McMaster University | Postgraduate Medical Education

Clinician Investigator Program (CIP)

Program Handbook

Revised January 21, 2024

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1. Goals and Objectives

The overall goal of the Clinician Investigator Program is to assist in the career development of future clinician investigators.

1.1 Objectives

- To provide advice to trainees who are considering training as a clinician investigator.
- To provide trainees with an individualized program, within a well-developed general framework, for research training in conjunction with various university Graduate Programs.
- To promote the integration of research and clinical training.
- To optimize research and clinical mentorship during research training.
- To facilitate the acquisition of knowledge and attitudes that are important for clinician investigators.
- To facilitate contact and collaboration between trainees, and between trainees and established researchers, both within McMaster and at other institutions.

1.2 Detailed Goals and Objectives within the CanMEDS Framework

The following is an outline of the clinician investigator competencies for the McMaster CIP program according to Royal College of Physicians and Surgeons of Canada (RCPSC) CanMEDS competencies framework. During their training, CIP trainees are expected to show progression in these areas of knowledge, skills, and practices. Before starting, and during CIP training, trainees, supervisors, and advisors are required to review these objectives, which are also reflected in the In-Training Evaluation Report (ITER) completed by research supervisors every 6 months and are encouraged to tailor them to fulfill individualized research training plans.
https://pgme.mcmaster.ca/app/uploads/2024/01/final_eng_clinician_investigator_competencies_july2023.pdf

CLINICIAN INVESTIGATOR COMPETENCIES

Medical Expert Definition: As Medical Experts, clinician investigators integrate all of the CanMEDS Roles, applying medical knowledge, clinical and research skills, and professional values in their provision of high-quality clinical care and health research. Key and Enabling Competencies: Clinician investigators are able to:

1. Practice medicine within their defined scope of practice and expertise
    - 1.1. Demonstrate a commitment to high-quality care of their patients and high-quality health research
    - 1.2. Integrate the CanMEDS Intrinsic Roles into their practice
    - 1.3. Apply knowledge relevant to their discipline and their research Organization of health research in Canada
        - 1.3.1. Legislation, regulations, and policies related to the conduct of research
        - 1.3.2. Research ethics frameworks and requirements and processes for research ethics approval, including protection of marginalized populations and subjects
        - 1.3.3. Legislation, regulations, and policies relating to data/information

collection, use, retention, and disclosure
1.3.4. Research funding opportunities and requirements and processes for application
1.3.5. Funding support services available and requirements for access
Scholarly investigation
1.3.6. Study design options and types
1.3.7. Analytic methods: quantitative, qualitative, and mixed methods
1.3.8. Database development and data storage and maintenance
1.3.9. Project management and implementation Research dissemination and knowledge translation
1.3.10. Manuscript submission and revision processes
1.3.11. Processes of peer review publication
1.3.12. Knowledge translation (KT) activities, including integrated KT
1.3.13. Principle of intellectual property and its protection
1.3.14. Open science principles
1.3.15. Role of news and social media in disseminating research findings

1.4. Perform scholarly work

1.5. Carry out professional duties in the face of multiple competing demands

1.5.1. Balance the demands of patient care responsibilities with the demands of a research career

1.6. Recognize and respond to the complexity, uncertainty, and ambiguity inherent in medical practice and in research

1.6.1. Recognize when studies are causing harm and understand the rules for terminating a trial.

Communicator Definition:
As Communicators, clinician investigators form relationships with research participants that facilitate the gathering and sharing of essential information for the conduct of health research.
Key and Enabling Competencies: Clinician investigators are able to:
1. Share information about participation in a research study, including risks, benefits, and alternatives to participation

1.1. Solicit and answer questions from the potential participant

1.2. Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, participation in a study

1.3. Share information with participants about the outcome or findings of the research study

Collaborator Definition: As Collaborators, clinician investigators work effectively with others to conduct high-quality research. Key and Enabling Competencies: Clinician investigators are able to:
1. Work effectively with physicians, scientists, and other colleagues in the health care professions and health research

1.1. Identify collaborators with the skills and resources needed to carry out a study

1.2. Form a research team, including staff, collaborators, and mentors

1.3. Consult with statisticians, methodologists, and other experts as applicable
1.4. Collaborate with colleagues, technicians, and students in the conduct of a research study
1.5. Build and maintain partnerships and networks

2. Work with physicians, scientists, and other colleagues in the health care professions and health research to promote understanding, manage differences, and resolve conflicts
2.1. Show respect toward collaborators
2.2. Implement strategies to promote understanding, manage differences, and resolve conflict in a manner that supports a collaborative culture

Leader Definition: As Leaders, clinician investigators engage with others to contribute to a high-quality health care system supported by health research and take responsibility for the delivery of excellent research care through their activities as clinicians, administrators, scholars, and teachers.

Key and Enabling Competencies: Clinician investigators are able to:

1. Contribute to the improvement of health care delivery
1.1. Apply scholarly investigative methods to contribute to improving patient care
2. Engage in the stewardship of health research resources
3. Demonstrate leadership in research
3.1. Manage and/or lead research teams and projects, engaging with the larger research enterprise
3.2. Engage in quality management of research performed by their team
3.3. Plan and lead team meetings
3.4. Perform critical analysis of methodology, relevance, and novelty for manuscripts, journal articles, and/or grant review processes
3.5. Provide constructive feedback in peer review activities
3.6. Demonstrate leadership skills to enhance health research
4. Manage career planning, finances, and health human resources in research activities
4.1. Set priorities and manage time to integrate practice and personal life
4.2. Manage research projects and resources
4.2.1. Identify the expertise and human resources required
4.2.2. Manage project or thesis timelines and monitor costs
4.3. Identify and build a network of mentors
4.4. Implement processes to ensure research skills and career development

Health Advocate Definition: As Health Advocates, clinician investigators contribute their expertise and influence as they work with communities or patient populations to improve health and health research. They work with those they serve to determine and understand needs, speak on behalf of others when required, and support the mobilization of resources to effect change. Key and Enabling Competencies: Clinician investigators are able to:

1. Respond to the needs of the communities or populations they serve by conducting health research in a socially accountable manner

1.1. Lead or contribute to research initiatives that target health inequities or disparities

1.1.1. Advocate for societal funding for health research, including identification of research priorities, improvement of research safety, and funding for knowledge translation

1.2. Incorporate the patient and community voice and priorities into the development and conduct of research initiatives

Scholar Definition: As Scholars, clinician investigators demonstrate a lifelong commitment to excellence in practice through continuous learning, and by teaching others, evaluating evidence, and contributing to the creation, dissemination, application, and translation of new knowledge and practices. Key and Enabling Competencies: Clinician investigators are able to:

1. Engage in the continuous enhancement of their professional activities through ongoing learning

1.1. Actively seek opportunities and challenges for personal learning and growth

2. Teach students, residents, the public, and other health care professionals

2.1. Mentor, teach, and supervise trainees

3. Integrate best available evidence into practice

3.1. Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters and generate focused questions to address them

3.1.1. Identify, articulate, and prioritize unmet clinical and population health needs

3.1.2. Translate clinical and population health needs into research questions

3.2. Critically evaluate the integrity, reliability, and applicability of health research and literature

3.2.1. Perform literature searches

3.2.2. Perform critical appraisal of relevant literature/evidence

3.2.3. Describe gaps in the literature, including content, methods, and applicability

3.3. Integrate evidence into decision-making in their practice

4. Contribute to the creation and dissemination of knowledge and practices applicable to health

4.1. Demonstrate an understanding of the scientific principles of research and scholarly inquiry and the role of research evidence in promoting healthy people and communities and in health care

4.2. Identify ethical principles for research and incorporate them into obtaining informed consent, considering potential harms and benefits, and vulnerable populations

