organization
NSC	National Steering Committee
PDSA	Plan-do-study-act
QA	Quality assurance
QAID	Quality Assurance and Inspectorate Department
QAP	Quality Assurance Program
QAD	Quality Assurance Department
QAU	Quality Assurance Unit
QI	Quality improvement
QIF	Quality Improvement Framework
QoC	Quality of Care
RPMT	Regional Performance Monitoring Team
SMGL	Saving Mothers Giving Life
SP	Strategic Plan
STOC	See try observe continue
TQM	Total quality management

TYPF	Three-Year National Health Plan Frame
UHC	Universal health coverage
UNICEF	United Nations International Children's Emergency Fund
UNMHCP	Uganda National Minimum Health Care Package
URC	University Research Co., LLC
USAID	United States Agency for International Department
WHO	World Health Organization

Executive Summary

Uganda, a country in East Africa of around 44 million people, represents a unique example of a low-income setting with a long history of national efforts to improve quality of care. Indeed, the current quality movement in Uganda started in earnest in 1994 with the establishment by the Ministry of Health (MoH) of the national Quality Assurance Program (QAP), catalyzing over two decades of work to improve care and institutionalize a culture of quality. These efforts have involved many implementing partners and have incorporated action at all levels of the health system, from building leadership capacity within national and subnational administrations to implementation of numerous quality improvement (QI) projects at health facility and community levels. Furthermore, this focus on quality has been sustained despite the sometimes fragile political and social environment, communicable and non-communicable diseases, long periods of uncertainty, and inconsistent funding. Through this vast body of work, there are numerous examples of successful implementation and scale-up of QI activities, as well as challenges.

Background on this Report

Many lessons can be drawn from this rich Ugandan experience. While significant effort has been made to share learning within Uganda on specific projects and approaches, there is no comprehensive record of the broader *journey* of quality in the Ugandan health system across the past two decades.

This report is a resource for other ministries of health, government and public health officials, local and international non-governmental organizations, community-based organizations, practitioners, policymakers, and health care workers who are interested in understanding how to apply lessons learned from Uganda's experience of integrating QI within their health system.

Enabling Factors for QI

As we examine Uganda's QI journey, it is important to highlight certain enabling factors. These factors and events have served as catalysts for the important progress Uganda has made in quality.

- Quality assurance (QA) was initially introduced in 1992. However, it became evident that a close and effective partnership with the MoH and basing QA in its structures would help coordinate QA efforts. In less than a year due to significant results supported by the pilot QA program, the MoH became very interested in the program.
- In 1994, Uganda launched its Quality Assurance Program.
- In 1995, Uganda's first QA training manual, Quality Assurance Manual for Health Workers, was developed. It was adapted from other training materials and intended for health workers to easily grasp and use QA concepts and methods.
- In 1997, QAD developed the Manual for QI Methods for Health Workers for QI implementation. The manual was revised in 2015 to reflect new developments in QI concepts and approaches and to better explain concepts using the local context and different program areas.
- In 1998, QAP transitioned to the QAD under the Directorate of Planning and Development.
- In 2010, the QAD developed the National Health Quality Improvement Framework (QIF) and Strategic Plan (SP) 2010/2011 – 2014/15 to institutionalize, harmonize, and coordinate quality management interventions in the health sector.
- In 2011, a National QI Coordination Committee chaired by the Director of Health Services Planning was established to facilitate networking and collaboration of development partners, implementing partners, civil society organizations, academia, and various stakeholders in QI at the national level.
- In 2016, the MOH agreed to host knowledge products related to QI work in Uganda on the knowledge management (KM) portal.

- The QIF and SP 2015/2016 - 2019/2020 built off the achievements and lessons learned from the first QIF and SP. The focus of this framework shifted from harmonization of QI efforts to "ensuring that by 2020, all people accessing the health care services in Uganda attain the best possible health outcomes and improving consumer acceptability and satisfaction."

Since 1994, a number of different methodologies have been used in Uganda, including 5S, Continuous Quality Improvement, Total Quality Management, The Model for Improvement, LEAN, and Six Sigma. Over the past two decades, Uganda has begun to strategically define its QI approach and thus has already begun to reap the benefits of effective QI interventions.

Lessons Learned

Review of key informant interviews and relevant literature reveal a number of key lessons learned from the Ugandan quality journey that may be relevant to other countries embarking on efforts to improve quality of care. The following have been cited as key factors for success of QI efforts in Uganda:

- Leadership and political support
- Empowerment of sub-national health leaders and management structures
- Development of a culture of quality
- Collaboration across partners
- Integration and harmonization with existing plans and programs
- Ownership at all levels of the system
- Demonstrating success of QI initiatives
- Development of the quality framework
- Equipping the health workforce with the right tools
- Data for decision making

Challenges

While Uganda has experienced significant success in its quality journey, the data collected for this study revealed many challenges faced by stakeholders in their efforts to improve quality of care. These include:

- Building, maintaining, and supporting the workforce
- Accountability and governance
- Coordinating and managing partners
- Verticalization
- Funding
- Sustainability

Conclusion

Ultimately, it is Uganda's ownership and sustained commitment to fostering continuous service improvement at all levels of its health care system that fuels its QI journey. This commitment has served and continues to be a powerful tool to enable the institutionalization of a culture of quality and mobilize the MoH and supporting partners with a common vision and language to provide quality health care for Ugandans.

I. INTRODUCTION

Quality of care is not a new concept, but it is nonetheless one that continues to have limited reach in many low- and middle-income countries (LMIC). Although data on quality of care in LMICs is scarce, it is believed that low-quality care limits improvements in health outcomes and leads to waste across many such settings [1]. However, globally there is increasing momentum behind the movement to improve quality of care.

As LMICs experience wider economic development, public expectation of quality for a range of public services rises, providing a natural economic driver for increased quality of services. Additionally, donor financing of health services continues to be a significant source of health spending in low-income countries, so there is a natural and welcome interest from these funding partners to ensure that services enabled by these funds are safe and effective. Similarly, there may be recognition among national health authorities that a focus on quality could encourage greater funding from national governments and partner organizations as there will be increased belief that resources are being used effectively. Increasingly, the need to improve quality of care is being reflected in national policy and strategy, with several LMICs recently developing them [2]. This can be a key mechanism to ensure sustainability and prominence of efforts.

A. The Global Context

Within the global policy arena, there is a welcome focus on quality driven by the recent adoption of the Sustainable Development Goals (SDGs), which under target 3.8, advocate for achievement of “universal health coverage (UHC), including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all.” While historically UHC has focused on expanding access to services and reducing financial barriers, there is increasing recognition that these services should be of high quality.

"What good does it do to offer free maternal care and have a high proportion of babies delivered in health facilities if the quality of care is sub-standard or even dangerous?"

Margaret Chan, Director-General, WHO World Health Assembly – May 2012

Furthermore, recent global public health events such as the 2014 West African Ebola outbreak have highlighted the essential role that quality of health services can play in preventing, detecting, and responding to such emergencies. For example, building community trust and multi-stakeholder engagement serve as assets in the event of an outbreak.

B. The Ugandan Quality Journey

In the context of the renewed global momentum around improvement of quality of care, it is important that countries are able to make the best use of existing experience and evidence-based strategies for implementation at a country-level. While the existing evidence indicates that LMICs can benefit from quality improvement (QI) methods, this body of evidence and experience remains limited.

Uganda, a country in East Africa of around 44 million people [3], represents a unique example of a low-income setting with a long history of national efforts to improve quality of care. Indeed, the current quality movement in Uganda started in earnest in 1994 with the establishment by the Ministry of Health (MoH) of the national Quality Assurance Program (QAP), catalyzing over two decades of work to improve care and institutionalize a culture of quality. These efforts have involved many implementing partners (IPs) and have incorporated action at all levels of the health system, from building leadership capacity within national and subnational administrations to implementation of numerous QI projects at health facility and community levels. Furthermore, this focus on quality has been sustained despite the sometimes fragile political and social environment, communicable and non-communicable diseases (NCDs), long periods of

uncertainty, and inconsistent funding. Through this vast body of work, there are numerous examples of successful implementation and scale up of QI activities, as well as challenges.

