Received: 19 September 2023 | Revised: 16 January 2024 | Accepted: 19 January 2024

DOI: 10.1002/emp2.13119

JACEP OPEN
JOURNAL OF THE AMERICAN COLLEGE OF EMERGENCY PHYSICIANS OPEN
A GLOBAL JOURNAL OF EMERGENCY MEDICINE
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BRIEF REPORT

General Medicine

Association between the American Board of Emergency Medicine Oral Certifying Examination and Future State Medical Board Disciplinary Actions

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Supervising Editors: Bory Kea, MD, MCR and Henry Wang, MD, MS

Abstract

Objectives:: The American Board of Emergency Medicine (ABEM) requires a written examination (the Qualifying Examination) followed by the Oral Certifying Examination (OCE) to obtain ABEM certification. Maintaining ABEM certification is associated with fewer state medical board (SMB) disciplinary actions. We sought to determine the association between poor initial performance on the OCE and subsequent severe SMB disciplinary action.

Methods: We included physicians who completed US categorical emergency medicine residencies in 2016 and earlier. We classified OCE performance as good (passed on first attempt) and poor (never passed or required > 1 attempt to pass). We obtained data on physician SMB disciplinary actions from the National Practitioner Data Bank that were limited to actions that denied licensure or altered the status of a medical license (eg, suspension). We determined the association between poor OCE performance and subsequent severe SMB disciplinary action.

Results: Of 34,871, 93.5% passed the OCE on the first attempt, 6.1% required multiple attempts, and 0.3% never passed. Of the physicians (93.5%) with good OCE performance, 1.0% received a severe SMB action. Among physicians with poor OCE performance, 2.3% received a severe action; and of those who never passed, 1.7% received a severe action (Table 1). Poor OCE performance was associated with an increased odds of severe SMB disciplinary action (OR 2.21, 95% CI: 1.57–3.12).

Conclusion: Physicians with poor OCE performance exhibited higher odds of experiencing a subsequent severe SMB disciplinary action. The OCE may have utility as a predictor of future professionalism or clinical performance.

1 | INTRODUCTION

1.1 | Background

Of the 24 member boards of the American Board of Medical Specialties (ABMS), 14 have an oral examination for at least one of their certified specialties. The American Board of Emergency Medicine (ABEM) is a specialty board within the ABMS organization and requires a written examination (the Qualifying Examination [QE]), followed by an Oral Certifying Examination (OCE) to obtain ABEM certification. Certification by boards recognized by the ABMS is associated with higher quality of care.[1–7] These associations include improved clinical outcomes such as fewer surgical complications. ABEM certification is associated with improved clinical outcomes,[8] more efficient, cost-effective care,[9] and better preparedness for caring for children.[10] Of importance to the specialty, ABEM certification is also associated with lower rates of attrition from clinical practice[11] and with higher physician income.[12] Maintaining ABEM certification is associated with fewer state medical board (SMB) disciplinary actions.[13] The association with a lapse in certification and SMB disciplinary actions has been reported in other specialties.[14–17]

1.2 | Importance

Lapses in professionalism or clinical performance may prompt a SMB to suspend or decertify a physician's medical license. Early identification of physicians vulnerable to licensure action is potentially useful, enabling early interventions to correct beliefs or behaviors. Although there is substantial validity evidence for the ABEM OCE as a certification examination, its association with subsequent professionalism or clinical performance is unknown.[18–23] One reason for an association could be that skills assessed in the OCE such as interpersonal relations, communication and clinical competence could be proxies for skills that contribute to manifestations of professional performance.

1.3 | Goals of this investigation

We sought to determine if performance on the ABEM OCE was associated with subsequent severe SMB disciplinary actions.

2 | METHODS

2.1 | Study design and setting

We performed an analysis of ABEM examination performance data linked with disciplinary actions from the National Practitioner Data Bank (NPDB). The study was reviewed and determined exempt by the WCG Institutional Review Board.

