

Medical Council
of Canada
Qualifying
Examination
(MCCQE) Part II

OCTOBER

October 2018
MCCQE Part II
Annual
Technical
Report



MEDICAL COUNCIL
OF CANADA

LE CONSEIL MÉDICAL
DU CANADA

Candidate

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Track: C
Start: 06

TABLE OF CONTENTS

PREFACE	4
1. OVERVIEW OF THE MCCQE PART II	5
2. EXAM DEVELOPMENT	6
2.1 Exam blueprint and specifications.....	6
2.2 Case writing.....	9
2.3 Case review and piloting	10
2.4 Exam format	10
2.5 Content validity.....	10
2.6 Exam scoring.....	11
3. CANDIDATE ORIENTATION, EXAM ADMINISTRATION AND TRAINING	12
3.1 Candidate registration and eligibility	12
3.2 Candidate orientation	12
3.3 Exam administration.....	13
3.4 Exam administrative staff	13
3.5 Standardized Patients	13
3.6 Deputy Registrars.....	14
3.7 Chief Examiners	15
3.8 Physician Examiner recruitment and training.....	15
4. MCCQE PART II SCORING	17
4.1 Standard quality assurance and quality control procedures	17
4.2 Exam result approval	17
4.3 Exam result reporting	18
4.3.1 Scale score	18
4.3.2 Pass/fail status.....	20
4.3.3 Domain subscores	21
5. PSYCHOMETRIC RESULTS	22
5.1 Scale scores.....	23
5.2 Estimates of reliability and classification decisions	24
5.2.1 Cronbach's Alpha	24
5.2.2 Standard error of measurement.....	24
5.2.3 Decision consistency and decision accuracy	24
5.3 OSCE station statistics.....	25
5.4 Examiner analyses	27
5.5 Domain subscore profiles.....	28
5.6 Historical pass rates	29
6. REFERENCES.....	30
Appendix A: Quality control – MCCQE Part II results	31
Appendix B: Patient interaction rating scale items	33
Appendix C: Example SOR and SFR	35

LIST OF TABLES AND FIGURES

Table 1:	Exam specifications for the MCCQE Part II	6
Table 2:	Exam specifications for the MCCQE Part II (domain definitions).....	8
Table 3:	Sampling of OSCE exam specifications for each test form.....	11
Table 4:	PE recruitment requirements.....	15
Table 5:	Number and percentage of candidates for the MCCQE Part II by PGT group	22
Table 6:	Summary statistics of scale scores by Candidate group.....	23
Figure 1:	Scale score distribution for October 2018 for total and CMG-CPG 1st candidates	23
Table 7:	Reliability estimates, SEM, decision consistency and accuracy for October 2018	25
Table 8:	Summary statistics for OSCE stations for October 2018	26
Figure 2:	Domain subscore for Dimensions of Care.....	28
Figure 3:	Domain subscore profile for Physician Activities.....	29
Table 9:	October 2018 pass rates by total reference group.....	29

PREFACE

This report summarizes the exam development, exam administration, scoring and psychometric activities of the Medical Council of Canada Qualifying Examination (MCCQE) Part II and candidate performance on the exam in October 2018. Sections 1 to 4 describe the exam's purpose, format, content development, administration, scoring and score reporting. These sections also provide validity evidence in support of score interpretation, reliability and errors of measurement, and other psychometric characteristics. Section 5 summarizes candidate performances in October 2018 and includes historical data for reference purposes. The report is intended to serve as technical documentation and reference material for members of the Central Examination Committee (CEC), test committee members and Medical Council of Canada (MCC) staff.

1. OVERVIEW OF THE MCCQE PART II

The purpose of the Medical Council of Canada Qualifying Examination (MCCQE) Part II is to assess the candidate's core abilities to apply medical knowledge, demonstrate clinical skills, develop investigational and therapeutic clinical plans, as well as demonstrate professional behaviours and attitudes at a level expected of a physician in independent practice in Canada.

The exam is a 12-station objective structured clinical examination (OSCE) that is based on the Blueprint (Medical Council of Canada, 2014), and assesses the candidate's performance across two broad categories:

1. Dimensions of care, covering the spectrum of medical care, and
2. Physician activities, reflecting a physician's scope of practice and behaviours.

The exam consists of a series of 10 stations that count towards the candidate's total score and two pilot stations that do not count. For each station, a brief, written statement introduces a clinical problem and directs the candidate to appropriately examine a standardized (simulated) patient (SP) and to perform activities such as obtaining a focused history, conducting a focused physical exam or assessing and addressing the patient's issues. Candidates may be asked to interact with simulated health professionals or other simulated roles (i.e. the parent of a child patient). Candidates may be asked to answer specific questions related to the patient, interpret X-rays or the results of other investigations, make a diagnosis and/or write admission orders. The MCCQE Part II includes problems in medicine, pediatrics, obstetrics and gynecology, preventive medicine and community health, psychiatry, surgery and similar disciplines considered essential for competence in general medicine and health care.

Candidates are eligible to challenge the MCCQE Part II after their medical degree has been successfully source verified, they have passed the MCCQE Part I and successfully completed a minimum of 12 months of postgraduate clinical medical training (PGT) or osteopathic postgraduate training on or before the deadline of June 30 for the spring exam of the same calendar year or December 31 for the fall exam of the same calendar year. The exam is offered twice per year, once in the spring (May) and again in the fall (October). It is scored by examiners (Examiners) and the performance standard, also known as a pass score, reflects a candidate who is minimally competent to enter independent practice.

The Centralized Examination Committee (CEC) is responsible for the overall content and quality of the examinations and the approval of results.

2. EXAM DEVELOPMENT

2.1 EXAM BLUEPRINT AND SPECIFICATIONS

The Blueprint as outlined in Table 1 (Medical Council of Canada, 2014) was developed for the MCCQE Part I and the MCCQE Part II and approved by Council in September 2014. The blueprint is two-dimensional, designed to assess candidates' performance across two broad categories:

1. Dimensions of care, covering the spectrum of medical care, and
2. Physician activities, reflecting a physician's scope of practice and behaviours.

Table 1: Exam specifications for the MCCQE Part II

		Dimensions of care			
		Health Promotion & Illness Prevention	Acute	Chronic	Psychosocial Aspects
Physician activities	Assessment/ Diagnosis				
	Management				
	Communication				
	Professional Behaviours				

Each category has four domains, and each is assigned a specific content weighting on the exam:

Dimensions of Care

Reflects the focus of care for the patient, family, community and/or population

Health Promotion and Illness Prevention

The process of enabling people to increase control over their health and its determinants, and thereby improve their health. Illness prevention covers measures not only to prevent the occurrence of illness, such as risk factor reduction, but also to arrest its progress and reduce its consequences once established. This includes, but is not limited to screening, periodic

health exam, health maintenance, patient education and advocacy, and community and population health.

Acute

Brief episode of illness within the time span defined by initial presentation through to transition of care. This dimension includes but is not limited to urgent, emergent, and life-threatening conditions, new conditions, and exacerbation of underlying conditions.

Chronic

Illness of long duration that includes but is not limited to illnesses with slow progression.

Psychosocial Aspects

Presentations rooted in the social and psychological determinants of health and how these can impact on wellbeing or illness. The determinants include but are not limited to life challenges, income, culture, and the impact of the patient’s social and physical environment.

Physician Activities

Reflects the scope of practice and behaviours of a physician practising in Canada

Assessment/Diagnosis

Exploration of illness and disease using clinical judgment to gather, interpret and synthesize relevant information that includes but is not limited to history taking, physical examination and investigation.

Management

Process that includes but is not limited to generating, planning, organizing safe and effective care in collaboration with patients, families, communities, populations, and other professionals (e.g., finding common ground, agreeing on problems and goals of care, time and resource management, roles to arrive at mutual decisions for treatment, working in teams).

Communication

Interactions with patients, families, caregivers, other professionals, communities and populations. Elements include but are not limited to relationship development, intraprofessional and interprofessional collaborative care, education, verbal communication (e.g. using the patient-centered interview and active listening), non-verbal and written communication, obtaining informed consent, and disclosure of patient safety incidents.