4.2.1. Recognize and respond to ethical, privacy, and safety issues encountered in the conduct of scholarly activities

4.3. Contribute to the work of a research program

4.3.1. Work effectively within a research team

4.4. Pose questions amenable to scholarly investigation and select appropriate methods to address them

4.4.1. Identify important questions to advance the field

4.4.2. Explore what is known about the study question

4.4.3. Develop a research hypothesis, question, or aim appropriate for investigation within the context of the existing evidence base
4.4.4. Synthesize information to refine the research hypothesis or question
4.4.5. Select relevant funding opportunities
4.4.6. Obtain ethics approval
4.4.7. Conduct a research study
4.4.7.1. Select an appropriate study design
4.4.7.2. Create a detailed and feasible study protocol
4.4.7.3. Develop a budget for the study protocol
4.4.7.4. Create an analysis plan
4.4.7.5. Collect, use, disclose, and retain data for a research study
4.4.7.6. Select and use appropriate methods for data analyses and syntheses
4.4.7.7. Identify challenges or limitations in the study and its findings and how these may impact the interpretation and generalization of the study findings
4.4.7.8. Integrate findings with information from previous studies and the literature
4.4.7.9. Draw conclusions from research findings
4.4.7.10. Propose next steps in answering the research question or for further research
4.5. Summarize and communicate to professional and lay audiences, including research participants and patients and their families, the findings of relevant research and scholarly inquiry
4.5.1. Disseminate the findings of a research study
4.5.1.1. Summarize results in text, tabular, and graphic forms
4.5.1.2. Summarize and synthesize findings
4.5.1.3. Prepare abstracts, including visual abstracts
4.5.1.4. Prepare and submit manuscripts for publication
4.5.2. Communicate research to a variety of audiences, including research subjects, the scientific community, the media and those on social media
4.5.2.1. Define key messages
4.5.2.2. Adapt to the target audience and setting
4.5.2.2.1. Use plain language to share results in a manner that enhances understanding and is accessible to patients and the general public
4.5.2.3. Select and use appropriate visual aids
4.5.2.4. Respond to questions and comments
4.6. Translate the findings or outcomes of research into clinical care

Professional Definition: As Professionals, clinician investigators are committed to the health and well-being of individual patients and society through ethical clinical and research practice, high personal standards of behaviour, accountability to the profession and society, physician-led regulation, and maintenance of personal health. Key and Enabling Competencies: Clinician

investigators are able to:

1. Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards
    - 1.1. Exhibit appropriate professional behaviours and relationships in all aspects of research, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality
    - 1.2. Demonstrate a commitment to excellence in all aspects of research
    - 1.3. Recognize and respond to ethical issues encountered in research
    - 1.4. Recognize and manage conflicts of interest
    - 1.5. Exhibit professional behaviours in the use of technology-enabled communication
2. Demonstrate a commitment to society by recognizing and responding to societal expectations in health care and health research
    - 2.1. Demonstrate accountability to patients, society, and the profession by responding to societal expectations of physicians
        - 2.1.1. Demonstrate commitment to equity, diversity, inclusivity, and anti-oppression practices
    - 2.2. Demonstrate a commitment to patient safety and quality improvement
3. Demonstrate a commitment to the profession by adhering to standards and participating in physician-led regulation
    - 3.1. Fulfil and adhere to professional and ethical codes, standards of practice, and laws governing practice
        - 3.1.1. Adhere to legislation, regulations, and policies for the conduct of research and protection of privacy
    - 3.2. Recognize and respond to unprofessional and unethical behaviours in physicians and other colleagues in the health care professions and in health research
    - 3.3. Participate in peer assessment and standard setting
        - 3.3.1. Participate in peer review
    - 4. Demonstrate a commitment to physician health and well-being for optimal patient care and research
        - 4.1. Exhibit self-awareness and manage influences on personal well-being and professional performance
            - 4.1.1. Demonstrate awareness of one’s own assumptions, values, beliefs, principles, strengths, and limitations
        - 4.2. Manage personal and professional demands for a sustainable practice throughout the physician life cycle
            - 4.2.1. Promote a safe diverse and inclusive working atmosphere
            - 4.2.2. Monitor progress and well-being of individual team members
            - 4.2.3. Manage competing demands: clinical, research, and personal
        - 4.3. Promote a culture that recognizes, supports, and responds effectively to colleagues in need

2. Applicants and Application Process

2.1 Applicant Eligibility

ELIGIBILITY REQUIREMENTS TO BEGIN TRAINING
Royal College certification in any specialty
OR Eligibility for the Royal College examination in any specialty
OR Registration in a Royal College-accredited residency program in any specialty (see requirements for these qualifications)

AND

(1) Planning on applying to, or are currently accepted into, a Graduate Program (Section 3.3),
OR

(2) Already have a PhD or MSc in health research discipline and are planning on applying for, or are currently accepted into, a Postdoctoral research position that is approved by McMaster Postgraduate Medical Education.

2.2. Application Requirements

A complete application includes all of the following:

(1) A letter from the applicant that outlines their training plans, career goals and interest in becoming a clinician investigator. A detailed training plan is required if applying for a Postdoctoral stream.

(2) Updated curriculum vitae, which should include a list of all academic activities, and research experience.

(3) Letters of reference which must include:

a) A letter of reference and support from the trainee's proposed CIP *Research Supervisor*. This letter should outline training goals, the proposed date that research training will commence, and sources of potential and secured salary support for the trainee.

(4) A letter of support from the applicant's *Specialty/Subspecialty Clinical Residency Program Director*. This letter should discuss the timing of the applicant's entry into the CIP program and how potential overlap in fulfilling CIP and clinical training requirements might be accommodated.

Letters of reference should address: The capacity in which the referee knows the applicant (e.g., when and in what role); strengths and weaknesses of the applicant; how the applicant compares with their peers; and whether the trainee has the potential to become a successful clinician investigator. A maximum of two additional letters of support may be submitted by other individuals who can also provide relevant information on the trainee's research potential.

2.2.1 Additional requirements if an application is being made for a CIP-funded position

Salary Support for years spent in CIP can be obtained from various sources that can be

categorized as “CIP-funded” (funded by the Ministry of Health of Ontario) and “Non-CIP-funded” (Section 7). CIP-funded positions are allocated by competition and are generally one year in CIP. Whereas there is no upper limit to the number of trainees who can be accepted into a Non-CIP funded position, there are a limited number of CIP-funded positions (Section 7.1).

The following conditions strengthens an application for a CIP-funded position.

Early application: As note in Section 7.2.1, applications for CIP-funded positions must be submitted by 30th of September preceding the planned start in CIP (usually 1 July).

Funding for additional years in CIP: CIP-funded positions are for one year. An explicit documented commitment of funding for the 2nd year in CIP is required if clinical residency training will be interrupted in order to do CIP. The guarantor of such funding will often be a clinical department or division (and associated clinical residency/fellowship programs), a research supervisor, a graduate program, a research institute, research and scholarship funding or a combination of these resources to ensure adequate salary support is provided for the trainee during CIP training.

Graduate Program Contact: Applicants who are not already accepted into a Graduate Program are encouraged to meet with one or more faculty members of the Graduate Program that they hope to join (Section 13.1 for Graduate Program Coordinators on the CIP Training Committee). In addition to learning about the Graduate Program and obtaining advice about potential research supervisors, the graduate studies representative may provide a letter of support for the CIP application (such a letter of support does not count as one of the two optional additional reference letters that an applicant may submit [Section 2.2]).

2.3 Pre-application Preparation

Potential CIP applicants are advised to contact their Clinical Residency Program Directors, the CIP Program Director (Dr. Samaan; Sections 5.1.1. and 12.1), CIP Departmental Coordinator (Sections 5.1.2 and 12.1), and/or the CIP Graduate Program Representatives (Sections 5.1.4 and 12.1) early in their clinical training to help coordinate their research mentorship linkages and the timing of their CIP and Graduate Program applications. This process should start at least 12 months in advance for a Ministry of Health of Ontario-funded position, at least 6 months in advance for a Non-CIP funded position and may start several years before ultimately applying to CIP. It is expected for potential applicants to have met with the CIP Program Director before applying. At this meeting, the CIP Program Director will discuss: 1) the CIP program generally, 2) potential Research Supervisors (trainees must have the primary research supervisor or co supervisor from the trainee’s clinical discipline) and Research Advisors (Section 4), 3) Graduate Program options at McMaster and funding issues (Section 7).

