



ROYAL COLLEGE
OF PHYSICIANS AND SURGEONS OF CANADA
COLLÈGE ROYAL
DES MÉDECINS ET CHIRURGIENS DU CANADA

Standards of Accreditation for Clinician Investigator Programs

Last updated: August 31, 2017

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INTRODUCTION

The Specific Standards of Accreditation for Clinician Investigator Programs (CIPs) are a national set of standards maintained by the Royal College, for the evaluation and accreditation of CIPs. The standards aim to provide an interpretation of the *General Standards of Accreditation for Residency Programs* as they relate to CIPs.

The standards have been written in alignment with the standards organization framework used to develop the *General Standards of Accreditation for Residency Programs*. The domains, standards, elements, and requirements are aligned with the general standards, with minor edits to accommodate CIP-specific language. In addition, the indicators within this document have been designed to detail the specific expectations of CIP programs in meeting each requirement. Also of particular note, only those domains, standards, elements, and requirements from the *General Standards of Accreditation for Residency Programs* specific to CIPs have been included.

This document is not expected to be read in conjunction with the *General Standards of Accreditation for Residency Programs* (i.e. all residency accreditation standards applicable to CIPs are detailed within this document).

STANDARDS ORGANIZATION FRAMEWORK

LEVEL	DESCRIPTION
Domain	<p>Domains were defined by the Future of Medical Education in Canada-Postgraduate (FMEC-PG) Accreditation Implementation Committee to introduce common organizational terminology, to increase alignment of accreditation standards across the medical education continuum.</p>
Standard	<p>The overarching outcome to be achieved through the fulfillment of the associated requirements.</p>
Element	<p>A category of the requirements associated with the overarching standard.</p>
Requirements	<p>A measurable component of a standard.</p>
Mandatory & Exemplary Indicators	<p>A specific expectation used to evaluate compliance with a requirement (i.e. to demonstrate that the requirement is in place).</p> <p>Mandatory indicators must be met to achieve full compliance with a requirement. Exemplary indicators provide improvement objectives beyond the mandatory expectations and may be used to introduce indicators that will become mandatory over time.</p> <p>Indicators may have one or more sources of evidence, not all of which will be collected through the onsite accreditation visit (e.g. external data, documentation within the program portfolio, etc.).</p>

STANDARDS

DOMAIN: PROGRAM ORGANIZATION

The *Program Organization* domain includes standards focused on the structural and functional aspects of the CIP. The Program Organization domain standards aim to:

- Ensure the organizational structure and personnel are appropriate to support the CIP, teachers/supervisors, and residents;
- Define the high-level expectations of the CIP director and residency program committee(s); and
- Ensure the CIP and its structure are organized to meet and integrate the requirements for the education program; resources; learners, teachers and administrative personnel; and continuous improvement domains.

STANDARD 1: There is an appropriate organizational structure, leadership and administrative personnel to effectively support the CIP, teachers/supervisors and residents.

Element 1.1: The CIP director effectively leads the CIP.

Requirement(s)	Indicator(s)
1.1.1: The CIP director is available to oversee and advance the CIP.	1.1.1.1: The CIP director has adequate protected time to oversee and advance the program, consistent with the postgraduate office guidelines, and in consideration of the size and complexity of the program. 1.1.1.2: The CIP director is accessible and responsive to the input, needs, and concerns of residents. 1.1.1.3: The CIP director is accessible and responsive to the input, needs, and concerns of teachers/supervisors and members of the residency program committee.

1.1.2: The CIP director has appropriate support to oversee and advance the CIP.

1.1.2.1: The faculty of medicine and postgraduate office, graduate programs, and departments, as applicable, provide the CIP director with sufficient support, autonomy and resources for effective operation of the CIP.

1.1.2.2: Administrative support is organized and adequate to support the CIP director, the CIP, and residents. [B1.2]¹

1.1.2.3: The CIP director and residency program committee have access to resources and data/information to support the monitoring of resident performance, CIP review, and continuous improvement.

1.1.2.4: The CIP director is responsible to the postgraduate dean, and where appropriate, responsible also to the dean of the graduate school for students enrolled in graduate degree programs. [B1.1]

1.1.3: The CIP director provides effective leadership for the CIP.

1.1.3.1: The CIP director fosters an environment that empowers members of the residency program committee, residents, teachers/supervisors, and others as required, to identify needs and implement changes.

1.1.3.2: The CIP director advocates for equitable, appropriate, and effective educational experiences.

1.1.3.3: The CIP director effectively communicates with CIP stakeholders.

1.1.3.4: The CIP director effectively anticipates and manages conflict.

1.1.3.5: The CIP director respects the diversity, and protects the rights and confidentiality of residents and teachers/supervisors.

1.1.3.6: The CIP director demonstrates active professional engagement in medical education.

1.1.3.7: The CIP director and/or delegate attend at least one CIP advisory committee meeting per year in person and/or via teleconference.

1.1.3.8 [Exemplary]: *The CIP director demonstrates and/or facilitates commitment to educational scholarship and innovation to advance the CIP.*

1.1.3.9 [Exemplary]: *The CIP director is a member of the postgraduate education committee. [B1.1]*

¹ Where brackets in red font are included at the end of an indicator, this is used to provide a reference to language within the previous standards of accreditation for CIPs, upon which all or a portion of the indicator was developed; "a portion of" speaks to instances where the indicator was developed based on both the previous standards of accreditation (SA) for CIPs and the *General Standards of Accreditation for Residency Programs*. The reference is included to assist in the transition to the new template. Indicators that do not include the reference in red font were not developed based on language within the previous SA for CIPs, but rather, were developed based on the *General Standards of Accreditation for Residency Programs*, with minor modifications to reflect the CIP context. On this note, as mentioned in the introduction, unlike the previous SA for CIPs, this SA for CIPs, this is a comprehensive document including expectations specific to the discipline, as well as the generic expectations found within the *General Standards of Accreditation for Residency Programs* (i.e. there is no need to refer to the general standards, all accreditation expectations are detailed within this document).

