The Comprehensive Unit-based Safety Program (CUSP)

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Rhonda Malone Wyskiel

Thank you for inviting me to share my CUSP experience with you.

I am passionate about patient safety as a nurse and Research Coordinator at Johns Hopkins Hospital. By sharing our wisdom with each other, we can continue to improve the care that our patients receive.

I hope that you will listen today and gain some valuable insight into the progress of your own CUSP team.

I challenge you today to help your team reach the next Step of CUSP.

Rhonda

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Learning Objectives

- To review the CUSP program
- To learn how CUSP can assist in identifying, investigating, and working toward eliminating system defects
- To understand some teamwork tools such as Daily goals, AM briefing, Shadowing
- To learn how CUSP can help your hospital go beyond the bundle and work toward eliminating central line associated bloodstream infections
- Review CUSP's impact on the culture of safety

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The Vision of CUSP

The Comprehensive Unit-based Safety Program is a safety culture program designed to:

- educate and improve awareness about patient safety and quality of care
- empower staff to take charge and improve safety in their work place
- partner units with a hospital executive to improve organizational culture and provide resources for unit improvement efforts
- provide tools to investigate and learn from defects

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The Vision of CUSP

In Summary:

CUSP helps establish a safety culture and essentially forms units into clinical communities that share the same values and beliefs around a specific goal, and work to reach this goal.

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Where is CUSP?

- Piloted in 2 Intensive Care Units at Johns Hopkins Hospital in 2001
  - 50 in-patient units, outpatient clinics, and procedure areas
- State-wide collaborative:
  - Michigan ICU's (2003)
  - Rhode Island (2006)
  - Adventist Health System (2006)
  - Operating Room Safety Program (2006)
  - Michigan Operating Rooms (2007)
- National collaboratives (2009- present)
- International collaboratives:
  - Spain, England, Peru (pilot testing)

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CUSP: 5 Steps

1. Educate staff on science of safety
2. Identify defects
3. Assign executive to adopt unit
4. Learn from one defect per quarter
5. Implement teamwork tools

Pronovost J, *Patient Safety*, 2005

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Pre CUSP Work

- Create a team
  - At least one nurse, physician, and administrator
  - Assign a team leader
  - Background CUSP Team Information (Appendix A)
- Measure culture of safety
- Work with hospital quality leader to have a senior executive assigned to team

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Step 1: Science of Safety Education

- Understand the system determines performance
- Use strategies to improve system performance
  - Standardize
  - Create independent checks for key process
  - Learn from mistakes
- Apply strategies to both technical work and team work
- Recognize teams make wise decisions with diverse and independent input

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Science of Safety Education

- Create a plan to educate every staff member in your unit or clinical area
  - Physicians, nurses, techs, clerical assistants, housekeeping
  - Science of Safety Training Attendance Sheet (Appendix B)
- Create a plan to educate all future staff
  - Incorporate education into orientation

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Step 2: Identify Defects

- Ask staff how will the next patient be harmed and what we can do to mitigate that harm
  - Staff Safety Assessment (Appendix C)
  - Casual Conversation
- Review error reports, liability claims, sentinel events or M & M conference

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Staff Safety Assessment

Appendix C

STAFF SAFETY ASSESSMENT – CUSP

Purpose of this form: The purpose of this form is to tap into your knowledge and experiences at the frontlines of patient care to find out what risks are present on your unit that have or could jeopardize patient safety.

Who should complete this form: All health care providers.

How to complete this form: Provide as much detail as possible when answering the 2 questions. Drop off your completed safety assessment form in the location designated by the CUSP improvement team with your job category, date and unit in the top box **(name is optional)**.

When to complete this form: Assessing safety should be considered an iterative process with no defined end (like a moving bicycle wheel). Thus, it can be filled out by any health care provider at any time. At the very least, all health care providers should complete this form semiannually.

Name (optional):
Job Category:
Date:
Unit:

Please describe how you think the next patient in your unit/clinical area will be harmed.

Please describe what you think can be done to prevent or minimize this harm.

Thank you for helping improve safety in your workplace!

