# Table of Contents

Introduction .............................................................................................................................. 3

Overview .................................................................................................................................. 3
Pre-CUSP Work ..................................................................................................................... 4

Assemble a Safety Team ....................................................................................................... 4
Partner with a Senior Executive ............................................................................................ 5
CUSP Team Members Roles and Responsibilities ............................................................... 5
Measure your Safety Culture (Baseline Assessment) ............................................................ 6
Gather Unit Information for Senior Executive ...................................................................... 7

Post-CUSP Work .................................................................................................................. 7
Getting Help .......................................................................................................................... 7

Step 1: Science of Safety Training .......................................................................................... 8
Step 2: Staff Identify Defects .................................................................................................. 9
Step 3: Senior Executive Partnership .................................................................................... 10
Step 4: Learning from Defects .............................................................................................. 11
Step 5: Tools to Improve ....................................................................................................... 12

Forms

Background Quality Improvement Team Information Form .................................................. Appendix A
Science of Safety Training Attendance Sheet ........................................................................ Appendix B
Staff Safety Assessment Form ............................................................................................. Appendix C
Safety Issues Worksheet for Senior Executive Partnership .................................................. Appendix D
Status of Safety Issues Form ............................................................................................... Appendix E
Case Summary Form ............................................................................................................ Appendix F

Tools

Learning from Defects .......................................................................................................... Appendix G
Daily Goals Checklist .......................................................................................................... Appendix H
Morning Briefing .................................................................................................................. Appendix I
Observing Rounds ............................................................................................................... Appendix J
Shadowing Another Profession ............................................................................................ Appendix K
Culture Check-up ................................................................................................................. Appendix L
Physician Contact Information ............................................................................................. Appendix M
Introduction

Overview

The Comprehensive Unit-Based Safety Program (CUSP) was designed to improve safety culture and learn from mistakes (two components of a safety scorecard) by integrating safety practices into the daily work of a unit or clinical area (the remainder of this manual will solely use the term unit). CUSP is implemented at the unit level, and provides a scalable intervention (program) that can be implemented throughout your organization. Every unit in your health system can form a CUSP team. CUSP is powerful because it provides a structured strategic framework for safety improvement that can be implemented throughout your organization, yet it is flexible enough to tap into staff wisdom and encourage them to fix hazards that they perceive pose the greatest risks. This program draws from frontline providers who have the most knowledge regarding safety hazards and the means to lessen the severity of those hazards, and provides a mechanism to help defend against hazards.

Respect the local wisdom of frontline providers.

CUSP is associated with improvements in patient safety, clinical outcomes, and safety culture. Culture is a major focus because it represents a set of shared attitudes, values, goals, practices, and behaviors that make one unit distinct from another unit. In the context of CUSP, culture has been diagnostic of strengths and weaknesses, responsive to interventions, and relevant to the frontline providers who work there. Moreover, we found that linking culture through CUSP with focused interventions to reduce central line–associated blood stream infections (CLABSI) led to greater and sustained reductions in infection rates. Culture and quality improvement need to be linked.

Each step of CUSP builds on the previous work to systematically equip frontline providers with the tools, metrics, and framework to tackle the challenge of quality improvement. Local unit culture is important because local norms have a powerful influence on the behavior of care providers. In particular, unit culture influences the extent to which we participate in quality improvement efforts, or even speak up when we are concerned about the care of a patient. This is critical because communication failures contribute to nearly all adverse events and liability claims.

The Joint Commission expects its accredited hospitals to conduct an annual measure of their culture of safety. If your organization has not conducted a safety culture survey, it should be done in the participating clinical areas at the outset of this project. Each unit should use its own culture data to monitor changes in patient safety and teamwork scores over the course of the implementation of CUSP.
Though CUSP is comprised of five steps, the program is a continuous process designed to incorporate an ongoing evidence-based patient safety infrastructure into your existing unit. The steps are briefly described below:

- **Step 1 (Educate Staff on the Science of Safety Training)** The learning objectives include the following: a) understand that safety is a property of the system, b) understand the basic principles of safe design that include: standardize work, create independent checks (checklists) for key processes, and learn from mistakes, c) recognize that the principles of safe design apply to technical as well as team work, and d) understand that teams make wise decisions when there is diverse and independent input. A video presentation for this training is available at [http://safetyresearch.jhu.edu/qsr](http://safetyresearch.jhu.edu/qsr).

