Medical Team Training in the Veterans Health Administration

Communication Failure in Health Care

Communication failure in health care can be profoundly consequential to the quality and safety of health care delivery for patients. The implications for communication failure also weigh heavily upon the security and job satisfaction of health care providers in the clinical work place. On face validity, it is reasonable to assume a correlation between patient well being and job satisfaction through the entire hierarchical chain of the health care workforce.

The National Center for Patient Safety is offering the Medical Team Training to VA Medical Centers to address communication failure in the delivery of health care. As this program is delivered to facilities across the VA health system, we will be collecting data from various sources to inform a comprehensive program evaluation. Our evaluation is designed to address the following two questions:

1. *Will clinical outcomes of surgical care improve in participating VA Medical Centers after the Medical Team Training Program is implemented?*

2. *Will job satisfaction of healthcare providers increase in participating VA Medical Centers after the Medical Team Training Program is implemented?*

Background and Significance of Communication Failures in Health Care

In December 1999 the IOM released a report about the safety of healthcare in the US entitled *To Err is Human, Building a Safer Healthcare System.*[i] This report was based upon 45,000 chart reviews in three states extrapolated to all US hospitals in 1997. Authors estimated that 44,000 to 98,000 Americans receiving healthcare each year were dying from adverse events - injuries resulting from medical care and not due to the patient's underlying medical condition. Many believe this report was an underestimate of the problem because the data only reflected hospitalized patients excluding nursing homes, ambulatory care, and home care. These studies were also limited by data restricted to medical chart abstractions, the imprecision of coding data, defining preventability of events, and the requirement of reviewer concurrence on adverse events.

More recently in July 2004, the HealthGrades Quality Study[ii] released a report based upon the application of the Agency for Healthcare Research and Quality's (AHRQ) Patient Safety Indicator software to Medicare administrative data from 37 million discharges during the 2000-2002 period. An estimate from these data extrapolated to the entire US population suggested that more than 191,000 patients were dying from adverse events annually from healthcare unrelated to medical condition.[1]

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[1] Patient Safety Indicators (PSI) are 20 clinical conditions identified by AHRQ in collaboration with the University of California-Stanford Evidence-Based Practice Center that are readily identified from hospital discharge data and deemed preventable patient safety incidents. Only 16 PSIs apply to the Medicare population (4 PSIs apply to Obstetrical discharges).

Despite the public attention given to patient safety by the IOM report, five years later, Leape and Berwick, two of the authors of that report, have indicated that "progress has been frustratingly slow."[iii] However, these same authors have described the VHA as "a bright star in the constellation of safety practice, with system-wide implementation of safe practices, training programs, and the establishment of 4 patient safety research centers."[iv] Many healthcare organizations have created reporting systems to track adverse events but, unfortunately, that is where their efforts began and ended. Reporting adverse events will do nothing to improve the safety of healthcare until these reports lead to effective actions.

Communication Failure – major source of adverse events in health care
Communication failure is a leading source of adverse events in health care. Gawande[v] cited communication breakdowns as contributing factors in 43% of adverse events in surgical cases. Risser and colleagues[vi] found a significant number of teamwork failures in review of malpractice claims for care in Emergency Rooms. Sutcliffe[vii] reported communication failure as one of the most commonly cited contributing factors in 70 patient care adverse events in a university teaching hospital. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) identified communication failure as a pivotal factor in over 65% of more than 3000 sentinel event reports from 1995 to 2005.[viii]

Teamwork in health care associated with enhanced outcomes and nurse retention
Several large studies of intensive care units have demonstrated higher levels of coordination and more effective communication among staff members that were associated with improved efficiency in patient care. These studies also associated more effective teamwork associated with reduced risk adjusted morbidity and mortality, as well as with increased job retention among nurses.[ix x xi] Pronovost[xii] showed that implementing a "daily goals form" improved care coordination and reduced length of stay in the ICU. Carthey and de Leval[xiii] reported an observational study involving cardiac surgical teams performing the Arterial Switch procedure in newborn infants in the United Kingdom. More favorable patient outcomes from surgical teams with the ability to compensate for complications during surgical procedures were associated with more effective collaborative teamwork in the operating room. These surgical teams were more stable, had greater cognitive flexibility, permitted fewer distractions, and facilitated better situational awareness in comparison to teams with less favorable results.

