STRATEGIC PLAN
2015-2020
International collaborations between academic medical centers such as the Massachusetts General Hospital (Mass General, MGH) and the Mbarara University of Science and Technology (MUST) make significant contributions to the training and retention of academic and clinical personnel. These partnerships improve the recruitment, quality, and retention of key faculty and staff in academic medicine, public health, and scientific research for all involved. The Global Health Collaborative, MUST-MGH (Collaborative) began with a single research project more than a decade ago, aimed at determining the correlates of adherence to antiretroviral treatment for persons living with HIV. In the years since, the research portfolio has expanded significantly and includes cutting-edge biomedical and social science research with a focus on discerning the impact of social, behavioral, and economic barriers to regional health and quality of life. In the past three years, the Collaborative began to focus on medical education, leveraging department-level partnerships to recruit, train, and support new medical professionals at both institutions. This expansion has created tremendous possibilities and a new set of attendant challenges. In February 2014 a joint planning process was undertaken to reflect on our growth, identify opportunities that will improve the efficiency and effectiveness of operations, and, create a shared work plan for the future. This process resulted in a unified vision statement, mission statement, and a set of core values. It also identified shared priorities and codified short and long-term goals for key thematic areas of the Collaborative. An overview of the Collaborative structure is illustrated in Appendix 1.

VISION

We aspire to be a leading academic model of a partnership that optimizes health and well-being globally.

MISSION

Our mission is to build bilateral institutional capacity through responsive and sustainable program implementation in research, education, technology innovation, and clinical care in Uganda and the United States.

I. Executive Summary

International collaborations between academic medical centers such as the Massachusetts General Hospital (Mass General, MGH) and the Mbarara University of Science and Technology (MUST) make significant contributions to the training and retention of academic and clinical personnel. These partnerships improve the recruitment, quality, and retention of key faculty and staff in academic medicine, public health, and scientific research for all involved. The Global Health Collaborative, MUST-MGH (Collaborative) began with a single research project more than a decade ago, aimed at determining the correlates of adherence to antiretroviral treatment for persons living with HIV. In the years since, the research portfolio has expanded significantly and includes cutting-edge biomedical and social science research with a focus on discerning the impact of social, behavioral, and economic barriers to regional health and quality of life. In the past three years, the Collaborative began to focus on medical education, leveraging department-level partnerships to recruit, train, and support new medical professionals at both institutions. This expansion has created tremendous possibilities and a new set of attendant challenges. In February 2014 a joint planning process was undertaken to reflect on our growth, identify opportunities that will improve the efficiency and effectiveness of operations, and, create a shared work plan for the future. This process resulted in a unified vision statement, mission statement, and a set of core values. It also identified shared priorities and codified short and long-term goals for key thematic areas of the Collaborative. An overview of the Collaborative structure is illustrated in Appendix 1.
The overall strategic aims of the Collaborative fall into three areas:

- **People**: Identify, mentor, and develop the next generation of scientific leaders in global health through supervised hands-on training and one-to-one mentorship.

- **Scientific Discovery**: Further the capacity and execution of scientific exploration relevant to the health and quality of life of the national and international health community.

- **Health Systems**: Improve the quality of healthcare delivery in Southwestern Uganda through improved training of the next generation of medical and ancillary health professionals.

The planning process identified three administrative priorities for achieving these strategic aims.

1. **Define a new structure for the collaborative and promote a cohesive message**
   - Redefine administrative structures to provide clarity, efficiency, and accountability
   - Leverage our vision and mission to increase awareness of the Collaborative through enhanced public relations, unified messaging, and fundraising opportunities

2. **Improve the working foundation of the collaborative to attract growth in both number and scope of research projects, clinical partnerships, and technology innovation**
   - Improve internal communications
   - Create common platforms for standard operating procedures, guidelines, and policies accessible and available to all staff
   - Create an orientation for new collaborators to assist with navigation through local systems and cultures to promote successful outcomes

3. **Ensure that the Global Health Collaborative is financially stable**
   - Implement financial models to sustain research, professional development, medical education, and a core infrastructure for the Collaborative
   - Engage new donors to support programs that grow research and clinical capacity and enhance community health and well-being
   - Bring in new research partners to MUST through the Global Health Collaborative
   - Bring in new MGH departments to MUST for clinical and educational partnerships
II. Background

**MBARARA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

The Mbarara University of Science and Technology (MUST) was founded in response to the increasing demand for health professionals in Uganda. The University opened in 1989 after extensive modification to the physical facilities of the former School of Midwifery at the Mbarara District Hospital. Operating under the Ministry of Education MUST opened its doors to an inaugural class of 43 students in the Bachelor of Medicine and Bachelor of Surgery programs. Today, MUST boasts an enrollment of over 3,500 students and employs more than 100 academic staff across the Faculties of Medicine, Science, and Institute of Interdisciplinary Studies and the Institutes for Computer Science and Tropical Forest Conservation. The University collaborates with many international academic institutions to exchange faculty and students to learn and teach. Mass General believes it is important to maintain a permanent presence of leadership and staff on-site; to build relationships necessary to identify common goals and overcome barriers to achieve those goals. New sentence: It is the only international partner to do so.

Mbarara Regional Referral Hospital (MRRH) is a public, government-funded hospital and serves as a teaching hospital for the Faculty of Medicine at Mbarara University of Science and Technology, the second oldest public medical school in the country. The hospital is staffed by civil servants from the Ministry of Health such as medical doctors, pharmacists and nurses, as well as medical students, post-graduate students, and MUST Faculty. MRRH, one of only eleven referral hospitals, is designated as one of fifteen “Internship Hospitals” in Uganda where graduates of Ugandan medical schools can serve one year of internship under the supervision of qualified specialists and consultants. They are then eligible to do post-graduate training in an a specialty. The 600-bed capacity of MRRH includes the inpatient wards for Internal Medicine, Surgery, Pediatrics, Malnutrition, OB/GYN, Psychiatry, and Emergency. Outpatient clinics include general clinic and specialized clinics for HIV/AIDS, diabetes, cardiology, ENT, mental health, dermatology and many others.

