

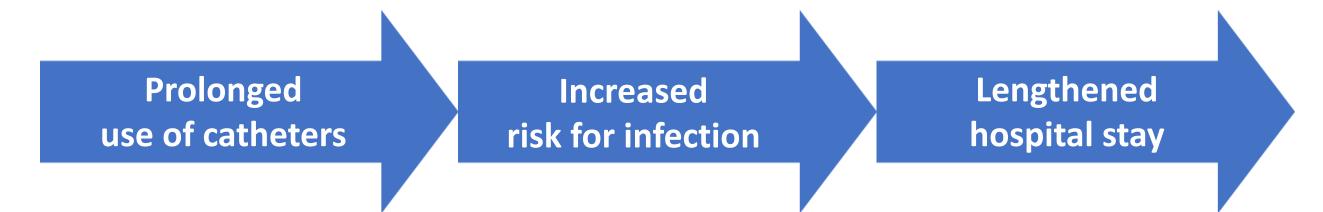
M-Safety P1: Improving Awareness of Catheters and Skin Wounds to Reduce Hospital-Acquired Infection

Kate Burns¹, Daniel Cullen², Theodore Endresen¹, Victoria Glunt¹, Harini Pennathur¹, Kristine Wang², Jessica Ameling³, Amy Cohn¹, Jennifer Meddings³

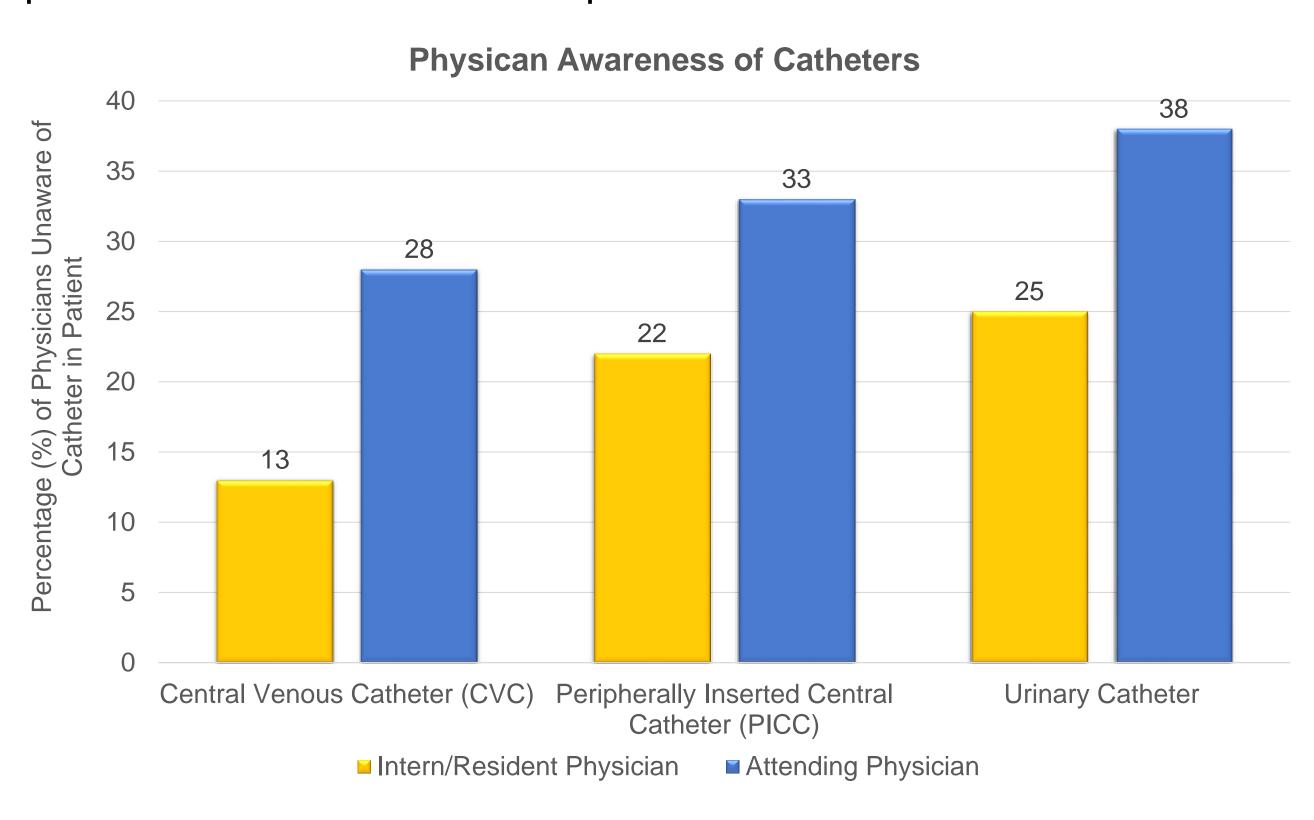
Industrial Operations Engineering¹, Electrical Engineering and Computer Science², Internal Medicine-General Medicine³, University of Michigan, Ann Arbor, MI