Element 1.2: There is an effective and functional residency program committee structure² to support the CIP director in planning, organizing, evaluating, and advancing the CIP.

Requirement(s)	Indicator(s)
<p>1.2.1: The residency program committee structure is composed of appropriate key CIP stakeholders.</p>	<p>1.2.1.1: Residents, graduate programs, research programs and clinical departments are represented on the residency program committee.</p> <p>1.2.1.2: There is an effective, fair and transparent process for residents to select their representatives on the residency program committee. [B1.2]</p> <p>1.2.1.3: The residency program committee has access to appropriate input from individuals involved in resident wellness and safety program/plans.</p>
<p>1.2.2: The residency program committee has a clear mandate to manage and evaluate key functions of the CIP.</p>	<p>1.2.2.1: There are clearly written terms of reference that address the composition, mandate, roles and responsibilities of each member, accountability structures, decision-making processes, lines of communication, and meeting procedures, which are reviewed on a regular basis.</p> <p>1.2.2.2: The mandate of the residency program committee includes planning and organizing the CIP, including:</p> <ul style="list-style-type: none"> • selection of residents into the CIP; [B1.2b] • educational design; • approval of supervisors and research advisory committees, including a process to ensure research supervisors and advisory committee members are qualified to supervise CIP residents; [B1.2c] • overseeing and maintaining standards in the operation of the research component of the program; [B1.2d] • coordinating departmental/divisional components of the CIP, including interdisciplinary linkages; [B1.2e] • policy and process development; • safety; • resident wellness; • assessment of resident progress, including addressing unsatisfactory or marginal progress or performance, including appeals, and verification of residents' satisfactory completion of the research component of the program; [B1.2k & 1.2g] and • continuous improvement. <p>1.2.2.3: Meeting frequency is sufficient for the committee to fulfil its mandate (at least quarterly).</p>

² In large faculties of medicine, there may also be departmental CIP coordinators and committees, which carry out similar functions to the residency program committee referenced throughout this document; however, the residency program committee referenced throughout this document has ultimate responsibility and authority for the CIP. Any additional CIP coordinators and committees report to the residency program committee. [B1.3]

1.2.2.4 (modified): The residency program committee structure includes a competence committee (or equivalent) responsible for reviewing residents' progress and completion of the program.

1.2.3: There is an effective and transparent decision-making process that includes input from residents and other CIP stakeholders.

1.2.3.1: Members of the residency program committee receive regular communication, and are actively involved in a collaborative decision-making process, including regular attendance at and active participation in committee meetings. [B1.2j]

1.2.3.2: The residency program committee actively seeks feedback from CIP stakeholders, discusses issues, develops action plans and follows-up on identified issues.

1.2.3.3: There is a culture of respect for residents' opinions by the residency program committee.

1.2.3.4: Actions and decisions are communicated in a timely manner to the residents, teachers/supervisors, and administrative personnel, and with supporting programs and departments, as appropriate. [B1.2j]

STANDARD 2: All aspects of the CIP are collaboratively overseen by the CIP director and the residency program committee.

Element 2.1: Effective policies and processes to manage clinician investigator education are developed and maintained.

Requirement(s)	Indicator(s)
2.1.1: The residency program committee has well-defined, transparent, and functional policies and processes to manage clinician investigator education.	2.1.1.1: The process of policy and process development, adoption, and dissemination, is transparent, effective, and collaborative. 2.1.1.2: There is a mechanism to review and adopt postgraduate office policies, as well as develop required program-specific policies or components. 2.1.1.3: The CIP's policies and processes address clinician investigator education, as outlined in these accreditation standards. 2.1.1.4: Residents, teachers/supervisors, and administrative personnel have access to the policies and processes. 2.1.1.5: The residency program committee regularly reviews and makes necessary changes to policies and processes.

2.1.2: There are effective mechanisms to collaborate with supporting programs, departments, and the postgraduate office.

2.1.2.1: There is effective communication between the CIP and the postgraduate office.

2.1.2.2: There are effective mechanisms for the CIP to share information and collaborate with supporting programs and departments, as appropriate, particularly with respect to resources and capacity.

2.1.2.3: There is collaboration with the Faculty of Medicine's undergraduate medical education program, and with continuing professional development programs, including faculty development, as appropriate.

2.1.2.4: The residency program committee communicates regularly with supporting programs and departments, including communication on resident progress to their respective residency program at least annually for residents who have not yet completed their Royal College accredited residency program.

[B1.2j]

Element 2.2: Resources and learning sites are organized to meet the requirements of the CIP.

Requirement(s)

Indicator(s)

2.2.1: There is a well-defined and effective process to select the CIPs learning sites.

2.2.1.1: There is an effective process to select, organize and review the CIP's learning sites based on the required educational experiences, and in accordance with the centralized policies for learning site agreements.

2.2.2: Each learning site has an effective organizational structure to facilitate education and communication.

2.2.2.1: Each learning site has a coordinator/supervisor responsible to the residency program committee.

2.2.2.2: There is effective communication and collaboration between the residency program committee and the coordinators/supervisors for each learning site.

2.2.2.3: For residents undertaking research training as part of a CIP at a different institution than their residency program, the CIP ensures appropriate oversight of that research training.³ [B1.4]

2.2.3: The residency program committee engages in operational and resource planning to support clinician investigator education.

2.2.3.1: There is an effective process to identify, advocate and plan for resources needed by the CIP.

