

# Optimizing ICU Safety Through Patient Engagement System Science, and Information Technology

## The Problem

The hospital intensive care unit is a complex and costly care setting with up to 200 daily clinical interventions required for each patient. Unfortunately, critical care is also one of the areas in which preventable harms occur most frequently. Many of these harms could and should, be prevented.

## Aim/Goal

To eliminate preventable harm across all ICUs by optimizing ICU safety through patient engagement, system science and information technology.

## The Team

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## The Interventions

In February of 2013, BIDMC formed a team of frontline staff, quality improvement leaders and patient and family advisors to write a grant proposal for the Gordon and Betty Moore Foundation.

In November 2013, BIDMC was awarded a grant from the Foundation's Patient Care Program. The grant's 30-month project period began in January 2014.

## The Results/Progress to Date

### Libretto Consortium Involvement

- BIDMC joined an ICU Consortium led by the Moore Foundation, which includes Johns Hopkins, UCSF and BWH. All consortium members are working to eliminate preventable harm in the ICU's using their own methods but will use common metrics to better understand the overall impact of our work.

### Managing Risky States to Prevent Harm

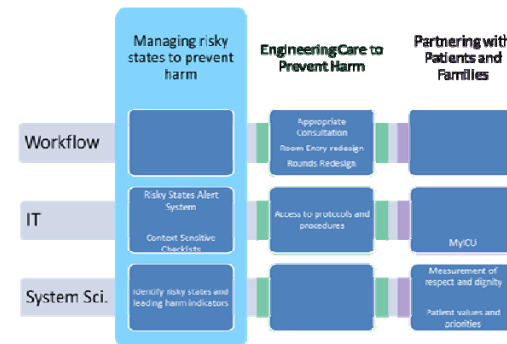
- Build a predictive model that identifies factors that contribute to a risky state in an ICU
- Design an intervention that helps to mitigate risk
- Build an application that displays the level of risk to ICU providers
- Build a context-sensitive checklist with patient-specific information for care providers

### Engineering Care to Prevent Harm:

- Spread the standard room entry process from MICU 7 to all ICU's
- Standardize and improve the quality of multidisciplinary rounds.
- Improve consult quality.
- Provide access to BIDMC protocols and procedures to community hospital partners

### Partnering with Patients and Families:

- Thus far, the consortium has developed a definition of Pt/Fam Engagement in the ICU.
- Identifying patient values and priorities
- Build an interface called MyICU that engages patients and families in their care and promotes their dignity and respect.



## Lessons Learned

- Resourcing dedicated time for frontline staff involvement is crucial to success
- Our ICU patient and family advisors provide extraordinary insight and add immeasurably to the design of interventions
- Involving patients/families in the design, development and implementation of MyICU adds value; decreases re-work and waste by ensuring that the application meets the needs of the "end-users".

## Next Steps/What Should Happen Next

- Continue to spread knowledge and engage ICU staff
- Begin design and implementation of grant projects
- Continue to collect data to monitor the continued effects of this grant on patient processes and outcomes.
- Continue to utilize patient/family advisors in the iterative design and development process

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