In 78% of 5519 Root Cause Analysis cases reported to the National Center for Patient Safety, communication failure is identified as at least one of the primary contributing factors in each of these adverse events.[xiv] Data from the National Veterans Affairs Surgical Risk Study show lower than expected morbidity and mortality when surgical services had effective interdisciplinary peer interaction.[xv] Also, in a survey of 125 VA Medical Centers, Meterko reports a strong correlation between teamwork culture across professional disciplines and patient satisfaction.[xvi]

Traditional training and education of physicians, nurses, and allied health personnel has focused on individual technical skills for proficiency of specific tasks. Very little

attention has been given to how professionals work together in the complex and dynamic world of health care. To address this deficiency, the Institute of Medicine has recommended the application of Crew Resource Management (CRM) training in health systems.[xvii]

Crew Resource Management (CRM) – potential means to an end?
What is CRM and how is it relevant to health care? From several workshops in 1979-80, the aviation industry concluded that failures of collaborative interaction and teamwork were responsible for 70% of airline crashes that were examined.[xviii] In response to these findings, airline companies began developing training programs for cockpit personnel, originally known as *Cockpit Resource Management*, which focused on flight personnel in cockpit simulators.[xix] These programs subsequently expanded to include the entire flight crew, maintenance crews and air traffic controllers and became known as *Crew Resource Management.*

The CRM model has focused on the safety, efficiency and morale of humans working together. Although there is no definitive study correlating CRM training with enhanced airline flight safety, the aviation industry has accepted this practice on face validity, and CRM training has become an international requirement for all aviation employees.[xx xxi] CRM has moved aviation training beyond the limited focus of technical flying to broader dimensions of human factors engineering, fatigue and stress management, effective communication, shared awareness, and teamwork. In surveys, airline crewmembers have consistently cited CRM training as relevant, useful, and effective in changing attitudes and behaviors to improve safety.[xxii]

CRM in Health Care
Cross-sectional surveys by Sexton and colleagues have suggested that safety-related behaviors applied and studied extensively in aviation may also be relevant in health care.[xxiii] Helmreich and Merritt have proposed a translation of teamwork behaviors from aviation to health care by the application of "countermeasures" introduced in CRM training. These measures included briefings, debriefings, workload distribution, fatigue management, inquiry, graded assertiveness, contingency planning and conflict resolution.[xxiv] CRM applications in a simulated work environment have been applied in operating rooms, in labor and delivery units for neonatal resuscitation, and in hospital emergency departments.[xxv xxvi xxvii xxviii] Grogan and Leonard have reported CRM training for multiple medical disciplines in large health systems.[xxix xxx]

Sherwood and colleagues champion the concept of "relationship-centered care," which provides the framework for effective multidisciplinary teamwork to improve patient safety.[xxxi] Uhlig reported successful teamwork with multidisciplinary work rounds, including patients and their advocates, on his cardiac surgical service in Concord, NH. Press-Ganey scores for patient satisfaction increased to a 99% level within several months of initiating this program, and the health care team reported improved job performance through more timely and effective communication.[xxxii]

CRM Program in the VA – *NCPS Medical Team Training Program*

The *Medical Team Training* program (MTT) is based upon CRM principles from aviation. Unique to this program is a learning session in each VAMC facilitated by clinician peer faculty and delivered entirely in a health care context. For each learning session, the two MTT faculty members are selected for clinical domain expertise matched to participating clinicians in each VA Medical Center.

The VA National Center for Patient Safety (NCPS) model for Medical Team Training (MTT) is predicated upon a commitment to change by participating VA Medical Centers (VAMC). Our program is comprised of three important components: 1) Application, preparation and planning for Learning Session and MTT project; 2) Learning Session; 3) MTT implementation with follow-up data collection and support for one year.

Application, Preparation and Planning for Learning Session

The MTT program is available to VA facilities on a voluntary basis. A facility may be motivated to improve communication based upon a recent experience with an adverse event in a specific clinical unit, or a clinical department chief may decide to champion the cause of enhanced communication on his/her service. As of February 2006, 19 facilities are participating in the program involving the following targeted clinical units: OR (11), ICU (4)[2], Med-Surg unit (1), Ambulatory Clinics (3), and ER (1).