- **Step 2 (Staff Identify Defects)** Identify defects from incident reports, liability claims, sentinel events, and most importantly ask staff how the next patient will be harmed through a two-item written survey.

- **Step 3 (Executive Partnership)** Partners a senior hospital executive with a unit to open lines of communication, improve frontline providers’ attitudes about leadership, educate leaders about the clinical issues and safety hazards, provide staff resources to mitigate hazards, and hold staff accountable for reducing patient risks.

- **Step 4 (Begin Learning from Defects)** Staff use a practical yet valid tool to learn from defects by answering 1) what happened, 2) why it happened, 3) what you did to reduce risk, and 4) how do you know risks were actually reduced. Staff are encouraged to learn from at least one defect per month.

- **Step 5 (Implement Teamwork Tools)** Provides tools to improve teamwork, communication, and other systems of work in the unit.

In general, the CUSP team leader should oversee the implementation of CUSP. However, training in the science of safety can be lead by the nurse manager or educator. Other team members can and should help in each of the steps.

**Pre-CUSP Work**

Assemble a Safety Team

First, each unit must assemble a safety team. This is important because the safety team will oversee the process to guide the implementation and management of the program, and will also be the driving force in sustaining the program. Each team should have (1) a unit champion or project leader (often a nurse or physician leader), (2) a nurse manager, (3) a physician champion, and (4) anyone else who is an integral part of the unit, such as a pharmacist, hospitalist, etc. The unit champion, nurse manager, and physician champion must be able to dedicate a minimum of 10% to 20% of their time to this program, depending on the size of the unit and the existing local infrastructure. Including hospital epidemiology/infection control on your team is extremely important since they will contribute important expert advice and data to the project.

When assembling the safety team, it is imperative to consider group dynamics. Make sure the team is multidisciplinary, includes different levels of experience or training, and allows and encourages members to join at any phase of the program.
The team leaders should meet with hospital risk management, quality improvement and infection control to ensure that CUSP efforts are integrated into overall hospital quality improvement and patient safety efforts.

List team member names and contact information on the Background Quality Improvement Information Form (Appendix A) and post this list in a visible location for staff reference. Perhaps entertain the idea of an open invitation to join the team at a staff meeting or through another method of communication that will reach the entire staff that work with patients in your area, including members from pharmacy, nutrition, and occupational or physical therapy.

Partner with a Senior Executive

Second, the safety team should contact hospital management and meet with a senior executive to introduce CUSP and secure their commitment to the program. When selecting a senior executive ensure they are (1) at a Vice President level or higher, (2) available to round for one hour/month, and (3) approachable and comfortable having important discussions about tricky or sensitive topics.

Like all staff, the executive should watch the science of safety video to gain perspective on approaching patient safety issues, and help them prepare for their role in leading safety rounds on the unit. The senior executive will also receive a handbook to provide further guidance as a CUSP partner. Schedule a second meeting with the senior executive after the safety culture baseline assessment and before the first safety rounds to share unit-specific information (described farther down in this section).

CUSP Team Members Roles and Responsibilities

**Senior Hospital Executive**
- Help surface safety hazards through open discussions with unit staff
  - Results from Staff Safety Assessment Survey should be sent to you before Safety Rounds
- Make rounds on assigned unit and meet with key members of the health care team, typically for 1 hour/month or more, depending on issues
- Help the team prioritize needed improvements
- Provide resources for improvement efforts as needed or provide alternative method to make improvements if resources are not available
- Department administrators, department of nursing and department chair should be invited to participate in safety rounds
- Help the team learn from defects using the defect investigation tool and ensure they have the resources to fix the problem
- Send personal letters to staff implementing improvement projects as needed to recognize their efforts

**Nurse Manager**
- Supports CUSP process
- Manages resources
• Assures survey results are shared with staff
• Assigns project leaders to interventions
• Assists in scheduling executive walk rounds
• May serve as the Unit Champion (will need 20% dedicated effort)

