



Standards of Accreditation for Residency Programs in General Pathology

The *Standards of Accreditation for Residency Programs in General Pathology* are a national set of standards maintained by the Royal College for the evaluation and accreditation of *General Pathology* residency programs. The standards aim to ensure the quality of residency education provided across Canada, and ensure *General Pathology* residency programs adequately prepare residents to meet the health care needs of their patient population(s), during and upon completion of training.

The standards include expectations specific to the discipline, as well as the expectations set out in the *General Standards of Accreditation for Residency Programs*, which are applicable to all residency programs. In instances where the indicators reflected in the *General Standards of Accreditation for Residency Programs* have been modified within this document to reflect a discipline-specific expectation, the indicator as reflected in this document takes precedence. The standards are intended to be read in conjunction with the national discipline-specific documents for *General Pathology*.

Standards Organization Framework

| Level | Description |
|---|---|
| Domain | Domains, defined by the Future of Medical Education in Canada-Postgraduate (FMEC-PG) Accreditation Implementation Committee, introduce common organizational terminology to facilitate alignment of accreditation standards across the medical education continuum. |
| Standard | The overarching outcome to be achieved through the fulfillment of the associated requirements. |
| Element | A category of the requirements associated with the overarching standard. |
| Requirement | A measurable component of a standard. |
| Mandatory and 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.</p> <p>Exemplary indicators provide 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 review (e.g. evidence may be collected via the institution/program profile in the CanAMS).</p> |

Domain: Program Organization

Standard 1: There is an appropriate organizational structure, with leadership and administrative personnel to support the residency program, teachers, and residents effectively.

Element 1.1: The program director leads the residency program effectively.

Requirement 1.1.1: The program director is available to oversee and advance the residency program.

Indicator 1.1.1.1: The program director has adequate protected time to oversee and advance the residency program consistent with the postgraduate office guidelines and in consideration of the size and complexity of the program.

Indicator 1.1.1.2: The program director is accessible and responsive to the input, needs, and concerns of residents.

Indicator 1.1.1.3: The program director is accessible and responsive to the input, needs, and concerns of teachers and members of the residency program committee.

Requirement 1.1.2: The program director has appropriate support to oversee and advance the residency program.

Indicator 1.1.2.1: The faculty of medicine, postgraduate office, and academic lead of the discipline provide the program director with sufficient support, autonomy, and resources for the effective operation of the residency program.

Indicator 1.1.2.2: Administrative support is organized and adequate to support the program director, the residency program, and residents.

Requirement 1.1.3: The program director provides effective leadership for the residency program.

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

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

Indicator 1.1.3.3: The program director communicates with residency program stakeholders effectively.

Indicator 1.1.3.4: The program director anticipates and manages conflict effectively.

Indicator 1.1.3.5: The program director respects the diversity and protects the rights and confidentiality of residents and teachers.

Indicator 1.1.3.6: The program director demonstrates active participation in professional development in medical education.

Indicator 1.1.3.7 [Exemplary]: *The program director demonstrates a commitment to and facilitates educational scholarship and innovation to advance the residency program.*

Indicator 1.1.3.8 [Royal College Requirement]: The program director or delegate attends at least one specialty committee meeting per year in person or remotely.

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

Requirement 1.2.1: The residency program committee structure is composed of appropriate key residency program stakeholders.

Indicator 1.2.1.1: Major academic and clinical components and relevant learning sites are represented on the residency program committee.

Indicator 1.2.1.2: There is an effective, fair and transparent process for residents to select their representatives on the residency program committee.

Indicator 1.2.1.3: There is an effective process for individuals involved in resident wellness and safety program/plans to provide input to the residency program committee.

Indicator 1.2.1.4 [Exemplary]: There is an effective process for individuals responsible for the quality of care and patient safety at learning sites to provide input to the residency program committee.

Requirement 1.2.2: The residency program committee has a clear mandate to manage and evaluate the key functions of the residency program.

Indicator 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.

Indicator 1.2.2.2: The terms of reference for the residency program committee are reviewed on a regular basis, and are refined as appropriate.

Indicator 1.2.2.3: The mandate of the residency program committee includes planning and organizing the residency program, including selection of residents, educational design, policy and process development, safety, resident wellness, assessment of resident progress, and continuous improvement.

Indicator 1.2.2.4: Meeting frequency of the residency program committee is sufficient to fulfil its mandate.

Indicator 1.2.2.5 [Modified]: The residency program committee structure includes a competence committee responsible for reviewing and making recommendations regarding residents' readiness for increasing professional responsibility, progress in achieving the national standards of General Pathology, promotion, and transition to independent practice.

Indicator 1.2.2.6: The frequency of competence committee meetings is sufficient for the committee to fulfil its mandate.

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

Indicator 1.2.3.1: Members of the residency program committee are actively involved in a collaborative decision-making process, including regular attendance at and active participation in committee meetings.

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

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

Indicator 1.2.3.4: Actions and decisions are communicated in a timely manner to the residency program's residents, teachers, and administrative personnel, and to the academic lead of the discipline and others responsible for the delivery of the residency program, as appropriate.