2.4 How to apply

Send the required application documents outlined in Section 2.2 to the CIP Administrator, Ms. Emily Hutchinson, by email: pgmecip@mcmaster.ca

2.5 When to apply

Applications for CIP-funded positions (Sections 2.2.1 and 7.1) must be submitted by 30th of September.

General applications to CIP (Non-CIP-funded positions) are accepted throughout the year and are encouraged before 1 April CIP start date is July 1st.

2.6 Applicant Selection, Confirmation and Registration with RCPSC

The CIP Training Committee (CIP RPC) reviews all applications and approves those who are selected for entry into the CIP program and for CIP-funded positions. Provisional acceptance into CIP can occur before acceptance into a Graduate Studies program (Graduate Stream; Section 3.3.1), however, acceptance into a Graduate Studies program is a condition for final acceptance into CIP.
Successful applicants will receive: 1) a letter of acceptance from the CIP program; and 2) a Postgraduate Medical Education Letter of Appointment (Contract).

Applicants who have applied, but have not been selected, for a CIP-funded position will be informed they have not been selected for CIP-funding (may still be accepted into a Non-CIP-funded position if they have identified sources of funding during their CIP training). If an offered CIP-funded position is subsequently declined, that position may then be offered to another candidate.

A RCPSC CIP Registration form, which must be signed by the CIP Trainee, CIP Program Director, Residency Program Director, Graduate Program Dean/delegate, and the Dean of Postgraduate Medical Education, is then forwarded to RCPSC by the CIP program administrator.

3. Description of CIP Program

3.1 Overview

CIP is a RCPSC program that is designed to assist in the training of clinician investigators. Trainees start in CIP while they are in specialty or subspecialty clinical residency programs, or immediately on completion of such a program. Trainees are enrolled in a Graduate Program or Postdoctoral research. Trainees who already have a graduate degree in relevant health research, can be in CIP without being enrolled in a Graduate Program (Non-Graduate Stream). CIP aims to supplement the training that is provided by the Graduate Programs/Postdoctoral stream, with a particular focus on enhancing skills, knowledge and practices that are important to a clinician investigator. There are three pathways for CIP training, all of which are available at McMaster (see below). Time spent in CIP may overlap

with residency training (provided the residency programs can accommodate the time that is devoted to research training [e.g., research electives]) or all time spent in CIP may be incremental to time spent in residency programs. Research training that is done before being enrolled in CIP will not be credited towards fulfilling CIP research training requirements (i.e., retroactive recognition of research credit is not permitted).

3.1.1 PGY Levels and Promotions during CIP Training

When a trainee steps away from full time clinical to enter CIP, they advance 1 PGY level upon entry into the program. The trainee remains at that PGY level throughout their CIP years and will return to clinical training at that same PGY level. The exception is for CIP trainees whose clinical program curriculum includes 12 months of research time, where those 12 months count towards the training requirements in both CIP and the clinical residency program (an overlap year). In this circumstance, the trainee will remain at the same PGY level during CIP but will advance a PGY level when they return to their full-time clinical residency training.

3.2 CIP Training Pathways (distribution of research training)

There are three CIP graduate training pathways:

3.2.1 Continuous Training Pathway

The Continuous Training pathway involves a minimum of 24 months of continuous, intensive, research training, which can be started at different time points in relation to residency training. During this period, the trainee must devote at least 80% of their time to research training. The remaining 20% of time may be spent at clinical or other activities including on call time. Trainees most often start in the Continuous Training pathway in their PGY2 or subsequent years or on completion of their specialty or subspecialty clinical residency/fellowship training.

3.2.2 Distributed Pathway

The Distributed Curriculum Training pathway involves a minimum of 27 months of research training completed concurrently with the RCPSC specialty training program, with three sequential years organized as follows: 3 months of clinical training; 9 months of research. Trainees may be accepted into the Distributed Curriculum Training pathway on entry into a Residency program (i.e., PGY1 year) or subsequently. This pathway is intended for residents with outstanding research experience prior to entering their residency program who wish to continue their research work during residency.

3.2.3 Fractionated Pathway

The Fractionated Training pathway involves a minimum of 24 months of intensive research training during which the trainee must devote at least 80% of their time to research. The 24-month period of training is not continuous; instead, it is made up of blocks of at least 3 months (or longer) with one of the blocks being at least 12 months (e.g., two 3-month

blocks, a 6-month block and a 12-month block).

3.3 Non-Graduate Streams

Trainees who already hold a MSc or PhD may join CIP without enrolling to do another graduate degree if they have been accepted for Postdoctoral Research Training with a supervisor who is an approved faculty member with a Graduate Program. The Non-Graduate Stream CIP trainee is expected to have individual research training; be an active participant in the academic activities of the research group with whom they are training with; to attend relevant seminars, workshops, and conferences; and to meet the training expectations of their research advisory committee and CIP training and competency committees. Trainees in this stream will have the same expectations and assessments of the graduate stream including ITERs and self-evaluations.

3.4 Graduate Streams

CIP trainees who are enrolled in the CIP Graduate Stream must be accepted into a Graduate Program which is a requirement for entry into McMaster CIP unless the applicant already has a PhD or MSc in relevant health research. Trainees in the Non-Graduate Stream, as with trainees in the Graduate Stream, will be in either the Continuous, Distributed, or Fractionated, pathways outlined above, with the same time commitment to further research training. Trainees are often enrolled in one of the following Graduate Programs of the Faculty of Health Sciences at McMaster, however other Graduate Programs of the Faculty of Health Sciences may be suitable for trainees' research needs:

- Health Research Methodology (HRM) Graduate Program (MSc and PhD)
- Medical Sciences Graduate Program (MSc and PhD)
- Biochemistry and Biomedical Sciences Graduate Program (MSc and PhD)
- Health Sciences Education Graduate Program, HSEd (MSc)
- Master of Public Health Program (MPH)

These graduate programs offer MSc and PhD degrees. CIP trainees in graduate degrees require the completion of a thesis. Admission requirements and application processes for McMaster Graduate Programs that enroll CIP trainees are available from the individual Graduate Programs and are detailed in their websites.

Health Research Methodology: https://healthsci.mcmaster.ca/hei-hrm

Medical Sciences: http://fhs.mcmaster.ca/medsci/

Biochemistry & Biomedical Sciences: https://gs.mcmaster.ca/program/biochemistry-and-biomedical-sciences/

Heath Sciences Education: https://gs.mcmaster.ca/programs/health-science-education

Master of Public Health: https://healthsci.mcmaster.ca/hei-mph

Acceptance into CIP is not restricted to trainees who are enrolled in one of these

Graduate Programs. CIP trainees may be enrolled in other relevant degrees, either at McMaster or at another acceptable university (Section 3.4).

3.5 Research Training at External (Non-McMaster) Institutions

There is the option for CIP trainees to do part, or all, of their research training at another institution. If all, or most, of the research training is being done at a university with a RCPSC approved CIP program, it is preferable for the CIP trainee to be enrolled in that university's CIP program. If that is not possible, including if the external institution (which may not be a Canadian university) does not have a RCPSC approved CIP program, the trainee can be enrolled in McMaster's CIP program provided the following requirements are met:

a. Specific training goals and objectives are developed in advance of the research experience;
b. There is a designated mentor at the external institution who will also be a member of the trainee's CIP Advisory Committee, either as Research Supervisor or as a Research Advisor;
c. The educational objectives of the research experience in the external institution are agreed upon by the trainee, the mentor at the external institution, and the McMaster CIP Program Director. The trainee will also be expected to have a local research advisor at McMaster;
d. CIP program will receive regular evaluation reports of the trainee's progress during the research training.