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Step 3: Executive Partnership

- Executive should become a member of team
- Executive should meet monthly with team
- Executive should:
  - review defects
  - help prioritize defects
  - ensure the teams has resources to reduce risks
  - hold team accountable for improving risks

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Prioritize Defects

- List all defects
- Discuss with staff what are the three greatest risks
- Identify if resources are needed
  - Select 3 that require resources and 3 that do not
- Executive should assist/lead this process
  - Safety Issues Worksheet for Senior Executive Partnership (Appendix D)

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Safety Issues Worksheet for Senior Executive Partnership

Appendix D

SAFETY ISSUES WORKSHEET FOR SENIOR EXECUTIVE PARTNERSHIP - CUSP

Date of Safety Rounds:
Unit:
Attendees:
1.
2.
3.
4.
5.
6.
7.
8.
9.
(use back of form for additional attendees)

Identified Issue	Potential/Recommended Solution	Resources Needed	Resources Not Needed
1			
2			
3			
4			
5			
6			
7			
8			
9			

Copy form if more than 9 safety issues are identified.
Please return this form to your project leader

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Problem Solving*

- First Order
  - Recovers for that patient yet does not reduce risks for future patients
  - Examples: You do get the supply or you make do
- Second Order Problem Solving
  - Reduces risks for future patients by improving work processes
  - Example: you create a process to make sure line cart is stocked

*Anita Tucker

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Step 4: Learn from Defects

- What happened?
- Why did it happen (system lenses) ?
- What could you do to reduce risk ?
- What specific interventions will you do to reduce risk?
  - Identify a metric to know if risk is reduced
- How do you know risk was reduced ?
  - Ask frontline staff
- Use Learning from Defects Tool (Appendix G)

Pronovost 2005 JCJQI

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Step 5: Implement Teamwork Tools

- Implement tools that are intended to support teamwork behaviors:
  - Daily goals (Appendix H)
  - AM briefing (Appendix I)
  - Shadowing another professional (Appendix K)
  - Culture check up (Appendix L)
  - Call list (Appendix M)
- Teamwork tools are more practical than didactic teamwork training

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Examples of CUSP in Action!!!

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The Comprehensive Unit-Based Safety Program (CUSP)

Identified concern from Staff Safety Assessment (CUSP Step 2)	Recommended Improvements (CUSP Step 4 & 5) **Interventions Implemented**
Risk of central line associated bloodstream infections	Make sure best practices are used for all central lines insertions. **A line cart and checklist is used for all central lines insertions.**
Risk of central line associated bloodstream infections due to poor compliance with IV tubing changes	Make sure every central line IV tubing is changed according to best practice. **New IV tubing labeling system used.**
Risk of medication errors	Point of care pharmacist available on units **Pharmacist assigned**
Poor management of pain	Create guideline or protocol for pain assessment and management **Pain card at every bedside**
Poor communication among ICU providers	Create Short Term Daily Goals Sheet **Daily goals sheet used during rounds**
Poor communication during ICU discharge leading to medication errors in transfer orders	Implement medication reconciliation process at ICU discharge **Medication reconciliation done at discharge**

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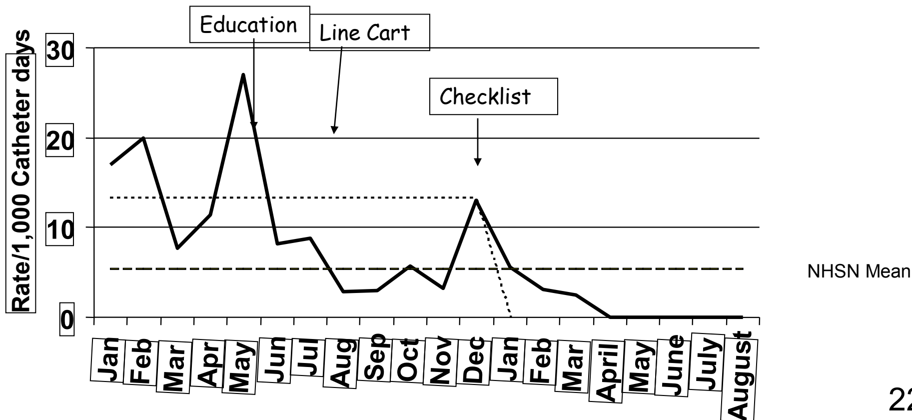
ICU Catheter-Associated Bloodstream Infections



