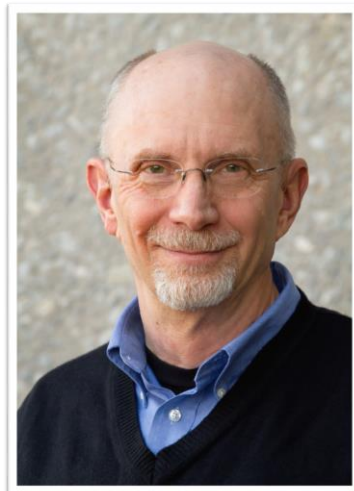


Today's Presenter:

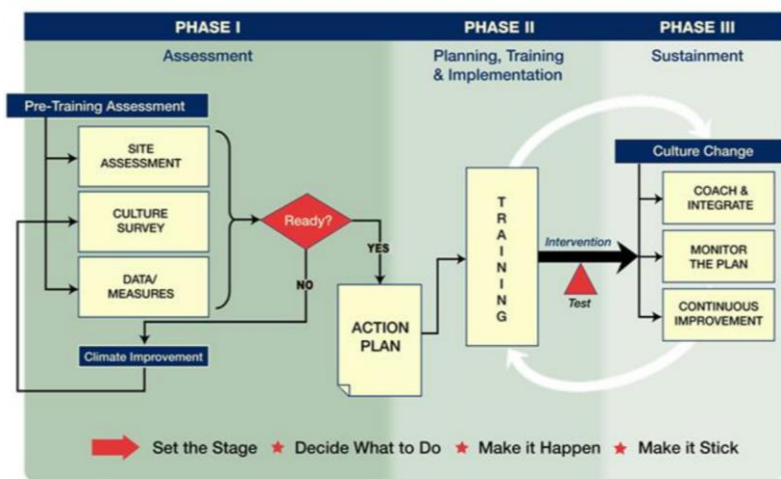


Henry Johnson MD, MPH
Henry Johnson Healthcare Consulting LLC

Background: TeamSTEPPS

- Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS): AHRQ and DOD, 2006
 - <http://www.ahrq.gov/professionals/education/curriculum-tools/teamstepps/index.html>
- A systematic approach designed to integrate teamwork into practice by focusing on 4 core areas of competency:
 - Team Leadership
 - Situational monitoring
 - Mutual support
 - Communication

TeamSTEPPS 2.0



Implementation At-A-Glance:
<http://www.ahrq.gov/sites/default/files/wysiwyg/professionals/education/curriculum-tools/teamstepps/instructor/reference/implglance.pdf>

Today's Journal Club

ARTICLE

Improved Knowledge, Attitudes, and Behaviors After Implementation of TeamSTEPPS Training in an Academic Emergency Department: A Pilot Report

David Lisbon, MD, Dennis Allin, MD, Carol Cleek, RN, Lori Roop, MBA, Michael
Brimacombe, PhD, Courtney Downes, MD, and Susan K. Pingleton, MD

University of Kansas Medical Center, Hospital, and School of Medicine, Kansas City, Kansas

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TeamSTEPPS in the Emergency Department

- Communication errors are a leading cause of adverse events
- EDs are especially vulnerable to communication mishaps
- History of team training in the ED:
 - Crew resource management (CRM)
 - Emergency Team Coordination Course (ETCC)
 - Prospective study in 9 EDs demonstrated significant improvement in team behaviors, team attitudes, and decreased error rate.
- TeamSTEPPS is derived from earlier work of the ETCC, designed to develop a high-functioning team to improve patient safety.
 - Positive effects in ICU and an interprofessional nursing and medical student cohort
 - Little data available on impact in an academic ED.

Purpose of Study:

- Describe the process and results arising from implementation of TeamSTEPPS through interprofessional team training of an entire ED
- Study the knowledge, attitudes, and behaviors resulting from the training, using the Kirkpatrick 4 levels of evaluation model for the team training:
 - Knowledge
 - Attitudes
 - Behaviors
 - Outcomes

Methods: Implementation and Action Planning

- Study institution joined 3 other academic medical centers in a condensed 1.5 day exposure to TeamSTEPPS, at the invitation of AAMC, AHRQ, and DOD
- A multidisciplinary group of physicians, nurses, and graduate medical education educators participated in a 3-day off-site training to become master trainers
- The master trainers trained 10 coaches as well as the entire staff of an academic ED department. The 4-hour training consisted of a combination of didactic instruction using the published TeamSTEPPS curriculum, video vignettes and small group discussion
- At the end of each session, personnel identified barriers to teamwork and chose specific TeamSTEPPS patient safety tools for implementation and intervention

Methods: Implementation and Action Planning

- Tools chosen were*:
 - Brief: a short session prior to the start of work rounds to discuss team formation, assign roles, establish expectations, and anticipate outcomes
 - Huddle: Ad hoc planning to reestablish situational awareness
 - DESC script as a constructive approach for managing and resolving conflict
 - Describe the situation
 - Express the concerns
 - Suggest other alternatives
 - Consequences stated
 - CUS script: "I am concerned," "I am Uncomfortable," "This is a Safety issue"

