

Statewide Collaboration to Deliver and Evaluate Simulation-based Pediatric Education for Emergency Medical Services Providers

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Massachusetts Emergency Medical Services for Children

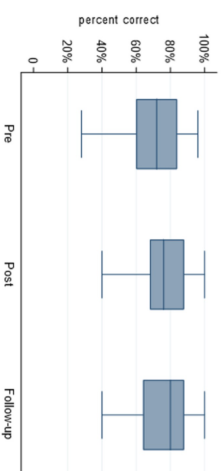
BACKGROUND

- ~30 million patients transported by Emergency Medical Services (EMS) annually in the US
 - Children represent only 7% of EMS activations
 - Critically ill pediatric patients are low frequency, high stakes events
- Barriers to quality pre-hospital pediatric care include
 - Limited initial training
 - Infrequent exposure to and provider discomfort with pediatric cases
- Challenges accessing pediatric continuing education

RESULTS

- 186 participants from 97 towns/agencies completed pre- and post-assessment
 - 58% were ALS providers; 68% were male; 32% had between 2-5 years experience; 33% had more than 15 years experience; 34% were from fire-based services
- Mean pediatric knowledge scores increased 9.8% (95% CI: 7.2%, 12.4%)
- 93% (95% CI: 87.2%, 96.5%) of participants reported improved confidence caring for pediatric patients
- More than half of participants who completed follow up surveys reported they had used skills acquired during the training in clinical practice

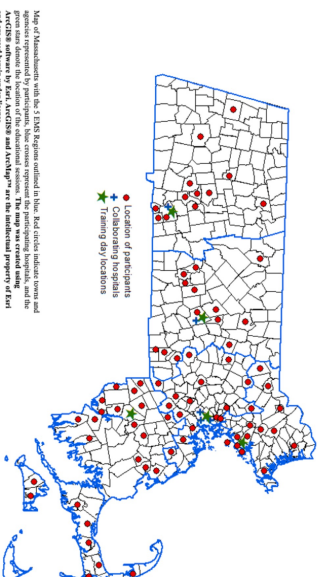
RESULTS



Knowledge Change and Retention at 6 Month Follow-up
 Box plots represent medians on the knowledge assessment at the pre-training, post-training, and follow-up periods. The boxes represent the 25th and 75th percentiles, and the whiskers are the upper and lower adjacent values.

METHODS

- We created a multi-center collaborative between academic pediatric EDs through EMS-C-sponsorship
 - Each EMS region was paired with a PED
- Developed a simulation-based pediatric curriculum
- Administered five 8 hour training days offered over 6 months
- We performed a prospective, interventional, single-arm educational study with a pre-post assessment design to evaluate the impact of the curriculum on prehospital provider knowledge and confidence



Map of Massachusetts with the 5 EMS Regions outlined in blue. Red circles indicate towns and green circles indicate hospitals. Blue dots represent collaborating hospitals and green stars represent training day locations. The map was created using ArcGIS software by Jack Lucchesi and ArcView™ are the intellectual property of Esri and are used herein under license.

CONCLUSIONS

- Utilizing EMS-C partnerships to foster a statewide collaboration, we delivered a targeted simulation-based pediatric curriculum for prehospital providers throughout the state
- Participants demonstrated improvement in knowledge and confidence caring for pediatric patients
- Follow-up data suggest that knowledge and skills obtained as part of the curriculum were able to be translated into practice

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