Professional Behaviours

Attitudes, knowledge, and skills relating to clinical and/or medical administrative competence, communication, ethics, as well as societal and legal duties. The wise application of these behaviours demonstrates a commitment to excellence, respect, integrity, empathy, accountability and altruism within the Canadian health-care system. Professional

behaviours also include but are not limited to self-awareness, reflection, life-long learning, leadership, scholarly habits and physician health for sustainable practice. (Medical Council of Canada, 2014, p.7)

The exam blueprint was used to inform exam specifications for the MCCQE Part II by assigning a weight to each domain and applying additional constraints.

Table 2 provides the exam specifications, which includes each category and domain and its associated weight for the MCCQE Part II.

Table 2: Exam specifications for the MCCQE Part II (domain definitions)

		Dimensions of care				
		Health Promotion & Illness Prevention	Acute	Chronic	Psychosocial Aspects	Row %
Physician activities	Assessment/ Diagnosis					25±5
	Management					25±5
	Communication					25±5
	Professional Behaviours					25±5
Column %		20±5	35±5	25±5	20±5	100

In addition, the exam specifications include the following constraints for each exam form:

- At a minimum, each test form must have one child patient, one elderly patient and four adult patients
- At a maximum, each test form must have no more than two cases per body system (e.g. cardiovascular, respiratory, etc.)
- At a minimum, each test form must be comprised of 40 per cent male patients and 40 per cent female patients
- At a minimum, each test form must be comprised of 20 per cent multi-morbid/complex stations

- Each test form must have two to three cases with a physical examination
- Each test form must have one emergent care case
- Each test form must have one Health Professional interaction
- At a maximum, each test form must have five inpatient cases, at least one in a rural setting
- There should be a representative sampling of special populations, included but not limited to immigrant, ability to access care, disabled, First Nation, Inuit, and Métis populations; end of life patients, refugees, inner city poor, the addicted and the homeless.

Creating exam forms that meet exam specifications leads to forms measuring similar content. This (along with linking, described in Section 4.3.1) allows candidates' exam scores to be compared fairly from one exam form to the next.

2.2 CASE WRITING

Content for the MCCQE Part II is developed by panels of physicians along with experts in medical education and assessment from across Canada. A thorough process, as described below, is followed to ensure that issues related to content, feasibility, authenticity and reproducibility are addressed early in case development. MCCQE Part II case authors develop content that reflects the blueprint for competent physicians in independent practice in Canada.

Case authors create stations that evaluate candidates' ability to assess and diagnose, manage, communicate and behave professionally in a range of clinical situations commonly encountered by physicians.

Case authors first develop the instructions given to candidates prior to entering an OSCE station. The instructions include the required clinical task and the time allotted to candidates to perform this task. The authors then develop instruments to score the candidate's performance. Scoring instruments may consist of a checklist, rating scales, and oral or written questions. Authors also create any supporting materials, such as an X-ray or a patient chart, relating to tasks that candidates might have to complete prior to seeing the patient and/or during the patient encounter.

In addition, case authors compile information for SPs and SP trainers. To ensure that SPs and SP trainers understand the problem from the patient's perspective, case authors provide extensive information on the presenting problem, the patient's behaviour, appearance and affect, the physical findings to be portrayed as well as their appropriate medical and social history. Specific instructions about the room set-up, props, and required equipment are also provided by the authors.

2.3 CASE REVIEW AND PILOTING

Case development is an iterative process that requires careful thought, review, and revision. Once a case is created, its content is reviewed by clinical colleagues, test committee members, and MCC staff to improve the quality of the case and identify potential problems early in the process. For instance, role-playing the case allows authors to identify necessary information that may be missing from the SP script. Following an extensive review process, a case is piloted during a live exam to determine how well it functions both logistically and psychometrically.

2.4 EXAM FORMAT

The MCCQE Part II is a two-day examination that consists of a series of clinical stations, including pilot stations that do not count towards a candidate's total score. In October 2018, candidates attempting the MCCQE Part II completed an exam form composed of eight 14-minute encounter stations on Day 1 (Saturday), and four paired stations on Day 2 (Sunday). Paired stations consist of an encounter with a patient, either preceded by a task such as reading a chart or followed by presenting a report of the patient to the examiner. In October 2018, the paired stations consisted of six-minute encounters and six-minute tasks.

At each station, a brief written statement introduces a clinical problem and directs the candidate to obtain a history, conduct a physical exam, or assess and manage the patient's issues.

Standardized administration, examiner/SP training, and analytic procedures are followed to ensure that the candidate's scores are comparable over time. Detailed steps of the analytic procedures are described in Appendix A: Quality Control – MCCQE Part II Results.

2.5 CONTENT VALIDITY

Measuring how well an exam form matches the exam specifications is one piece of validity evidence supporting valid score interpretations and arguments for the intended purpose of the exam (Kane, 2006, 2013). This section highlights the exam specifications and how well each exam form measures the exam specifications.

The MCCQE Part II Test Committee works with MCC staff to select and approve the OSCE stations for a given exam form. The exam forms are drafted by the MCCQE Part II Test Development Officer in accordance with exam specifications. The MCCQE Part II Test Committee then reviews the exam forms, including individual OSCE cases, to ensure that exam specification criteria have been met and that content is at the appropriate assessment level, specifically the knowledge, skills, and attitudes essential for medical licensure in Canada prior to entry into independent clinical practice. The MCCQE Part II Test Committee approves the final version of the content for each exam form. Table 3 shows the resulting exam specification

characteristics for the MCCQE Part II form that was administered in October 2018. The “Target” column specifies the target percentages for each exam form for each dimension of care and physician Activity (as shown in Table 1). Any deviation from the targets is approved by both the MCCQE Part II Test Committee and the Central Examination Committee. One exam form was administered in October 2018.

Table 3: Sampling of OSCE exam specifications for each test form

Dimensions of care	Target	October
Health Promotion and Illness Prevention	20% ± 5%	23%
Acute	35% ± 5%	34%
Chronic	25% ± 5%	28%
Psychosocial Aspects	20% ± 5%	16%
Physician activities	Target	October
Assessment / Diagnosis	25% ± 5%	30%
Management	25% ± 5%	30%
Communication	25% ± 5%	18%
Professional Behaviours	25% ± 5%	22%

2.6 EXAM SCORING

Each OSCE station item is assigned to one dimension of care (health promotion and illness prevention, acute, chronic, psychosocial aspects) and one physician activity (assessment/diagnosis, management, communication, professional behaviours). Examiners use checklists, oral question items, and rating scales¹ to score the candidate’s proficiency on each station. Different examiners evaluate candidates in each of the stations, and one set of station scores per candidate is collected. The ratings provided by each examiner are used to calculate all scores.

In almost all stations, the examiner also scores selected rating scale items related to the candidate’s interactions with the patient. A complete list of the rating scales used in the MCCQE Part II can be found in Appendix B.

¹ Rating scales are four-level Likert items with scores ranging from zero to three. They are typically referred to as patient interaction rating scale items. Most stations include rating scales. The number of items and the specific items vary, depending on the patient problem and task for a station.

3. CANDIDATE ORIENTATION, EXAM ADMINISTRATION AND TRAINING

3.1 CANDIDATE REGISTRATION AND ELIGIBILITY

To be eligible to take the MCCQE Part II, candidates must pass the MCCQE Part I, their final medical degree diploma must be successfully source verified, and they must have successfully completed a minimum of 12 months of PGT or osteopathic postgraduate training (PGY-2+); or completed 12 months of PGT on, or before the deadline of June 30 for the May exam of the same calendar year or December 31 for the October exam of the same calendar year (PGY-1). The MCC implemented capacity limits to registration for the May and October administrations beginning in October 2015 due to the demand in particular sessions exceeding the available number of test spots and the concern that increased demand would affect the quality of the examination administration. Additionally, implementing capacity limit was a way to ensure an adequate sample of candidates to conduct linking of MCCQE Part II total scores. At each administration, PGY-2+ candidates are given priority on available examination spots. If additional spaces are available, PGY-1 candidates are provided the opportunity to apply for the remaining spots.

For the October 2018 exam, candidates that met the eligibility requirements were invited to add their names to the MCCQE Part II pre-application list through their physiciansapply.ca account during specific pre-application periods. When each pre-application period ended, candidates were randomly selected from the pre-application list based on available exam capacity.