C. Justification for Documenting Uganda's QI Journey

Many lessons can be drawn from this rich Ugandan experience. While significant effort has been made to share learning within Uganda on specific projects and approaches, for example through regular national conferences on quality, regional and district specific learning sessions, and QI review meetings, there is no comprehensive record of the broader *journey* of quality in the Ugandan health system across the past two decades. There is clear value in documenting it, as such an exercise can help answer many key questions faced by other countries embarking on their own quality journeys:

- How can the case be made for pursuing a QI approach to improving services?
- How can capacity in QI be cultivated in a low-income setting with competing demands on funding?
- What are the likely challenges to be faced, and how can these be overcome?
- How can progress be sustained?
- What defines and what determines success?
- How can QI be institutionalized within a health system?

For the Government of Uganda (GoU), there is an opportunity to take stock of its progress so far, celebrate its successes, and plan for the continued improvement that will be required in the coming years as it faces increased demands for services and the challenges of demographic and epidemiological transition.

D. Target Audience

This report is a resource for other ministries of health, government and public health officials, local and international non-governmental organizations (NGOs), community-based organizations (CBOs), practitioners, policymakers, and health care workers who are interested in understanding how to apply lessons learned from Uganda's experience of integrating QI within their health system. For development partners, too, there is real value in studying this journey. External funding, technical support, and advocacy have undoubtedly played important roles in Uganda's progress with QI. All these actors continue to have a similarly prominent role in many other countries. However, with the involvement of multiple actors comes the challenge of balancing multiple agendas, coordinating efforts, and ensuring efficiency, effectiveness, and sustainability. The Ugandan experience of trying to find success in the face of these challenges provides important and timely lessons for continued planning and involvement in Uganda and elsewhere.

More broadly, reflecting on the Ugandan experience is an essential step to enact principles of QI at a macro level. To promote further effective change, we must first learn from what has already been done. To this end, this report has been compiled to chart Uganda's health care quality journey, highlighting key milestones and projects and reflecting on the important lessons learned.

II. Approach

The aim of this report is to document the Uganda health care QI journey, providing a detailed narrative and analyzing key lessons that can be drawn upon by other countries as they embark on their own quality initiatives. The narrative covers the history of health care quality in Uganda, key stages of the quality journey, and the methodology of QI in Uganda. We examine selected QI initiatives, the process of institutionalizing quality within the health system, and the key role of health sector financing. Finally, key messages and challenges are presented, along with discussion of the future of quality efforts in Uganda.

The report has been co-developed by a writing and oversight team from University Research Co., LLC (URC), World Health Organization (WHO), and the Institute for Healthcare Improvement (IHI) with inputs and support from Uganda's Quality Assurance Department (QAD).

To develop this report, data was collected from two key sources: a literature review and multiple key informant interviews.

For the literature review, relevant search terms were used to search academic databases and key sources of grey literature including the Uganda MoH website and URC website. Results were manually filtered for relevance by a member of the writing team from IHI.

A total of 19 key informants were interviewed using a flexible interview guide developed by the writing team and oversight committee. Interviewees were selected using purposive sampling, with the objective of ensuring a broad range of policy-makers, development partners, health workers, and other key figures in the history of Uganda's work on quality of care. Selection of key informants, refinement of the interview process, and development of the report were guided by regular discussion with the oversight team and expert input where required.

Interview transcripts and key documentation identified in the literature were examined to extract relevant background and historical aspects of quality of care in Uganda. An iterative process was used whereby further detailed literature searching and interview questioning were performed to explore more deeply the details that were emerging.

To draw out the lessons learned and challenges, a thematic analysis was performed on the collected interviews and literature, whereby each was read in detail to extract and group emerging themes.

This exercise was not intended as rigorous qualitative research, but as an informed review of the Ugandan quality journey grounded in the experience of a range of key actors.

A. Background

After over 20 years of internal conflict, Uganda undertook major socio-political reforms aimed at promoting democracy and enhancing local participation in development. In 1993, the Local Governments Statute introduced a revised structure for the Local Government system and devolved responsibilities to councils at the district level. The statute limited the role of the central government to policy formation, planning, inspection, and management of national programs. Specifically, for the Health and Public sectors, this meant "issue regulations, policies and advice; set standards; provide technical supervision; and inspect services to ensure that set standards and administrative efficiency are achieved at the district level" [4]. A new constitution was announced in 1995 that formalized the decentralized political system. This system allowed districts to be responsible, "for planning, implementation and management of public services, while central ministries retained the functions of policy formulation, regulation, standards settings and technical support to districts" [5].

In step with the Local Governments Statute of 1993, the Local Government Act of 1997, and the decentralization movement, the Three-Year National Health Plan Frame (TYPF) was also drafted. It reoriented the focus to primary health care and "to increase local capacity for planning, financing and managing the delivery of services and to promote greater involvement in health care decisions" [5]. This shift made room for the introduction of new management initiatives to support the decentralized districts.

In March 1994, QAP was introduced by the MoH as part of a concerted effort to improve its capacity to provide better health services [6]. A major emphasis was to help strengthen district-level management of primary health care services. A Quality Assurance Unit (QAU) consisting of two physicians, Dr. Francis Omaswa and Dr. Henry Mwebesa, was created to lead the quality agenda for QAP and to provide technical assistance to districts. QAP's approach included "the development and dissemination of standards, determining the needs of patients and their families, strengthening communication between health care providers and users, and using data to identify gaps in quality" [7]. A quality assurance (QA)

workshop was held to orient senior staff from the MoH, Makerere University Medical School, and Mulago Hospital. According to Dr. Omaswa, former Director General of Health Services and Chief Government Surgeon at the time, a 25-member National Steering Committee (NSC) was established at the workshop to assist the QAU with implementation and integration of the program's activities [8]. Additionally, the QAU also trained various MoH departments and regional referral hospitals in QA principles. At the district level, leaders and district health teams (DHTs) were trained and introduced to facilitative supervision and quality management methods. Quality initiatives, supervision, and monthly QA meetings were put into practice. In 1997, the QAU developed the *Manual for Quality Improvement Methods for Health Workers* to guide QI implementation at the time.

Within 18 months of establishing the QAU, notable improvements in the quality of services were made. There was a major reduction in maternal mortality among pregnant women referred to Jinja Regional Referral Hospital, a reduction in waiting times and increased patient satisfaction at Masaka Regional Referral Hospital, and a marked reduction in reported cases of measles in Arua District. Beyond these quantitative improvements, increased morale of DHT members, improved satisfaction among patients, and greater involvement of Local Government in the decisions of district health committees were observed. At the central level, the increased coordination of activities led to new guidelines for financial management and the procurement of supplies [7]. The achievements made by the QAU contributed to the creation of a fully committed Quality Assurance Department (QAD) within the MoH under the Directorate of Planning and Development in 1998. The mandate of the QAD was to ensure that the quality of services provided were within acceptable standards for the entire sector, both public and private health services.

III. Enabling Factors for QI

As we examine Uganda's QI journey, it is important to highlight certain enabling factors. These factors and events have served as catalysts for the important progress Uganda has made in quality.

A. Introduction of Quality Assurance

QA was introduced to Uganda's health sector through various projects implemented by donors in the early 1990s during its decentralization process. Prior to decentralization, Uganda's political system was heavily centralized, and central ministries were responsible for planning, implementing, and managing local services. Decentralization moved management functions, allocation of resources, and the provision of health services away from the MoH to the district and lower levels. The MoH was restructured to hold the function of policy formulation, regulation, inspection, standard setting, and technical support for districts [5]. While the district health systems were restructured to take on a more involved role, it became clear to the MoH that a number of issues remained to be addressed. One of its major concerns was the districts' lack of capacity to take on the responsibilities of the decentralized health care systems [5].

QA was initially introduced in mid-1992 when Dr. Richard Morrow and Dr. Gilbert Burnham of Johns Hopkins Bloomberg School of Public Health teamed up with Dr. Peter Okwero, a Ugandan doctor who was interested in QA and working for the German Agency for Technical Cooperation (GIZ), to pilot QA through the Basic Health Services Project in Western Uganda, Kabarole and Bundibugyo districts [9]. At the time, QA was known as all activities that contribute to defining, designing, assessing, monitoring, and improving the quality of health care. These activities could be performed as part of the accreditation of facilities, supervision of health workers, or other efforts to improve the performance of health workers and the quality of health services.