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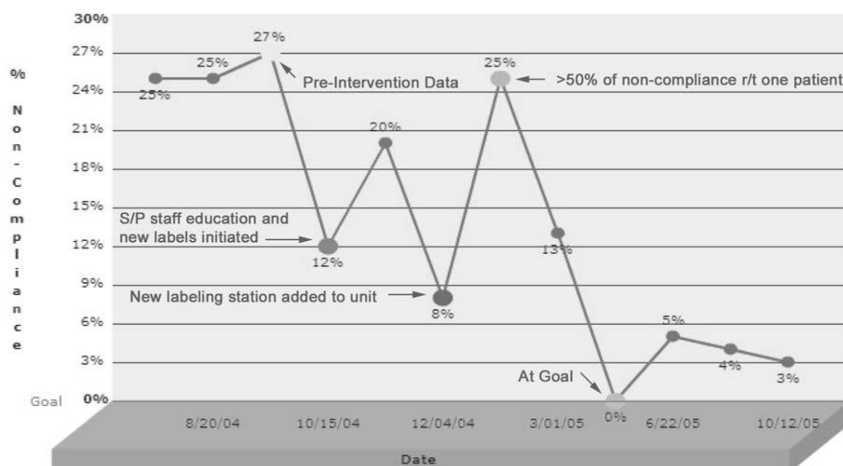
IV Tubing Non-Compliance



Pronovost, et al. Jt Comm J Qual Patient Saf. 2006

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Risk of Medication Errors

- Pharmacist participation on daily rounds in the ICU associated with:
  - 66% reduction in adverse drug events (ADEs)
  - ADEs reduced 10.4/ 1000 pt days to 3.5
  - Prevent one ADE every 143 patients

Leape

- Required significant resources
  - Executive partner was able to obtain the required resources for 1st ICU
  - Pharmacists are now assigned to every inpatient unit at JHH.
    - Survey conducted in 2009 to Dept. of Medicine nurses showed unit-based pharmacists were rated #1 improvement in medication safety

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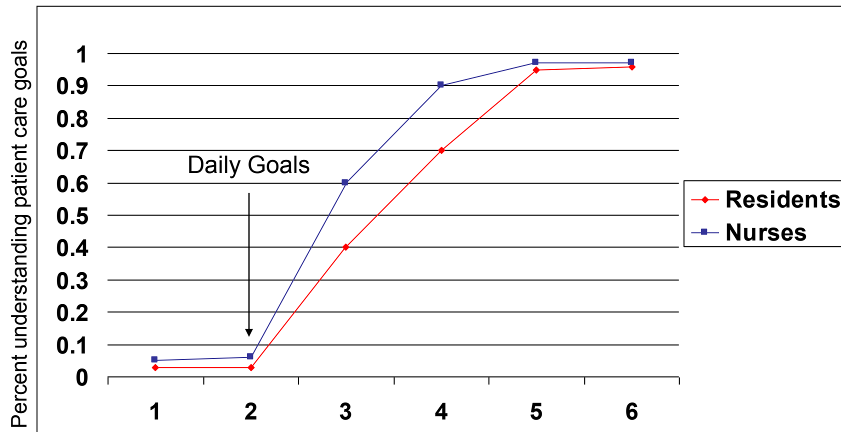
Poor Communication Among Care Providers



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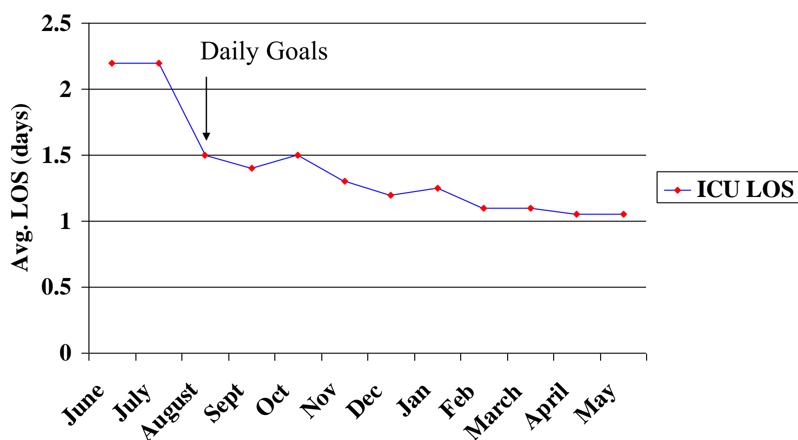
Impact of Daily Goals on ICU Length of Stay



654 New Admissions = $7 Million Additional Revenue

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ICU Discharge Medication Errors

- Goal: prevent medication errors in transfer orders
- Measure: Errors identified using discharge survey, audit 15 patients per week
- Change: Medication reconciliation survey part of routine discharge process