3.2 CANDIDATE ORIENTATION

The MCC provides candidates with detailed information about the MCCQE Part II on its website. Topics include what to expect on examination day, an explanation of scoring and results, application information as well as sample stations and an online OSCE orientation. Candidates must also participate in a mandatory orientation given by senior site staff on each exam day before the exam begins. These sessions provide candidates with:

- Information on the personal belongings that a candidate can and cannot bring to the exam
- Information on how a candidate may use their booklet and their bar code labels
- An overview of the length and number of stations and how they will rotate through the stations
- Information on the timing of the stations and how the signal system functions
- Guidance on how to interpret the candidate instructions
- Information on how they will be assessed by the examiners and when an examiner may intervene

- Information on available medical equipment
- A description of how the candidate should interact with SPs
- An overview of the multiple-choice written stations
- Instructions on exam security and how to ask for assistance
- MCC exam security video
- Information about the MCC's conflict of interest policy, confidentiality, sequestration, expected candidate behaviour, and how to report concerns on exam day and to the MCC after the exam

3.3 EXAM ADMINISTRATION

In October 2018, 2,315 candidates participated in the MCCQE Part II. The exam was administered in English in Calgary, Edmonton, Halifax, Hamilton, Kingston, London, Montreal, Ottawa, Saskatoon, St. John's, Sudbury, Toronto, Vancouver, Victoria and Winnipeg. The exam was also offered in French in Montreal, Quebec City and Sherbrooke.

3.4 EXAM ADMINISTRATIVE STAFF

Each partner site is responsible for hiring and supervising administrative staff. They work with the MCC to safeguard exam materials and to ensure that all people involved in the exam (site administrators, SP trainers, SPs, Chief Examiners (CE), examiners, exam day staff, caterers, etc.) perform to standards as outlined in the Site Administration Manual.

MCC personnel oversees site staff on exam days across the country in person, by telephone, and via electronic communication and a hotline on exam days.

Every two years, the MCC hosts a face-to-face meeting for all MCCQE Part II site administrators to review administrative aspects of the examination, troubleshoot site-specific challenges such as examiner recruitment and enhance collaboration between sites.

3.5 STANDARDIZED PATIENTS

SPs are healthy individuals (or individuals with chronic stable findings) who are trained to present a patient's signs and/or symptoms reliably, consistently and realistically.

Each site is responsible for hiring and supervising the SP trainers who oversee the SPs and assure the quality of their standardized performances on exam day(s). SPs are trained at each site using MCCQE Part II training materials provided by the MCC. Training support is provided to the SP trainers by MCC staff, primarily by the MCCQE Part II training officer.

All SPs take part in a dry run prior to exam day with the CE playing the candidate's role to ensure

that the SPs are ready to perform their roles. An SP who is deemed as not being ready is re-trained or replaced.

Every two years, the MCC hosts a face-to-face meeting for all MCCQE Part II SP trainers to review SP training aspects of the exam, troubleshoot site-specific challenges such as SP recruitment and to enhance collaboration between sites and the MCC.

3.6 DEPUTY REGISTRARS

The Deputy Registrar (DR), on behalf of the Dean, is responsible for the administrative and financial operations of the exam centre and the local administration of the MCCQE Part II. The DR is also responsible for:

- Ensuring that an office is established for the team, adequate office space and furnishings are available, including computer equipment, phones and copiers, and that security precautions are taken
- Selecting and supervising centre personnel, especially the exam administrator as well as hiring senior site staff, a task usually performed in consultation with the manager of the MCCQE Part II
- Providing leadership and support to senior site staff for planning and teamwork
- With assistance of the CE (see below), recruiting physicians to serve as examiners, assigning them to their stations and conducting pre-exam orientation sessions for both first-time and experienced examiners
- Delivering orientation to CEs
- Assisting with dry runs for the SPs for quality assurance (QA), a role usually shared with the CE ensuring the administration runs smoothly, especially in the following areas:
 - Checking props and room setup
 - Supervising and supporting staff throughout the day
 - Ensuring the examination centre is securely closed at the end of the exam day
- Reviewing all incident reports and ensuring appropriate action is taken and documented
 - Incident reports are completed to report the details of unusual events or breaches in procedures to the MCC; these reports may be completed by candidate(s), examiners, SPs, SP trainers, the DR, the CE, the Site Administrator or site staff
- Liaising with MCC before, during and after the exam
- Overseeing the preparation of a financial report, and interim financial report, if necessary, and the DR's report for the exam session
- If requested, reviewing and commenting on training materials, cases and other documentation before deadlines

3.7 CHIEF EXAMINERS

The CE's role depends on the size of the centre and how the DR assigns responsibilities. Before the exam, the CE assists with SP dry runs, participates in some of the SP training sessions and assists in examiner recruitment and staff training as needed. On the day of the exam the CE responds to examiner questions, assists candidates as needed, may deliver the examiner orientation, and supports the administrative team as needed.

3.8 EXAMINER RECRUITMENT AND TRAINING

Examiners are physicians, nurses, or other health professionals. Of the 10 stations that count towards the candidate's total score, no more than two stations may be examined by a non-physician examiner. Table 4 presents the requirements used to recruit physician examiners (PEs).

Table 4: PE recruitment requirements

REQUIREMENTS FOR PE RECRUITMENT	
1.	PEs must be registered and in good standing with a Medical Regulatory Authority (MRA) in Canada.
2.	PEs can be semi-retired or retired, but they must have an active licence with an MRA in Canada.
3.	PEs must agree to adhere to the MCC's Code of Business Conduct (the Code): <ul style="list-style-type: none">• The Code addresses, but is not limited to, the application of the Code, legal and ethical standards, standards of conduct and compliance with the Code.• Any breach of the Code could lead to legal and/or disciplinary measures against the responsible persons, including without limitation their removal from office, their expulsion from committees or the termination of the applicable contract.
4.	PEs must have the ability and stamina to complete the task (e.g., uncorrected hearing loss is a serious handicap).
5.	PEs must be practising or have practised in Canada within the last five years.
6.	PEs must have the Licentiate of the Medical Council of Canada (LMCC) and must provide their LMCC registration number. Examiners must be two years post-LMCC.
7.	PEs must have at least two years of independent practice in Canada.
8.	PEs do not need to be faculty members if all other criteria are met AND they meet the following criterion:

REQUIREMENTS FOR PE RECRUITMENT

- They must have recent experience supervising clerks and residents (within the last two years) (e.g., a physician who has worked for a university as an OSCE examiner or for other similar OSCEs).
9. PEs can be residents, but they must be PGY5 level or higher, or they can be fellows, OR they can have CCFP certification.
- **Note:** Residents must not exceed 20 per cent of the examiner cohort assigned to a given session.
10. Physicians who do not have their LMCC will be accepted as examiners under the following conditions:
- Non-licentiate PEs must be faculty members (e.g., faculty lecturer, assistant professor, associate professor or professor).
- AND**
- Non-licentiate PEs must be certified by one of the following organizations and must provide their certification number:
 - Royal College of Physicians and Surgeons of Canada (RCPSC)
 - Collège des médecins du Québec (CMQ)
 - College of Family Physicians of Canada (CFPC)
- AND**
- Non-licentiate PEs must sign a waiver indicating that they have no intention of taking the MCCQE Part II exam.
11. **Note:** Non-licentiate PEs must not exceed 50 per cent of the examiner cohort assigned to a given session.
12. Any potential PEs who do not meet the above guidelines must be pre-approved by the MCCQE Part II Exam Manager. Documentation of qualifications may be requested.

The MCC provides an exam day examiner orientation given by the sites' CEs, DR and/or senior site staff. Before every exam, all examiners must also participate in an online examiner orientation that provides information on enhancing the standardization of examiner scoring, including a practice scoring session and a guided discussion.

4. MCCQE PART II SCORING

This section describes QA and quality control procedures relating to the scoring of candidates on the MCCQE Part II, what scores are reported and how they are calculated.

4.1 STANDARD QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

To ensure the accuracy and integrity of the candidate's exam day electronic records, QA steps are performed as outlined below.

Examiners complete score sheets for each candidate seen in their OSCE stations. These forms are scanned at each exam site and transmitted securely to the MCC where MCC staff import the forms into Cardiff TeleForm[®] software where they are reviewed. Scanning anomalies are identified (for example, a non-scannable candidate barcode label, a PE's pencil marks that are too faint, missing sheets due to candidates that do not complete the exam on both days) and the requisite corrections are made to the electronic data records. Data are imported electronically into a scoring application to generate a list of all candidates whose total score is between 45 and 60 per cent. We call this group the 'selected candidate group'. Paper copies of the score sheets for this selected candidate group are visually reviewed. Some examples of checks include:

- Number of selections per question for extended match questions where candidates can bubble a number of correct answers
- Notes by PEs for oral or SP questions
- Confirmation of missing data for oral questions or rating scales
- Flags for lapses in patient safety or professional behaviours
- Verification of raw score points

Any differences are corrected in the electronic data files to reflect the paper score sheets. The updated electronic files are then re-imported into the scoring application that is used to create the scale scores for all candidates. All scores are calculated independently in parallel using the *Statistical Analysis System* (SAS[®]) and compared to the results from the scoring application. All values must match before results are released to candidates.