3.6 Research Training Plan for Individual Trainees

The goals and objectives for the CIP have been outlined in Section 1. Based on these objectives, individual training plans are developed for each CIP trainee by the trainee and their Research Advisory Committee. The trainee's goals and objectives are revised and documented every six months self-evaluation and reflected in the ITERs, and these objectives are an important part of the interim assessments of progress of the trainee and acquired skills of the research component of the program.

3.7 Academic Sessions and Ethics Training

3.7.1 Academic Sessions

CIP organizes monthly Academic Sessions that cover a broad range of topics that are relevant for clinician investigators, supplement individualized research training, and are not available in graduate courses. These sessions are led by trainees and the selection of the speakers is generated by the trainees who takes the lead in inviting the speakers. The presenters are experienced clinician investigators, scientists, research and academic administrators and others with relevant specialist expertise (e.g., expertise in equity diversity and inclusion, ethics officers, research administration staff). These sessions are mandatory as per the Royal College's requirements to administer the CIP curriculum. CIP trainees are required to attend a minimum of 80% of the sessions per year, and attendance is recorded. A process for missed sessions is outlined below.

Topics covered include advice about career building, grant and manuscript writing, grant and

peer reviewing, and discussion of ethical issues in research. Trainees formally evaluate all sessions and presenters are provided with anonymous feedback from the trainee evaluations. Trainees are expected to organize one session during their MSc training and two during PhD training.

It is expected that all CIP trainees attend all sessions. If an unforeseen circumstance arises and they are not able to attend, there is a process that is followed to ensure the seminars' contents are reviewed by all trainees including those who missed a session. This process involves reviewing the subject of the seminar and provide a self-reflection report. This report is reviewed by the CIP PD and included in the trainee's record of training reviewed. The process undergoes CQI and reviewed by the CIP training committee and feedback is sought from trainees on this process.

All seminars are formally evaluated by trainees at the end of each session, by trainees' representatives on the CIP training committee during the committee meetings where the seminars are a standing agenda item, by the presenters and at the end of every academic year at the program evaluation. These sources of data are used to continuously review and improve the CIP curriculum among other sources for CQI.

3.7.2 Ethics Training

CIP has also planned for all CIP trainees to be permitted to attend meetings of the human and animal Research Ethics Boards, and attendance at one of these meeting is required. The Faculty of Health Sciences' Health Research Services office, and the Postgraduate Medical Education office through the Multidisciplinary Academic Half Days, organizes other research ethics sessions that CIP trainees are encouraged to attend.

As part of their ethics training, and with a particular emphasis on age, sex and gender-based analysis and consideration in health research and ethnicity issues in research, all CIP trainees are required to submit certification of having successfully completed the following e-modules:

- Tri-Council Policy Statement (TCPS2 CORE) tutorial
- Good Clinical Practice (GCP) Training
- CIHR Institute of Gender and Health, 'How to integrate sex and gender into research'
- Confirmation of attending EDI training

Links to these e-modules can be found on the CIP website under Trainee Resources.

Trainees are encouraged to review the McMaster Research & Innovation Ethics website for additional on-line training tools, educational resources and reference materials regarding:

- Ethics in Health Research (humans, animals, biologic agents and cells)
- Human Subject Protection:
- Research Policies, Chart Review, Privacy Legislation, Confidentiality:
- Research Forums (offered at all hospital sites, various topics):

International Conference on Harmonization (ICH) Good Clinical Practice Guidelines via Health Canada:
https://www.ich.org/page/ich-guidelines

4. CIP Trainee Advisory Committee

Composed of thesis committee members and clinical supervisor:
Research Supervisor (1)

Research Advisors (2) (thesis committee members)

Clinical Supervisor (1) (may be the Research Supervisor or one of the Research Advisors)

Each CIP trainee must have an individualized CIP Advisory Committee (thesis committee members in the graduate stream). A CIP Advisory Committee consists of at least three faculty members who act as research and clinical advisors to the trainee. The Advisory Committee must contain an approved member of a Graduate Program faculty. Research Supervisors must have adequate research programs, facilities and secured funding to support the trainee's work and are approved faculty in a Graduate Program. The trainee's Advisory Committee also contains two *Research Advisors* and a *Clinical Supervisor* (this role may be held by the Research Supervisor or one of the Research Advisors). Research Advisors are required to be experienced researchers and be approved faculty in a Graduate Program. Clinical Supervisors are required to be from the trainee's Royal Collage clinical discipline. The Research Supervisor has a prominent role in the selection of Research Advisors, and the CIP Training Committee must approve the selection of the Research Supervisor and a co supervisor if the primary research supervisor is not from the trainee's clinical specialty.

The CIP Advisory Committee is responsible for developing and overseeing the trainee's individualized research program, their research and clinical mentoring, and completion of ITERs. The trainee's goals and objectives are revised and documented every six months on the self evaluations and reflected in the ITER.

5. CIP Training Committee and its Terms of Reference

The CIP Training Committee is responsible for assisting the Program Director in the operation, planning, organization, and supervision of the Clinician Investigator Program (CIP) and its trainees

5.1 Membership and Member's Responsibilities

5.1.1 Chair and Program Director

- Formulate agenda
- Chair the meeting
- Present issues to the committee for discussion
- Contribute to the discussion
- Assign responsibility for follow-up actions
- Encourage attendance of committee members
- Connect with clinical department to recruit new members as terms end
- Revise and approve minutes

5.1.2 CIP Departmental Coordinators

CIP departmental coordinators are selected by their departments and appointed to represent their departments at the CIP training committee. The term of office is for three years that may be renewed once.

- Represent their clinical departments
- Relay CIP issues to the department members, e.g., Chair, other
- Relay clinical department issues to the CIP training committee
- Be aware of the progress of the CIP trainees in their respective clinical departments
- Present issues to the committee meeting for discussion
- Contribute to the discussion
- Accept responsibility for follow-up actions
- Review and approve minutes

5.1.3 Graduate Program Representatives

- Represent their graduate programs
- Relay CIP issues to graduate school members, e.g., Chair
- Relay graduate school issues to the CIP training committee
- Be aware of the progress of Cip trainees in their respective programs
- Present issues to the committee meeting for discussion
- Contribute to the discussion
- Accept responsibility for follow-up actions
- Review and approve minutes

5.1.4 Health Research Services Representative

- Represent the Vice Dean of Research
- Relay CIP issues to trainees when appropriate
- Relay trainee issues to the CIP training committee
- Present issues to the meeting for discussion
- Contribute to the discussion
- Accept responsibility for follow-up actions

- Review and approve minutes

5.1.5 Trainee Representatives

Appointed and Elected Representative

- Represent the trainees
- Relay CIP issues to trainees when appropriate
- Relay trainee issues to the CIP training committee
- Present issues to the meeting for discussion
- Contribute to the discussion
- Accept responsibility for follow-up actions
- Review and approve minutes
- Carry out the annual trainee evaluation of program and report results to the CIP training committee

5.1.6 Program Administrator

- Schedule meetings and issue agendas
- Record meetings and prepare minutes
- Represent the Postgraduate Medical Education Office
- Contribute to the discussion
- The program administrator is a non-voting member

5.2 Goals and Responsibilities of the Training Committee

- Be responsible for the operation, planning, organization and supervision of the CIP program and its trainees
- Participate in the selection of trainees for admission to the program
- Reviews and approve the trainees research supervisors and advisors
- Ensure that CIP meets its own goals and objectives, and that it follows the RCPSC guidelines for training clinician investigators in accordance with relevant CanMEDS competencies
- Optimize collaborations and interactions with the Grad Programs and the Clinical Departments
- Oversee the process of in-training evaluation, including the final evaluation of trainees
- Participate in the appeals mechanism in accordance with Postgraduate Education committee policies

5.3 Governance

Decision making by a majority in which the Chair is a voting member. If there is disagreement and there is concern that the position of a Clinical Department or Graduate Program is inadequately represented, voting will be suspended until further consultation occurs.