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

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

Requirement 2.1.1: The residency program committee has well-defined, transparent, and functional policies and processes to manage residency education.

Indicator 2.1.1.1: There is an effective mechanism to review and adopt applicable postgraduate office and learning site policies and processes.

Indicator 2.1.1.2: There is an effective, transparent mechanism to collaboratively develop and adopt required program- and discipline-specific policies and processes.

Indicator 2.1.1.3: There is an effective mechanism to disseminate the residency program's policies and processes to residents, teachers, and administrative personnel.

Indicator 2.1.1.4: All individuals with responsibility in the residency program follow the central policies and procedures regarding ensuring appropriate identification and management of conflicts of interest.

Element 2.2: The program director and residency program committee communicate and collaborate with residency program stakeholders.

Requirement 2.2.1: There are effective mechanisms to collaborate with the division/department, other programs, and the postgraduate office.

Indicator 2.2.1.1: There is effective communication between the residency program and the postgraduate office.

Indicator 2.2.1.2: There are effective mechanisms for the residency program to share information and collaborate with the division/department, as appropriate, particularly with respect to resources and capacity.

Indicator 2.2.1.3: There is collaboration with the faculty of medicine's undergraduate medical education program and with continuing professional development programs, including faculty development, as appropriate.

Indicator 2.2.1.4 [Exemplary]: *There is collaboration with other health professions to provide shared educational experiences for learners across the spectrum of health professions.*

Element 2.3: Resources and learning sites are organized to meet the requirements of the discipline.

Requirement 2.3.1: There is a well-defined and effective process to select the residency program's learning sites.

Indicator 2.3.1.1: There is an effective process to select, organize, and review the residency program's learning sites based on the required educational experiences, and in accordance with the central policy(ies) for learning site agreements.

Indicator 2.3.1.2: Where the faculty of medicine's learning sites are unable to provide all educational requirements, the residency program committee, in collaboration with the postgraduate office, recommends and helps establish inter-institution affiliation (IIA) agreement(s) to ensure residents acquire the necessary competencies.

Requirement 2.3.2: Each learning site has an effective organizational structure to facilitate education and communication.

Indicator 2.3.2.1: Each learning site has a site coordinator/supervisor responsible to the residency program committee.

Indicator 2.3.2.2: There is effective communication and collaboration between the residency program committee and the site coordinators/supervisors for each learning site to ensure program policies and procedures are followed.

Indicator 2.3.2.3: Community-based learning sites have appropriate administrative support.

Requirement 2.3.3: The residency program committee engages in operational and resource planning to support residency education.

Indicator 2.3.3.1: There is an effective process to identify, advocate for, and plan for resources needed by the residency program.

Domain: Education Program

Standard 3: Residents are prepared for independent practice.

Element 3.1: The residency program's educational design is based on outcomes-based competencies and/or objectives that prepare residents to meet the needs of the population(s) they will serve in independent practice.

Requirement 3.1.1: Educational competencies and/or objectives are in place that ensure residents progressively meet all required standards for the discipline and address societal needs.

Indicator 3.1.1.1 [Modified]: The competencies and/or educational objectives meet the specialty-specific requirements for General Pathology, as outlined in the *General Pathology Competencies* and the *General Pathology Training Experiences*.

Indicator 3.1.1.2: The competencies and/or objectives address each of the Roles in the CanMEDS/CanMEDS-FM Framework specific to the discipline.

Indicator 3.1.1.3: The competencies and/or objectives articulate different expectations for residents by stage and/or level of training.

Indicator 3.1.1.4: Community and societal needs are considered in the design of the residency program's competencies and/or objectives.

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

Requirement 3.2.1: Educational experiences are guided by competencies and/or objectives, and provide residents with opportunities for increasing professional responsibility at each stage or level of training.

Indicator 3.2.1.1: The educational experiences are defined specifically for and/or are mapped to the competencies and/or objectives.

Indicator 3.2.1.2 [Modified]: The educational experiences meet the specialty-specific requirements for General Pathology, as outlined in the *General Pathology Competencies* and the *General Pathology Training Experiences*.

Indicator 3.2.1.3 [Modified]: The educational experiences and supervision are appropriate for residents' stage or level of training and support residents' achievement of increasing professional responsibility to the level of independent practice.

Indicator 3.2.1.4: The educational experiences include opportunities for community-based learning outside the academic learning centre.

Indicator 3.2.1.5: The educational experiences include opportunities for each resident to achieve competence in the practice of laboratory medicine appropriate to direct laboratories in community-based hospitals or free-standing laboratories, with the capability of recognizing those instances where material and/or cases should be referred.

Indicator 3.2.1.6: The educational experiences include instruction in the statistical and analytical bases of laboratory testing, test interpretation, and effective laboratory management, including appropriate quality assurance and quality improvement practices.

Indicator 3.2.1.7: The educational experiences include training in autopsy pathology, including

- full training in gross, histological, photographic, and microbiological techniques related to the autopsy

- instruction in post-mortem prosection under the direction of staff pathologists

Indicator 3.2.1.8: The educational experiences include training in the techniques and special procedures specific to forensic autopsies.¹

¹ If necessary, training can be arranged at an appropriate forensic centre or laboratory.