4.2 EXAM RESULT APPROVAL

The results for each administration of the MCCQE Part II are reviewed by the CEC. The CEC approves the release of results after each administration, including special cases (described below). Once the CEC has approved the results, they are imported and released to candidates.

When an incident occurs that may impact a candidate's performance on exam day, it is presented to the CEC as a special case. The CEC determines the severity of the impact and decides if any changes should be made to the candidate's exam results. Depending on the nature of the incident (for example, illness, fire alarm or a SP misportrayal), the CEC may decide to remove a station from a candidate's exam, award the candidate a "No Standing", or a "Denied Standing".

A "No Standing" indicates that procedural irregularities in the examination process may have materially affected the performance of the candidate and/or may have prevented a reliable assessment of the candidate's knowledge and abilities. A 'No Standing' does not count towards a candidate's number of attempts.

A "Denied Standing" indicates that a candidate has been found to have committed an infraction related to the MCC's examination process and/or breached the confidentiality of the examination. A 'Denied Standing' counts as an attempt towards a candidate's total number of attempts. Additionally, candidates that are awarded a "Denied Standing" may be denied entry to one or more future examinations of the MCC.

4.3 EXAM RESULT REPORTING

Approximately one week from results being released to candidates, the MCC issues a Statement of Results (SOR) and Supplemental Information Report (SIR) to each candidate through their physiciansapply.ca account (samples from October 2018 administration are shown in Appendix C). The SOR includes the candidate's final result and total score, as well as the pass score. The SIR includes the candidate's final result and total score and additional information in graphic form about the candidate's domain subscores and comparative information.

The total score is reported on a standard-score scale ranging from 50 to 250. In contrast, the score profile in Figure 1 of the SIR example displays a candidate's domain subscores in terms of a percentage. As a result, total scores cannot be compared to domain subscores in the SIR as they are reported on different scales. Additionally, it is important to note that, because subscores have fewer items than total scores, subscores have less measurement precision. Subscores are provided to individual candidates for feedback only and are not meant to be used by organizations for selection.

The following sections outline the steps in creating the results reported to candidates.

4.3.1 Scale score

The scale score is the candidate's total score reported on a scale that ranges from 50 to 250 (as opposed to a candidate's total raw score that is on a percentage metric). Deriving the scale score for the October 2018 MCCQE Part II involves two steps.

Step 1: Calculate total raw scores

The first step in obtaining a scale score is to calculate the total raw score for each candidate. To do so, a station score is calculated for each station using the following formula:

where the numerator is the sum of each candidate's scores on each item *i* for that station and the denominator is the sum of the maximum score for each item for that station. For example, a station with several checklist items, an oral question, and several rating scales could result in the following score:

$$\text{station score} = \frac{\text{sum of items}=60}{\text{sum of max. score of items}=67} * 100=89.55$$

The station scores are then used to calculate the total raw score for each candidate using the following formula:

$$\text{total score} = (\text{sum of 10 station scores})/10$$

Since station scores are based on the sum of the candidate's items for that station, missing data needs to be taken into account so that it does not negatively impact a candidate's score. Missing data occurs when the Examiner does not provide a rating for some of the oral questions or rating scales for a given candidate on the scannable score sheet. When oral questions or rating scales are not scored by the Examiner, the station score is based on the items that are provided by the Examiner. Extending the example above, a station that has one missing rating scale item with a maximum score of five would result in the following score:

$$\text{station score} = \frac{\text{sum of candidate items}=60}{\text{sum of max score of items}=62} * 100=96.77$$

The station score would have been 89 per cent if the missing rating scale was treated as zero and the adjustment not applied. However, to be fair to the candidate, we exclude the missing rating scale from the calculation of the station score and would use a station score of 97 per cent instead.

Step 2: Transform total raw scores to scale scores

Once the first step is complete, the total raw scores are transformed to scale scores ranging from 50 to 250 for reporting purposes. Using the October 2018 MCCQE Part II results from all candidates, the new scale was established to have a mean of 150 and a Standard

Deviation (SD) of 20².

The final transformation formula for all test forms is as follows:

$$\text{ScaleScore}_x = (\text{slope})(\text{LinkedScore}_x) + (\text{intercept})$$

Where ScaleScore_x is defined as the linear function to calculate the scale score for candidate X, where the slope is equal to 2.23 based on the transformation of the October 2018 MCCQE Part II, where the intercept is equal to 17.87 based on the transformation of the October 2018 MCCQE Part II, and the LinkedScore_x is the linked score for candidate X.

All scale scores are rounded to a whole number between 50 and 250. The reported scale scores as seen by candidates are these rounded values. For example, a passing candidate with a total raw score of 81.25 would have a scale score of 199:

$$\text{ScaleScore}_x = (2.23) * (81.25) + (17.87) = 199.06 \text{ rounded to } 199$$

A failing candidate with a total raw score of 42.51 would result in a scale score of 113:

$$\text{ScaleScore}_x = (2.23) * (42.51) + (17.87) = 112.67 \text{ rounded to } 113$$

4.3.2 Pass/fail status

The MCC completed a rigorous standard-setting exercise using the borderline group method and a panel of 20 physicians from across the country that represented faculties of medicine, different specialties, and differing years of experience supervising residents. The October 2018 MCCQE Part II test form was used to establish the pass score. The panelists reviewed stations, content and score information and provided judgments for establishing the recommended pass score. Full details of the standard-setting exercise can be found in the [*Technical Report on the Standard Setting Exercise for the Medical Council of Canada Qualifying Examination Part II*](#) (Medical Council of Canada, 2019). The pass score of 138 was recommended by the panel of physicians for October 2018 and approved by the CEC in January 2019. This pass score was used to assign a pass/fail status to each candidate of the October 2018 administration. A score of 138 or greater is deemed a pass.

² Scaling constants were established prior to CEC decisions on special cases. As a result, the mean and SD are slightly different.

4.3.3 Domain subscores

Domain subscore calculations are used to create the figure in the candidates' SIRs. For each domain subscore, the associated items are converted to a percentage ranging from 0 to 100, where the total number of score points obtained by a candidate is divided by the maximum score points per domain, multiplied by 100.

For example, if a candidate received scores of five, seven, eight and one on a domain with associated maximum scores of 10, 10, 9 and 1, the total number of score points obtained by the candidate is 21; the maximum number of score points for this domain is 30. The domain score is $21/30 \times 100$ or 70.0. For the MCCQE Part II, there are eight domain subscores that are presented to candidates in their SIRs:

Dimensions of Care

- Health Promotion and Illness Prevention
- Acute Care
- Chronic Care
- Psychosocial Aspects

Physician Activities

- Assessment and Diagnosis
- Management
- Communication
- Professional Behaviours

As a reminder, domain subscores should not be compared to total scores as they are reported on different scales and because they have fewer items than total scores they have less measurement precision than total scores. Domain subscores are intended to provide general feedback to candidates on their relative strengths and weaknesses, on their performance on the MCCQE Part II.

5. PSYCHOMETRIC RESULTS

The data used for the aggregate analyses are the results approved by the CEC in January 2019. In total, 2,315 candidates participated in the MCCQE Part II administered in October 2018.

Table 5 shows the number of candidates for the October 2018 administration by candidate group (for example, Canadian Medical Graduates (CMG), first-time test takers (1st), etc.), gender and examination language. The main reference group for this examination includes CMGs and the Canadian postgraduate, first-time test-taker candidate group. Only candidates in their second year of postgraduate training (PGT 2+) or higher took the October 2018 MCCQE Part II.

