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# Improving patient safety by decreasing restraint use

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Improving patient safety by decreasing restraint use

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### **Clinical Leadership Theme**

Prior to understanding the clinical leadership theme one must understand the role of the Clinical Nurse Leader (CNL). According to the American Association of Colleges of Nursing (AACN) the CNL is a master's prepared nurse who functions at the microsystem level, focusing efforts on a cohort of patients to coordinate care. Functioning as a resource for other nurses and working with interdisciplinary teams (2015). The CNL is an innovator, striving to bring evidence based practice to the bedside and taking responsibility for patient outcomes.

The Clinical Leadership theme for this project is improving patient safety on the medical/surgical unit (med/surg unit) at an acute care facility by reducing restraint use. The process begins with auditing restraint use in order to gather data on restraint prevalence. The process ends with the implementation of multidisciplinary rounding (MDR) to identify alternatives to restraint use (Nelson et al., 2007, p. 294). By working on this process, the expectation is to prevent undue harm to patients while in restraints, prevent harmful effects of restraint use, minimize time in restraints, and/or eliminate their use on the med/surg unit. The hospital's effort to reduce restraint use was initially brought to the forefront because of a system-wide initiative called the *No Harm Campaign*. The goal of this initiative related to restraints is to identify opportunities to reduce or eliminate restraint use. The imminent importance on this project has come about due to a lack of data collection on restraint use, and incomplete monitoring of restraint use. Restraint reduction has been shown to reduce staff turnovers and increase staff satisfaction, which is an important factor in determining the importance of this project (De Bellis et al., 2013, p. 97).

This project focuses on the CNL curriculum element of *Care Environment Management*. The CNL role function utilized in this project is *Systems Analyst/Risk Anticipator* (AACN, 2013). Evaluation and patient risk anticipation is an important part of patient safety in order to identify barriers that may prevent optimal patient outcomes. Applying evidence-based practice to reduce the use of restraints, through assessing the most current evidence, implementing delivery of care based on patient preferences/needs, and incorporating clinical judgment and expertise into interventions is the foundation for this project (King & Gerard, 2013, p. 93). A microsystem assessment was conducted to identify current issues surrounding restraint application and use and possible trends in restraint utilization. This information will aid in analyzing barriers to restraint reduction on the med/surg unit.

### **Statement of the Problem**

Restraint use can be potentially dangerous or even deadly to patients. Restraint use possesses a risk of harm to patient's physical and/or emotional status (Said & Kautz, 2013, p. 59). Within acute care facilities restraint use is often viewed as a necessary part of care in order to ensure patients do not fall or pull out necessary treatment lines/tubes. Many providers view restraint use as a way to keep patients and themselves safe. The problem is that restraint use can lead to devastating and irreversible damage (Said & Kautz, 2013, p. 59). An individual assessment of the patient should occur prior to any restraint used. Assessment involves weighing the benefits versus risks of using restraints and thoroughly investigating alternatives that may exist and/or patient needs not being met. Unit staff members will benefit from the implementation of this project because the goals directly align with the goals of the unit, to provide safe and individualized care to

every patient. It was also noted that the med/surg unit had a higher average hours in restraints for the month of May 2015, at 70 hours compared to the other acute care unit at the facility that had an average length of time in restraints at 48 hours. Comparing restraint prevalence for the month of May 2015 med/surg unit came in at 3.2% which was higher than the other acute care unit at 2.2%.

The reasons a nurse may apply a physical restraint, includes, the patient is violent and is posing a threat to self or others, or the patient is non-violent but their behavior is negatively impacting their treatment. After conducting unit audits for the month of May 2015 the main reason for using restraints 53% of the time was to prevent a patient from *'pulling at lines or tubes,'* 33% of the time restraints were used for *'combative or agitated'* patients, and 14% of the time for patients who were *'trying to get out of bed.'* Data from June 2015 showed slightly different findings. Overwhelmingly the most commonly cited reason for using restraints 75% of the time was to prevent patients from *'pulling at lines or tubes'* and 25% of the time the main reason for using restraints was for *'combative or agitated'* patients (Appendix A). The purpose of this project is to identify the restraint prevalence, in order to identify appropriate interventions to reduce the use of restraints.