Introduction

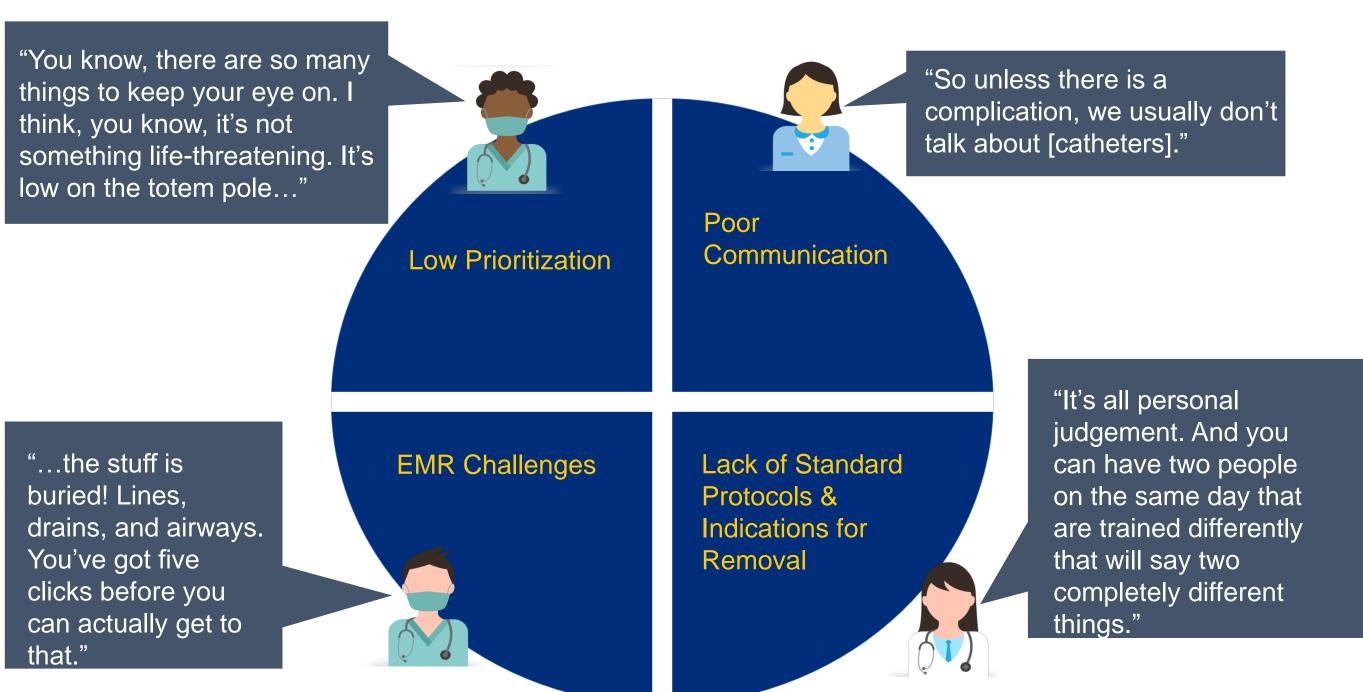
Catheters are often necessary for patients with prostate problems, following surgery, or needing medicines over a long period. However, prolonged catheter placement does pose risks that must be managed.



Unfortunately, the literature shows that physicians are often unaware of the presence of catheters in their patients.