Candidate groups shown in Table 5 are as follows:

- CMG, Canadian postgraduate, first-time test takers (CMG-CPG 1st)
- CMG, Canadian postgraduate, repeat test takers (CMG-CPG repeaters)
- CMG, international postgraduate, first-time test takers (CMG-IPG 1st)
- CMG, international postgraduate, repeat test takers (CMG-IPG repeaters)
- International Medical Graduate (IMG), international postgraduate, first-time test takers (IMG-IPG 1st)
- IMG, international postgraduate, repeat test takers (IMG-IPG repeaters)
- IMG, Canadian postgraduate, first-time test takers (IMG-CPG 1st)
- IMG, Canadian postgraduate, repeat test takers (IMG-CPG repeaters)

Table 5: Number and percentage of candidates for the MCCQE Part II by PGT group

Groups		October 2018 ^(a)	
		N	%
Candidate group	CMG-CPG 1st	1495	64.6
	CMG-CPG repeaters	32	1.4
	CMG-IPG 1st	1	0.0
	CMG-IPG repeaters	0	0.0
	IMG-IPG 1st	354	15.3
	IMG-IPG repeaters	161	7.0
	IMG-CPG 1st	219	9.5
	IMG-CPG repeaters	53	2.3
Gender	Female	1239	53.5
	Male	1076	46.5
Language	English	1998	86.3
	French	317	13.7
Total		2315	100.0

(a) Two "No Standing" candidates and three candidate whose results were withheld by CEC are not included in the remaining analyses.

In the sections below, summary statistics for scale scores and pass rates are provided, as well as estimates of reliability for both scores and classification decisions. Finally, a summary of station scores and domain subscore profiles are provided.

5.1 SCALE SCORES

Scale score summary statistics from the October 2018 MCCQE Part II are presented in Table 6 for the reference group (CMG-CPG 1st) and total group.

Table 6: Summary statistics of scale scores by Candidate group

Exam session	Candidate group	N	Min.	Max.	Mean	Median	SD	Pass rate
October 2018	Total	2310	68	207	150.0	152.0	20.0	76.5
	CMG-CPG 1st	1495	103	207	156.9	157.0	15.5	89.4

Figure 1 displays the distribution of scale scores for total test takers and CMG-CPG 1st time test takers on the MCCQE Part II for October 2018.

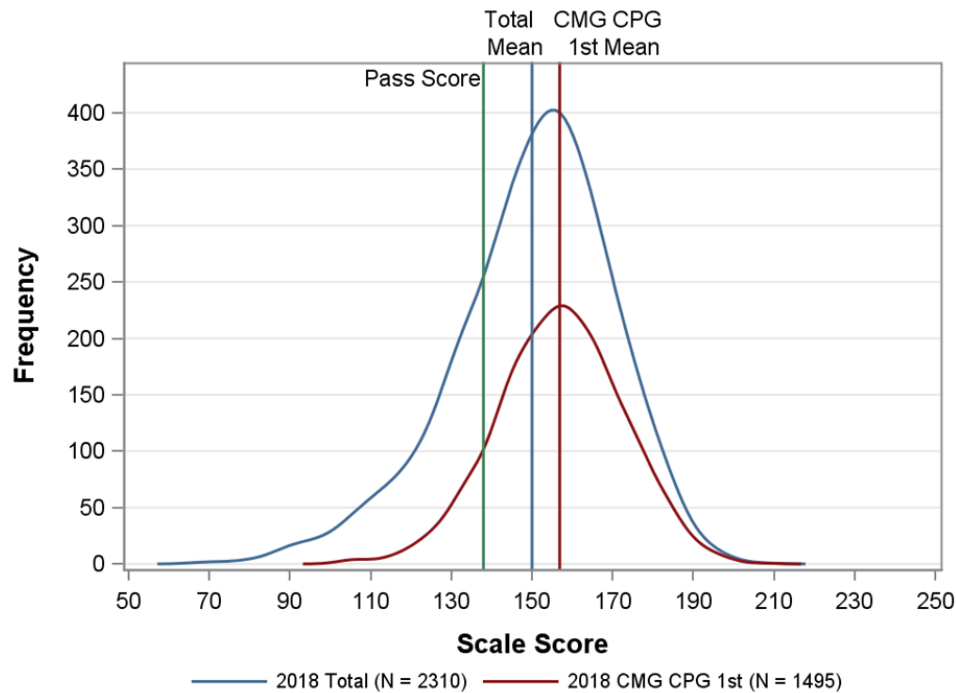


Figure 1: Scale score distribution for Oct. 2018 for total and CMG-CPG 1st candidates

5.2 ESTIMATES OF RELIABILITY and CLASSIFICATION DECISIONS

5.2.1 Cronbach's Alpha

Cronbach's alpha was used to estimate score reliability for the MCCQE Part II. A score reliability estimate indicates the desired consistency (or reproducibility) of examination scores across replications of measurement (Crocker & Algina, 1986; Haertel, 2006). Scores that are highly reliable are accurate, reproducible and consistent from one testing occasion to another. In other words, if the testing process was repeated with a group of test takers, essentially the same results would be obtained. The reliability estimate is further described in Educational Measurement by Haertel in chapter 2, section 2.4.4 (Haertel, 2006). The formula for Cronbach's alpha is:

$$\alpha \rho_{XX'} = \frac{n}{n-1} \left(1 - \frac{\sum \sigma_{X_i}^2}{\sigma_X^2} \right)$$

where n is the number of stations, $\sigma_{X_i}^2$ is the variance of station i scores and σ_X^2 is the variance of total scores (Haertel, 2006, p. 74). As a general rule, a reliability estimate greater than 0.80 on an OSCE is desirable. The reliability estimate, in conjunction with the total exam Standard Error of Measurement (SEM), provides further evidence of the reliability of the candidate's scale score.

5.2.2 Standard error of measurement

The SEM provides a value within a certain confidence range (for example, +/- 1 SEM and +/- 2 SEMs represent a 68 per cent or 95 per cent, respectively) that a candidate's observed score is expected to range if the candidate was retested over repeated exams that meet the same exam specifications. The smaller the SEM, the less measurement error in a candidate's score. The SEM is calculated as follows:

$$SEM = SD \sqrt{1 - \alpha \rho_{XX'}}$$

where SD is defined as the standard deviation for the total score (square root of the variance) and $\alpha \rho_{XX'}$ is defined as the reliability estimate as shown above.

5.2.3 Decision consistency and decision accuracy

Estimates indicating the consistency and accuracy of pass/fail decisions are important in providing validity and reliability evidence for candidate scores on one test form with possible

equivalent test forms. To this end, the MCCQE Part II uses the Livingston and Lewis (1995) procedure, where decision consistency is an estimate of the agreement between classifications on potential parallel test forms, and decision accuracy is the estimate of agreement between the observed classifications of candidates and those based on their true score (observed score \pm measurement error). Ideally, both values should be high, such as 0.80 and above, supporting a reliable and valid pass/fail standing. A value of 0.80 indicates that accuracy or consistency of the decision is being met for at least 80 per cent of the candidates.

Table 7 shows the reliability estimates, the SEM and the decision consistency and decision accuracy estimates along with the associated false positives and false negative rates for the October 2018 test form. The estimated false positive rate indicates the expected proportion of candidates who pass based on their observed scores but who should fail based on their true ability. The estimated false negative rate indicates the expected proportion of candidates who fail based on their observed scores but who should pass based on their true ability.

Table 7: Reliability estimates, SEM, decision consistency and accuracy for October 2018

	October 2018
Reliability estimate	0.64
SEM (score scale)	12.04
Decision consistency	0.82
False positive	0.09
False negative	0.09
Decision accuracy	0.88
False positive	0.04
False negative	0.08

It should be noted that reliability is impacted both by the amount of variability in scores amongst candidates taking a particular test form and the number of items or stations included in any given exam. It is more difficult to obtain reliability estimates above 0.80, given the restricted number of stations that can be administered in any OSCE form. The decision consistency and accuracy values should be above 0.8 for OSCEs and for October 2018 these values were above 0.8.

5.3 OSCE STATION STATISTICS

Summary statistics for each of the OSCE stations are provided in Table 8. The percentage of missing data, average station scores or p-values, SD of station scores and Station Total Correlations (STCs) are presented. Please refer to 4.3.1 for calculation of station scores.

P-values are the average station scores that candidates achieved on each of the stations. In general, *p*-values indicate station difficulty and range between 0 and 1. Station *p*-values that are low (<0.20) indicate a difficult station; those that are high (>0.90) indicate an easy station. *P*-values are population dependent. That is, comparisons of *p*-values across different samples of candidates do not take into account potential differences in overall candidate ability. As such, *p*-values should not be overinterpreted or used as the only indicator of difficulty. Rather, *p*-values provide a general sense of the range of difficulty of stations on a particular test form.

