Using TeamSTEPPS and CUSP in Surgical Services to improve patient safety N6620/6621- Practicum

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Report Summary

On any typical day in the hospital patients are getting ready for surgery. Sometimes surgery is planned and other times it is a result of an emergency, either way it is a very complex process with many moving parts. There are many different factors that contribute to this complexity. Factors include that patients and their families as well as staff, are coming and going from the hospital at all hours of the day and night. Emergencies require immediate response from caregivers 24 hours a day. There is various testing happening simultaneously on multiple patients in different areas of the hospital including the laboratory and surgical services. Adding to the complication, the facility is staffed with many different levels of caregivers who need to work together, yet, these individuals have varying degrees of team work ability, leadership and communication styles. Due to the intricacy of the healthcare system, patient safety is sometimes compromised even though the clinical team had the best of intentions to provide safe care for the patient. When care is provided to a patient and a mistake occurs this is referred to as a medical error (Pronovost, 2005). Medical error is caused by many different reasons however; one of the most common reasons is due to communication breakdown (Sheppard, 2013).

This report will present a program that has been proven to successfully address communication breakdown, teamwork, and prevent help prevent medical errors. The program will be implemented in the Surgical Services department on the sister campus, of where I am currently employed. As with any good nursing assessment I began with a thorough assessment. To begin the assessment I needed to assess the culture of the surgical unit. Clark (2009) states that a healthier culture and work environment occurs when all staff receive team training and leads to decreased vacancies, less staff turnover, and increased staff satisfaction. As a result of effective teamwork and an improved culture, unintentional and inadvertent medical errors that negatively impact patient care will decrease (Clark, 2009).

Prior to performing education, a survey to obtain a cultural assessment was offered to the staff, and information gathered from on online survey tool. The online tool was developed by me using questions to assess how the staff felt about patient safety, communication, teamwork, and leadership. Using the information from the survey tool the education session was developed and the surgical staff received education and training on the safety program through class room teaching. Post education the staff was evaluated in two ways. They were asked to provide verbal evaluation of the education they received through the answering of pre-determined questions and second the staff was asked to evaluate the educational session on a pre-printed written evaluation.

The data from the online survey are in the report under the tables section. The results of the written evaluation are provided in the report under section Appendix A. The online survey data indicated that the staff perceived a lack of team work and communication in the Surgical Services department. The results of the verbal and the written evaluation at the end of class was positive and they indicated the staff was content with the information they learned in the class and several of the participants were excited to implement tools and content learned and practiced in class. The results also indicated that continued work to provide safer patient care was needed.

The goal of the program was to identify patient safety concerns and implement a program to address those concerns as well as positively impact patient care in the Surgical Services Department. An immediate benefit of starting this process is that the staff is becoming more involved in thinking about safety and is encouraged to participate in safety discussions as we move forward through the education program. Many of them have been given the tools to improve communication and teamwork in the surgical department at LRGHealthcare. There is still a great deal of work to be done after this practicum project to meet our goals such as further education pertaining to the program for both the staff and the providers, increased senior management involvement, as well as continued follow up education every six months (Clapper & Ng, 2013). However, the process has been started and continuing to build on the program is essential. Staff, providers, and management have to constantly be preoccupied with patient safety to deliver the highest quality of care every day to all patients who come to LRGHealthcare for their surgery.

We did identify limitations from the practicum experience. One of the most impactful was the limited support and involvement from the senior management and the surgeons. Only approximately five percent of physicians are actively involved with the safety program and none of them were present for the educational session, although they were invited to attend. It was my first time teaching the safety program so there was inexperience with the content and implementation of the program. Also I was alone for the education and implementation with some assistance give from the Surgical Services Department.

Based on my experience with the implementation of the Patient Safety Program I recommend that there be more involvement with the Surgical Services Department during implementation of the Patient Safety Program include having more involvement of administration during the implementation process of the program, having more people trained to educate the entire Surgical Services staff, and requiring more of the providers to be trained. By

having administrative support such as making the class mandatory for all employees including physicians, and increasing the resources such as additional educators, that can be made available to the department, would likely make the program even more successful (Clapper & Ng, 2013). Clapper and Ng, (2013) states that by having all the providers receive training, the change to a safer culture is more effective because a hierarchal difference between staff and the providers is less prominent. Also, a six month follow-up with staff in the form of a survey is needed to assess the staff's attitude concerning the culture of safety in the department. Lastly, by having more instructors from within the department, education can occur more efficiently and they can also act as departmental resources to support behavioral changes in the department and keep people on track with focusing on patient safety.

Acknowledgements

I would like to thank these following individuals for their help and support throughout my project.

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I would also like to thank Dr. Christopher FitzMorris, DO, (Doctor Of) and Assistant Chief of Medical Staff for his guidance during my practicum project. Thomas Clairmont, President and CEO (Chief Executive Officer) of LRGHealthcare for allowing me to proceed with the CUSP program in the Surgical Services Department as well as his involvement from a Senior Leadership perspective in the CUSP program. I would like to thank the Department of Surgical Services and Joyce Meisel RN, BSN, (Bachelor of Science in Nursing) Senior Director of the department for her support during the Comprehensive Unit safety Program (CUSP) project. And I would like to acknowledge all the staff that participated in CUSP because without their participation the program could not have been initiated. I would also like to thank Professor Doreen Dawe for her guidance, mentorship, and patience during my practicum experience. Finally, I would like to thank my family for all this support during my entire graduate program.