**MASSACHUSETTS GENERAL HOSPITAL**

In 1810, Drs. James Jackson and John Collins Warren penned a petition calling for a new general hospital to serve the city of Boston. Known as the Circular Letter, the petition called for a new hospital to provide healthcare for the poor and disenfranchised. In 1811, the Massachusetts legislature granted a charter for the incorporation of the Massachusetts General Hospital, becoming just the third general hospital in the United States. In a given year, this 950+ bed academic medical center admits approximately 48,000 inpatients, handles nearly 1.5 million outpatient visits, records more than 90,000 visits to the emergency room, performs more than 38,000 operations, and delivers more than 3,600 babies. With over 23,000 employees, Mass General is the largest teaching hospital of the Harvard Medical School.
Consortium for Affordable Medical Technologies

The Consortium for Affordable Medical Technologies (CAMTech) is a global network of academic, clinical, corporate, and implementation partners working to improve and accelerate high-quality, affordable medical technology development for low- and middle-income countries (LMIC). Through a coordinated effort across geographies, disciplines and sectors – with all activities grounded in the philosophy of co-creation – CAMTech's mission is to leverage the power of technology to improve health outcomes in the poorest regions of the world. Their approach is unique as they leverage local talent and expertise to spur innovation and develop user-centric, technologically disruptive and socially impactful medical technologies.

Global Disaster Response

Global, large-scale disasters are on the rise. Natural or man-made, disasters share similar medical and public health challenges in protecting the most vulnerable. Consistent standards and a professional approach to disaster response is critical in mitigating the effects of disasters for those who are most affected. Recognizing the urgent need for trained, qualified personnel to respond, the Global Disaster Response team is committed to expanding capacity at the local, national, and international levels to respond to humanitarian crises; to better define and disseminate the “science” of disaster response; and to provide surge capacity and subject matter expertise to organizations working in the humanitarian space. In addition, this team works to ensure the Safety and Security of all partners’ employees traveling and working around the world.

Global Primary Care

The Global Primary Care Residency Program (GPC) is an innovative collaboration with the Mass General Department of Medicine to integrate the principles and practice of global health and primary care. The goal of the program is to develop future leaders with the skills, experience, and commitment to improve health equity and strengthen health systems around the world. GPC invests in novel curricula and mutually rewarding partnerships to create a continuum of service, teaching, and research opportunities in direct service to vulnerable populations.

SEED Global Health

SEED Global Health is a non-governmental partner of the Center for Global Health. Together with the U.S. Peace Corps and PEPFAR, SEED Global Health strengthens health systems globally by partnering U.S. physicians and nurses with schools of medicine and nursing in Malawi, Tanzania, and Uganda. Seed Global Health believes educational partnerships can rapidly increase the pool of providers and educators in countries where they are most needed. Committed to recruiting the best-qualified candidates, including those who may have financial constraints to service, SEED Global Health provides loan repayment and other support to individuals chosen for assignments abroad.

Research

CGH engages in academic research in numerous priority areas, including HIV (e.g., adherence to antiretroviral therapy, non-communicable disease in individuals with HIV, support systems via social networks, reproductive health), malaria, and obstetrics. Research is led by US and Mbarara-based principal investigators from multiple disciplines and funded through numerous sources, including the US National Institutes of Health, the Bill and Melinda Gates Foundation, and philanthropic donors. In addition to answering important research questions, studies actively seeks to build capacity and train students, residents, fellow, and junior faculty at both institutions to conduct high quality research.
III. The Global Health Collaborative MUST-MGH: The Need for Strategic Planning

Starting with one study on adherence to HIV medication, the partnership between MUST and Mass General has grown to include a full range of clinical care disciplines, including: anesthesiology, cardiology, emergency medicine, general surgery, gynecology, internal medicine, neurosurgery, nursing, obstetrics, oncology, otolaryngology, pathology, pediatrics, psychiatry and radiology. Mass General is helping to change how young physicians are trained with the goal of making a generational impact on the burden of disease in Uganda. With over 100 local staff, several permanent expatriate staff, rotating specialty fellows-in-residence, and an annual budget of over $1.5M, the MUST-MGH Collaborative has expanded significantly in both breadth and depth.

The timeline below depicts the major milestones of the Collaborative over the past 10 years.
To better prepare to meet the challenges of this fast-growing collaborative, a strategic planning process was undertaken to reflect on our growth, identify opportunities to improve the efficiency and effectiveness of current operations, and create a shared vision and work plan for the future. Through specific, measurable, realistic, and time-based goals, a comprehensive work plan will act as a roadmap to reach our shared vision for international partnership. Based on our current initiatives and areas identified for growth, three thematic working groups were created:

- **Research and Innovation**
- **Professional Development, Education, and Clinical Care**
- **Core Infrastructure and Support**

The work components of each area were defined and representatives from MGH and MUST were invited to join the strategic planning process. The meetings were held in Mbarara, Uganda over a two-week period. Due to time limitations the three working groups met separately but followed the same agenda and approach. After the formal working group sessions, open office hours were held and draft documents were shared publically to allow for further input. (See list of committee representatives in Appendix 2.)