With additional support from United Nations International Children's Emergency Fund (UNICEF), a pilot QA program was developed separate from the national system. QA provided a standardized methodology for ensuring quality. During this process, Dr. Burnham observed, "we could see very clearly that without strong emphasis on leadership from the top, it [QA] wasn't going to take off" [6]. It became evident that a close and effective partnership with the MoH and basing QA in its structures would help coordinate QA

efforts. In less than a year due to significant results supported by the pilot QA program, the MoH became very interested in the program [6].

B. Quality Assurance Unit and Leadership

The MoH's newfound interest in QA was supported by the World Bank, which had placed a priority on measuring, assuring, and improving quality of health care; setting up common knowledge bases; and developing frameworks to direct current and future attempts to improve the quality of health care services [10]. Both the MoH and the World Bank saw QA as the appropriate approach to decentralization and delivering quality health care services [6].

In 1994, Uganda launched the QAP, and Dr. Omaswa, Chief Government Surgeon at the time, was tasked with leading the work of decentralizing health services using the QA approach. Through the World Bank's Second Health Sector Loan and Johns Hopkins Bloomberg School of Public Health's Dr. Morrow and Dr. Burnham under the centrally USAID-funded Quality Assurance Project I were brought in to provide technical assistance and build capacity for QA [8]. The project trained Dr. Omaswa and Dr. Mwebesa, a Medical Officer, in principles and tools of QA over the course of three weeks in the U.S. The course content included training on "how to make sure that everything works the right way at the right time and you're building good teams, monitoring what you are doing… how to translate that into financial management, local government" [8]. The Minister of Health, Permanent Secretary, and Director of Medical Services were also trained in the U.S. to be technically capable in the application of quality management methods that were used for identifying and solving common service related problems. This approach included "the development and dissemination of the needs of patients and their families, strengthening of communication between health care providers and users, and the use of data to identify quality gaps" [7].

C. Champions for Quality

Equipped with commitment, the capacity to lead QA, and support from MoH leadership, Dr. Omaswa and Dr. Mwebesa, under Uganda's QAP, spearheaded the establishment of the QAU. Upon returning to Uganda, they began orienting their colleagues through a quality awareness workshop. At the workshop, the NSC was created to assist the QAU with implementation and integration of the unit's activities. The committee agreed to meet monthly to determine how to strengthen the quality of health services and with inclusion of the regions [11]. Additionally, they made sure to acquaint MoH leadership to ensure that they had support and that concepts of QA were fully understood. Dr. Omaswa recalled that from 1994 onward, "the [QA] program was really the engine, the heart of the [health] sector because at the start, we held a meeting every month with all the key leaders [at the MoH]. We visited every district every three months and during that one month we would discuss the issues existing in each of the districts we visited and gave them feedback. The health sector transformed quickly, very quickly" [8].

The district visits Dr. Omaswa recounts were a key part of QAP. Teams of two to three persons from the NSC worked with the DHT to solve problems using QA's three core functions of measuring, defining, and improving quality related to the district's work plan and other issues identified by district managers. Additionally, DHTs were invited to the national committee's monthly QA review meetings to present their findings and arrange for further technical assistance.

For the QA review meetings, colleagues from neighboring countries were invited to attend. Eventually, USAID invited Dr. Omaswa and Dr. Mwebesa to support regional QA work. They began to teach QA principles at East, Central, and Southern Africa Health Community (ECSA-HC) which involved the participation of 12 countries [8]. Together with support from USAID, the Regional Centre for Quality of Health Care at Makerere University was created to provide technical assistance in the design of improvement programs, the development of policies to support improvement, and regional knowledge management.

D. District Workshops and Political Support

At the district level, QAU engaged Local Government groups in the existing 35 districts on how they would manage their health services using the QA approach. The district executive committee, the district health committee, head politicians, and the district executive secretary, who is head of the civil service in the Local Government, were involved in the initial QA workshops. In addition to introducing QA, the workshops also focused on the concept of support supervision—how to manage and monitor the lower level health workers to deliver quality health services [12]. At the first general meeting of all decentralized districts, district leaders discussed their experiences with QA management methods, decentralization, and their lessons learned [6]. This early engagement encouraged a sense of ownership and empowerment from local leaders to continue the work. These exchanges proved to have significant weight by allowing DHTs and political leaders to share responsibility to strengthen health services [7].

The QAU trained district health managers on the QA approach and carried out supervisory support visits to districts. This also paved the way for how staff in facilities and health management teams were trained and introduced to facilitative supervision and quality management methods. Quality initiatives, supervision, and monthly QI meetings were put into practice with support from local stakeholders.

E. Health Workers' QI Manual

Uganda's first QA training manual, Quality Assurance Manual for Health Workers*,* was developed in 1995 by Dr. Morrow and Dr. Burnham under the USAID Quality Assurance Project I, Dr. Omaswa, Dr. Mwebesa, Dr. Okerwo, and Dr. Vincent Ojoome, a MoH Training Coordinator. It was adapted from other training materials and intended for health workers to easily grasp and use QA concepts and methods.

In 1997, the QAD developed the Manual for QI Methods for Health Workers. This guide was developed for QI implementation. The manual was revised in 2015 to reflect new developments in QI concepts and approaches and to better explain concepts using the local context and different program areas. This version of the guide aimed to "ensure careful planning, development, and implementation of evidence-based QI interventions and initiatives using proper QI tools, continued appraisal, mentoring, and taking corrective action as required" [13].

F. Quality Assurance Department

In 1998, the QAP transitioned to the QAD under the Directorate of Planning and Development with a Commissioner and an Assistant Commissioner. Immediately the focus was on creating QAD's mandate to ensure that health services provided were within acceptable standards for the entire sector, both public and private health services. The specific objectives for creating the QAD were:

1. Coordinate health sector performance, monitoring, and evaluation;
2. Ensure standards and guidelines are developed, disseminated, and used effectively; and
3. Build and strengthen regular supervision system at all levels of care in order to promote provision of quality health services.

The pre-existing supervision system at the time was uncoordinated and unfocused. The developed monitoring mechanism was supportive supervision and coordination into that supervision system.

Today the QAD is responsible for, "the coordination, planning, resource mobilization, monitoring, and evaluation of QI interventions within the various MoH departments, programs, projects, health institutions, and the entire health care delivery system" [14].

G. Knowledge Management in Improvement

Following the USAID Quality Assurance Project, the USAID Health Care Improvement project (HCI), introduced knowledge management (KM) principles and techniques to enhance capture and sharing of learning in QI efforts. KM efforts evolved and grew over time, becoming an integral part of QI

implementation in Uganda. Key changes and best practices were captured by technical teams during routine capacity building activities including coaching and onsite mentorships, peer-to-peer learning sessions, technical review meetings, leadership meetings, and training sessions with health service providers. The formatted outputs were shared on the ASSIST online portal, at local and international conferences, during MoH and USAID meetings, on global medical journal platforms, and during global learning webinars. The KM products have supported the countrywide spread of QI and informed the national health policy in various technical areas.

The approach of learning sessions and harvest meetings has enabled the sharing of tested changes and greatly contributed to the spread of these changes to all regions of the country. New knowledge was continuously generated and documented in various formats, including change packages, case studies, technical reports, improvement stories, abstracts, and guidance tools. Change packages have been developed and widely shared in various fora as a standard way to document and disseminate what has worked and what has not worked to improve health care to all IPs, both USAID- and non-USAID-funded, locally and internationally. ASSIST has contributed to support the MOH to convene the annual national QI conference, a forum that is used to appraise and share various QI interventions in the country and, thus, further institutionalizing and promoting sustainability of QI.

In 2016, the MOH agreed to host knowledge products related to QI work in Uganda on their KM portal. ASSIST supported a redesign of the portal and ensured that QI documentation, including tools, changes packages, case studies, and other knowledge management products could be uploaded by health workers, implementing partners, and other users for access by all stakeholders. The Quality Assurance and Inspectorate Department (QAID) had numerous meetings and discussions with the Resource Centre, the E-Health TWG, and partners, where they highlighted the benefits of this project to the MOH and the country as a whole. Senior Management at the MoH were in agreement and ASSIST supported MoH to carry out the portal upgrade and re-design. The Portal was launched during the National QI Conference in 2017, and subsequent subnational dissemination was supported.

