

Round Two: Re-Implementation of Electronic Trauma Documentation Using Simulation

Daniel Bileth MSN, RN, CPN; Collin Miller, BSN, RN, CPEN, EMT; Kimberly Dawson, BSN, RN, CPEN, TCRN, EMT; Laura Alfonsi, BSN, RN;

Sean Elwell, MSN, RN, NE-BC, TCRN, EMT; Kerry Wilson
Nemours/Alfred I. duPont Hospital for Children, Wilmington, DE

INTRODUCTION

- At our level-1 pediatric trauma center, accurate documentation of patient assessment is an integral part of the care we provide.
- In 2013, electronic trauma documentation was implemented in the emergency department.
- A review of documentation accuracy indicated inconsistencies between the charting and the care that was provided.
- We decided to return to paper documentation until a long-term solution was developed.
- A multi-disciplinary team convened to re-design the previously implemented electronic trauma documentation.
- This team created a more comprehensive education plan that consisted of a mandatory electronic trauma documentation class using simulation to promote a real-time learning environment.



OBJECTIVES

- Explain the benefit of using an electronic medical record versus paper charting for trauma patients
- Recognize the impact of having end users involved in the re-design and implementation process
- Develop education that reaches multiple learning styles to provide better access to information for learners
- Identify ongoing education plan to sustain new trauma narrator users in the future

CASE PRESENTATION

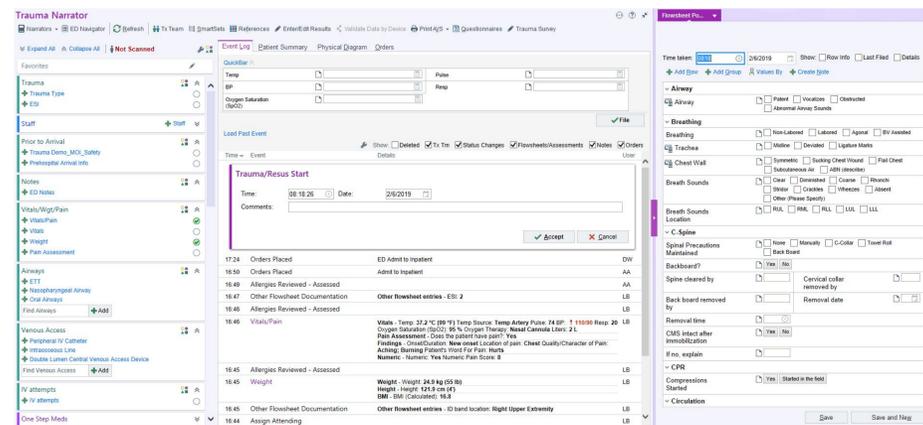
- Our team was committed to returning to electronic trauma documentation.
- Electronic charting increases patient safety and access to care and streamlines care across providers; however, it is difficult to perform electronic charting in the stressful, fast-paced, trauma environment (Wurster, Groner, & Hoffman, 2012).
- The simulation environment provides realistic training, without endangering patient safety, while mimicking the factors involved in a real-world setting (Wilbanks, Watss, & Epps, 2018).
- A team was brought together to re-design the previously implemented electronic trauma documentation and create a more comprehensive education plan.
- The education plan consisted of an electronic trauma documentation class, transcripts, simulation using videos, and super-users.
- This robust education plan was designed to accommodate multiple learning styles, to provide access of information for all individual learning needs, and to gain buy-in for this transition.

EDUCATION PLAN

- The electronic trauma documentation class included:
 - One hour of didactic learning, giving users an in-depth introduction to the electronic trauma documentation
 - One hour of real-time documentation using simulation videos
- Five written trauma transcripts were created for self-paced learning.
 - Each nurse could practice using these transcripts in a simulated electronic medical record environment.
- Using the simulation center, trauma nurses created videos to replicate real-life scenarios.
 - Simulations spanned from common scenarios to difficult-to-document, low-frequency/high-risk scenarios.
 - Practicing in the simulation environment allowed learners to document in real time, supporting that with practice, electronic documentation could be done faster and more accurately than on paper (Wurster, Groner, & Hoffman, 2012).
- Super-users were identified and received an additional two-hour electronic trauma documentation class.
 - Using simulation, super-users received additional education to validate their expertise in trauma documentation.
 - During the implementation, super-users charted on paper while the end-user documented in the electronic medical record simultaneously.
 - Upon completion of charting, the super-user compared the paper and electronic documentation to confirm accuracy and to highlight potential learning opportunities in the electronic trauma flow sheet.

DISCUSSION

- Research shows that deficiencies in documentation are related to the design of the electronic trauma flow sheet and human error (McLean, Elwell & DePiero, 2013).
- Redesign of the electronic trauma flowsheet to increase the users' effectiveness of charting is supported by research.
 - Trauma Narrator was formatted to be in line with the systematic approach of the trauma assessment.
 - The most commonly used interventions and medications were placed specifically to increase visibility and ease of charting.
- Simulation learning experiences have been demonstrated to be as effective as traditional clinical experiences (Badowski, Horsley, Rossler, Mariani, & Gonzalez, 2018).



LESSONS LEARNED

- Design is important for ease of use (McLean, Elwell & DePiero, 2013).
 - Ensure hardware meets the demands of the end-user by increasing the monitor size to assure that the flowsheet was as visible as possible.
- Ongoing practice is important for nurses who are not members of trauma team on a regular basis.
- Education should reach multiple learning styles to provide better access to information for learners.



CONCLUSIONS

- Continuing education**
 - Transcripts provide an ongoing ability to practice in the electronic medical record environment.
 - Simulation videos were converted to audio files and uploaded on an internal learning environment to provide continued support for end-users and provide ongoing education to new users.
- Validate effectiveness of documentation**
 - Quality control audits are performed after every trauma activation.
 - Timely feedback is provided to all documenting nurses.
- This multi-modality education plan may be useful to other level-1 trauma centers to support the design and implementation of electronic trauma documentation.

REFERENCES

- Badowski, D., Horsley, T. L., Rossler, K. L., Mariani, B., & Gonzalez, L. (2018). Electronic Charting During Simulation. *CIN: Computers, Informatics, Nursing*, 36(9), 466. doi:10.1097/01.ncn.0000544592.35990.f5
- McLean, L. E., Elwell, S., & Depiero, A. (2015). Assessment of the electronic medical record in documenting trauma resuscitations in the pediatric ED. *The American Journal of Emergency Medicine*, 33(4), 589-590. doi:10.1016/j.ajem.2015.01.020
- Wilbanks, B., Watts, P., Epps, C. (2018). Electronic Health Records in Simulation Education. *Journal of the Society for Simulation in Healthcare*, 13(4), 261-267.
- Wurster, L. A., Groner, J. I., & Hoffman, J. (2012). Electronic Documentation of Trauma Resuscitations at a Level 1 Pediatric Trauma Center. *Journal of Trauma Nursing*, 19(2), 76-79. doi:10.1097/jtn.0b013e31825629ab