MASTER OF HEALTHCARE QUALITY AND SAFETY

A MASTER DEGREE PROGRAM OFFERED BY HARVARD MEDICAL SCHOOL

hms.harvard.edu/mhqs
The Master’s Degree of Healthcare Quality and Safety (MHQS) provides clinicians and clinical administrators with the operational skills to lead and work effectively in quality improvement and safety initiatives within their own health care organizations.

This one year, full time residential program which takes place over the course of 11 months. There is also a part time, two-year track available for local professional who may need to align coursework with their busy schedules. The model of instruction consists of intensive workshops, longitudinal seminar series and a capstone project in one of the local Boston teaching hospitals.
MHQS is designed for clinicians who aspire to leadership positions in health care quality, risk management and patient safety.

Applicants should hold an advanced degree and possess at least three years of clinical experience.

Ideal candidates include:
- Physicians
- Registered nurses
- Nurse practitioners
- Allied health care professionals

Students accepted into the program must demonstrate, through grades and performance in graduate level training, the potential to learn effectively in a challenging educational environment.
LEARNING OBJECTIVES

- Drive change and foster a culture of quality and safety
- Generate data-driven solutions to address operational challenges
- Measure, interpret, and communicate meaningful health care outcomes
- Identify quality and safety gaps, and develop strategies for addressing them
- Use data to support rational and evidence-based improvements
- Develop and implement quality improvement initiatives within a tight budget
- Assess and improve health care processes through evidence-based best practices
- Identify, design, and implement malpractice prevention and intervention strategies
KEY PROGRAM BENEFITS

• Intensive, compressed format, designed to accelerate your ascent into a leadership role focused on health care quality and safety
• Distinguished faculty who are recognized leaders in some of the nation’s most prestigious health care systems
• Residential program that allows for unparalleled exposure to best practices within Harvard’s network of academic medical centers and community hospitals
• Learning model that combines concrete theory with applied learning
• Dynamic format with large- and small-group cohorts to enhance learning through shared perspectives
• Incredible community of professional peers that you can call upon long after the program is over
• Capstone project that is aligned with your goals and interests
• Carefully designed curriculum that focuses on all operational aspects of health care quality and safety
• Exposure to best practices within the Harvard network of hospitals, including Massachusetts General Hospital, Brigham and Women’s Hospital, Boston Children’s Hospital, Beth Israel Deaconess Medical Center, and Dana-Farber Cancer Institute, among others
## PROGRAM TIMELINE

### MHQS - PART TIME - YEAR ONE

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<td>HQS 711: Risk and Evidence Based Solutions (3Cr)</td>
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<td>HQS 712: Healthcare Finance and Value (2 Cr)</td>
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ELIGIBILITY & COST

ELIGIBILITY
Applicants must have already earned an M.D. or other advanced clinical degree, including advanced nursing and allied health professional degrees, and possess at least three years of clinical experience.

COST
Please refer to our website www.hms.harvard.edu/mhqs for exact cost and other admissions information.
The MHQS curriculum is tailored to help clinicians improve patient safety and healthcare quality in an increasingly complex and evolving healthcare environment. The program consists of 12 courses focusing on five key areas of study:

- operational quality and safety
- informatics
- leadership
- quantitative approaches
- risk

Coursework also includes longitudinal seminars and a capstone.

**CORE CURRICULUM**

**Safety Intensive** – This course provides students with a foundation in patient safety. Beginning with the question, Are we any safer than twenty years ago? students explore the state of healthcare today. Fundamental concepts in safety follow, including the interplay of culture, human factors, and system theory as critical components of safety science. Approaches to adverse events are reviewed along with how detection methods can alter the impact of error. Special areas of focus are discussed, including procedural safety, medication safety, ambulatory safety, and cognitive bias.
Quality and Systems – After framing the current state of safety and quality in historical perspective, this course builds on prerequisite learning modules to employ critical QI tools and understand the power of data. Students focus on how to collect, and display data in the context of real improvement work. The course shares examples of how data can change care at every level of the system.

Quantitative approach to QI – This course teaches students to assess outcomes for ongoing quality improvement (QI) research using statistics. You will examine study design—including measurement, bias, and sample sizes—and gain the skills to apply quantitative methods to QI work, analyze simple data and present findings, and discuss and weigh general institutional review board (IRB) issues.

Longitudinal Seminar (I & II) – The fall seminar will focus on reviewing the framework for project work. Students will be expected to define a problem within an organization using QI tools such as mapping, fishbone diagrams, and key driver diagrams, as well as input from local stakeholders. Interventions will be proposed by the end, along with a projected implementation plan. Students will be asked to reflect on the process of moving from problem to design. This seminar will conclude with a poster session where each student will share their work-in-progress and receive feedback from peers.

The spring seminar will begin with an implementation plan. Students will reflect and be coached on the process of implementation with lessons in navigating change in a health care unit. This seminar will conclude with a capstone symposium where candidates will briefly present both their projects and their reflections as learners.
Healthcare Finance and Value - The Healthcare Finance and Value course is designed to expose you to the financial management concepts and alternative choice decision making. The course places particular emphasis on the practical application of the concepts covered in health care settings.

Because health care institutions have lagged far behind industry in understanding their costs, there is a pressing need for people who are familiar with those concepts in managerial, operation, quality and policy settings. A goal of this course is to provide that basic familiarity.

Risk and Innovation - This course teaches an overview of malpractice and evolutions in the field, along with strategies for promoting safety and error disclosure. Students explore innovations and interventions in different areas of risk, including diagnostic process, communication failures, procedural safety, and medication safety.