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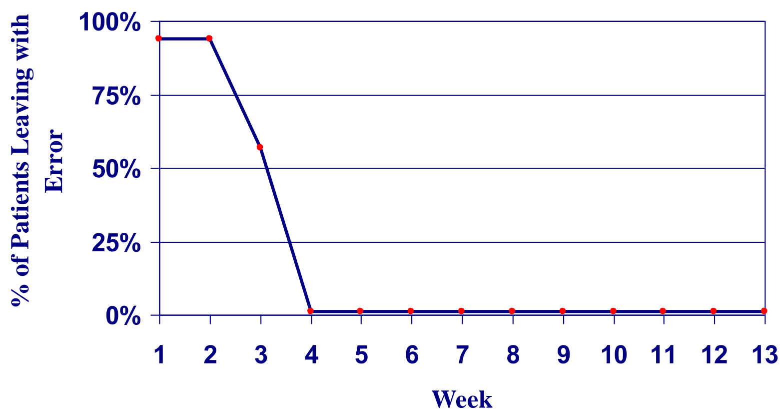
Discharge Survey Audit



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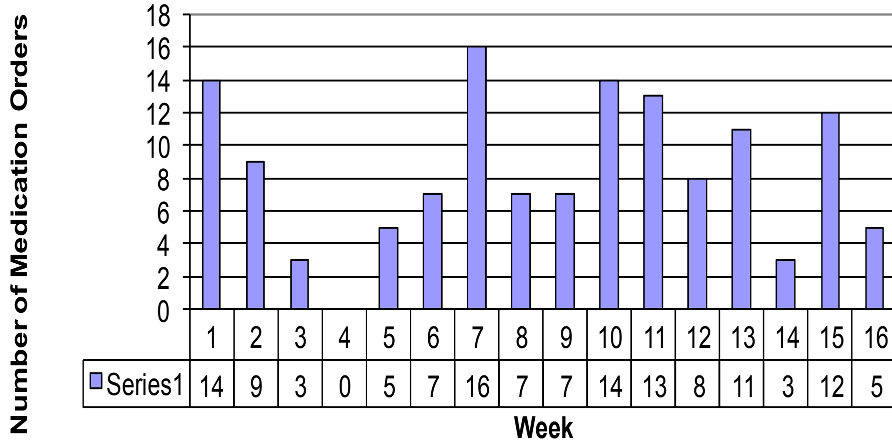
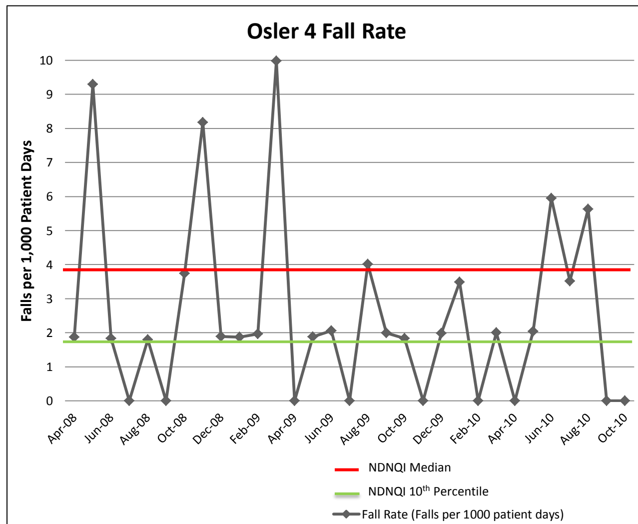
Number of Medication Errors Prevented Per Week Through the Medication Reconcillation Process



Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Series1	14	9	3	0	5	7	16	7	7	14	13	8	11	3	12	5

How do you know risk was reduced?



Baseline Fall Rate
2.92 falls/1000 pt-days

Post-Intervention Fall Rate
2.10 falls/1000 pt-days

Incidence Rate Ratio
0.72 (*P* value = 0.35)

