

Can Aviation Based Team Training Contribute to Sustainable Personal Empowerment?

Author Block Harry C Sax¹, Nancy Coelho², Richard Popovic³, Rebecca Burke⁴, Sandra Coletta¹, Kathleen Hittner¹

¹Miriam Hospital/ Warren Alpert School of Medicine, Providence, RI;²Miriam Hospital/, Providence, RI;³InDelta Learning Systems, Rochester, NY;⁴Miriam Hospital, Providence, RI

Abstract:

OBJECTIVE: Increased interest has focused on aviation-based crew resource management (CRM) training to improve the safety environment of hospitals by breaking down communication barriers across hierarchies and confronting unsafe conditions proactively. It is unclear if training leads to long term changes in personal empowerment, promoting a culture of safety. **METHODS:** A free, dynamic, six hour multidisciplinary CRM course was offered on multiple occasions at a teaching hospital. Topics included CRM rationale, error chains, communications, hierarchies, briefings and debriefings, and checklists. Participants received CEUs, paid time, and malpractice premium reductions. Personal attitudes (“How comfortable are you..?”; 1-4 scale) were surveyed immediately before the course, at its conclusion, and two months later. Results are mean (SD), analyzed by ANOVA with Tukey HSD procedure, maintaining alpha=0.05. N = 276 pre, 242 post, 140 2 months post. *<0.05 vs Pre, ^<0.05 vs Post. **RESULTS:** Initial attitudes were lowest in areas of communication barriers and confronting mistakes/ incompetence. Training had an immediate, significant increase in personal empowerment in all 10 realms. This was sustained at 2 months, however downward trends were seen in communication environment and addressing performance issues in a medical hierarchy.

Question	Pre	Post	2 mos
knowing institution committed to safety	3.4 (0.1)	3.6 (0.6)*	3.7 (0.6)*
knowing institution committed to breaking down communication barriers	2.8 (1.1)	3.5 (0.6)*	3.4 (0.7)*
identifying and eliminating barriers to communication	3.1 (0.8)	3.5 (0.6)*	3.4 (0.7)*
communicating that, in your opinion, an error is about to occur	3.0 (0.8)	3.4 (0.6)*	3.6 (0.6)*
effectively confronting mistakes/incompetence in a technician	2.8 (1.0)	3.7 (0.8)*	3.4 (0.7)*
effectively confronting mistakes/incompetence in a	2.8	3.3	3.4

nurse	(0.9)	(0.7)*	(0.7)*
effectively confronting mistakes/incompetence in a physician	2.8 (0.9)	3.2 (0.7)*	3.1 (0.8)*
taking on a leadership role in a team setting	3.0 (0.8)	3.4 (0.7)*	3.6 (0.7)*^
developing a checklist for a critical process	3.0 (0.8)	3.4 (0.7)*	3.5 (0.6)*
knowing the concepts learned today will be applied long term	3.3 (0.8)	3.5 (0.7)*	3.5 (0.6)*

Conclusions:

CRM programs are effective at increasing awareness and personal empowerment, the first steps in creating a “culture of safety.” Future research will focus on longer term sustainability and objective measurement of behavioral change (eg. near-miss reporting)