H. Evolution of the Quality Framework

In 2010, the Uganda Capacity Program, a program that aimed to build the capacity of Ugandan health care institutions, conducted a situation analysis of QI initiatives in the country. The findings showed that the use of QI to continually improve care was not well institutionalized in the health service delivery chain due to weak mechanisms to coordinate QI initiatives. The analysis also showed that each quality implementer had their own standards and approach. Under its mandate, the QAD developed the National Health Quality Improvement Framework (QIF) and Strategic Plan (SP) 2010/2011 – 2014/15 to institutionalize, harmonize, and coordinate quality management interventions in the health sector [12]. Dr. Sarah Byakika, Assistant Commissioner of QAD, led the development of Uganda's first Health Sector QIF and SP with active support and participation from various stakeholders and QI experts, locally and internationally, through four development phases [15]. With the development of Uganda's first QIF and SP, Uganda took strides to communicate and streamline capacity building efforts among all QI implementers [16]. The health worker's manual and training materials were circulated for all to use. Additionally, Uganda adopted a national QI training agenda and trained a pool of national QI trainers. QAD created a QI map to inform the placement of development partners and their performance in the areas they work in.

The QIF and SP 2015/2016 - 2019/2020 built off the achievements and lessons learned from the first QIF and SP. The focus of this framework shifted from harmonization of QI efforts to "ensuring that by 2020, all people accessing the health care services in Uganda attain the best possible health outcomes and improving consumer acceptability and satisfaction" [17]. This is in line with the Health Sector Development Plan's 2015/16 – 2019/20 goal of accelerating "movement towards UHC with essential health and related services needed for promotion of a healthy and productive life" [17]. The development of the QIF remained highly participatory with inputs from various stakeholders and local and international

QI experts. A task force was created and led by Dr. Byakika to undertake coordination efforts. A review process of the first QIF and SP was organized by the QAD and called for an independent evaluation. The evaluation was supported by the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project and conducted by international QI expert Dr. John Øvretveit. It provided guidance for the QIF and SP 2015/2016 - 2019/2020 and for the MoH's efforts to provide clear roles and responsibilities for line management and better support of quality specialist staff in order "to protect the public from harmful care and to reduce waste from ineffectual care and inefficient organization and inappropriate deployment of resources" [17].

I. Creating a "Culture of Quality"

Once QA was afforded a national department, the combined efforts and commitment of the MoH and champions for quality set the tone for the impact QA could have on supervising, managing, and strengthening Uganda's decentralized health care system. Consistent and early engagement of local leaders and stakeholders has encouraged ownership and support to adhere to a framework that defines and supports the institutionalization of QA within the existing health care system. The collaboration of different partners has enabled Uganda to strategically leverage limited resources to best reflect its quality objectives and agenda. Uganda's internalization of QA allowed for a transformation to occur. The dimension of quality became a lens through which all implementers could see everything that they do [18]. This shared vision and common language fosters a unified culture among stakeholders and within Uganda's MoH to achieve its health sector aims.

IV. Approaches to Quality Improvement in Uganda

A number of different methodologies are used in health care today to improve quality of care and save lives globally. Many of these models derive from other industries including, and perhaps most profoundly, the automotive manufacturing industry. Uganda's QI journey is no exception.

A. 5S, Continuous Quality Improvement and Total Quality Management

In November 2010, the Uganda Capacity Program identified the key reasons why Uganda had several different approaches to QI across the health system. They found that: (1) donor-led QI initiatives used the approach of the donor regardless of what was already in place; (2) they lacked robust QI management systems to share existing efforts and methodologies; and (3) there was poor coordination across levels of government and between regions of Uganda [19]. To help streamline the QI work being done across the country, the MoH created a "QI Map" to identify which partners were working in what districts, what activities and trainings they conducted, and what approach was being used. Once the QI initiatives and methods were documented, the MoH agreed to use 5S (Sort, set in order, shine, standardize, and sustain), Continuous Quality Improvement, and Total Quality Management (5S-CQI-TQM) as its method with the plan-do-study-act (PDSA) cycle as its QI approach [17]. The Japanese International Cooperation Agency (JICA) originally supported the MoH in the adoption of 5S-CQI-TQM in 2007, and it eventually became the backbone for QI methodologies in Uganda. This approach was then incorporated into trainings, shared with partners, and truly embodied by the MoH [17]. This complex but crucial process has helped to distinguish Uganda's QI goals and has simplified the national and regional approach to QI across many regions of the country.

B. Early use of 5S

Before the 5S-CQI-TQM was officially adapted as the primary QI approach in Uganda, the MoH had already recommended this improvement tool to health facilities. 5S is a management tool borrowed from the Toyota industry and other Japanese manufacturers with the purpose of improving productivity, quality, and safety in all types of organizations. 5S is an abbreviation for five Japanese words that have been translated into English as Sort, Set, Shine, Standardize, and Sustain. These steps are meant to be used in sequence to create a convenient and comfortable work environment that will improve the timeliness,

preparedness, and standardization of services which in turn will improve health outcomes of patients. The goal of integrating the 5S tool is to establish new norms within the organization and for these norms to eventually become ingrained in the organizational culture [20]. Uganda began to implement 5S-CQI-TQM in 2007 at Tororo General Hospital and, according to the Ugandan 5S Implementation Guidelines, "by March 2011, had been scaled up to include a number of hospitals in Uganda (Bududa, Busolwe, Entebbe, Gombe, Kapchwarwa, Masafu, and Mbale) and a number of Health Centers (HC) IV in Tororo District" [20].

C. Broadening Horizons: The Continuous Quality Improvement Method

After facilities demonstrated an understanding for the application of 5S, it was then recommended that they be introduced to other QI interventions. CQI is an approach that encourages testing locally-generated and evidence-based ideas to learn, at a small scale, how new interventions may improve outcomes and processes in a given setting. It is an iterative process that strives to strengthen efficiencies in both people and systems to bring about a new, higher level of performance. In the health care setting, this means improving the patient experience through timely, patient-centered care as well as ensuring patient safety. The CQI approach is grounded in W. Edwards Deming's cycle for testing and learning: PDSA. It is through this cycle that ideas are tested in low-risk settings on a small scale so that those who are running the tests can prove or disprove their theories about what may lead to improvement. The ideas are then adapted and eventually adopted and implemented. As tests increase in size, the degree of belief that the test will work when brought to full-scale is built [21]. This concept forms the basis for Uganda's QI approach.

Central to CQI is buy-in from health staff and top management from the start to ensure sustainability of improvement efforts as well as alignment with organizational priorities. When management and employees embody the CQI approach, they are achieving TQM – where the culture of an organization or health facility totally reflects quality. The TQM philosophy ensures that processes are streamlined with little waste and that stakeholders are all engaged in the ideal process [19]. In a confirmation of profound high-level support, the Ugandan MoH has endorsed the CQI approach as a reliable and efficient QI approach within their Health Sector QIF and SP for 2015/2016 - 2019/2020. This support came about through the obvious success of studies and programs in Uganda that used the CQI approach.

D. Continuous Quality Improvement: Case Example

In keeping with the MoH's early recommendations, several case studies in Uganda have been conducted using the CQI approach. For example, in 2012, researchers in Uganda trained health workers in 17 AIDSRelief HIV treatment facilities in the CQI method in a collaborative effort to evaluate the effectiveness of the See Try Observe Continue (STOC) model for CQI in improving patient care in two AIDSRelief HIV treatment facilities. This study, which was published in the *International Journal of Medicine and Public Health*, utilized the CQI approach to QI for several key reasons. The researchers explain:

> "It [CQI] endeavors to improve local performance by continuous review and improvement of process related to service provision within a given clinical site to routinely meet the needs of patients seeking health care. The complexity and scale of HIV care and treatment impacts the workforce in terms of skills and experience in structuring and providing high quality care" [22].

It is evident that health care issues like HIV care and treatment must be coupled with QI methods that can handle the intricate complexities of HIV care. Since the overall aim of this project was to develop the capacity of health care organizations and individuals in antiretroviral therapy (ART) clinics, using the CQI approach meant health workers could make small changes in the clinical process and test the viability of these changes extremely quickly. The outcomes targeted within this study included: improving patient waiting time, more frequent CD4 monitoring, and a reduction in the number of missed appointments across two AIDSRelief HIV treatment facilities [22]. The CQI strategy used in this study was proven

successful in hitting these targets. Researchers found a significant reduction in the number of patients who missed appointments, from 28/1,000 patients in month one to 5/1,000 patients in month seven, and then finally to 1/1,000 patients in month ten. This reduction in missed appointments subsequently meant that far fewer people were missing out on picking up their antiretroviral drugs.