### **Project Overview**

This CNL project will bring awareness to unit staff regarding restraint myths/misconceptions as well as alternatives by implementing daily audits and unit rounds. Restraint documentation will be audited through the use of the Restraint Audit Tool (RAT) (Appendix B). Restraint utilization data will be tracked by using the

Restraint Log Tool (RLT) which gives the auditor the opportunity to look at the time the restraint began, the reason for continuation, and to speak to the nurse caring for the patient regarding necessity (Appendix C). The plan is to achieve 100% compliance with use of the RAT and RLT by June 15, 2015. The information obtained from the RAT and the RLT will be aggregated and used to track changes overtime.

After aggregating pre-intervention data and identifying opportunities that exist related to effectively auditing restraint use and incorporating a team approach to restraint use, MDR was identified as an opportunity to reduce restraint use. MDR is already part of the unit's workflow and will not be an added burden on staff members or multidisciplinary team members. The only addition will be to ensure restraints are addressed during the rounds. During the rounding process the objective/goal will be to identify opportunities to release a patient from restraints, for example identifying unmet patient needs or restraint alternatives. According to De Bellis et al., (2013), amongst patients with dementia it is often challenging to express personal needs. When a patients needs are not being met they may manifest their frustration in aggressive behaviors (p. 94). Assessing for hydration, elimination, pain management, nutritional needs, medication adherence or changes to medications, sleep promotion, environmental issues, electrolyte imbalances, or mobilization may lead to a discovery of unmet patient needs and potential reversal of the behavior that lead to restraint use (De Bellis et al., 2013, p. 94).

The specific aim of this project is to reduce the prevalence of restraint use by 10% by August 1, 2015. The specific aim relates to the global aim which is improving patient

safety through restraint reduction. There have been countless incidences in which restraints are used to the detriment of patient safety, in which harmful effects such as direct and indirect injuries occur due to restraint use (Said & Kautz, 2013, p. 59). In order to ensure patient safety and dignity, limitations in restraint use is not only necessary but imperative. According to Oersakul et al., (2011), there is a lack of evidence to prove that restraint use actually prevents patient injury. In fact, restraint use has been shown to have negative affects on patients, family members, and health care professionals physically and psychologically (p. 126). It is important not only to our patients and their families to reduce restraint use, but also unit staff. It has been cited in the literature that nurses often feel a sense of guilt or regret about using restraints but did so because restraint use was part of routine practice for the unit (De Bellis et al., 2013, p. 100). Strategies to implement alternatives and educate staff about ways to protect patient rights and dignity without restraining them may aid in positive patient and staff outcomes.

### **Rationale**

The site for this project is a 200 bed acute care facility located in the central coast of California. The facility is a Trauma Level II center providing many service lines including Neonatology, Orthopedics, Cardiology, Bariatrics, Emergency Medicine, Critical Care, and much more. The focus for this project, the med/surg unit, cares for patients 18 years of age and older with chronic, acute, and/or surgical conditions warranting care. The med/surg unit admits patients from the emergency department, operating room, directly from outpatient clinics, and from outside acute care facilities.

The med/surg unit employs four care coordinators, four care technicians, four unit clerks, fifty eight registered nurses (RN) (including assistant nurse managers), and one director of nursing. Fifteen of the registered nurses are under per-diem status. Each RN is assigned a 'pod' which consists of four patient rooms and the nurse is assigned total care to the four patient rooms. Care technicians are licensed practical nurses who assist the RN with tasks such as foley catheter insertion, activities of daily living, wound dressing changes, etc., but are not available every day to the RN. Care Coordinators are responsible for the coordination of care from the acute care facility to post-acute care. Other staff working on this unit includes physical therapists, occupational therapists, hospitalists, residents, surgeons, dietitians, pharmacists, social workers, chaplain services, respiratory therapists, and case managers.