Relative Risk Reduction
28%

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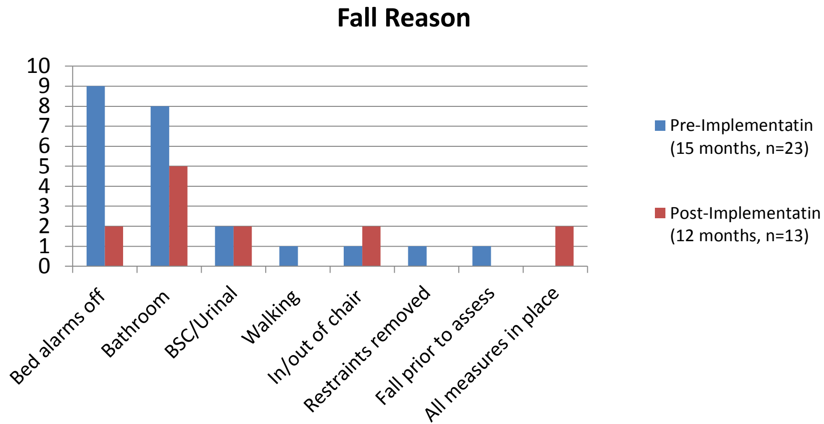
How do you know risk was reduced?



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A Change in the Culture of Safety

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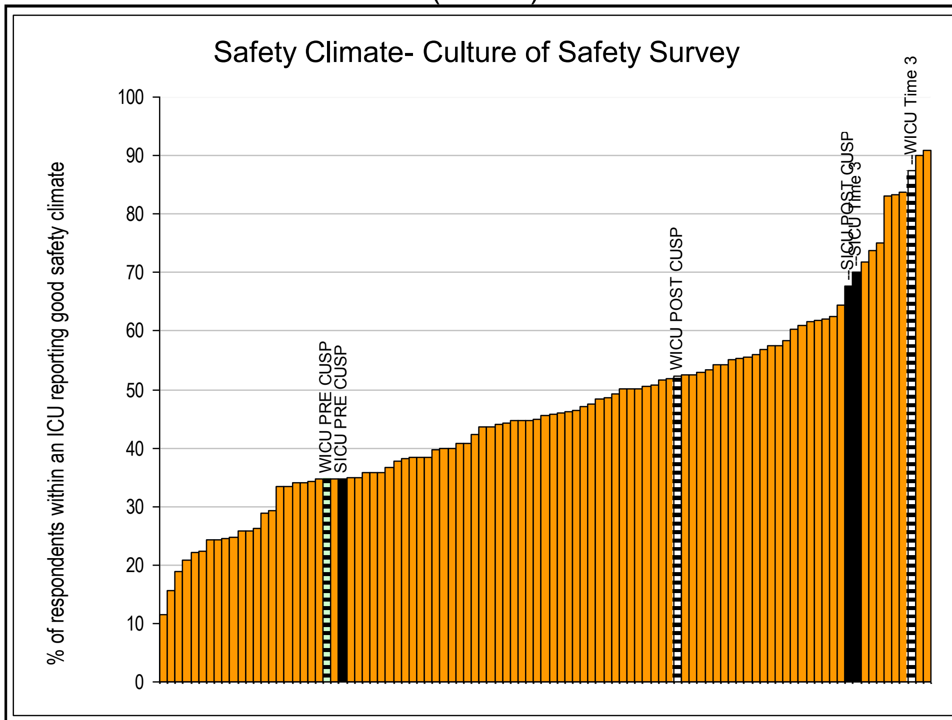
The Comprehensive Unit-Based Safety Program (CUSP)



Culture of Safety- WICU/SICU

Questions	Relative % Increase Before vs After Program
1. The senior leaders in my hospital listen to me and care about my concerns.	22
2. The physicians and nurse leaders in my area listen to me and care about my concerns.	30
3. My suggestions about safety would be acted upon if I expressed them to management.	30
4. Management/Leadership will never compromise safety concerns for productivity.	22
5. I am encouraged by my supervisors and coworkers to report any unsafe conditions I observe.	32

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Culture of Safety- WICU/SICU

Questions	Relative % Increase Before vs After Program
6. I know the proper channels to report my safety concerns.	30
7. I am satisfied with availability of clinical leadership (MD, RN, RPh).	44
8. Leadership is driving us to be a safety-centered institution.	35
9. I am aware that patient safety has become a major area for improvement in my institution.	30
10. I believe that most adverse events occur as a result of multiple system failures, and are not attributable to one individual's actions.	34