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Appendix A

List of tables and Figures Team Survey		
It is important to ask patients and their families for feedback regarding patient care.		
Answer	Response Percent	Response Count
Options	Nesponse Fercent	Nesponse Count
Strongly	100.0%	29
Agree		
Agree	0.0%	0
Neutral	0.0%	0
Disagree	0.0%	0
Strongly Disagree	0.0%	0
	answered question	29
	skipped question	0
Patients a	e a critical component of our team.	
Answer Options	Response Percent	Response Count
Strongly		
Agree	100.0%	29
Agree	0.0%	0
Neutral	0.0%	0
Disagree	0.0%	0
Strongly		0
Disagree	0.0%	0
	answered question	29
	skipped question	0
	nission is of greater value than the goals	s of individual team members.
Answer Options	Response Percent	Response Count
Strongly	14.60/	
Agree	14.2%	4
Agree	67.8%	19
Neutral	10.7%	3
Disagree	1.0%	2
Strongly Disagree	0.0%	0
	answered question	28
	skipped question	

Effective team members can anticipate the needs of other team members.			
Answer Options	Answer Options Response Percent Count		
Strongly Agree	Strongly Agree	24.2%	7

Agree	Agree	55.2%	16
Neutral	9	10.3%	3
Disagree		10.3%	3
Strongly Disagree	Strongly Disagree	0.0%	0
	ans	wered question	29
		kipped question	0
		•	
	ming teams in health care share common of teams in other industries.	characteristics w	ith high-
Answer Op		Response Percent	Response Count
Strongly Ag	ITAA	38.0%	
Agree	li G G	62.0%	18
Neutral		0.0%	0
Disagree		0.0%	0
Strongly Dis	sagree	0.0%	0
outerigity 2.		wered question	29
		kipped question	0
			-
It is imports	ent for loadors to abore information with too	m momboro	
It is important for leaders to share information with team members. Response Response			Response
Answer Op	tions	Percent	Count
Strongly Ac	Iree	76.0%	22
Agree	100	26.0%	7
Neutral		0.0%	0
Disagree		0.0%	0
Strongly Di	sagree	0.0%	0
2 C g. , D		wered question	29
		kipped question	0

Leaders should create informal opportunities for team members to share information.		
Answer Options	Response Percent	Response Count
Strongly Agree	72.9%	21
Agree	18.1%	5
Neutral	3.0%	1
Disagree	3.0%	1
Strongly Disagree	0.0%	0
	answered question	28
	skipped question	1
Effective le	eaders view honest mistakes as meanir	ngful learning opportunities.
Answer Options	Response Percent	Response Count
Strongly Agree	10.3%	3
Agree	55.3%	16
Neutral	10.3%	3

Disagree	13.8%	4
Strongly Disagree	10.3%	3
	answered question	29
	skipped question	0
It is a lead	der's responsibility to model appropriate	team behavior.
Answer Options	Response Percent	Response Count
Strongly Agree	58.6%	17
Agree	41.4%	12
Neutral	0.0%	0
Disagree	0.0%	0
Strongly Disagree	0.0%	0
	answered question	29
	skipped question	0

each patie	#IIL.	
Answer	Response Percent	Response Count
Options	·	·
Strongly Agree	17.3%	5
Agree	68.9%	20
Neutral	13.8%	4
Disagree	0.0%	0
Strongly		
Disagree	0.0%	0
Disagree	answered question	29
	skipped question	0
Team lead	ders should ensure that team members	help each other out when necessary.
Answer	Response Percent	Response Count
Options	Response Percent	Response Count
Strongly	44.8%	13
Agree		
Agree	55.2%	16
Neutral	0.0%	0
Disagree	0.0%	0
Strongly	0.0%	0
Disagree	0.076	
	answered question	29
	skipped question	

Individuals	can be taught how to scan the environ	ment for important situational cues.
Answer Options	Response Percent	Response Count
Strongly Agree	24.0%	7
Agree	69.0%	20
Neutral	7.0%	2
Disagree	0.0%	0
Strongly Disagree	0.0%	0
	answered question	29
	skipped question	0

I feel com	fortable speaking up when I see someth	ing that is not right.
Answer	Response Percent	Response Count
Options	. королост столи	
Strongly	24.3%	7
Agree		
Agree	48.2%	14
Neutral	10.3%	3
Disagree	17.2%	5
Strongly Disagree	0.0%	0
, ,	answered question	29
	skipped question	0
for and rep	riduals who are not part of the direct car port changes in patient status.	e team should be encouraged to scan
Answer Options	Response Percent	Response Count
Strongly Agree	24.2%	7
Agree	65.5%	19
Neutral	10.3%	3
Disagree	0.0%	0
Strongly		
Disagree	0.0%	0
	answered question	29
	skipped question	0
	July 2 da	

It is important to monitor the emotional and physical status of other team members.		
Answer Options	Response Percent	Response Count
Strongly Agree	38.0%	11
Agree	59.0%	17
Neutral	3.0%	1
Disagree	0.0%	0
Strongly Disagree	0.0%	0
an	swered question	29
S	skipped question	0

Answer	It is appropriate for one team member to offer assistance to another who may be too tired or stressed to perform a task.		
Options Response Percent Response Count			
Strongly Agree 34.0%			
Agree 66.0% 19			
Neutral 0.0% 0			
Disagree 0.0% 0			
Strongly Disagree 0.0% 0			
answered question	29		
skipped question	0		
Team members who monitor their emotional and physical status on the job are more effe Answer Options Response Percent Response Count	ctive.		
Strongly 20 6%			
Agree 79.4% 23			
Neutral 0.0% 25			
Disagree 0.0% 0			
Strongly Disagree 0.0% 0			
answered question	29		
skipped question	0		
To be effective, Team members should understand the work of their fellow team members.			
Answer Options Response Percent Response Count			
Strongly Agree 59.0% 17			

Neutral	17.0%	5
Disagree	3.0%	1
Strongly Disagree	0.0%	0
	answered question	29
	skipped question	0

his/her job	assistance from a team member is a sign to effectively.	hat an individual does not know how to do			
Answer Options	Response Percent	Response Count			
Strongly Agree	0.0%	0			
Agree	0.0%	0			
Neutral	10.3%	3			
Disagree	76.0%	23			
Strongly					
Disagree	13.7%	4			
Disagree	answered question	29			
	skipped question	0			
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do.	assistance to team members is a sign that a	an individual does not have enough work to			
Answer Options	Response Percent	Response Count			
Strongly Agree	0.0%	0			
Agree	0.0%	0			
Neutral	0.0%	0			
Disagree	83.0%	24			
Strongly		_			
Disagree	17.0%	5			
Ŭ	answered question	29			
	skipped question	0			
	help a fellow team member with his/her incream performance.	dividual work tasks is an effective tool for			
Answer Options	Response Percent	Response Count			
Strongly	10.4%	3			
Agree Agree					
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Neutral	89.6% 0.0%	26 0			

