

Accrediting Graduate Programs in Healthcare Quality and Safety

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Abstract

The number of master's degree programs in healthcare quality and safety (HQS) has increased significantly over the past decade. Academic accreditation provides assurance that educational programs are of a high quality and meet the needs of students, employers, and the general public. Under the guidance of the Commission on Accreditation of Healthcare Management Education, faculty from 9 universities collaborated in the development of criteria and related content domains to be used in the accreditation of graduate programs in HQS. Thirteen content domains were identified. Four of the content domains, safety and error science, improvement science and quality principles, evidence-based practice, and measurement and process improvement are thought to be foundational domains for graduate education in HQS. This article describes the development of the content domains and accompanying standards for accreditation of graduate programs in HQS.

Keywords

healthcare quality, patient safety, education, accreditation

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Introduction

Quality health care is safe, effective, patient-centered, timely, efficient, and equitable.¹ Safety is the foundation upon which the processes of quality of care are built.^{1,2} Several influential publications in the United States and Canada highlighted the significant quality problems associated with current healthcare delivery,^{1–3} and provided a roadmap for improving performance.² Since the publication of these reports, health systems and the related organizations have increased improvement efforts resulting in signs that some aspects of healthcare delivery are indeed safer.⁴ However, there continue to be areas in need of sustained improvement and attention to prevent adverse events, poor patient outcomes, and poor quality of care.⁴

Building a quality healthcare system while reducing and mitigating unsafe acts requires organizations to adopt a culture where quality and safety are valued.^{3–5} Such organizations must have leaders and personnel committed to high quality care who have the requisite knowledge and skills necessary to lead quality improvement processes and transform the organization at the micro/unit and macro/organizational levels. In this quest for excellence, healthcare organizations are increasingly embracing quality improvement methods developed in industry (eg, Lean, Six Sigma, Plan-Do-Study-Act, and change management)

to systematically address performance. These methods rely on the collection and interpretation of data to drive performance and improve quality.⁶ Leaders in quality and safety must be able to interpret data and make it actionable and understandable across all levels of the organization.

Healthcare quality and safety (HQS) as a profession have emerged as the need for leadership and innovation in this space has expanded. In the past, preparation for a career in HQS might include a graduate degree in nursing, business, health informatics, health administration, or public health. However, there is an increasing realization that for professionals working in these disciplines, these degrees are not sufficiently focused on domains needed to develop knowledge and skills specific to HQS. Healthcare organizations now recognize that academic graduate degrees in the content area of HQS, with or without complementary healthcare degrees, offer a robust supplement to organizational training and will aid in developing expertise and trust to lead quality improvement and patient safety departments.

In response to an increased demand for training in this specialized field, universities in North America are now offering graduate degree programs in HQS. As an example, in 2017, the authors identified 15 programs in the United States and Canada that offered graduate education in HQS. Since 2017, it is estimated that the number of graduate programs in HQS has at least doubled. The difficulty in getting an exact count is that programs are sometimes bundled into concentrations in nursing, healthcare management, informatics, or other disciplines. The delivery format of these programs varies from fully online to fully in-person, and programs exist in a variety of settings including schools of nursing, medicine, public health, and health professions. These programs contain a common set of distinctive content areas that reflect the unique knowledge and skills required of healthcare quality and safety professionals.⁷ Although the universities offering these programs are accredited by regional bodies, given the nascent nature of HQS programs, opportunities for accreditation at the program-level accreditation have not existed.

The Council for Higher Education Accreditation defines accreditation as “a process of external quality review created and used by higher education to scrutinize colleges, universities and programs for quality assurance and quality improvement.”⁸ It uses a process that typically involves faculty, administrators, staff, and a team of subject matter peers selected by the accrediting association to evaluate programs by using a set of standards centered around quality and integrity.⁸ For students, employers, and the general

public, academic accreditation provides assurance that educational programs voluntarily agree to engage in continuous program improvement and to adhere to a set of standards or criteria that ensure the education provided is of a high quality.

