Implementation of an e-Learning Platform to Supplement Family Medicine Residency Didactics for Board Exam Preparation

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Background

To keep up with the constantly changing state of medicine, residency programs should seek out ways to improve access to the most current and relevant information and accommodate different learning styles. The traditional model of residency didactics consists of lectures given by faculty, specialists, and other residents. This model does have some drawbacks. Residents may be off-site or working shifts that prevent them from attending lectures. Lectures are notoriously a passive form of learning. In addition, small residency programs, like ours have fewer choices of lecturers available for presentation. The addition of a web-based e-learning platform to supplement existing didactics could help address these issues by improving access to educational material, broadening the information presented, or by accommodating learning styles better suited for independent reading and answering questions.

Methods

With input from our program director, faculty, and residents, we selected an e-learning platform to implement for the 2019-2020 academic year. The chosen product consisted of weekly assigned readings and quizzes. Resident completion reports were tracked, however performance on quizzes was not monitored. We hypothesized that integration of an e-learning platform would improve resident performance on the annual In Training Exam (ITE) when comparing PGY class average scores to the national mean. Class average scores were utilized to protect individual resident privacy.

Results
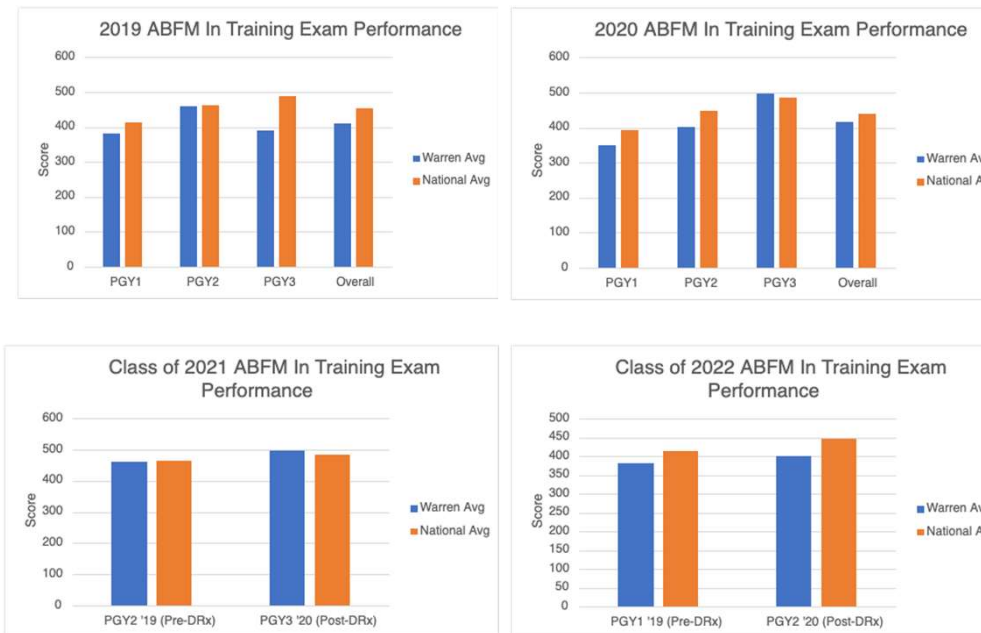
For the class of 2021, initial ITE average score (461) was very near the national average (463) in 2019, and in 2020, the ITE average score (497) was above the national average (485). For the class of 2022, initial ITE average scores in 2019 revealed a result of (381) which was below the national average of (414), and in 2020 revealed an average ITE score (401) which was below the national average (447). Calculated Z scores for class of 2021 were   -0.03 before e-learning integration and 0.15 after. The class of 2022 scored -0.48 before e-learning integration and -0.61 after.

Discussion

Compared to the national average for each PGY class, the class of 2021 performed better after integration of the e-learning platform and the class of 2022 performed worse. These results were not statistically significant. There were many confounding elements to consider, including the COVID-19 pandemic forcing a didactics transition to a virtual platform halfway through the academic year. Based on survey results, residents utilized several other resources in addition to the e-learning platform, including various question banks, review books, and board review courses. Performance on weekly quizzes were also not monitored and could have been done for the sake of completion. Finally, due to small class sizes and in the interest of protecting resident privacy, individual score changes between years could not be analyzed. By survey, only 3 of 20 residents who participated would subscribe to the e-learning platform again. Resident feedback indicated that while the structure of this e-learning platform was helpful to direct studying, most preferred more self-directed learning with resources of their choosing. Given lack of significant improvement across classes and less than favorable reviews from residents, the e-learning platform subscription was not renewed for another year.

References

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