Disagree	0.0%	0
Strongly Disagree	0.0%	0
	answered question	29
	skipped question	0

been heard		ncern until you are certain that it has			
Answer	Response Percent	Response Count			
Options	responde i stociie	Nesponse Count			
Strongly	17.0%	5			
Agree					
Agree	76.0%	22			
Neutral	7.0% 0.0%	0			
Disagree Strongly					
Disagree	0.0%	0			
Disagree	answered question	29			
	skipped question	0			
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i Gisoriai C	onnicis permeen ream members do nor an <mark>ecr l</mark>	patient safety.			
Answer					
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Answer Options Strongly Agree	Response Percent 0.0%	Response Count 0			
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Poor communication is the most common cause of reported errors.				
Answer Options	Response Percent	Response Count		
Strongly	75.0%	21		
Agree				
Agree	12.5% 12.5%	4		
Neutral Disagree	0.0%	<u>4</u> 0		
Strongly				
Disagree	0.0%	0		
	answered question	29		
	skipped question	0		
Adverse events may be reduced by maintaining an information exchange with patients and their families.				
Answer Options	Response Percent	Response Count		
Strongly				
Agree	50.0%	15		
Agree	41.0%	12		
Neutral	9.0%	2		
Disagree	0.0%	0		
Strongly	0.0%	0		
Disagree				
	answered question skipped question	29		
	skippeu question	0		
I profer to	work with team members who ask question	as about information I provide		
Answer	•	•		
Options	Response Percent	Response Count		
Strongly	25.0%	7		
Agree		·		
Agree	75.0%	22		
Neutral	0.0%	0		
Disagree	0.0%	0		
Strongly Disagree	0.0%	0		
Disagree	answered question	29		
	answered question	ZJ		

It is important to have a standardized method for sharing information when handing off patients.					
Answer Options	Response Percent	Response Count			
Strongly Agree	86.2%	25			
Agree	13.8%	4			
Neutral	0.0%	0			
Disagree	0.0%	0			
Strongly Disagree	0.0%	0			
answered question 2					
skipped question 0					

It is nearly	impossible to train individuals how to be b	etter communicators.
Answer Options	Response Percent	Response Count
Strongly Agree	0.0%	0
Agree	0.0%	0
Neurtral	0.0%	0
Disagree	34.4%	10
Strongly Disagree	65.6%	19
	answered question	29
	skipped question	0

According to Emanuel, et al., (2008) patient safety can be defined as "a discipline in health care professionals that apply safety science methods toward the goal of achieving a trustworthy system of health care delivery." Emanuel, et al., (2008) goes on to say that patient safety is an attribute to a health care system that minimizes the occurrence and the impact of medical errors or adverse events and maximizes the recovery from these events. Medical errors are becoming more common due to expanding medical care that is becoming increasingly fragmented due to more specialization (Cooper & Makary, 2012). Hospitals are set up in more of a silo system with each specialty and testing area being its own department for good reason. This allows unique care to the patient, however, the set up does not always allow for the smooth linear travel of the patient from department to department. Harm is occurring because of confusion among providers; therefore, patients are falling through the cracks. System processes are either too complex to be safe or errors happen due to lack of simple communication (Cooper & Makary, 2012). A system process is any process used in a health care facility to take care of patients. A system process can include any contact with a patient on an outpatient basis encompassing any care given to a patient during a hospital stay. These systems issues require changes to the way the care is delivered locally in an institution such as on the individual units (Cooper & Makary, 2012).

Emanuel, et al., (2008) states that for patient safety to exist, the following elements must be present, these include the use of safety sciences, high-reliability design, methods for influencing change and cultural change, and the participation of all health care workers. Individuals are not perfect therefore human factors come into play when trying to provide safe practice. Emanuel, et al., (2008) goes on to say that human factors such as forgetting,

becoming distracted, failing eyesight for reading the fine print, among others are always present when staff are providing patient care. The redesigning of systems such as standardization, simplification, and the use of constraints for example, is a "forcing function". A "forcing function" is a designed within the system that makes errors impossible such as creating a connector that is incompatible to prevent the connection of an anesthetic gas to the port for oxygen on an anesthesia machine (Emanuel, 2008). "Forcing functions" are needed to account for human factors and to increase patient safety (Emanuel, 2008).

Other changes in health care are needed to increase patient safety such as cultural changes that affect the culture and how we treat and interact with one another (Pronovost, et al, 2005). Over the last decade healthcare facilities have embarked on many quality improvement campaigns and conversations of how the engineering of systems can prevent errors from occurring (Cooper & Makary, 2012). Despite the fact that increased quality measures have been implemented in the medical community healthcare still has a ways to go to decrease medical error. A study performed in North Carolina of 10 hospitals from 2002-2007 found that 25.1% of all inpatients suffered some form of preventable harm due to medical error (Cooper & Makary, 2012). According to a report from the World Health Organization one in 300 hospital patients will become a victim of harmful medical error (Courtright, Stewart, and Ward, 2012). To improve quality measures and decrease preventable harm, implementation of safety programs has increased in hospitals throughout the country. In order to organizational change to improve safety in the healthcare environment, the programs must be evidenced based (Courtright, Stewart, and Ward, 2012).

The program being used to improve patient safety at LRGHealthcare, the institution for my practicum project, is Team Strategies to Enhance Performance and Patient Safety (STEPPS) training model that is also a part of a CUSP. It is an evidence-based teamwork system designed to improve collaboration, communication, and workload management (Clapper and Kong, 2012) (Mayer, et al, 2011). TeamSTEPPS is a teamwork system based on 20 years' experience, field tested, and lessons learned from High-Reliability Organizations (for example, military operations, aviation, community emergency response services, and nuclear power industries). These types of organizations have been conducting extensive research on how teams work, what makes them effective and how to enhance their performance (Mayer, et al, 2011). This research is directly relevant to health care because delivering effective care requires teamwork. TeamSTEPPS has incorporated the best practices from this research into a program to improve the quality, safety, and efficiency of health care by improving communication and other

teamwork skills. These skills lead to important team outcomes like enabling the teams to adapt to changing

situations, have a shared understanding of the care plan, develop positive attitudes toward teamwork and its benefits

of teamwork, and provide safer, reliable, and efficient care (Mayer, et al, 2011). Also, when employees treat one

another better and communicate more effectively the culture of the department begins to improve (Clapper & Ng,

2013).