In advance of the working group meetings, members were asked to complete a Strength, Weakness, Opportunity and Threat (SWOT) analysis to better inform the planning process and help with goal setting. Many internal and external challenges and strengths were identified, including financial limitations, international political instability, poor information technology and communications infrastructure, unreliable procurement processes, and a severe lack of qualified clinical staff and educators. Identified strengths included commitment of local and international staff to operations improvement, positive external perception of the MUST-MGH Collaborative, opportunities for - and interest in - expansion of research and clinical partnerships. (See Appendix 3 for the full results of the SWOT analysis)

A simple set of core questions guided the subsequent discussions that formed the basis of our five-year work plan:

- **Vision:** Where do we see ourselves 5 years from now? How do we want others to see us?
- **Mission:** Why do we come to work every day? For what purpose do we exist?
- **Strategic Plan:** What do we need to do to make sure that the MUST-MGH-Collaborative is successful in achieving our mission and reaching our vision?

As a result of the committee discussions and key constituent input, the following statements on vision, mission and core values capture the ethos and aspirations of the MUST-MGH Collaborative. In subsequent sections, a specific mission statement for each thematic area of the collaboration is articulated.

### Vision:
We aspire to be a leading academic model of a partnership that optimizes health and well-being globally.

### Mission:
Our mission is to build bilateral institutional capacity through responsive and sustainable program implementation in research, education, technology innovation, and clinical care in Uganda and the United States.

### Core Values:

- **Integrity** | We uphold our commitments in our actions.
- **Excellence** | We always pursue the highest standard.
- **Innovation** | We boldly approach challenges with curiosity, creativity, and enthusiasm.
- **Collaboration** | We cultivate enduring partnerships to generate mutual learning for a common mission.
The following sections summarize the five-year goals and accompanying strategies of each strategic planning committee with input from additional institutional representatives. Detailed work plans with timelines and project champions are being developed for each area.

IV. Research and Innovation

Background

Since 2003, the MUST•MGH Collaborative has grown to include 14 major research protocols employing over 110 local staff members and academic partnerships with three prominent international universities. Over the last 10 years, scientific findings from the MUST•MGH Collaborative have been disseminated in over 400 peer-reviewed publications and nearly 4,000 citations (Figure 1). Recent emphasis has been placed on mentorship of MUST students by MGH research faculty. In the past two years, faculty and students at MUST have published 8-first-author manuscripts in peer reviewed journals and another 10 have first-author manuscripts in preparation or under review.

Figure 1: Number of MUST publications and citations
In 2012 the research program expanded in scope to include microenterprise research and technology innovation. These two new programs are summarized below.

**HopeNet**  
A Social Research and Community Benefit Project

The Health Outcomes, Progressive Entrepreneurship, and Network (HopeNet) Project is an interdisciplinary public health research study and implementation project to improve the health and livelihoods of the 5,000 residents of Nyakabare Parish in the Mbarara district of Uganda. HopeNet studies the introduction of ‘livelihood and clean water interventions’ embedded within a longitudinal social network study. In collaboration MUST, Mass. General Hospital, and Harvard University, implement livelihood interventions including rigorous business and financial literacy training, and a poultry micro-enterprise program.

**CAMTech UGANDA**  
An Innovation Program

In 2012 the Consortium for Affordable Medical Technologies (CAMTech) launched CAMTech Uganda to accelerate the development and commercialization of new technologies for global health. By establishing a co-creation laboratory, where local innovators bring their challenges and ideas, the program catalyzes entrepreneurial activity and prototype development with resources for clinical simulation and product testing. Through innovation cafes and internship opportunities, the program integrates global health awareness and empowers the student body and faculty at MUST to identify challenges and develop local solutions. CAMTech Uganda has hosted two medical technology hack-a-thons in Mbarara. These events bring together clinicians, engineers, entrepreneurs, designers, and end-users to solve pressing health challenges in Uganda. In 48 hours, teams transform ideas into prototypes that have the potential to transform health outcomes in Uganda and around the world.

**Organization**

The Research & Innovation program is overseen by a Program Director hired through the MGH Center for Global Health. This position is charged with the oversight of research and clinical operations, and human resource management. All research projects have a principal investigator (PI) at MUST and an international counterpart who are responsible for the science, budget, research design, and outcomes reporting. Program Managers (PMs) and Project Coordinators (PCs) are responsible for managing research with a team of research assistants (RAs), lab consultants, IRB specialists and data managers. The Grants Office is MUST-based and is a Collaborative partner; they work directly with the MUST and International PIs, PCs and the CGH and International Program Directors. In addition to the MGH Center for Global health the research and innovation collaborative draws partners from several other universities and associated hospitals. Currently this includes Simon Frasier, University of California San Francisco, Harvard University, Brigham and Women's Hospital and the Massachusetts Eye and Ear Infirmary.

*Figure 2: Key roles, MUST, MGH and other research collaborators*
STRATEGIC PLAN 2015–2020

Research & Innovation

Mission Statement

To generate new knowledge and evidence-based interventions for crucial health challenges identified by the communities we serve.

Long Term Goal

In five years, we aim to develop twenty additional research and innovation projects focused on generating new knowledge and evidence-based interventions. We will also increase the visibility of the research and innovation projects in order to attract additional partners and resources to the Collaborative.

