Project Emerge: Transforming Care in the ICU

Authors: Blair Bloomquist, Cindy Dwyer, & Maya Joy Thodé

Affiliations: Armstrong Institute; Johns Hopkins Hospital; Johns Hopkins University Applied Physics Lab; Johns Hopkins University School Of Nursing

Funding Sources: Gordon & Betty Moore Foundation

1 Background

Project Emerge is an IRB-approved research study that is being conducted in the 14-bed Surgical Intensive Care Unit (ICU) at the Johns Hopkins Hospital in Baltimore, MD. The application aims to transform Care in the ICU at the Johns Hopkins Hospital in Baltimore, MD. The application aims to transform care and improve safety in ICUs:

- 80% of Americans will have contact with an ICU in their lifetime, either as a patient, family member or friend.
- 20% of patients will sustain a serious medical harm during their ICU stay.
- ICU mortality rates in most hospitals are between 10-20% (The Joint Commission, 2010).

The current state of ICUs is often alienating and overwhelming to patients and family members. Emerge seeks to bridge the gap between clinical expertise and patient values.

2 Objectives

The 3 main goals of the project are to eliminate preventable harm in the ICU by:

1. Making data more accessible and usable, providing clinicians with more time for patient care.
2. Optimizing patient and family experiences by supporting patient and family involvement.
3. Reducing healthcare waste and associated costs through a systems approach by combining innovations in culture, technology, and workflows.

More specifically, Emerge aims to prevent 7 ICU specific harms:

1. Loss of respect and dignity
2. Failure to provide care consistent with patient goals
3. Delirium
4. ICU Acquired Weakness
5. Ventilator-Associated Events
6. Venous Thromboembolism (VTE/DVT)
7. Central Line Acquired Blood Stream Infections (CLABSI)

3 Methods

There are 2 separate components of the EMERGE Project- The Care Team Portal and the Family and Patient Portal.

Care Team Portal

The care team portal includes information on the status of every patient on the unit.

Patient and Family (P/F) Portal

The harms monitor shows the status of each potential harm for this specific patient.

4 Results

Chart 1: The seven different ICU harms targeted in the study and their various measurements of change over three quarters are demonstrated above.

5 Conclusion

These results demonstrate how effectively the Emerge system has improved patient outcomes in the ICU. By alerting clinicians of patient’s varying needs and enabling and their family members to become more involved in their treatment, ICUs can provide safer care. This will improve patient outcomes, while also reducing healthcare costs.

6 Future Directions

The system has already been implemented at the University of California-San Francisco Medical Center. The aim is to expand the system to more ICUs at other medical centers. Additionally, increasing the number of patient users at Johns Hopkins will enable sustainable changes to be made in delivery of patient care.

Potential future features include:

- Increasing visibility of appointments with other treatment teams such as Physical Therapy, Occupational Therapy, and Respiratory Therapy.
- Addition of new harms including Catheter-Associated Urinary Tract Infections/CAUTI, Pressure Ulcers, etc.
- Integrating sensors for real time data.

7 References


Funding Source:
The Helene Fuld Leadership Program for the Advancement of Patient Care Quality and Safety