

**[2007][A1789] Medical Event Data Collection and Analysis Service (MEDCAS), an NTSB for Medicine**

**Richard I. Cook, M.D., Christopher Nemeth, Ph.D., Mark Nunnally, M.D., Michael O'Connor, M.D., Sandra Nunnally, B.A.. Anesthesia and Critical Care, University of Chicago, Chicago, Illinois**

MEDCAS is a two year project intended to demonstrate that rapid, independent, technically sophisticated investigation of medical adverse events is possible and useful. In the past, medical adverse event investigation has been conducted by stakeholders, often long after the event. Efforts to improve the quality of adverse event investigation have focused on enhancing local investigation capacity (e.g. training in 'root cause analysis' (RCA)) and improved reporting of the results of these inquiries. In other domains, rapid, independent, technically sophisticated investigation of significant adverse events is the norm. Transportation accidents are investigated by the National Transportation Safety Board (NTSB) using a process that preserves independence and technical quality. The results of its investigations are widely regarded as 'ground truth' accounts of the events. The activities of the NTSB contribute to general and specific confidence in the transportation system itself. Since 1994 we have called for establishment of a similar body for the investigation of medical adverse events. There are many obstacles to the creation and operation of such a body for medicine. The MEDCAS project was designed to address these obstacles and provide evidence that such a body is feasible and that its operation would be worthwhile. Intensive care units were recruited to join the project and participate as candidate facilities. An forensic, investigative team capable of immediate (<24 hour) response to adverse events was assembled. Sites were linked to the MEDCAS center by video conference over internet to provide immediate communications access. A U.S. Department of Health and Human Services Confidentiality Certificate was obtained to project research data and subject confidentiality.

The MEDCAS project investigated several adverse events over the course of the study. The results of these investigations and the project experience provide new insight into the way in which medical adverse events are handled and understood within organizations. In contrast to locally conducted investigations, MEDCAS inquiries identified social and organizational characteristics that created adverse event conditions and shaped the local investigations. Local reactions to failure are complex and emerge over time. Formal processes (e.g. RCA) reenact the investigation at a later time and meet internal social needs. Organizational responses often narrowly focused on comparatively easy but marginally effective interventions, e.g. training and additional warnings. Significantly, events involving technology were common. The MEDCAS investigations also revealed that computer-based technology was a potent source of complex, hard to anticipate forms of failure. These insights could not be obtained

The MEDCAS project demonstrates that rapid, independent, technically sophisticated medical adverse event investigation is both possible and useful. The results of MEDCAS investigations are technically superior to locally conducted inquiries. The results also provide new insights into local reactions to failure and how these reactions shape local responses. Details of the MEDCAS process and implications will be discussed in the presentation.

Anesthesiology 2007; 107: A1789

**Date:** Tuesday, October 16, 2007

**Session Info:** Poster Session: PATIENT SAFETY, PRACTICE MANAGEMENT: National Patient Safety Goals, Life Safety, Patient Education and Safety Culture (2:00 PM-4:00 PM)

**Presentation Time:** 02:00 PM

**Room:** Hall D, Area O

[Close Window](#)