Short Term Goals and Strategies

1. Create inviting and clear messaging to researchers, educators, students, and innovators that successful research collaboration necessitates equal investment and commitment from both local and external partners
   a. Create an orientation manual to introduce new partners to the MUST research environment
   b. Create a set of rules and expectations for different stakeholders - PI/PC/RA and students/visitors/new partners - to the Collaborative

2. Improve internal communication within the research community
   a. Communicate working mission and core values to employees involved in research and innovation
   b. Create organizational chart and ‘go-to’ chart for internal use
   c. Start a yearly research symposium – A forum where all investigators can share their work in-progress, background information, challenges, and research findings and receive feedback from colleagues and mentors from both Uganda and the US
   d. Enhance the research and innovation program website with dual functionality:
      i. Create a shared file area for documents, SOPs, and general information
      ii. Establish a forum for investigators to exchange ideas and receive help on research challenges

3. Improve communications targeted at fundraising and public relations, increase program awareness, promote current programs, attract new partners, and develop new funding mechanisms
   a. Improve in-country visibility and status of MUST and partnerships through Ugandan and international social media
   b. Share success stories through monthly newsletters and quarterly reports
   c. Share important research results and publications through media and online platforms, including MUST and Mass General websites

4. Create attractive work environment that supports acquisition of new skills and knowledge for professional development
   a. Formalize mentorship commitments, including a letter of understanding between mentor and mentee
   b. Establish a research curriculum that is co-taught by MGH and MUST faculty
   c. Set up a tracking system with MUST to report on career paths of PIs and PCs
   d. Develop an incentive and recognition program to motivate employees to engage in higher education and training as it pertains to their field of work
5. **Enhance the research and innovation environment and establish mutually beneficial partnerships**
   a. Increase number of publications by 50% produced by the MUST•MGH Research and Innovation collaborative in the next five years
   b. Increase number of first authorship by MUST researchers by 50% in the next five years
   c. Develop strategic partnerships in Uganda with other partners involved in research and implementation (e.g. USAID and CDC)
   d. Establish a general e-learning environment including access to e-library of journals and current scientific publications

6. **Improve organizational structure and working environment for research and innovation employees**
   a. Promote and introduce the Mbarara Research Primer to Principal Investigators, Project Coordinators and visitors in order to assist them in their research and further standardize procedures
   b. Employ a full-time Research Manager to work on site under the supervision of the Program Director.
   c. Employ sufficient support staff to ensure all research activities are efficiently and effectively managed
V. Professional Development, Education, and Clinical Care

Background

Building on a decade-long partnership in clinical research and scientific innovation, MUST approached the Massachusetts General Hospital Center for Global Health (CGH) to help build capacity for medical specialty training in Uganda. Departmental leadership and trainees at both institutions were surveyed to gauge enthusiasm for education and clinical care partnerships, areas of common interest, ability to host or send educators and learners to the partner site, funding mechanisms, licensing constraints on clinical practice, and particularities of each subspecialty. The list of ideas and proposals varied by clinical subspecialty and the department’s ability to commit resources:

- Establish year-long, global health fellowships in Mbarara for Mass General faculty and fellows
- Mass General residents and Fellows to spend ≥1 month at MRRH and with a semi-structured schedule and clear deliverables created by the appropriate MUST and MGH supervisors
- Establish MUST as an approved elective site for senior Harvard medical students and Mass General residents
- Establish a system for MUST Master of Medicine (MMed) students and faculty to train at Mass General and affiliated hospitals
- Partner MGH and MUST counterparts for research proposals, with the goal of creating long-term collegial relationships and strong professional ties
- Provide on-site and distance mentoring for research and clinical education
- Provide support to the development or revision of clinical curricula

The survey also documented significant financial and structural challenges faced by both institutions:

- Limited resources at MUST to support learners to gain international experience
- MGH departments generally do not provide support for their faculty to do international global health work; they are using limited vacation time and personal funds
- The medical licensing board of Massachusetts does not allow international visiting physicians to participate in direct patient care
- Short term cost effective housing is difficult to secure at both sides

Based on these results and continued interest, a formal needs assessment and gap analysis was performed in 2012 to capture baseline data for each clinical department at MUST. Recommendations were made in the following areas: 1) Human Resources for Health, 2) Professional Development, 3) Infrastructure, 4) Research Management, and 5) Fundraising. The reports also include short- and long-term goals, potential partners, action items, and next steps. These analyses serve as a framework for the MUST Departments to develop work plans, as well as a communication tool for advocacy, fundraising, and discussions with MGH and other partners. There are currently 14 department partnerships in varying stages of engagement between MGH and MUST/MRRH.
Clinical and administrative leaders from both institutions exchange visits with their counterparts in Mbarara and Boston, continuing to build relationships, observe clinical care and educational sessions, and to learn more about mutually beneficial opportunities. Surgical camps and skills labs have been hosted at MUST, valuable equipment has been donated, and hundreds of hours of didactic and clinical teaching have been delivered. In addition, a Masters curriculum was recently developed for the Department of Nursing; twenty Master of Medicine scholarships were granted to under-resourced clinical departments, and a monitoring & evaluation tool has been developed to measure the progress and effectiveness of each partnership. Summarized below are two examples of mature MUST•MGH partnerships: Obstetrics & Gynecology and General Medicine.

**Obstetrics & Gynecology Partnership**

The OB-GYN partnership started with visits by MGH faculty to provide lectures, procedure and operative training, participate in ward rounds, and input on new research proposals and manuscript writing. In addition to launching a prospective, electronic patient database, the MGH and MUST staff reviewed and revised the MUST OB-GYN curriculum for medical students. Responding to the request for more long-term MGH faculty engagement, the Mass General Vincent Department of Obstetrics & Gynecology prioritized funding to support a fellow-in-residence to provide advanced clinical and operative training at the hospital and work on collaborative research projects with MUST faculty. MGH OB-GYN faculty have been appointed as Visiting Professors at MUST and are invited to participate in the crucial oral examinations of the MUST medical students and MMeds.