Researchers also found increased use of site data and an increase in the review of this data during staff meetings and upper-level management meetings [22]. In sum, the success of these individual outcomes led to overall improvement in monitoring missed antiretroviral drug pick-up and thus improved HIV care overall. Because of the success of studies like this one, the MoH in Uganda identified the CQI method of QI as adding value and recognized a need to further outline the country's goals for improving health care and to choose a specific approach to QI.

The Model for Improvement, LEAN, Six Sigma, and more have all been utilized in Uganda to transform the health system since 1994 – creating a unique matrix of improvement strategies from the district up to the national level. Over the past two decades, Uganda has begun to strategically define its QI approach and thus has already begun to reap the benefits of effective QI interventions.

E. Harmonizing Approaches to Quality Improvement

As previously mentioned, the Uganda Capacity Program's analysis of QI initiatives in 2010 found that Uganda had weak mechanisms to coordinate QI initiatives. This report, coupled with the evidence that certain QI approaches could be successful in Uganda, helped the MoH and other national, district, and local level leaders recognize a need to harmonize and streamline Uganda's QI goals. To identify and set goals into action, the MoH created the Health Sector QIF and SP, which was then modified and supported at national, district, and local levels. For example, the QAD within the MoH was created to support the country's overall QI efforts. This active department is comprised of five staff members that are responsible for the development of quality policies, guidelines, and strategies, in addition to facilitating capacity building opportunities, disseminating relevant QI tools, and supervising quality activities. In 2011, a National QI Coordination Committee chaired by the Director of Health Services Planning was established to facilitate networking and collaboration of development partners, implementing partners, civil society organizations (CSOs), academia, and various stakeholders in QI at the national level. In quarterly meetings, the committee shares and monitors partner support of QI initiatives at all levels. At the district and local levels, the Local Council Vice Chairperson, the Chief Administrative Officer (CAO), the District Health Officer (DHO), and the Hospital Director/Medical Superintendent are then able to easily utilize the policies and guidelines created by the QAD by taking leadership roles and supporting the application of QI initiatives. The DHO is specifically in charge of health services with support from the district team to oversee both management and governance issues within the district. In the absence of institutionalized regional management teams, the MoH has established Regional Performance Monitoring Teams (RPMTs) that support a portion of the supervision, monitoring and evaluation (M&E), and capacity building activities that focus on performance monitoring [17]. In addition to this, the MoH defined a Regional QI Coordination Committee to be established within each region based on the regional referral hospital catchment area. These committees are chaired by the Hospital Directors of the regional referral hospitals, and the respective DHOs and other QI stakeholders, including health consumer representatives, are members of these committees. Equally at the health facility level, managers play a critical role in establishing and sustaining the culture of quality, and each health facility is expected to have a QI focal person and a QI team.

F. The Ministry of Health's Quality Improvement Goals

With support from many levels of leadership in Uganda and traction among frontline health care workers and researchers, the MoH laid out their goals for incorporating QI interventions within the Health Sector QIF and SP [17]. In this document, the Ministry identified the following primary recommendation: "The MoH recommends initiation of QI interventions in health facilities to start with 5S as a fundamental background to CQI and then introduce appropriate QI interventions, and then develop the culture of QI in

all processes (5S-CQI-TQM)" [17]. This framework and strategic plan goes on to identify a key set of recommendations, stating that all QI interventions in Uganda should:

- Apply the principle of iterative cycles of improvement;
- Apply systematic assessment of service delivery processes;
- Use data in daily work;
- Recognize the organizational dimension of improvement;
- Recognize the need for commitment from leadership as well as active engagement of frontline clinical staff; and lastly,
- Involve patients/clients [17].

This national framework provided context for Uganda's QI goals and has continued to structure and embody Uganda's approaches to QI moving forward. This framework has been broken down within national, district, and local-level frameworks to streamline the MoH's identification of strong QI approaches.

V. Quality Improvement Initiatives

The introduction of QA in 1992 provided Uganda's newly decentralized health system with a means of improving the quality of health services provided. The technical support provided by USAID Quality Assurance Project I marked the beginning of Uganda's collaboration with donors through a number of QI initiatives to address specific programmatic areas.

A. Yellow Star Assessment Program

The Yellow Star Assessment was implemented by MoH from 2000-2005. Its aim was to improve the quality of health care services through a system of supervision, certification, and reward to promote utilization of facilities and increase client satisfaction. During its implementation, the program received adequate partner funding and was implemented in 60 districts. Dr. Mwebesa reflects that "Yellow Star had many elements that made it a good program. It involved all stakeholders, had minimum standards, and provided assessment and monitoring" [11]. Despite these positive elements, Yellow Star was not integrated into the existing district health structure and was not sustained. Yellow Star proved to be a lesson in sustainability and the importance of successfully integrating QI initiatives into MoH and local government systems, work plans, budget, and supervision systems.

B. HIV/AIDS Quality of Care Program

After the close of the Yellow Star Program, the MoH started the HIV/AIDS Quality of Care (QoC) Program in 2005 to ensure quality HIV/AIDS services and a rapid roll-out of ART countrywide. It is around this time that the MoH notes "a paradigm shift to QI as an approach for realizing sustained performance improvement, effective and efficient utilization of resources at service delivery level" [12]. In 2010, an evaluation of the HIV/AIDS QoC Program determined that the initiative was successful in improving the quality of HIV/AIDS services, rapidly scaling up ART, and establishing a national structure for rolling out and scaling up quality HIV/AIDS services [11]. In five Health Centers IV located in Buikwe District, the evaluation also identified gaps that included insufficient managerial involvement in services, lack of incentive for workers to continue the program, and reliance on external support, such as PEPFAR funding. As a result, a gap analysis framework, known as the ART Framework, was developed as an innovative management tool for HIV managers to identify gaps between subsets of patients requiring ART through three key areas of ART care quality: coverage, retention, and wellness [23]. The ART Framework helped these HIV treatment facilities develop, test, and implement solutions to narrow the identified gaps.

C. Saving Mothers Giving Life

Saving Mothers Giving Life (SMGL) is a public-private partnership launched by USAID in 2012. It provides a health systems approach to ensuring that pregnant women have access to clean, safe childbirth services and lifesaving emergency care. In Uganda, it has been implemented with support from the MoH in 10 districts. Since the launch of SMGL, the initiative has achieved remarkable results in its target districts of Uganda: maternal mortality has declined by 45% in facilities and by an impressive 41% in the communities. The initiative has also strengthened interventions specifically designed to save newborns' lives in all 10 learning and scale-up districts.

D. Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe (DREAMS)

Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe (DREAMS) is another successful public-private partnership launched by USAID, PEPFAR, and private sector partners. The DREAMS initiative in Uganda provides an opportunity to create, test, and adapt a community quality improvement platform through a core package of evidence-based interventions to reduce HIV infection among adolescent girls and young women (AGYW). The interventions include HIV testing of the girls and their partners, socio economic strengthening, school completion, and gender-based violence prevention and post violence care, pre-exposure prophylaxis, and structured social support for behavior change. The interventions focus on empowering AGYW, mobilizing communities, and strengthening families.

VI. Health Sector Budget

A. Overview of Health Sector Budget

Uganda's health sector budget has been trending and growing at a modest rate in recent years, but there is still much work left to be done to achieve both targets for health sector spending and to meet national goals, Millennium Development Goals, and Sustainable Development Goals (SDGs) for improving health outcomes. Though economic growth in Uganda is flourishing, some of Uganda's growth is inequitable among urban versus rural residents. Uganda faces a high disease burden from communicable diseases and is simultaneously experiencing a growing epidemic of NCDs. Uganda allocates approximately 10% of its national budget to health spending, however, there remains work to be done to meet stated targets of the 2001 Abuja Declaration which outlined a minimum target of 15% of national budgets to be spent on health sector for African Union members.