The top three principle diagnosis admitted to the med/surg unit is septicemia, morbid obesity, and acute appendicitis. Bariatric surgical patients usually recover on the med/surg unit, hence the diagnosis of morbid obesity being a top diagnosis related to the surgical procedures of gastric bypass and sleeve gastrectomy. The top three principle surgical procedures performed are laparoscopic cholecystectomy, laparoscopic appendectomy, and total knee replacement. The unit discharges to home, skilled nursing facility, rehabilitation, hospice, and many others, the most common discharge disposition is to home/self care. The average length of stay for a patient admitted to the med/surg unit is 3.7 days. The majority of the units admissions occur from the hours of 1:00pm to 5:00pm and the most common discharge times are from 4:00pm to 11:00pm. The average mortality rate on the med/surg unit is 3.23 and readmissions rates averaged at 6.70 for



fiscal year 2015. The average daily census for the months of May thru June 2015 was 35 patients.

Conducting a needs assessment and analyzing unit data showed that restraint reduction and tracking was not currently in place on this unit. When this project was first identified there wasn't a process in place for tracking restraint utilization, nor was there a program in place aimed at reducing the use of restraints as policy stated. Two audit tools were created to improve the process of tracking restraint use and documentation, the RAT and the RLT. Although, these audit tools should be used by the unit every shift, what was found is that the audit tools were not being used 100% of the time. The data gathered on restraint documentation was not 100% accurate and showed gaps in the documentation of restraint use by front-line staff. Restraint utilization tracking was also incomplete and showed gaps between what was being audited and what was actually being done on the unit.

The needs of the med/surg unit are the need to track 100% of restraint use through use of the RLT in order to produce reliable data. Currently, the unit is auditing intermittently and not always on both shifts, night and day. There is also a gap in the auditing, often leaving out important information having to do with restraint end times, and restraint education. The expectation for the unit is that every shift, the shift leader/charge nurse will audit 100% of the restraints being used on the unit, including assessment of the monitoring, education provided, alternatives attempted, length of time in restraints, and status of the patient. A gap exists between the percentage of audits being conducted on restrained patients which is between 70-80% and the expected percentage

of patients in restraints being audited of 100%. After the data is effectively and reliably gathered MDR has been identified through literature review, unit assessment, team collaboration, and cost analysis to be a feasible change to test for the goal of reducing restraint prevalence by 10%.

There is no direct cost accrued by implementing MDR because MDR is already in place on the unit. There may be minimal costs associated with the added time spent to address restraint use. There will also be minimal costs associated with printing the RAT and RLT sheets for unit auditing and data collection. There may also be cost associated with the time spent for shift leaders to conduct unit audits and communicate with nurses. This time spent may prevent the shift leader from completing other tasks. The task of auditing restraints will take as little as no time, in situations where there are no restraints being used on the unit, or up to an hour depending on the number of restraints on the unit, this may be a maximum cost of \$50 a day.

Other costs associated with restraint use may be direct injuries, including laceration, bruising, nerve injury, ischemic injury, asphyxiation, and/or indirect injuries, including functional decline, incontinence, muscle atrophy, pressure ulcers, infection, agitation, social isolation, confusion, depression, fall, inability to return home, and even death (Said & Kautz, 2013, p. 59). The cost of any one of these negative consequences of restraint use could cover the total cost of this project. A study conducted by Brem et al. (2010), found that a stage IV pressure ulcer can cost an average of 129,248 (p. 475). The cost of using restraints may far out weigh the cost of not using restraints. Restraint use

has also been associated with workplace violence, organizational disruption, preventable adverse events and/or medical errors.

Medical errors have a dramatic impact on cost, for example the Center's for Disease Control and Prevention found in 1999 that medical errors cause up to 98,000 deaths and costing healthcare around \$29 billion annually (SAMHS, 2011, p. 7). Additionally, the federal government will no longer pay for sentinel events, also known as "never events" and restraints fall into this category. Never events have been deemed to be entirely preventable. The first, 'never event' associated with restraint use is a "death or serious disability associated with the use of restraints" and the second is "death or significant injury from a physical assault" (SAMHS, 2011, p. 7). Both situations are non-reimbursable events, and the cost associated for the care of a serious injury may require a lengthy hospital stay and life long medical care. There are also direct costs associated with restraint use by analyzing staff time spent in managing restrained patients.