**Global Primary Care Partnership**

The Global Primary Care Residency Program (GPC) in Mbarara and Bugoye is an education, research, and service partnership between MGH Department of Medicine (DOM) and MUST’s Department of Community Health. The first formal international sites for GPC are Mbarara and Bugoye and are a model of a multidisciplinary, integrated partnership to address multiple levels of healthcare needs in rural Uganda. GPC recruits trainees who have demonstrated a commitment to and prior accomplishments in global health, and, via the partnership with MUST offers them a unique learning experience and environment. The on-site GPC Site Director is part of MUST faculty and participates in teaching of the MUST and MGH learners. The bilateral learning process is most notable in the interaction between the MGH medical residents and MUST Mmeds which offers an invaluable benefit for all.

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**Organization**

The Vice Chancellor at MUST, the Department Chairs at MGH, and the Director of the MGH Center for Global Health work together to manage the Professional Development, Education and Clinical Care Program. The MUST•MGH Collaborative Program Director, who is based in Mbarara, consults with the Dean of Faculty of Medicine and the MUST Department Chiefs on a regular basis to assess program status and assist with introductions and planning. The MGH Program Manager, also based in Mbarara, and several local staff provide logistical, analytical, and operational support. At the time of this writing the following MGH departments with clinicians living and working in Mbarara include: Pathology, OB/GYN and Critical Care.

**Figure 3:** MUST MGH Professional Development, Education and Clinical Care Leadership Teams
STRATEGIC PLAN 2015–2020

Professional Development, Education & Clinical Care

Mission Statement
To create an environment that supports and enables professionals, as individuals and members of a multidisciplinary team, to grow and perform in their respective clinical specialties through education, training, mentorship, and professional development.

Long Term Goal
Within five years we aim to establish eight active department partnerships that demonstrate improvement in capacity for clinical care at MUST, strengthened skills in global health for MGH learners and leaders, and increased opportunities for MUST learners and leaders to develop professionally and to train at MGH.

Short Term Goals and Strategies

1. Formalize and document communications between MUST and MGH departments to create a transparent and equal partnership
   a. Create an MOU between MUST and MGH Departments to ensure short and long-term commitments are being met, including:
      i. Identify a lead clinician and/or administrator from departments at both institutions, who will serve as the primary point of contact for the partnership and will be accountable and responsible for its activities and goals as documented in the MOU
      ii. Financial or in-kind commitment to the host institution to support visitors
   b. Create an MGH based Forum to communicate departmental goals, ongoing initiatives, discuss opportunities, synergies and challenges, share best practices and, support future growth of the Collaborative
   c. Work with MUST Faculty of Medicine to develop policies and establish expectations for learners arriving at MUST or Bugoye Health Center, e.g., protocols for scheduling, comportment, introductions, clinical work, financial needs, length of placement, housing options and costs, and expected deliverables for visitors in the form of a Letter of Intent
   d. Host an annual conference for the department partnerships to showcase best practices, describe activities, and provide a forum for facilitated discussions between institutions to address challenges
   e. Grow the GPC program in Bugoye as a model rural site for MUST and MGH learners for the purpose of learning clinical care, education, and research in a remote community setting

2. Promote an academic environment conducive for the acquisition of skills and knowledge to further professional development and career advancement for MUST and MGH faculty and learners
   a. Create a balanced and mutually-beneficial exchange program between MGH and MUST; increase the opportunities for MUST learners to have exchange experiences in high-resource settings
   b. Provide training opportunities for MUST faculty in scientific writing in order to increase number of first authorship publications coming from MUST
   c. Optimize an e-learning platform for the benefit of all partners and departments
   d. Promote appropriate telemedicine for departments at MUST and MGH
   e. Initiate an evaluation process of MGH teachers for their didactic presentations, clinical teaching sessions, and topic relevancy to improve future offerings
   f. Incorporate visiting lecturers into the Departments’ formal teaching schedule and curricula by working with the relevant Department Chief or representative
   g. Increase involvement of Department nurses and other ancillary staff in meetings, tele-medicine, social events, and trainings
h. Supplement the salary of MUST ancillary staff via research or teaching supplements using an effort based formula that is transparent and monitored.

i. Develop a pre-departure curriculum for MGH faculty and learners to promote cultural competency

3. **Support Department-specific planning and mechanisms for monitoring and evaluation**
   a. Create a strategic plan and budget for each clinical partnership
   b. Develop tools to document progress, guide next steps, and leverage for fundraising

4. **Secure funding through joint MUST•MGH development efforts including grant writing, private philanthropy, corporate partnerships, and corporate social responsibility**
   a. Utilize social media to increase exposure and awareness in order to bring more resources to the departmental partnerships
   b. Develop collaborative-wide and service-specific campaign strategies for fundraising
   c. Increase the number of donor visits to MUST to kick start new programs and secure current projects
VI. Core Infrastructure and Support

Background

Core infrastructure and support, as defined in this document, represents the many components and people necessary to create and support our Collaborative in research and innovation, and, professional development, education and clinical care. The scope of this work includes, but is not limited to, buildings and grounds, safety and security, the financial oversight of grants and contracts, human resource management of local and expat staff, leasing and operating a guesthouse, visitor logistics, and long-term relationship management. This work is overseen by members of the MGH CGH and the MUST Grants Office. Like the overall partnership, core activities began with research in 2003. As the program activities have increased so has the need for more formal systems, standardized policies, increased space, and collaborative problem solving. Summarized below are three examples of core activities that have grown significantly in the past few years; the MUST Grants Office (MGO), Institutional Review Board (IRB) expertise, and the security and logistics program.