**Project Leader (Unit Champion)**
• Encourages unit staff involvement
• Obtains staff feedback
• Manages documentation of CUSP program; either paper-based forms or eCUSP project management tool
• Educates staff about CUSP

**Physician Champion**
• Review and identify problems
• Assist in implementation of interventions
• Communicates with physician group as needed

**Coach (optional) (usually a person with expertise in the CUSP process)**
• Mentors executive regarding his/her role in improving unit safety
• Assists where appropriate in setting up meetings
• Assists in project management role
• Contact person for questions
• Helps identify resources
• Helps when appropriate in documenting findings and process
• Trains to use eCUSP project management tool

**Patient Safety Coordinator/Patient Safety Officer (optional)**
• May serve as a Senior Executive in some institutions
• Coordinates executive orientation
• Assures coach is assigned (if CUSP expert available at institution)
• Verifies surveys are analyzed and results are reviewed in a timely manner
• Monitors progress
• Helps to disseminate results and share stories

**Other Unit Staff (Participants)**
• Identify safety defects
• Suggest solutions for safety defects

**Measure your Safety Culture (Baseline Assessment)**

Safety culture should be assessed prior to implementing CUSP and approximately yearly thereafter. Understanding the context in which CUSP will be implemented is an important precursor to starting CUSP. Your safety culture should be rigorously assessed at the unit level using a valid culture measurement instrument. Safety culture questionnaires elicit frontline provider’s attitudes about various domains that link to safety. While individual providers complete the questionnaire, responses are compiled and results can typically be presented at multiple levels, such as by job category (for example. nurse, physicians, or respiratory therapists), by unit, or by
hospital. You should measure your safety culture before implementing step 1 and use the same instrument for periodic culture reassessments (every 12 to 18 months is recommended).

Before administering the survey chosen, it is imperative that frontline providers understand why they are filling out this questionnaire. Emphasize that we want to tap into their wisdom, opinions, and perceptions of safety in their unit, and ensure that they will receive feedback on the results. All clinical and nonclinical providers who work on your unit should be included in this culture assessment (for example, nurses, physicians, and unit clerks). We will provide more details to the CUSP leader or other appropriate person regarding measuring culture. As part of this program, we will provide you with tools to measure culture.

Gather Unit Information for Senior Executive

Gather relevant information about the unit for the senior executive. Include in this information packet, (1) results from the safety culture baseline assessment, (2) the list of safety issues compiled from the staff safety assessment (step 2), and (3) pertinent information about the unit that the senior executive may not know (for example, number of beds, staff turnover rate, incident reports, sentinel events, and rates of central line–associated bloodstream infections).

Post-CUSP Work

After CUSP is underway, safety teams will be asked to complete a Team Check-up Tool. This tool asks about the needs and problems the safety team has been facing as they share the program with other unit providers. The information provided should be summarized and reported to the executive partner every three months. This will provide a channel for the safety team to report issues to management in a way that allows complete honesty, which in turn will help the executive provide the team with assistance and solutions. More details about this tool will be explained in a conference call. This information will be collected monthly on the web-based data collection tool.

Getting Help

We recognize that CUSP represents a lot of new material. Yet, most of it is intuitive and self explanatory. Most of the question you have can be answered in the manual. If you have additional questions email us at stopbsi@jhmi.edu

IMPORTANT: Please read through each step of CUSP before implementation.
Step 1: Science of Safety Training

All too often we assume a mistake occurs because of inexperience, lack of supervision or bad luck, when in fact care is delivered in suboptimal systems. The science of safety provides a conceptual framework and a common safety vocabulary that allows frontline providers to recognize, surface and address defects at the system level. The goal of the science of safety training is to inform all frontline providers and executive partners about the magnitude of the patient safety problem, provide a foundation for investigating safety defects from a systems perspective, and highlight how their involvement can make a significant difference to make care safer.

The learning objectives for this training include the following: a) understand that safety is a property of the system, b) understand the basic principles of safe design that include: standardize work, create independent checks (checklists) for key processes, and learn from mistakes, c) recognize that the principles of safe design apply to technical as well as team work, and d) understand that teams make wise decisions when there is diverse and independent input.