DOMAIN: EDUCATION PROGRAM

The *Education Program* domain includes standards focused on the planning, design, and delivery of the CIP.

STANDARD 3: Residents are prepared for careers as clinician investigators.

³ Individuals may undertake their research training as part of a CIP in institutions outside of the faculty of medicine where they are registered in a Royal College accredited clinical residency program. For those undertaking research training at a different institution from their residency program, arrangements should be made to ensure the research training is overseen by the CIP director at the centre supervising the research training, if a program is offered at that university. If this is not possible, the residency program committee and the faculty of medicine in which the resident is registered retain all of the responsibilities for approval and monitoring of the individual's offsite CIP research training, including the validation of its satisfactory completion. For these arrangements, one member of the resident's research advisory committee must be from the location where the research is being done and must provide regular reports on the resident's progress. [B1.4]

If part of the research experience is taken in a setting other than the site(s) affiliated with the CIP program, the unaffiliated site may be acceptable, provided it meets the following administrative conditions:

- There is a designated mentor who is a member of the resident's research advisory committee;
- Specific resident goals and objectives are developed in advance of the research experience;
- The educational objectives of the research experience in the unaccredited setting are understood by the resident, the mentor, and the CIP director;
- There is a well-defined mechanism for the CIP director to receive regular assessment reports of the resident's progress during the research experience away from the sponsoring university; and

The mechanism for assessment of the resident's performance during this period is clearly defined and understood by the resident, the designated mentor, and the CIP director, and is based on the educational objectives of the CIP and the research experience in question. [B1.5]

Element 3.1: The CIP’s educational design is based on outcomes-based competencies and/or objectives that prepare residents for careers as clinician investigators.

Requirement(s)	Indicator(s)
<p>3.1.1: Educational competencies and/or objectives are in place to ensure residents progressively meet all required standards for the CIP.</p>	<p>3.1.1.1: The educational objectives meet the requirements as outlined in the Objectives of Training and Specialty Training Requirements for Clinician Investigator Programs. [B2]</p> <p>3.1.1.2: The objectives address each of the roles in the CanMEDS Framework specific to CIP. [B5]</p> <p>3.1.1.3: Individual educational objectives for each resident are developed and reviewed annually for the research component, informing interim assessment of progress and verification of completion of the research component of the program.⁴ [B2]</p>

Element 3.2: The CIP provides educational experiences designed to facilitate residents’ attainment of the outcomes-based competencies and/or objectives.

Requirement(s)	Indicator(s)
<p>3.2.1: The CIP’s competencies and/or objectives are used to guide the educational experiences while providing residents with opportunities for increasing professional responsibility at each stage or level of training.</p>	<p>3.2.1.1: The competencies and/or objectives are defined specifically for and/or are mapped to each educational experience.</p> <p>3.2.1.2: The educational experiences meet the requirements as outlined in the Objectives of Training and Specialty Training Requirements for Clinician Investigator Programs. [B3]</p> <p>3.2.1.3: The educational experiences, including initiation, execution, and assessment of research tasks, are appropriate for residents’ stage or level of training and support residents’ achievement of increasing professional responsibility specific to CIP.⁵ [B3]</p> <p>3.2.1.4: The educational experiences allow residents to attain the required level of competence to ensure preparedness for a career as a clinician investigator, upon completion of the program.</p>

⁴ For residents with a previous PhD degree, the educational objectives will be identical to those without a PhD degree, but will be evaluated in the context of a postdoctoral research experience. [B2]

⁵ The purpose of this is so that by the end of the CIP, a satisfactory level of research competence will have been achieved, as outlined in the educational objectives. [B3]

3.2.1.5: The educational experiences include course work designed to meet residents' individual educational objectives, assigned with the approval of the resident's research supervisor and committee. [B3]

3.2.1.6: The educational experiences are designed to ensure integration of clinical and research activities. [B3]

3.2.1.7 (exemplary): *Residents' research experiences are intensive, with restrictions on time spent on clinical activities, and the objectives of clinical activity consistent with an emerging clinical investigator career.* [B3]

3.2.2: The residency program uses a comprehensive curriculum plan, which is specific to CIP and addresses all of the CanMEDS Roles.

3.2.2.1: In planning the curriculum, the CIP makes appropriate use of relevant educational opportunities.

3.2.2.2: There is a clear curriculum plan (e.g. blueprint), which describes the educational experiences for each resident.

3.2.2.3: The curriculum plan addresses expert instruction and experiential learning opportunities for each of the CanMEDS Roles, with a variety of learning activities, including but not limited to skills training, experiential learning, seminars, reflective exercises, directed reading, journal clubs, research conferences, and others, as appropriate.

3.2.2.4: The curriculum plan complies with the specific standards for CIPs.

3.2.2.5: The curriculum plan incorporates all required educational objectives for CIPs.

3.2.2.6: The curriculum plan incorporates course work in which research ethics, teaching skills, communication skills, and research methodology are taught. [B5]

3.2.2.7: The curriculum plan incorporates issues related to age, gender, culture, and ethnicity in research protocols, and data presentation and discussion. [B5]

3.2.2.8 [Exemplary]: *There is innovation in curriculum design and planning for CIP development in response to local and national initiatives.*

3.2.3: The educational design allows residents to identify and address individual learning objectives.

3.2.3.1: Individual residents' educational experiences are tailored to accommodate their learning needs and future career aspirations, while meeting the national standards and societal needs.

3.2.3.2: The CIP fosters a culture of reflective practice and life-long learning among its residents.

3.2.4: The educational environment supports and promotes resident learning in an atmosphere of scholarly enquiry.

3.2.4.1: Residents have access to and mentorship for a variety of scholarly opportunities.