On average, Uganda spends $15 per capita on health, while approximately $28 per capita is required to fully finance the health sector strategy, falling short of the $34 per capita that the WHO Commission on Macroeconomics and Health recommends be spent on health in low-income countries like Uganda. In many instances, the country faces the challenge of continuing to identify sources of funding to allocate to health spending, while also aiming to use existing funds as efficiently as possible to get the most value out of the current limited national health budget. A report produced by the World Bank entitled *Fiscal Space for Health in Uganda* recommends that Uganda could potentially "reap significant savings by improving management of human resources for health; strengthening procurement and logistics management for medicines and medical supplies; and by better programming of development assistance for health" [24]. **Table 1** provides an overview of the sector expenditure [25].

Uganda faces key challenges as with many other low-income countries around persisting problems that contribute to inefficient health spending. This includes topics such as health worker management and performance of the health workforce, drug procurement and logistics management, strong coordination and alignment of national budget with programming for development assistance for health, and targeted health spending on high priority issues such as HIV/AIDS.

Table 1: Overview of Uganda health sector expenditure and projections (FY2015-FY2022)

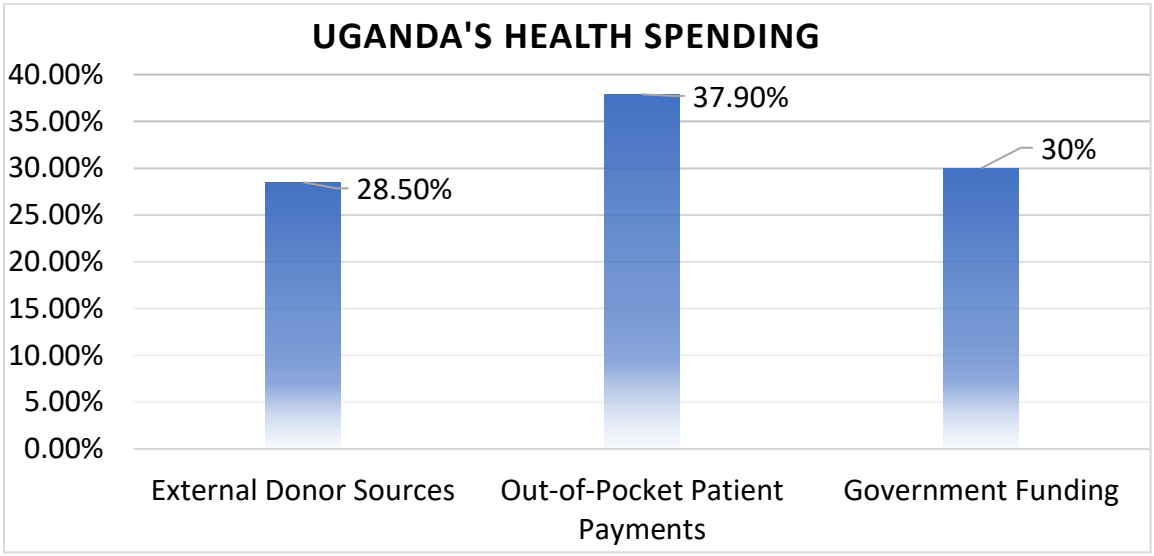
(ugsh Billions)		FY2015/16 Outturn	FY2016/17		MTEF Budget Projections				
			Approved Budget	Spent by end QI	FY2017/18	FY2018/19	FY2019/20	FY2020/21	FY2021/22
Recurrent	Wage	78.281	378.813	88.518	378.813	395.350	412.714	430.947	450.091
	Non-wage	350.390	402.267	155.274	389.677	429.637	470.641	538.299	616.105
Devt.	GoU	53.144	143.887	13.920	100.920	112.860	131.169	153.139	284.960
	Ext. Fin.	422.910	903.098	154.014	416.355	369.419	11.870	0	0
GoU total		**481.815**	**924.966**	**257.711**	**869.409**	**937.847**	**1,014.524**	**1,122.384**	**1,351.156**
Total GoU+Est Fin (MTEF)		**904.725**	**1,828.065**	**411.726**	**1,285.764**	**1,307.266**	**1,026.394**	**1,122.384**	**1,351.156**
A.I.A Total		15.214	21.986	3.167	24.167	25.615	28.547	31.342	33.125
Grand Total		**919.939**	**1,850.051**	**414.893**	**1,309.931**	**1,332.881**	**1,054.941**	**1,153.727**	**1,384.281**

B. Development of the Health System Budget

The Uganda fiscal year starts on July 1 annually, and annual work is implemented until June 30. The government budget can be financed in several ways, but usually is funded from taxes collected, non-tax revenue (e.g., visa fees, licensing), and from loans or grants provided by external sources, institutions, or governments. However, there is no specific tax collected to support the health sector; instead, the health sector is financed through minimal direct and indirect taxes paid to the government. The framework for development of the national budget is outlined in several legal documents including the 1995 Constitution, the Local Government Act of 1997, the Budget Act of 2001, and the Public Finance and Accountability Act of 2001.

Starting in September of each year, the national budget planning cycle kicks off and the MoH, as one of the 16 sectors of government, works closely with the Ministry of Finance, Planning, and Economic Development to develop the health sector budget each year in a six-stage process. All national sector budgets must be approved by Parliament. Uganda's health budget is developed to be implemented in support of the national health priorities and strategies developed with leadership by the MoH. Approximately 28.5% of total health spending comes from external donor sources, 37.9% of spending is out-of-pocket paid for by patients, and approximately 30% is funded by the government itself (**Figure 1**).

Figure 1: Uganda's health spending by source



Total expenditures on health are higher than the average for sub-Saharan African country governments, but lower than the average of all low-income countries in the world. Overall, Uganda spends more of its share of GDP on health than similar countries.

To coincide with the continued decentralization of government administration, health expenditures in Uganda have increasingly been allocated to the 80 districts of the country rather than remaining at the national MoH level. Uganda, like some other similar African countries, has tended towards increasing decentralization of government to allow for improved management at the local and community levels. Health sector budgets are allocated to districts of the country, whose local plans must work in support of national goals and priorities; however, many times local leadership still finds itself with insufficient funding to support all mandates for health in the specified area and must do its best to prioritize funding for health, leaving some areas with greater funding and others with less. Despite increasing decentralization, the Uganda health budget remains quite top-heavy with a significant amount of funding remaining at the national level. Additionally, many times a significant portion of the national health budget is already earmarked for specific purposes. For instance, funds can be earmarked for spending on antiretroviral drugs, HIV/AIDS, malaria, or other disease-specific purposes, and that funding cannot be allocated for other purposes which can present some constraints and inability for management to be flexible in how they spend funds on health.

C. Key Actors

The Ugandan health sector budget is developed in collaboration with multiple key local and international actors who have interests in meeting national goals towards improving health outcomes. These include the GoU, the MoH, Parliament, district and local administrative units, hospital and health facilities, CSOs, UN agencies, local and international NGOs focusing on health, international institutional donors, and private sector actors. Mechanisms exist that aim to foster better collaboration among the key stakeholders in the health sector budget. For instance, the Health Policy Advisory Committee of the MoH is made up of key MoH representatives and donor groups that meet on a regular basis to provide policy and strategy advisory to national leadership. Additionally, Ministers of Parliament and CSOs are invited to annual health sector performance reviews to understand past performance and review future targets and priorities for the country's health programming. Although Parliament holds final approval for health sector budgets, checks and balances exist to ensure that social services and health are appropriately funded. The Social Service Committee of Parliament has specific influence on the national budget and has, in the past, rejected the budget due to not including allocated funding for sexual and reproductive rights.

Performance-based budgeting has also been introduced in Uganda to ensure that funding is allocated based on how well the health sector performs on stated financial and health targets. However, this can sometimes pose a problem for the health sector budget, which may be affected in terms of its ability to produce good results when priority health issues have not been adequately funded in the first place. Budget support to Uganda from donors in FY2012/13 is available in **Table 2** [26].

