

HEALTHCARE QUALITY AND PATIENT SAFETY

Degree Types: MS, MD/MS, Certificate

The master's program in Healthcare Quality and Patient Safety offers students the opportunity to meet educational goals while they continue their careers or medical education, making the program accessible to medical students, clinicians, and working healthcare professionals. This program targets both clinical and non-clinical healthcare professionals who want to focus their career development on these critical areas in health care. Students living outside the Chicago area can pursue this 2-year, part-time program. Students travel to Northwestern University's Chicago or Evanston campuses for the classroom-based intensive sessions and complete the Capstone project remotely.

The program focuses on the knowledge, skills, and methods required for improving the systems of healthcare delivery. The topics covered include healthcare quality context and measurement, changing systems of care delivery and healthcare redesign, healthcare disparities, accountability and public policy, safety interventions and practices, health information technology, simulation and the science of teamwork, human factors, risk assessment methods, governance, and application of leadership skills. Additionally, students learn about the external environment that shapes health policy, particularly regarding quality and safety.

The Master of Science degree program includes nine courses and begins during the summer quarter. The core of the program consists of five-day immersion sessions held four times at our Chicago or Evanston campuses. In addition to these high-contact sessions, six distance-learning sessions enrich the immersion coursework. Distance-learning sessions for each applicable course will typically take place one evening per week following the immersion sessions. The nine-course curriculum covers introductory topics in healthcare quality and patient safety, advanced topics in healthcare quality and patient safety, an introduction to US health systems, and fundamental methods for healthcare quality and patient safety. The curriculum also includes a business course—*The Business of Quality and Safety Improvement*—taught by distinguished faculty from Northwestern's Kellogg School of Management. Across both years of study, students focus on developing and implementing their Capstone project (HQS 430 & 435). Remote group mentoring sessions begin in April of the first year and continue throughout the second year of study, allowing students to provide updates on their projects and receive feedback from faculty and peers. The Capstone courses culminate in a final colloquium held the day before graduation.

After completing this Master of Science degree, graduates will have acquired the necessary skills and knowledge to be competitive for leadership positions in healthcare and research institutions, governmental and policy bodies, and careers in academia. Graduates will be well prepared to be leaders in the next generation of healthcare quality and patient safety specialists, designing and implementing quality and safety initiatives across health systems, hospitals, health plans, public sector agencies, and voluntary organizations throughout the country.

Additional resources:

- Department website (<https://www.feinberg.northwestern.edu/sites/cehs/our-programs/healthcare-quality-patient-safety/>)
- Program handbook(s)

Degrees and Certificate Offered

- Healthcare Quality and Patient Safety MS (<https://catalogs.northwestern.edu/tgs/healthcare-quality-patient-safety/healthcare-quality-patient-safety-ms/>)
- Healthcare Quality and Patient Safety MS/MD (<https://catalogs.northwestern.edu/tgs/healthcare-quality-patient-safety/healthcare-quality-patient-safety-ms-md/>)
- Healthcare Quality and Patient Safety Certificate (<https://catalogs.northwestern.edu/tgs/healthcare-quality-patient-safety/healthcare-quality-patient-safety-cert/>)

Learning objective(s)/Students should be able to...

- Work and learn in interdisciplinary teams
- Avoid premature closure in the assessment of root causes of a healthcare problem
- Develop effective, valid, and reliable quality and safety measures
- Demonstrate the ability to analyze and critique existing measures
- Demonstrate basic understanding of human factors related to health care and healthcare risks, and the capacity for systems thinking
- Develop an organizational quality and safety plan for a first one hundred days that is of high enough quality to submit to organizational leadership
- Develop a quality or safety improvement intervention and then conduct that intervention in an actual healthcare organizational setting
- Demonstrate an understanding of High Reliability Organizational (HRO) principles
- Analyze HRO principles from other high-risk industries
- Demonstrate how HRO principles, or practices derived from these principles, can or cannot be effectively implemented in healthcare settings
- Demonstrate an understanding of the epidemiology and mechanisms of disparities and inequities in health care, how these emerge (structure, processes, attitudes, beliefs, and behaviors), and methods for improvement
- Demonstrate an understanding of how the U.S. healthcare system is organized and functions
- Conduct several types of risk assessments
- Create and run a healthcare simulation that includes the development of learning objectives, a case scenario, and event sets with criteria for performance
- Conduct an analysis of an international comparison of healthcare system structures and its impact on population health outcomes
- Evaluate the appropriateness of the scientific methods used in assigned peer-reviewed articles
- Demonstrate familiarity with, and implications of, legal and regulatory requirements for healthcare organizational leaders
- Demonstrate an understanding of implementation science frameworks and apply one of these frameworks to a quality or safety improvement project plan
- Demonstrate an understanding of annotated statistical process control (SPC) charts
- Demonstrate an understanding of the challenges associated with creating individual and organizational behavior change and methods to address these challenges