3.2.4.2: Residents are provided with protected time to participate in scholarly activities.

3.2.4.3: Residents have opportunities to attend conferences within and outside their university, to augment their learning and/or to present their scholarly work.

3.2.4.4: The learning environment fosters free inquiry and the open exchange of information. [B5]

3.2.4.5: The learning environment includes interdisciplinary communication and collaboration, and open discussion at seminars, and conferences. [B5]

3.2.4.6: The learning environment is rich in academic activities (e.g. journal clubs, seminar series, retreats), and supportive of translational aspects of research. [B5]

3.2.4.7: There is a high level of scholarly achievement, demonstrated by the publication record of both staff and residents, and the ability to obtain funding for such scholarly activities. [B5]

Element 3.3: Teachers/supervisors facilitate residents' attainment of competencies and/or objectives.

Requirement(s)

Indicator(s)

3.3.1: Resident learning needs, stage or level of training, and other relevant factors are used to guide all teaching and supervision, supporting resident attainment of competencies and/or objectives.

3.3.1.1: Teachers/supervisors use experience-specific competencies and/or objectives to guide educational interactions with residents.

3.3.1.2: Teachers/supervisors align their teaching/supervision appropriately with residents' stage or level of training and individual learning needs and objectives.

3.3.1.3: Teachers/supervisors contribute to the promotion and maintenance of a positive learning environment.

3.3.1.4: Teachers/supervisors reflect on the potential impacts of the hidden curriculum on the learning experience.

3.3.1.5: Residents' feedback to teachers/supervisors facilitates the adjustment of teaching/supervision approaches and learner assignment, as appropriate, to maximize the educational experiences.

Element 3.4: There is an effective, organized system of resident assessment.

Requirement(s)	Indicator(s)
3.4.1: The CIP has a planned, defined and implemented system of assessment.	<p>3.4.1.1: The system of assessment is based on residents' attainment of experience-specific competencies and/or objectives.</p> <p>3.4.1.2: The system of assessment clearly identifies the methods by which residents are assessed for each educational experience.</p> <p>3.4.1.3: The system of assessment clearly identifies the level of performance expected of residents.</p> <p>3.4.1.4: The system of assessment includes identification and use of appropriate assessment tools tailored to the CIP's educational experiences.</p> <p>3.4.1.5: The system of assessment meets the requirements of the specific standards for CIPs, including the achievement of competencies in all CanMEDS roles.</p> <p>3.4.1.6: The system of assessment includes interim performance assessments made by supervisors (and/or research advisory committees), covering areas including but not limited to: attitudes, assessment of the literature (critical appraisal), presentation of information, analysis of information, technical skills, writing skills, and ability to develop hypotheses. [B6]</p> <p>3.4.1.7: The interim performance assessments are based on each individual resident's educational objectives, and are completed at least every six months in the first two years of CIP training, and yearly thereafter. [B5]</p> <p>3.4.1.8: The system of assessment includes a method for final assessment that is clearly defined by the faculty of medicine (as verification of completion of the research component rests with the faculty of medicine). [B5]</p> <p>3.4.1.9: Teachers/supervisors are aware of the expectations for resident performance and use these expectations in their assessments of residents.</p>

3.4.2: There is a mechanism in place to engage residents in a regular discussion for review of their performance and progression.

3.4.2.1: Residents receive regular, timely, meaningful, in-person feedback on their performance.

3.4.2.2: The CIP director and/or an appropriate delegate meet(s) regularly with residents to discuss and review their performance and progress.

3.4.2.3: There is appropriate documentation of residents' progress towards attainment of competencies, including records (e.g. interim and final assessments) of the research component for all residents enrolled in the CIP program,⁶ which is available to the residents in a timely manner. [B1.2f & B6]

3.4.2.4: Residents are aware of the processes for assessment and decisions around promotion and completion of training.

3.4.2.5: The CIP fosters an environment where formative feedback is actively used by residents to guide their learning.

3.4.2.6 [Exemplary]: *Residents and teachers/supervisors have shared responsibility for recording their learning and achievement of competencies and/or objectives at each stage of training.*

3.4.3: There is a well-articulated process for decision-making regarding resident progression, including the decision on satisfactory completion of training.

3.4.3.1: The competence committee (or equivalent) regularly reviews residents' readiness for increasing professional responsibility, promotion, and transition to practice, based on demonstrated achievement of expected competencies and/or objectives.

3.4.3.2: The competence committee (or equivalent) makes a summative assessment regarding residents' completion of the CIP.⁷

3.4.3.3: The CIP director provides the Royal College with an Attestation of Completion of the Research component of the CIP on university letterhead, for each resident who has successfully completed the CIP. [B6]

3.4.3.4 [Exemplary]: *The competence committee (or equivalent) uses diverse assessment data and learning analytics to make effective decisions on resident progress.*

⁶ Information on program applicants, residents accepted in the CIP, and graduates is kept on file in the office of the postgraduate dean and provided to the Royal College on an annual basis. [B1.2f]

⁷ For residents in a graduate degree program, an assessment by the graduate school with the awarding of the degree, in addition to successfully completing the other parts of the CIP, constitutes satisfactory completion of the program. For residents in postdoctoral degree programs, the CIP director has a process of equal rigour to the graduate degree pathway, by which verification of completion can be carried out, including elements such as: Courses taken and grades (if applicable), interim assessment reports, assessment of presentations, assessment of manuscripts and publications, success in completion for research awards, and verification by the resident's research committee that the objectives of the research training component have been met. [B6]

3.4.4: The system of assessment allows for timely identification of and support for residents who are not attaining the required competencies as expected.

3.4.4.1: Residents are informed in a timely manner of any concerns regarding their performance and/or progression.