SDs indicate the general variability of scores on any given station. STCs are indicators of discrimination between low- and high-ability candidates for a given station. A low positive or negative STC (-0.20 to <0.30) indicates that there is a weak to negative relationship between the station score and the overall exam score. Along with the *p*-values, this information is useful in flagging stations that should be reviewed by content experts and possibly removed from scoring. A moderate to high STC (>0.30) indicates that high-ability candidates are performing well on a given OSCE station. Stations with STCs that are below 0.30, as well as negative values, are flagged for content review. Flagged and reviewed stations may still be included on an exam when the content is deemed relevant, important and has been verified to be correct.

Table 8: Summary statistics for OSCE stations for October 2018

Station	October 2018			
	% missing	p-value	SD	STC
1	0.02	0.51	0.18	0.27
2	0.03	0.65	0.20	0.26
3	0.07	0.62	0.19	0.35
4	0.05	0.63	0.15	0.30
5	0.00	0.60	0.18	0.32
6	0.22	0.56	0.17	0.32
7	0.02	0.65	0.19	0.40
8	0.02	0.57	0.20	0.35
9	0.04	0.51	0.23	0.27
10	0.04	0.62	0.15	0.21
Min.	0.00	0.51	0.15	0.21
Max.	0.22	0.65	0.23	0.40
Mean	0.05	0.59	0.18	0.30
SD	0.06	0.05	0.03	0.06

Table 8 shows the mean *p*-values for each administration. There were no stations flagged as being too difficult (*p*-value <0.30) or too easy (*p*-value >0.90). Stations with an STC <0.30 were reviewed for content appropriateness. All of the reviewed stations were deemed to be important and acceptable from a content perspective.

5.4 EXAMINER ANALYSES

Examiner analyses are conducted routinely for each of the 14-minute stations for each Examiner. For the paired stations, the examiner analyses are conducted for the patient interaction component of the paired stations. For the examiner analyses, the following steps are followed:

Step One

For each Examiner and station/component scored by the Examiner, the average across the candidates' station scores is calculated. This average is the Examiner average for that station/component. Then the average of the Examiner averages is calculated along with the SD. Examiners that scored fewer than 10 candidates on a station/component are excluded from these analyses as they have observed too few candidates to be compared to other Examiners. Examiners are flagged as being a "Dove" if their station/component score is more than three times the station/component SD from the station/component average. Examiners are flagged as being a "Hawk" if their station/component score is greater than three times the station/component SD from the station/component average. For example, if the average across Examiner averages was 72.5 and the SD across Examiners was 6.5 and an Examiner had an average of 50.7 [difference of 21.8, which is greater than 3SDs ($6.5 \times 3 = 19.5$)] then he/she is flagged as a "Hawk".

Step Two

In step two, for each Examiner flagged in step one, the station distribution (histogram) for the Examiner is compared to the distribution of station scores from other Examiners across the country. This is a visual check to evaluate whether the Examiner is providing a range of scores that looks somewhat normally distributed (not providing all high or low scores). If an Examiner's distribution looks reasonable, they are no longer flagged at this step as being either a "Dove" or "Hawk".

Step Three

In step three, for each Examiner flagged in step one and two, the reported score distribution (histogram) for the cohort they scored is compared to the distribution of scale scores from the rest of the candidates across the country. This is a check that the cohort based on all 10 examiners is higher or lower than the values across the country. In this step, we evaluate if a cohort may be higher or lower in ability that may explain a "Dove" or "Hawk" flag in step one. In addition, the average scale scores and pass rate for this Examiner's cohort are compared across the country. In this step, we are evaluating whether the cohort of candidates being evaluated may be a weaker or stronger in ability based on all 10 stations. For example, an Examiner may be flagged as being a "Hawk" in steps one and two, but their scale scores based on all 10 stations may have substantially lower scale scores, indicating a weaker cohort, and thus would not be flagged as a "Hawk" at step three.

No Examiners were flagged across all three steps for the October 2018 exam.

5.5 DOMAIN SUBSCORE PROFILES

The purpose of the domain subscore profile is to provide diagnostic feedback to candidates by highlighting their relative strengths and weaknesses. A domain subscore profile is presented in the form of two graphs for each candidate in the SIR. The graphs show the domain subscore for each of the two sets of domains (Dimensions of Care and Physician Activities) and the SEM around the domain subscore. The calculation of the domain subscores for each candidate is outlined in Section 4.3.3.

This section provides domain subscore profiles for all candidates for the October MCCQE Part II results. The range of domain subscores is shown graphically in Figures 2 and 3. The boxes for each domain indicate the range for 50 per cent of the candidates' domain subscores. The vertical line represents the median or 50th percentile domain subscore. The remaining 50 per cent of domain subscores are shown to the right or left of the box as a line (25 per cent to the right and 25 per cent to the left). The mean domain subscores are indicated by the diamond.