The interested VA facility submits the program application which is accessed from the NCPS website. The application specifies the commitment from each VAMC required for their participation in the program. (**Appendix A – Application)** That commitment requires the formation of a multidisciplinary Change Team of 6 to 10 individuals that will develop specific goals for the MTT program and guide the implementation of their MTT project. For example, the typical Change Team for an OR targeted program would include the chief of surgery, chief of anesthesiology, nurse manager of the OR and other individuals representing the OR workforce.

Preparation for the Learning Session and project planning will begin after the members of the Change Team have been established and begin to meet on a regular basis. Leadership participation on the Change Team is critical to its success. Approximately 8 weeks before the scheduled learning session, the change team will have a conference call with MTT faculty who will facilitate the planning and goal development for the facility's MTT project and advise them on the collection of baseline data. At least one or two additional conference calls are often necessary to prepare each facility for the Learning Session and to prepare a member of the Change Team to make a 10 minute presentation during the Learning Session.

Learning Session – Peer-to-Peer Communication in Health Care Context

The MTT Learning Session is held in the host VA Medical Center. NCPS staff works with VAMC leadership to maximize attendance of staff from the target clinical unit in the Learning Session. For a session focused on the OR, elective surgery is usually cancelled, and the OR is open only for emergency cases to facilitate staff attendance. For a session

[2] One VA Medical Center combined the OR and ICU in the program implementation

focused on the ICU, leadership endeavors to maximize attendance from all three shifts. ICU staff are strongly encouraged to attend an OR session, and OR staff are strongly encouraged for an ICU session.

In their comprehensive review of CRM applications in health care, Musson and Helmreich issue their concerns for the dependence upon aviation content in current CRM health care professionals and thus impedes their acceptance of CRM principles applied in the clinical workplace. Therefore**, curriculum content in our MTT learning sessions is focused entirely on health care.** Each Learning Session is held in the hosting VA Medical Center for a full day of didactic instruction, interactive role play involving faculty and participants, interactive exercises, and teaching films of clinical vignettes demonstrating CRM principles applied in health care.

We have developed a clinical faculty based upon the thesis of Everett M. Rogers articulated in his seminal book, *Diffusion of Innovations.* In his life's work of studying the diffusion of innovations in organizations, Rogers identifies **peer-to-peer communication** as critical to the success of advocating for change: "When someone who is like us tells us of their positive evaluation of a new idea, we are often motivated to adopt it."[xxxiii] Each learning session is facilitated by two faculty members with clinical backgrounds, often a physician and nurse, who work seamlessly together as a model for collaborative teamwork.[3] Faculty members are selected with backgrounds and experience matched to the target clinical audience for each Learning Session.

Curriculum Agenda & Teaching Films

Prior to commencing program agenda for the Learning Session, the *Safety Attitudes Questionnaire* (SAQ) is administered to participants which takes approximately 15 minutes to complete. This questionnaire, developed and validated by the Johns Hopkins Quality and Safety Research Group, measures assess attitudes and behaviors expressed in six factors related to safety: safety climate, teamwork climate, job satisfaction, working conditions, perceptions of management, and stress recognition. SAQ instruments are developed for staff working in specific clinical domains such as the OR, ICU and Ambulatory clinics. A more general Teamwork and Safety Climate survey is available for staff from other clinical or non-clinical areas. The SAQ is reliable and is being used by a growing number of health systems in the US. Stable psychometric properties for this instrument have been validated by a test population of more than 10,000 respondents in the US, UK and New Zealand.[xxxiv] This questionnaire will be repeated with participants in a staff meeting 12 months following the Learning Session, and results from comparative data analysis will be submitted to each participating facility

During program development, nine teaching films (Table 4) of clinical vignettes were written and produced by NCPS faculty in collaboration with the Patient Simulation Center of Innovation in the Palo Alto, CA VAMC. These films, shown and debriefed throughout the learning session, were designed for the curriculum to model examples of CRM applications improving communication in a health care setting.

