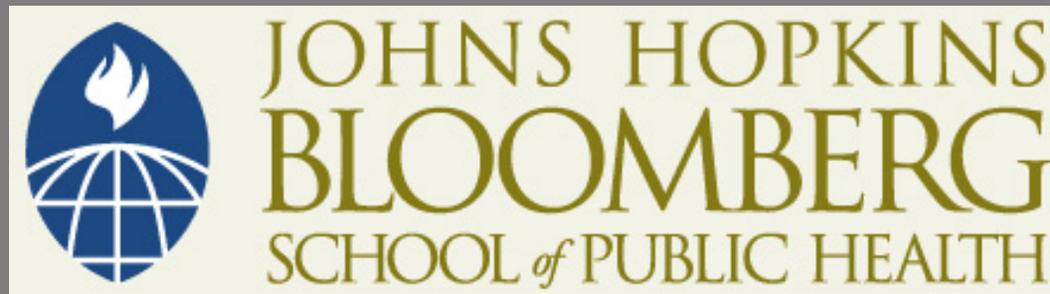


This work is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike License](https://creativecommons.org/licenses/by-nc-sa/4.0/). Your use of this material constitutes acceptance of that license and the conditions of use of materials on this site.



Copyright 2010, The Johns Hopkins University, Albert Wu, Peter Pronovost, and Lilly Engineer. All rights reserved. Use of these materials permitted only in accordance with license rights granted. Materials provided "AS IS"; no representations or warranties provided. User assumes all responsibility for use, and all liability related thereto, and must independently review all materials for accuracy and efficacy. May contain materials owned by others. User is responsible for obtaining permissions for use from third parties as needed.



JOHNS HOPKINS  
BLOOMBERG  
SCHOOL *of* PUBLIC HEALTH

## CUSP: Designing a Comprehensive Unit-based Patient Safety Program

---

Albert Wu, MD, MPH

Peter Pronovost, MD, PhD

Lilly Engineer, MD, DrPH, MHA

Johns Hopkins University

# CUSP: The Concept

- CUSP is a five-step program designed to ***impact safety climate by empowering staff*** to assume responsibility for safety in their environment
- CUSP is a strategic ***intervention*** that provides a road map to learn from mistakes, improve safety culture, and improve systems to make them safer
- CUSP helps achieve the above through ...
  - Education and awareness
  - Enabling access to organizational resources
  - Providing and helping develop a toolkit of interventions

## CUSP: The Concept (cont.)

- Goals
  - Improve patient safety
  - Improve safety culture
  - Integrate safety practices in daily work
- Five-step framework implemented at the unit level
- Cyclical process not linear

# CUSP: Getting Started

- Pre-CUSP work
- CUSP steps

## Pre-CUSP Work

- Obtain leadership support
- Assemble a safety team, including ...
  - Project leader/unit champion (e.g., RN or MD leader)
  - Nurse manager
  - Physician champion
  - Other integral members of unit (e.g., pharmacist, respiratory therapist)
  - Senior executive (e.g., CEO, dean, president)
- Assess unit safety culture using a validated instrument and rigorous survey methodology

# Pre-CUSP Work: Why Culture Matters

- Decubitus ulcers in med/surg units
- Delays in OR and ICU
- Bloodstream infections in the ICU
- VAP in the ICU
- Wrong-site surgeries
- Post-op sepsis
- Post-op infections
- PE/DVT per 1,000 surgical discharges
- RN turnover
- Absenteeism
- Incident reporting rates/reporting harm
- Burnout
- Spirituality
- Unit size

# CUSP: The Five Steps

1. Educate staff on science of safety
2. Identify defects
3. Senior executive to partner with unit
4. Learn from one defect per month/quarter
5. Implement teamwork tools

# Step 1: Science of Safety Education

- Purpose
  - To bring everyone on the unit on the same page with regard to the concept and knowledge of patient safety (systems theory, concepts of safe design, investigation of system defects)
  - To highlight how they can make a difference
- Process
  - Safety trainers deliver the talk in person
  - Large group training is more efficient
  - Track staff trained with attendance sheet (form)
  - Distribute staff safety survey form at end of training
- Challenges: Educating everyone (each shift)
- Solutions: Educate in smaller groups, use online training version—  
[http://www.jhsph.edu/ctlt/training/patient\\_safety.html](http://www.jhsph.edu/ctlt/training/patient_safety.html)

