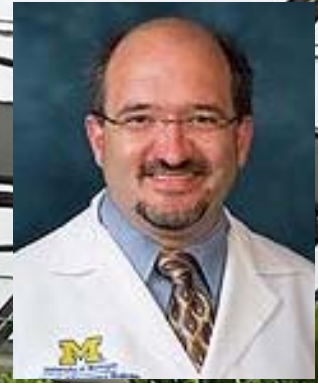


Ben Bassin and Cemal Sozener
“Emergency Department Based Critical Care –
Design, Development, and
Operational Considerations”



Monday October 20, 2014, 4:30-6:30PM in 1123 LBME

The incidence of critical illness and injury presenting to US Emergency Departments (ED) continues to increase year over year as the population ages and diseases become more advanced and complex. As a result, the number of patient care hours devoted to critical care level treatment in the ED has markedly increased over the last decade with projections of this continuing at an alarming and unsustainable rate into the future. Additionally, there are a number of time sensitive critical conditions where early and aggressive therapies have shown significant improvement in morbidity, mortality or both. Many opportunities for improvement exist in the current state of the critical care patient continuum across and within health systems. After careful consideration of the limitations with the current state of critical care provision in the ED, as well as operational optimization of existing processes to mitigate impact, a decision was reached to build a dedicated critical care space in the University of Michigan Adult Emergency Department. Guiding principles were identified for creation of the new critical care unit, and care teams consisting of diverse job families worked closely with architects, planners, industrial operations specialists and lean coaches. Queuing theory and a multitude of pre-selected metrics were utilized to optimally design this unit which is now in the construction phase. Significant efforts are currently underway to create and optimize processes for these sickest patients to “flow” through the ED and into the health system.

By engaging in a purpose-specific design with extensive efforts dedicated to functional space with an emphasis on efficient, effective and cutting-edge critical level care for the sickest of the sick, our goal is to set a national precedent for the provision of ED-based critical care. This is the first dedicated and specifically designed unit in the country for specialized Emergency Critical Care and is likely to establish the precedent on which all subsequent units within peer institutions across the country will be designed.

Drs. Ben Bassin and Cemal Sozener are Assistant Professors and faculty members in the Department of Emergency Medicine at the University of Michigan Medical School. Dr. Bassin received his B.S. and M.D. degrees from the University of Michigan and completed residency training in Emergency Medicine at the University of Cincinnati. Dr. Sozener received his B.S., M.Eng. and M.D. degrees from the University of Michigan and completed training in Emergency Medicine at Michigan. Both served as chief residents at their respective training programs. Their work has focused on incorporating lean-based design to optimize patient flow and increase the efficiency and utilization of clinical space through process improvement.

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