Simulation-based training for trauma resuscitation among ACS TQIP-Pediatric centers: Understanding prevalence of use, associated center characteristics, training factors and implementation barriers

• 17 item survey
• 125 ACS TQIP Pediatric Trauma centers in 2016
• 75% response rate
• 78% of respondents used simulation to train providers
• Those that used simulation were more likely to be
  • Non-profit
  • University Based
• Among centers that used simulation
  • Annual total median sessions increased from 6.0 in 2014 to 8.5 in 2016
  • Shared responsibility between trauma program and simulation center
  • Sessions lasted 41-60 minutes with 11-20 minutes for debriefing
  • 52% in situ, 43% in sim lab
  • Majority (80%) were multidisciplinary
• Barriers to using simulation
  • Funding for faculty and staff time
  • Funding for purchasing simulators
  • Technical expertise
Simulation-based training is associated with lower risk-adjusted mortality in ACS pediatric TQIP centers

Jensen AR, McLaughlin C et al. Journal of Trauma and Acute Care Surgery, Volume 87, Number 4 (2019); 841-848
• Same survey as previous article

• Hypothesis: pediatric trauma centers that used simulation-base training would have lower risk-adjusted mortality and faster times to critical evaluations and procedures
• Average risk-adjusted odds of mortality was lower in centers with high volume simulation training compared with centers who did not use simulation (OR 0.58; CI 0.37-0.92)

• High or low volume simulation had significantly lower mortality that no simulation

• No significant difference in time to intubation, head CT, emergent craniotomy or surgery for hemorrhage control

• Suggests that simulation training improves resuscitation quality but time to procedure may not be the only part if high quality resuscitation