## Step 2: Staff Identify Defects

- Purpose
  - Tap into expertise and knowledge of frontline providers
  - Empower and engage in safety
- Process
  - Staff safety assessment survey (form—two questions)
  - Assign one person the task of survey administration
  - Collate and group responses into common defects (e.g., communication, patient falls)
  - Consider existing data sources like event reports, sentinel events, patient satisfaction, M&Ms, claims
  - Periodically repeat this step
- Challenges: Hesitant to speak up/write, logistics of preparing a collated, actionable report
- Solutions: Make it anonymous, CUSP rounds

## Step 2: Staff Identify Defects (cont.)

- Components of staff safety survey

Name: (can be anonymous)

Unit:

Job Category:

Date:

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

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

Return this form to your project leader

**Thank you for helping improve safety in your workplace!**

## Step 3: Senior Executive Partnership

- Purpose
  - Connect senior management with frontline providers
  - Speedily address safety issues and remove barriers for implementing improvements
  - Advocate for unit (at the institution level)
- Process
  - Preplan: Project leader finds out the number of units implementing CUSP and the number of senior executives available—enough for each unit?
  - Unit safety team meet and orient executive
  - Set up monthly safety rounds with executive
  - Brief frontline providers about purpose of safety rounds
  - Safety rounds: Discuss safety issues (from Step 2—executive, safety team, and unit staff); document safety issues discussed
  - Identify and manage improvement projects

## Step 3: Senior Executive Partnership (cont.)

- Challenges
  - Executive's busy schedules
  - Fewer executives than units
  - Not as many executives aware of patient safety
  
- Solutions
  - Adapt CUSP meetings to executive and staff availability
  - Let leaders spread the word
  - Expand the pool of executives
  - One executive adopts more than one unit

## Step 4: Learning from Defects

- Purpose
  - Investigate why system(s) failed and implement improvement efforts
  - For eliminating sources of potential harm at a steady but sure pace (“de-weeding”)
  
- Process
  - Identify safety defect
  - Investigate at least one defect per \_\_\_\_\_
  - Complete case summary form
  - Share case summary (optional)

## Step 4: Learning from Defects (cont.)

- Components of learning from defects
  - What happened?
  - Why did it happen (system lenses)?
  - What could you do to reduce risk?
  - How do you know risk was reduced?
    - ▶ Create policy/process/procedure
    - ▶ Ensure staff know policy
    - ▶ Evaluate if policy is used correctly

## Step 4: Learning from Defects (cont.)

- Challenges
  - Selecting the “right” defects
  - Institutional bureaucracy
  - Complexity of problems involving more than one discipline leading to slower solutions
  
- Solutions
  - Ask the staff which are the three greatest risks
  - Multi-disciplinary CUSP team
  - Engage the executive so he/she advocates for the unit

## Step 5: Teamwork Tools to Improve

- Purpose
  - Practical tools to implement improvements
  - Enable culture conducive to safety improvement
- Examples of tools
  - Morning briefing (communication and rounding efficiency)
  - Shadowing profession (collaboration, teamwork, communication)
  - Daily goals (communication, care plan)
  - Observe/structure rounds