Timeline to Develop HQS Accreditation Standards

In September 2016, the Commission on Accreditation of Healthcare Management Education (CAHME) along with academic leaders at Thomas Jefferson University and the University of Alabama at Birmingham initiated discussions on creating an accreditation process for graduate programs in HQS. These initial discussions lead to an in-person meeting in September 2017 at Thomas Jefferson University of 14 programs across North America and Canada to discuss issues and approaches to HQS accreditation. During that meeting, the programs agreed to a set of organizing principles to support an approach to accrediting graduate programs in HQS. Twelve programs subsequently committed to become “Founding Members” of the accreditation development process and to fund the initiative with CAHME (Table 1). Three programs that initially provided funding eventually decided not to pursue accreditation at that time, reducing the number of Founding Members to nine. The National Association of Healthcare Quality later joined the initiative to provide logistical support and to facilitate engagement with the broader community of HQS professionals.

In a subsequent meeting in November 2017, 6 committees comprised primarily from the 12 programs were formed (see Table 2). The HQS Accreditation Standards Committee developed the overall criteria for accreditation and the Competency Development Committee identified specific domains that would serve as the foundation of the curricular requirements. These 2 committees, under the direction of an Executive Committee and General

Table 1. Founding Members.

University of Illinois at Chicago	Chicago, IL, USA
Thomas Jefferson University	Philadelphia, PA, USA
Jacksonville University	Jacksonville, FL, USA
Drexel University	Philadelphia, PA, USA
George Washington University	Washington DC, USA
University of Pennsylvania	Philadelphia, PA, USA
Georgetown University	Washington, DC, USA
Queens University	Toronto, ON, Canada
University of Alabama at Birmingham	Birmingham, AL, USA
Sam Houston State University ^a	Houston, TX, USA
University of Toronto ^a	Toronto, ON, Canada
Misericordia University ^a	Dallas, PA, USA

^aCurrently not pursuing accreditation. Other programs are now in the candidacy with accreditation expected in 2022 or 2023.

Table 2. Timeline.

Date	Participants	Milestone
September 2017	Exploratory meeting at Thomas Jefferson University of 18 North American academic leaders from the USA and Canada and CAHME executives	Programs agreed to develop accreditation process for HQS graduate programs.
November 2017	HQS Founding Members NAHQ	Six committees are created with focus as follows: (1) "Certification Standards" committee serves to develop standards that are an interim step to accreditation (2) "Competency Development" committee focuses on the development of core competencies required by graduates (3) "Outreach" focuses on communications (4) "Accreditation Standards" develops the standards and criteria for accreditation, using CAHME's standards and criteria for health care management as a basis (5) "Executive Committee" consists of the chairs of each of the committees, to foster communication and to prepare materials for the "General Committee" (6) "General Committee" consists of all Founding programs and CAHME to approve the committee work NAHQ joins the initiative to help provide logistical support for the process. NAHQ becomes a critical partner for helping to spread the word about the need for accreditation in programs
June 2018–December 2018	Competency Development Committee	Agreed upon definition of quality and patient safety for the purpose of accreditation of graduate programs; proposed and developed content domains; identified two knowledge, skill, and attitude components for each domain; wrote examples of two measurable competencies derived from those components
June 2018–February 2019	Accreditation Standards Committee	Reviewed and revised CAHME existing standards for health care management programs for HQS programs, incorporated content domains into proposed HQS accreditation standards
May 2019	CAHME Board of Directors	The CAHME Board of Directors approves the Criteria and Standards for Accreditation for Healthcare Quality and Safety
April 2020	CAHME Board of Directors	HQS Accreditation development committee structure is terminated

Abbreviations: CAHME, the Commission on Accreditation of Healthcare Management Education; HQS, healthcare quality and safety; NAHQ, The National Association of Healthcare Quality

Committee, embarked on an ambitious timeline to develop the core standards for HQS program accreditation. The strength of this approach allowed for the quick and ongoing sharing of ideas, which allowed this process to be completed more than a year ahead of schedule. By early 2019, the Competency Development and the Accreditation Standards Committees completed their work. In May 2019, the CAHME Board of Directors adopted the proposed HQS accreditation standards (see Table 2). In April 2020, after the work was complete, the entire HQS accreditation development committee structure was terminated.

