

STANDARD 7
ELEMENT EVALUATION FORMS

STANDARD 7: CURRICULAR CONTENT

The faculty of a medical school ensure that the medical curriculum provides content of sufficient breadth and depth to prepare medical students for entry into any residency program and for the subsequent contemporary practice of medicine.

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7.1 BIOMEDICAL, BEHAVIORAL, SOCIAL SCIENCES

The faculty of a medical school ensure that the medical curriculum includes content from the biomedical, behavioral, and social sciences to support medical students' mastery of contemporary medical science knowledge and concepts and the methods fundamental to applying them to the health of individuals and populations.

Requirement 7.1-1

The faculty of the medical school ensure that the medical curriculum includes content from the biomedical, behavioral, and social sciences to support medical students' mastery of contemporary medical science knowledge and concepts and the methods fundamental to applying them to the health of individuals and populations.

Analysis of evidence for requirement 7.1-1

In the pre-clerkship, students are exposed to content from the biomedical, behavioral, and social sciences using a constructivist approach to support mastery. In the Legacy curriculum, this was accomplished through integration of content from the fundamental sciences organized by body systems, supplemented by longitudinal courses to expand on particular topics. These were regularly reviewed and updated by course leaders and faculty to ensure that they were up to date with ongoing developments relevant to clinical practice. A regular program of assessment was in place to determine mastery of knowledge, including assessment of the students' application of knowledge to individuals through patient interactions and simulated clinical cases, and to populations in the dedicated Population Health course.

In the RIME curriculum, the biomedical, behavioral, and social sciences are presented in an integrated fashion organized by MCC objective, with topics revisited longitudinally through the spiral curriculum. While much of the initial exposure to content is asynchronous, students can apply concepts through tutorial and large group sessions and assess their knowledge in all areas through regular online interactive testing. While the curriculum is newly developed and thus currently up to date, it is governed by a curriculum committee (Curriculum Innovation and Oversight Committee-CIOC) to assess the need for changes on an ongoing basis.

The clerkship is organized into key clinical presentations and procedures, which are regularly reviewed and updated to ensure currency. Students are assessed regularly in the program to ensure that they are achieving mastery of all relevant biomedical, social, and behavioral components of clinical medicine, including their application to clinical practice.

7.2 CURRICULUM ACROSS THE LIFE CYCLE

The faculty of a medical school ensure that the medical curriculum includes content and clinical experiences related to each organ system; each phase of the human life cycle; continuity of care; and preventive, acute, chronic, rehabilitative, and end-of-life care.

Requirement 7.2-1

The faculty of a medical school ensure that the medical curriculum includes content related to:

- i. each organ system*
- ii. each phase of the human life cycle*
- iii. continuity of care*
- iv. preventive, acute, chronic, rehabilitative, and end-of-life care*

Analysis of evidence for requirement 7.2-1

i. Each organ system

The Legacy curriculum was systems-based and covered each organ system in the courses. The mandatory electives covered the range of the organ systems to ensure adequate exposure. The RIME curriculum (July 2023 onward) is based on all the established MCC objectives and therefore covers all the organ systems in the body. The pre-clerkship is complemented by the established mandatory clerkship rotations.

ii. Each phase of the human life cycle

The Legacy curriculum covered each phase of the life cycle within the organ system courses. In particular, there was a pediatrics course and a geriatrics component in the Legacy curriculum. In the RIME curriculum, the life cycle is integrated into the cases presented to the students and purposefully covers every stage of the life cycle.

iii. Continuity of care

Continuity of care was taught in the Legacy curriculum with emphasis in Course 8 (the integrative course) and through a special presentation “Falling through the cracks”. Additionally, there was a family medicine clinical experience which emphasized continuity of care. In the RIME curriculum, this is implicitly integrated into the curriculum, and cases have been built to show continuity of care throughout a patient’s life span.

iv. Preventative, acute, chronic, rehabilitative and end-of-life care

These elements were presented throughout the Legacy curriculum. The medical school reviewed the curriculum in 2018 and found that preventative care and end-of-life care were covered well. Acute care and chronic care were covered in the systems courses. In the RIME curriculum, these elements have been specifically integrated into the curriculum to ensure that they are covered throughout the pre-clerkship.

