

STANDARD 6
ELEMENT EVALUATION FORMS

STANDARD 6: COMPETENCIES, CURRICULAR OBJECTIVES, AND CURRICULAR DESIGN

The faculty of a medical school defines the competencies to be achieved by its medical students through medical education program objectives and is responsible for the detailed design and implementation of the components of a medical curriculum that enables its medical students to achieve those competencies and objectives. The medical education program objectives are statements of the knowledge, skills, behaviours, and attitudes that medical students are expected to exhibit as evidence of their achievement by completion of the program.

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6.1 PROGRAM AND LEARNING OBJECTIVES

The faculty of a medical school defines its medical education program objectives in competency-based terms that reflect and support the continuum of medical education in Canada and allow the assessment of medical students' progress in developing the competencies for entry into residency and expected by the profession and the public of a physician. The medical school makes these medical education program objectives known to all medical students and those faculty members with leadership roles in the medical education program, and others with substantial responsibility for medical student education and assessment. In addition, the medical school ensures that the learning objectives for each required learning experience are made known to all medical students and those faculty members, residents, and others with teaching and assessment responsibilities in those required experiences.

Requirement 6.1-1

The faculty of a medical school define its medical education program objectives in competency-based terms.

Analysis of evidence for requirement 6.1-1

The CSM medical education program objectives, also known as the Big 10 graduation objectives, are provided in Appendix 6.1-1 A, and these are currently under review. A final version is in development, with comprehensive stakeholder involvement. CanMEDS role-based competencies have been mapped to each of the 10 Program objectives. These competencies are linked to both student assessment strategies and program evaluation strategies.

Requirement 6.1-2

The medical education program objectives reflect and support the continuum of medical education in Canada.

Analysis of evidence for requirement 6.1-2

The graduation objectives, embedded CanMEDS competencies, and programmatic assessment elements are designed to prepare learners to enter residency. The medical education program imparts lifelong learning skills and exposes learners to the CanMEDS roles and workplace-based assessment. The goal of this exposure is to further facilitate their transition into competency-based residency education.

Requirement 6.1-3

The medical education program objectives allow the assessment of medical students' progress in developing the competencies for entry into residency and expected by the profession and the public of a physician.

Analysis of evidence for requirement 6.1-3

The graduation objectives, embedded CanMEDS competencies, and programmatic assessment elements are designed to track learner progress and prepare learners to enter residency with a focus on what is required to serve the public as a physician.

Requirement 6.1-4

The medical school makes these medical education program objectives known to all medical students and those faculty members with leadership roles in the medical education program and others with substantial responsibility for medical student education and assessment.

Analysis of evidence for requirement 6.1-4

The objectives are readily available to students, leaders and faculty. Student orientation sessions, inclusion on leadership agendas and requirements for faculty to acknowledge awareness of the objectives on all electronic evaluations ensure that all students, leaders and faculty are regularly reminded both of the content and how to easily access the objectives throughout each academic year. Evidence of student awareness of objectives is strong. The ISA data revealed that 95% or more of the students in each year reported that they were aware of the medical education program objectives.

Requirement 6.1-5

The medical school ensures that the learning objectives for each required learning experience are made known to all medical students and those faculty members, residents, and others with teaching and assessment responsibilities in those required experiences.

Analysis of evidence for requirement 6.1-5

The pre-clerkship objectives are readily available to students and preceptors via OSLEP and FreshSheet (the on-line curriculum repository). The learning objectives are provided to instructors when they are preparing to teach pre-clerkship learning experiences allowing them to easily review the objectives in a timely manner.

The clerkship objectives are readily available via an open access website. A variety of additional methods are in place to communicate the learning objectives to those with teaching responsibilities. These include email reminders, student held reminder cards, posted printed materials, resident workshops, departmental/sectional websites or communication platforms, newsletters, leadership meetings, and links embedded within assessment forms. Greater than 93% of the students in each year reported that they were aware of the learning objectives for each required learning experience.

6.2 REQUIRED PATIENT ENCOUNTERS AND PROCEDURES

The faculty of a medical school define the types of patients and clinical conditions that medical students are required to encounter, the skills and procedures to be performed by medical students, the appropriate clinical settings for these experiences, and the expected levels of medical student responsibility.

