Health care costs in the United States currently represent an amount equivalent to approximately 16% of the US Gross Domestic Product. Despite this large commitment of financial resources, hundreds of thousands of patients suffer injuries or death annually as a result of adverse events that are inadvertently caused by the care they receive. The manner in which health care has been traditionally provided does not rely heavily on an integrated, multi-disciplinary, team-based approach and has resulted in both ineffective and unsafe care, not to mention an inefficient use of resources. Health care has been slow to take advantage of the progress that other industries have made related to the deliberate and proactive processes they have utilized to increase the quality, safety, and efficiency of services and products they provide. The application of systems-based approaches to improving the safety and quality of patient care will be discussed.

Dr. James P. Bagian is the Director of the Center for Healthcare Engineering and Patient Safety and is a Professor in the Medical School and 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. 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. Dr. Bagian was elected to both the National Academy of Engineering and the Institute of Medicine and has served on or chaired numerous NRC and IOM committees.

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.

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For additional information and to be added to the weekly e-mail for the series, please contact genehkim@umich.edu.