[3] Current MTT faculty include the following: 4 Nurses, 3 Surgeons, 1 Internist-Human Factors Engineer, 1 Internist-Psychiatrist, 1 Obstetrician-Gynecologist, 1 Clinical Psychologist, and 1 Lawyer-Social Worker

During the afternoon of the learning session, a representative member of the facility Change Team presents the team's assessment of communication issues in that facility to their peers. Following the conclusion of the learning session, the Change Team will meet with MTT faculty to refine their specific plans for implementing their MTT project. This discussion is framed within the boundaries of a continuous quality improvement project conducting short cycles of change, testing, and modification of changes.

MTT Project – Briefings and Debriefings

Each VAMC participating in the MTT program makes a commitment to an MTT project for implementation within days of the learning session and to be sustained for at least one year. The Change Team will develop their project plan and facilitate its implementation in their VAMC.

All of the MTT projects must involve a specific commitment to briefings and debriefings. The focus of this program is to improve face-to-face communication in real time. Briefings and debriefings provide the necessary context for teams of clinicians working together to plan their activities, assure that every member has the same understanding of what will be done, and allow team members to reflect on a recently shared experience (e.g. a surgical procedure, CPR event, or difficult clinic). A briefing in the clinical context is a conversation facilitated by a team leader to establish a shared understanding of the work and management of patient care in any health care environment. We distinguish three basic types of briefings in our learning sessions:

1) **Patient Centered Briefing**: An informative meeting with all members of a multidisciplinary team providing care to a specific patient. One application would be a **pre-op briefing in the OR** suite involving all members of the surgical team. Another application would be conducting **multidisciplinary rounds in the ICU or Med-Surg unit** with all members of the multidisciplinary health care team including patient and family at the bedside. The purpose for these briefings is to communicate perspectives from different disciplines in real time on all relevant patient care issues to optimize the quality and safety of care.
2) **Administrative Briefing**: A staff meeting to communicate all relevant issues in the management of patient care on a clinical unit. These briefings have been implemented in the ICU, Med-Surg unit, OR, ED, and Ambulatory Clinics.
3) **Debriefing**: A brief meeting after a procedure, an event, or experience to reflect on what happened, to discuss lessons learned, and to make recommendations for improvements. This is an effort to maximize learning from a very recent experience. Examples of MTT projects include surgical teams debriefing their cases before leaving the OR suite and an ambulatory clinic starting their day by conducting a morning debriefing of the previous day.

MTT project implementation with follow-up and support

One month after the learning session, the facility Change Team's key contact person(s) has a <u>quarterly semi-structured interview</u> conducted by a team of NCPS staff. There will be two distinct components of this interview:

- Process Measure Data collection regarding MTT activities – e.g. the % of surgical cases completed in the previous time period with briefings and/or debriefings. Another example could be the number of days per week or per month in an ICU when interdisciplinary briefing rounds were held. The focus of this component will be to record process measure data of MTT activity.
- Narrative Data collection regarding the VAMC experience implementing the MTT project. The goal for this segment is to collect qualitative data. Content covered in this interview will include: the effect of MTT on staff; the effect on patient care; success factors with implementation; and barriers to implementation. We are interested in a more in depth understanding of MTT implementation in a VA facility. Questions will be asked such as the following: "What went well?" "What could have gone better?" "What do you think about the value of MTT program implementation in the delivery of patient care?"

These quarterly interviews begin one month after the Learning Session and are repeated every 3 months for 3 successive quarters for a total of 4 interviews for each participating VAMC over a one year period.

Ethnographic observations by trained observers in selected participating VAMCs are also being considered as a component of our program evaluation. A series of observations in one of our participating facilities is currently being pilot tested as a potential source of information for evaluating our program.

In addition, we hold monthly group conference calls for any participating facility to dial in and share their experiences. The purposes of these calls are for coaching and support of the Vamps and to provide a forum foe exchange of ideas between facilities. Faculty members are available by phone or e-mail to each participating VAMC for consultation and guidance with the project implementation. In addition, staff from each participating facility can become enrolled in an MTT e-mail list-serve to facilitate collaboration between participating facilities.

