



# Nursing Crew Resource: Innovation in Action

Michelle Aebersold PhD, RN

Dana Tschannen PhD, RN

Gary Sculli BSN, RN



# Background

- Miscommunication = most frequently identified root causes of sentinel events (82%) (The Joint Commission, 2010)
- Effective teamwork requires effective within-team communication (Baker, Gustafson, Beaubien, Salas, & Barach, 2005)
- QSEN identified two key communication skills:
  - assert own position/perspective in discussions about patient care
  - choose communication styles that diminish the risks associated with authority gradients among team members (Cronenwett, Sherwood, Barnsteiner, Disch, Johnson, Mitchell, Sullivan, & Warren, 2007)



# Crew Resource Management

- “an active process by crew members to identify significant threats to an operation, communicate them to a person in charge, and to develop, communicate, and carry out a plan to avoid or mitigate each threat” (US Department of Transportation, 1993, p. 2)
- instrumental in supporting the aviation industry’s excellent safety record
- focuses on behaviors that support communication and teamwork (Sculli & Sine, 2011)



# Crew Resource Management

- The VA National Center for Patient Safety
  - 11 patient care units across the VA system .
  - significant improvement in teamwork scores post CRM training ( $p < .01$ )
  - 25% improvement in communication of patient goals
  - 18% improvement in confirming that communication messages regarding patient care are received and understood (VHA National Center for Patient Safety, 2011)
- Vanderbilt University Medical Center
  - utility of the training very positive and believed the potential for CRM to improve patient safety and quality was very high (average 4.57 on 5pt scale) (France et al., 2005).
- Operating room
  - significant improvements in teamwork (in 3 of 4 items measured) after CRM (Gore, et al, 2010)



# Project Purpose

- Purpose: Implement CRM training in the educational training of nursing students in a baccalaureate program in one Midwestern University.
- Why?
  - current strategies focus on individual skill proficiency within each of the professions (Dunn, Mills, Neily, Crittenden, Carmack, and Bagian, 2007)
  - Consider introduction of concepts in education of the disciplines
  - Greater opportunity for deliberate practice of necessary skills



# Methods

- Senior nursing students (n=63) enrolled in *Leadership and Management* (Winter 2011)
- Six hour didactic NCRM workday
- emphasis placed on two communication tools
  - 3 W's
  - *4-Step Assertive Communication Tool* (Sculli & Sine, 2011)
- Role play simulation focusing on using the 3 W's
- High fidelity patient simulation (teams of 4-5 students) focusing on using the 3 W's and 4 step assertiveness tool (3 months post NCRM day)
- IRB obtained