2.2 | Data sources

The NPDB is a repository of confidential information about malpractice payments and adverse actions taken by SMBs against healthcare practitioners, including physicians. The NPDB is managed by the Federal government through the U.S. Department of Health and Human Services. We linked ABEM physician data with disciplinary action data reported by the NPDB. Specifically, ABEM provided minimal identifying physician information, which the NPDB used to merge data fields with SMB disciplinary actions taken between 1973 and 2021. The NPDB then de-identified the data, removed several demographic variables, and returned the merged data file back to ABEM. No person at ABEM could re-identify any physician in the dataset.

We analyzed performance data from the ABEM OCE. The OCE is administered to physicians seeking ABEM certification who have completed an emergency medicine residency and passed the written QE. The OCE is a half-day oral examination that includes numerous interactions whereby a physician must assess clinical scenarios and verbally propose clinical management. During most cases, a physician must perform a medical history and physical examination, order diagnostic studies, interpret the studies, order treatment, reassess the patient, and determine a disposition (admit/discharge). Candidates receive a numeric performance score (possible range 1.00–8.00); 5.25 is defined as a passing score. Physician performance on the OCE (both pass/fail and a numeric performance score) is stored in ABEM's highly secure data server.

2.3 | Selection of participants

We included all emergency physicians who completed categorical emergency medicine residencies between 1973 and 2016 and attempted the OCE. This time frame allowed for the inclusion of physicians who delayed becoming certified by not taking the examinations soon after residency, as well as certification delays due to taking either the QE or OCE multiple times. We excluded physicians who graduated from Canadian or combined training programs, physicians who applied to take the OCE but never actually attempted the test, and physicians who received disciplinary actions prior to graduating from residency.

2.4 | Measurements

The primary exposure was the number of attempts to pass the OCE. We classified physicians into two groups: (1) good OCE performance (those who passed the OCE on the first attempt) and (2) poor OCE performance (those who required multiple attempts to pass or never passed the exam).

The data provided by NPDB included a description of the type of disciplinary action taken, a maximum of five reasons for the action, and the year in which the action occurred. Although there are several actions that a SMB can take to sanction a physician, we only

TABLE 1 Characteristics of 34,871 physicians who attempted the OCE between 1980 and 2016, stratified by state medical board disciplinary action.

	No disciplinary action ($n = 34,499$)	Severe disciplinary action ($n = 372$)	Total ($N = 34,871$)
Sex, *n* (%)			
Male	21,718 (63.0)	227 (61.0)	21,945 (62.9)
Female	10,168 (29.5)	71 (19.1)	10,239 (29.4)
Missing	2613 (7.6)	74 (19.9)	2687 (7.7)
Age at residency graduation (years), mean (SD)	32.2 (3.5)	33.0 (9.2)	32.2 (3.5)
Year of residency graduation by decade, *n* (%)			
1970–1979	455 (1.3)	5 (1.3)	460 (1.3)
1980–1989	3362 (9.7)	97 (26.1)	3459 (9.9)
1990–1999	7211 (20.9)	159 (42.7)	7370 (21.1)
2000–2009	12,171 (35.3)	81 (21.8)	12,252 (35.1)
2010–2019	11,300 (32.8)	30 (8.1)	11,330 (32.5)
OCE examination groups, *n* (%)			
Passed on first attempt	32,290 (93.6)	320 (86.0)	32,610 (93.5)
Passed after multiple attempts or never passed	2290 (6.4)	52 (14.0)	2261 (6.5)

Abbreviation: OCE, oral certification examination.

examined physicians' first disciplinary action that either denied licensure or altered the status of a medical license (eg, revocation, suspension, or surrender of a license).[14] The reasons for severe disciplinary actions were numerous and were classified using categories based on previous research including alcohol or substance abuse; criminal activity; license, board, state, or federal violations; substandard or inadequate care; inability to practice safely; unprofessional conduct; other reasons; and unknown.[14]

2.5 | Analyses

We assessed baseline characteristics of the study population and SMB action. A chi-square test was used to assess the association between receiving a severe SMB (yes/no) and performance on the OCE. Logistic regression was used to further examine the relationship between OCE performance on severe SMB actions while controlling for gender and age at residency graduation. All analyses were conducted using SAS 9.4.[24]

3 | RESULTS

3.1 | Characteristics of study subjects

There were 34,871 physicians who graduated between 1973 and 2016 who met the inclusion criteria. Available physician characteristics and OCE performance group are provided in Table 1. The majority of physicians were male ($N = 21,945$, 63%), mean 32 years old (SD = 3.5 years), and graduated from residency after 2000 (23,582, 67.6%). There were 32,610 (93.5%) physicians who passed the OCE on the first attempt, 2142 (6.1%) who passed the OCE after making multiple attempts, and 119 (0.3%) physicians who never passed.