MTT Summit Conference

We are planning to hold a summit conference for VAMC staff participating in the MTT program. The purpose of this conference, which could be repeated every 2-3 years, will be for VAMC representatives to exchange ideas and lessons learned from their experiences implementing the MTT program in their respective facilities. This meeting will also be designed to provide new program content in CRM applications for health care and to develop concepts introduced briefly during the first Learning Session like fatigue management and patient hand-offs. Individual and group interviews of participants will be facilitated to enhance our understanding of program success factors as well as barriers to implementation. Guest speakers with expertise in specific program content areas will be invited to enhance the value of this meeting.

Stakeholder Analysis

Who will benefit from a successfully implemented MTT Program in VA Medical Centers across the country? There are several stakeholder groups that will benefit from a successful MTT program in the VHA.

Veterans – The primary beneficiaries from communication improvement among the clinicians providing their care are the patients themselves. If our hypothesis is true, veterans will benefit from better outcomes and also realize greater patient satisfaction with their care as they observe enhanced communication from their providers as well as between providers.

Health Care Professionals – Physicians, nurses and allied health personnel will benefit from the satisfaction of improved outcomes for their patients as well as from the satisfaction of less ambiguity and more clarity in communication with professional colleagues. The net effect of a successful MTT program will be more teamwork and collaboration.

VAMC Senior Leadership – Senior leaders in VA Medical Centers would be associated with improved outcomes of patient care, as well as enhanced staff and patient satisfaction resulting from better outcomes due to more effective communication. JCAHO national patient safety goals would be achieved through improved communication. Senior leaders could accept public recognition for implementing applied CRM in their health care organizations, which had been specifically recommended by the Institute of Medicine.

Health Profession Educators – Professional schools in medicine, nursing and the allied health professions would benefit from evidence for the role of communication between providers and patients in the safety and quality of health care delivery. Training and education in effective collaboration across disciplines is a missing element in the educational curricula of the health professions.

Health Services Researchers – A mixed methods approach to a comprehensive study of the effect of an applied CRM program in a large federal health system would be a major contribution to the health services research literature. Linking outcomes data from administrative databases to structure and process measures in an evaluation of a widely disseminated CRM program would be unique and inform further research in this area.

Congress – If the MTT program is associated with improved outcomes of care for veterans, the Congress can declare that appropriations to the VHA returned value for public dollars in terms of improved health care for veterans. Such a program could reap potential political capital and good will for the VA that could favorably influence future funding of VA programs.

Private Sector Health Systems – Evidence from this study for CRM applications in health care organizations may be generalized to the private sector. The VA is the largest health system in the US with penetration to every state and major metropolitan area of the country. VA facilities are also present in rural America. Although 96% of veterans served by the VHA are male and older than the average US hospital population, risk adjustment methodologies could augment the external validity of our study.

Program Evaluation

We are planning a quasi-experimental, mixed methods study with a repeated measures analysis of a longitudinal, prospective evaluation of VA Medical Centers. The study design will include a “within subjects” and a “between group” comparison of VAMCs.

The "within groups" comparison will be an aggregate analysis of VAMCs before and after the study intervention which is the Medical Team Training program. The intervention will include the Learning Session followed by 9 to 11 months of MTT project implementation. The "before period" will be one year prior to the Learning Session. The "after period" will be one year following MTT project implementation.

The "between groups" comparison will be an aggregate analysis comparing VAMCs participating in the MTT program with those not participating. Data collection and analysis will occur for one year before the intervention period, during the intervention period (12 months), and one year following the intervention period. (Appendix B – Study Scheme & Timeline)

Our mixed methods study design will employ the following measures:

1. Administrative Data
    a. National Quality Improvement Program (NSQIP) – annual data for all VAMCs
    b. Agency for Healthcare Research & Quality (AHRQ) Patient Safety Indicators (PSI) – selected PSIs derived from VA Patient Treatment File based upon prevalence
    c. Office of Quality Performance Surgical Infection Prevention (SIP) measures
2. Questionnaire Data
    a. Safety Attitudes Questionnaire baseline (beginning of Learning Session and 12 months after Learning Session)
    b. VA All Employee Survey – Job Satisfaction Index
    c. NCPS Patient Safety Culture Survey
3. Qualitative Data
    a. Structured and semi-structured quarterly interviews
        i. Process measures of MTT activities
        ii. Narratives of MTT implementation experience
    b. Ethnographic observations of selected participating VAMCs
    c. Narrative reports from participating VAMCs

The Operating Room and the ICU will be the targeted clinical units for implementation of the MTT program. Of the nineteen VA Medical Centers participating in the program since 2003, eleven are ORs and four are ICUs (one VAMC is combined OR and ICU). These clinical units are clearly the early adopters in our program and they are the primary focus of CRM applications in private and public health systems described in the healthcare literature.