Table 2: Budget support to Uganda from donors (FY 2012/13)

Country	Project Name	USD *FY 2012/13 in Millions*
Belgium	Institutional Capacity Building in Planning, Leadership and Management in the Ugandan Health Sector (Included SW delegated support)	2.59
Belgium	Support to Private Not-for-Profit	1.30
Japan	The Project for Health Service Improvement through Health Infrastructure Management	1.22
Italy	Italian Support to Health Sector Strategic Plan and Peace, Recovery, and Development Plan	1.78
Gavi	Gavi Vaccines and Health Sector Strategic Plan	160.10
WB	Health System Development Project	38.00
African Development Bank	Support to Mulago Hospital Rehabilitation	11.05
Spain	Construction to Itojo and Kawolo Hospitals	1.88
Danida	HIV/AIDS Programme-phase 2 - National Partnership Fund	1.22
Ireland	Partnership Fund (funding focused on HIV/AIDS)	0.65

D. Priority Investments

The GoU finished its first 10-year implementation of National Health Policy (1999/2000-2009/10) and second Health Sector Strategic Plan (2005/2006-2009/10). In the past, national goals were guided by the Poverty Eradication Plan which is updated every three years, global development goals, and other international or regional health targets. Over this period of time, health sector investments produced moderate successes including a reduction in the maternal mortality ratio, the infant mortality rate, and an increase in life expectancy rate. However, there remains much work to be done to meet targets towards priority health outcomes. The National Development Plan (NDP) for 2010/11-2014/15, was launched thereafter with the intent to transform Uganda's development and accelerate growth over a 30-year period. With this, the MoH further solidified its approach to accelerating improvements in the health sector through the National Health Policy (2010/11-2019/20) and the Health Sector Strategic and Investment Plan (HSSIP) 2010/22-2014/15 to more clearly define and operationalize Uganda's health goals. The aim of these plans is to set out priorities and key areas to focus on in the medium term to contribute to goals outlined in the NDP. To ensure movement toward results-based management in the health sector, the HSSIP includes performance-based indicators that help all stakeholders involved to understand stated national targets in various priority areas of the health sector. In line with regional and international health targets, priority investment areas for the HSSIP include more focus on health promotion education,

maternal and child health, communicable diseases, NCDs, and health workforce and management systems for the health sector.

E. Health Sector Development and Investment Plans

The GoU has now published its second NDP for 2015/16-2019/20, that outlines the country's medium-term strategic direction, development priorities, and implementation strategies and from which all government sectors are provided with a framework to achieving their goals. The Health Sector Development Plan (HSDP) for 2015/16-2019/20 is the second in a series of six national health plans that outline the strategies through which the MoH and stakeholders will endeavor to operationalize the NDP. The development of the HSDP in Uganda is nationally-led by the MoH and is a highly consultative process that is participatory and aims to be transparent to the public and stakeholders. The HSDP and the HSSIP are complementary plans intended to provide a strategic and operational framework for which the health sector budget is to be implemented over each five-year period.

In the current HDSP, Uganda clearly outlines the areas continuing to cause the greatest detriment to human health including HIV/AIDS, malaria, lower respiratory infections, meningitis, and tuberculosis [17]. Other significant public health risks include polio, hepatitis, Ebola Virus Disease which re-emerged on the continent in 2014-2015, Marburg, and Nodding disease. Malnutrition in infants is still a significant cause of death along with risk factors for NCDs like alcohol use, tobacco use, air pollution, underweight children, iron deficiency, and high blood pressure, which all contribute significantly to the disease burden.

Financial investments by the GoU are being made over the current five-year period in key areas such as antenatal care services, health infrastructure, and improving access and quality of health facilities across the country, medical equipment and supplies, district- and nationally-based electronic health information systems for data management, strengthening the health care workforce, and improved public-private coordination and partnership for health outcomes.

F. Uganda National Minimum Health Care Package

Essential or National Minimum Health Care Packages have been developed in support of primary health care systems as a stated way through in which government sets priorities for national health budgets, particularly in low-income countries. Uganda has developed its own National Minimum Health Care Package (UNMHCP). The intention of development and implementation of the minimum package approach is to assist the GoU in allocation of resources of the health sector, particularly in light of the major and growing challenge of the health burden that needs to be managed with a limited public or national budget. Due to increasing health needs of the population, the national budget is not able to match the rapidly expanding population in need of quality health services. The UNMHCP is a clear statement of what health services will be covered by the state and anything outside of this minimum package will require additional donor or private funding to be able to cover. The benefit of having the UNMHCP is that the GoU is making a clear commitment to the people of what it has the ability to cover financially and provide to the population, making it available to those who need it. The UNMHCP also aims to use limited resources in the most efficient possible way and provides a framework for resource allocation across the country. The UNMHCP includes basic health services such as preventative services, universal immunizations, health promotion and education, and treatment and control of HIV/AIDS, malaria, and tuberculosis. However, the UNMHCP has not worked as intended due to a need to re-prioritize within the interventions or population coverage, which works against quality and equity of health services for patients/users of the system.

Research suggests that the application of the UNMHCP has not had the intended effect on priority setting for health because the minimum package required to be delivered usually exceeds resources available in the medium-term. In operationalizing the UNMHCP, the delivery has tended to be ineffective and inefficient, by trying to attain universal access with the much lower than required per capita funding available for universal coverage. Capacity of the health system is constrained by infrastructure-based

planning and the rationing and re-prioritization required within the UNMHCP. However, although the system has not worked as perfectly as designed, the UNMHCP also appears to be the most efficient way for the GoU to be able to more easily prioritize the most important health needs for allocation of national health budgets.

VII. Lessons Learned

Review of key informant interviews and relevant literature reveal a number of key lessons learned from the Ugandan quality journey that may be relevant to other countries embarking on efforts to improve quality of care. The themes discussed here are not intended as an exhaustive list, but are the predominant lessons as reported by respondents and in the reviewed literature.

A. Leadership and Political Support

"If the top is not interested, it will not happen."

Francis Omaswa [11]

A frequently cited enabler for Uganda's successful adoption of QI initiatives is the role of leadership, both within the health sector and in the wider political environment. In Uganda, health sector leaders themselves have been trained in QI, ensuring they are equipped to both provide technical support and advocacy for QI efforts across the system. However, it was reflected that health sector leadership for QI should be accompanied by political support, particularly at subnational level where both leaders in the formal and traditional sectors should be engaged to maximize the effectiveness of QI programs.

B. Sub-national Requirements and Decentralization

Sub-national health leaders and management structures have played a key role in successful QI efforts in Uganda. There has been significant variation between the success of QI efforts between different districts, and it was acknowledged that the capacity and support of district health officers and political leaders could be central in determining which areas succeeded. As Uganda moved to a decentralized model of health service delivery, district leaders were empowered to implement and invest in QI activities and played an important role in linking frontline service improvement with national policy and planning. However, there have been ongoing difficulties maintaining district capacity for QI activities, as this requires significant training and commitment. The central MoH has provided significant support to district authorities in their QI activities, and this support was vital in ensuring and maintaining capacity, local political support, and momentum.

While the significant variation in QI capacity between different districts was seen as a significant and ongoing challenge, it was nonetheless acknowledged that focusing on certain districts allowed concepts to be proved and refined, and that successful projects could be scaled up in a "bottom-up" process of health sector planning. One respondent also suggested that successful implementation of QI initiatives in one district sometimes provides a healthy challenge to neighboring districts to match those results.

C. A "Culture of Quality"

Uganda has had some success establishing quality as an accepted and respected principle across the health system. It was widely reflected that the promotion of an institutional and societal culture of quality has been a challenging but essential factor in the success of QI in Uganda. This culture of quality represents an environment in which quality is openly and critically discussed, the terminology is understood, and there is sustained commitment from national and local leadership, health workers, patients, and communities.

Clearly, creating a culture of quality is not a "one-off" task that can be achieved, but an ongoing process and to truly institutionalize such a culture requires continued efforts. Factors cited as having contributed to the development of a culture of quality within the Ugandan health system include the development of a QI

framework, the involvement in health planning of multiple stakeholders including civil society, and the fostering of opportunities to share learning.

D. Partnership and Collaboration

It was widely appreciated that the progress of Uganda so far in QI has been greatly improved through collaboration with a range of development and academic partners. Partner organizations have provided essential financial, technical, and political support. Financial and technical support has enabled large numbers of the health workforce to be trained and supported in QI methodology and activities, while the focus of partners on quality has resulted in a degree of political capital behind the concept.

The role of internal multi-sectoral collaboration was also highlighted; increasing the quality of public health services required advocacy and training with other sectors, such as finance and local government.