CUSP is a program consisting of five steps designed to change a unit's workplace culture where significant

safety improvements happen by learning from defects. A defect is any clinical or operational event or situation that

you would not want to happen again (Wick et al, 2012). These could include incidents that you believe caused

patient harm or put patients at risk for significant harm. The safety improvements occur by empowering staff to

assume responsibility for safety in their environment. This is achieved through education, awareness, access to

organization resources and a toolkit of interventions (Wick et al, 2012). The five steps of the CUSP are:

• Educate and train staff in the science of safety- Provide this education to all staff member of a department.

Members of the department include staff that spends greater than 60 percent of their work time in that

department. Training includes:

• Understanding that safety is a property of the system.

Learning the basic principles of safe design that include: create independent checklists for key

processes, and learn from mistakes.

· Understanding that by standardizing work, teams make wise decisions when there is diverse and

independent input.

Understand that the principles of safe design apply to teamwork as well as technical work (Wick et al,

2012).

2. Engage staff to identify defects

Ask each staff member to answer a simple, two-question survey:

• How is the next patient going to be harmed on this unit?

• How can we prevent this harm from occurring?

This survey embodies the core CUSP principle of respecting the wisdom and observations of frontline staff,

which have both the knowledge and expertise needed to improve safety. Also find potential areas of

improvement based on review of claims, incident reports, and sentinel events (Wick et al, 2012).

Senior executive partnership/safety rounds

Perform monthly safety rounds in which the senior leader interacts with staff on the unit and discusses

safety issues with them. All staff should be invited to attend. This is one of the most effective

approaches to bridge the gap between senior executives and frontline staff. Not only does the senior leader

become more familiar with safety issues at the ground level, but this executive has access to organizational

resources that can help the team to accomplish its safety goals. Wick et al., (2012) states that it has been shown

that sustained rounding with an executive on a monthly basis can increase a culture of safety. This in turn

reduces infections, and leads to further improvements being identified.

4. Continue to learn from defects

Use the Learning from Defects tool to address the most significant risks identified by the team. This tool will

help frontline clinicians investigate safety defects by exploring at one defect at a time, identify the factors that

contributed to the defect, implement changes to decrease the chance of it recurring, and summarize what was

learned from this investigation. The Learning from Defect Tool seeks to answer the following four questions:

• What happened?

Why did it happen?

• What did you do to reduce risk?

• And how do you know that risks were reduced? (Wick et al, 2012).

5. Implement tools for improvement

The safety team members highlight several priority areas that need improvement and use the many tools in

CUSP to address them. For example: Morning Briefing with the team (for communication and rounding

efficiency), shadowing other Providers (for collaboration, teamwork, and communication) and daily goal

identification and attainment (Wick et al, 2012).

Rationale/Background

In the OR where I am currently employed over the past three years there have been three wrong sited surgeries. Wrong sited surgery is one of the most devastating errors that can happen to the patient physician, and staff (Cooper & Makary, 2012). Wrong sited surgery is referred to as a preventable never event meaning, a never event is one that was preventable, and never should have occurred (Cooper & Makery, 2012). Not only were the wrong sited surgeries a huge medical safety concern but also some of the surgeons were exhibiting very aggressive behaviors in the Surgical Department causing the staff stress and fear of the surgeons. As a result of the root cause analysis performed at the facility, it was determined that the cause of the wrong sited surgeries were a combination of a lack of communication, breakdown in communication in the hand off between the pre-operative and the OR staff. The staff was too fearful to speak up; resulting in an incorrectly performed "Time Out" procedure. Therefore, there was a breakdown in teamwork. For instance, the "Time Out" which is the time taken before the surgical incision is performed where the entire OR team stops to verify the consent for the correct patient, procedure, site and laterality, along with potential surgical fire risk, allergies, pre-operative antibiotic, anticoagulation therapy, and availability of the appropriate equipment/instruction applicable to that particular surgery. The "Time Out" procedure was conducted, but was not a quality "Time Out". A quality "Time Out" can only occur when all members of the surgical team are paying attention and are not performing other duties such as charting or setting up equipment. If all members of the team are not ready such as the anesthesia provider, because he or she is monitoring the patient, then the "Time Out" has to wait and surgical incision cannot begin. Once all members are in the OR suite and all paying attention, the "Time Out" process can proceed. It is very difficult sometimes for anyone especially a surgical technician or a nurse to speak up and stop surgery as they often are intimidated by the surgeon.

I chose CUSP which includes TeamSTEPPS as the tool to implement in my practicum in Surgical Services in the facility where I am employed because of these three wrong sited surgeries we have had in the last three years. It is evident to me that the Department of Surgical Services has issues with team work, communication, and dealing with medical errors. It is evident because the three wrong sited surgeries occurred, and we did not learn enough from the first occurrence to prevent the other two defects from happening. Another reason I chose CUSP is because aggressive surgeon behavior has also been identified in Surgical Services by staff members, other providers, and management. The aggressive behavior includes shouting at staff members sometimes in front of a patient, and using aggressive body language such as slamming doors. As part of CUSP the Team STEPP tools contains education material to teach members of the department effective communication that can be used when aggressive behavior is

experienced from surgeons, or any staff member. The CUSP is designed for professionals in the healthcare field and it is robust enough for training of people at all levels of healthcare (Forse, Bramble, & McQuillan, 2011).