3.4.4.2: Residents who are not attaining the required competencies as expected are provided with the required support and opportunity to correct their performance, as appropriate.

3.4.4.3: Any resident requiring formal remediation and/or additional educational experiences, is provided with:

- A documented plan detailing objectives of the formal remediation and their rationale;
 - The educational experiences scheduled to allow the resident to achieve these objectives;
 - The assessment methods to be employed;
 - The potential outcomes and consequences;
 - The methods by which a final decision will be made as to whether or not the resident has successfully completed a period of formal remediation;
 - The appeal process.
-

DOMAIN: RESOURCES

The *Resources* domain includes standards focused on ensuring resources are sufficient for the delivery of the education program and to ultimately ensure that residents are prepared for independent practice. The Resources domain standards aim to ensure the adequacy of the CIP's physical, technical, human and financial resources.

STANDARD 4: The delivery and administration of the residency program is supported by appropriate resources.

Element 4.1: The residency program has the clinical, physical, technical, and financial resources to provide all residents with the educational experiences needed to acquire all competencies.

Requirement(s)	Indicator(s)
<p>4.1.1: The CIP has the necessary financial, physical and technical resources.</p>	<p>4.1.1.1: There are adequate financial resources for the CIP to meet the specific standards for CIPs.</p> <p>4.1.1.2: There is adequate space for the CIP to meet educational requirements.</p> <p>4.1.1.3: There are adequate technical resources for the CIP to meet the specific requirements for CIPs.</p> <p>4.1.1.4: Residents have appropriate access to adequate facilities and services to conduct their work, including workspaces and internet.</p> <p>4.1.1.5: The CIP director, residency program committee, and administrative personnel have access to adequate space, information technology⁸, and financial support to carry out their duties.</p> <p>4.1.1.6: The residency program has access to adequate research facilities; research training may require a laboratory, or a clinical or population health research setting, as appropriate. [B4.2]</p> <p>4.1.1.7: There are securely funded research programs and access to formal courses in research methodology and related subjects. [B4.3 & 4.5]</p>
<p>4.1.2: There is appropriate liaison with other programs and departments.</p>	<p>4.1.2.1: There is liaison with other residency programs and departments, to coordinate each resident’s clinical and research training, specific to their clinical residency program and the CIP.</p>

⁸ Including information technology that enables information related to CIP applicants, residents accepted to the CIP, and CIP graduates to be kept on file in the office of the postgraduate dean, and provided to the Royal College on an annual basis. [B1.2f]

Element 4.2: The CIP has the appropriate human resources to provide all residents with the required educational experiences.

Requirement(s)	Indicator(s)
<p>4.2.1: The number, credentials, competencies, and duties of the teachers, supervisors and advisors are appropriate to teach the CIP curriculum, supervise and assess residents, contribute to the program, and role model effective practice.</p>	<p>4.2.1.1: The number, credentials, competencies, and scope of practice of the teachers/supervisors are adequate to provide the breadth and depth of the program, assessment and feedback to residents. [B4.1]</p> <p>4.2.1.2: The number, credentials, competencies, and scope of practice of the teachers/supervisors are sufficient to supervise all aspects of residents' research activities and in all learning environments.</p> <p>4.2.1.3: Each resident has a designated research supervisor who is an investigator, and fulfills the requirements of the residency program committee.⁹ [B4.1]</p> <p>4.2.1.4: Research supervisors adhere to the terms and conditions required by the CIP for resident research training, and have:</p> <ul style="list-style-type: none"> • Established research funding, with sufficient funds to allow successful completion of the degree by the resident; • Established research productivity (manuscripts, abstracts, presentations); • An international/national reputation in the field; and • Experience supervising graduate students. [B4.1] <p>4.2.1.5: Each resident has a research advisory committee that consists of at least three individuals who have expertise in the research area, including one individual who represents the resident's Royal College discipline, who can facilitate the integration of clinical and research experience. [B4.1]</p> <p>4.2.1.6: Research supervisors and the research advisory committee for each resident are responsible for:</p> <ul style="list-style-type: none"> • Overseeing the individual research program; • Research and clinical mentoring; • Evaluating research competencies; • Providing interim assessments; and • Reporting to the RPC (via the Competence Committee or equivalent). [B4.1] <p>4.2.1.7: The CIP director has Royal College certification, or equivalent acceptable to the Royal College. [B1.1]</p>

⁹ Research supervisors for residents enrolled in graduate programs, are approved by the faculty of graduate studies or other responsible faculties. [B4.1]

DOMAIN: LEARNERS, TEACHERS, AND ADMINISTRATIVE PERSONNEL

The Learners, Teachers, and Administrative Personnel domain includes standards focused on supporting teachers/supervisors, learners, and administrative personnel – “people services and supports”.

STANDARD 5: Safety and wellness is promoted throughout the learning environment.

Element 5.1: Safety and wellness is actively promoted.

Requirement(s)	Indicator(s)
5.1.1: Residents are appropriately supervised.	5.1.1.1: There is a process for ensuring that research supervisors and advisory committee members are qualified to supervise CIP residents. [B1.2c] 5.1.1.2: Residents and teachers/supervisors follow the centralized and any program-specific policies regarding supervision of residents.
5.1.2: Clinician Investigator education occurs in a safe learning environment.	5.1.2.1: Safety is actively promoted throughout the learning environment for all involved in the CIP. 5.1.2.2: There is an (are) effective resident safety policy(ies), aligned with the centralized policy(ies) and modified, as appropriate, to reflect CIP-specific physical, psychological, and professional resident safety concerns. The policy(ies) include(s), but is (are) not limited to: <ul style="list-style-type: none">i. travel,ii. research participants,iii. chemical and environmental laboratory hazards,iv. complaint management, andv. fatigue risk management. 5.1.2.3: The policy regarding resident safety effectively addresses both situations and perceptions of lack of resident safety, and provides multiple avenues of access for effective reporting and management. 5.1.2.4: Concerns with the safety of the learning environment are appropriately identified and appropriately remediated. 5.1.2.5: Residents are supported and encouraged to exercise discretion and judgment regarding their personal safety. 5.1.2.6: Residents and teachers are aware of the process to follow if they perceive safety issues, in both research and educational activities. [B1.2h]

5.1.3: Clinician Investigator education occurs in a positive learning environment that promotes resident wellness.