Indicator 3.2.1.9: The educational experiences include opportunities for residents to attain competence in the operation of the light microscope, including the applications of polarizing optics and fluorescence microscopy.

Indicator 3.2.1.10: The educational experiences include training in surgical pathology, including:

- gross examination, dissection, and selection of appropriate tissue blocks for histological study biopsy and frozen section interpretation
- the breadth of histological diagnoses across the range of tissues sent for study in community-based hospitals or free-standing laboratories

Indicator 3.2.1.11: The educational experiences include opportunities for residents to develop knowledge of the applications of special staining procedures and immunomarkers.

Indicator 3.2.1.12: The educational experiences include training in cytopathology, including fine needle aspiration cytology, gynecological cytology, and exfoliative cytology.

Indicator 3.2.1.13: The educational experiences include opportunities for residents to acquire a basic knowledge of the principles and techniques of morphometry, molecular pathology, and flow cytometry, and their interpretation.

Indicator 3.2.1.14: The educational experiences include training in medical biochemistry, including experience in test ordering and patient preparation, methodology, quality control, and interpretation of biochemical findings.

Indicator 3.2.1.15: The educational experiences include training in medical microbiology, including experience in bacteriology, antimicrobial sensitivity testing, parasitology, mycology, virology, infection control, and molecular diagnostics.

Indicator 3.2.1.16: The educational experiences include training in hematopathology, including experience in transfusion medicine, hemostasis and coagulation, blood cell morphology, immunomarkers, flow cytometry, applied molecular diagnostics, cytogenetics, and interpretation of these results.

Indicator 3.2.1.17: The educational experiences include the following opportunities that cross more than one of the domains encompassed by laboratory medicine:

- training in immunology and immunopathology
- training in medical genetics and principles of cytogenetic analysis
- training in pediatric pathology and laboratory testing, including an adequate volume and variety of teaching material
- training in laboratory administration, including instruction and experience in managing laboratories in community-based settings
- training in information management and data processing applicable to laboratories
- experience with lab information systems and computers
- training in the principles of laboratory statistics, including sensitivity and specificity, accuracy and precision, test optimization, and test validation
- opportunity to develop knowledge of quality assurance practices specific to all areas of laboratory medicine

Indicator 3.2.1.18: The educational experiences include ongoing opportunities for each resident to act as a consultant to clinical colleagues on the interpretation and clinical relevance of laboratory findings in all areas of General Pathology.

Indicator 3.2.1.19: The educational experiences include training in facilities with laboratory physicians practising General Pathology.

Indicator 3.2.1.20: The educational experiences include introduction to and utilization of digital imaging.

Requirement 3.2.2: The residency program uses a comprehensive curriculum plan, which is specific to the discipline, and addresses all the CanMEDS/CanMEDS-FM Roles.

Indicator 3.2.2.1: There is a clear curriculum plan that describes the educational experiences for residents.

Indicator 3.2.2.2: The curriculum plan incorporates all required educational objectives or key and enabling competencies of the discipline.

Indicator 3.2.2.3: The curriculum plan addresses expert instruction and experiential learning opportunities for each of the CanMEDS/CanMEDS-FM Roles with a variety of suitable learning activities.

Indicator 3.2.2.4: The curriculum plan includes training in continuous improvement, with emphasis on improving systems of patient care, including patient safety, with opportunities for residents to apply their training in a project or clinical setting.

Indicator 3.2.2.5: The curriculum plan includes fatigue risk management, specifically, education addressing the risks posed by fatigue to the practice setting, and the individual and team-based strategies available to manage the risk.

Indicator 3.2.2.6: The curriculum plan provides opportunities for residents to attend multidisciplinary conferences provided by clinical departments, and to participate in presenting relevant laboratory findings.

Indicator 3.2.2.7 [Exemplary]: *The curriculum plan includes case conferences in each of the domains of General Pathology.*

Indicator 3.2.2.8: The curriculum plan includes instruction in the principles and practice of quality assurance monitoring as it applies to the appropriate utilization of the laboratory, and specifically quality control programs applicable to each area of the laboratory.

Indicator 3.2.2.9: The curriculum plan includes resident participation in quality assurance programs in both the laboratory and the hospital setting.

Indicator 3.2.2.10: The curriculum plan includes opportunities to participate in: infection control; blood product safety; reporting of communicable diseases; reporting of genetic diseases; advocating for the patient's benefit in use and interpretation of laboratory testing; advocating for genetic testing and public safety, where applicable.

Indicator 3.2.2.11: The curriculum plan includes resident completion of a scholarly research, quality assurance, or educational project.

Indicator 3.2.2.12 [Exemplary]: *The residency program incorporates the General Pathology Pathway to Competence in its curriculum plan.*

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

Indicator 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 for their discipline.

Indicator 3.2.3.2: The residency program fosters a culture of reflective practice and lifelong learning among its residents.

Requirement 3.2.4: Residents' clinical responsibilities are assigned in a way that supports the progressive acquisition of competencies and/or objectives, as outlined in the CanMEDS/CanMEDS-FM Roles.