- Demonstrate an understanding of the importance of using social networks when conducting quality improvement projects
- Identify personal strengths and weaknesses in negotiations
- Demonstrate an understanding of the interests each party brings to a negotiation
- Demonstrate knowledge of all the key skills necessary for organizational change and leadership in healthcare quality and patient safety improvement

Healthcare Quality and Patient Safety Courses

HQS 401-0 Introduction to Healthcare Quality (1 Unit)

This course introduces students to the history, definitions, and measurement of healthcare quality. Students achieve familiarity with measurements of quality in healthcare in a variety of healthcare settings as well as with public policy drivers of quality improvement. Interactive exercises and discussions engage students in the challenges of behavior change, reliable quality measurement and quality improvement, and the role of public policy as a driver of improvement.

HQS 402-0 Introduction to Patient Safety (1 Unit)

This course introduces students to the epidemiology of patient safety and relevant theory, content, tools, and methods in the field of patient safety, including systems thinking. Patient safety problems and high-risk contexts for error occurrence are introduced. Through interactive exercises and discussion, students conduct risk assessments and learn the legal and regulatory requirements of healthcare organizational leadership. Students also consider the roles of varied healthcare stakeholders in building a safer healthcare system.

HQS 420-0 Introduction to US Health Care System (1 Unit)

Course Aims: Be able to state and explain the structure, key facts and important issues pertaining to the U.S. health system. Be able to research topics for further study by becoming familiar with the relevant literature and be able to analyze problems in this sector by understanding applicable frameworks.

HQS 430-0 Capstone Class I (1 Unit)

Students develop and implement, in a healthcare context, a focused improvement project in healthcare quality or safety. This course provides a group-mentored experiential learning opportunity to engage in the practice of healthcare quality and patient safety innovation and improvement. The Capstone Program encourages students to develop a project in areas needing substantial improvement, test their skills and leadership capacities, reach beyond their current professional roles, and imagine future leadership in quality and safety.

HQS 435-0 Capstone Class II (1 Unit)

This course is a continuation of HQS 430-0: Capstone Class I. In a group-mentored context, students continue the application of their Capstone Project and present on challenges they have encountered and how these challenges have been overcome. Students receive directed feedback to increase the potential for success of the Capstone Project and to reach their leadership goals and capacity.

HQS 440-0 Fundamental Methods for Healthcare Quality and Patient Safety (1 Unit)

Students gain working knowledge of approaches to measuring healthcare quality improvement patient safety efforts. Topics include performance measurement and methods for statistical process control assessment, emphasizing application of these techniques in local and national quality improvement efforts. Students develop knowledge and practice skills to evaluate and use empirical knowledge in healthcare quality and safety

and to critically evaluate literature-based evidence and other information disseminated with regard to national efforts.

HQS 499-0 Independent Study (0.5-1 Unit)

This course provides Healthcare Quality and Patient Safety students with an opportunity to explore an area of interest related to patient safety and quality improvement. The primary objective of the Independent Study is to facilitate the student's career advancement goals.

Prerequisites: HQS 401-0 and HQS 402-0.

HQS 501-0 Advanced Healthcare Quality (1 Unit)

Students achieve advanced familiarity and skills with definition and measurement of quality in a variety of health care settings, practice how to critique and improve measures, understand the evidence and techniques for effective improvement science, develop leadership capacity and analytic skills, and gain skills to construct a credible, coherent quality improvement plan for a healthcare organization.

HQS 502-0 Advanced Patient Safety (1 Unit)

Students achieve advanced familiarity with patient safety theory, content, and skills, including application of High Reliability Organizational principals, to develop mastery in the field. In groups, students develop and apply evidence-based safety practices to address important safety problems. Through this, students develop proficiency in applying patient safety practices, methods, and Implementation Science frameworks; develop skills in safety redesign and improvement; and develop methods for patient safety education.

HQS 510-0 The Business of Healthcare Quality and Safety Improvement (1 Unit)

This course is taught by distinguished faculty from Northwestern's Kellogg School of Management and is designed to teach organizational and management theories through which students can apply their quality and safety knowledge and skills in the context of an organization. Topical content areas covered by this course include leadership, culture, negotiations, operations, organizational behavior, leading effective teams and change management.