5.1.3.1: There is a positive learning environment for all involved in the CIP.

5.1.3.2: There is an (are) effective resident wellness policy(ies), aligned with the centralized policy(ies) and modified, as appropriate, to reflect CIP-specific physical, psychological, and professional resident wellness concerns. The policy(ies) include(s), but is (are) not limited to absences and educational accommodation.

5.1.3.3: The processes regarding identification, reporting and follow-up of resident mistreatment are effectively applied.

5.1.3.4: Residents have access to and are aware of confidential support services to manage stress (e.g., financial, psychological, etc.) and illness.

5.1.3.5: Residents are supported and encouraged to exercise discretion and judgment regarding their personal wellness.

STANDARD 6: Residents are treated fairly and adequately supported throughout their progression through the CIP.

Element 6.1: The progression of residents through the CIP is supported, fair, and transparent.

Requirement(s)	Indicator(s)
6.1.1: There are effective, clearly defined, transparent, formal processes for the selection and progression of residents.	6.1.1.1: Processes for resident selection, promotion, remediation, dismissal, and appeals are effectively applied, transparent, and aligned with applicable centralized policies. 6.1.1.2: The CIP encourages and recognizes resident leadership.
6.1.2: Support services are available to facilitate resident achievement of success.	6.1.2.1: The CIP provides formal, timely career planning and counseling to residents throughout their progression through the CIP. [B1.2i] 6.1.2.2 [Exemplary]: <i>There is access to a mentorship program to help facilitate residents' progress throughout the CIP, including career planning.</i>

STANDARD 7: Teachers/supervisors effectively deliver and support all aspects of the residency program.

Element 7.1: Teachers/supervisors are assessed, recognized and supported in their development as positive role models for residents in the CIP.

Requirement(s)	Indicator(s)
7.1.1: Teachers/supervisors are regularly assessed and supported in their development.	<p>7.1.1.1: There is an effective process for the assessment of teachers/supervisors involved in the CIP, aligned with applicable centralized processes, which balances timely feedback with preserving resident confidentiality.</p> <p>7.1.1.2: The system of teacher/supervisor assessment ensures recognition of excellence in teaching, continuous improvement, and is used to address performance concerns.</p> <p>7.1.1.3: Resident input is a component of the system of teacher/supervisor assessment.</p> <p>7.1.1.4: Faculty development for teaching/supervision that is relevant and accessible to the program is offered on a regular basis.</p> <p>7.1.1.5: There is an effective process to identify, document, and address unprofessional behaviour by teachers/supervisors.</p> <p>7.1.1.6 [Exemplary]: <i>The CIP actively collaborates with the centralized faculty development office, as appropriate, to identify and address priorities for faculty development relevant to CIPs.</i></p>
7.1.2: Teachers/supervisors in the CIP are effective role models for residents.	<p>7.1.2.1: Teachers/supervisors appropriately balance their own research priorities with their responsibility to provide high quality research supervision and teaching.</p> <p>7.1.2.2: Teachers/supervisors contribute to academic activities of the program and institution, which may include, but are not limited to: lectures, workshops, examination preparation, and internal reviews.</p> <p>7.1.2.3: Teachers/supervisors are supported and recognized for their contributions outside of the program, which may include, but are not limited to: peer reviews, medical licensing authorities, exam boards, specialty committees, accreditation committees, and government medical advisory boards.</p> <p>7.1.2.4: Teachers/supervisors contribute to scholarship on an ongoing basis.</p>

STANDARD 8: Administrative personnel are valued and supported in the delivery of the CIP.

Element 8.1: There is support for the continuing professional development of CIP administrative personnel.

Requirement(s)	Indicator(s)
8.1.1: There is an effective process for the selection and professional development of the CIP administrative personnel.	8.1.1.1: The standardized job description for CIP administrative personnel outlines the mandate, expectations, time allocation, reporting and accountability for the role, and is effectively applied. 8.1.1.2: CIP administrative personnel are selected based on the centralized criteria and guidelines. 8.1.1.3: CIP administrative personnel receive professional development, provided centrally and/or through the CIP, based on their individual learning needs. 8.1.1.4: CIP administrative personnel receive feedback on their performance in a fair and transparent manner.

DOMAIN: CONTINUOUS IMPROVEMENT

The Continuous Improvement domain includes standards focused on ensuring a culture of continuous improvement is present throughout the CIP, with the aim of ensuring continuous improvement of residency programs.

NOTE: To reinforce and create clarity with respect to the expectations related to continuous improvement, the Requirements under the Element mimic the continuous improvement cycle (Plan, Do, Study, Act).

STANDARD 9: There is continuous improvement of the educational experiences to improve the CIP and ensure residents are prepared for careers as clinician investigators.

Element 9.1: The residency program committee reviews and improves the quality of the CIP.