The MTT program is available to all clinical units in VA Medical Centers. The program is relevant for clinicians working in an Ambulatory Clinic (3 currently participating clinic groups), Emergency Department (one participating group), and hospital Medical-Surgical unit (one participating group), and rehabilitation/long term care facilities.

End Notes

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Appendix A

APPLICATION FORM - MEDICAL TEAM TRAINING PROGRAM

The VA National Center for Patient Safety is offering the Medical Team Training (MTT) program for VA Medical Centers and Clinics. The purpose of this program is to improve outcomes of clinical care by implementing communication principles from Crew Resource Management in the clinical workplace. This program, inspired by lessons learned from aviation and recommended by the Institute of Medicine, will address communication issues in clinical units such as the OR, ICU, Ambulatory Care Clinic, Med-Surg unit, ED, and other clinical areas. MTT assists VA facilities in achieving the JCAHO national patient safety goal of improving communication between health care providers.

For a VA facility to participate in the MTT program, a commitment must be made to preparation and planning, a full day learning session in the facility, and a period of follow-up and support for a minimum of one year. The chronology for program participation is summarized in the table below.

TIMELINE	0	2 months	Learning Session (1 day)	10 months
MTT PROGRAM EVENT				
Application				
Preparation & Planning				
Learning Session in VA Facility				
Follow-up & Support				

Application is accessed from NCPS web site: http://vaww.ncps.med.va.gov/Education/MTT/index.html Please submit this form to the MTT Coordinator via e-mail or fax.

Preparation & Planning begins at least 2 months prior to the scheduled Learning Session and involves the organization of a multidisciplinary Change Team representing each professional discipline in the workforce of the targeted clinical unit. (e.g. OR Change Team includes surgeon, anesthesiologist or CRNA, RN, ORT, admin. staff, and senior leader). The focus of the Change Team is to prepare for the Learning Session and to identify specific issues to be addressed by MTT project.

Learning Session is an intense full day of interactive learning about CRM applications to health care in specific clinical areas facilitated by two MTT faculty and held in the hosting VA facility. The agenda begins with distribution of the Safety Attitudes Questionnaire (SAQ).* Exercises, films and role plays introduce CRM applications in a clinical setting. The facility Change Team presents recommendations for application of MTT to their facility with feedback from participants. Senior leadership maximizes staff attendance for the Learning Session including relevant medical staff and representation from all shifts in targeted clinical unit(s).

Follow-up & Support begins with implementation of the MTT project immediately following the Learning Session. The MTT project must include briefings and/or debriefings in the targeted clinical unit(s) determined by senior leadership for this program. MTT faculty support includes monthly conference calls, consultation and coaching, quarterly interviews, and data collection regarding the frequency of briefings and/or debriefings. Senior leadership distributes the SAQ to program participants 12 months following the learning session and returns the completed questionnaires to NCPS. The participating VA facility is committed to sustaining their MTT project for a minimum of one year.

VA Facility Name, Station Number and Location: _____
Date:_____

CHANGE TEAM (6-10 members optimal #)	**Name**	**Job Title**	**E-Mail**	**Phone**
Primary Contact / Day-to-Day Leader				
Nurse Leader (e.g., Nurse Manager or Nurse Executive)				
Physician Leader (e.g., Chief of Surgery, Medical Director, or Chief of Staff)				
Front line staff (e.g., nurse, physician, allied health personnel, administrative staff)				
Front line staff				
Front line staff				
Quality Manager				
Patient Safety Manager				
Education Coordinator				
Medical Media (support for Learning Session)				

Statement of Commitment to the MTT Program:

We agree to participate in the Medical Team Training program in our facility which includes senior leadership

- optimizing Learning Session attendance by medical and nursing staff from the participating clinical units;
- closing the OR or limiting OR services to emergency cases on the day of the Learning Session for OR staff;
- facilitating staff participation on the Change Team and completion of quarterly interviews;
- strongly encouraging the completion of the facility's MTT project with reporting to senior leadership;
- facilitating completion of the Safety Attitudes Questionnaire 12 months following the Learning Session.