Of the 34,871 physicians who met the inclusion criteria, 372 (1.1%) received a severe disciplinary action (Table 1). On average, physicians received their first severe disciplinary action 15.8 years (SD = 7.3 years) after graduating from residency. The mean age of physicians when they received their first disciplinary action was 48.8 years (SD = 9.2). The most common type of severe disciplinary actions were license suspension ($N = 221$, 59.4%), license surrenders ($N = 101$, 27.2%), license revocations ($N = 34$, 9.1%), and denials ($N = 16$, 4.3%; Table 2). The most common reasons for receiving a severe disciplinary action were categorized as violating license, board, state, or federal regulations ($N = 98$, 26.3%); reasons unknown or not provided ($N = 98$, 26.3%); and unable to practice safely ($N = 73$, 19.6%; Table 2).

Physicians who demonstrated poor performance on the OCE were more likely to have received a severe disciplinary action than physicians who passed the OCE on their first attempt (OR 2.38, 95% CI: 1.77–3.19). On multivariable regression, poor OCE performance remained independently associated with future severe disciplinary action after adjustment for gender, and age at residency graduation (OR 2.21, 95% CI: 1.57–3.12; Table 3).

3.2 | Limitations

First, this study examined the validity of the OCE only and did not include data from the QE. The QE is an integral element of the certification process and could have an impact on the association between performance on certification assessments and severe SMB disciplinary

TABLE 2 Types and reasons for severe disciplinary actions ($N = 372$).

	N (%)
Types of severe disciplinary action	
Denied	16 (4.3%)
Revoked	34 (9.1%)
Surrendered	101 (27.2%)
Suspended	221 (59.4%)
Reasons for severe disciplinary actions	
Alcohol/substance abuse	17 (4.6%)
Criminal activity	40 (10.8%)
License/board/federal/state violation	98 (26.3%)
Other	4 (1.1%)
Substandard or inadequate care	17 (4.6%)
Unable to practice safely	73 (19.6%)
Unprofessional conduct	30 (8.1%)
Unknown (not classified)	93 (25.0%)

TABLE 3 Association between OCE performance and subsequent severe disciplinary action. Results of multivariable logistic regression model adjusted for gender and age at the time of residency graduation ($N = 34{,}871$).

Characteristic	OR	95% CI
Passed on first attempt	1.00	Reference
Passed after multiple attempts or never passed	2.21	1.57–3.12
Male	1.42	1.09–1.86
Age at residency graduation (years)[a]	1.07	1.04–1.10

Abbreviation: OCE, oral certifying examination.
[a]Missing age for eight physicians who did not receive a severe disciplinary action.

actions. Second, we did not consider race, ethnicity, gender, or international medical graduate status in the logistic regression model. These data were unavailable for much of the physician study group. These omissions prohibited us from examining any potential biases. Third, we excluded 139 physicians who passed the QE but opted not to attempt the OCE. Because this study focused on OCE performance, performance data were unavailable for physicians who did not take the exam. It is possible that including physicians who never took the OCE could amplify the association. Fourth, we only included a physician's first severe disciplinary action and did not report multiple disciplinary actions for a single physician. This approach minimized the total number of actions that the study cohort received. Fifth, we did not examine the effect of time from residency. Obviously, the longer a physician is in clinical practice, the greater the potential for disciplinary action. Given the relative stability of the pass rates of the OCE, this omission might have minimal impact. Finally, causes for receiving a severe action against one's medical license vary tremendously and range from unprofessional conduct to criminal behavior. The heterogeneity of circumstances resulting in actions makes conclusions as to causation or impact on population health difficult to determine. Nonetheless, it is likely that a lapse of professionalism or a breach in ethical conduct is a common factor in making such determinations.