Requirement(s)	Indicator(s)
9.1.1: There is a process to review and improve the CIP.	<p>9.1.1.1: There is an evaluation of each of the CIP's educational experiences, including the review of related competencies and/or objectives at least every two years. [B2]</p> <p>9.1.1.2: There is an evaluation of the learning environment.</p> <p>9.1.1.3: Residents' achievements of competencies and/or objectives are reviewed.</p> <p>9.1.1.4: The resources available to the CIP are reviewed.</p> <p>9.1.1.5: Residents' assessment data is reviewed.</p> <p>9.1.1.6: The feedback provided to teachers/supervisors in the CIP is reviewed.</p> <p>9.1.1.7: The CIP's policies and processes for clinician investigator education are reviewed.</p> <p>9.1.1.8: The process includes reflection on the potential impact of the hidden curriculum on the CIP.</p>
9.1.2: A range of data and information is reviewed to inform evaluation and improvement of the CIP and its components.	<p>9.1.2.1: Multiple sources of information, including feedback from residents, teachers/supervisors, administrative personnel, and others as appropriate, are regularly reviewed.</p> <p>9.1.2.2: Information identified by the postgraduate office's internal review process and any data centrally collected by the postgraduate office are accessed.</p> <p>9.1.2.3: Mechanisms for feedback take place in an open, collegial atmosphere.</p> <p>9.1.2.4 [Exemplary]: A resident e-portfolio (or equivalent tool) is used to support program review and continuous improvement.</p> <p>9.1.2.5 [Exemplary]: Education and practice innovations related to Clinical Scientist Development Programs in Canada and abroad are reviewed.</p> <p>9.1.2.6 [Exemplary]: Feedback from recent graduates is regularly collected/accessed to improve the CIP.</p>
9.1.3: Based on the data and information reviewed strengths are identified and action is taken to address areas identified for improvement.	<p>9.1.3.1: Strengths and areas for improvement are used to develop and implement relevant and timely action plans.</p> <p>9.1.3.2: The CIP director and residency program committee share their action plans with residents, teachers/supervisors, administrative personnel and others as appropriate.</p> <p>9.1.3.3: There is a clear and well-documented process to evaluate the effectiveness of actions taken, and take to further action as required.</p>

GLOSSARY OF TERMS

Term	Description
Administrative personnel	Postgraduate and program administrative personnel, as defined below.
Assessment	A process of gathering and analyzing information on competencies from multiple and diverse sources in order to measure a physician's competence or performance and compare it to defined criteria. ¹⁰
Attestation	Verification of satisfactory completion of all necessary training, assessment and credentialing requirements of an area of medical expertise. Attestation does not confer certification in a discipline. ¹¹
Centralized	This term applies to policies, processes, guidelines and/or services developed by the Faculty of Medicine, postgraduate office, and/or postgraduate education committee, and applied to more than one residency program.
Certification	Formal recognition of satisfactory completion of all necessary training, assessment and credentialing requirements of a discipline, indicating competence to practice independently. ¹²
CIP director	The individual responsible and accountable for the overall conduct and organization of the CIP. The individual is accountable to the postgraduate dean.
CMQ	Collège des médecins du Québec
Competence	The array of abilities across multiple domains of competence or aspects of physician performance in a certain context. Statements about competence require descriptive qualifiers to define the relevant abilities, context and stage of training or practice. Competence is

¹⁰ The Royal College of Physicians and Surgeons of Canada (2012). Terminology in Medical Education Project: Draft Glossary of Terms. Retrieved October 14, 2016 from <http://www.royalcollege.ca/rcsite/education-strategy-accreditation/innovations-development/initiatives/terminology-medical-education-project-e>

¹¹ The Royal College of Physicians and Surgeons of Canada (2012). Terminology in Medical Education Project: Draft Glossary of Terms. Retrieved October 14, 2016 from <http://www.royalcollege.ca/rcsite/education-strategy-accreditation/innovations-development/initiatives/terminology-medical-education-project-e>

¹² The Royal College of Physicians and Surgeons of Canada (2012). Terminology in Medical Education Project: Draft Glossary of Terms. Retrieved October 14, 2016 from <http://www.royalcollege.ca/rcsite/education-strategy-accreditation/innovations-development/initiatives/terminology-medical-education-project-e>

	multi-dimensional and dynamic; it changes with time, experience, and settings. ¹³
Competency (Competencies)	An observable ability of a health professional related to a specific activity that integrates knowledge, skills, values, and attitudes. Since competencies are observable, they can be measured and assessed to ensure their acquisition. Competencies can be assembled like building blocks to facilitate progressive development. ¹⁴
Competent	Possessing the required abilities in all domains of competence in a certain context at a defined stage of medical education or practice. ¹⁵
Continuing Professional Development	An ongoing process of engaging in learning and development beyond initial training, which includes tracking and documenting the acquisition of skills, knowledge and experiences.
Continuous Improvement	The systematic approach to making changes involving cycles of change (i.e. Plan, Do, Study, Act) that lead to improved quality and outcomes. It is used as an internal tool for monitoring and decision-making, (e.g., what are the strengths and weaknesses of the residency program? How can we improve our system of assessment?)
Coordinator/supervisor [for each learning site]	The coordinator/supervisor with responsibility for residents at a learning site.
Discipline	Specialty and/or subspecialty recognized by one of the certification colleges. ¹⁶
Division/Department	A department, division or administrative unit around which clinical and academic services are arranged.
Domain(s) of competence	Broad distinguishable areas of competence that together constitute a general descriptive framework for a profession(s). ¹⁷

¹³ Frank, JR., Snell, L., Ten Cate, O., Holmboe, ES., Carraccio, C., Swing, SR., et al. (2010). Competency-based medical education: theory to practice. *Medical Teacher*; 32(8):638-645.

¹⁴ Frank, JR., Snell, L., Ten Cate, O., Holmboe, ES., Carraccio, C., Swing, SR., et al. (2010). Competency-based medical education: theory to practice. *Medical Teacher*; 32(8):638-645.