Requirement 7.2-2

The faculty of a medical school ensure that the medical curriculum includes clinical experiences related to:

- i. each organ system*
- ii. each phase of the human life cycle*
- iii. continuity of care*
- iv. preventive, acute, chronic, rehabilitative, and end-of-life care*

Analysis of evidence for requirement 7.2-2

i. Each organ system

The Legacy curriculum had a clinical component termed Clinical Correlation. The RIME curriculum has ten half days of family medical clinical experiences. Additionally, there are three Clinical Experience weeks, and clinical experiences throughout the clerkship that cover the organ systems.

ii. Each phase of the human life cycle

The Legacy curriculum provided Clinical Correlation that addressed each phase of the human life cycle. This was also covered in the Family Medicine Clinical Encounter and several clerkship rotations. In the RIME

curriculum, this is covered throughout the units, in the Family Medicine Clinical Experience and the clinical clerkship.

iii. Continuity of care

Continuity of care was experienced in the family medicine clinical encounter course in the Legacy curriculum. In the RIME curriculum, the continuity of care is experienced in the family medicine clinical experience throughout the Professional Role course.

iv. Preventative, acute, chronic, rehabilitative and end-of-life care

In the Legacy curriculum, Clinical Correlation and the Family Medicine Clinical Encounter provided adequate coverage of these components. Additionally, preventative, acute, chronic, rehabilitative and end-of-life care is covered in the clinical clerkship rotations. The RIME curriculum covers the noted components in the Family Medicine Clinical Experience and the clinical clerkship rotations.

7.3 SCIENTIFIC METHOD/CLINICAL/ TRANSLATIONAL RESEARCH

The faculty of a medical school ensure that the medical curriculum includes instruction in the scientific method and in the basic scientific and ethical principles of clinical and translational research, including the ways in which such research is conducted, evaluated, explained to patients, and applied to patient care.

Requirement 7.3-1

The faculty of the medical school ensure that the medical curriculum includes instruction in the scientific method.

Analysis of evidence for requirement 7.3-1

In both the Legacy and RIME curricula there is heavy focus on instruction in the scientific method. In the Legacy curriculum students completed a mandatory Applied Evidence-Based Medicine course to understand and apply the principles of the scientific method as it applies to evidence-based medicine. Within RIME, these concepts are expanded and distributed throughout the blocks, with an introduction in Block 1 to address the need for and potential pitfalls of relying on traditional evidence-based medicine from a health equity perspective. In Block 2, the Legacy AEBM curriculum has been redeveloped to be patient-centered and integrated into the patient presentations of the week. Students are assessed on asynchronous learning materials by participation in small group journal clubs to critically appraise literature that is pertinent to the presentations and patients they encounter that week.

In clerkship, students are expected to apply these principles of critical appraisal in the diagnosis and management of patients.

Requirement 7.3-2

The faculty of the medical school ensure that the medical curriculum includes instruction in the basic scientific and ethical principles of clinical and translational research, including the ways in which such research is:

- i. conducted*
- ii. evaluated*
- iii. explained to patients*
- iv. applied to patient care*

Analysis of evidence for requirement 7.3-2

As documented in 7.3-1, both the Legacy and RIME curricula provide instruction on how research is conducted and evaluated. Students in the Legacy curriculum performed a research elective through AEBM and in the RIME curriculum all students are required to perform a scholarly activity project. The ethical principles of research are taught both in medical ethics and throughout the evidence-based medicine curriculum, as well as woven into the patient presentations in the RIME curriculum, when considering health equity in the context of the information used to inform treatment of patients. Clinical and translational research is evaluated and applied to patient care through both dedicated educational events (lectures in legacy curriculum, podcasts and learning activities in RIME) and then integrated into the patient presentations for diagnosis and management. Students were taught and assessed on communicating clinical and translational research to patients in the Integrative Course in the Legacy curriculum.