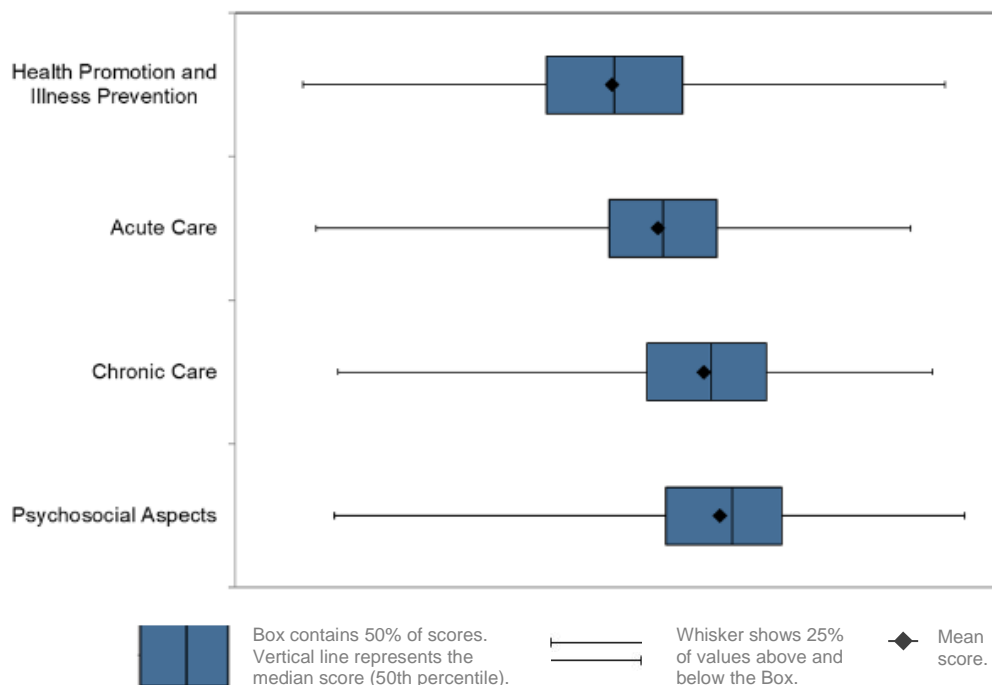


Figure 2: Domain subscore for Dimensions of Care

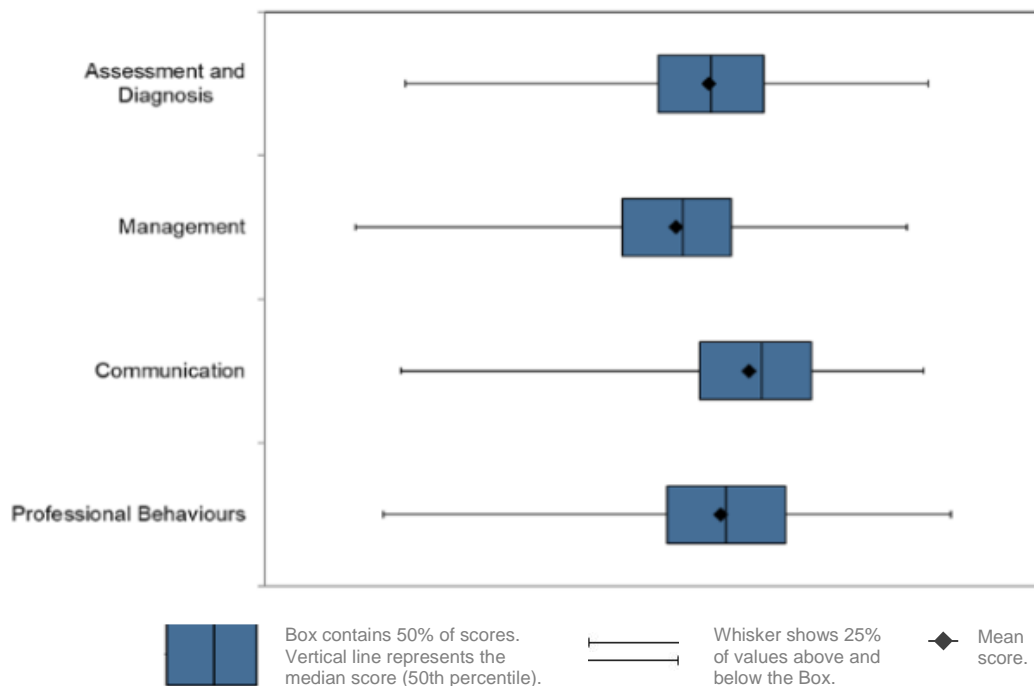


Figure 3: Domain subscore profile for Physician Activities

5.6 HISTORICAL PASS RATES

Historical pass rates are presented in this section starting with October 2018. Table 9 shows the pass rates from October 2018 for four subgroups and the total group of candidates that took the MCCQE Part II. The four subgroups are CMG-CPG 1st, CMG-CPG Repeat, Other 1st and Other Repeat, where Other is a mix of undergraduate medical education or postgraduate training outside of Canada.

Table 9: October 2018 pass rates by total reference group

Year	Candidate group	N total	N pass	Pass rate
October 2018	Total	2310	1766	76.5
	CMG-CPG 1st	1495	1336	89.4
	CMG-CPG Repeat	32	22	68.8
	Other 1st	571	354	62.0
	Other Repeat	212	54	25.5

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APPENDIX A: QUALITY CONTROL – MCCQE PART II RESULTS

Pre-examination

1.	Design sheets, set up data exports and activate sheets for all stations in TeleForm; print, bubble, hand score and scan 10 test sheets per station, per language and perform quality assurance (QA) checks of raw data in CSV files	
	QEII Production Coordinator	(Initials & sign-off date)
2.	Create answer keys, compare against exam sheets, case, scoring rules and adjust as necessary;	
	QEII Production Coordinator	(Initials & sign-off date)
3.	Enter answer key into SQL database and download answer key to SAS	
	Analyst (SQL)	(Initials & sign-off date)
	Analyst (SAS)	(Initials & sign-off date)
4.	Update the SAS code as necessary (new question type, etc.)	
	Analyst (SAS)	(Initials & sign-off date)
5.	Import CSV raw data into scoring application and run scoring on fake candidates, run SAS scoring in parallel and verify matching results in SAS and scoring application	
	QEII Production Coordinator	(Initials & sign-off date)
	Analyst (SQL)	(Initials & sign-off date)
	Analyst (SAS)	(Initials & sign-off date)
	Senior Research Psychometrician (Overview of analyses)	(Initials & sign-off date)
6.	Test candidate bar code labels	
	QEII Production Coordinator	(Initials & sign-off date)
7.	Test examiner bar code labels	
	Administration Coordinator	(Initials & sign-off date)
8.	Prepare a file with demographic information about candidates including creating candidate groups (candidate info)	
	Analyst (SQL)	(Initials & sign-off date)
	Analyst (SAS)	(Initials & sign-off date)
	Senior Research Psychometrician (Overview of analyses)	(Initials & sign-off date)

Post-examination (Pre-CEC)

These tasks *MUST* be completed before the CEC meets.

9.	On-site scanning, receiving and uploading data files from sites and load files into TeleForm®	
	QEII Production Coordinator	(Initials & sign-off date)
10.	Verify	
	CSA team	(Initials & sign-off date)
11.	Import CSVs into scoring application and correct until error reports are clean	
	QEII Production Coordinator	(Initials & sign-off date)
	Analyst (SQL)	(Initials & sign-off date)
13.	Run SAS scoring in parallel with scoring in SQL; verify matching results in SAS and scoring application	
	Analyst (SQL)	(Initials & sign-off date)
	Analyst (SAS)	(Initials & sign-off date)
14.	Run pull lists and QA against SAS	
	QEII Production Coordinator	(Initials & sign-off date)
	Production Coordinator	(Initials & sign-off date)
	Analyst (SAS)	(Initials & sign-off date)
15.	Pull sheets, hand score, enter into hand scoring application and update CSV files	
	QEII Production Coordinator	(Initials & sign-off date)
17.	Run preliminary statistical analyses	
	Analyst (SAS)	(Initials & sign-off date)
18.	Review statistical information	
	Senior Research Psychometrician	(Initials & sign-off date)
19.	Present preliminary statistics to the Manager, MCCQE Part II and Associate Director, Evaluation Bureau	
	Senior Research Psychometrician	(Initials & sign-off date)
20.	If the statistical analyses indicate an unusual pattern, call a meeting with the Manager, MCCQE Part II, Associate Director, Evaluation Bureau, Senior Research Psychometrician and Analysts (SQL and SAS)	
	Senior Research Psychometrician	(Initials & sign-off date)
	Note unusual pattern: * Add any supporting documentation to the folder. * Additional notes or comments can be added to the last page of this document.	

APPENDIX B: PATIENT INTERACTION RATING SCALE ITEMS

1.0 Attentiveness to Ethical Issues (as relevant to this case) [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Exhibits professional behaviours including compassion, respect and maintenance of confidentiality ○ Addresses ethical issues (e.g., disclosure and consent) with clarity and respect ○ Demonstrates awareness of and adherence to regulatory and legal requirements 	○	○	○	○
2.0 Interviewing Skills [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Gathers relevant biomedical and psychosocial information ○ Establishes a timeline or sequence of events ○ Elicits pertinent positives and negatives as they relate to the differential diagnosis ○ Uses open and closed-ended questions ○ Avoids jargon and leading questions ○ Clarifies and summarizes what the patient has said 	○	○	○	○
3.0 Patient-Centred Approach to History-Taking / Physical Examination [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Explores patient's experience with health problem (e.g., feelings, ideas, impact and expectations) ○ Attends to patient's verbal and/or physical responses ○ Attempts to understand patient's psychosocial context 	○	○	○	○
4.0 Patient-Centred Approach to Treatment Planning [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Engages patient in healthcare planning (e.g., encourages questions, discussion and feedback) ○ Integrates treatment approach with patient's psychosocial context and priorities ○ Encourages adherence to treatment by finding common ground 	○	○	○	○
5.0 Patient Education [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Provides clear, concise and accurate information ○ Provides a summary of expected disease course, progression or resolution ○ Verifies that the information is understood ○ Avoids jargon ○ Facilitates informed decision-making by exploring risks and benefits of each option ○ Discusses timeline for follow-up 	○	○	○	○

6.0 Organization of Encounter [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Pursues a purposeful encounter with a logical flow ○ Explores the most pertinent data; does not lose time on less relevant information ○ Intervenes with the patient as appropriate 	○	○	○	○
7.0 Interpersonal Behaviour [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Demonstrates respectful management of the interaction (e.g., non-judgmental, culturally sensitive, avoids interrupting) ○ Listens appropriately to facilitate conversation ○ Uses appropriate body language; remains composed ○ Avoids offensive or aggressive behaviour 	○	○	○	○
8.0 Approach to Physical Examination [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Selects appropriate manoeuvres for the patient problem ○ Performs examination in a logical order ○ Demonstrates technical skill for eliciting findings ○ Executes the examination respectfully ○ Attentive to the patient's physical comfort and dignity 	○	○	○	○
9.0 Patient Summary Report: Organization [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Report is well organized, coherent, and logical ○ Reflects a complete information transfer 	○	○	○	○
10.0 Patient Summary Report: Key Issues [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Report reflects comprehensive understanding of key issues ○ Report includes pertinent negative/normal findings, in addition to the positive/abnormal issues ○ Communication is concise, with no irrelevant information 	○	○	○	○
11.0 Patient Summary Report: Assessment and Management Plan [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Reports a well-reasoned plan that considers impact on patient ○ Provides rationale for treatment 	○	○	○	○
12.0 Collaboration (non-patient / colleague) [One bubble only]	Inadequate performance	Marginal performance	Adequate performance	Superior performance
<ul style="list-style-type: none"> ○ Engages respectfully (verbal and non-verbal) ○ Discusses pertinent information ○ Shares responsibility for safe and effective patient care ○ Manages differences and resolves conflicts to enhance collaboration 	○	○	○	○

APPENDIX C: EXAMPLE SOR AND SFR



Medical Council of Canada Qualifying Examination Part II Statement of Results

Candidate name: XXXXXXXXXXXX, XXXXXXXX
Candidate code: 0000000000
Examination session: October 2018
Pass score: 138

Your final result: Pass
Your total score: 207

December 20, 2018

We are writing to inform you of your final result on the Medical Council of Canada Qualifying Examination Part II.