Accreditation Standards and the Accreditation Process

Since 1968, CAHME has accredited graduate programs in healthcare management. The current process for healthcare management programs seeking accreditation is to first make an official request to CAHME and complete an eligibility statement declaring that the program has met 11 eligibility requirements, including attesting that the university has achieved regional accreditation; the program has graduated at least one class; and that there will be no discrimination on the basis of gender, age, creed, race, ethnicity, disability, or sexual orientation.⁹ Programs then move into Candidacy Status

following approval of the candidacy application by a committee of representatives from peer programs. The Candidacy program establishes communication, assistance, and continuity between programs and CAHME. Programs then complete a "year of record" during which program characteristics and achievements are documented using 4 sets of criteria outlined in Table 3.

At the end of the year of record and following submission of a self-study document, programs are visited by an accrediting team comprised faculty from other institutions and employers. The site visit report is then read by other experts on the Accreditation Council. Accreditation is then voted on by the Board of Directors based on the recommendations of the Accreditation Council. Existing programs are generally accredited for 7 years and new programs for 3 years.

HQS Accreditation Standards

The HQS Accreditation Standards Committee reviewed the existing CAHME healthcare management standards document outlining the requirements for meeting the 4 criteria and revised it to meet the specific needs of HQS programs. Substantive changes involved identifying the specific domains and competencies to be included in HQS curricula as described below.

Table 3. CAHME Healthcare Management and Healthcare Quality and Safety Accreditation Criteria.

Criteria	Focus
I. Program mission, values, vision, goals, and support	Mission, vision, and values that guide program design, strategic intention, and quality improvement initiatives. Establishment of goals, objectives, and performance outcomes. Sufficient financial support and resources. Program leadership and the authority of that leadership. Academic resources.
II. Students and graduates	Availability of information regarding program including curriculum, requirements for admission, and outcomes. Academic and career advising. Documentation of student career preparedness.
III. Curriculum	Competencies and domains forming the basis of the curriculum. Teaching, learning, and assessment methods.
IV. Faculty teaching, scholarship, and service	Qualifications of the faculty. Faculty diversity and a culture of inclusiveness.

Abbreviations: CAHME, the Commission on Accreditation of Healthcare Management Education.

HQS Content Domains

Before developing the content domains and competencies that would drive the curricula, and thus the standards around accreditation, the Competency Development Committee agreed that foundational definitions of the HQS discipline were needed to guide the process. There have been many published definitions of the disciplines of HQS. The Competency Development Committee's initial deliberations used the literature to standardize a definition. Drawing from the work of the Institute of Medicine,² Shojania et al (2001),¹⁰ and World Health Organization,¹¹⁻¹³ the Competency Development committee established its own definitions for quality and safety.

Quality in health care is defined as the degree to which healthcare services for individuals and populations increase the likelihood of desired health outcomes. It encompasses the concepts of effectiveness, efficiency, timeliness, equitable care, patient-centered care, and is informed by best practice evidence.

Patient safety is the prevention of errors and adverse effects associated with the delivery of health care that may result in temporary or permanent injury to patients, families, and caregivers.

The committee recognized that healthcare quality and patient safety are separate fields, yet inextricably linked. They may share theoretical frameworks, concepts, models, and tools; however, context has a significant influence on the activity. The development of the content domains was guided by these underlying assumptions: each field has its own body of the literature, each field is equally important in the delivery of health care, and professionals in HQS collaborate to attain optimal outcomes.

Years of scholarship and scholarly debate surround the concepts of competence, competency development, and the acquisition and assessment of competence. The Competency Development

Committee deliberated these issues and adopted the following definition to guide content domains and sample competencies development.

A *competency* is "an observable ability of a health professional, integrating multiple components such as knowledge, skills, values, and attitudes. Since competencies are observable, they can be measured and assessed to ensure their acquisition."^{14,15}

Competence is the ability to effectively engage in an activity.

A *competency statement* reflects the related knowledge, skills, and attitudes someone must demonstrate for competence, measured at a point in time. Competencies acquired lead to competence.