Informatics in Quality and Safety - This course serves as a primer on the role of informatics in health care improvement. Students will gain an understanding of the digital infrastructure which captures and organizes data, and the user interfaces for patient and providers. Topics will include the design of clinical databases, electronic health records, patient portals, as well as health care privacy issues.

Patient Engagement in QI and Safety – This course highlights the patient interface with the health care system and provides a unique perspective to health care professionals engaged in safety and quality improvement. Engaging patients in the improvement process is critical for success – from the reporting of events to intervention design, and in the training of health care providers. This course takes a deep dive into multiple nodes including the role of patient family advocacy councils, the voice of patients in event reporting, models to partner with patients in improvement work, and effective organizational structures to respond to patient concerns. This course will utilize a combination of didactic sessions and small group discussions.
Patient Engagement in QI and Safety (cont.) – Topics will include: Surviving medical error, co-production of health care with patients, Patient Family Advisory Councils, nonphysical harm and patient disrespect, patient derived data as outcome measures, care delivery models to increase patient engagement, and patients as communication skills trainers

Applied Quality and Safety in Health care Settings – This course focuses on changes and best practices to combat known risks in health care today. These include approaches to hospital acquired conditions, and systematic interventions to recognize and minimize harm both in hospital and ambulatory settings and between. Strategies to support a culture of safety, including spreading knowledge, teamwork training, and managing unprofessional behavior are explored.

The advanced content in quality discusses system interventions to improve the quality of care. Topics such as value, the patient experience, and health care disparities as measures of quality are explored. Students complete a short primer on systems engineering and two workshops on design and behavioral change.

Leadership and Teamwork – The process of change is not simple in health care environments. Systems are complex, and stakeholders have different individual needs. This course provides an overview of leadership concepts that are most relevant to safety and quality and the cultures that leaders need to establish. These include foundational concepts in change management, negotiation and consensus building, making a financial case for quality and safety, and managing teams for improvement.

Special and Emerging Topics in Safety and Quality – Safety and quality operations are continuing to evolve as the field grows. This course will present focused primers in two fields: implementation science and population health. In addition, students will have a chance to explore emerging concepts such as emotional harm to providers and patients, safety implications of provider burnout, and techniques to train team members in quality and safety.
ELECTIVES
Students may complete 4 credits in elective courses to complement their learning and future career goals. All students will need the permission of the program director to enroll and begin the process early enough to secure a spot. Students may choose from the following electives:

• Navigating the Complex Seas of the Health System: The Physician as Leader (4 credits)
• Leadership and Management (2 credits)
• Big Data Innovations in Population Health (4 credits)
• Introduction to Medical Imaging Informatics (4 credits)
• Medical Malpractice (2 credits)
• Women and Leadership (2 credits)
• Global Health Informatics to Improve Quality of Care (3 credits)
INNOVATION FOR THE FUTURE OF HEALTH CARE.

Along with a faculty mentor, you will apply the tools, strategies, and methods gained from didactic courses to develop a solution to an evidence-based problem in health care delivery. The selected challenge may be driven by a need in:

- Quality
- Safety
- Informatics
- Risk

Examples of capstone projects

- Analysis of 30-day readmissions for congestive heart failure patients discharged to acute rehabilitation from general medicine wards over a four-month period
- Redesign process to improve care of patients receiving outpatient parenteral antibiotic treatment
- Evaluate barriers to physician use of heparin protocols in the inpatient setting
FACULTY

PROGRAM DIRECTOR

Anjala Tess, MD
Practicing Hospitalist, Division of General Medicine and Primary Care, and Associate Chair for Education, Department of Medicine, Beth Israel Deaconess Medical Center
Associate Professor in Medicine, Harvard Medical School

FACULTY

Shoshana Herzig, MD MPH
Director of Hospital Medicine Research, Division of General Medicine and Primary Care, Beth Israel Deaconess Medical Center
Assistant Professor of Medicine, Harvard Medical School

Katherine Humphrey, MD MPH
Associate Medical Director of Patient Safety and Quality in the Division of Patient Safety and Quality, Boston Children’s Hospital
Instructor in Medicine, Harvard Medical School

Joseph Jacobson, MD MSc
Chief Quality Officer, Dana Farber Cancer Institute
Associate Professor of Medicine, Harvard Medical School

Elizabeth Mort, MD MPH
Senior Vice President, Quality and Safety, Chief Quality Officer, Massachusetts General Hospital

Luke Sato, MD
Senior Vice President and Chief Medical Officer, Controlled Risk Insurance Company
Assistant Clinical Professor of Medicine, Harvard Medical School

Ajay K. Singh, MBBS, FRCP, MBA
Senior Associate Dean, Global and Continuing Education, Harvard Medical School

Lauge Sokol-Hessner, MD
Assistant Professor, Harvard Medical School
Beth Israel Deaconess Medical Center
WHO SHOULD APPLY

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APPLICATION DEADLINES & TUITION INFORMATION

ADDITIONAL APPLICATION AND REGISTRATION INFORMATION IS AVAILABLE ONLINE AT: HMS.HARVARD.EDU/MHQS

Once you are accepted to the program, payment is required either in full or through a payment schedule. A 10 percent deposit by the deposit deadline date secures your place in the program.

Tuition includes facility fees for the three workshops and access to all four lecture modules (summer, fall, winter, and spring). Fees do not include supplemental books, supplies, software, or workshop travel and accommodation expenses.