

**Title:** Describing the impact of paramedic degree requirements in North Carolina

**Authors:** Michael T. Messer<sup>1</sup>, David Ezzell<sup>1</sup>, Tom Mitchell<sup>1</sup>, Chuck Lewis<sup>1</sup>, Daryl A. Emig IV<sup>2</sup>, Remle P. Crowe<sup>2</sup>, J. Brent Myers<sup>2</sup>, Antonio R. Fernandez<sup>2</sup>

**Introduction:** The NEMSMA, NAEMSE, and IAFCCP Joint Position Statement on Degree Requirements for Paramedic Programs recommends that a two-year associate degree be a requirement for paramedics entering the profession by 2025. In North Carolina, the cost of initial paramedic education is covered by the state for individuals who are affiliated with a NC EMS agency. The additional cost for educational hours to meet degree requirements is currently not planned to be covered by the state. We are unaware of any statewide cost estimates associated with paramedic degree requirements. While neither the joint position statement nor the NCOEMS seeks to require currently practicing paramedics to meet degree requirements, the position statement further states that specialized practice (e.g., flight paramedics, community paramedics, etc) should be required to hold a Bachelor's degree as a prerequisite to specialty certification. Statewide estimates of the number of students and providers that would not currently meet the position statement degree requirements are scant.

**Objective:** The objective of this study was to describe the education level of recent graduates of initial paramedic training programs in North Carolina. Secondary study objectives were to describe the population of students and providers that would not meet the educational requirements as well as estimate the additional cost to students for initial paramedic education.

**Methods:** This retrospective analysis included data from the NC State EMS Data Repository, provided by ESO (Austin, TX). Education levels and demographics for every paramedic student that successfully completed an initial training program and that was currently on an EMS agency roster in NC from January 1, 2020 to December 31, 2021. Students that were not affiliated with an EMS agency in NC, those with incomplete data regarding highest degree achieved, and those that did not successfully complete the program were excluded. Cost estimates were made based on the estimates of the cost of a paramedic education provided by the NC Office of EMS (NCOEMS). To describe the number of currently practicing paramedics that could be ineligible for specialty certification and/or career progression opportunities based on the position statement, educational levels for currently practicing paramedics were also evaluated. Descriptive statistics were calculated.

**Results:** During the study period, there were 1,020 paramedic students that met inclusion criteria. Of those, 85.0% (868) had complete level-of-education data available. Over two-thirds of these students would not currently meet the suggested initial educational requirements: 28% (242) who held a high school diploma or GED and 42% (363) who had some college credits but no degree. Thirty one percent would meet the suggested requirements: 13% with an associate degree and 18% (153) with a Bachelor's degree or higher. The median age of those that would not have meet the degree requirement was 25 years (Interquartile range: 22 to 31 years). There were about equal numbers of males (48.3% [292]) and females

(51.7% [313]) that would not have met degree requirements. Over three-quarters (82.3% [498]) of those that would not have met degree requirements had race documented as White, 6.6% (40) were Latino(a), 5.8% (35) were Black, and 5.3% (32) had their race categorized as “other”. There were 66.1% of students that had agency location data available. Of those, 36.7% (133) of the students that would not have met degree requirements were from the Western region of NC, 35.5% (133) were from the Central Region, and 28.0% were from the Eastern region. NC currently covers an estimated \$1,327.00 for paramedic initial education.; it is estimated that an associate degree would increase cost by ~ \$3,000. Using current paramedic education levels, an estimated \$1,753,290.00 would be required to fund paramedic degree requirements for initial training. There are currently 7,594 certified paramedics in NC that appear on an agency roster. Of those, 45% (3,407) had highest level of education data available. Forty-two percent would not meet the suggested initial requirements: 12% (398) with a high school diploma or GED, 30% (1,044) had some college credits but no degree. Fifty-eight percent would meet the suggested initial requirements initial 29% (995) had an associate degree, and 29% (970) had a Bachelor’s degree or higher.

**Conclusion:** This statewide analysis of recent paramedic graduates suggests that an important gap between current education practices and the position of leaders in the EMS profession regarding degree requirements. With more than two-thirds of recent graduates not meeting requirements, the cost estimate to those students in NC would be nearly \$2 million. Most currently certified paramedics in NC would not meet the position statements requirements for special certifications, potentially limiting their growth potential EMS. Future study should seek to evaluate strategies to facilitate meeting the position statement degree requirements for students and currently certified providers.

1. North Carolina Office of Emergency Medical Services, North Carolina Department of Health and Human Services, Raleigh, North Carolina, USA
2. ESO, Inc., Austin, TX, USA.