We will work together to optimize the implementation of the Medical Team Training program in our facility.

Senior Physician Leader _____ Title _____
Signature

Senior Nurse Leader _____ Title_____
Signature

Facility Director _____ Date _____
Signature

NCPS contacts for MTT program:
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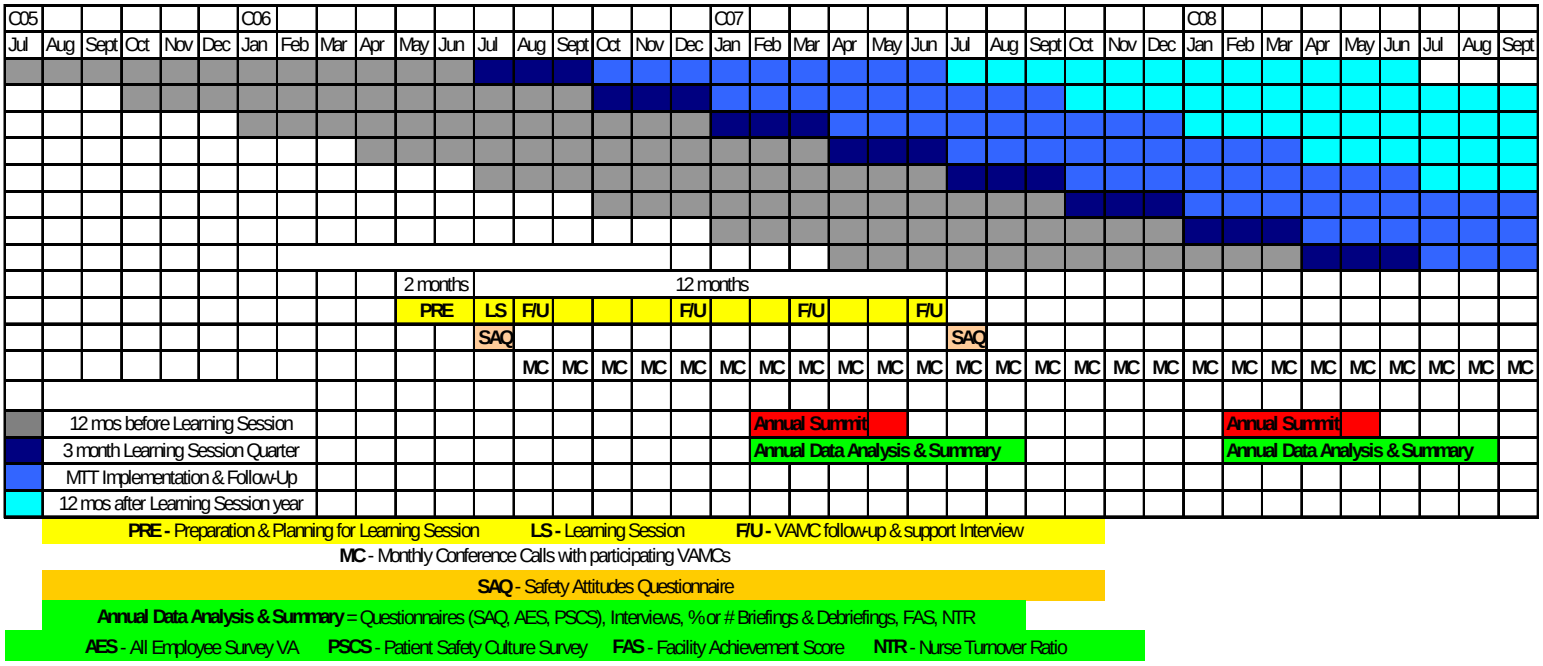
Last revised 1/24//06

Appendix B

Medical Team Training Program Evaluation Timeline