The goal of CUSP is to have a unit improved team including physician, senior level executive, nurse, respiratory, pharmacy, and other staff to work on improvement of safety concerns (Pronovost, 2005). The CUSP and Team STEPPS programs use modern and robust tools that include key competencies that are equally important. These competencies include education on teamwork, communication, mutual support, situational awareness, identifying defects, system improvements, and education on how to implement transparency (Clapper & Kong, 2012). Other CUSP benefits include increased staff satisfaction and reducing staff turnover (Pronovost, 2005). Compelling evidence suggests that improved collaboration and communication by healthcare teams leads to improved access and delivery of care (Pronovost et al, 2005). Other benefits of a successful CUSP Program besides increased patient safety, is reduced length of stay. The frontline staff assuming responsibility for the safety of patients through the generation of issues, then prioritizing them, and implementation of problem solving solutions is another benefit of the CUSP Program (Pronovost et al, 2005).

How Problems were Dealt with in the Past

The typical way of handling the defects in the past were once the defect occurred, the staff member, another staff member, surgeon or management would write an incident report about the event and send to Risk Management. The staff member or members involved would be punished by a memo in their file or suspension by the director of the department and all the staff would be instructed not to do the behavior again. Punishable behavior in the Surgical Department include behaviors such as not ensuring the consent was correct or not ensuring the patient surgical site was properly marked and identified by the surgeon. A root cause analysis is always performed in the case of the wrong sited surgery. Actions taken after the root cause analysis include the suspension of surgeon and staff member. The surgeon did not properly mark the patient's surgical site and the staff took the patient to the OR suite without being properly marked according to policy. The writing of the incident report, the punitive actions taken against staff, the root cause analysis and disciplining the staff by telling them not to repeat the behavior did not solve the problem of preventing wrong site surgery. The defect continued to happen again on two more occasions. Therefore, the CUSP program was chosen to implement to improve system defects.

Review of the Literature

For the purposes of this paper, organizational culture will be discussed and specifically how culture of an institution affects patient safety. Organizational culture can be defined as a collection of beliefs, values, and assumptions that direct or guide behaviors of members and is often referred to as "the way things are done around here" (Pronovost, et al, 2005). For a safe culture to exist, staff is guided by a commitment to safety organization-wide. All members maintain individual safety norms along with the safety norms of their co-workers. Safety norms such as speaking up when you see something that is not right or not safe, seeking clarification of physician orders known as read back, and following correct protocol of correct medication administration, just to name a few (Pronovost et al, 2005). By using safety protocols throughout the organization medical errors are less likely to occur. Other industries besides health care use a culture of safety to decrease mistakes that can cause catastrophic harm (Pronovost et al, 2005). Studies from the aviation industry support a direct association between better error management with a culture of safety. This research is directly relevant to health care because delivering effective care to patients requires teamwork and a culture of safety (Pronovost et al, 2005).

Addington (1999) states that 120,000 people in the United States (U.S.) die each year from medical error. The number of deaths is equivalent to one jumbo jet of passengers crashing every day. Hospitals are designed to help save lives but, they can also unintentionally cause patient harm and death (Evans, 2007). In 1999 one of the most important documents to raise awareness of medical error harm, "To Err is Human: Building a safer Health System", from the Institute of Medicine (IOM) was published (Cooper & Makary, 2012). This report highlighted that one million injuries occur each year in hospitals from medical errors in the U.S. The report concluded that more deaths occur in hospitals from medical errors than the total deaths from breast cancer, motor vehicle accidents, and acquired immunodeficiency syndrome (AIDS) combined (Cooper & Makary, 2012). The medical community was shocked by the report and post report, discussion about medical error became more acceptable (Cooper & Makary, 2012). Over time more honest conversations happened between medical centers and professional organizations and associations pertaining to how the systems in health care organizations can be changed to prevent medical mistakes from occurring. Due to this report many quality improvement campaigns have been created over the past decade in health care organizations across the nation (Cooper & Makary, 2012). Although many quality improvement initiatives have been implemented in health care there is still many improvements to be made and the field is in its infancy at present (Cooper & Makary, 2012).

The all-time largest aviation accident occurred in the Canary Islands in 1977. This event took place because of failure to communicate and work together as a team between the control tower and the flight crew (Sheppard, Williams, & Klein, 2013). Misunderstandings occurred between the control tower and crew concerning weather, and the absence of team decision making were determined as the cause of the crash. The result of misunderstanding in communication between the crew and control tower lead to a runway collision of two 747's and the death of 583 individuals (Sheppard, Williams, & Klein, 2013). Since this event, the airline industry began to improve communication and teamwork between the cockpit, ground crew, tower, and the airline assistants. In the aviation industry and in the health care industry a culture where the captain or physician is perceived as the boss and cannot be challenged on decisions can lead to hierarchy and intimidate crew members or staff from being able to speak up. Hospitals are very similar in nature to the airline industry especially operating rooms because often times the surgeon is perceived as the boss and staff is afraid to speak up (Sheppard, Williams, & Klein, 2013). In the operating room (OR), I have heard the surgeons say they are the boss and completely responsible for the patients' outcome and the staff are there simply to assist. The staff in the OR is intimidated and will not speak up to the surgeon because of perceived hierarchy, and this resulted in mistakes occurring. Medical personnel, pilots, and aviation crew operate in very complex highly technical and technological environments that are subject to stress, fatigue and dangerous situations. Because of these complex environments, if team work and excellent communication that is critical in a culture of safety are not used, loss of life or harm to someone can occur as a result human error (Bromiley, 2012).

To justify the need for education pertaining to team work and safety, Clark (2009) states the level to which patient safety is afforded to patients in the United States (U.S.) healthcare system is not as high as it should be. The Institute of Medicine published the study that identified the lack of safe high-quality care delivered in the U.S. was apparent (Clark, 2009). The study revealed that approximately 44,000 and 98,000 people respectively die in the U.S. in one year due to preventable medical errors and medication errors and indicated a gap in patient safety (Clark, 2009).