A “system” is a set of parts interacting to achieve a goal and the science of safety training emphasizes how each part or “cog” in the system contributes to the provision of care and is vital to bringing about sustainable change in the clinical setting.

The science of safety training includes 2 videos. First, have your staff view a video of Sorrel King retelling the tragic death of her 18-month old daughter from a medical mistake. The Sorrel King video is available to view from the On the CUSP: Stop BSI website. Next have your staff view the 32-minute science of safety “Improving Safety” presentation by Dr. Peter Pronovost. To view the “Improving Safety” presentation click on the title of the presentation.

What the team needs to do:

The CUSP team leader or nurse manager should ensure that all staff members watch the Science of Safety presentation within the first month of CUSP implementation. The best approach is to schedule large group training sessions; however, smaller group or individual training can be used. An attendance sheet (optional) has proven to be very helpful in tracking staff that completed the training Science of Safety Training Attendance Sheet (Appendix B). After watching the video, staff members could discuss the important concepts they have learned. Staff members could discuss safety events on their unit, what systems may have led to the event, how the principles of safe design could be applied to improve safety, and how teams can improve communication.

It will be helpful to have a process to ensure that new frontline providers, who join the unit after CUSP is underway, watch the Josie King and science of safety videos. One strategy is to include these presentations in their orientation.

We recommend that the Staff Safety Assessment form (used in step 3) be handed out at the end of the science of safety training session. This is also a good time to instruct staff regarding how safety concerns will be reported on the unit in the future, identify the executive partnering with the unit (step 3), and describe how Executive Safety Rounds will be conducted.
Step 2: Staff Identify Defects

Frontline providers are the eyes and ears of patient safety, and the individuals with the expertise and knowledge needed to improve safety. After exposing frontline providers to the science of safety in step 1, they are more aware of system level defects and prepared in step 2 to identify the clinical or operational defects that they perceive as negatively affecting patient safety. We have found that one of the strongest determinants of safety culture is whether physician and nurse managers listen to and act on staff concerns regarding patient safety. Therefore, it is important to be ready for the defects identified by your staff, and recognize that they should be reviewed to set the agenda and topics for discussion in step 3.

The Staff Safety Assessment form (Appendix C) asks providers how the next patient will be harmed in their unit; and what they think can be done to minimize patient harm or prevent this safety hazard from happening again. Other potential sources of information about defects include your hospital’s incident reporting system, risk management reports, liability claims, and morbidity and mortality conferences. Nevertheless, we need to tap into the tremendous knowledge that frontline providers possess regarding the risks to patient safety. The Staff Safety Assessment is a great tool to access this information. It can be repeated quarterly or annually.

What the team needs to do:

The CUSP team leader or their designee should hand out a Staff Safety Assessment form (Appendix C) to all clinical and nonclinical providers in the unit. One person should be assigned the task of handing out and collecting the safety assessment forms. To encourage staff to report safety concerns, it may work well to establish a collection box or envelope in an accessible location where completed forms can be dropped off. All safety assessments should be:

- Collated and grouped into common types of defects (such as communication, medication process, patient falls, supplies, etc.) and summarized as frequency distributions (i.e., what percent of total responses were related to communication).
- Prioritized considering the following criteria: likelihood of harming the patient, severity of harm, how common it is, and likelihood that it can be defended against in daily work. Note that one of the tasks of the senior executive is to help prioritize the unit’s safety concerns. You have the option of saving this prioritizing process for your meeting with him or her. You can use formal quantitative (for example, rating risk of harm) or informal (for example, group consensus) methods to prioritize the greatest risks. Informal methods tend to be less burdensome and seem to accurately reflect unit level risks.

The collated results from the Staff Safety Assessment form will be used to present safety issues as part of the Senior Executive Partnership (see step 3).

