

**James P. Bagian, MD, PE**



## **Addressing Challenges in Patient Safety— Implementing Systems Based Approaches**

**Monday**

**September 9, 2013**

**4:30-6:30PM**

**in 1123 LBME**

Hundreds of thousands of patients worldwide are inadvertently harmed every year while undergoing medical care. All too commonly, the principal cause ascribed to these adverse outcomes is human error which is a far too superficial conclusion and does not acknowledge the complex systems-based underlying causes of the adverse outcome. As a result, the interventions taken to prevent these untoward events, if any are taken at all, are typically unsuccessful as evidenced by the recurrence of the adverse event. Less than ideal designs of medical devices, architectural features, and healthcare processes increase the risk that patients will be inadvertently harmed while undergoing care. Another common contributor to adverse patient events are failures of communication on many levels. Data from The Joint Commission, the Veterans Health Administration (VA), and many other sources show that communication failure contributes to approximately 70% of adverse events. Many techniques and approaches, often adapted from other domains, have been employed in the hope of mitigating the underlying causes of harm to patients. Despite isolated success of implementing these countermeasures, widespread adoption has generally been lacking. As with change in any field, identifying the unmet need and potential solution is a necessary first step but the step that is often far more challenging is understanding how to implement the desired change in an effective manner so that it is sustainable. This presentation will describe the contextual background, assessment of professional and cultural “readiness” to change, and offer a more granular description of how the planning and implementation of interventions such as Medical Team Training were accomplished in over 100 medical facilities of the Veterans Health Administration (VA) system that resulted in an observed 18% reduction in surgical mortality as well as the current efforts to implement these techniques in the University of Michigan Health System.

**Dr. James P. Bagian** is the Director of the Center for Healthcare Engineering and Patient Safety and is a Professor in the Department of Anesthesiology in the Medical School and in the Department of Industrial and Operations Engineering in the College of Engineering at the University of Michigan. Previously, he served as the first Director of the VA National Center for Patient Safety (NCPS) and the first Chief Patient Safety Officer for the Department of Veterans Affairs from 1999 to 2010 where he developed numerous patient safety related tools and programs that have been adopted nationally and internationally. Dr. Bagian served as a NASA astronaut and is a veteran of two Space Shuttle missions and was an investigator of both the Challenger and Columbia Space Shuttle mishaps. Presently, he is applying systems engineering approaches to the analysis of medical adverse events and the development and implementation of systems-based corrective actions that will enhance patient safety primarily through preventive means. He received his B.S. in mechanical engineering from Drexel University and his M.D. from Jefferson Medical College at Thomas Jefferson University. He is a Fellow of the Aerospace Medical Association, a member of the National Academy of Engineering, the Institute of Medicine, and has received numerous awards for his work in the field of patient safety and aerospace medicine.

The seminar series “Providing Better Healthcare through Systems Engineering” is presented by the U-M Center for Healthcare Engineering and Patient Safety: Our mission is to improve the safety and quality of healthcare delivery through a multi-disciplinary, systems-engineering approach.

For additional information and to be added to the weekly e-mail for the series, please contact [genehkim@umich.edu](mailto:genehkim@umich.edu)

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