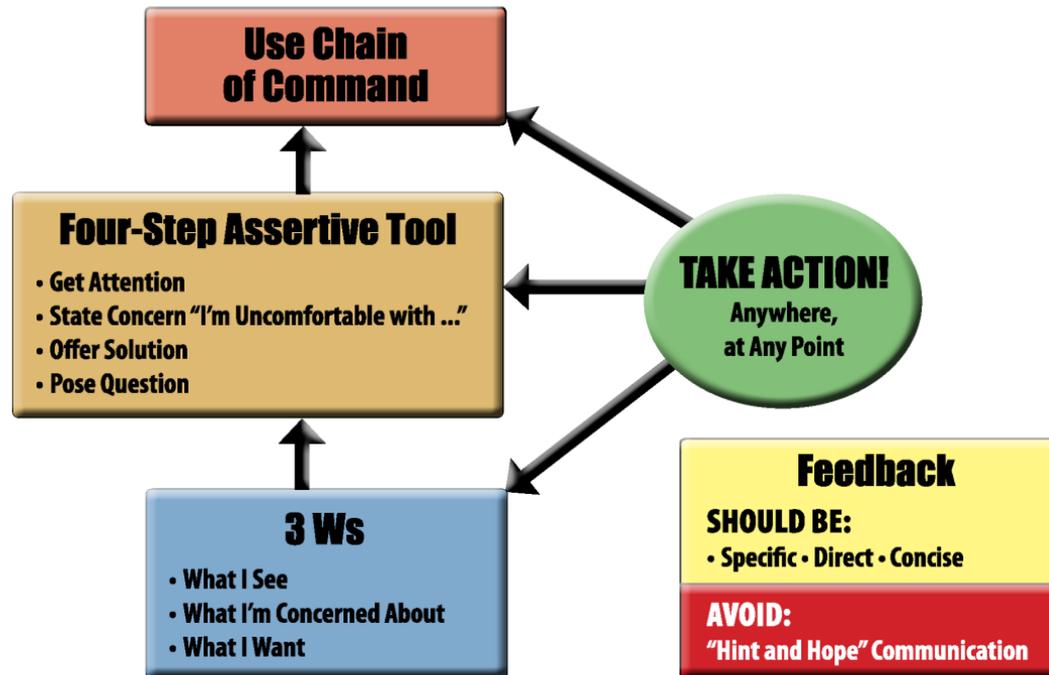
# Nursing Crew Resource Management

- Module 1 – introduction to CRM and its history in aviation
- Module 2 – leadership, followership and communication techniques
- Module 3 – situational awareness
- Module 4 – briefings and debriefings
- Module 5 – sterile cockpit



# Communication Techniques

## Effective Followership



G.L. Sculli, 2009



# Evaluation

- Evaluation Survey
  - Application to practice, development of new knowledge, overall program effectiveness
  - 5 point Likert scale (*1, strongly disagree to 5, strongly agree*)
- Simulation Evaluation
  - video review
  - Use of communication techniques by team



# Evaluation of NCRM Day

	Mean	S.D.
1.The CRM concepts can be applied to nursing care to reduce harm to patients (n=37).	4.7	0.46
2.I developed new skills and/or knowledge as a result of my participation in the session(n=37).	4.4	0.60
3.I see myself using the skills and/or knowledge gained from the program in the clinical area(n=37).	4.4	0.55
4.Overall the program was worthwhile(n=36).	4.5	0.56
5.The teaching strategies used in the program were effective(n=37).	4.6	0.55
6.I would recommend offering this training again for other clinicians (n=37).	4.6	0.54
7.I would be interested in more training like offered in this training (n=37).	4.3	0.77



# Simulation Evaluation

(use of communication tools)

Communication	Attempted to use 3 W's or 4 Step	Did not use	Used chain of command
Groups (n=9)	5	3	1



# Project Summary & Future Plans

- Summary
  - NCRM day and simulation = **deliberate** practice
  - Improved use of effective communication from prior student data
  - Project provided opportunity for developing key communication skills identified by QSEN
- Future Plans
  - Implementation into the senior course curriculum
  - Pre- & post implementation study underway (2011/2012)
  - Introduction of concepts earlier in program



# Questions?



# Comments?



# References

- Baker DP, Gustafson S, Beaubien J, Salas E, Barach P. Medical Teamwork and Patient Safety: The Evidence-based Relation. Literature Review. AHRQ Publication No. 05-0053, April 2005. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/qual/medteam/>
- Cronenwett, L., Sherwood, G., Barnsteiner, J., Disch, J., Johnson, J., Mitchell, P., Sullivan, D.T., & Warren, J. (2007). Quality and safety education for nurses. *Nursing Outlook*, 55(3), 122-131. doi:10.1016/j.outlook.2007.02.006
- France, D., Stiles, R., Gaffney, A., Seddon, M. et al. (2005). Crew resource management training-Clinicians' reactions and attitudes. Association of Operating Room Nurses. *AORN Journal*, 82(2), 214-228.
- Gore, D.C., Powell, J.M., Baer, J.G., Sexton, K.H., Richardson, C.J., Marshall, D.R., et al. (2010). Crew resource management improved perception of patient safety in the operating room. *American Journal of Medical Quality*; 25(1): 60-63.
- Sculli, G. L. & Sine, D. M. (2011). Soaring to success: Taking crew resource management from the cockpit to the nursing unit. Danvers, MA: HCPro.
- Sutcliffe KM, Lewton E, Rosenthal MM. Communication failures: An insidious contributor to medical mishaps. *Acad Med*. 2004;79(2):186-194.
- The Joint Commission. Sentinel event data root causes by event type: 2004-fourth quarter 2010. [http://www.jointcommission.org/Sentinel\\_Event\\_Statistics/](http://www.jointcommission.org/Sentinel_Event_Statistics/). Accessed May 18, 2011.
- US Department of Transportation, Federal Aviation Administration. (1993). Crew Resource Management Training. Washington, DC. (pg 2)
- VHA National Center for Patient Safety The Nursing Crew Resource Management Pilot Program: Fiscal Year 2011 Preliminary Report, August 9, 2011.