5.4 Frequency of Meetings

Schedule meetings are two months apart and a minimum of every three months. Unscheduled meetings occur as the need arises. Meetings are held over zoom. Quorum is a simple majority of members including at least one trainee representative.

5.5 Reporting Structure

The Chair reports to the Associate Dean, Postgraduate Medical Education. Departmental, Graduate Programs and Trainee Representatives report to their constituents. Approved minutes of the CIP Training Committee meetings are sent to the CIP Training Committee members and Ex Officio members.

6. CIP Competence Committee Terms of Reference

6.1 Introduction

The McMaster Clinician Investigator Competence Committee hereafter, referred to as the Committee, is a sub-committee of the Clinician Investigator Program Committee. The Committee's primary focus is to make recommendations to the Program Director on trainee progress and promotion. Data to be reviewed for the decision-making process will include (but are not limited to) all documented performance information and written recommendations from the Research Supervisor or Program Director, if applicable including ITERs.

6.2 Membership

Its membership includes the Chair, who is a CIP Faculty committee member (not the CIP Program Director), CIP faculty committee members, an external member outside of the CIP training committee with knowledge of resident training and assessment, and a trainee in CIP. All members will be void of any conflict of interest. The trainee representative is a non-voting member.

6.3 Terms

Terms for all members are 2 years, renewable.

6.4 Qualifications

All faculty Committee members should have a demonstrated interest in research, education, assessment, and/or administration. It is expected that Committee members will make every effort to attend every meeting in person or via teleconference.

6.5 Meeting frequency

All trainees must be reviewed a minimum of twice in the academic year.

6.6 Reporting

The Competence Committee will make recommendations to the Program Director and the CIP Training Committee.

6.7 Responsibilities

- All committee discussions are strictly confidential and are only shared on a professional need-to-know basis.
- Committee decisions will be based on the assessment information and documentation available for each trainee at the time of the committee meeting.
- If it is anticipated by the Research Supervisor and/or the Program Director that a trainee will likely not be progressing either at or ahead of the anticipated course, the trainee is to be informed and encouraged to provide the Committee with a written progress update which may include their perceived progression status, clarifications, actions taken in response to feedback and additional relevant information.
  - Individual committee member experience regarding trainee performance is to be included if there is a request to clarify the available assessment documentation.
- Competence Committees will make decisions in consideration of:
  - Trainee recent performance
  - Trainee pattern of performance over time
  - Patient safety and ethical needs
  - The need for different approaches to trainee supervision
- Trainees may be selected for Competence Committee review based on any one of the following criteria:
  - A regularly timed review (minimum 2 times per year)
  - A concern has been flagged on recent assessments
  - Completion of stage requirements and eligible for promotion or completion of training
  - Where there appears to be a significant delay in the trainees' performance
  - Where there appears to be a significant acceleration in the trainees' progress
- The Committee is responsible for completing a detailed review of the progress of all trainees to:
  - Consider each trainee's recent performance in all areas.
  - Identify patterns of performance,
  - Provide a succinct synthesis, and
  - Recommend a decision
- Types of decisions available to Competence Committees are:
  - Confirmation of competence continuum
  - Recommendation for:
    - Program-based remedial support (i.e. where there are focused educational needs/gaps)
    - Formal Remediation (i.e. where there are significant or persistent needs/gaps)
    - Access to enrichment opportunities (i.e. focused educational opportunities)
- Documentation:
  Minutes of meetings will be kept including CC discussions and decisions of each trainee.
- The Program Director (or designate) will communicate any recommendations to the trainee requiring actions decided upon by the Competence Committee and

discuss needed adjustments (if applicable) to the educational program, assessments, or rotation schedule.

6.8 Appeals

The trainee may appeal a Competency Committee decision according to McMaster PGME's Policy on Appeals.

7. Costs of Enrolling in McMaster's CIP Program

7.1 CIP and RCPSC Registration

There are no tuition or enrollment fees specific to the McMaster CIP program. However, as CIP is a RCPSC program that falls under the jurisdiction of the Postgraduate Medical Education (PGME) Office, trainees must be registered with the PGME Office and there is an associated registration fee per academic year. Trainees who are currently in a RCPSC residency program (i.e., overlapping residency training and CIP training) will already be registered with the PGME Office and therefore will incur no additional registration costs for CIP. The registration fee applies to those who have completed their residency training and are in the research phase of CIP (minimum of 2 years' registration).

7.2 Graduate Programs

CIP trainees who are in the Graduate Stream must be enrolled in a Graduate Program, for which there is a separate application process and application fee (https://gs.mcmaster.ca/academic- services/how-apply). Total annual tuition for full-time students enrolled in the Health Sciences Graduate Programs at McMaster University, can be found at https://student- accounts.mcmaster.ca/tuition-fees/#tab-content-graduate.

8. Funding for CIP Trainees

Funding for positions in CIP are categorized as "CIP-funded" and "Non-CIP funded". A CIP-funded position refers to a position (or one year) in CIP that is fully funded by dedicated CIP funding from the Ontario Ministry of Health. Non-CIP-funded positions refers to all other positions (or years) in CIP that are supported by other sources of funding, including Ontario Ministry of Health funding for clinical residency years (core or sub-specialty) that also contribute to (i.e., overlap with) CIP training requirements.

8.1 CIP-funded-positions (Ontario Ministry of Health - MOH)

There is a limited number of positions in CIP that are directly funded by the MOH (currently six positions/year). These positions can be held before residency training has been completed (i.e., interspersed with years of residency training) or can be held as soon as clinical residency training has been completed. All applications to CIP (CIP-funded and Non-CIP funded) require support from the applicant's clinical residency program. Application to join CIP before residency training has been completed also requires documented agreement from the clinical residency program that the trainee may interrupt clinical residency training. This usually

requires one or more years of advanced planning. As funding from the MOH is a full resident's salary, a CIP trainee who has MOH funding will not hold another major source of funding. The application date for CIP-funded positions is 30th September (Section 2.5).

8.2 Non-CIP funded positions

If a trainee is not in a CIP-funded position it is necessary for another source of funding to be secured. This also applies to the second year of funding for a trainee whose first year was CIP- funded. There are many acceptable forms of Non-CIP funding, which may include a combination of sources, and these sources may change from year to year. The following are examples of potential sources of non-CIP-funding. Sources of funding are not equally available to all trainees (e.g., may differ by clinical department, clinical division or, graduate program). Funding is typically secured with the help of the trainee's Research Supervisor, and clinical and academic departments or divisions.

Sources of funding

8.2.1 Ontario Ministry of Health during CIP and Clinical Residency overlap years

This applies if CIP and clinical residency training overlap, which can occur if the residency program can accommodate substantial blocks of time for research (e.g., 12 months). As funding from the MOH is a full resident's salary, a CIP trainee who has MOH funding will not hold another major source of funding.

Trainees cannot hold a MOH funded position and another major source of salary funding e.g. a fellowship award. This is clearly stated in the offer contract. Should a trainee be awarded another source of funding they must notify the CIP Program Director. Trainees can hold any amount of research funding that is for research operating costs (not a salary support for the trainee if they have MOH funding).

8.2.2 Internal and External Research Funding and Awards

These awards are usually allocated by competition. Generally, internal are smaller than external awards (e.g., from Canadian Institutes of Health Research). Information on internal and external research awards (e.g., funding agency, name of award, eligibility criteria including clinical discipline, value, application process) can be obtained from the office of Health Research Services: https://healthresearch.mcmaster.ca/secure-funding/, from the CIP Health Research Services representative (Section 12.1), as well as from the trainee's graduate program and mentors. Trainees may qualify to apply for an Ontario Graduate Scholarship (OGS) program, which provides partial funding. https://gs.mcmaster.ca/current-students/scholarships/#nav-government

8.2.3 Sponsoring Institution or Country

Funding may be provided by a Canadian or a non-Canadian institution, or a country, which has an arrangement with the trainee to return to that institution (this is the usual expectation) on completion of the trainee's research and clinical training.

