



Accredited Paramedic Program Graduates Have Higher Student Ability Estimates

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*Poster Presentation at the annual meeting of the National Association of Emergency Medical
Services Physicians / January 24-26, 2017*

Prehospital Emergency Care January/March 2017 Vol. 21 No. 1 p.96

Background: While institutional and program accreditation has long been required for physician and nursing education, paramedic education program accreditation was largely voluntary until recently. In 2013, the National Registry of EMTs (NREMT) began requiring paramedic program accreditation through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) for eligibility to take the National Paramedic Certification examination. A minimal amount of research exists regarding the impact of paramedic program accreditation. Our objective was to assess the relationship between paramedic program accreditation and student cognitive ability performance measured through the National Paramedic Certification examination. We hypothesized that students graduating from accredited paramedic programs would exhibit higher mean ability estimate scores than graduates of non-accredited programs.

Methods: National Paramedic Certification cognitive examination results for 2012 graduates of paramedic programs were analyzed. Students' first-attempt cognitive mean ability estimates (MAE) were calculated using Rasch logit ability measures. Content area MAE were assessed for: 1) Airway/respiration/ventilation, 2) Cardiology/resuscitation, 3) Trauma, 4) Medical/obstetrics/ gynecology, and 5) EMS operations. MAE of graduates from accredited versus non-accredited paramedic programs were analyzed. Descriptive and comparative statistics were calculated. Significance was evaluated using two-sample t tests.

Results: In 2012, 8,404 paramedic program graduates attempted the National Paramedic Certification cognitive examination. Most graduated from accredited programs (87%, n = 7,317) while 13% (n = 1,087) attended non-accredited programs. First-attempt MAE for all paramedic students was 511. The first-attempt MAE of paramedic students graduating from accredited programs was significantly higher than that of students from non-accredited programs (514 vs.488, $p < 0.001$). Paramedic students from accredited programs demonstrated significantly higher cognitive ability in medical/obstetrics/gynecology (526 vs. 488, $p < 0.001$), trauma (535 vs. 502, $p < 0.001$), airway/respiration/ventilation (525 vs. 495, $p < 0.001$), cardiology/resuscitation (512 vs. 487, $p < 0.001$). No differences were observed in MAE between accredited and non-

accredited program graduates for the content area of EMS operations (514 vs. 514, $p = 0.94$).

Conclusion: Students graduating from accredited paramedic programs exhibited significantly higher first-attempt MAE scores overall, and across all content areas with the exception of EMS operations compared to nonaccredited graduates. Program accreditation is associated with paramedics who perform above the entry-level competency standard to perform safe and effective prehospital care.