There has been little national or international agreement over what knowledge, skills, and attitudes (competencies) a graduate from an HQS program should exhibit. The Competency Development committee used the work of Moran et al¹⁶ as the starting point for developing the content domains expected of accredited curricula in HQS. The authors conducted a literature review of position papers published by professional associations, expert panels, consortia, centers and institutes, and convened committees. Among the 22 position papers meeting the inclusion criteria, they identified a series of themes at the skill acquisition levels of *competent* and *expert*, based on the definitions developed by Dreyfus and Dreyfus.¹⁷ The competency development committee examined the themes and agreed they should become the content domains for the discipline. Additionally, they defined each content domain and created a set of exemplar competencies for each domain.

The Competency Development Committee settled on 13 domains (see Table 4). Four of the domains are foundational for HQS education: safety and error science, improvement science and quality principles, evidence-based practice, and measurement and process improvement. The committee added communication, health informatics, human

Table 4. Accreditation Domains, Descriptions, Sample Competencies, and Sample Knowledge (K), Skills (S), and Attitudes (A).

Domain	Description	Sample Competency	Sample KSA
1. Safety and Error Science	Safety and Error Science is the study of complex interactions across space and time. Safety science includes elements that constrain human action and principles that guide design of the human-technology interface and that facilitate understanding of the state of the system. Errors include actual events, near misses, and lapses. "Safety" is a dynamic property that optimizes operational and organizational environments across varying conditions and recognizes intrinsic hazards and risks	Apply safety and error science theories and principles to improve health and health care systems while considering stakeholders' perspectives	Knowledge: Contrast theories and principles in error science. Skills: Formulate a strategy to prevent error and promote quality and patient safety in a health care setting. Attitude: Value the diversity of stakeholder's perspective
2. Improvement Science and Quality Principles	Improvement Science and Quality Principles refer to the concept of exploring how to undertake quality improvement by applying research methods to examine the impact of quality improvement efforts on outcomes. Improvement Science and Quality Principles provide the conceptual and methodological framework to improve the quality, patient safety, and value of health care	Apply appropriate tools to determine root causes of an adverse event for planning process improvement	Knowledge: Outline the steps for a root cause analysis. Skills: Conduct a root cause analysis. Attitude: Value the significance of correct identification of the root causes to inform the improvement process
3. Evidence-based Practice	Evidence-based Practice refers to the process of decision-making using critical thinking and the best evidence available, at the time, to inform practice. Obtaining best available evidence requires information-seeking skills of published literature, "preappraised" resources that have undergone a filtering process, internal business information, and professional experience. Evidence-based practice is conscientious, explicit, and judicious in its use of the best available evidence from multiple sources. Evidence-based practice requires consideration of the context in which it is being applied.	Critically appraise evidence from multiple sources to inform decisions to improve health and patient safety	Knowledge: Explain the principles of critical appraisal and use of evidence in making informed decisions. Skills: Formulate a method to appraise and use evidence in health care quality and patient safety contexts. Attitude: Value the use of evidence to inform decision-making
4. Measurement and Process Evaluation	Measurement and Process Evaluation refers to the use of valid and reliable tools and methods to accurately collect and analyze data to assess the need for change, to achieve desired outcomes, and to assess the effectiveness or impact of the change. Tools can include, but are not limited to, scorecards, dashboards, and statistical process controls	Conduct a process evaluation choosing appropriate tools, while respecting the culture, contextual elements and processes affected	Knowledge: Differentiate among current measurement and/or evaluation tools and methods in quality improvement. Skills: Apply the appropriate measurement methods to evaluate improvement interventions. Attitude: Value the use of measurement and evaluation