Gaps in patient safety have been identified in the surgical area at my facility such as lack of communication between team members, lack of quality "Time Out" procedures, and lack of staff feeling empowered to speak up when they see something is not quite right. Many other reports followed highlighting the gap in patient safety as well as research and studies concerning solutions to the problem of decreased patient safety (Clark, 2009). Clark,

(2009) states that experts had reported that safer patient care occurs when healthcare professionals such as technicians, nurses, physicians, respiratory therapists, and secretaries functioned as a team. It is further identified that not only people with direct patient care but basically anyone with direct or indirect patient care can positively or negatively impact patient safety (Clark, 2009).

Using CUSP to Deal with Defects

The Team STEPPS training model that is also a part of CUSP is employed to train healthcare teams to communicate more effectively, improve team work, and to identify problems known as system defects. A program like CUSP can help surgical staff learn from defects by teaching people through Team STEPPS training, implementation of checklists, and use of videos to demonstrate desired behaviors. CUSP also teaches the tools for how to learn from identified defects, how to change the system so that the defect does not repeat itself, how to speak up when you are concerned or, see that something is not quite right, and how to support your co-workers when they do speak up (Cooper & Makary, 2012). CUSP targets defects on the work unit, to empower and engage staff to recognize and remove patient safety defects and hazards (Pronovost, 2005). According to the article, "Got Culture Change? CUSP Tools Can Transform Safety" (2012) concepts of CUSP outline the importance of not placing blame on individuals but to look at systems issues. By not placing blame the program supports a "Just Culture" which is a system that holds staff members accountable, staff members hold themselves accountable, and the system holds itself accountable. CUSP is an evidenced based program built on many years of research knowledge and began by Peter Pronovost, a physician from John's Hopkins Hospital in Baltimore, Michigan, and was begun initially to decrease central line associated blood-stream infections (CLABSIs) after the death of a young child (Evans, 2012). CUSP was then built upon over several years at John's Hopkins Hospital. It was used in the intensive care unit (ICU) and other nursing units to identify and fix any number of problems within the healthcare system. The principles of CUSP can be applied on any unit including both inpatient and outpatient areas (Evans, 2012). Successful research articles identified by Pronovost (2005) using the CUSP model discusses how CUSP evolved through review of the literature, trials, adaptation, and discussion with experts. The program design was influenced by the Institute for Healthcare Improvement's Quantum Leaps in Patient Safety.

Effective teamwork through team building education is very important to improve patient safety. Medical errors and negative health outcomes are highly associated with communication failures among team members (Brock, et al., 2013). Clapper and Kong, (2012) identify that a barrier to teamwork such as the lack of leadership

training for nurses and physicians can negatively impact patient care. Tools like those discussed in Team STEPPS such as communication, mutual support, situational awareness, and teamwork are encouraged to increase teamwork competencies. Because of the lack of leadership training for staff, an increased emphasis on educating future health professionals' to work more effectively as a team is needed (Clapper & Kong, 2012).

Planning and Implementation of CUSP in the Surgical Department

Prior to the development of the classes I met with the hospitals' Chief Medical Officer, the Medical Safety Chairs, the Director of Human, the Director of Quality, the Chief Executive Officer and the Director of Surgery in two small groups. We discussed the concepts of the project, the role out of the project, as well as I asked them key questions provided in the practicum tools listed below:

- How is the scheduling of the program going to affect the facility and the stakeholders?
- How can each stakeholder support the safety program?
- Are many of the participants in the project also likely to be among those who might potentially benefit from the result of the project as it proceeds?
- Is the project intended to define a best practice within the organization?
- Would the project still be completed at the site even though there was no opportunity to publish the results?
- Does the statement of purpose of the project refer explicitly to the features of a particular program?
- Is the current project part of a continuous process of gathering or monitoring data within the organization?

Next I involved the Education Department that included my mentor and another Clinical Educator to discuss development of the educational material from the CUSP and TeamSTEPPS tools as well as size, time frame, and location for the class. I collaborated with them to discuss the length of the educational session and the size of the group needed to assist with the most optimum learning experience for the participants. Together we decided the class needed more than 12 people to ensure active discussion among participants, but we did not want more than 30 people in the class. The educators and I felt that more than 30 people would be too many participants at once to ensure an effective learning environment. The educators and I determined that three hours would be sufficient time to complete the education required for the program. Once the education materials, size, location, and length of time for the class were determined I met with the Surgical Director to discuss the plans for the CUSP class. I requested some real case scenarios pertaining to situations related to defects and communication breakdown that had occurred in the department. I wanted to use in the scenarios in class to assist staff to learn on how to respond to each of the

situations and also use the scenarios to stimulate discussion and critical thinking using the CUSP and TeamSTEPPS tools.

I began to develop the educational material and asked the educators to review the content once it was completed. The educators assisted me with games that either they had used in the past to educate or had seen them used at conferences they had attended to enforce the concepts of teamwork and communication. I used the Memorial University of Newfoundland's (MUN) online library to gather articles pertaining to CUSP, TeamSTEPPS, and Learning Theory using search engines such as PubMed, CLINAHL, OVID, and ProQuest. I developed a Power Point presentation including short videos, case scenarios, and games to teach the three hour class. I came up with some ground rules for the class such as; the information shared in the class was to stay confidential, every participant in the class had equal voice concerning a topic of conversation, and all participants were asked to politely raise their hand when the wished to speak. I wanted the participants at the beginning of the class to agree to the ground rules as well as add their own agreed upon ground rules for behavioral. The ground rules were posted on a large piece of paper on the wall in the room for everyone to see during the class.

Next, a notice was distributed to all the surgical staff by the surgical management team. The management team in collaboration with the employees decided who would attend the training. I chose literature consisting of two pre-determined journal articles pertaining to CUSP and TeamSTEPPS and they were made available to the staff to read prior to the education. I thought that if the staff could familiarize themselves with some of the concepts of the education prior to attending class, it could assist with their learning. The staff was not forced to read the literature however, using Adult Learning Theory concepts, I wanted to give all adult participants the opportunity to read about and understand some the ideas of what CUSP was about.