Requirement 6.2-1

The faculty of a medical school defines the:

- i. types of patients and clinical conditions that medical students are required to encounter*
- ii. skills and procedures to be performed by medical students*
- iii. the appropriate clinical settings for these experiences*
- iv. the expected levels of medical student responsibility*

Analysis of evidence for requirement 6.2-1

Types of patients and clinical conditions (aligned with the MCC clinical presentations) are outlined clearly according to clinical setting and level of responsibility in Table 6.2-1 A. Table 6.2-1 B provides evidence of the clinical setting and level of responsibility for each skill and procedure.

Of note, these tables include pre-clerkship elements in the Legacy curriculum. In the RIME curriculum, the clinical presentations set the foundation for the curriculum map and are detailed in Supplemental Appendix 6.2-1 C.

6.3 SELF-DIRECTED AND LIFE-LONG LEARNING

The faculty of a medical school ensures that the medical curriculum includes self-directed learning experiences and unscheduled time to allow medical students to develop the skills of lifelong learning. Self-directed learning involves medical students' self-assessment of learning needs; independent identification, analysis, and synthesis of relevant information; appraisal of the credibility of information sources; and feedback on these skills.

Requirement 6.3-1

The faculty of the medical school ensures that the medical curriculum includes self-directed learning experiences to allow medical students to develop the skills of lifelong learning. Self-directed learning involves medical students' self-assessment of learning needs; independent identification, analysis, and synthesis of relevant information; appraisal of the credibility of information sources; and feedback on these skills.

Analysis of evidence for requirement 6.3-1

Legacy Pre-Clerkship Curriculum - the undergraduate program ensured multiple opportunities for self-directed learning experiences as described in the material related to CARDS, Integrative I and II, Intro to Clinical Practice I and II and Applied Evidence Based Medicine (AEBM). In particular, the AEBM course allowed students to undertake independent studies and pursue either a research topic of their choice or shadow a preceptor in any given discipline to build a foundation of EBM for the final project. Collectively CARDS and the various courses enabled students to self-assess their knowledge and skills, identify learning needs, analyze and synthesize relevant information, appraise the quality of resources and receive feedback on these activities.

The courses were designed to help students identify information sources, critique the information sources, prepare and present critically appraised topics following analysis and synthesis, work through reflective assignments in Ethics, Global Health and Course 5, appraise information sources, and get feedback within small group settings and assignments from preceptors.

CARDS is a cornerstone of the undergraduate curriculum for all students (including those currently engaged in the RIME curriculum and those at more advanced levels including the clerkship). CARDS provides clinical cases about symptoms, diseases, investigations, and management. Unlike cases that are presented face-to-face or on paper, CARDS can generate an infinite number of clinical scenarios quickly. CARDS permits students to identify gaps in their knowledge, analyze relevant information and receive immediate feedback. As this innovation is web-based and available at all times, students can quickly select cases to verify their approach to clinical problems as well as areas where they believe they have concerns.

The RIME Curriculum is designed for integration and spirality such that students listen to podcasts, access relevant resources, and identify areas they need to further address by coming together with peers and preceptors. Participation in CARDS provides immediate feedback on performance and areas that need addressing. The Professional Role course has been designed to allow students to explore career and scholarship interests.

Several of the clerkships have built in opportunities for self-directed learning (e.g., anesthesia, obstetrics and gynecology, family medicine, internal medicine, and psychiatry). Materials provided through the clerkship program and within specific clerkship rotations provide students with resources (e.g., reading and guidelines) to improve their learning and understanding of concepts. Learners also have the ability to self-assess with feedback provided when they access the clerkship-level CARDS created to be at a more challenging level. The clerkship-level CARDS decks provide clerks with the ability to test their knowledge with questions related to complex clerkship concepts and have the benefit of detailed explanations that have been built into the program.

UCLIC (University of Calgary Longitudinal Integrated Clerkship) has been designed so students have academic sessions where they present family medicine topics and get feedback. They also have independent study time. The Community Engagement Project enables the students to identify and build a relationship with a community agency, develop a project to meet a community gap, implement and report on the project.