5. Communication	Communication refers to the process of messaging from a sender to a receiver through verbal, nonverbal, written, or some other medium. The message contains content and has context. The message must be synthesized and understood by the receiver. The meaning of content is shaped by the meanings associated with the message itself, as well as the emotions triggered by the message. Perspectives, culture, biases, and language barriers are important elements in the communication process. Meaning is influenced by the relationship between the parties. Communication is affected by factors such as location, environmental conditions, and time of day	Guided by communication theory, delivers appropriate content using suitable communication channel(s) valuing the receiver's perspective and validating accurate receipt of the content	Knowledge: Critique the factors that influence the delivery, receipt, interpretation, and response to all types of communication. Skills: Integrate methods to deliver and validate written, verbal, and nonverbal communication to promote health care quality and patient safety goal achievement. Attitude: Value the diversity of the stakeholder perspective
6. Health Informatics	Health informatics refers to the interdisciplinary field that draws upon the fields of information science, information technology, and social and behavioral science, as applied to health. Health Informatics is the application of health information technology in the interdisciplinary field that studies and pursues the effective uses of biomedical data, information, and knowledge for scientific inquiry, problem solving and decision-making, motivated by efforts to improve human health. The content domain encompasses concepts of stakeholder analysis, adoption of technology, and sociotechnical systems	Maximize the use of information technology to efficiently share patient data across organizational and professional practice boundaries	Knowledge: Explain the characteristics of an information communication process in integrated care. Skills: Implement information communication processes to promote efficient and effective information sharing among interprofessional teams to reduce errors. Attitude: Value the significance of timely and accurate information communication systems across the continuum of care
7. Human Factors	Human Factors refers to the interdisciplinary field that focuses on the interaction between humans and products, processes, and systems in order to reduce human error, enhance human safety and comfort, and improve processes. Human factors decision-making integrates user-centered inquiry and design from a systems perspective to ensure effective representation and use of biomedical and other data. The content domain reflects theories of human perception and cognition, and applies methods of systems analysis, knowledge elicitation, user-centered design, usability, and technology evaluation	Incorporate human factors principles in addressing a quality and patient safety problem	Knowledge: Outline the interactions among humans and other elements of a system. Skills: Manage the impact of system changes and user related factors in a quality and patient safety improvement program. Attitude: Value the complexity of the sociotechnical perspective during a quality-based change
8. Professionalism	Professionalism refers to the status, methods, character, or standards expected of a professional in quality and patient safety and is demonstrated by the shared attitudes, beliefs, and values held by members of the profession. Among these shared attitudes, beliefs, and values is a commitment to lifelong learning, leadership development, reflective practice, interdisciplinary collaboration, advocacy, and policymaking at the local and national levels, and relies on critical thinking, communication, decision-making, and judgment. Professionals demonstrate trustworthiness, accountability, reliability, and ethical behavior	Exhibits professional behavior in all aspects of quality and patient safety activities	Knowledge: Differentiates between professional and unprofessional behaviors. Skills: Manages confidential patient information in adherence to HIPAA Standards. Attitude: Demonstrates professional responsibility in adherence to ethical principles and sensitivity to diversity