You may also want to provide your unit executive with a data stream of information about the status of quality, safety and safety culture on your unit. Some suggested sources of data are safety culture assessment results, sentinel events, incident reports, and liability claims.
Step 3: Senior Executive Partnership

The overarching goal of partnering a senior executive with a unit is to bridge the gap between senior management and frontline providers. The senior executive’s role is one of advocacy. They should be encouraged to discuss safety issues identified in step 2 and help remove barriers (e.g., resources, political, lack of awareness) to implementing improvement efforts. In addition, the executive’s role is also to stimulate further discussions about safety, help prioritize safety concerns, suggest solutions to safety concerns, and help set goals for the unit. In addition, the executive should hold providers accountable for undertaking efforts to reduce risks to patients.

The effect the safety team and frontline providers can have on the executive is important. The executive can gain tremendous knowledge from observing and understanding the challenges they face each day on the frontline. In addition, executives may not be aware that system defects exist in their hospital. These valuable insights often alter the way the executives do their jobs, and they frequently report that their hour on the unit is time they look forward to the most each month.

One of the most effective approaches to bridge the gap between senior management and frontline providers is to conduct executive safety rounds, where the executive mingles with providers on the unit while discussing safety issues. Meeting with providers in a conference room format should be kept to a minimum.

What the team needs to do:

The CUSP team leader or members of the safety team should meet with the senior executive assigned to their unit (the second of two meetings) after step 2 and before the executive holds safety rounds to share unit-specific information. Include in this information packet, (1) results from the safety culture baseline assessment, (2) the list of safety issues compiled from the staff safety assessment (step 2), and (3) pertinent information about the unit that the senior executive may not know (for example, staff turnover rate and rates of central line– associated bloodstream infections). If a senior executive does not have a clinical background, you may want to suggest that he/she visit the unit before the first staff meeting to get a better feel for the unit and how it works. They may want to consider shadowing a provider Shadowing another Profession tool (Appendix K) to observe where system breakdowns are occurring.

The unit champion or other member of the safety team should schedule monthly executive safety rounds. This schedule should be posted on a bulletin board accessible to unit providers and
should extend an invitation for all providers to attend these rounds. Post a picture of the unit executive and contact information on the unit. This will increase visibility of the executive and the program and engage providers in feeling comfortable addressing and contacting the executive.

**Increase visibility of your senior executive** – put a face to a name by posting a photo of your project executive on a staff bulletin board.

In preparation for executive safety rounds the unit champion should brief providers regarding the purpose of partnering with a senior executive, and ask them to be prepared to discuss their own safety concerns and suggestions for resolution during rounds. Make sure to repeat this preparatory step a few days before each safety round as a reminder to frontline providers and to collect any safety concerns from providers that will not be physically present on the day of rounds.

During executive safety rounds, the safety team, senior executive, and unit providers should review the safety issues identified and list them on the **Safety Issues Worksheet for Senior Executive Partnership** (Appendix D) or a tracking log of your choice. Next, pick 2-4 safety issues that do not need resources (simple and easy to implement without additional money or added staff members) and up to 2 issues that need additional resources (require funds in the budget to implement) and note these on the form.

Documenting safety issues that will be addressed based on the executive safety rounds is useful in tracking the impact of the initiative. It may be helpful to transfer the safety issues you are working on to the **Status of Safety Issues** (Appendix E) form and assign a contact person to champion all activities associated with each issue. As safety issues are resolved, move them to the Completed section on the bottom half of the form and remember to add new safety issues to the top section (remember the bicycle wheel). Return this form to your unit champion so frontline providers on your unit can be kept informed about the progress of improvement interventions.

Part of safety rounds should include the investigation of a safety defect from the safety priorities established during step 2 (Safety Issues Worksheet) that occurred on the unit. It may be best to wait until the second session with your senior executive before incorporating this tool in safety rounds. Waiting will provide an opportunity for your team and unit to undertake a trial run to see how the tool works so you are better able to explain the investigation process to your executive partner. This investigation is step 4, in which frontline staff and the executive will use the **Learning from Defects (LFD)** tool (Appendix G) to identify what systems-based safety problems contributed to the defect. This process will include a plan of action to resolve system defects that is documented on the LFD tool. To manage and track safety activities, it may be easiest to transfer this information to the **Status of Safety Issues** form (Appendix E). For further details about the LFD tool and summarizing results for unit feedback see step 4.