According to SAMHS (2011), the cost associated with one episode of restraint use is \$302 to \$354 dollars, this was found by looking at the time associated with the tasks that are involved in caring for a restrained patient (p.8). Restraining a patient for one hour was associated with the nurse having to conduct 25 tasks/activities and taking about 12 hours of their time to devote to the care of a restrained patient from documentation to direct care (p. 8). The authors found that 23% of staff time was spent on restraints which can be correlated to a large proportion of the operating budget for a unit (SAMHS, 2011, p. 8). A study conducted by Carmel and Hunter's found that there were more injuries associated with restraining patients than there were from actual

assaults, this would lead one to believe that the act of restraining a patient may do more harm than good. Moreover, injuries to staff members usually means increased costs associated with higher turnover rates, missed work days, hiring costs, and workman's compensation (SAMHS, 2011, p. 8).

There can also be liability costs associated with restraint use, for example when insurers are analyzing their coverage rates related to workers compensation or general and professional liability they assess the organizations claims and expenses involving restraints. It's in every organizations best interest to use best practices to reduce restraint use, because it's firstly good for patient care but also good for business (SAMHS, 2011, p. 9). Litigation associated with an injury or death related to restraints can be the most costly of all. Some of the common reasons a facility may be brought to court for restraint related issues, includes, excessive force, failure to protect a patient and failure to maintain a safe environment (SAMHS, 2011, p. 10). These are seemingly the same reasons for using restraints, to maintain safety and protect patients. There is obviously a fine line between protecting patients and doing harm. Throughout the literature there are studies indicating that restraints often cause more harm than good, and the reasons for using restraints are often not what the restraints themselves improve, but rather exacerbate the problem.

The cost of using restraints on patients can be great, not only could they suffer physical injury they can also be traumatized by the experience which can lead to potential life long scars, emotionally (SAMHS, 2011, p. 11). Restraint use can also lead to increased length of patient stays, readmissions, loss of trust in healthcare facility, and loss

of staff time given to non-restrained patients (SAMHS, 2011, p. 11). A hospital in Florida reduced their use of restraints by “54% and saw subsequent savings of \$2.9 million associated with a reduction in money spent on worker’s compensation, staff and patient injuries, and length of stay costs” (SAMHS, 2011, p. 15). The decision to restrain a patient should not be a decision taken lightly or as part of routine care but should only be considered after a careful appraisal of the risks versus benefits.

### **Methodology**

The objective of this project is to reduce restraint prevalence by 10% by August 1, 2015. The specific change to be tested is MDR. During the rounding process the objective/goal will be to identify opportunities to release a patient from restraints, for example identifying unmet patient needs or alternatives that may exist. In order to assess the effectiveness of this project pre-intervention data will be gathered on restraint prevalence for the time period of May 1, 2015 to June 14, 2015. Pre-intervention data will be compared to data collected post project implementation to assess whether the prevalence of restraint use decreases, stays the same, or increases, this data may tell us whether or not the desired goal of reducing restraint prevalence by 10% by August 1, 2015 was achieved.

Kotter’s Eight-Step Model of Change will be used to guide the project and identify priorities during identification, implementation, and evaluation of the project. The first step is to *establish a sense of urgency*. The sense of urgency came when the facility underwent a recent survey conducted by the California Department of Public Health (CDPH) on behalf of the Center’s for Medicare and Medicaid Services (CMS).

Surveyors found four failures to comply, having to do with a restraint reduction program. This catapulted facility management towards the focus for this project which is restraint reduction. Establishing a sense of urgency will assist in moving to the next step of change which is *creating a powerful guiding coalition* (Kotter, 2008). The guiding coalition for this project is the Restraint Reduction Team in collaboration with front-line staff and management. It was clear that this project had strong leadership support and after conducting the SWOT Analysis it was clear that there were strengths and opportunities, but also threats and weaknesses that existed (Appendix D). A Stakeholder analysis was also conducted to identify persons who held stake in the project and with whom would require information and updates throughout the course of the project (Appendix E).