(Continued)

Table 4. (Continued)

Domain	Description	Sample Competency	Sample KSA
9. Leadership	Leadership in quality and patient safety sustains and promotes the commitment to quality in all aspects of care provision as well as ensuring a safe and just environment within which all stakeholders can speak up to protect the integrity of safe care processes within a culture of transparency. Applying models of leadership, leaders strategically plan, manage, and sustain initiatives to achieve organizational goals, create and manage teams, monitor and respond to environmental dynamics, eliminate barriers, optimize resource utilization, manage change, and coach and motivate others. Leaders demonstrate self-awareness and seek self-improvement	Applying leadership principles to oneself and the team to foster quality and patient safety initiatives	Knowledge: Create teams using leadership principles. Skills: Implement quality and patient safety initiatives. Attitude: Reflect on one's own leadership skills in managing a quality and patient safety initiative
10. Systems Thinking	Systems Thinking is the ability to recognize, understand, and synthesize the linkages, relationships, interactions, behaviors, and interdependencies among a set of components designed for a specific purpose. The components, including human agents/actors who drive a system and function, must be understood together, in a dynamic architecture of interactions and synergies that characterize the entire system	Generate a plan to transition an organization from a culture of shame and blame to a systems-based just culture	Knowledge: Articulate the systems-based approach to patient safety culture taking into consideration that errors are caused by poorly designed systems leading to human failings. Skills: Identify systems-based approaches to establish a just culture. Attitude: Value individual contributions in building a systems-based patient safety culture
11. Legal and Regulatory Issues	Legal and Regulatory issues refers to applicable requirements and accreditation standards that are foundational to health care quality and patient safety practice. The impact of laws, regulations, and standards on healthcare delivery, institutional policy, financing, and resource allocation are part of this content domain. Included are concepts associated with planning for, implementing, and monitoring requirements and standards to achieve compliance, to predict costs, to deliver effective and efficient care, and to promote value. Risk management efforts enhance awareness of legal and regulatory requirements and support measures to prevent untoward outcomes, financial loss, and to maintain community trust	Apply legal and regulatory standards in a principled and equitable manner, addressing a patient safety risk within an organization	Knowledge: Analyze the implication of applicable laws and regulations currently affecting healthcare delivery. Skills: Demonstrate how relevant laws, regulations, or standards impact risk management and compliance. Attitude: Display ethical decision-making using internal and external experts to avoid potentially negative legal and regulatory outcomes
12. Interprofessional Collaborative Work	Interprofessional Collaborative Work refers to the practice of multiple disciplines working together in the spirit of mutual trust and respect, cooperation, and open communication to support attainment of the shared goal of improving patient safety and quality. Collaborative work is characterized by shared responsibility and accountability, teamwork, and coordination while developing and maintaining effective working relationships with all members of the interdisciplinary team	Through a collaborative process, develop an improved plan of care that respects the expertise and perspectives of team members, patients, and families	Knowledge: Compare the roles and scope of work of all members of the health care team relevant to current work settings. Skill: Build collaboratively an interprofessional plan of care. Attitude: Display openness to the perspectives of all team members including the patient/client and family
13. Patient- and Family-centered Engagement	Patient- and Family-centered Engagement refers to the integration of patients and families as critical stakeholders in the structure, process, and outcomes of the health care delivery continuum. Methods of engagement can include strategies incorporating the patient and family voice in quality and patient safety initiatives and the use of tools and measures to elicit input and feedback from this group. This content domain encompasses social determinants of health, cultural competence, and health literacy	Survey patients about their care experience and compile the results to assist in the formation of an Advisory Council that reflects the interests and voice of the patient	Knowledge: Compare the tools used to measure patient/family experience (Examples of quantitative tools are Hospital Consumer Assessment of Healthcare Providers and Systems-HCAHPS, Health-related quality of life-HRQL; qualitative tools are surveys, interviews, ethnography). Skill: Utilize appropriate tools for the measurement of patient/family experience. Attitude: Respect the voice of the patient when soliciting patient feedback

Abbreviations: KSA, knowledge, skills, and attitudes.

factors, professionalism, leadership, systems thinking, legal and regulatory, interprofessional collaborative work, and patient- and family-centered engagement domains as essential competencies for HQS practice.

While all the domains must be included in the curricula, programs are encouraged to individualize their curricula based on mission, student needs, and other factors. As an example, a program could develop its curricula to emphasize safety and error science, evidence-based practice, health informatics, and human factors, and minimally address legal and regulatory issues and patient- and family-centered engagement. Thus, while programs must have breadth across the domains, the level of depth is up to the individual program.

Discussion

There are significant benefits associated with academic accreditation. Programs that conduct continuous quality improvement and have their efforts validated through the accreditation process realize benefits such as increased enrollment, reputation, and competent graduates. Accreditation also provides a framework for teaching and training excellence that supports culture change for healthcare systems. Prospective employers will trust the education and competence of their prospective employees who received their education from an accredited degree program.¹⁸

Programs view accreditation as a way to strengthen education processes and quality efforts in an ongoing commitment to continuous improvement. Program-level accreditation is an achievement of a broadly recognized minimum standard of excellence. These criteria, content domains, sample competencies, and sample knowledge, skills, and attitudes, developed by peer programs and documented here, provided a critical first step toward establishing standards for accrediting HQS programs in North America, and defined the field of HQS. These steps reflect those taken by others in health care to establish a recognized profession, in this case, a profession in HQS. The nature of program accreditation tracks the evolution of a profession. Since the HQS field is rapidly evolving and as employment and professional engagement matures, the content domains and other elements of program accreditation will change to reflect current professional practice.

Conflicts of Interest

The authors have no conflicts of interest to disclose.

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