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"Are We Optimizing Pediatric Education for Emergency Medicine Trainees?"

The primary aim of our pilot study is to report the clinical performance of a small cohort of graduating emergency medicine (EM) resident physicians during four simulated pediatric resuscitation scenarios using a previously validated simulation assessment tool. Secondary aims will be to compare EM resident performance data to previously published performance data from general emergency departments (GED) vs. pediatric emergency departments (PED) and to report self-efficacy related to pediatric critical resuscitations. (The BMC and UMass IRBs have approved protocol for study period Sept 2018-Sept 2021.)

We are currently undertaking a prospective, multicenter, in-vivo, simulation-based cohort pilot study. We will measure clinical performance of senior EM residents leading medical teams caring for a series of 4 simulated pediatric patients (foreign body aspiration, infant sepsis, infant seizure, drowning/PEA cardiac arrest). The pilot study cohort will include graduating (3rd and 4th year) senior EM resident physicians from Boston Medical Center (n = 11) and the University of Massachusetts Memorial Medical Center (n = 11). The subsequent multicenter cohort will include residents from Indiana University Health University Hospital (n = 19), Yale University Medical Center (n = 15), University of Pittsburgh (n = 16), New York-Presbyterian (n = 11), Brown University (n = 13) and Nationwide Children's (n = 13) (with possibility of additional sites).

We will perform simulated pediatric resuscitations in-vivo in the simulation centers of each institution. We will use a previously validated/published simulation assessment tool which includes 4 pediatric simulation cases. Each simulation team will be composed of 1 senior EM resident physician (study participant) and 2-3 EM nurses/techs (study confederates). Sessions will be video-recorded. Videos will be scored using performance checklists and data will be used for analysis. Following simulated cases, study participants will also complete qualitative questionnaires to assess self-efficacy (confidence) related to pediatric critical resuscitation.

Primary outcome measures will be mean total performance scores (TPS), calculated as the mean individualized domain scores (IDS) for each of the 4 cases. Secondary outcome measures will be a comparison of current cohort performance data to previously published data from PEDs and GEDs, and correlation of resident self-efficacy to clinical performance.