Grant and Contract Management (MGO)

The MGO opened in 2011, with three people managing eight research studies. Today the office employs 12 people and manages 29 studies from the Collaborative and other institutions. Their annual budget has grown from $858,000 to over $2.4M representing studies from: Massachusetts General Hospital, University of Ghent, Clarkson University, University of Minnesota, University of Wisconsin, Makerere University, University of Atwapen, Harvard Medical School, Vanderbilt University, University of Kwa-Zulu Natal, Grand Challenges Canada, University of California San Francisco, Indiana University, and University of British Columbia.

The MGO staff manages MUST grants and complicated international sub-contracts funded by the National Institutes of Health, international foundations and other granting agencies. To respond to this rapid growth, staff from the Center for Global Health at MGH worked with the MGO to implement a new accounting system, develop standard operating procedures, and redesign office work flow. The two offices communicate regularly and CGH staff spend time in Mbarara to provide ongoing trainings and support.
**Institutional Review Board Expertise**

The Institutional Review Board (IRB) approves, monitors, and reviews biomedical and behavioral research involving humans to protect study subjects from physical or psychological harm. Uganda and the US have different guidelines and requirements. This requires continuous communication between the research teams and the IRB coordinators. Since 2005, MGH and MUST have diligently worked together to ensure that all research projects meet both US and Ugandan guidelines. Ugandan and MGH/CGH IRB experts provide on-going IRB- and research ethics trainings to the MUST research community.

**Security and Logistics**

A vital core infrastructure activity is the development of a robust security and logistics program to serve our international visitors (over 300 in 2014) and our full-time MGH employees based in Mbarara. The new integrated TravelSafe Program collects emergency contact and insurance information that can be quickly retrieved by authorized MGH personnel in cases of medical emergency. In addition the traveler automatically receives security warnings in via phone and/or email. Our security and logistics team have developed pre-departure seminars, packets containing an emergency contact sheet, tips on safe travel, a general risk overview, and protocols addressing accidents, travel, and medical evacuation. A pre-programmed cell phone is provided to each traveler prior to arrival in Uganda.

Visitors staff at the MGH Guesthouse which employees a 24-hour guard service, and conforms to other security measures standard to the community. In addition MGH Expat staff resides in a safe, guarded compound, have regular meetings to address safety and security concerns, develop best practices, and participate in trainings in first aid, self-defense, and roadside assistance.

**Organization**

The CGH Program Director of the MUST•MGH Collaborative, together with the CGH Associate Director of Administration and the CGH Director of Disaster Response oversee all MGH staff living in Uganda. The MGH Guest House manager in Boston works directly with the MGH Guest House manager in Uganda. On the ground Program Managers and Project Coordinators implement the core infrastructure and support program. Figure 4 shows the many roles necessary to manage the logistics and components of the Collaborative infrastructure.

**Figure 4. Core Infrastructure and Support Team**
STRATEGIC PLAN 2015–2020

Core Infrastructure and Support

Mission Statement
To create a robust physical, technical, and administrative infrastructure to optimize the efficiency and effectiveness of the core components of the Collaborative

Long Term Goal
In five years we aim to build a strong foundation for the management of financial, human resource, IT and physical work environments to support the growth of the Collaborative.

Short Term Goals and Strategies

1. Establish a cohesive brand that communicates a consistent message to our partners, visitors, and employees
   a. Create a brand by developing a consistent brand name, logo, email signatures and templates
   b. Create an orientation experience for new visitors prior to arrival – produce a video, PowerPoint presentation, or paper document to reinforce policies, cultural differences, protocols, infrastructure, and tips for successful program implementation and partnership

2. Improve visitor management to optimize experience for both MUST and MGH visitors
   a. Create an SOP for visitors requiring the completion of standardized data collection sheet to ensure the most efficient use of time and resources
   b. Create local transportation system for visitors
   c. Employ an administrative person to manage visitors and itineraries

3. Strengthen administrative support structure and enhance opportunities for professional development
   a. Create an orientation and reference manual for employees
   b. Create an appreciation budget for staff and volunteers
   c. Increase new training opportunities for core infrastructure staff

4. Optimize efficiency and effectiveness of the physical and administrative work environment
   a. Secure new office space for researchers, innovators, medical educators and others
   b. Create project close-out checklist and communication strategy, e.g., post-research study protocol for close-out and disposal plan for equipment, space, staff, and participants

5. Optimize work environment by providing sufficient long-term housing options for expatriate staff and visitors
   a. Secure long-term housing for fellows, faculty, and clinicians by securing access to expatriate housing units at MUST and securing a 3-year lease for apartments that can be rented by long-term visitors and expat staff
   b. Secure 3-year lease of current MGH Guest House or other secure location where visitors can safely meet, learn, collaborate
   c. Ensure safe housing practices and guidelines that adhere to international norms
6. **Establish a financial management system for the Collaborative**
   a. Employ qualified financial managers for the Collaborative
   b. Create a shared infrastructure cost budget to support all components of the Collaborative administration
   c. Reduce reliance on CGH for funding core infrastructure and create a clear message that new projects require fiscal support and necessary staff
   d. Create a mechanism to receive, distribute, and account for local funds
   e. Work with MGO on their goals to build capacity in financial management, reporting, and compliance infrastructure

7. **Improve IT infrastructure and management**
   a. Improve internet infrastructure and reliability of network servers
   b. Create a capital depreciation account to fund new equipment and maintenance
   c. Acquire additional printers and laptops for employees who work on core infrastructure program
   d. Purchase a maintenance plan for hardware as appropriate and incorporate into shared infrastructure budget
   e. Purchase software license agreement as needed and incorporate in shared-infrastructure budget
   f. Provide training for IT staff to keep them up to date