8.2.4 Clinical Earnings and Clinical Scholar Positions

Some clinical departments at McMaster have the option for research trainees who have RCPSC specialty/subspecialty certification to hold a Clinical Scholar position. This is similar to a junior faculty position (however, it is not a faculty appointment) and allows the trainee to perform clinical duties and to generate earnings that can fund all, or part of, the trainee's salary. As previously noted, there are restrictions on the proportion of time that CIP trainees can devote to clinical activities. Information on this potential source of funding can be obtained by contacting the relevant clinical departments and divisions at McMaster.

8.2.5 Clinical Departments and Divisions

Some McMaster Clinical departments and divisions provide funding to cover all, or part, of a CIP trainee's salary. This opportunity may be present before or after obtaining RCPSC certification and usually requires a competitive application. Information on this potential source of funding can be obtained by contacting the relevant clinical departments and divisions at McMaster, and the CIP Departmental Representatives (Section 12.1). https://healthsci.mcmaster.ca/

8.2.6 Graduate Programs

Some graduate programs provide access to funding for their graduate students: https://gs.mcmaster.ca/ . Trainees are encouraged to enquire from prospective Research Supervisors and to approach the relevant graduate programs.

8.2.7 McMaster's Postgraduate Medical Education Office

McMaster's Postgraduate Medical Education office, which is responsible for the McMaster CIP program, provides the following financial assistance to all trainees:

- Reimbursement of 50% of a domestic student's Graduate Tuition Fees, or the equivalent (if these are not covered from another source); maximum of 2 years for a MSc and 4 years for a PhD.
- Research related expenses of up to $2000 per year to attend approved research-related conferences or to cover other research-related costs (e.g., software licenses, open access publication).

9. Evaluation of Trainees

McMaster CIP research In-Training Evaluation Reports (ITERs), self evaluations and progress reports are used to monitor learning and research performance of CIP trainees during the Research training (Section 11.1) of CIP..

9.1 Self-Evaluation by Trainees

Trainees complete this form every six months to update their Advisory Committee and the CIP program on the trainee's research progress and clinical activities. This self-report section was designed, in consultation with faculty and trainees, to serve as a template for comprehensive, self-monitoring of research progress and academic career development.

Each trainee is expected to maintain an electronic file version to continuously record, update and self-evaluate their progress. The Self Evaluation form contains the following sections:

- Brief summary of CIP research project goals and progress;
- Anticipated date of completion of graduate or postgraduate studies;
- Involvement in collaborative research projects;
- Coursework completed or in progress to date, including academic grades;
- Fellowship training and/or certification exams completed or to be taken within 6 months;
- Publications submitted (manuscripts, book chapters, abstracts);
- Grants submitted and/or funded;
- Research presentations (poster, oral, peer-reviewed);
- Conferences and meetings, journal clubs in the past 6 months;
- Academic and/or research awards received;
- Teaching, academic or administrative activities in past 6 months;
- Involvement in co-reviewing papers and grants in past 6 months;
- National and international professional societies in which you participate;
- Attendance or planned attendance at ethics review board meetings;
- Completion dates of TCPS2 core tutorial, Good Clinical Practice (GCP) training, sex and gender based analysis educational resources
- Clinical activities for the past 6 months;
- Career planning activities;
- Issues you would like discussed with your advisors and/or the CIP program director.

9.2 Advisory Committee Evaluations

The trainee's CIP advisory committee monitors each trainee's progress and accomplishments, with primary supervisor completing an evaluation form (ITER) through MedSIS every six months.

The Research Supervisor completes the main ITER which is structured to follow and assess (i.e., rate) CanMEDS competencies and objectives, and contains space for narrative comments to provide more detailed evaluations of performance.

9.3 CIP Program Director Interview and Progress Summary

The CIP Program Director reviews the trainee's self-evaluations and evaluations of the trainee by the Research Supervisor when they meet with the trainee after every six-month block. The CIP program director reviews all the areas that have been noted in the trainee's self-evaluation and the ITERs, assesses the trainee's progress, and comments on this progress in the "Progress Summary" report. This report is in the form of a narrative summary (rather than a pre-printed form) that is forwarded to the trainee, members of the trainee's Advisory Committee, Clinical Program Director, CIP Departmental Representatives, CIP Graduate Program Coordinator and, CIP competency committee. The CIP program Director's Progress Summary also notes issues around the trainee's funding and career planning.

10. Evaluation of CIP Program and Faculty

The CIP program and the CIP Program Director are evaluated by the CIP trainees once in each year. Each trainee completes a CIP program evaluation form, and these forms are collated by the CIP Trainee Representatives so that anonymous feedback can be provided to the CIP Program Director and to the CIP Training Committee. In addition to the questionnaire responses, trainee feedback incorporates collective suggestions and opinions from the trainee's representatives on the training committee. This feedback is used to modify how the CIP may better meet the needs of the trainees.

Trainees are required to complete a Faculty Evaluation on their Research Supervisor every six months in MedSIS. This form is triggered in MedSIS when the Research Supervisor completes the trainee's ITER. This form requests rating ("not applicable", "unsatisfactory", "needs improvement", "satisfactory", "good", "excellent") and has an additional comments section. These evaluations are reviewed annually by the CIP Program Director on behalf of the CIP Training Committee. Research supervisor/faculty evaluations are part of continuous quality improvement and remain confidential to ensure the privacy and confidentiality of the faculty and supervisors. The Program Director will address any issues if they arise confidentially and anonymized within CIP training committee. These evaluations are to ensure CIP meets all standards and guidelines relating to the program objectives and to take action when needed to address trainees and faculty needs and related concerns.

As noted in Section 3.7.1 each trainee completes an evaluation of each presentation at the monthly Academic Sessions.

11. Career Planning and Counseling

11.1 Career Planning

Before and after enrollment in CIP, the trainee's Clinical Residency Program Director, CIP Clinical Supervisor, Research Supervisor, Research Advisors, Departmental CIP Coordinator, and the CIP Program Director contribute to discussions about career planning for trainees. Career plans are reviewed during the evaluation process that occurs every six months while trainees are in CIP and are commented on in the ITER and in the CIP Program Director's "Progress Summary" report. Trainees are also familiarized with the McMaster Industry Liaison Office for access to advice on the potential for commercialization of their research, and development of career opportunities with industry (https://research.mcmaster.ca/mcmaster- industry-liaison-office-milo/)

A number of the CIP academic sessions each year include discussions of various aspects of career planning such as: research pathways; practical issues around recruitment and salary negotiation; and planning for promotion. Trainees are encouraged to attend the annual meeting of the Canadian Society for Clinical Investigation (CSCI) and its Young Investigator's Forum, and to be members of the Clinician Investigator Trainee Association of Canada,

which are also resources for career planning and recruitment opportunities.

11.2 Counseling for CIP Trainees and Wellness Resources

There is access to counselling both within, and outside of, the CIP program. Counselling avenues include:

- The CIP Program Director is available to the trainee on an "open door" basis and is the trainee's advocate in situations where trainees are experiencing stress related to work/health and personal issues.
- Similarly, the trainee's Research Supervisor, Clinical Supervisor, Research Advisors and other individuals who have established a mentorship relationship with the trainee are available for discussion of such issues.
- CIP trainees, as do all residents, have access to Learner Wellness resources provide on the PGME website. This site directs trainees to Residents Affairs and all the resources they supply. https://pgme.mcmaster.ca/resident-affairs/

11.3 Appeals by CIP Trainees

An appeal by a trainee would first be made at a Program Level (Level 1 appeal) to the CIP Program Director who would try to help resolve the issue with the other party (e.g., Research Supervisor). If necessary, still at the Program Level, the trainee's concern would be discussed with the CIP Training Committee. Consistent with standard McMaster Postgraduate Medical Education policies, if the trainee's concerns are not resolved to the trainee's satisfaction at the Program Level, the trainee may submit a Level 2 appeal to the Appeals Review Board, which adjudicates on behalf of the Postgraduate Medical Education Committee and the Associate Dean, Postgraduate Medical Education. If the trainee disagrees with the judgment of the Appeals Review Board, and challenges this judgment on procedural grounds, the trainee can make a Level 3 appeal to the Postgraduate Tribunal, which adjudicates on behalf of the Dean, Faculty of Health Sciences. The Postgraduate Medical Education Office website provides a detailed description of how resident evaluations are to occur and the process for appealing an evaluation: https://pgme.mcmaster.ca/train/policies/ . Graduate Program student appeals are governed by McMaster University's Student Appeals process which is found at: https://secretariat.mcmaster.ca/home/student-appeals-form-a/ .

