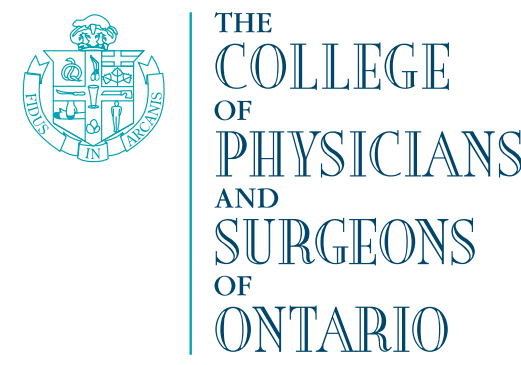


Do physician performances on the MCC examinations predict College of Physicians and Surgeons of Ontario practice assessment outcomes?

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Background

The Medical Council of Canada Qualifying Examination (MCCQE) Part I and Part II form two components of the Licentiate of the MCC, one of the prerequisites for licensure for independent practice in Canada.

Previous research suggests that scores on the MCCQE (data from 1993-96) can be significant predictors of quality of medical care. (Tamblyn et al., 2007; Wenghofer et al., 2009)

Purpose of study

To extend previous research with a larger sample, up-to-date exam and outcome data, specifically to examine:

- ▶ If there's a predictive relationship between physician performance on the MCCQE and their post-licensure performance in practice
- ▶ The nature of the relationship for subgroups of interest

Assessment Tools

1

MCCQE Part I:

- Computer-based exam that assesses general medical knowledge and clinical decision-making skills
- At a level expected of a medical graduate entering residency training in Canada

2

MCCQE Part II:

- Objective structured clinical examination
- At a level expected of a physician entering independent practice in Canada

3

PEER ASSESSMENT:

- In-practice assessment of quality of patient care by peer physician assessors
- Based on medical record review and interview
- A requirement of the College of Physicians and Surgeons of Ontario (CPSO) membership for quality assurance and improvement
- Physicians were selected randomly or targeted (e.g., age 70+, change of practice scope)

Methodology

Study sample:

- ▶ A matched sample of **4,014 physicians** who took the MCCQE in 1992-2012 and who underwent CPSO peer assessment in 2004-2017

Sample demographics:

Variable	N	Group	%		
Gender	4,014	Female	47.2		
		Male	52.8		
CMG/IMG	4,014	CMG	71.8		
		IMG	28.2		
First medical certification	4,014	Family Medicine (FM)	53.2		
		Specialist	43.4		
		Non-certified General Practitioner (GP)	3.4		
More than one certification	622		15.5		
Medical specialty at peer assessment	4,014	FM / GP	56.4		
		Specialist	43.7		
		Mean	SD	Min	Max
Age at peer assessment	4,014	43.3	6.6	29.5	81.6
Years of practice at peer assessment	3,820	16.5	7.0	4.4	55.0

Analyses:

- ▶ Logistic regression models
- ▶ **Predictor:** Pass/fail status on the MCCQE Part I and Part II based on candidate's first attempt
- ▶ **Outcomes:** Satisfactory/unsatisfactory peer assessment outcomes
- ▶ **Covariates:** Gender, age, years of practising experience, medical specialty, Canadian medical graduate (CMG) or international medical graduate (IMG) status

Sample performances on assessments:

Tools	N	Status	%
MCCQE Part I (first attempt)	3,971	Fail	7.5
		Pass	92.5
MCCQE Part II (first attempt)	3,856	Fail	9.0
		Pass	91.0
CPSO Peer Assessment	4,014	Satisfactory	90.8
		Unsatisfactory	9.2

Preliminary results

Effect *	Estimate	P-value	Odds Ratio
MCCQE Part II pass/fail (1st attempt)	0.5647	0.0008	1.7589
Gender	0.8839	<.0001	2.4203
Pass	0.6473	<.0001	1.9104
Medical specialty at peer assessment (FM/GP vs. specialist)	-0.9790	<.0001	0.3756
Age at peer assessment	-0.0192	0.0310	0.9810

LR test: $\chi^2_{(5)} = 192.4687, p < .0001, N = 3851$

* MCCQE Part I was eliminated by stepwise regression as it did not meet the .05 significance level for entry into the model. Subsequent analyses using the score levels (i.e., "fail"/"borderline pass"/"clear pass"/"high pass") on the MCCQE Part I and Part II have showed positive results for both exams and will be reported in the future when completed.

What does this mean?

- ▶ After controlling the confounding effect of other variables (i.e., gender, CMG/IMG status, medical specialty, age) the odds of success on peer assessment for physicians who passed the MCCQEII on their 1st attempt is **76%** higher than that for those who failed the exam

- ▶ Holding other factors equal, the odds of success on peer assessment is:

142% higher for female than that for male physicians
91% higher for CMGs than that for IMGs
62% lower for FM/GPs than that for specialists
 Decreases by **2%** for each year of increase in age

Preliminary conclusions

- ▶ Physicians' pass/fail status on their first attempt on the MCCQE Part II is a statistically significant predictor of practice-based peer assessment outcomes after controlling for gender, CMG/IMG status, medical specialty and age
- ▶ The study provides validity evidence to support the use of medical licensing examinations to ensure that license holders do possess the knowledge/skills necessary for safe and effective patient care when entering independent practice