# CUSP: Moving Forward

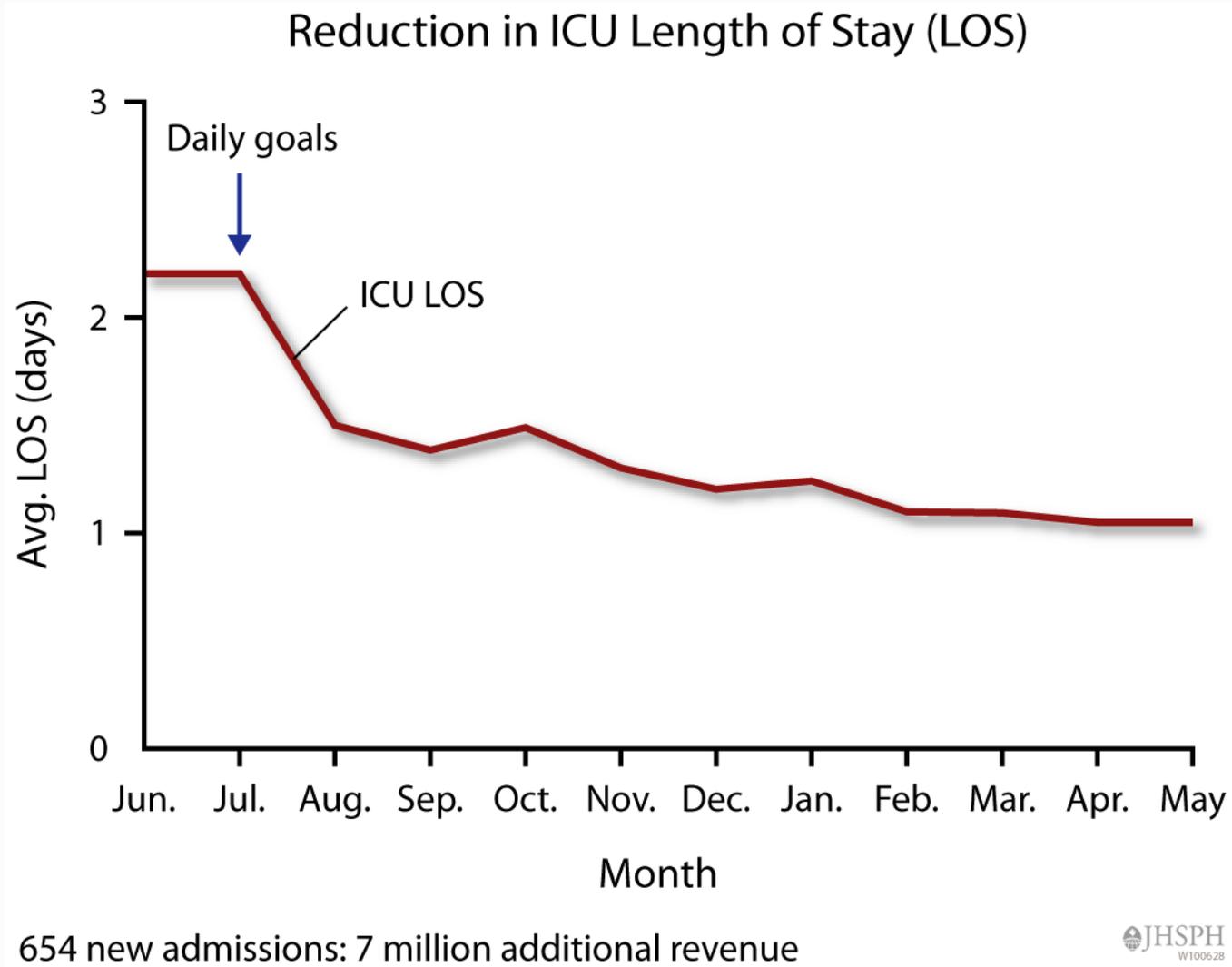
- A continuous journey
  - Repeat Steps 4 and 5 identifying new defects and resolving new ones as you go along
  - Repeat Step 1 when a new staff joins
- Share results and successes