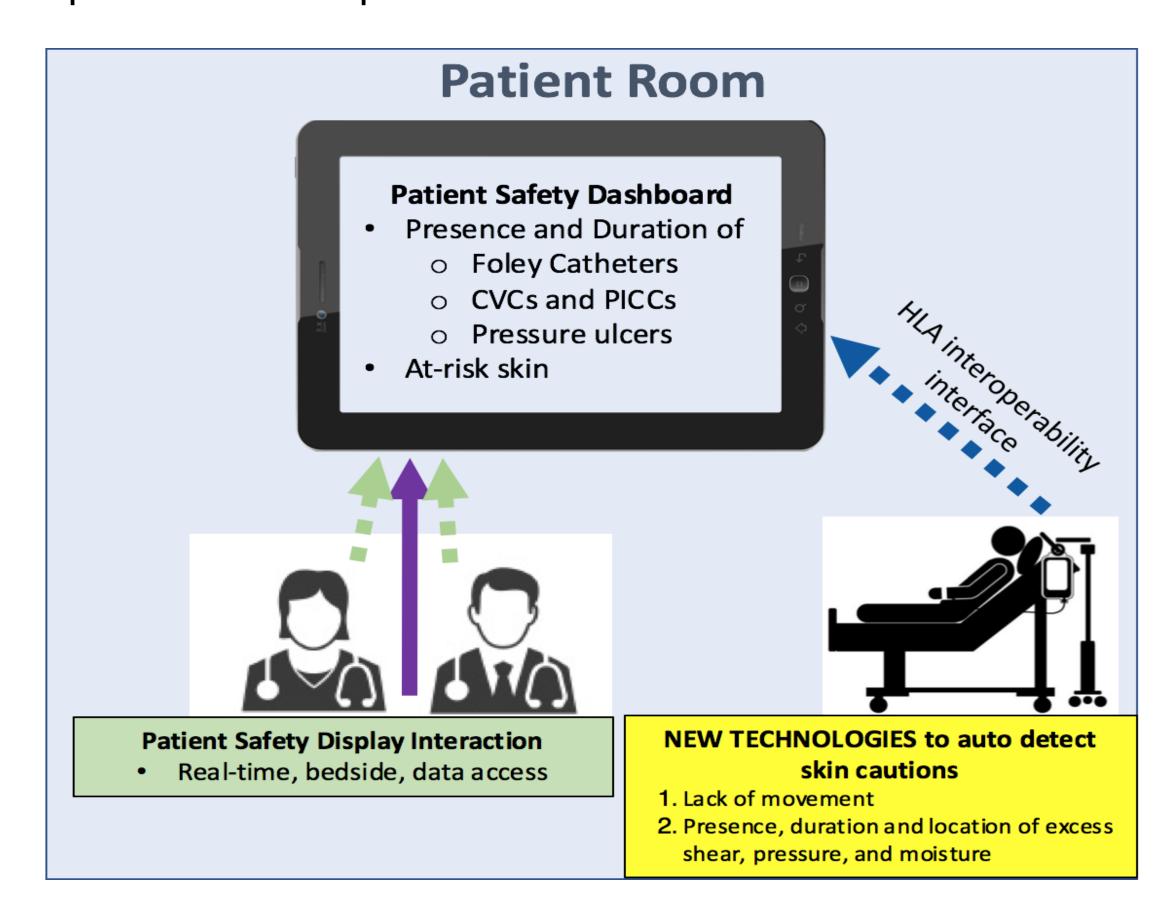
Communication between nurses and physicians is often reduced due to lack of physical interaction and dependence on the electronic medical record.



Ameling, J., Quinn, M., Forman, J., Sankaran, R., Fowler, K.E., Manojlovich, M., Peterson, L., & Meddings, J. (2017, March). *Clinician-identified barriers to removing unnecessary urinary and vascular catheters.* Poster presented at The Society for Healthcare Epidemiology of America Spring 2017 Conference, St. Louis, MO.

Solution Approach

We propose a bedside display to improve provider awareness of risks due to catheter placement and pressure wounds.



Human Components: Communication & Teamwork Decision-Making Meta-Cognition & Mindfulness Networking

Technical Components:

Wireless Sensors
Artificial Intelligence
Risk Profiles
Information Systems

Healthcare
Engineering &
Systems Redesign

Impact & Results

Our team has collected **317** pre-intervention surveys to assess provider awareness of catheters and pressure injuries.

