

TITLE: Use of the Electronic Health Record to Provide Customized Discharge Instructions on Booster Seat Use in the Pediatric Emergency Department

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RESEARCH PROJECT DESCRIPTION:

Background: The most common cause of unintentional injury that results in death in the pediatric population is motor vehicle crashes. Belt positioning booster seats (BPB) reduce significant injury in crashes for children who have outgrown harness-based car seats but are not yet large enough to safely wear the seat belt alone. However, more than 55% of U.S. children who should be using booster seats are not. Health screening in the emergency department (ED) is ideal in that it can reach vulnerable populations. However, the need for ancillary staff, additional equipment, and significant funding has made this type of screening difficult to implement. This study seeks to address these barriers by using a screening tool built into Epic which will be completed directly by parents of booster eligible children. Parents will be provided Epic discharge instructions on BPB use which are customized based on their answers (in addition to the usual diagnosis-based instructions).

Hypothesis: We will test three major hypotheses. The first is that providers and community members will identify barriers and motivators to integration of the screening tool into their clinical care. The second hypothesis is that several factors will impact feasibility of adoption of the tool, including ED characteristics, patient characteristics, reason for visit, and time. The third hypothesis states that when compared to passively distributed, generic information about child passenger safety, customized recommendations based on the patient-directed health screening will lead to increased knowledge and a change in attitude on the importance of consistent BPB use in parents of BPB eligible children.

Methods: Focus groups will be performed to address motivators and barriers to the use of this technology. After incorporating the feedback from focus groups into the screening tool, parents of booster-eligible 4 to 10 year old children will be recruited from the pediatric ED. After electronic consent, they will answer an Epic based screening tool and will receive customized discharge instructions based on answers provided in the tool. A small number of parents (historical control group) will be given generic instructions on booster seat use. A follow-up email and phone call will be made to a random sample of parents who received the intervention as well as those who received generic instructions. The purpose of the follow-up is to determine patient satisfaction of the tool as well as obtain preliminary data on knowledge and attitude changes on booster seat use with the intervention.

Role of medical student: The medical student will be responsible for assisting with the creation of the customized discharge instructions which will be programmed into Epic, as well as assisting with follow up e-mails and phone calls of parents who were recruited into the study. In addition, they will have the opportunity to visit the pediatric emergency department to assist with their understanding of how the tool is utilized within the ED setting.

Relevant publications:

1. Durbin DR, Elliott MR, Winston FK. Belt-positioning booster seats and reduction in risk of injury among children in vehicle crashes. *JAMA*. 2003;289(21):2835-2840. doi: 10.1001/jama.289.21.2835 [doi].
2. Aita-Levy J, Henderson L. Factors affecting booster seat use. *Clin Pediatr (Phila)*. 2016;55(12):1132-1137. doi: 10.1177/0009922815615824 [doi].
3. Kendi S, Zonfrillo MR, Seaver Hill K, Arbogast KB, Gittelman MA. A national, cross-sectional survey of children's hospital-based safety resource centres. *BMJ Open*. 2014;4(3):004398. doi: 10.1136/bmjopen-2013-004398 [doi].