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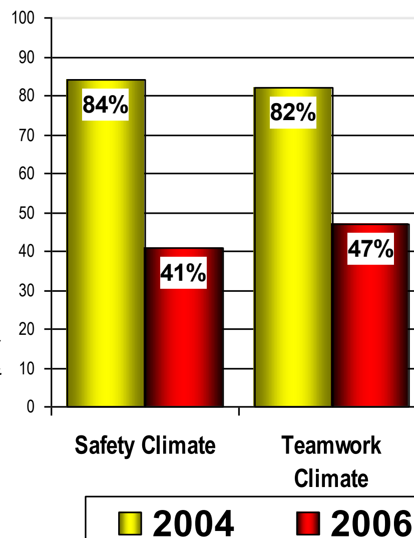
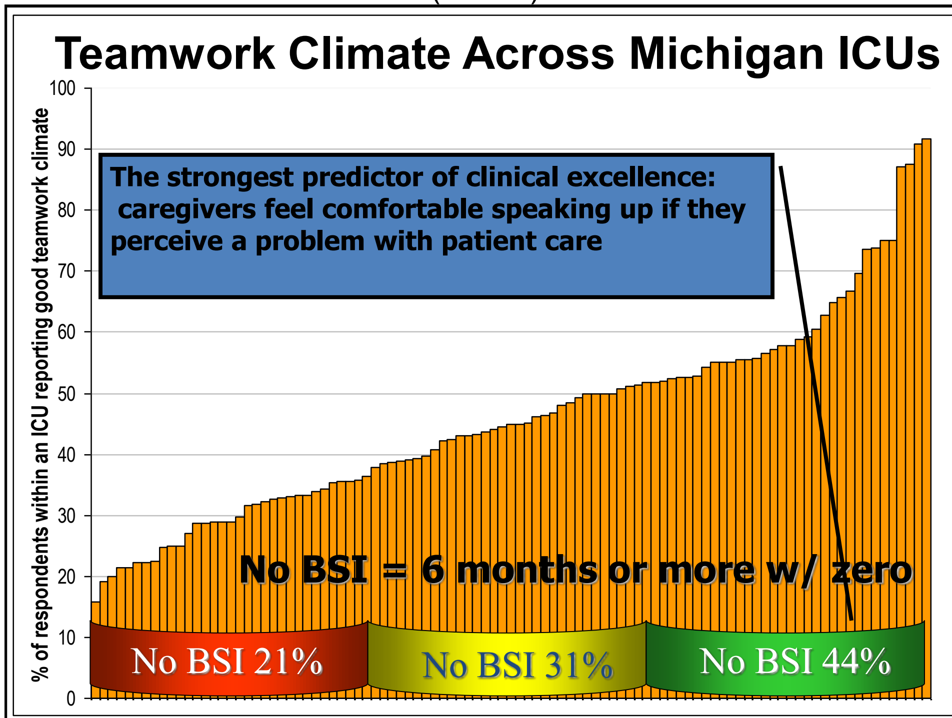
"Needs Improvement" Statewide Michigan CUSP ICU Results

- Less than 60% of respondents reporting good safety climate ="needs improvement"
  - Statewide in 2004 84% needed improvement, in 2006 41%
  - Non-teaching and Faith-based ICUs improved the most
  - Safety Climate item that drives improvement: "*I am encouraged by my colleagues to report any patient safety concerns I may have*"





2 yr CLABSI Results from ICUs in Michigan

Time period	Median CLABSI rate
Baseline	2.7
Peri intervention	1.6
0-3 months	0
4-6 months	0
7-9 months	0
10-12 months	0
13-15 months	0
16-18 months	0

Pronovost NEJM 2006

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4 yr CLABSI Results from ICUs in Michigan

Time period	Median CLABSI rate
19-21 months	0
22-24 months	0
25-27 months	0
28-30 months	0
31-33 months	0
34-36 months	0

Pronovost BMJ 2010

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CUSP is a Continuous Journey

- CUSP is a marathon not a sprint
- Ask staff at least every six months how the next patient is going to be harmed and invest the time and resources to reduce this harm
- Learn from one defect per quarter and share lessons learned
- Implement teamwork tools that best meet the teams needs

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"Change happens when you see the next step."

William Drayton

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What is your next step?

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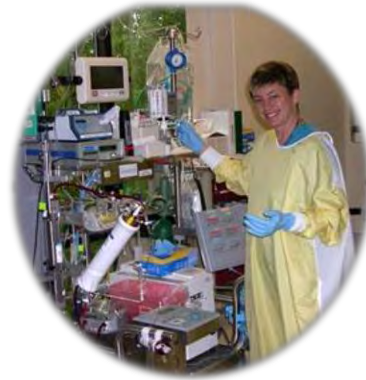
Questions?



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