4 | DISCUSSION

This is the first study to examine the association between performance on the ABEM OCE and any professionalism outcome. Similar findings have been reported in anesthesiology and general surgery.[14,25] However, both of these studies included analyses of the contributions of performance on both written and oral examinations.

ABEM includes an oral examination in its certification process to assess key competencies that cannot be easily assessed on a written, multiple-choice examination. Although ABEM emphasizes questions on the written examination based on complex cognitive domains such as clinical synthesis and diagnostic processing, other competencies are more easily assessed on the OCE such as reflective thought, structured decision-making, restraint, complex deductive thinking, and navigating complex situations requiring multiple steps. Restraint and reflective thought could be intrinsic abilities that contribute to later professional behavior.

The association between performance on the ABEM OCE and severe SMB licensure actions prompts consideration of a potential causal link. An internal dimensionality analysis showed that the OCE measures elements that are not measured on the written Qualifying Exam such as anticipation, highly complex reasoning, reflective thought, and restraint. These elements could contribute to a higher level of professional behavior. The OCE also provokes anxiety and stress for some of the same reasons that clinical work in the emergency department can be challenging. It could be that the stress and anxiety that is experienced in this testing scenario is similar to the demands of a clinical environment that could precipitate unprofessional actions that jeopardize a physician's medical license.

As ABEM considers the future of physician assessment for certification, it must consider the two-part process of a written QE and an OCE. The OCE makes a unique contribution to physician assessment.[26] The study by Gorgas et al.[26] examined the performance association between the written QE and the OCE for more than 55,000 physicians. The Pearson product moment correlation was $r = 0.33$ (95% CI, 0.32–0.34). Results of the analysis showed a relationship to performance; better performance on the QE was associated with a higher OCE score. Nonetheless, the association was not so strong as to permit the omission of the OCE to sufficiently measure the same medical knowledge, cognitive skills, and other competencies ABEM uses to make a summative certification decision.

The number of physicians who never pass the OCE is small. That any physician does not pass the OCE is a remarkable occurrence because these are physicians who have undergone a rigorous sorting process. They were admitted to medical school, completed medical school, were selected for an emergency medicine residency, successfully completed the residency, and then passed a psychometrically validated written examination. The results of this study showed

physicians who passed the OCE examination after multiple attempts have significantly higher odds of receiving a severe SMB disciplinary actions than physicians who never passed the OCE on their first attempt. The findings of our study provide validity evidence for the OCE; however, additional research is needed to understand the association between the entire certification process and severe SMB disciplinary actions.

Given the findings of this study, a more robust analysis is needed to expand the analytic model to include the impact of demographic factors (e.g., race, gender, and time from residency) as well as QE performance. Moreover, detecting physicians during residency training who might have difficulty years after residency would be helpful and could lead to early interventions. Given the preliminary nature of the association found in this study, we were unable to make firm assertions about the predictive validity of the OCE. A more comprehensive analysis is underway that examines the entire certification assessment process that could lead to earlier identification of at-risk physicians.

Physician performance on the OCE is associated with severe SMB disciplinary actions. Specifically, physicians who require multiple attempts have higher odds of receiving a severe disciplinary action than physicians who passed the OCE on their first attempt. This study provided additional validity evidence for the unique role of the ABEM OCE as an indicator of professional behavior.

AUTHOR CONTRIBUTIONS

Study concept and design: E. J. R. and M. M. J. *Acquisition of the data*: E. J. R. and M. M. J. *Analysis and interpretation of the data*: M. M. J. *Drafting the manuscript*: E. J. R. *Critical revision of the manuscript*: C. K. K., S. M. K., and S. A. S. *Statistical expertise*: M. M. J. *Acquisition of funding*: not applicable.

CONFLICT OF INTEREST STATEMENT

Drs. Johnston, Kraus, and Reisdorff are employees of the ABEM. Dr. Keim is a member of the ABEM Board of Directors. ABEM receives revenue for administering the OCE.

FUNDING AND SUPPORT

None.

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How to cite this article: Reisdorff EJ, Johnston MM, Kraus CK, Keim SM, Santen SA. Association between the American Board of Emergency Medicine Oral Certifying Examination and Future State Medical Board Disciplinary Actions. *JACEP Open*. 2024;5:e13119. https://doi.org/10.1002/emp2.13119

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