Requirement 6.3-2

The faculty of the medical school ensures that the medical curriculum includes unscheduled time to allow medical students to develop the skills of lifelong learning.

Analysis of evidence for requirement 6.3-2

There is unscheduled time for students to develop skills of lifelong learning along the 3-year curriculum. During the Legacy curriculum, students had three half days per week of scheduled independent study time. The RIME curriculum provides 14 hours per week of independent study time.

The clerkship curriculum, whether the students are in the traditional curriculum or UCLIC, provides independent study time in a variety of ways across the different rotations. In some cases, it is at specific times in the rotation to undertake learning that will be required for the rotation (e.g., pelvic exam in obstetrics and gynecology or preparation of a patient centered care project in family medicine).

6.4 OUTPATIENT / INPATIENT EXPERIENCES

The faculty of a medical school ensures that the medical curriculum includes clinical experiences in both outpatient and inpatient settings.

Requirement 6.4-1

The faculty of the medical school ensures that the medical curriculum includes clinical experiences in outpatient settings.

Analysis of evidence for requirement 6.4-1

Students have outpatient clinical experiences throughout medical school. In the Legacy curriculum, the Clinical Correlations course allowed students to join a preceptor for several hours of clinical exposure over the pre-clerkship months, to expose them to a mix of outpatient and inpatient medicine. Clinical Correlations ran throughout Courses I-VII. Secondly, the Family Medicine Clinical Experience was a longitudinal course that paired students with two different family medicine preceptors, predominantly in the outpatient setting, for seven half-days. Thirdly, the Career Development program allowed students to have three weeks of clinical exposure (mix of inpatient and outpatient depending on the specialty selected) in three different areas of medicine of the student's choice. The fourth opportunity was the Applied Evidence Based Medicine (AEBM) course, which included the choice of either a research elective or a 30-hour clinical elective in their second year. In the AEBM course the student joined a preceptor in an outpatient, inpatient or a mix of both over their weeks together. Students also have/had the opportunity to shadow preceptors throughout their pre-clerkship years.

Finally, service learning, which is referred to in curriculum as "Community Engaged Learning", was a course incorporated into Year 1 and 3, allowing students to work closely with community partners.

Despite the pre-clerkship early exposure to outpatient clinical learning UCalgary, the ISA data recommend stronger leverage of outpatient clinical partners to enhance physical exam skills training (e.g., through simulations and enhanced correlations) as well as stronger integration of evidence-based medicine skills throughout pre-clerkship. Though the ISA reflects moderate endorsement of encouragement (79-88%) and opportunity (75-89%) to participate in service learning, increasing student's exposure to community work and strengthening such partnerships between the medical school and the local community would all strongly align with the desired mission of socially accountable training.

All clinical opportunities listed, except the Clinical Correlations course, are included in the RIME curriculum. The rhythm of the RIME curriculum allows for greater weekday flexibility to schedule outpatient clinical shadowing experiences. Preliminary data indicated that that, of the 43 students who responded to the optional pre-accreditation survey in May 2024, 100% noted that they had clinical experiences in outpatient/ambulatory setting. In terms of service learning, 91% of those responding to the survey noted encouragement to participate in service learning and 95% had participated in service learning by the 10th month of their first academic year.

In clerkship, students complete mandatory rotations in multiple specialties, many of which include outpatient clinical experiences.

In the 2023 Graduate Questionnaire, 97.8% of graduating medical students indicated they felt comfortable caring for both hospitalized and ambulatory patients. The ISA found that 94.6%, 96.6% and 100% of students have had clinical experiences in outpatient medicine in the first, second and third years of training respectively.

Requirement 6.4-2

The faculty of the medical school ensures that the medical curriculum includes clinical experiences in inpatient settings.

Analysis of evidence for requirement 6.4-2

Students have multiple inpatient medicine experiences. In the Legacy curriculum, Clinical Correlations often took place in the inpatient setting. The 30-hour AEBM clinical component could be done in either an outpatient or inpatient setting, or a combination of both. Most students chose a clinical experience rather than a research elective for the AEBM course. The Family Medicine Clinical Experience was predominantly outpatient; however, students had the option to work with a family physician who provided inpatient hospitalist care.