## CUSP Success: Example

- Impact on length of stay and nurse turnover in two ICUs

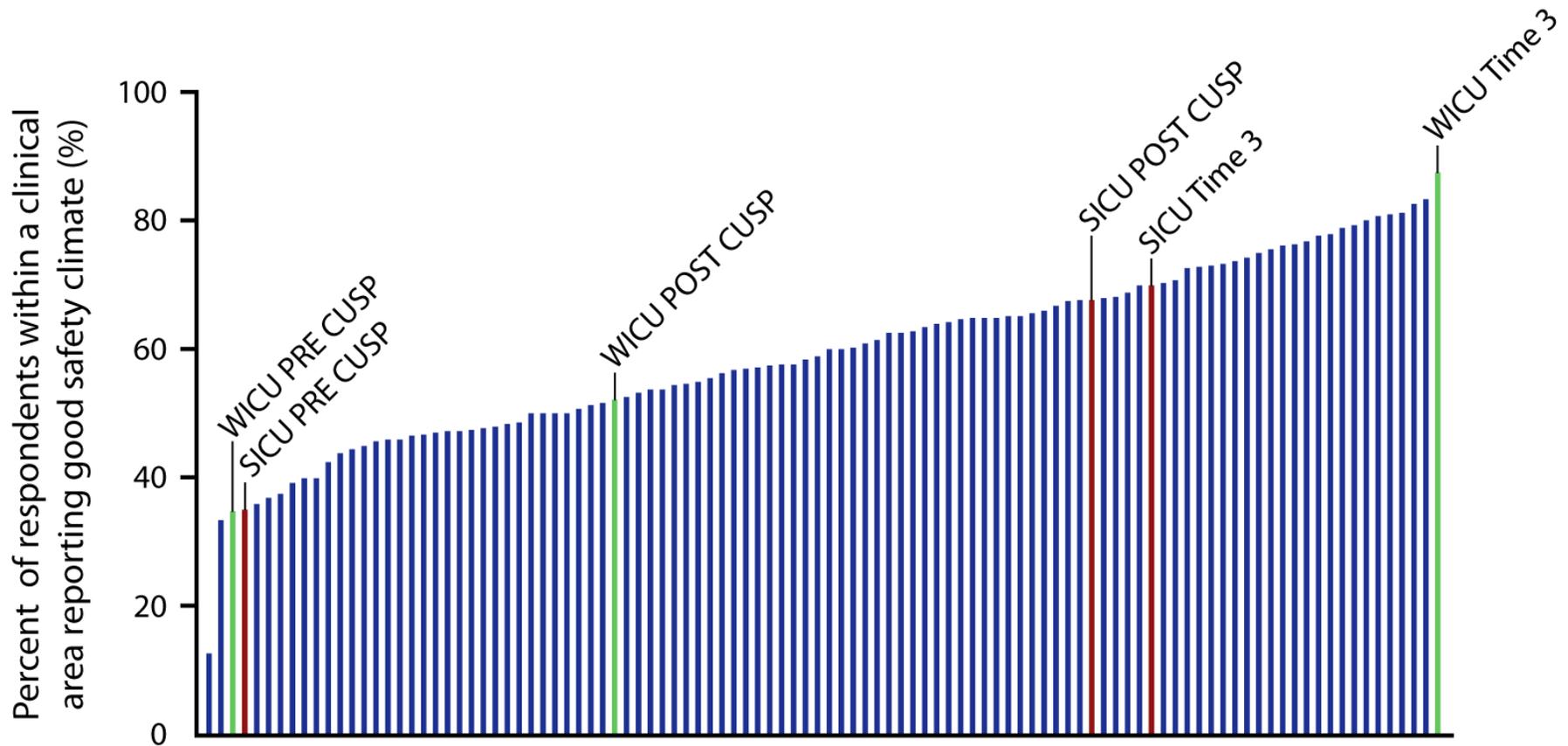
	WICU		SICU	
	Pre-CUSP	Post-CUSP	Pre-CUSP	Post-CUSP
ICU LOS (days)	2.2	1.1	3.2	2.3
% nurse turnover	9	2	8	2

# CUSP Success: Example



# CUSP Success: Example

Safety Climate Across 100 Clinical Areas  
WICU and SICU Climate Pre/Post-CUSP



## References

- Pronovost, P., Weast, B., Rosenstein, B., et al. (2005). Implementing and validating a comprehensive unit-based safety program. *J Pat Safety*, 1, 1, 33-40.
- Pronovost, P., Berenholtz, S., Dorman, T., Lipsett, P. A., Simmonds, T., and Haraden, C. (2003). Improving communication in the ICU using daily goals. *J Crit Care*, 18, 2, 71-75.
- Pronovost, P. J., Weast, B., Bishop, K., et al. (2004). Senior executive adopt-a-work unit: A model for safety improvement. *Jt Comm J Qual Saf*, 30, 2, 59-68.
- Thompson, D. A., Holzmueller, C. G., Cafeo, C. L., Sexton, J. B., and Pronovost, P. J. (2005). A morning briefing: Setting the stage for a clinically and operationally good day. *Jt Comm J Qual and Saf*, 31, 8, 476-479.
- Holzmueller, C. G., Timmel, J., Kent, P. S., Schulick, R. D., and Pronovost, P. J. (2009). Implementing a team-based daily goals sheet in a non-ICU setting. *Jt Comm J Qual and Saf*, 35, 7, 384-388.

# Resources

- Staff education on patient safety: [http://www.jhsph.edu/ctlr/training/patient\\_safety.html](http://www.jhsph.edu/ctlr/training/patient_safety.html)
- CUSP successes in ICUs: <http://safercare.net/>