¹⁵ Frank, JR., Snell, L., Ten Cate, O., Holmboe, ES., Carraccio, C., Swing, SR., et al. (2010). Competency-based medical education: theory to practice. *Medical Teacher*; 32(8):638-645.

¹⁶ Association of American Medical Colleges (2012). Draft Glossary of Competency-Based Education Terms (unpublished).

Educational Accommodation	Recognizing that people have different needs and taking reasonable efforts to ensure equal access to residency education.
Evaluation	A process of employing a set of procedures and tools to provide useful information about medical education programs and their components to decision-makers (RIME Handbook). This term is often used interchangeably with Assessment when applied to individual physicians, but is not the preferred term. ¹⁸
Equitable	Used in the context of having and/or allocating resources, and refers to Fair and impartial distribution of resources. ¹⁹
Faculty Development	That broad range of activities institutions use to renew or assist teachers in their roles. ²⁰
Faculty of Medicine	A Faculty of Medicine, School of Medicine, or College of Medicine under the direction of a Canadian university/universities.
Fatigue Risk Management	A set of ongoing fatigue prevention practices, beliefs, and procedures integrated throughout all levels of an organization to monitor, assess, and minimize the effects of fatigue and associated risks for the health and safety of healthcare personnel and the patient population they serve. [This is a working definition only, and is under further development]
Hidden curriculum	A set of influences that function at the level of organizational structure and culture, affecting the nature of learning, professional interactions, and clinical practice [As defined in the FMEC MD Education Project Collective Vision]
Institution	Encompasses the University, Faculty of Medicine, and postgraduate office.
Internal review	An internal evaluation conducted to identify strengths of, and areas for, improvement for the residency program and/or Faculty of Medicine.

¹⁷ Association of American Medical Colleges (2012). Draft Glossary of Competency-Based Education Terms (unpublished).

¹⁸ The Royal College of Physicians and Surgeons of Canada (2012). Terminology in Medical Education Project: Draft Glossary of Terms. Retrieved October 14, 2016 from <http://www.royalcollege.ca/rcsite/education-strategy-accreditation/innovations-development/initiatives/terminology-medical-education-project-e>

¹⁹ Oxford University Press. (2016) Oxford Living Dictionary: Equitable. Retrieved October 14, 2016 from <https://en.oxforddictionaries.com/definition/equitable>

²⁰ Centra, J.A. (1978) Types of Faculty Development Programs. *Journal of Higher Education*; 49(2), 151-162

Learning environment	The diverse physical locations, contexts, and cultures in which residents learn. ²¹
Learning site	A research institution or other facility, graduate studies program, supervisor, etc. which contributes to residents' educational experiences.
Mistreatment	Unprofessional behavior involving intimidation, harassment, and/or abuse.
Objective(s)	An outcomes-based statement that describes what the resident will be able to do upon completion of the learning experience, stage of training, or residency program.
Postgraduate administrative personnel	Individuals who support the postgraduate dean in coordination and administration related to the oversight of residency programs, including the postgraduate manager.
Postgraduate dean	A senior faculty officer appointed to be responsible for the overall conduct and supervision of postgraduate medical education within the Faculty of Medicine.
Postgraduate education committee	The committee and any subcommittees as applicable, overseen by the postgraduate dean, which facilitates the governance and oversight of all residency programs within a Faculty of Medicine.
Postgraduate manager	Senior administrative personnel responsible for supporting the postgraduate dean, providing overall administrative oversight of the postgraduate office.
Postgraduate office	A postgraduate medical education office under the direction of the Faculty of Medicine, with responsibilities for residency programs.
Program administrative personnel	Individuals who support the program director by performing administrative duties related to planning, directing, and coordinating the residency program.
Protected time	A designated period of time granted to an individual for the purposes of performing a task and/or participating in an activity.

²¹ Great Schools Partnership (2012). The Glossary of Education Reform. Retrieved October 14, 2016 from <http://edglossary.org/learning-environment/>

Residency program	An accredited residency education program in one of Canada’s nationally recognized disciplines, associated with a recognized Faculty of Medicine, overseen by a program director and residency program committee.
Residency program committee	The committee and subcommittees, as applicable, overseen by the program director that supports the program director in the administration and coordination of the residency program.
Residency program stakeholder	A person or organization with interest in and/or who is impacted by the residency program.
Resident	An individual registered in an accredited residency program following eligible undergraduate training leading to certification or attestation in a recognized discipline. ²²
Resource	Include educational, clinical, physical, technical, financial, and human (e.g. teachers and administrative personnel) resources required for delivery of a residency program.
Royal College	The Royal College of Physicians and Surgeons of Canada.
Social Accountability	The direction of education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation. Priority health concerns are to be identified jointly by governments, health care organizations, health professionals and the public. ²³
Teacher	An individual with the responsibility for teaching residents. Teacher is often used interchangeably with terms such as supervisor and/or preceptor.
Teaching	Includes formal and informal teaching of residents, including the hidden curriculum.
Wellness	A state of health, namely, a state of physical, mental, and social well-being, that goes beyond the absence of disease or infirmity ²⁴

²² The Royal College of Physicians and Surgeons of Canada (2012). Terminology in Medical Education Project: Draft Glossary of Terms. Retrieved October 14, 2016 from <http://www.royalcollege.ca/rcsite/education-strategy-accreditation/innovations-development/initiatives/terminology-medical-education-project-e>

²³ World Health Organization (1995). Defining and measuring the social accountability of medical schools. Division of Development of Human Resources for Health. Geneva, Switzerland.

²⁴ World Health Organization (1948). WHO definition of health. Retrieved October 14, 2016 from <http://www.who.int/about/definition/en/print.html>