12 Trainee Safety Policy

CIP trainees must be familiar with, and have satisfied all of the safety requirements of, both 1) their Clinical Residency Training program, and 2) their Graduate Studies program. As there are marked differences among the Clinical Residency programs (eg, psychiatry vs. surgery vs. laboratory medicine vs. radiation oncology) and among the Graduate Studies programs (eg, basic sciences vs. clinical epidemiology), and as the safety issue differ among these, no single safety policy applies to all CIP trainees.

12.1 Clinical Residency Program Safety Training Requirements

For each trainee, the Residency Safety Requirements that are specific to the trainee's

residency program apply. In addition, as all CIP trainees are registered with Post Graduate Medical Education, they are also subject to the provisions of McMaster's "Medical Education Health and Safety Policy" (https://pgme.mcmaster.ca/train/policies/. In common with all residents registering with Post Graduate Medical Education at McMaster, CIP trainees must successfully complete the e-modules listed below, available on-line for trainees through personal log-in:

- Orientation for New Trainees- Introduction
- Resident Safety Training & Personal Protection
- Patient Safety
- Medication Safety
- Infection Prevention & Control
- Preventing & Managing Workplace Violence & Harassment
- Personal Health Information (PHI) & Privacy
- The Accessibility Act for Ontarians with Disability
- The Occupational Health & Safety Act
- WHMIS 2015

12.2 Graduate Studies Program Safety Training Requirements

For each trainee, the Graduate Studies Program Safety Requirements that are specific to the trainee's Graduate Studies Program apply.

Some Graduate Programs, such as Medical Sciences (e.g., laboratory-based), have specific health and safety requirements. Students must complete the following safety training modules in Laboratory WHMIS; and Fire Safety Training - https://fhs.mcmaster.ca/safetyoffice/fhsso_training.html.

Other Graduate Programs, such as Health Research Methodology, apply general university policies. Students must complete the following safety training modules: Health & Safety and Job Hazard Analysis http://fhs.mcmaster.ca/safetyoffice/_Job Hazard Analysis

13. Completion of CIP Program

ELIGIBILITY REQUIREMENTS FOR ATTESTATION

All candidates must be Royal College certified in their primary specialty in order to be eligible for attestation in the Clinician Investigator Program.

13.1 Research Training during CIP

The completion of graduate studies (successful defense of thesis) or the completion of post-doctoral research fellowship objectives after a minimum of 2 years during which trainees spent 80% of the time on research related activities.

13.2 Requirements for Completion of McMaster's CIP program

Completion of CIP requires satisfactory evaluation of research training and does not include examination. The CIP Program Director and the CIP training and competency committees review the trainee's progress using different assessment approaches including self-

evaluations report, ITERs, progress reports and academic productivity to ensure trainees fulfill all McMaster and RCPSC CIP training requirements. Completion of CIP training requires the final completion of attestation documents and approval by the McMaster CIP Training Committee.

In order for CIP certification and attestation to be completed, the following are required:

1. RCPSC certification in their chosen Specialty/Subspecialty Program
2. Completion of all McMaster CIP program requirements as described
3. A confirmation from the graduate studies (for graduate stream) or Research Supervisor (non-graduate stream) that the trainee has completed the research and related training that is required to satisfy Graduate Program and CIP requirements.

13.3 Certification of CIP Training by the RCPSC

When all CIP research requirements are completed, McMaster University CIP program forwards a completed *Attestation of Completion of the Research Component of the Clinician Investigator Program* form to the RCPSC. When both the clinical specialty/subspecialty and the research components of the CIP program are completed, a certificate recognizing successful completion of CIP is issued by the RCPSC as well as by the McMaster Postgraduate Medical Education office.

14 Appendices

14.1 CIP Training Committee Members and Contact Information

Program Director:

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Program Administrator:

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Associate Dean, Postgraduate Medical Education:

Dr. Parveen Wasi, MD, FRCPC

Professor, Medicine – Hematology and
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Vice Dean, Associate Dean of Graduate Studies, Health Sciences:

Dr. Steven Hanna
Professor, Health Research Methods, Evidence & Impact
Health Sciences Graduate
Studies Health Science Centre,
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14.2 Departmental CI Program Departmental Coordinators and Graduate Studies representatives:

Internal Medicine and Internal Medicine Subspecialties

Dr. Imran Satia
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Obstetrics and Gynecology

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Oncology

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Surgery and Surgery Subspecialties

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Anesthesiology

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Health Research Methodology Graduate Program

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Medical Sciences Graduate Program

Dr. Geoff Werstuck
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Health Science Education Program

Dr. Elif Bilgic, PhD
Assistant Professor & Education Scientist
McMaster University
Department of Pediatrics
McMaster Education Research Innovation and Theory (MERIT) program

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Master of Public Health Graduate Program

Dr. Elizabeth Alvarez
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Health Research Services

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14.3 RCPSC Objectives of Training in the Clinician Investigator Program (CIP)

https://pgme.mcmaster.ca/app/uploads/2024/01/final_eng_clinician_investigator_competencies_july2023.pdf

14.4 ITER – 2023

- Attached

McMaster University

<Learner.Picture>

In Training Evaluation Report

Learner: **<Learner.Last_Name>, <Learner.First_Name>**
Learner Program / Level: **<Learner.Trainee_Program> / <Learner.Tr_Level>**
Rotation / Program: **<Activity.Rotation> / <Activity.Rotation_Program>**
Location: **<Activity.Rotation_Location>**
Supervisor: **<Supervisor.Last_Name>, <Supervisor.First_Name>**
Evaluation Trigger / Period: **<Evaluation.Trigger_Type> / <Activity.Period>**

Legend:

N/A - **Non Applicable**
1 - **Unsatisfactory**: Performs significantly lower than level of training
2 - **Provisional Satisfactory**: Performs lower than level of training
3 - **Satisfactory**: Meets expectations at level of training
4 - **Very Good**: Exceeds expectations for level of training
5 - **Outstanding**: Significantly exceeds expectations for level of training

NOTE: If the learner functions at their training level, then the learner should obtain a score of Satisfactory.

Medical Expert

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Practise medicine within their defined scope of practice and expertise:						
• Demonstrate a commitment to high-quality care of their patients and high-quality health research; Integrate the CanMEDS Intrinsic Roles into their practice	o	o	o	o	o	o
• Apply knowledge relevant to their discipline and their research.	o	o	o	o	o	o
Organization of health research in Canada:						
• Legislation, regulations, and policies related to the conduct of research.	o	o	o	o	o	o
• Research ethics frameworks and requirements and processes for research ethics approval, including protection of marginalized populations and subjects.	o	o	o	o	o	o
• Legislation, regulations, and policies relating to data/information collection, use, retention, and disclosure.	o	o	o	o	o	o

• Research funding opportunities and requirements and processes for application.	O	O	O	O	O	O
• Funding support services available and requirements for access.	O	O	O	O	O	O
Scholarly investigation: • Study design options and types.	O	O	O	O	O	O
• Analytic methods: quantitative, qualitative, and mixed methods.	O	O	O	O	O	O
• Database development and data storage and maintenance.	O	O	O	O	O	O
• Project management and implementation.	O	O	O	O	O	O
Research dissemination and knowledge translation: • Manuscript submission and revision processes; Processes of peer review publication.	O	O	O	O	O	O
• Knowledge translation (KT) activities, including integrated KT.	O	O	O	O	O	O
• Principle of intellectual property and its protection.	O	O	O	O	O	O
• Open science principles.	O	O	O	O	O	O
• Role of news and social media in disseminating research findings.	O	O	O	O	O	O
Carry out professional duties in the face of multiple competing demands: • Balance the demands of patient care responsibilities with the demands of a research career.	O	O	O	O	O	O
Recognize and respond to the complexity, uncertainty, and ambiguity inherent in medical practice and in research: • Recognize when studies are causing harm and understand the rules for terminating a trial	O	O	O	O	O	O