E. Integration and Harmonization of Efforts

At both national and sub-national levels, the most successful and sustainable initiatives were seen to be those that were well-integrated with existing plans and programs. Integration of quality initiatives within the wider health sector work plans ensures efficiency of resource allocation and helps create sustainable efforts that last beyond the scope of a discrete, vertical project. For example, in Uganda, some districts were able to integrate assessment of QI capacity and performance within existing supportive supervision arrangements; ensure routine training of new staff included principles of QI; and measure quality of care and success of QI initiatives as part of routine M&E systems.

F. Ownership and Engagement at various levels

While the role of external partners and health leadership is clearly of great importance in Uganda's work to improve health care quality, this report revealed that ownership – nationally, sub-nationally, and among implementing health workers and local government – is deemed essential for sustainable, successful QI. This ownership has been developed and integrated throughout Uganda's health care system over the past 20 years.

In addition to internal health system ownership, interviewees shared that further work was required to embed meaningful engagement with patients and communities as an essential aspect of health service planning; however, there was recognition of a longstanding commitment to include civil society in improvement initiatives. Communities represent a rich resource with a number of assets that can support QI as expert patients or serving as members on a QI team. When these assets have been accessed, QI projects have been more successful.

G. Making the Case for Quality

The Ugandan quality journey has highlighted the importance of demonstrating success of QI initiatives if they are to be maintained and strengthened. Respondents emphasized the value of defining and measuring success to allow effective advocacy for ongoing work and reflected that making the case for QI in Uganda has involved not only showing its effect on health outcomes but also on reducing costs for the health system. Uganda's prioritization of KM to capture key changes and best practices has supported the countrywide spread of QI and informed the development of Uganda's national health policy in various technical areas.

H. Quality Framework

The development and dissemination of a national QIF and SP by Uganda's MoH is seen as a key pillar of the national effort to strengthen quality of care. The framework has provided an overarching plan that aligns with national health priorities, facilitates standardization of measurement of quality, and supports coordination of sub-national and development partner activities. The framework is also seen as a useful

tool for advocacy and resource mobilization and is seen to help institutionalize quality within the work of the MoH.

I. Equipping with Right Tools

It is widely acknowledged that much of the success of efforts to improve quality of care in Uganda has relied upon the health workforce being trained in principles and practice of QI. Though such tools and approaches must be adapted to the Ugandan setting, the Uganda experience has shown that QI methodology can be successful in a challenging, low-income setting. A mix of the following methods and tools are currently used in Uganda:

- Support supervision visits implemented vertically through programs and integrated visits (Area Teams) to monitor adherence to standards and guidelines
- Clinical and program record review
- Observation of care with a standardized instrument
- Quality of care assessments
- Interviews and focus groups
- Standardized checklists
- Performance assessment and competency testing
- Professional registration, licensing, and accreditation under the professional and regulatory bodies
- Clinical vignettes
- Under human resources management and development:
    - Results-oriented management
    - Performance improvement reviews
    - Staff motivation and retention strategies
    - Continuous medical education for professional development

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J. Data for Decision-making

Data is a key component throughout the QI process. It enhances the various levels of Uganda's health care system to make evidence-based decision-making. Uganda's QIF and SP makes a conscious effort to compare planned results with actual data, understand the reasons for discrepancies, and compare performance at different levels. To share data, health facilities rely on using HMIS formats and data available through the MOH database, as well as, publicly through various communication channels such as the MoH website, meetings, conferences, journals, and newsletters.

VIII. Challenges

While Uganda has experienced significant success in its quality journey, the data collected for this exercise revealed many challenges faced by stakeholders in their efforts to improve quality of care. These challenges not only represent ongoing issues that may require further attention by health sector leadership in Uganda, but also have clear relevance to other countries embarking on similar initiatives.

A. Building, Maintaining, and Supporting the Workforce

While significant progress has been made in building a workforce capable of planning and implementing QI activities, expansion and maintenance of this workforce across the health system has remained

challenging. High staff turnover has led to difficulties in maintaining institutional knowledge of QI, and the required training for continued scale-up of QI activities requires significant investment. Uganda's publicly-provided health services remain overstretched and underfunded, and in this environment, it is viewed as difficult to convince health workers to allocate time to improvement and measurement of quality.

B. Accountability and Governance

Uganda has seen a number of discrete QI projects and initiatives over the past 23 years and has taken significant strides towards institutionalizing a culture of quality within the health system. However, this exercise revealed there are still concerns over the accountability of health system leadership to ensure the provision of the best quality services for the available funding. Participants reflected that a culture of QI requires strong governance structures that ensure policymakers are accountable to the public that they serve, and that this was still an area of weakness in Uganda's approach to QI.

Similarly, while many health providers have implemented specific QI projects, accountability structures for quality services are lacking. Services are currently seen to be provided under a fragmented system, with no national accreditation system and often poorly functioning lines of reporting and supervision.

C. Partners

Partner organizations, while clearly essential to Uganda's progress in QI thus far, have continued to present a number of challenges to national and sub-national health authorities. For example, Uganda has faced difficulty in coordinating the activities of multiple organizations, rationalizing available assets, managing external influence, and facilitating sustainability of successful projects with time-limited partner support.

D. "Verticalization"

Respondents in this exercise commonly cited as a challenge the continued propensity for QI initiatives to be managed as discrete, vertical projects that are often poorly integrated with existing public health services. While it was acknowledged that many partners had made efforts to avoid such fragmentation, there is limited capacity at sub-national level to ensure that multiple efforts are aligned with wider health sector policy and plans. This lack of integration presents a risk of poor use of resources and missed opportunities to maximize synergies and effectiveness.

E. Funding

In common with most low-income economies, the Ugandan health system remains under-resourced. Additionally, there is concern that existing resources are not being used efficiently, with respondents reporting difficulty in ensuring that the MoH has the capacity to allocate funding appropriately to support service delivery. QI was broadly supported as a means to improved cost effectiveness, however, there is little confidence that QI principles are being applied at a national level to make best use of health sector financing. Specific funding for QI activities also presents an important challenge, with large proportions of current budgets consisting of partner funding. Where essential health system activities, for example supportive supervision, have been funded through specific projects, their continuation is at risk when these projects end. Furthermore, there is significant potential for inefficient use of funding when initial investment in training or systems in the context of a QI project is not followed by longer-term funding for implementation.

F. Sustainability

Undoubtedly, Uganda has made impressive progress so far despite the many inherent challenges of attempting to improve quality of care in a fragile and under-resourced health service.

An example of Uganda's sustained efforts can be demonstrated by the DREAMS initiative. Community QI teams identified AGYW and supported activities, usually externally funded, to ensure each girl accessed

at least 4 of the interventions. As a result, 597 girls supported by 8 community QI teams between November 2017 and June 2018 achieved increased proportion of AGYW who received 4 or more services from 12% to 60%, increased proportion of AGYW with an income generating activity from 10% to 54, and increased proportion of registered male partners of supported AGYW from 14% to 58%.

A continuing challenge the MoH works to address is how to ensure the sustainability of these efforts, particularly in the context of partner involvement, funding pressures, competing health system priorities, and difficulties maintaining a trained workforce.

IX. Conclusion

As stated in the beginning, there are lessons that can be drawn from Uganda's rich QI experience. This report has set out to capture Uganda's quality journey, highlighting key milestones and projects, reflecting on the important lessons learned and acknowledging the challenges that provide opportunities to advance Uganda's ability to provide services of an acceptable level of care and maximize health benefits. By doing so, this report acknowledges that important progress has been made within Uganda's health care system.

This evolution has been most visible in the evolution from Uganda's first Health Sector QIF and SP 2010/11 – 2015/16 to its existing QIF and SP 2015/16 – 2019/20. Uganda demonstrated significant ownership by taking the lead in the development of this QIF and SP through its established task force to undertake coordination efforts and adaption of recommendations from the independent evaluation. While much more remains to be done, it is through the collective efforts of policy makers and public health officials, local and international NGOs, CBOs, practitioners, civil society, and health care workers to apply the lessons learned from Uganda's experience to ensure efficient, effective, and sustainable progress of achieving quality health care.

Ultimately, it is Uganda's ownership and sustained commitment to fostering continuous service improvement at all levels of its health care system that fuels its QI journey. This commitment has served and continues to be a powerful tool to enable the institutionalization of a culture of quality and mobilize the MoH, supporting actors, and implementing partners with a common vision and language to provide quality health care for Ugandans.

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