In the RIME curriculum, opportunities for clinical experiences in inpatient settings continue to be available through Career Development Weeks and shadowing. Of the 43 first year students who responded to the May 2024 pre-accreditation survey, 84% noted having clinical experiences in the inpatient setting.

All rotations during clerkship include exposure to the inpatient setting, except family medicine which may be solely outpatient.

The ISA identified that 98.6%, 97.4% and 100% of students in years one, two and three respectively report they have had clinical experiences within the inpatient setting.

6.4.1 CONTEXT OF CLINICAL LEARNING EXPERIENCES

Each medical student has broad exposure to, and experience in, generalist care including comprehensive family medicine. Clinical learning experiences for medical students occur in more than one setting ranging from small rural or underserved communities to tertiary care health centres.

Requirement 6.4.1-1

Each medical student has broad exposure to, and experience in, generalist care including comprehensive family medicine.

Analysis of evidence for requirement 6.4.1-1

Pre-Clerkship

In the Legacy curriculum, a significant amount of the didactic and small group teaching students received during the first two years was provided by family physicians.

The RIME curriculum was specifically designed to teach students through a generalist lens, giving them an introduction to generalism from the first day of orientation. Ongoing emphasis on generalist teachers continues, with a curricular shift and emphasis in the teacher expectations. This occurs throughout the curriculum with the *patient of the week*, which allows students to apply their learning to common generalist clinical presentations. In addition, the Family Medicine Clinical Experience continues to run longitudinally throughout both years, and gives students exposure to two different family physician preceptors, for three to four half-days each year, to provide a broad representation of generalist practice and comprehensive family medicine. Of the 43 first year students who responded to the May 2024 pre-accreditation survey, 93% noted broad exposure to generalist care. Exposure to a rural or underserved community is expanded in the RIME curriculum, and students will complete 13 sessions with the community organization in addition to a project on caring for underserved communities.

Clerkship

The largest block during clerkship is family medicine, which is a mandatory rotation lasting 8 weeks. Students also complete a four-week block of general internal medicine (on the medical teaching unit), three weeks of general pediatrics (on the pediatric clinical teaching unit) and two weeks of emergency medicine.

Clerkship opportunities for those who entered the RIME curriculum will be similar to the Legacy curriculum, with UCLIC options as well as rural and tertiary care opportunities.

In the ISA, 100% of third-year students reported having experience in generalist care and 99% of students reported experience in comprehensive family medicine.

Requirement 6.4.1-2

Clinical learning experiences for medical students occur in more than one setting ranging from small rural or underserved communities to tertiary care health centres.

Analysis of evidence for requirement 6.4.1-2

Pre-Clerkship

Some of the clinical experiences during the first two years of the Legacy curriculum, including the Family Medicine Clinical Experience, AEBM clinical experience, and Career Exploration, included weeks in rural medicine depending on the specialty and preceptor chosen.

Clerkship

Most clinical rotations during clerkship are completed in secondary or tertiary health centres. There is also the option to enter the University of Calgary Longitudinal Integrated Clerkship (UCLIC) program, where they spend over 30 weeks of their time in clerkship working in small, rural communities. UCLIC students also complete four-week blocks in internal medicine, surgery and pediatrics at tertiary care centres, allowing students broad exposure to both rural and urban medicine.

Students who are not in UCLIC complete four weeks of urban and four weeks of rural family medicine during their clerkship. Some students in psychiatry and pediatrics also complete rotations in rural communities. A small number of students (up to ten) may also do a four-week international clerkship elective in an underserved developing country.

For those in the Legacy curriculum, the Community Engaged Learning week, which occurred early in clerkship, exposed students to important concepts with respect to caring for vulnerable or underserved populations. Students were paired with a community partner organization to spend three days working in underserved communities within and surrounding the city.

The ISA identified that 96% of students in their third year of medical school had clinical experiences that took place in more than one setting.

6.5 ELECTIVE OPPORTUNITIES

The faculty of a medical school ensures that the medical curriculum includes elective opportunities that supplement required learning experiences, permit medical students to gain exposure to and deepen their understanding of medical specialties and pursue their individual academic interests.