**Step 4: Learning from Defects**
There are many sources to identify safety defects. Once defects are identified and prioritized, however, we must learn from them and implement improvement efforts. The Learning from Defects (LFD) form (Appendix G) will help frontline providers investigate safety defects by looking at one defect, identifying the factors that contributed to the defect, implementing changes to reduce the probability of it recurring, and summarizing what was learned from this investigation. The LFD form seeks to answer four questions: 1) what happened, 2) why did it happen, 3) what did you do to reduce risk, and 4) how do you know risks were reduced. Learning from Defects will be the topic of a team conference call. Tools and forms to support this step will be provided in conjunction with the call.

We ask that the safety team learn from one defect per month. This process should be incorporated into activities undertaken with your senior executive in step 3. As mentioned in step 3, you may want to wait until your second executive safety rounds to incorporate the LFD process. This includes completing the Case Summary form (Appendix F) that is part of the LFD tool, and sharing the learning both inside and outside the unit (for example, the senior leader may ask, “with whom did you share your lesson learned last month through the Defects tool?”). Please find a method of dissemination that works best for your unit. This may be a communication book that is read and signed off by all frontline providers, a dedicated bulletin board, or updates at routine staff meetings. It is important to share the LFD case summaries throughout your health system since events tend to be common among units.

What the team needs to do:

Take a defect identified on your unit; either an incident report, sentinel event, liability claim, or defect identified from the Staff Safety Assessment (step 2), and complete the LFD tool. Each unit should complete at least one LFD tool and the accompanying Case Summary per month. We recognize that the information provided in these summaries may present sensitive and confidential issues. As such, we ask that you share these case summaries within your hospital and unit in general terms (to respect the sensitivity of many issues).

**Step 5: Tools to Improve**

We have developed a series of practical tools to help improve communication, teamwork, and other areas that may present hazards to safety on your unit. Each tool comes with detailed instructions. The tools for you and your team are listed below with a brief description of their purpose. Because ineffective communication is so common in hospitals, it is recommended that you start with the daily goals checklist and then AM briefings.
<table>
<thead>
<tr>
<th>Name of Tool</th>
<th>Recommended for</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning from Defects</td>
<td>Requirement for all units</td>
<td>Set up a local process to learn from and respond to defects locally, within the unit</td>
</tr>
<tr>
<td>Daily Goals Checklist</td>
<td>Units in which less than 60% agree with the item: “The physicians and nurses here work together as a well coordinated team.”</td>
<td>Improve team communication regarding patient’s plan of care</td>
</tr>
<tr>
<td>Morning Briefing</td>
<td>Units in which more than 20% agree with the item: “In this ICU, it is difficult to speak up if I perceive a problem with the care of a patient.”</td>
<td>Get everyone on the same page at the beginning of a day or shift, so that expectations are set and the day is more predictable</td>
</tr>
<tr>
<td>Observing Rounds</td>
<td>Recommended for all units</td>
<td>Improving teamwork and communication behaviors across and between disciplines</td>
</tr>
<tr>
<td>Shadowing Another Profession</td>
<td>Units in which less than 60% agree with the item: “Disagreements in this ICU are resolved appropriately, i.e., not who is right, but what is best for the patient.”</td>
<td>Identify and improve communication, collaboration &amp; teamwork skills between different practice domains</td>
</tr>
<tr>
<td>Culture Debriefing Tool</td>
<td>Requirement for all units</td>
<td>Provide a structured process to make culture results actionable</td>
</tr>
<tr>
<td>Physician Call List</td>
<td>Recommended for all units</td>
<td>Improve the effectiveness of nurse to physician communication when using the paging system</td>
</tr>
</tbody>
</table>

What the team needs to do:

Look at your unit scores from the safety culture assessment (Pre-CUSP work) and see what areas have been highlighted as needing improvement (for example, poor teamwork climate). Discuss with frontline providers how and where they want to improve communication and select a tool that best addresses their concerns. Adopt a tool that would improve teamwork, such as the shadowing tool, which improves cross-disciplinary communication and unit functioning. We suggest that you adopt and implement three tools per year.