* All communication tools

Methods: Implementation and Action Planning

- After completion of all training, TeamSTEPPS went live with full multidisciplinary participation of the ED team
- Coaches met regularly, and subcommittees for each of the three tools met to monitor and assess the implementation of each tactic. They developed goals and tactics, including a survey, to ensure utilization of the tools
- The huddle subcommittee developed a behavior assessment form to be used to monitor huddle frequency and quality.
 - Using this form, “secret shoppers” (first-year medical students) monitored the frequency and quality of huddle utilization over a number of 4-hour periods in the ED
- The CUS and DESC script subcommittee developed specific strategies for implementation, including signs, role play, badge buddies, and games with prizes

Methods: Evaluation

- TeamSTEPPS Knowledge Test, V. 1.0, administered on Day 1 (prior to training), and days 45 and 90.
 - The test is 21 questions, multiple choice. Measures the understanding of the TeamSTEPPS curriculum.
 - Analysis through Excel and SAS v 8.0
 - Chi-square tests were conducted to assess differences in response percentages.
- For data on staff views on ED communication, the research team focused on results of the communication section (Section C) of the AHRQ hospital survey on patient safety.
- A specific CUS Script knowledge and use survey was developed by the School of Medicine Education Office and sent to all ED medical staff, hospital staff, and residents.

Results

- Patient safety knowledge improved in all 21 questions after training, statistically significant improvement over baseline in 15 questions on day 45
- At day 90, test results showed sustained knowledge over baseline and actual but no statistical improvement from day 45 on 14 of the questions
 - Knowledge level fell significantly from day 45 to day 90 on only 2 questions, #1 and #3
- AHRQ attitudes survey showed improvement in communication attitudes after training.
 - All types of communication significantly increased at 45 days compared to baseline and remained at the same level over the 90-day period.
 - Speaking Freely and Discussing Errors being the most frequently supported as occurring most of the time or always.

TeamSTEPPS Knowledge Test, high level overview

1. Nurse/physician communication scenario (Question 1 and 2)
3. Which TeamSTEPP tool for conflict resolution
4. Debriefs are useful because . . .
5. Nurse/nurse scenario on teamwork
6. A shared mental model is key because . . .
7. Closed loop communication strategy, fill in the blank
8. Improving telephone communication between Labor and Delivery
9. Best communication tool to get information to the whole team in an emergency procedure
10. The four skills of TeamSTEPPS
11. Paradigm shifts in moving to a team system
12. Night nurse scenario, SBAR means . . .
13. Nursing communication/leadership scenario
14. Outcomes of improved teamwork
15. Advantages of situational awareness
16. Technologist/doctor scenario
17. Team leader in prep for emergent C-section
18. Nurse at change of shift, which TeamSTEPP tool to use?
19. Briefs, huddles, and debriefs . . .
20. Pharmacy scenario
21. Effective team members in healthcare are

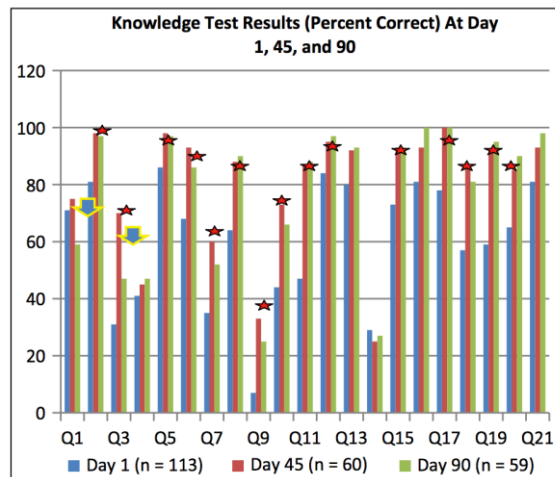


Figure 2. Patient safety knowledge test results. Questions showing significant Day 1 to Day 45 improvement (χ^2 test, .05 significance) are 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 18, 19, 20. Questions with similar percentage or higher at Day 90 compared to Day 45 are 3, 5, 6, 9, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22. Questions 1 and 3 are significantly lower at Day 90 compared to Day 45 (χ^2 test, .05 significance).
 ★ $P < .05$ day 45 improvements compared to baseline.
 ■ $P < .05$ day 90 lower compared to baseline.

Results

- Huddles: In a series of 4-hour observation times in the ED, huddles were observed to occur 64% of the time. When huddles occurred, huddle participants included the attending physician, nurse and resident 40% of the time.
- The CUS survey of the ED staff had a 44% response rate (50/211), the majority of whom were nurses. 47% of the respondents had used the CUS technique at least once at work, and had noticed their peers using the technique when they had safety concerns.

Discussion

- Training produced improved knowledge, attitudes and behaviors (huddle)
- The study produced an observational huddle tool to document whether behaviors (huddle) were being utilized
 - Huddle subcommittee: Factors integral to the success of this subcommittee were,
 - Interprofessional nature of subcommittee
 - Regular periodicity of the meeting
 - Valuable communication between subcommittee members identified as leaders their specific work roles
- Survey data not stratified by profession or trainee status
- No control group. Possible confounding variables included the final stages of the implementation of a hospital-wide EHR during the study.

Discussion

- This was a pilot study, outcomes were not studied
- Further study is needed to ascertain the effect of this training on clinical outcomes in the study cohort



Thank You!

Comments? Questions?