7.4 CRITICAL JUDGMENT/PROBLEM-SOLVING SKILLS

The faculty of a medical school ensure that the medical curriculum incorporates the fundamental principles of medicine and provides opportunities for medical students to develop clinical decision-making skills (i.e., clinical reasoning and clinical critical thinking) including critical appraisal of new evidence, and application of the best available information to the care of patients. These required learning experiences enhance medical students' skills to solve problems of health and illness.

Requirement 7.4-1

The faculty of the medical school ensure that the medical curriculum incorporates the fundamental principles of medicine.

Analysis of evidence for requirement 7.4-1

The students have multiple opportunities to engage in critical judgement and reasoning throughout the pre-clerkship and clerkship. In the Legacy curriculum, clinical presentations were the medical school curriculum's cornerstone and were intertwined into large group presentations, small groups and clinical experiences.

In the RIME curriculum, clinical critical judgement is emphasized in small group tutorials and in large group in-person sessions. Clinical reasoning and clinical critical thinking are evaluated through the assessment process.

Requirement 7.4-2

The faculty of the medical school ensures that the medical curriculum provides opportunities for medical students to develop clinical decision-making skills (i.e., clinical reasoning and clinical critical thinking) including critical appraisal of new evidence, and application of the best available information to the care of patients.

Analysis of evidence for requirement 7.4-2

There were several opportunities for clinical decision making throughout the Legacy curriculum including the Clinical Correlation sessions, Physical Examination course, Communications course, small group, Course 8, Clinical Skills/Integrative, AEBM2 and the Family Medicine Clinical Experience. For critical thinking, opportunities were provided in the Clinical Correlation, Introduction to Clinical Practice, Clinical Skills course, Integrative course and clerkship. For the critical appraisal of evidence, this was evident during the integrative, AEBM1 and AEBM2 experiences.

In the RIME curriculum, clinical reasoning is covered in tutorial groups, large group sessions and podcasts. Clinical critical thinking is covered in the above venues. For critical appraisal of evidence, the podcast series, large group sessions, and small group journal club sessions address this topic.

Requirement 7.4-3

These required learning experiences enhance medical students' skills to solve problems of health and illness.

Analysis of evidence for requirement 7.4-3

In the Legacy curriculum, the skill of *solving problems of health and illness* was addressed in the Clinical Correlation sessions, Communication and Physical Examination sessions. This was also covered in the small group sessions and the Family Medicine Clinical Experience. The clerkship rotations have a particular focus of solving problems of health and illness.

In the RIME curriculum, this is covered in tutorials and large group sessions. There are also sessions on critical evaluation of literature.

7.5 SOCIETAL PROBLEMS

The faculty of a medical school ensure that the medical curriculum includes instruction in the diagnosis, prevention, appropriate reporting, and treatment of the medical consequences of common societal problems.

Requirement 7.5-1

The faculty of the medical school ensure that the medical curriculum includes instruction in the diagnosis, prevention, appropriate reporting, and treatment of the medical consequences of common societal problems.

Analysis of evidence for requirement 7.5-1

Both the Legacy and the RIME curricula examples illustrate the details regarding purposeful instruction in the diagnosis, prevention, appropriate reporting, and treatment of the medical consequences of common societal problems.

In the Legacy curriculum, course leaders identified gaps based on MCC objectives or prevalent social issues, and then determined how to include related learning objectives into their courses while also determining other content to be removed to accommodate the new material. Proposed changes were reviewed and voted on at the Pre-Clerkship Committee. Examples involved educational material related to the COVID pandemic and the impact in long-term care facilities as well as a session on the opioid crisis that involved patient and community partners.

The material related to the structural determinants of health and health equity objectives were fully integrated within the small and large group sessions as well as the “patients” of the week in the RIME curriculum, with the curricular map including the integration of all CanMEDS physician roles. The Curriculum Innovation and Oversight Committee (CIOC) reviews all requests for additions to the content, in addition to annual review of program objectives. Examples provided include instruction related to adverse childhood events, the opioid crisis, disability and ableism and others.

