

Preliminary Outcomes of the Lake Erie College of Osteopathic Medicine's 3-Year Primary Care Scholar Pathway in Osteopathic Predoctoral Education

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None reported.

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Context: In 2007, the Lake Erie College of Osteopathic Medicine initiated its Primary Care Scholar Pathway (PCSP), a 3-year osteopathic predoctoral education curriculum.

Objective: To assess preliminary outcomes of the PCSP curriculum.

Methods: Scores for the Comprehensive Osteopathic Medical Licensing Examination (COMLEX-USA) Levels 1 and 2-Cognitive Evaluation (CE) and pass rates for Level 2-Performance Evaluation (PE) were obtained for individuals who graduated from the PCSP program in 2010, 2011, and 2012. Scores for Levels 1 and 2-CE were compared with national mean scores. Acceptance rates for residency programs were also recorded.

Results: Nineteen PCSP graduates were included in the study: 3 graduated in 2010, 6 graduated in 2011, and 10 graduated in 2012. Scores for PCSP students were not significantly different than national average scores for COMLEX-USA Levels 1 and 2-CE ($P > .05$). All 19 PCSP graduates passed the COMLEX-USA Level 2-PE on the first attempt, and all graduates were accepted into primary care residency programs.

Conclusion: The COMLEX-USA scores of PCSP graduates were similar to national mean scores, suggesting that it is possible for osteopathic medical students to attain the same level of education as students of 4-year programs in less time. A 3-year osteopathic predoctoral education curriculum would allow students to complete their education at a reduced cost. This potential reduction in debt burden could encourage more students to pursue a primary care career and thus could help address the shortage of primary care physicians in the United States.

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There is an undeniable shortage of physicians in the United States. According to the Association of American Medical Colleges, the nation is projected to face a shortage of more than 90,000 physicians by 2020.¹ The greatest need is for primary care physicians. In 2008, Starfield² pointed out that “[h]ealth is better in U.S. regions that have more primary care physicians.... People report better health when their regular source of care performs primary care functions well.” Concern about the length of predoctoral education and the lack of primary care physicians has been discussed by Bell et al³ and Emanuel and Fuchs.⁴

In 2005, the Lake Erie College of Osteopathic Medicine (LECOM) began plans for a 3-year Primary Care Scholars Pathway (PCSP) in osteopathic predoctoral education. The intent of establishing a 3-year curriculum was to encourage students to enter into

a primary care specialty on graduation by providing a shortened predoctoral curriculum that allowed students to complete medical school at a reduced cost. The American Osteopathic Association Commission on Osteopathic College Accreditation (AOA COCA) approved the PCSP 3-year curriculum for LECOM in 2006. The curriculum was approved for a probationary period of 6 years. During this period, the AOA COCA approval restricted the number of students who were allowed to matriculate into the PCSP. The approved numbers were as follows: graduating class of 2010, 6 students; graduating class of 2011, 8 students; graduating class of 2012, 10 students; and graduating classes of 2013 through 2016, 12 students per year. The PCSP curriculum uses a modular system with weekly meetings and select clinical review rotations in preparation for the Comprehensive Osteopathic Medical Licensing Examination (COMLEX-USA) Levels 1, 2-Cognitive Evaluation (CE), and 2-Performance Evaluation (PE). The PCSP program is, to our knowledge, the first accredited modern medical education program in the United States to have a 3-year predoctoral curriculum.

In the present study, we investigated the outcomes of PCSP graduates compared with graduates of the traditional 4-year osteopathic predoctoral curriculum. Specifically, we compared COMLEX-USA Levels 1 and 2-CE scores of PCSP graduates with national mean scores. In addition, we gathered data on PCSP graduates' pass rates for COMLEX-USA Level 2-PE and acceptance rates into primary care residency programs. We hypothesized that there would be no differences between scores of LECOM's PCSP graduates and national mean scores on COMLEX-USA Levels 1 and 2-CE. In addition, we predicted that the PCSP curriculum would foster a high first-attempt pass rate for COMLEX-USA Level 2-PE and a 100% acceptance rate into primary care residency programs.