Provider DataPhysicians and

PAs complete a

paper survey after

rounding on their

patients

Our team records EMR data on the presence of catheters and pressure injuries

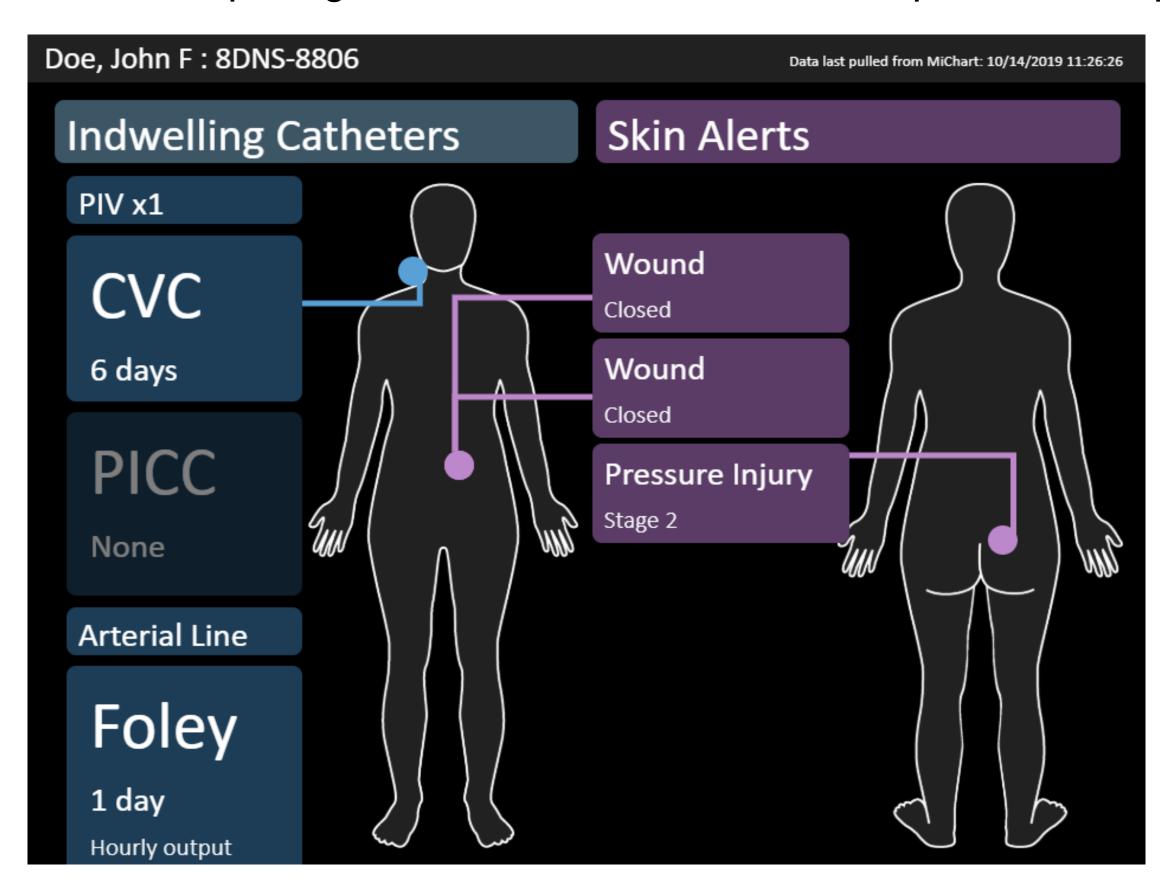
MiChart Data

Nursing Data

 We also record the same data from the Daily Management System, which is maintained by the unit's charge nurse

We have completed 16 dates of pre-intervention surveying of Medical providers and have started the same process for Surgical providers.

We have collected similar post-intervention surveys and are in the process of comparing the results. Below is an example of the display.



Future Work

- Fully analyze physician and nurse post-intervention about display in 8DNS unit
- Implement the display in more clinical units and continue improving display according to feedback

Acknowledgement

We would like to thank the full M-Safety Project 1 research team, M-Safety Lab and CHEPS for their support of this project. Special thanks to Dr. Jennifer Meddings and Jessica Ameling