The Director of Health Equity and Structural Competency is a member of the RIME Pre-clerkship Committee as well as the Curriculum Innovation and Oversight Committee and has responsibility in overseeing the topic of “racism in medicine and structural barriers to health care”. Given that societal problems, and related concepts of social accountability and structural competency are woven and built upon throughout the RIME curriculum, their involvement in these committees is instrumental in ensuring that adequate time and resources are dedicated to these learning objectives.

7.6 CULTURAL COMPETENCE AND HEALTH CARE DISPARITIES

The faculty of a medical school ensure that the medical curriculum provides opportunities for medical students to learn to recognize and appropriately address the unique needs of people of diverse cultures, genders, races and belief systems, in particular the Indigenous peoples of Canada.

The medical curriculum prepares medical students to:

- a) recognize and appropriately address the manner in which people of diverse cultures, genders, races and belief systems perceive health and illness and respond to various symptoms, diseases and treatments;*
- b) recognize and appropriately address personal biases (cultural, gender, racial, belief) and how these biases influence clinical decision-making and the care provided to patients;*
- c) develop the basic skills needed to provide culturally competent health care;*
- d) identify health care disparities and participate in developing solutions to address them.*

Requirement 7.6-1

The faculty of the medical school ensure that the medical curriculum provides opportunities for medical students to learn to recognize and appropriately address the unique needs of people of diverse cultures, genders, races, and belief systems, in particular the Indigenous peoples of Canada.

Analysis of evidence for requirement 7.6-1

The Legacy curriculum had several examples in various courses where the above requirements were delivered, including Indigenous health. The RIME curriculum also has examples of how this content is woven into the curriculum. There are at least nine half days specific to Indigenous health, which is an increase over the Legacy curriculum. There are several other examples throughout the pre-clerkship that address healthcare delivery in diverse cultures, personal biases and how such biases may impact patient care.

Requirement 7.6-2

The medical curriculum prepares medical students to:

- a) recognize and appropriately address the manner in which people of diverse cultures, genders, races, and belief systems perceive health and illness and respond to various symptoms, diseases, and treatments*
- b) recognize and appropriately address personal biases (cultural, gender, racial, belief) and how these biases influence clinical decision-making and the care provided to patients*
- c) develop the basic skills needed to provide culturally competent health care*
- d) identify health care disparities and participate in developing solutions to address them*

Analysis of evidence for requirement 7.6-2

The Legacy curriculum included all required components through various curriculum courses. The RIME curriculum also includes these requirements, but they are presented in a longitudinal manner and woven throughout all the small and large group learning experiences, as well as the Community Engaged Learning opportunities.

7.7 MEDICAL ETHICS

The faculty of a medical school ensure that the medical curriculum includes instruction for medical students in medical ethics and human values both prior to and during their participation in patient care activities and requires medical students to behave ethically in caring for patients and in relating to patients' families and others involved in patient care.

Requirement 7.7-1

The faculty of the medical school ensure that the medical curriculum includes instruction for medical students in medical ethics and human values both prior to and during their participation in patient care activities.

Analysis of evidence for requirement 7.7-1

The central role of bioethics and human values is emphasized throughout the CSM curriculum. Students are made aware that a knowledge of bioethics is part of the skillset of a competent physician. It starts in week “0”, where, as they prepare to sign an Oath of Confidentiality, students have a session on the importance of privacy and confidentiality in medicine.

In the Legacy curriculum, the pre-clerkship students had a formal bioethics unit which familiarized them with bioethical principles and provided them with tools for dealing with such issues. In both didactic and small group discussions, they were exposed to common ethical dilemmas associated with informed consent, confidentiality, truth-telling, relationships with industry, conflict of interest, end of life decisions, MAID, genetics, genomics, reproductive technologies, pediatrics, capacity and competency. Recent additions to the curriculum included bioethical issues associated with pandemics, cultural pluralism, social media, and physician remuneration. Students were also taught about legal precedents and their legal obligations. Exposure to such topics was not limited to the bioethics unit, but also occurred in units dealing with communication, physical exam and professionalism and physician health and the Integrative Course, where they learned about sensitive and respectful ways of communicating with patients and families. As clinical clerks, these same topics are addressed in actual clinical scenarios and students are encouraged to inquire if they have questions. Overall, the centrality of autonomy and respect for patients and their families is the cornerstone of the bioethics curriculum.