Methods

The present study took place from 2010 through 2012 at LECOM. Included in the study were students enrolled in LECOM's PCSP program. Participants were excluded if they did not graduate from the program. As with all curricular pathways at LECOM, participation in the PCSP is voluntary; students self-select a pathway during their interview process for admission. After being accepted to LECOM, students matriculated into PCSP on a first-come, first-serve basis.

Descriptive data, including age, sex, entering grade point average (GPA), and Medical College Admission Test (MCAT) score, were collected for PCSP students and LECOM students as a whole. Data were extracted from the Jenzabar software (Jenzabar, Inc) used for LECOM's learning education system.

The COMLEX-USA Level 1 and 2-CE scores and Level 2-PE pass rates for individuals in the PCSP graduating classes of 2010, 2011, and 2012 were taken directly from the National Board of Osteopathic Medical Examiners (NBOME) and the Jenzabar software. The 2010, 2011, and 2012 national mean scores for COMLEX-USA Levels 1 and 2-CE were also obtained from the NBOME. Residency placement data (both osteopathic and allopathic) were collected by PCSP program directors (R.M.R. and R.A.O.). After institutional review board review, the data we collected were determined to be exempt.

Statistical Analysis

Data analysis was conducted using Sigma Plot statistical software (version 12.0, Systat Software Inc) for graph generation and comparative statistics. Age, GPA, and MCAT scores for PCSP students and LECOM students overall were compared for graduating classes of 2010, 2011, and 2012. A 1-way analysis of variance of both COMLEX-USA Levels 1 and 2-CE scores were

completed. Data were plotted as mean (standard error of the mean [SEM]) to account for population size differences. Statistical significance was defined as a *P* value of less than .05.

Results

In accordance with the AOA COCA's approved limits, 6 PCSP students were accepted for graduating year 2010, 8 for 2011, and 10 for 2012. Three students left the graduating class of 2010 because of illness or a change in clinical specialty, and 2 students left the graduating class of 2011 because of a change in clinical specialty. Therefore, 3 PCSP students graduated in 2010, 6 graduated in 2011, and 10 graduated in 2012, for a total of 19 PCSP graduates included in analysis.

Students in the PCSP pathway were not different from LECOM students as a whole with regards to age, entering GPA, or MCAT score. Composite mean (SEM) findings for graduating classes 2010 through 2012 were as follows: age, 27 (1.4) for PCSP students and 24 (0.65) for LECOM students overall; undergraduate GPA, 3.5 (1.1) for PCSP students and 3.4 (.02) for LECOM students overall; and MCAT scores, 27 (1.2) for PCSP students and 25 (0.21) for LECOM students overall. Male-to-female distribution was 42% male and 58% female for PCSP students and 54% male and 46% female for LECOM students overall.

We found that scores for PCSP students were not significantly different than national mean scores for COMLEX-USA Levels 1 and 2-CE ($P > .05$) (Figure). Additionally, all 19 PCSP graduates passed the COMLEX-USA Level 2-PE on the first attempt. All 19 PCSP graduates were accepted into a primary care residency program.

Discussion

The findings from the present study suggest that it is possible to educate qualified medical students in 3 years while producing similar outcomes (ie, COMLEX-USA

scores) as those of a 4-year curriculum. Limitations of our study included the small number of participants, the lack of randomization, the lack of long-term outcomes, and the lack of a control group or independent data from other osteopathic 3-year curricula. There was no bias in participant selection because students were self-selected into the program.

Notable institutions with 3-year predoctoral education programs (established before 2007) that are accredited by the Liaison Committee on Medical Education include McMaster University⁵ and the University of Calgary.⁶ Unlike the PCSP, the programs at these institutions do not have restrictions on residency placement, and consequently their graduates may not focus on primary care. Recently, Texas Tech University⁷ and Mercer University⁸ instituted 3-year primary care-focused predoctoral programs, the goals of which more closely align with the goals of LECOM's PCSP. However, because these programs are relatively new, outcome measures have not been reported, to our knowledge. Of note, a 2010 retrospective study⁹ reported positive outcomes of the University of Miami's 2-year PhD-to-MD program. These findings appear to buttress the validity of shortened predoctoral education programs.