Communicator

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A

Share information about participation in a research study, including risks, benefits, and alternatives to participation: • Solicit and answer questions from the potential participants.	O	O	O	O	O	O
• Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, participation in a study.	O	O	O	O	O	O
• Share information with participants about the outcome or findings of the research study.	O	O	O	O	O	O

Collaborator

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Work effectively with physicians, scientists, and other colleagues in the healthcare professions and health research: • Identify collaborators with the skills and resources needed to carry out a study.	O	O	O	O	O	O
• Form a research team, including staff, collaborators, and mentors.	O	O	O	O	O	O
• Consult with statisticians, methodologists, and other experts as applicable.	O	O	O	O	O	O
• Collaborate with colleagues, technicians, and students in the conduct of a research study.	O	O	O	O	O	O
• Build and maintain partnerships and networks.	O	O	O	O	O	O
Work with physicians, scientists, and other colleagues in the health care professions and health research to promote understanding, manage differences, and resolve conflicts: • Show respect toward collaborators.	O	O	O	O	O	O
• Implement strategies to promote understanding, manage differences, and resolve conflict in a manner that supports a collaborative culture.	O	O	O	O	O	O

Leader

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A

Contribute to the improvement of health care delivery: Apply scholarly investigative methods to contribute to improving patient care.	O	O	O	O	O	O
Engage in the stewardship of health research resources.	O	O	O	O	O	O
Demonstrate leadership in research: • Manage and/or lead research teams and projects, engaging with the larger research enterprise.	O	O	O	O	O	O
• Engage in quality management of research performed by their team.	O	O	O	O	O	O
• Plan and lead team meetings.	O	O	O	O	O	O
• Perform critical analysis of methodology, relevance, and novelty for manuscripts, journal articles, and/or grant review processes.	O	O	O	O	O	O
• Provide constructive feedback in peer review activities.	O	O	O	O	O	O
• Demonstrate leadership skills to enhance health research.	O	O	O	O	O	O
Manage career planning, finances, and health human resources in research activities: • Set priorities and manage time to integrate practice and personal life.	O	O	O	O	O	O
• Manage research projects and resources.	O	O	O	O	O	O
• Identify the expertise and human resources required.	O	O	O	O	O	O
• Manage project or thesis timelines and monitor costs.	O	O	O	O	O	O
• Identify and build a network of mentors.	O	O	O	O	O	O
• Implement processes to ensure research skills and career development.	O	O	O	O	O	O

Health Advocate

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A

Respond to the needs of the communities or populations they serve by conducting health research in a socially accountable manner: • Lead or contribute to research initiatives that target health inequities or disparities.	O	O	O	O	O	O
• Advocate for societal funding for health research, including identification of research priorities, improvement of research safety, and funding for knowledge translation.	O	O	O	O	O	O
• Incorporate the patient and community voice and priorities into the development and conduct of research initiatives.	O	O	O	O	O	O

Scholar

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Engage in the continuous enhancement of their professional activities through ongoing learning: • Actively seek opportunities and challenges for personal learning and growth.	O	O	O	O	O	O
Teach students, residents, the public, and other health care professionals: • Mentor, teach, and supervise trainees.	O	O	O	O	O	O
Integrate best available evidence into practice: • Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters and generate focused questions to address them.	O	O	O	O	O	O
• Identify, articulate, and prioritize unmet clinical and population health needs.	O	O	O	O	O	O
• Translate clinical and population health needs into research questions.	O	O	O	O	O	O
Critically evaluate the integrity, reliability, and applicability of health research and literature: • Perform literature searches.	O	O	O	O	O	O
• Perform critical appraisal of relevant literature/evidence.	O	O	O	O	O	O

• Describe gaps in the literature, including content, methods, and applicability.	O	O	O	O	O	O
• Integrate evidence into decision-making in their practice.	O	O	O	O	O	O
Contribute to the creation and dissemination of knowledge and practices applicable to health: • Demonstrate an understanding of the scientific principles of research and scholarly inquiry and the role of research evidence in promoting healthy people and communities and in health care.	O	O	O	O	O	O
• Identify ethical principles for research and incorporate them into obtaining informed consent, considering potential harms and benefits, and vulnerable populations.	O	O	O	O	O	O
• Contribute to the work of a research program; Pose questions amenable to scholarly investigation and select appropriate methods to address them.	O	O	O	O	O	O
• Summarize and communicate to professional and lay audiences, including research participants and patients and their families, the findings of relevant research and scholarly inquiry.	O	O	O	O	O	O
• Translate the findings or outcomes of research into clinical care.	O	O	O	O	O	O

Professional

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards: • Exhibit appropriate professional behaviours and relationships in all aspects of research, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality.	O	O	O	O	O	O
• Demonstrate a commitment to excellence in all aspects of research.	O	O	O	O	O	O
• Recognize and respond to ethical issues encountered in research.	O	O	O	O	O	O

• Recognize and manage conflicts of interest.	o	o	o	o	o	o
• Exhibit professional behaviours in the use of technology-enabled communication.	o	o	o	o	o	o
Demonstrate a commitment to society by recognizing and responding to societal expectations in health care and health research: • Demonstrate accountability to patients, society, and the profession by responding to societal expectations of physicians.	o	o	o	o	o	o
• Demonstrate commitment to equity, diversity, inclusivity, and anti-oppression practices.	o	o	o	o	o	o
• Demonstrate a commitment to patient safety and quality improvement.	o	o	o	o	o	o
Demonstrate a commitment to the profession by adhering to standards and participating in physician-led regulation: • Fulfil and adhere to professional and ethical codes, standards of practice, and laws governing practice.	o	o	o	o	o	o
• Adhere to legislation, regulations, and policies for the conduct of research and protection of privacy.	o	o	o	o	o	o
• Recognize and respond to unprofessional and unethical behaviours in physicians and other colleagues in the health care professions and in health research.	o	o	o	o	o	o
• Participate in peer assessment and standard setting.	o	o	o	o	o	o
Demonstrate a commitment to physician health and well-being for optimal patient care and research: • Exhibit self-awareness and manage influences on personal well-being and professional performance.	o	o	o	o	o	o
• Demonstrate awareness of one’s own assumptions, values, beliefs, principles, strengths, and limitations.	o	o	o	o	o	o
• Manage personal and professional demands for a sustainable practice throughout the physician life cycle.	o	o	o	o	o	o

• Promote a safe diverse and inclusive working atmosphere.	o	o	o	o	o	o
• Monitor progress and well-being of individual team members.	o	o	o	o	o	o
• Manage competing demands: clinical, research, and personal.	o	o	o	o	o	o
• Promote a culture that recognizes, supports, and responds effectively to colleagues in need.	o	o	o	o	o	o

OVERALL COMPETENCE (FOR LEVEL OF TRAINING)

	Incomplete 1	Unsatisfactory 2	Provisional Satisfactory 3	Satisfactory 4
Please check the appropriate box for the overall competency of this learner`s training level	o	o	o	o

Summative Comments
(Any item evaluated above or below a 3, must include comments and examples to justify the rating)

Formative Comments
(Please provide 1-2 items for the resident to improve upon in order to progress along the competency continuum)

	Low 1	2	3	4	High 5
Perceived ability for carrying out work as an independent investigator, upon completion of training:	o	o	o	o	o

Did the trainee meet with the Primary Research Supervisor and discuss career planning o Yes o No

**If no, please arrange to have such a discussion.

Please enter overall comments, which may include steps that will be taken to advance the trainee's career planning: