EMS Education Program Quality Predicts National Certification Examination Pass Rates

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Background: Educational practices among EMS training programs vary widely throughout the nation while scant research exists regarding impact on student performance. Our objective was to assess how program quality impacts student performance on the National EMS Certification cognitive exam. We hypothesized that students graduating from high-performing programs would have greater odds of passing on their first attempt.

Methods: National EMS Certification cognitive examination results for graduates of paramedic and EMT programs in 2013 were analyzed. Using a modified Margolis method, programs were classified as high-performing if the program first-time pass rate was greater than or equal to the 2012 national average or low-performing if the first-time pass rate fell below this benchmark. The 2012 benchmark was 68% for paramedic and 65% for EMT. Descriptive statistics were calculated. Univariable logistic regression was used to assess the impact of program performance on first-attempt pass/fail.

Results: In 2013, 11,177 students graduated from 746 paramedic programs, while 67,716 students graduated from 2,242 EMT programs. A total of 57% (n = 425) of paramedic programs were classified as high-performing and 69% (n = 2,333) of EMT programs were high-performing. Nearly two-thirds (65%, n = 7,262) of paramedic students attended high-performing programs while this figure was 59% (n = 40,237) for EMT students. The mean first-time pass rate was 69% for paramedic students and 64% for EMT students, and cumulative third-attempt pass rate as 83% for paramedics and 75% for EMTs. The mean first-time pass rate among high-performing paramedic programs was 88% versus 44% among low-performing programs (p < 0.01). The mean first-time pass rate among high-performing EMT programs was similar at 83% versus 43% for low-performing programs (p < 0.01). After three attempts, the cumulative pass rate for low-performing paramedic programs was 67% and 60% for low-performing EMT programs. High-performing program graduates had approximately a four-fold increase in odds of passing on their first attempt (paramedic: OR: 4.68, 95% CI: 4.29–5.12, EMT: OR: 3.63, 95% CI: 3.51–3.76).

Conclusions: Students graduating from high-performing programs had significantly greater odds of passing the National EMS Certification exam on their first attempt. Even after three attempts, low-performing program graduates did not achieve the first-attempt success rates of high-performing programs.