The intent of LECOM's 3-year PCSP was (1) to increase the number of medical students selecting general primary care as a career choice and (2) to decrease medical school debt burden, which may be an incentive for students to enter a 3-year program. The next steps include (1) completing a longitudinal analysis of participants' COMLEX-USA Levels 1 and 2-CE scores vs national mean scores, (2) identifying predictors of success for PCSP students and determining if they are different than those for students in the 4-year curriculum, (3) completing a multi-institutional study of 3-year primary care-focused programs when outcome data become available, and (4) expanding the PCSP class size when it becomes feasible.

We believe that at least part of the solution to the primary care physician shortage is a time-shortened curriculum. In the future, the opportunity cost associated with

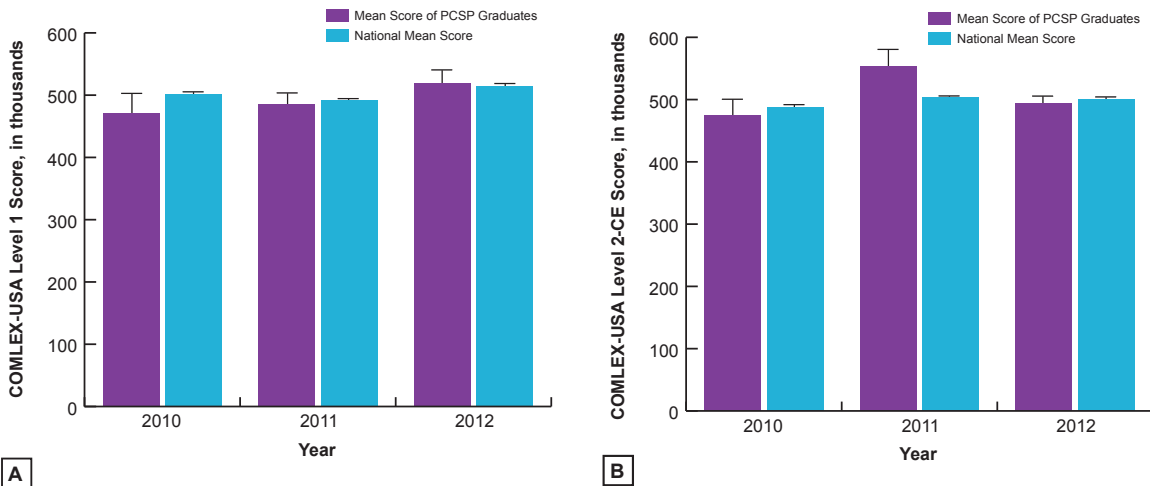


Figure.

Comprehensive Osteopathic Medical Licensing Examination (COMLEX-USA) Level 1 (A) and Level 2-Cognitive Evaluation (CE) (B) scores for students of the Lake Erie College of Osteopathic Medicine’s Primary Care Scholars Pathway (PCSP) 3-year osteopathic predoctoral education program and national mean COMLEX-USA scores for 2010, 2011, and 2012. Data are plotted as mean (standard error of the mean). For PCSP data, n=3 for 2010, n=6 for 2011, and n=10 for 2012.

the shorter curriculum may create a paradigm shift in physicians’ career choice toward primary care. Programs such as LECOM’s PCSP can serve as a model for other institutions looking to have an impact on the primary care physician shortage.

Conclusion

The COMLEX-USA scores of PCSP graduates were similar to the national mean scores, suggesting that it is possible to educate medical students in less than 4 years. A 3-year osteopathic predoctoral education curriculum is anticipated to be an important motivating factor for students to choose a career in primary care. Substantial relief from debt burden, together with a 3-year curriculum, may help address the shortage of primary care physicians in the United States.

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