

Medications can transform health and alleviate suffering. Yet, their use often falls short in the context of everyday patient care. In order to solve this, the Institute for Healthcare Improvement's quadruple aim identifies four key domains for improvement: quality, cost, patient experience, and provider well-being. Healthcare engineering offers a critical scientific perspective that can help address many of the current limitations found in each of these aims. This talk discusses the quality and safety of medication use as a function of health care provider and patient interactions with complex technical environments focused on achieving optimal drug therapy outcomes. I will emphasize some of the existing challenges, risks, and opportunities in practice combined with the theoretical foundations of the human factors and cognitive engineering literature to pave a roadmap for medication use research.

**Corey Lester** is a research assistant professor of clinical pharmacy at the University of Michigan College of Pharmacy. He graduated with his PharmD from the University of Rhode Island in 2012, completed a PGY1 community practice residency at Virginia Commonwealth University in 2013, and received his MS/PhD in Pharmacy Administration from the University of Wisconsin-Madison in 2017. His research focuses on identifying and solving the challenges associated with medication use, including the prevention of errors, optimizing pharmacist work, and improving drug therapy for patients.

The seminar series "Providing Better Healthcare through Systems Engineering" is presented by the U-M Center for Healthcare Engineering and Patient Safety (CHEPS): 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

