

Estimating Statewide Cost Saving Based on North Carolina Community Paramedic Pilot Programs

Introduction: The North Carolina Office of EMS (NCOEMS) recently collaborated with three EMS Systems to assess community paramedicine pilot programs. The three program sites represent the three NCOEMS geographic regions of the State (East, Central, and West) and each represented a different community size (Micropolitan, Medium Metropolitan, Large Central Metropolitan). Each program targeted a different area of preventative patient care however, all had the goal of reducing the utilization of EMS and ultimately reduce healthcare costs

Objective: The objective of this study was to utilize the reduction in EMS utilization and cost savings realized by the community paramedicine pilot program to estimate the statewide impact if community paramedic programs were put in place throughout North Carolina (NC).

Methods: The North Carolina Office of EMS adapted the definition used by the Centers for Medicare and Medicaid Services (CMS) and the Center for Medicaid and Children's Health Insurance Program (CHIP) Services (CMCS) to define high utilizers as anyone who is transported by EMS four or more times in a year. Data for this study was obtained from the NC EMS Data System located within the EMS Performance Improvement Center at the University of North Carolina – Chapel Hill. All patient care reports from 2015 were assessed to determine how many people met the criteria as high utilizers and how many times each of these individuals were transported to the ED by EMS. Using the information from the pilot programs, a range of potential call and transport reduction was calculated, then applied to every county in the State, using the high utilizer counts. To estimate cost savings, the North Carolina Division of Medical Assistance (DMA) provided NCOEMS with the average amount paid, per claim, per county in North Carolina. These figures were applied to all payer groups.

Results: A total of 17,763 patients met the stated definition of a high utilizer in NC for calendar year 2015. These patients accounted for a total of 141,176 EMS calls for service and were transported to the ED a total of 103,221 times. It was estimated that the potential decrease in call volume would range from 32.7% to 37.1%, for a total reduction of 46,164 to 51,376 EMS calls statewide. The potential decrease in transports ranged from 27.9% to 38.8%, for a total reduction of 28,798 to 40,049 EMS transports statewide, in a single year. Using the information above and estimates provided by NCDMA, we estimated a potential savings of between \$2,126,213 and \$2,956,885, statewide, in a single year.

Conclusion: This study specifically assessed reduction in EMS utilization. These estimates are very broad and make several assumptions that need further research. Applying the NCDMA figures to all payer groups lead to very conservative estimates of potential cost savings. In addition to the EMS transport savings, the costs savings of ED outpatient and inpatient care should also be considered.