The RIME curriculum addresses the above topics throughout each of the Units, as well as in the Professional Role course. Clerkship experiences are unchanged.

Requirement 7.7-2

The faculty of the medical school requires medical students to behave ethically in caring for patients and in relating to patients' families and others involved in patient care.

Analysis of evidence for requirement 7.7-2

The expectation for professional and ethical behaviour of students permeates the curriculum. From the moment they sign their Oath of Confidentiality, students are reminded of their ethical obligations in caring for patients and their families. Within the pre-clerkship curriculum, students are evaluated each year by their attendance, a short written assignment and a presentation on a contemporary topic in bioethics to their small group.

Objectives, in terms of ethical considerations in specific medical situations, are reviewed and also a component of the ITER assessment in pre-clerkship courses. In the ITER assessments the students are evaluated on their professionalism and respect for patients and the team.

In clerkship, the ITERS in each rotation include assessment of their professional and ethical activities. Students who are identified as having issues with professionalism and ethics meet with a course chair and/or Assistant/Associate Dean.

7.8 COMMUNICATION SKILLS

The faculty of a medical school ensure that the medical curriculum includes specific instruction in communication skills as they relate to communication with patients and their families, colleagues, and other health professionals.

Requirement 7.8-1

The faculty of the medical school ensure that the medical curriculum includes specific instruction in communication skills as they relate to communication with:

- i. patients and their families*
- ii. colleagues*
- iii. other health professionals*

Analysis of evidence for requirement 7.8-1

Applicable to both the Legacy and RIME Curricula:

i. patients and their families

The longitudinal clinical skills course, during the first 18 months of pre-clerkship, puts emphasis on a patient centered approach to all patient interactions with a trauma informed care lens in all encounters. It emphasizes gender, affirming care principles, as well as exploring the patient's perspective and agenda. Special attention is given to cultural context as a core theme in the communications unit. Several 2-hour small group communication sessions (4-6 students and a preceptor) with standardized patients/families occur longitudinally and in a pattern of increasing complexity in a supportive environment. These sessions promote instruction and feedback in the critical area of communication. The one-way mirrors in the healthcare simulation MedSkills Centre allows for students to have observed communications with standardized patients/families, with a follow-up facilitated debrief involving the group.

ii. colleagues

Communication with colleagues is repeatedly emphasized by creating effective and respectful small group interactions throughout the weekly sessions in pre-clerkship. This incorporates the ability to give and receive constructive feedback, which is emphasized in the Communication course. This effective communication modality is further applied in exploring safe patient sign-over and structured case presentations in introduction to clinical practice in pre-clerkship and during clerkship. Once in the clerkship, students are evaluated on communication skills with colleagues through their regular ITER and expect to have clear written and verbal communication with them.

iii. other health professionals

Multiple components of the curriculum highlight the interprofessional interactions that are core aspects of effective patient care, including the family medicine clinical experience, collaborative practice sessions, and community engaged learning. These components emphasize respectful interactions with marginalized populations and process and confront personal biases and stigma.

7.9 INTERPROFESSIONAL COLLABORATIVE SKILLS

The faculty of a medical school ensure that the curriculum prepares medical students to function collaboratively on health care teams that include health professionals from other disciplines as they provide coordinated services to patients. These required curricular experiences include practitioners and/or students from the other health professions.

Requirement 7.9-1

The faculty of the medical school ensures that the curriculum prepares medical students to function collaboratively on health care teams that include health professionals from other disciplines as they provide coordinated services to patients.

Analysis of evidence for requirement 7.9-1

Both the Legacy and RIME curricula included/include multiple experiences that enhance interprofessional collaborative skills:

1. Career exploration clinical experiences (three pre-clerkship weeks in total) place students in a clinical environment conducive to working and interacting effectively with physicians and non-physician allied healthcare professionals, and healthcare teams.
2. Team based simulations, focused on interprofessional collaboration, occurs during introduction to clinical practice and involved a physician and an allied healthcare professional.
3. Community engaged learning (CEL) activities, in pre-clerkship exposes students to the role of interdisciplinary teamwork and holistic care that extends to include social work, law, and community services.