I worked with the management team to encourage staff from all areas of the department to participate. The CUSP education took place at LRGHealthcare in a large conference room during the late afternoon and evening hours to accommodate the OR schedule. The participants were from all areas of the Surgical Department including the OR, pre-operative area, peri-operative area, housekeeping, surgical technicians, nurses, and central sterile technicians and consisted of 29 people in total who attended. Once the audience of participants was decided, I performed a learning needs assessment using the Adult Learning Theory principles and those principles will be discussed in the next section. The teaching strategies used to encourage learning of the participants included having literature available prior to the class to introduce the topic of CUSP (Bass, 2012). Using case scenarios based on

actual experiences in the class and making time for discussion of participant experiences. Also, application of the tools learned in the class was practiced through role play and discussion occurred as to why this information was relevant to the learner (Bass, 2012).

Conceptual/Theoretical Framework/Methods

According to Bass (2012), adults have been assumed previously to learn in a static form that developed in the later teenage years and remained the same after that for the rest of their lives. Bass (2012), goes on to say that it has only been in recent years that the educational community has realized that this is not so. Learning needs of adults are different from younger learners and adults have specific learning needs (Bass, 2012). According to Cheren (2002), Malcolm Knowles distinguished adult learning from the learning that took place in preadult learners through five fundamental rules or assumptions. These rules include principles such as learners are motivated by internal factors as opposed to external factors and learners can direct their own education through independent self-concepts and are self-directed (Chern, 2002). The rules also include that adults come to learning with many life experiences that create a rich resource for education and learning to occur and adults are immediately interested in problem solving through the application of knowledge. Cheren (2002) identifies that adults need to know the reason they need to learn things, and adults learn in a social context.

The mode of delivery of the CUSP Program will include using the framework from the CUSP and Team STEPPs programs and Adult Learning Theory. The education will be accomplished through the use of Power Point lecture, group learning, case scenario discussion, role playing, gaming, and constructive feedback. PowerPoint can be used to enhance learning and communication during presentations is effective. The effectiveness of PowerPoint declines if pictures are not used throughout the lecture with voice accompaniment of the facilitator, along with appropriate text (Gardner & Aleksejuiene, 2011). The practice of using PowerPoint is enhanced during live audiences for both visual and auditory learners when images with verbal explanation, video clips, and the use of text are kept to four-five line bullets (Gardner & Aleksejuiene, 2011). Along with PowerPoint, group learning will also be implemented during the CUSP program. Prior to the group education, ground rules such as; the conversation remains confidential to the attendees and no one will dominate the discussion or use personal names are established and agreed upon by the participants themselves, and the group must be at least 12 individuals or greater to enhance discussion. According to Gardner and Aleksejuiene (2011) adult learners are self-directed and they use group knowledge to enhance individual learning through discussion of life experience and problem solving. The

experiences and expertise of individuals can enhance the education of the entire group. Bass (2012) states that transformational learning can take place by incorporating real life scenarios created by the facilitator or individuals in the group. Transformational learning is a theory that is concerned with interpreting meaning from ones experiences and transforming those experiences through examples such as scenarios (Bass, 2012). The scenarios allow individuals critical reflection, identification of various points of view, and by taking prior knowledge and assimilating new information. This new information causes transformation through reflection and dialogue so the person can now act on a newly adopted or accepted point of view (Bass, 2012). Learning takes place when changes in our perspective, attitude or beliefs occur. Transformational learning also assists the individual to understand why they are learning by incorporation of their own prior knowledge (Bass, 2012).

During the education gaming will be used to enhance the learning by creating fun and learner engagement. Many researchers of games use Flow Theory (Whitton, 2011). Flow Theory implies the notion that the enjoyment of the experience is determined by certain factors and the more factors present the more engaging, immersive, and enjoyable the experience is. The factors include a challenge needing skill to achieve clear goals and with rules, absorption in the activity, immediate feedback, concentration on the task, a loss of self-consciousness with a sense of control, and transformation of time (Whitton, 2011). Gaming can also create intrinsic motivation related closely to fantasy as well as encourage both curiosities through the senses using light or sound and cognitive stimulation through puzzlement or mystery that stimulates an individual to learn and ensure their understanding is consistent and complete. By providing constructive feedback value is added to learning and curiosity is further stimulated (Whitton, 2011). Effective learning occurs when multiple disciplines from various research studies are used to enhance the education. By understanding how the engagement of individuals such as adult learners, can affect learning, the educational session will be enhanced through the use of Adult Learning Theory concepts and practices incorporated into the classroom experience (Bass, 2012).

Findings

The idea of the safety project was verbally well received by senior management. They did not become as involved with the CUSP as I would have liked according to the recommendations in the literature. However, senior management stated they supported the project moving forward. For example, Clapper and Ng, (2013) state that TeamSTEPPS will not be successful if leadership support and involvement is not present and more than a statement from administrators is required for the programs success. After approval from administration for the CUSP to begin

in the Surgical Department, a survey was developed for the staff to complete online to assess the culture of the Surgical Department. The survey offered by Survey Monkey, is an online survey tool that was offered to 57 of the surgical staff members. The results and findings will be attached as Appendix A and a total of 29 surveys were completed. Upon examination of the answers from the survey it was determined that patient safety through communication, support, and team work were not always performed in the Surgical Department. For example, the statement from the survey, "I feel comfortable speaking up when I see something that is not right." The results of this statement are 17.2 percent disagreed and 10.3 percent were neutral. Therefore, some staff state they do not speak up when they know something is not right. The statement from the survey "The teams' mission is of greater value then the goals of individual team members." The results indicate that one percent disagreed with that statement and 10.7 percent were neutral. Therefore, because of these results some staff members are identifying that they do not value teamwork.

The three hour educational session was well attended by 29 members of all areas of Surgical Services. The participants included two members of the management team and none of the providers participated. During the presentation the staff voiced that they could not see the CUSP working if the providers were not also receiving the education. They verbalized during the session that they felt that the providers were part of the team and therefore, part of the team was missing from the education. The classroom session did go well despite the lack of provider involvement. Overall, the staff stated in the written evaluations and verbal evaluation of the class, that they learned tools to communicate better with each other and how to be a more contributing team member. They stated they learned how to use the CUSP to identify defects and find solutions.