*Developing a vision* allows the team to have a sense of purpose and focus for the project, to rally behind a common goal. The vision came about through discussion with unit staff, leadership, and educators, and has continued to develop into poignant interventions aimed at reducing the use of restraints. One of the more challenging parts of this project will be the fourth step in Kotter's change model which is *communicating the vision*. The vision for this project will be communicated through daily huddles and utilizing a communication board in the staff lounge. The communication board will present myths/misconceptions about restraints, research findings, alternatives, restraint reduction plan, and significance to nursing. The next and most difficult step is *empowering others to act on the vision*. Empowering front-line staff to embrace the vision of reducing restraint use by changing the status quo and implementing evidence-based interventions will be challenging because change can often be portrayed as scary, more time consuming, and added work (Kotter, 2008).

The last three steps in Kotter's change theory involve planning, improving and sustaining changes. The sixth step *planning for and creating short-term wins*, may prove to be helpful for the team morale by empowering staff to embrace the vision. Short-term wins will be accomplished through concurrent auditing of restraint use in order to address issues in real-time. The auditors will speak to unit staff in a real-time manner to assess restraint use, documentation, and alternatives. Short-term wins that may assist in planning is the restraint communication board which has the potential to engage staff early on to be part of the change (Kotter, 2008). If short-term wins prove useful for the project the changes/improvements will continue and become part of practice.

The next step is to *consolidate improvements and produce more change*. Healthcare is in a constant state of change, without change health care professionals and facilities may become complacent with the status quo. Seeking feedback from unit staff in order to guide project efforts and continuing to refine interventions is important for effective change. The final step in Kotter's change model is *institutionalizing new approaches*. Utilizing the PDSA model interventions found to be effective in reducing restraint use will become the new standard of care on the unit. Interventions will be evaluated by assessing post-intervention data. After evaluating the effect of the intervention the team will plan further changes if necessary (Kotter, 2008).

### **Data Source/Literature Review**

Restraints are among the top 15 most frequently reported sentinel events (Cospers et al., 2013). There are several reasons restraints are used in the acute care setting, among the most common reasons are lack education, workload demands, fear of patient falling,

and a lack of availability of restraint alternatives (Said & Kautz, 2013, p. 59). In this paper, the use of physical restraints will be assessed in order to identify opportunities to reduce the prevalence of restraint use. It is hypothesized that through the implementation of MDR the prevalence of restraint use will reduce by 10%. Auditing and communication with unit staff will also take place throughout the course of this project. The following six literature reviews will exemplify this hypothesis.

Cosper, Morelock and Provine (2015) describe their journey to reduce restraint use within a health care system consisting of 4 hospitals, with a total of more than 1000 beds. An interdisciplinary restraint reduction steering team was formed to track restraint prevalence data and compare to national benchmarks. The authors describe implementation of staff education both initial and ongoing, multidisciplinary rounding, and use of restraint alternatives as a means to reduce restraint prevalence. The authors cite multidisciplinary rounding as the primary element in reducing restraint use through a focused assessment of all restrained patients, a bedside review of patient and coaching directed at staff when necessary. Their findings indicated a significant reduction in restraint use from 5.87% to as low as 1.73%. The purpose of this article is to describe a facilities 2-year journey to restraint reduction in order to reduce restraint prevalence. This research will help guide the interventions performed for the CNL project.

Enns, Rhemtulla, Ewa, Fruetel and Holroyd-Leduc (2014) prove that education and training on the use of restraints and conducting least restrictive rounds can significantly reduce restraint use. The study was conducted on four medical units in an acute care hospital consisting of 600 acute care beds. The project involved a one hour



educational workshop for hospitalist physicians led by Geriatrician and brief in-services (15-20 min) for nursing staff to educate about restraint myths/misconceptions, alternatives, best practices, etc. Data was collected monthly on restraint use rate. Before the intervention 13 to 27% of individuals 65 and older were being restrained, after implementation of interventions 7 to 14% of individuals were restrained, a significant reduction in restraint use was measured in the early mornings. The purpose of the study is to assess whether staff and physician education, data collection, and weekly least-restraint rounds would significantly reduce the number of restrained patients. The findings in this article will help guide the identification of interventions to implement in the clinical microsystem on this CNL project.