8. **Ensure the health, safety & security of staff and visitors, regardless of duration of stay**
   a. Hire a full time Security & Logistics Manager within the next 3 years
   b. Ensure Security and Logistics of expat staff through safe housing, transportation, safety trainings, safety supplies, and regular communications
   c. Endorse simple health, medical, safety and security practices and standard operating procedures for all members of the collaborative
   d. Create SOPs for and simulation training sessions for events most likely to occur e.g., theft, assault, and traffic accidents
   e. Create an evacuation/shelter plan that is aligned with local, national and international organizations
   f. Create a plan to continue essential work in the case of evacuation and a plan for essential staff who may remain in Uganda during this time
   g. Continue periodic review of these plans
VII. Conclusion

Through research, education, professional development and clinical care, the partnership between MUST and MGH can make a significant impact and sustainable contribution to global health. This partnership aims to inspire and support research, clinical care and technological partnerships that reduce health disparities, strengthen local capacity and engage a new generation in the work of global health. Building on the successes and lessons learned of the past 10 years, this document outlines the strategic and operational elements required for the MUST•MGH Collaborative to deliver according to a shared vision and mission, and, to develop a sound approach to a long-term mutually-beneficial partnership. By implementing this strategic plan, the Collaborative will impact health globally by creating sustained learning opportunities for clinicians and staff at both MUST and MGH in research, innovation, medical education, and clinical care.

VIII. Appendix

Appendix 1: Overview of MUST•MGH Collaborative 2014
Appendix 2: List of committee representatives
Appendix 3: SWOT analysis
Appendix 1: Overview of MUST•MGH Collaborative

Professional Development, Education & Clinical Care

- Anesthesia
- Disaster Response
- Emergency Medicine
- ENT/ORL MEEI
- ICU
- Internal Medicine/GPC
- Neurology
- Nursing
- OB/GYN
- Oncology
- Pathology
- Pediatrics
- Radiology
- Surgery

Masters in Medicine Program
Masters in Nursing Program

MUST•MGH Research & Innovation Awards and Programs

- CAMTech, Uganda
- >12 on-going research projects

Vice Chancellor MUST
Dean of Faculty of Medicine MUST
Director, Center for Global Health
CGH Program Director, Global Health Collaborative

IT Infrastructure
Financial Management
Continuing Education
Safety and Logistics
MGH Guest House
Pre-departure Orientation
Hosting Visitors (MGH/Uganda)
Development & Fundraising
Visitor Management
Volunteer Training Corps
Event Planning
Short-Term Housing
Office Space
Expat Housing and Security
IRB Assistance
# Appendix 2: List of Committee Representatives

## Education and Clinical Care Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noortje Trienekens</td>
<td>Program Manager</td>
<td>Center for Global Health Uganda</td>
</tr>
<tr>
<td>Shelley Amira</td>
<td>Associate Director, Administration</td>
<td>Center for Global Health Boston</td>
</tr>
<tr>
<td>Dr. Anna Baylor</td>
<td>Program Director</td>
<td>Center for Global Health Uganda</td>
</tr>
<tr>
<td>Betty Okumu</td>
<td>Representative of Dean of Faculty of Medicine</td>
<td>MUST Faculty of Medicine</td>
</tr>
<tr>
<td>Dr. Joseph Ngonzi</td>
<td>OB/Gyn specialist</td>
<td>MUST OB/Gyn Department</td>
</tr>
<tr>
<td>Dr. Raquel Reyes</td>
<td>Site Chief</td>
<td>Global Primary Care Program Uganda</td>
</tr>
<tr>
<td>Dr. Abdallah Amir</td>
<td>Internal Medicine</td>
<td>MUST Internal Medicine Department</td>
</tr>
<tr>
<td>Sara Groves</td>
<td>Senior Nurse Educator</td>
<td>MUST Internal Medicine Department</td>
</tr>
<tr>
<td>Dr. Rose Muhindo</td>
<td>Internal Medicine</td>
<td>MUST Internal Medicine Department</td>
</tr>
<tr>
<td>Catherine Atuhaire</td>
<td>Nurse Educator</td>
<td>MUST Nursing Department</td>
</tr>
<tr>
<td>Esther Beebwa</td>
<td>Nurse Educator</td>
<td>MUST Nursing Department</td>
</tr>
<tr>
<td>Dr. Samuel Maling</td>
<td>Dean of Faculty of Medicine</td>
<td>MUST</td>
</tr>
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</table>

## Research Committee

<table>
<thead>
<tr>
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<tbody>
<tr>
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<td>Center for Global Health Uganda</td>
</tr>
<tr>
<td>Yap Boum</td>
<td>Director</td>
<td>Epicentre</td>
</tr>
<tr>
<td>Dr. Alexander Tsai</td>
<td>Principal Investigator HopeNet</td>
<td>Center for Global Health</td>
</tr>
<tr>
<td>Dr. Data Santorino</td>
<td>Director</td>
<td>CAMTech MUST</td>
</tr>
<tr>
<td>Dr. David Bangsberg</td>
<td>Director</td>
<td>Center for Global Health Boston</td>
</tr>
<tr>
<td>Dr. Jessica Haberer</td>
<td>Research Scientist</td>
<td>Center for Global Health Boston</td>
</tr>
<tr>
<td>Dr. Mark Siedner</td>
<td>Research Scientist</td>
<td>Center for Global Health Boston</td>
</tr>
<tr>
<td>Dr. Ryan Carroll</td>
<td>Program Director</td>
<td>Center for Global Health Uganda</td>
</tr>
</tbody>
</table>