Requirement 7.9-2

These required curricular experiences include practitioners and/or students from the other health professions.

Analysis of evidence for requirement 7.9-2

In clerkship, these principles covered above are revisited, and applied in context of clinical encounters.

1. The Family Medicine rotation exemplifies the importance of shared decision-making with patients and collaboration with multiple healthcare providers to offer patient-comprehensive care. (Legacy and RIME)
2. Clerkship interprofessional education (IPE) occurs at the start of clerkship by placing students with allied healthcare professionals to understand the scope of their practice and their respective roles within the healthcare team (Legacy). These allied healthcare professions include social work, optometry, EMS, physiotherapy, occupational therapy and respiratory therapy. All clerkship rotations exist within a multidisciplinary healthcare system.
3. With the University of Calgary Longitudinal Integrated Clerkship (UCLIC) streams students have most of the rotations in rural sites where care teams are crucial to patient care.
4. Clerkship OSCE involves assessment of EPA related to collaborative care.

7.10 PROFESSIONAL AND LEADERSHIP DEVELOPMENT

The curriculum provides educational activities to support the development of each student's professional identity, core professional attributes, knowledge of professional responsibilities and leadership skills.

Requirement 7.10-1

The curriculum provides educational activities to support the development of each student's:

- i. professional identity
- ii. core professional attributes
- iii. knowledge of professional responsibilities
- iv. leadership skills

Analysis of evidence for requirement 7.10-1

Table 7.10-1A in the DCI outlines several initiatives in place regarding professional identity, core professional attributes, professional responsibilities, and leadership skills in the Legacy Curriculum. This is comprehensive in nature with some of the concepts noted below:

Legacy Curriculum:

- i. Professional Identity: During the orientation block at the start of the medical program there is introduction to the professional role, identity of a physician and potential professionalism concerns. Concepts of integrity and altruism were introduced. A session was also delivered by the College of Physician and Surgeons of Alberta - Serving the Public by Guiding the Medical Profession.
- ii. Core Professional Attributes: Concepts related to mindfulness, changing relationships during medical school, resilience building were introduced with several objectives for each session.
- iii. Knowledge of professional responsibilities:
 - a. Professionalism and physician health course
 - b. Orientation week with several sessions related to professional responsibility including social media presence
 - c. Student mistreatment awareness
 - d. Addressing personal wellness
 - e. Dealing with the crisis in medicine and how to be professional and be human
- iv. Leadership Skills
 - a. Introduced in detail in the professionalism and physician health course
 - b. Leaders in medicine initiative allows for a joint degree and additional leadership responsibilities.

RIME Curriculum:

Table 7.10-1A in the DCI outlines several initiatives in place regarding professional identity, core professional attributes, professional responsibilities, and leadership skills in the RIME Curriculum. Small and large group sessions, asynchronous teaching, and CARDS are all strategies used to address and reinforce professional and leadership awareness and development. A comprehensive list of educational opportunities is noted in the DCI, with an example of when/where some of the topics are covered noted below:

- a. Teamwork session – Block 1
- b. Conflict management – Block 3
- c. Balancing balance -- Block 1 & 2
- d. Investing in yourself -- Block 1 & 2
- e. Time management – Block 1 & 2
- f. Know your limits – Block 1 & 2
- g. When do behaviors impact care? – Block 1 & 2
- h. Avoiding abuse of privilege – Block 1 & 2

- i. Doctor as Teacher – Block 1 & 2
- j. Dealing with difficult issues – Block 2
- k. Altruism – is seemingly impossible ask – Block 1 & 2

Leadership skills: Teachings towards understanding the role of leadership in healthcare are introduced throughout Blocks 2 and 3. These include leadership for patient safety topics and exploring how individual leadership style and professional identity will play into team dynamics.

The joint degree program of Leaders in Medicine (LIM) allows select students to pursue a masters, PhD or MBA concurrently with their MD degree. This program is designed to develop future leaders in clinical and academic medicine.