



CENTER FOR  
HEALTHCARE ENGINEERING & PATIENT SAFETY  
UNIVERSITY OF MICHIGAN

## PROVIDING BETTER HEALTHCARE THROUGH SYSTEMS ENGINEERING:

### An Industrial Engineering-Based Approach to Designing and Evaluating Healthcare Systems to Improve Veteran Access to Care

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4:30 PM EST, Monday 11/30 ([RSVP for Zoom Link](#))



Access to healthcare is a critical public health issue in the United States, especially for veterans. Veterans are older on average than the general U.S. population and are thus at higher risk for chronic disease. Further, veterans report more delays when seeking healthcare. The Veterans Affairs (VA) Healthcare System continuously works to develop policies and technologies that aim to improve veteran access to care. Industrial engineering methods can be effective in analyzing the impact of such policies, as well as designing or modifying systems to better align veteran patients' needs with providers and resources.

In the talk, I will focus on veteran access to chronic eye disease screening. Ophthalmologists in the VA have developed a platform in which ophthalmic technicians screen patients for major chronic eye diseases during primary care visits. We use mixed-integer programming-based facility location models to understand how the VA can determine which clinics should offer eye screenings, which provider type(s) should staff those clinics, and how to distribute patients among clinics. The results of this work show how the VA can achieve various objectives including minimizing the cost of treating a given population or maximizing the number of patients receiving care given a fixed budget.

**Adam VanDeusen** is a PhD candidate in Industrial and Operations Engineering at the University of Michigan working under Dr. Amy Cohn. His work applies operations research and systems engineering methods to public health policy and access to healthcare. As part of his graduate training, Adam works with the University of Michigan Center for Healthcare Engineering & Patient Safety (CHEPS). Adam completed his undergraduate degree in Industrial and Operations Engineering at the University of Michigan and his Master of Public Health in Chronic Disease Epidemiology from Yale School of Public Health. Prior to beginning his PhD, Adam worked as the Senior Director of Clinical Programs at the Health Management Academy and as a Health Systems Engineer at Mayo Clinic.

This seminar series 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 the Zoom link and password and to be added to the weekly e-mail for the series, [please RSVP](#). For additional questions, contact [CHEPSseminar@umich.edu](mailto:CHEPSseminar@umich.edu). Photographs and video taken at this event may be used to promote CHEPS, College of Engineering, and the University.