Description: Handoff errors continue to contribute to poor outcomes. We believed applying the science of human communication enables fresh approaches to more successful and reproducible handoff practices.

Aim: Identify relevant communication theories and research to formulate new insights and algorithms that focus on verbal and nonverbal behavior exhibited between the givers and receivers of handoffs. Our aim is to secure observable evidence that receivers were a) either able or unable to grasp the information presented, b) accept responsibility for follow through, and c) subsequently provide an evidence-based handoff to the next person or persons. Those who complete the training will be able to gather real-time evidence their handoffs are successful.

Actions Taken:
1. Identify relevant communication theories and research—animal communication; symbolic interaction theory; paraphrasing; feedback; general semantics—the meaning of all words is decided by the receiver, not the sender of information; E-prime; language development; intrapersonal communication; habit development; Dunning-Kruger effect.
2. Obtain permission to observe over 200 staff, nurses, residents, physicians, other care givers and patients during handoffs between shifts, changing services, and in the operating room at a 2-billion-dollar healthcare system in Massachusetts.
3. Based upon observed patterns and lessons learned, design training programs for nurses, residents and physicians with feedback to continuously improve the evidence-based handoff communication theories, practice and education over several years.
4. Test the evidence-based handoff theory and instructional methodology conducting 15 workshops for 800 physicians in Oklahoma with extensive role plays and simulations during the fall of 2017 and obtain their feedback.

Summary of Key Results and Lessons Learned:

1. Paraphrasing requires a higher level of cognitive activity (by both parties) than repeating back. Several species of birds can repeat back in many languages with no comprehension of meaning of the sounds they are reproducing. Only human beings are capable of paraphrasing.

2. Dunning-Kruger effect: “people of low ability tend to unduly overestimate their abilities.” “The worst performers — those in the bottom and second quartile — grossly overestimated their ability (also note how the best performers underestimated it).…The explanation for the effect is that when we’re not good at a task, we don’t know enough to accurately assess our ability. So inexperience casts the illusion of expertise.” Repeating something back and asking yes/no questions do not show evidence of grasping/understanding. If anything, they may show optimism and respect, they do not show evidence. We need better questions to understand the other person’s thinking.

3. When asking people to repeat back number sequences, we need to vary tone, cadence, and patterns—e.g. when repeating back "3, 2, 4, 7, 7, 1, 1," consider saying "three, two, four, seventy-seven, eleven.

Supporting points:
1. Increase paraphrasing, an exchange whereby parties summarize key points IN THEIR OWN WORDS to the other persons’ satisfaction.
2. Decrease yes/no questions and requests to repeat back exactly the way the instructions were originally given, without any modifications.

Broadcast Communication vs. Evidence Based Communication:

Evidence Based Communication (EBC): an outcome-based communication event between two people, after which, there is evidence the recipient is able to take appropriate action(s).

Evidence Based Communication Flowchart:

- **Purpose**
  - My purpose is to communicate with you because I need you to do something.
  - My purpose is to educate you about something.

- **Anticipate Response**
  - Expect no response.
  - Expect some response.
  - Expect full response.

- **Repetition**
  - Do not repeat.
  - Repetition.

- **Feedback**
  - No feedback.
  - Feedback.

- **Repetition/Feedback**
  - Repeat.
  - Repeat/Feedback.

EBC requires evidence of understanding, agreement or disagreement, the action to be taken, and the satisfaction of the recipient.

- **Evidence of Understanding**
  - What is the goal?
  - What did you hear?
  - What do you agree or disagree with?
  - What do you intend to do
  - How will you do it?
  - When will you do it?

- **Satisfaction**
  - Was the action to be taken completed?
  - Was the recipient satisfied?

- **Summary of Key Results and Lessons Learned**

- **Increase paraphrasing, an exchange whereby parties summarize key points IN THEIR OWN WORDS to the other persons’ satisfaction.**

- **Decrease yes/no questions and requests to repeat back exactly the way the instructions were originally given, without any modifications.**

- **Result #1**
  - Patient: "Is my kidney working?"
  - Nurse: "It is working." (EBC)

- **Result #2**
  - Patient: "Is my kidney working?"
  - Nurse: "It is working. But it is not working quite as well as it could be." (EBC)

Contributors:
Sean E. Mahar, retired, previously Director of Professional and Organizational Development for Baystate Health, Springfield, MA; Eric M. Eisenberg, Ph.D., Dean of the College of Arts and Sciences, Professor of Communication, University of South Florida, Tampa, FL; Stephanie Calcasola, MSN, RN-BC, CPHQ, VP Quality and Safety, Hartford HealthCare, Hartford, CT; Michael Picchioli, MD, Associate Program Director, Internal Medicine Residency, Clerkship Director, Core Clerkship in Internal Medicine, Director, Acting Internship in Internal Medicine, Baystate Health, Springfield, MA; Erin Short, BSN, RN, NICU Nurse, Baystate Health, Springfield, MA.

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