Other findings include the participants had active discussion concerning issues they had experienced with other co-workers, physicians, and other departments. They were able to apply the tools such as ways to improve communication. Improved communication using the tools assisted the staff to work though the identified problems as well as interact with other members of the group. Through this process they are demonstrating critical thinking by identifying defects and offering potential solutions to the problem.

Discussion

The CUSP is a valuable program to increase teamwork, communication, and ultimately proven to increase patient safety. I implemented it at LRGHealthcare Surgical Services because it was needed, demonstrated by the needs assessment data, and also demonstrated by observed physician behavior. Even though the physicians did not

participate the staff still received valuable training and information to help them deal with negative behavioral issues and conflict though using new communication techniques and tools. The staff also learned how and to identify safety defects and determine solutions to problems during the education. They learned and practiced critical thinking skills related to problem solving through case scenarios as well as the roles of a team leader. They also learned information on situational awareness of your environment and the importance of how mutual support of individuals contributes to teamwork. The participation of Senior Leadership was lacking however, they did have agree to have discussions with me about TeamSTEPPS and CUSP and were briefly introduced to the concepts.

Implications for the future would include Senior Leadership becoming involved and committed to the CUSP process. Once the education of the program is completed CUSP rounds should take place on the unit with a Senior Leadership Member present. This was they can allocate resources and empower people to make decisions that sometimes a staff person would not be able to make happen because they do not have the authority. Physician involvement is crucial for the future success of the program because the physicians are important contributing members of the healthcare team it demonstrates to other team members that the team is complete and sends a message that no one is too important to participate. Other implications for the future of growing the CUSP include having more trainers to run classes as well as mentor and support the process in the department.

The goal of the practicum was to use TeamSTEPPS and CUSP to improve patient safety. I believe that patient safety was positively impacted because the staff learned the tools to practice safer care through improved communication, teamwork, and understanding how to identify defects. The administration was introduced to the concepts of CUSP discussions were stimulated on the topic. Although the physicians did not participate they will be exposed to concepts of CUSP due to surgical staff using and discussing the tools in the surgical arena. The CUSP practicum experience for me was an important learning experience that I intend to continue to build upon further, as I move through my career.

Conclusion

CUSP and TeamSTEPPS are very valuable evidenced-based programs to encourage teamwork, communication, and identification of defects that ultimately have been shown to improve patient safety (Clapper & Ng, 2013). Organizations can integrate these important tools into their facility but may become discouraged to discover that the resources and time they required and dedicated to the initiative was not as effective as it was hoped to be. Upon reflection of the assessment of the program and the culture of the surgical department, the choice of

CUSP in my opinion was an appropriate program. The planning of CUSP included the correct people to assist with permission, preparation, and who could be affected by the results of the program. The education of CUSP provided staff from all areas of surgery with adequate materials and personal resources to assist them with providing safer patient care. The goal was to improve patient safety through reduction of medical errors or defects. The result of the CUSP education provided about one half of the Surgical Services staff new knowledge to assist in the improvement of patient safety.

Barriers and obstacles to the success of the program include lack of physician participation, lack of senior leadership participation, and lack of resources to continue the training. However, though identification of these obstacles within the organization and communication of the barriers to success, administrators and trainers can plan for future success. In the case of this practicum experience communication of ways to improve success of CUSP recommended to key senior leadership occurred post education and evaluation of the training. Continued team training is needed to provide a sustained improvement to OR culture of safety

The need for more patient safety initiatives have developed in response to a high occurrence of preventable adverse events (Emanuel, et al.,2008). The identification of lack of teamwork and poor communication in the healthcare field has led to major causes of medical errors that have resulted in patient mortality and morbidity. The implementation of CUSP to any areas of healthcare helps reduce patient injuries and improves system safety (Sheppard, Williams, & Klein, 2013). The CUSP program can be an integral way to create a culture of safety in the Surgical Services department by decreasing adverse events. By understanding how the contribution of human factors can lead to a patient safety event, we can learn how to identify defects early and stop or minimize the negative consequences to patients whenever possible (Forse, Bramble, & McQuillan, 2011). Though barriers exist to successful implementation of CUSP, continuing to move forward with patient safety initiatives where ever possible can make a positive difference one patient at a time.

The healthcare landscape is always changing in complexity which in turn adds extra burdens to all healthcare staff. Although these burdens such as extra paperwork and increased technology are present we are attempting at the same time to make the environment safer for patients. Although the complexity and burdens are increasing there is still hope for safer patient care. The foundation for hope is teamwork and teamwork can occur when more training programs are implemented to create safer patient care. The hope from this practicum experience

is that it stimulates more discussion about CUSP because according to Lucian and Berwick (2005), "We will not become safe until we choose to become safe" (p. 2390).

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Appendix A

LRGHealthcare

Participant Evaluation Form

Activity: CUSP Date: December 4, 2013

	Strongly Disagree	Disagree	Agree	Strongly Agree
The presenter was effective – Jacqueline Dawe			5	24
Each objective was achieved				
 Describe the CUSP/Team STEPPS training initiative 			3	26
Describe the importance of communication			5	24
 Describe the roles and responsibilities of an effective team leader 			5	24
 Define situational awareness 			6	23
Define mutual support			4	25
Discuss common approaches to conflict resolution			7	22
Practice CUSP/Team STEPPS Tools			6	23

and Concepts

	Strongly Disagree	Disagree	Agree	Strongly Agree
These presentations were presented without commercial bias or conflict of interest			0	29
The teaching strategies were effective			6	23
The physical facilities were conducive to learning			5	25

Additional Comments:

Thank-you for the mediation and all your effort to start and encourage a well needed change!

Very supportive and listened to our concerns.

Very receptive to comments and needs of staff.

Appreciate the exceptional listening to everyone's difficult situations and not making anyone feel threatened or fear retaliation due to situations that were shared

Thank-you. I hope everyone learned as much as I did

Thank-you so much. Please do not stop this education

This was so worthwhile

Every staff member should have to attend this

Please continue with this training all over LRGHealthcare. The hospital badly needs it

This group discussion was excellent

Practicing the new tools to help communication was great

Loved all the discussion. Learned a lot

So glad we are doing this. It will improve patient safety