## Infrastructure Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
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<td>Center for Global Health Uganda</td>
</tr>
<tr>
<td>Shelley Amira</td>
<td>Associate Director, Administration</td>
<td>Center for Global Health Boston</td>
</tr>
<tr>
<td>Dr. Anna Baylor</td>
<td>Program Director</td>
<td>Center for Global Health Uganda</td>
</tr>
<tr>
<td>Sarah Graham</td>
<td>Project Coordinator</td>
<td>MUST Grant’s Office</td>
</tr>
<tr>
<td>Prof. Mukiibi</td>
<td>Director</td>
<td>Global Health Collaborative MUST</td>
</tr>
<tr>
<td>Christine Karungi</td>
<td>Project Assistant</td>
<td>Global Health Collaborative MUST</td>
</tr>
<tr>
<td>Augustine Batwala</td>
<td>Project Assistant</td>
<td>Global Health Collaborative MUST</td>
</tr>
<tr>
<td>Julius Turyasingura</td>
<td>IT Manager</td>
<td>Center for Global Health Boston</td>
</tr>
<tr>
<td>Kate Bell</td>
<td>Grants Administrator</td>
<td>Center for Global Health Boston</td>
</tr>
<tr>
<td>Peggy Bartek</td>
<td>Grants Manager</td>
<td>Center for Global Health Boston</td>
</tr>
<tr>
<td>Rachel Rifkin</td>
<td>IRB Coordinator</td>
<td>Center for Global Health Boston</td>
</tr>
</tbody>
</table>
### Strengths

Strengths describe the positive attributes, tangible and intangible, or your organization. These are within your control.

<table>
<thead>
<tr>
<th>Human Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talented and motivated</td>
</tr>
<tr>
<td>Diversity in age, expertise and nationality</td>
</tr>
<tr>
<td>Commitment of staff to go the extra yard</td>
</tr>
<tr>
<td>Mentorship/guidance on grant writing and management</td>
</tr>
<tr>
<td>Organic growth</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local staff and MGH committed to capacity building</td>
</tr>
<tr>
<td>Relationships and commitment between collaborators</td>
</tr>
<tr>
<td>Good teamwork among staff from different research projects</td>
</tr>
<tr>
<td>MGH, Harvard and MIT affiliation</td>
</tr>
<tr>
<td>Established network and relationships within community</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid infrastructure on the ground: office space, internet access, transport, guest house, expat staff</td>
</tr>
<tr>
<td>Development team that engage donors</td>
</tr>
<tr>
<td>New leadership is dedicated to safety &amp; security of staff</td>
</tr>
<tr>
<td>The collaboration has a good reputation as an organization to work for</td>
</tr>
<tr>
<td>Track record of grant funding</td>
</tr>
</tbody>
</table>

### Weaknesses

Weaknesses are aspects of your organization that detract from the value of your organization offers or place it at a competitive disadvantage.

<table>
<thead>
<tr>
<th>Human Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of local/expert staff to manage growing collaboration infrastructure and clinical partnerships</td>
</tr>
<tr>
<td>Lack of clear direction from executive leadership</td>
</tr>
<tr>
<td>Lack of high-level support for MGO staff</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of communication between MUST and various partners</td>
</tr>
<tr>
<td>MGH team dynamics break down and need improvement</td>
</tr>
<tr>
<td>Strained relationships between MRRH and MUST</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Financial Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of development strategy to acquire additional funding</td>
</tr>
<tr>
<td>Lack of specific program budgets</td>
</tr>
<tr>
<td>Insufficient daily financial oversight within MGO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of office space and adequate furnishings for MGO and departments</td>
</tr>
<tr>
<td>No current definition of the collaboration structure</td>
</tr>
<tr>
<td>Inconsistent use of corporate branding</td>
</tr>
<tr>
<td>Lack of safe and secure housing for expat staff</td>
</tr>
<tr>
<td>Lack of data-driven monitoring and evaluation tool</td>
</tr>
<tr>
<td>MUST does not provide incentive for faculty to publish</td>
</tr>
<tr>
<td>MGH has no legal presence in country</td>
</tr>
<tr>
<td>IRB: lack of monitoring, training, and conducting research within protocol</td>
</tr>
</tbody>
</table>

### Opportunities

Opportunities are external attractive factors that represent reasons for your organization to exist and prosper.

<table>
<thead>
<tr>
<th>Human Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunities for professional development through MGH partnership</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keen interest by MGH specialty departments to partner at MUST</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social media as an opportunity to call attention to needs of rural Uganda</td>
</tr>
<tr>
<td>Opportunities to advance the reputation of MUST and MRRH by promoting our work through various media outlets</td>
</tr>
<tr>
<td>Opportunity for national and international public recognition, relations and marketing</td>
</tr>
<tr>
<td>Opportunities to use data metrics for continuous improvement and innovation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>As the major educator and hospital in the region, MUST and MRRH offer the opportunity for transformative improvements in education, medical care disaster preparedness and research</td>
</tr>
<tr>
<td>Opportunities for MGO to serve the larger research community</td>
</tr>
</tbody>
</table>

### Threats

Threats are external factors beyond your organization control and that could put it at risk.

<table>
<thead>
<tr>
<th>Human Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety of staff</td>
</tr>
<tr>
<td>Limited human resource support to meet increasing demands for global health programs from MGH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of communication between MUST partners</td>
</tr>
<tr>
<td>Strained relationships between MRRH and MUST</td>
</tr>
<tr>
<td>Change in leadership at MUST</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>National Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corruption and bureaucracy</td>
</tr>
<tr>
<td>Not having an official NGO creates vulnerability Inflation</td>
</tr>
<tr>
<td>Inability of MGH CGH to own and control property in a foreign country</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor internet connections</td>
</tr>
<tr>
<td>Power outages</td>
</tr>
<tr>
<td>Procurement difficulties</td>
</tr>
</tbody>
</table>