Requirement 6.5-1

The faculty of the medical school ensures that the medical curriculum includes elective opportunities that a) supplement required learning experiences b) permit medical students to gain exposure to and deepen their understanding of medical specialties and c) permit medical students to pursue their individual academic interests.

Analysis of evidence for requirement 6.5-1

In the Legacy curriculum, students had three weeks in the Career Exploration program, where they spent a week in three clinical areas of choice (each week was required to be in a different CaRMS entry discipline). Also, during the Applied Evidence Based Medicine (AEBM) course, students were given the opportunity to spend 30 hours of clinical time in an area of interest. The Career Exploration weeks continue in the RIME curriculum.

During clerkship, students have 14 weeks of electives. These electives can be completed locally, across the country at other medical schools, and even globally. There are plentiful elective opportunities spanning all CaRMS entry disciplines, and a wide variety of clinical experiences.

Students complete selectives (clinical rotations under the umbrella of the clerkship that are outside of the core inpatient ward service) in the Internal Medicine, Surgery, and Pediatric rotations. In Surgery and Pediatrics students have two weeks of selective time and in Internal Medicine, students have four weeks of selective opportunities. Students rank their preferences for the particular selective(s) that they wish to complete in each of these areas and, when possible, these requests are honoured.

The ISA data show that by Year 3, 97% of students had the opportunity to supplement required learning experiences with electives, and 92% had the opportunity to pursue their individual academic interests in their electives.

6.6 SERVICE-LEARNING

The faculty of a medical school ensures that the medical education program provides sufficient opportunities for, encourages, and supports medical student participation in a service-learning activity.

Definition taken from CACMS lexicon

- *Service-learning: A structured learning experience that combines community service with preparation and reflection.*
- *Faculty of a medical school: The complement of appointed individuals (as constituted by the university) working collectively or through a duly constituted group or structure with the authority to speak on behalf of the collective body of faculty members.*

Requirement 6.6-1

The faculty of the medical school ensures that the medical education program:

- i. provides sufficient opportunities for medical student participation in a service-learning activity.*
- ii. encourages medical student participation in a service-learning activity.*
- iii. supports medical student participation in a service-learning activity.*

Analysis of evidence for requirement 6.6-1

The Community Engaged Learning Program in the Legacy curriculum was mandatory for all first-year students, and provided them with content relevant to serving vulnerable populations in the form of small group sessions, lectures, mandatory readings/videos. After reviewing the important concepts, students joined a community partner for two half-days of community service. Content was then reviewed in a final small group session, and students completed a mandatory self-reflection paper. In their third year (clerkship), students also participate in a one-week Community Engaged Learning experience which includes podcasts, an in-person workshop on equity, three days of community service with a community partner, and a final Bystander Intervention Training session. Students then complete a final self-reflection piece.

The RIME curriculum has a similar program within the *Professional Role* course, which allows for longitudinal community engaged learning. Ten large-group sessions are held by community partners to deliver key content, and students then spend 13 half-days with a community partner, spread over the 12 months of pre-clerkship curriculum. A mandatory service-learning project is completed in cooperation with the community partner and presented at a symposium. Students then complete a self-reflection exercise.

The Student Run Clinic operates at the Mustard Seed, which is a non-profit organization that cares for individuals experiencing homelessness and poverty, is another opportunity for students to provide community service. The clinic runs weekly and is supervised by a faculty member.

The ISA found that 88.5% of students in their third year had an opportunity to participate in service learning and 85% reported they were encouraged to participate in a service-learning activity.

Forty-three students from the Class of 2026 responded to a May 2024 pre-accreditation survey and 93% indicated that they were encouraged to participate in a service-learning activity and 93% also indicated that they had an opportunity to participate in a service-learning activity.

6.7 Currently, there is no element 6.7

6.8 EDUCATION PROGRAM DURATION

A medical education program includes at least 130 weeks of instruction.

Requirement 6.8-1

The medical education program includes at least 130 weeks of instruction.

Analysis of evidence for requirement 6.8-1

The total number of instructional weeks during the 3-year curriculum meets the minimum of 130. The noted number of instructional weeks is 132.