Your total score is reported as a scaled score ranging from 50 to 250 with a mean of 150 and a standard deviation of 20. The mean and standard deviation were set using the results from the October 2018 session.

Your final result is based on your total score relative to the pass score.

For more information, please visit the exam's Scoring web page on our website, mcc.ca.

Supplemental information on your examination performance is reported to you in a separate document within your physiciansapply.ca account.

mcc.ca
physiciansapply.ca
inscriptionmed.ca



Medical Council of Canada
 Qualifying Examination Part II
Supplemental Information Report

Candidate name: XXXXXXXXXXXX, XXXXXXXX
Candidate code: 0000000000 **Your final result:** Pass
Examination session: October 2018 **Your total score:** 207

This report provides you with supplemental information on your performance on the Medical Council of Canada Qualifying Examination (MCCQE) Part II.

The MCCQE Part II assesses core abilities to apply medical knowledge, demonstrate clinical skills, develop investigational and therapeutic clinical plans, as well as demonstrate professional behaviours and attitudes at a level expected of a physician in independent practice in Canada.

The exam assesses your performance across two broad categories with each exam question classified on both categories:

- Dimensions of care, covering the spectrum of medical care
- Physician activities, reflecting a physician's scope of practice

Each category has four domains:

Dimensions of Care	Physician Activities
Health Promotion and Illness Prevention	Assessment and Diagnosis
Acute Care	Management
Chronic Care	Communication
Psychosocial Aspects	Professional Behaviours

See p. 3 of this report for the domain definitions.

Figure 1 displays your performance in each domain under Dimensions of Care. Figure 2 displays your performance in each domain under Physician Activities.

In both figures, we provide your subscores along with the mean subscore of first-time takers who passed the exam in the same session.

Each domain is assigned a weighting on the exam. We present the content weights, expressed as percentages, in the grids shown on page 3.

We also provide the standard error of measurement (SEM) for each of your subscores. It represents the expected variation in your subscore if you were to take this exam again with a different set of stations covering the same domains.

Small differences in subscores or overlap between SEMs indicate that performance in those domains was somewhat similar. Overlap between the SEM and the mean score of first-time takers who passed signifies that performance is similar to the mean.

Subscores are based on less data than the total score and have less precision. Your total score and subscores cannot be compared as they are calculated differently. The pass score cannot be applied to Figure 1 or 2.

For more information, please visit the exam's Scoring web page on our website mcc.ca.

mcc.ca
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Figure 1: Dimensions of Care

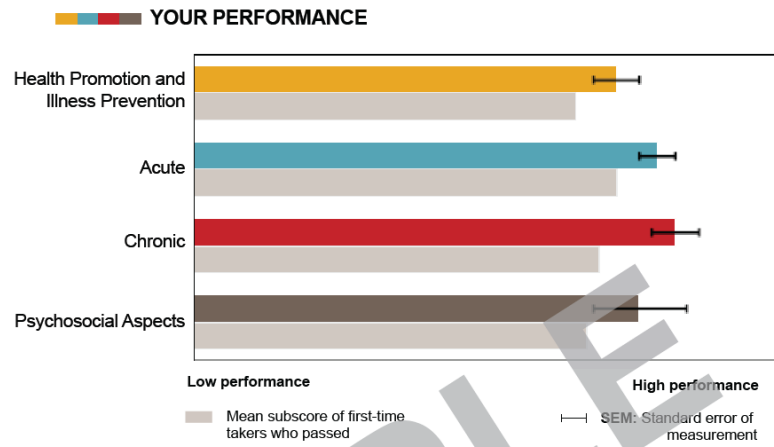
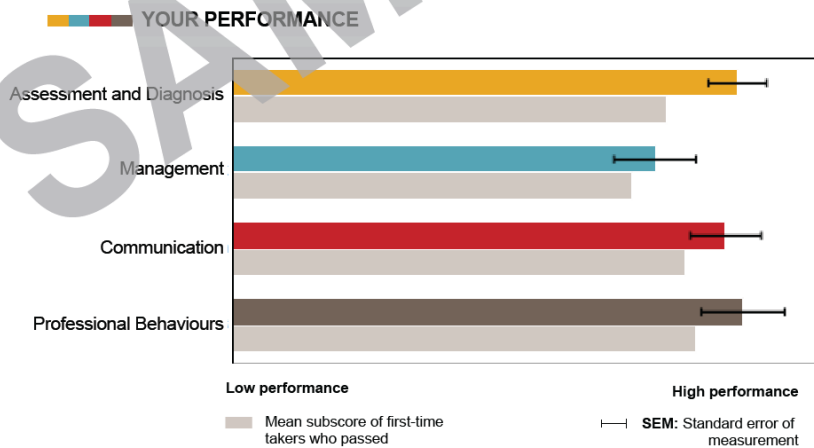


Figure 2: Physician Activities



Report: December 20, 2018
Candidate code: 0000000000

2/3

Dimensions of Care

Reflects the focus of care for the patient, family, community and/or population:

- Health Promotion and Illness Prevention:** The process of enabling people to increase control over their health and its determinants, and thereby improve their health. Illness prevention covers measures not only to prevent the occurrence of illness, such as risk factor reduction, but also to arrest its progress and reduce its consequences once established. This includes, but is not limited to screening, periodic health exam, health maintenance, patient education and advocacy, and community and population health.
- Acute:** Brief episode of illness within the time span defined by initial presentation through to transition of care. This dimension includes but is not limited to urgent, emergent, and lifethreatening conditions, new conditions, and exacerbation of underlying conditions.
- Chronic:** Illness of long duration that includes but is not limited to illnesses with slow progression.
- Psychosocial Aspects:** Presentations rooted in the social and psychological determinants of health and how these can impact on wellbeing or illness. The determinants include but are not limited to life challenges, income, culture, and the impact of the patient's social and physical environment.

		Dimensions of care				
		Health Promotion & Illness Prevention	Acute	Chronic	Psychosocial Aspects	Row %
Physician activities	Assessment/Diagnosis					25:5
	Management					25:5
	Communication					25:5
	Professional Behaviours					25:5
Column %		20:5	35:5	25:5	20:5	100

Physician Activities

Reflects the scope of practice and behaviours of a physician practicing in Canada:

- Assessment/Diagnosis:** Exploration of illness and disease using clinical judgment to gather, interpret and synthesize relevant information that includes but is not limited to history taking, physical examination and investigation.
- Management:** Process that includes but is not limited to generating, planning, organizing safe and effective care in collaboration with patients, families, communities, populations, and other professionals (e.g., finding common ground, agreeing on problems and goals of care, time and resource management, roles to arrive at mutual decisions for treatment, working in teams).
- Communication:** Interactions with patients, families, caregivers, other professionals, communities and populations. Elements include but are not limited to relationship development, intra-professional and inter-professional collaborative care, education, verbal communication (e.g., using the patient-centered interview and active listening), non-verbal and written communication, obtaining informed consent, and disclosure of patient safety incidents.
- Professional Behaviours:** Attitudes, knowledge, and skills relating to clinical and/or medical administrative competence, communication, ethics, as well as societal and legal duties. The wise application of these behaviours demonstrates a commitment to excellence, respect, integrity, empathy, accountability and altruism within the Canadian health-care system. Professional behaviours also include but are not limited to self-awareness, reflection, life-long learning, leadership, scholarly habits and physician health for sustainable practice.

		Dimensions of care				
		Health Promotion & Illness Prevention	Acute	Chronic	Psychosocial Aspects	Row %
Physician activities	Assessment/Diagnosis					25:5
	Management					25:5
	Communication					25:5
	Professional Behaviours					25:5
Column %		20:5	35:5	25:5	20:5	100