Indicator 3.2.4.1: Residents' clinical responsibilities are assigned based on level or stage of training and their individual level of competence.

Indicator 3.2.4.2: Residents' clinical responsibilities, including on-call duties, provide opportunities for progressive experiential learning, in accordance with all CanMEDS/CanMEDS-FM Roles.

Indicator 3.2.4.3: Residents are assigned to particular educational experiences in an equitable manner, such that all residents have opportunities to meet their educational needs and to achieve the expected competencies of the residency program.

Indicator 3.2.4.4: Residents' clinical responsibilities do not interfere with their ability to participate in mandatory academic activities.

Requirement 3.2.5: The educational environment supports and promotes resident learning in an atmosphere of scholarly inquiry.

Indicator 3.2.5.1: Residents have access to, and mentorship for, a variety of scholarly opportunities, including research as appropriate.

Indicator 3.2.5.2: Residents have protected time to participate in scholarly activities, including research as appropriate.

Indicator 3.2.5.3: Residents have protected time to participate in professional development to augment their learning and/or to present their scholarly work.

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

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

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

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

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

Indicator 3.3.1.4: Residents' feedback to teachers facilitates the adjustment of teaching approaches and learner assignment, as appropriate, to maximize the educational experiences.

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

Requirement 3.4.1: The residency program has a planned, defined, and implemented system of assessment.

Indicator 3.4.1.1: The system of assessment is based on residents' attainment of experience-specific competencies and/or objectives.

Indicator 3.4.1.2: The system of assessment clearly identifies the methods by which residents are assessed for each educational experience.

Indicator 3.4.1.3: The system of assessment clearly identifies the level of performance expected of residents based on level or stage of training.

Indicator 3.4.1.4: The system of assessment includes identification and use of appropriate assessment tools tailored to the residency program's educational experiences, with an emphasis on direct observation where appropriate.

Indicator 3.4.1.5: The system of assessment meets the requirements within the specific standards for the discipline, including the achievement of competencies in all CanMEDS roles or CFPC evaluation objectives, as applicable.

Indicator 3.4.1.6: The system of assessment is based on multiple assessments of residents' competencies during the various educational experiences and over time, by multiple assessors, in multiple contexts.

Indicator 3.4.1.7: Teachers are aware of the expectations for resident performance based on level or stage of training and use these expectations in their assessments of residents.

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

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

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

Indicator 3.4.2.3: There is appropriate documentation of residents' progress toward the attainment of competencies, which is available to the residents in a timely manner.

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

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

Indicator 3.4.2.6: Residents and teachers have shared responsibility for recording residents' learning and achievement of competencies and/or objectives for their discipline at each level or stage of training.

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

Indicator 3.4.3.1 [Modified]: The competence committee regularly reviews (at least twice a year, or once per stage, whichever is more frequent) residents' readiness for increasing professional responsibility, promotion, and transition to independent practice, based on demonstrated achievement of expected competencies and/or objectives for each level or stage of training.

Indicator 3.4.3.2: The competence committee (or equivalent) makes a summative assessment regarding residents' readiness for certification and independent practice, as appropriate.

Indicator 3.4.3.3: The program director provides the respective College with the required summative documents for exam eligibility and for each resident who has successfully completed the residency program.

Indicator 3.4.3.4 [Exemplary]: *The competence committee (or equivalent) uses advanced assessment methodologies (e.g., learning analytics, narrative analysis) to inform recommendations/decisions, as appropriate, on resident progress.*

Indicator 3.4.3.5 [Exemplary]: *The competence committee's recommendations regarding learner status are consistent with the Royal College's guidelines for Competence by Design.*

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

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

Indicator 3.4.4.2: Residents who are not progressing as expected are provided with the required support and opportunity to improve their performance, as appropriate.

Indicator 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 the resident has successfully completed a period of formal remediation; and
- the appeal process.

Domain: Resources

Standard 4: The delivery and administration of the residency program are supported by appropriate resources.

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

Requirement 4.1.1: The patient population is adequate to ensure that residents experience the breadth of the discipline.

Indicator 4.1.1.1: The residency program provides access to the volume and diversity of patients appropriate to the discipline.

Indicator 4.1.1.2: The residency program provides access to diverse patient populations and environments, in alignment with the community and societal needs for the discipline.

Indicator 4.1.1.3: The diversity and volume of specimens consistently available to the residency program are sufficient to support residents' acquisition of knowledge, skills, and behaviours relating to population aspects of age, gender, culture, and ethnicity, appropriate to General Pathology.

Indicator 4.1.1.4: The residency program has access to adequate numbers of autopsies, routine and forensic, to provide full training in gross, histological, photographic, and microbiological techniques related to the autopsy.

Indicator 4.1.1.5: The residency program has access to an adequate volume and variety of surgical specimens to provide training in the gross examination, dissection, and selection of appropriate tissue blocks for histological study.

Indicator 4.1.1.6: The residency program has access to an adequate volume and variety of cytological specimens available for training in cytopathology, including fine needle aspiration cytology, gynecological cytology, and exfoliative cytology.

Indicator 4.1.1.7: The residency program has access to an adequate volume and variety of biochemistry specimens and investigations, including routine biochemical testing, urine and other body fluid analysis, microscopy, immunoelectrophoresis, tumour markers, toxicology, and newborn screening.

Indicator 4.1.1.8: The residency program has access to an adequate volume and variety of microbiology specimens, including bacteriology, mycology, parasitology and virology, including molecular virology.

Indicator 4.1.1.9: The residency program has access to an adequate volume and variety of specimens and investigations in hematological pathology, including morphological hematology, flow cytometry, cytogenetics, coagulation studies, and transfusion medicine.

Requirement 4.1.2: Clinical and consultative services and facilities are organized and adequate to ensure that residents experience the breadth of the discipline.

Indicator 4.1.2.1: The residency program has access to the diversity of learning sites and scopes of practice specific to the discipline.

Indicator 4.1.2.2: The residency program has access to appropriate consultative services to meet the general and specific standards for the discipline.

Indicator 4.1.2.3: The residency program has access to appropriate diagnostic services and laboratory services to meet both residents' competency requirements and the delivery of quality care.

Indicator 4.1.2.4: Resident training takes place in functionally inter- and intra-professional learning environments that prepare residents for collaborative practice.

Indicator 4.1.2.5: The residency program has access to adequate facilities and equipment for routine fixation and staining of tissues.

Indicator 4.1.2.6: The residency program has access to adequate facilities for training in cytopathology, including fine needle aspiration cytology, gynecological cytology, and exfoliative cytology.

Indicator 4.1.2.7: The residency program has access to facilities that provide exposure to concepts and methods of ancillary laboratory techniques¹.

¹ Cytogenetics, molecular pathology, flow cytometry, electron microscopy, immunomarkers, and in situ hybridization.

Indicator 4.1.2.8: The residency program has access to an active diagnostic pathology consultation service to provide residents with experience to act as a consultant to clinical colleagues and to other pathologists.

Indicator 4.1.2.9: The residency program has access to experiences in clinical medicine.

Indicator 4.1.2.10: The residency program has access to experiences providing clinicopathologic consultation with clinical services throughout the residency program.¹

¹ This includes clinicopathological conferences, rounds of clinical services, morbidity and mortality rounds, tumour board, and/or other multidisciplinary rounds/clinics.

Indicator 4.1.2.11: The residency program has access to reference laboratory services for consultation and referral of specimens.

Indicator 4.1.2.12: There is integration of the general pathology residency with other active teaching services in general surgery, internal medicine, hematology, medical imaging, medical oncology, pediatrics, and gynecology, facilitated through attendance at rounds and interaction with residents and staff within these services.

Indicator 4.1.2.13 [Exemplary]: *The residency program liaises with accredited programs in other disciplines of laboratory medicine.*

Requirement 4.1.3: The residency program has the necessary financial, physical, and technical resources.

Indicator 4.1.3.1: There are adequate financial resources for the residency program to meet the general and specific standards for the discipline.

Indicator 4.1.3.2: There is adequate space for the residency program to meet educational requirements.

Indicator 4.1.3.3: There are adequate technical resources for the residency program to meet the specific requirements for the discipline.

Indicator 4.1.3.4: Residents have appropriate access to adequate facilities and services to conduct their work, including on-call rooms, workspaces, internet, and patient records.

Indicator 4.1.3.5: The program director, residency program committee, and administrative personnel have access to adequate space, information technology, and financial support to carry out their duties.

Indicator 4.1.3.6: There is a sufficient number of professional staff, including pathologists, pathology assistants, technologists, and other personnel, to conduct the service work, academic endeavours, and other essential roles of the department, whether or not residents are present in the department.

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

Requirement 4.2.1: Teachers appropriately implement the residency curriculum, supervise and assess trainees, contribute to the program, and role model effective practice.

Indicator 4.2.1.1 [Modified]: The number, credentials, competencies, and scopes of practice of the teachers are adequate to provide the required clinical teaching, academic teaching, assessment, and feedback to residents, including teaching in the basic and clinical sciences related to laboratory medicine.

Indicator 4.2.1.2: The number, credentials, competencies, and scope of practice of the teachers are sufficient to supervise residents in all clinical environments, including when residents are on-call and when providing care to patients, as part of the residency program, outside of a learning site.

Indicator 4.2.1.3: There are sufficient competent individual supervisors to support a variety of resident scholarly activities, including research as appropriate.

Indicator 4.2.1.4: There is a designated individual who facilitates the involvement of residents in scholarly activities, including research as appropriate, and who reports to the residency program committee.

Indicator 4.2.1.5: The residency program has access to General Pathologists who contribute to initial and ongoing educational experiences.

Indicator 4.2.1.6: The program director has Royal College certification in a laboratory medicine discipline (General Pathology, Anatomical Pathology, Neuropathology, Hematological Pathology, Medical Biochemistry, Medical Microbiology), or equivalent qualifications acceptable to the Royal College.

Domain: Learners, Teachers, and Administrative Personnel

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

Element 5.1: The safety and wellness of patients and residents are actively promoted.

Requirement 5.1.1: Residents are appropriately supervised.

Indicator 5.1.1.1: Residents and teachers follow central policies and any program-specific policies regarding the supervision of residents, including ensuring the physical presence of the appropriate supervisor, when mandated, during acts or procedures performed by the resident, and ensuring supervision is appropriate for the level or stage of training.

Indicator 5.1.1.2: Teachers are available for consultation for decisions related to patient care in a timely manner.

Indicator 5.1.1.3: Teachers follow the policies and processes for disclosure of resident involvement in patient care, and for patient consent for such participation.

Requirement 5.1.2: Residency education occurs in a safe learning environment.

Indicator 5.1.2.1: Safety is actively promoted throughout the learning environment for all those involved in the residency program.

Indicator 5.1.2.2: Effective resident safety policies and processes are in place, which may include policies and processes defined centrally or specific to the program, and which reflect general and/or discipline-specific physical, psychological, and professional resident safety concerns, as appropriate. The policies and processes include, but are not limited to:

- After-hours consultation
- Complaints and allegations of malpractice
- Fatigue risk management
- Hazardous materials
- Infectious agents
- Ionizing radiation
- Patient encounters (including house calls)
- Patient transfers (e.g., Medevac)
- Safe disclosure of patient safety incidents
- Travel
- Violence, including sexual and gender-based violence.

Indicator 5.1.2.3: Policies regarding resident safety effectively address both situations and perceptions of lack of resident safety, and provide multiple avenues of access for effective reporting and management.

Indicator 5.1.2.4: Concerns with the safety of the learning environment are appropriately identified and remediated.

Indicator 5.1.2.5: Residents are supported and encouraged to exercise discretion and judgment regarding their personal safety, including fatigue.

Indicator 5.1.2.6: Residents and teachers are aware of the process to follow if they perceive safety issues.

Requirement 5.1.3: Residency education occurs in a positive learning environment that promotes resident wellness.

Indicator 5.1.3.1: There is a positive and respectful learning environment for all involved in the residency program.

Indicator 5.1.3.2: Residents are aware of and are able to access appropriate, confidential wellness support to address physical, psychological, and professional resident wellness concerns.

Indicator 5.1.3.3: The central policies and processes regarding resident absences and educational accommodation are applied effectively.

Indicator 5.1.3.4: The processes regarding identification, reporting, and follow-up of resident mistreatment are applied effectively.

Indicator 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 supported adequately throughout their progression through the residency program.

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

Requirement 6.1.1: There are effective, clearly defined, transparent, formal processes for the selection and progression of residents.

Indicator 6.1.1.1: Processes for resident selection, promotion, remediation, dismissal, and appeals are applied effectively, transparent, and aligned with applicable central policies.

Indicator 6.1.1.2: The residency program encourages and recognizes resident leadership.

Indicator 6.1.1.3: The residency program has effective policies and procedures, or complies with and effectively implements central policies and procedures, to address residents who are not progressing as expected through the stages of training.

Requirement 6.1.2: Support services are available to facilitate resident achievement of success.

Indicator 6.1.2.1: The residency program provides formal, timely career planning and counseling to residents throughout their progress through the residency program.

Standard 7: Teachers deliver and support all aspects of the residency program effectively.

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

Requirement 7.1.1: Teachers are regularly assessed and supported in their development.

Indicator 7.1.1.1: There is an effective process for the assessment of teachers involved in the residency program, aligned with applicable central processes, that balances timely feedback with preserving resident confidentiality.

Indicator 7.1.1.2: The system of teacher assessment ensures recognition of excellence in teaching, and is used to address performance concerns.

Indicator 7.1.1.3: Resident input is a component of the system of teacher assessment.

Indicator 7.1.1.4: Faculty development for teaching that is relevant and accessible to the program is offered on a regular basis.

Indicator 7.1.1.5: There is an effective process to identify, document, and address unprofessional behaviour by teachers.

Indicator 7.1.1.6: The residency program identifies and addresses priorities for faculty development within residency training.

Requirement 7.1.2: Teachers in the residency program are effective role models for residents.

Indicator 7.1.2.1: Teachers exercise the dual responsibility of providing high quality and ethical patient care, and excellent supervision and teaching.

Indicator 7.1.2.2: Teachers contribute to academic activities of the residency program and institution, which may include, but are not limited to: lectures, workshops, examination preparation, and internal reviews.

Indicator 7.1.2.3: Teachers are supported and recognized for their contributions outside the residency program, which may include, but are not limited to: peer reviews, medical licensing authorities, exam boards, specialty committees, accreditation committees, specialty societies, and government medical advisory boards.

Indicator 7.1.2.4: Teachers contribute to scholarship on an ongoing basis.

Standard 8: Administrative personnel are valued and supported in the delivery of the residency program.

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

Requirement 8.1.1: There is an effective process for the professional development of the residency program administrative personnel.

Indicator 8.1.1.1: There is a role description that outlines the knowledge, skills, and expectations for residency program administrative personnel, that is applied effectively.

Indicator 8.1.1.2: Residency program administrative personnel receive professional development, provided centrally and/or through the residency program, based on their individual learning needs.

Indicator 8.1.1.3: Residency program administrative personnel receive formal and/or informal feedback on their performance in a fair and transparent manner, consistent with any applicable university, health organization, or union contracts.

Domain: Continuous Improvement

Standard 9: There is continuous improvement of the educational experiences, to improve the residency program and ensure residents are prepared for independent practice.

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

Requirement 9.1.1: There is a systematic process to regularly review and improve the residency program.

Indicator 9.1.1.1: There is an evaluation of each of the residency program's educational experiences, including the review of related competencies and/or objectives.

Indicator 9.1.1.2: There is an evaluation of the learning environment, including evaluation of any influence, positive or negative, resulting from the presence of the hidden curriculum.

Indicator 9.1.1.3: Residents' achievements of competencies and/or objectives are reviewed.

Indicator 9.1.1.4: The resources available to the residency program are reviewed.

Indicator 9.1.1.5: Residents' assessment data are reviewed.

Indicator 9.1.1.6: The feedback provided to teachers in the residency program is reviewed.

Indicator 9.1.1.7: The residency program's leadership at the various learning sites is assessed.

Indicator 9.1.1.8: The residency program's policies and processes for residency education are reviewed.

Requirement 9.1.2: A range of data and information is reviewed to inform the evaluation and improvement of all aspects of the residency program.

Indicator 9.1.2.1: Information from multiple sources, including feedback from residents, teachers, administrative personnel, and others as appropriate, is regularly reviewed.

Indicator 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.

Indicator 9.1.2.3: Mechanisms for feedback take place in an open collegial atmosphere.

Indicator 9.1.2.4 [Exemplary]: *A resident e-portfolio (or an equivalent tool) is used to support the review of the residency program and its continuous improvement.*

Indicator 9.1.2.5 [Exemplary]: *Education and practice innovations in the discipline in Canada and abroad are reviewed.*

Indicator 9.1.2.6 [Exemplary]: *Patient feedback to improve the residency program is regularly collected/accessed.*

Indicator 9.1.2.7 [Exemplary]: *Feedback from recent graduates is regularly collected/accessed to improve the residency program.*

Requirement 9.1.3: Based on the data and information reviewed, strengths are identified, and action is taken to address areas identified for improvement.

Indicator 9.1.3.1: Areas for improvement are used to develop and implement relevant and timely action plans.

Indicator 9.1.3.2: The program director and residency program committee share the identified strengths and areas for improvement (including associated action plans) with residents, teachers, administrative personnel, and others as appropriate, in a timely manner.

Indicator 9.1.3.3: There is a clear and well-documented process to evaluate the effectiveness of actions taken and to take further action as required.

Glossary of Terms

| Term | Description |
|---------------------------------|--|
| academic lead of the discipline | The individual responsible for a clinical department/division (e.g. department chair, division lead) |
| 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 to measure a physician's competence or performance and compare it with defined criteria (Royal College of Physicians and Surgeons of Canada, 2012). |
| 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 (Royal College of Physicians and Surgeons of Canada, 2012). |
| central | 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 practise independently (Royal College of Physicians and Surgeons of Canada, 2012). |
| CFPC | College of Family Physicians of Canada. |
| 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 multi-dimensional and dynamic; it changes with time, experience, and settings (Frank, et al., 2010). |

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| competency (competencies) | An observable ability of a health professional related to a specific activity that integrates knowledge, skills, values, and attitudes. As competencies are observable, they can be measured and assessed to ensure their acquisition. Competencies can be assembled like building blocks to facilitate progressive development (Frank, et al., 2010). |
| competent | Possessing the required abilities in all domains of competence in a certain context at a defined stage of medical education or practice (Frank, et al., 2010). |
| 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?). |
| dean | The senior faculty officer appointed to be responsible for the overall oversight of a faculty of medicine. |
| discipline | Specialty and/or subspecialty recognized by one of the certification colleges (Association of American Medical Colleges, 2012). |
| division/department | An organizational 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 (Association of American Medical Colleges, 2012). |
| educational accommodation | Recognizing that people have different needs and taking reasonable efforts to ensure equal access to residency education. |
| equitable | Used in the context of having and/or allocating resources, and refers to fair and impartial distribution of resources (Oxford University Press, n.d.). |

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| 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 (Royal College of Physicians and Surgeons of Canada, 2012). |
| experiential learning | Experiential learning is an engaged learning process whereby students (i.e. residents) “learn by doing” and by reflecting on the experience (University of Michigan, 2016). |
| faculty development | That broad range of activities institutions use to renew or assist teachers in their roles (Centra, 1978). |
| 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 (Fatigue Risk Management Task Force, 2018). |
| 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 (Association of Faculties of Medicine of Canada, 2010). |
| independent practice | Practice in which physicians are licensed to be accountable for their own medical practice that is within their scope of practice and that normally takes place without supervision. |
| institution | Encompasses the University, faculty of medicine, and postgraduate office. |
| inter-institutional agreement (IIA) | A formal agreement used in circumstances where a faculty of medicine requires residents to complete a portion of their training under another recognized faculty of medicine, in alignment with policies and procedures for IIAs as set by the Royal College, CFPC, and/or CMQ. |

