Early Exposure, Lasting Impact: Collegiate EMS in the Medical Education Pipeline

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Abstract

Medical students frequently report limited exposure to prehospital care and early clinical decision-making despite the role of EMS in systems-based care. Collegiate EMS agencies represent an underutilized partner capable of addressing these gaps while strengthening undergraduate first responder organizations (FROs). This poster displays a bidirectional partnership model between Dell Medical School and Longhorn EMS that enhances EMS training and medical student education.

We integrate published evidence demonstrating gaps in medical student preparedness for acute care and the benefits of EMS engagement with a partnership framework. Core components include faculty-based medical direction, medical student-led skills instruction, and longitudinal mentorship linking undergraduate EMS members, medical students, and EM physicians.

Prior studies show that medical students involved in EMS/prehospital training report improved confidence, clinical reasoning, preparedness for acute care, and increased interest in emergency medicine. Through structured collaboration, medical students gain early exposure to prehospital systems and interdisciplinary teamwork underrepresented in clinical education. Concurrently, Longhorn EMS benefits by learning from medical students with vast areas of expertise, supporting its development as an FRO. Collegiate EMS agencies can collaborate with medical schools to strengthen campus emergency response while enriching medical education and fostering future EMS/EM leaders.

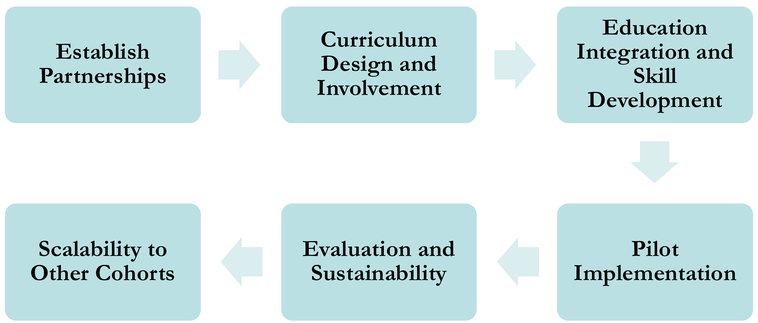
Introduction

A bidirectional partnership between Dell Medical School and Longhorn EMS can leverage collegiate EMS as an ***educational initiative*** for both medical students and undergraduate EMTs. Medical students often report feeling underprepared for managing undifferentiated acute illness and leading resuscitations once they reach clinical training, even when they have strong classroom knowledge.[1] Structured EMS and prehospital experiences have been associated with ***measurable gains*** in medical student competency, specifically in assigning triage acuity, initiating early interventions, and communicating succinctly with receiving teams.[1,2] Studies of EMT/prehospital electives embedded in the medical curriculum also suggest downstream benefits, including ***better performance*** in simulation, smoother transition to clinical clerkships, and ***sustained interest*** in acute care careers.[3] Collegiate EMS agencies provide an existing, student-led environment in which these experiences can be delivered in a mutually beneficial, longitudinal fashion.

Foundational Objectives:

1. Operationalize ride-out and on-campus response experiences that emphasize structured reflection, bedside teaching, and systems-based debriefs
2. Extend EMT training with medical student-led simulation, case review, and quality improvement projects tied to specific competencies described in prior EMS education literature
3. Pilot a scalable playbook that other medical schools and collegiate EMS agencies can adapt to align prehospital learning objectives with institutional milestones

Development/Implementation



This partnership is implemented through a structured, bidirectional framework integrating Dell Medical School faculty and medical students into the training and development of Longhorn EMS. Faculty medical direction and shared learning objectives can guide educational activities, including ride-outs, on-campus response experiences, skills instruction, and quality improvement initiatives. Longitudinal mentorship links collegiate EMS members with medical students and emergency medicine physicians to support leadership development and career exploration. Ongoing evaluation and feedback enable iterative refinement and support scalability across cohorts and institutions.

Evaluation

Evaluation of the Dell Med-LEMS partnership *will* be conducted through metrics involving faculty evaluations, self-surveys by students, and comparisons of standardized exam scores in EM-related clinical content pre/post-EMS exposure.

Current studies lack such metrics; However, past studies in similar areas have yielded the following results:

Past Programs: By The Numbers

- **84%** — After ambulance experience for preclinical medical students, 84% reported improvements in patient care skills[4]
- **72%** — Any exposure to EMT curriculum or ambulance ride-outs improved team-building skills for medical students by 72%[4]
- **67%** — Increase in interest in EM as a career for mid-clinical medical students[5]; "Significantly higher" self-perceived competency in emergency care tasks

Discussion/Conclusion

Future Outlook of the Partnership: 3-Part Approach

Standardize Curriculum

Future efforts will focus on creating a standardized, longitudinal curriculum with defined learning objectives, to ensure consistency across cohorts. Faculty medical direction will oversee alignment with evidence-based prehospital care and medical school competencies. Standardization will support scalability across schools.

Develop Tracking Metrics

A structured evaluation framework will assess mutual benefit to medical students and Longhorn EMS. Metrics will include pre- and post-participation assessments of student confidence and acute care preparedness, alongside EMS training outcomes, quality indicators, and member retention.

Project Challenges

The primary challenge is sustaining consistent engagement and teaching quality across rotating medical student and EMS cohorts. This will be addressed through faculty oversight to ensure continuity and accountability. Regular feedback from EMS members and medical students will guide ongoing adjustments.

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