Computer-Based Simulation Modules to Teach Handovers

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Objectives

- Discuss reasons we need a tool for handovers
- Review what we know (or don’t know) about teaching handovers
- Share the structure and rationale for our current module designs
- Review pilot data from trainees
- Discuss future directions of this training method

Why we need to teach handovers

- ACGME now mandates that programs provide handover teaching to residents at all levels of training
- ACGME now mandates that programs evaluate the competence of each resident in their ability to provide patient handovers
- New duty hours heighten the importance of high quality handovers

What we know about teaching handovers

- Historically, handovers were learned through experience
- Few medical schools or residency training programs formally taught handovers prior to the last two ACGME duty hour requirement changes
- There are no broadly accepted, validated teaching and evaluation tools for handovers
- Many teaching efforts have focused on systems

Development of the Tool

- Simulated clinical encounters (think USMLE Step 3) conducted in pairs
- Computer based patient simulation creates:
  - “real” clinical scenarios with trainee decision making
  - alterations in clinical course based on trainee decisions
  - Each resident in the pair provides a handover in one scenario and receives in the other

References:

1. ACGME Common Program Requirements
5. Gordon et al 2011. Medical Education.
Module Format

Day Resident | Night Resident
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Day Module | Day Module
Handover | Handover
Feedback | Peer-to-Peer
Teaching & Questionnaires | Evalutor-to-Residents

Example Slide

- In the early afternoon, the nurse calls you to let you know that his IV has dislodged and is no longer working. She tells you she still can’t tell if he’s voided because he’s having so many loose stools. His HR is 132.
- What would you like to do?

- Place another IV
- Allow him to attempt PO

Clinical Standardization is Key

- Trainees are able to make clinical decisions and follow up on the outcomes
- Standardization and force functions allow:
  - Each trainee to have the same “experience” on rounds
  - Each trainee to end the day shift with the same clinical result REGARDLESS of the decisions they choose
  - Evaluators to know what information needs to be covered during each handover exercise
Patient Outcome As a Factor of Handover Quality

- Outcome of “patient” overnight can vary widely depending on the decisions made by the “night” trainee.
- This outcome will depend on the quality of handover the trainee received and how he/she uses that information to inform their clinical decision making.
- Potential to track these “virtual” patient outcomes with the quality of handover.

Pilot Data

- Effective Teaching Tool
- Simulation NOT an effective way to teach handovers
- Better able to provide feedback
- More comfortable with peer-to-peer feedback

Pilot Data Continued

- Qualitative Data
  - “decision tree -> real time consequences”
  - “Engaging in patient care helped this feel more real”
  - “Wish I had this as an intern”

Multiple Benefits, One Tool

- First tool to bring trainees through clinical decision making process before handing over a simulated patient
- Provides clinical context to create a more realistic handover process
- Trainees must synthesize clinical information and decide what aspects of the clinical situation should be shared in handover
- Provides setting for immediate, constructive feedback in a safe setting
- Generalizable across training levels, disciplines, and institutions independent of what institutional systems are in place surrounding handovers (SBAR, I-Pass, SAIF-IR, etc)

Future Directions

- Expand to multiple centers
  - determine if trends persist
  - demonstrate generalizability
- Develop more complex programming to allow for more decision “choices” instead of multiple choice style format
- Broaden scope to include other disciplines and levels of training
- Overall goal is to link to patient safety outcomes by obtaining pre- and post-intervention ward team data

References

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