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| internal review | An internal evaluation conducted to identify strengths of, and areas for improvement for, the residency program and/or institution. |
| inter-professional | Individuals from two or more professions (e.g., medicine and nursing) working collaboratively with shared objectives, decision-making, responsibility, and power, to develop care plans and make decisions about patient care (CanMEDS). |
| intra-professional | Two or more individuals from within the same profession (e.g. medicine) working together interdependently to develop care plans and make decisions about patient care (CanMEDS). |
| learning environment | The diverse physical locations, contexts, and cultures in which residents learn (Great School Partnership, 2012). |
| learning site | A hospital, clinic, or other facility that contributes to residents' educational experiences. |
| mistreatment | Unprofessional behaviour 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. |
| physical safety | Includes protection against biological risks, such as immunization, radiation protection, respiratory protection, exposure to body fluids; it also includes protection against risks associated with physical spaces, with care provided during home visits, travel and meetings with violent patients (University of Montreal, n.d.). |
| postgraduate administrative personnel | Individuals who support the postgraduate dean in coordination and administration related to the oversight of residency programs, including the postgraduate manager (or equivalent). |
| 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, that facilitates the governance and oversight of all residency programs within a faculty of medicine. |

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| postgraduate manager | Senior administrative personnel responsible for supporting the postgraduate dean and 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. |
| professional safety | Includes protection from allegations of malpractice, insurance against medical malpractice suits, disclosure assistance, academic and professional record confidentiality, as well as reporting procedures where confidentiality is assured and there are no reprisals (University of Montreal, n.d.). |
| program administrative personnel | Individuals who support the program director by performing administrative duties related to planning, directing, and coordinating the residency program. |
| program director | The individual responsible and accountable for the overall conduct and organization of the residency program. The individual is accountable to the postgraduate dean and academic lead of the discipline. |
| protected time | A designated period of time granted to an individual for the purposes of performing a task and/or participating in an activity. |
| psychological safety | Includes prevention, protection and access to resources to counter the risks of psychological distress, alcohol or drug dependence, intimidation and harassment (University of Montreal, n.d.). |
| 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 an interest in and/or who is impacted by the residency program. |

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| resident | An individual registered in an accredited residency program following eligible undergraduate training leading to certification or attestation in a recognized discipline (Royal College of Physicians and Surgeons of Canada, 2012). |
| resource | Includes educational, clinical, physical, technical, and financial materials and people (e.g. teachers and administrative personnel) required for delivery of a residency program. |
| Royal College | Royal College of Physicians and Surgeons of Canada. |
| site coordinator | The coordinator/supervisor with responsibility for residents at a learning site. |
| 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 (Boelen & Heck, 1995). |
| teacher | An individual responsible for teaching residents. Teacher is often used interchangeably with terms such as supervisor 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 (World Health Organization, n.d.). |

References

- Association of American Medical Colleges. 2012. *Draft Glossary of Competency-based education terms (unpublished)*.
- Association of Faculties of Medicine of Canada. 2010. *The Future of Medical Education in Canada: A Collective Vision for MD Education*. Accessed April 2020. <https://www.afmc.ca/future-of-medical-education-in-canada/medical-doctor-project/collective-vision.php>.
- Boelen, Charles, and Jeffery Heck. 1995. "Defining and Measuring the Social Accountability of Medical Schools." *World Health Organization*. Accessed April 2020. <https://apps.who.int/iris/handle/10665/59441>.
- Centra, J A. 1978. "Types of Faculty Development Programs." *Journal of Higher Education* 49 (2): 151-162.
- Fatigue Risk Management Task Force. 2018. *Fatigue Risk Management Toolkit*. Accessed April 2020. <https://residentdoctors.ca/wp-content/uploads/2018/11/Fatigue-Risk-Management-ToolkitEN.pdf>.
- Frank, J R, L Snell, O T Cate, E S Holmboe, C Carraccio, S R Swing, et al. 2010. "Competency-based medical education: theory to practice." *Medical Teacher* 32 (8): 638-645.
- Great School Partnership. 2012. *The Glossary of Education Reform*. Accessed October 2016. <http://edglossary.org/learning-environment>.
- Oxford University Press. n.d. *Oxford University Press website*. Accessed October 14, 2016. <https://en.oxforddictionaries.com/definition/equitable>. Accessed 2016 Oct 14.
- Royal College of Physicians and Surgeons of Canada. 2012. "Terminology in Medical Education Project: Draft Glossary of Terms." *Royal College of Physicians and Surgeons of Canada*. Accessed April 2020. <http://www.royalcollege.ca/rcsite/documents/educational-strategy-accreditation/terminology-in-medical-education-working-glossary-october-2012.pdf>.
- University of Michigan. 2016. *Teaching Strategies: Experiential Learning and Field Work*. Accessed April 2020. <http://crlt.umich.edu/tstrategies/tsel>.
- University of Montreal. n.d. *Resident Safety*. Accessed April 2020. <https://medpostdoc.umontreal.ca/etudiants/reglement-et-politiques/guide-de-securite/>.

World Health Organization. n.d. *Constitution of WHO: Principles*. Accessed April 2020.
<https://www.who.int/about/who-we-are/constitution>.