Said and Kautz (2013) demonstrate the negative consequences of restraint use and provide evidence based guidelines for a restraint-free environment. The authors explain the risk factors associated with restraint use and the ways in which restraint use can be reduced. The authors also identify high risk groups who are more commonly restrained, and the negative consequences these patients may face as a result. The authors recommend precise protocols and procedures that outline restraint use in order to prevent arbitrary use, also promoting education for nurses and physicians. The authors further explain that when restraint use is considered, that the decision must be made only after carefully assessing what may be causing the undesirable behavior. Assessing the environmental factors, elimination, nutrition, hydration, pain, polypharmacy, etc., that can aid in identifying the underlying problem. The purpose of this article is to provide evidence based guidelines to promote a restraint-free environment. The evidence based

guidelines in this article will be used as an educational tool to present findings at the Restraint Reduction Team Meetings and supplement educational efforts on the unit.

De Bellis, Mosel, Curren, Prendergast, Harrington and Muir-Cochrane (2013) argue that persons with dementia are more vulnerable to restraint use and are more likely to be restrained. The authors conducted a meta-analysis to identify risk factors and reasons given for using physical restraints in persons with dementia (PWD). The literature review analyzed 72 articles that presented the potential consequences of physical restraints among PWD. The authors recommend the implementation of restraint-free practices through education. Emphasizing that organizations should reduce or eliminate the use of physical restraints amongst PWD and implement education focused on having an up to date understanding of issues surrounding physical restraint use. The purpose of this research study was to assess issues leading to physical restraint use in a PWD, emphasizing the rationale for restraint use, the benefits, and the barriers that may exist for this population in order to eliminate the use of physical restraints. The results of this research will aid in the review of restraint data by assessing characteristics of restrained patients.

Oersakul, B., Sirapo-ngam, Y., Strumpf, N. E., & Malathum, P. (2011) identify the reasons physical restraints are used, including, type, frequency, and reason, as well as assessment of nurse and family member attitudes towards restraint use. The authors studied the rationale for restraint use and the specific patient characteristics of restrained patients. Findings indicated that restraint use was more common amongst the elderly population, greater than 60 years old and the cognitively impaired. The authors found that

the majority of restraints being used were four side rails for the prevention of falls. A small percentage had side rails in combination with another form of restraint and three of the patients had three types of restraints used. In order to assess attitudes of family members and nurses towards the use of restraints, the authors conducted observational assessments and questionnaires. The common theme regarding nurse and family attitudes were that restraints were most commonly for the prevention of pulling out treatment lines and family presence was cited as an alternative attempted for agitated or confused patients. The purpose of this study is to identify themes in restraint use and attitudes towards the use of restraints by nurses and family members. The results of this study will help to identify patient characteristics that may influence restraint use.

Lane and Harrington (2011) argue that difficult clinical situations in hospitals and aged care facilities lead nurses to use physical restraints on older people, aged 60 years and older. The authors identify elements that influence a nurse to use physical restraint through conduction of a literature review. A thematic analysis was conducted on 18 studies to identify themes related to the use of restraints, two categories were created the first is the, 'use of restraints for patient protection' and the second is the 'use of restraints due to nurses workload.' The primary consensus in many of the studies is that restraint use is for patient safety, although scientific research does not support the claim that physical restraints prevent patient injury. The authors assert that a nurse's workload and the demand of work related tasks and time constraints can lead to restraint use. Nurses claimed they had 'peace of mind' and a sense of relief when they knew their patient was restrained. The authors further explain that restraint use is part of routine nursing practice and can increase in use at times of staffing shortages. The purpose of this study is to

identify difficult situations in which nurse's face in the clinical setting that may lead to use of physical restraints, in order to better understand why restraints are used. The findings in this study will help with identifying the root causes of restraint use within the microsystem and the situations in which restraints are thought to be necessary.

The first study that has aided in the development of my CNL project is a study conducted by Cosper, Morelock and Provine (2015) in which they implement staff education both initial and ongoing, multidisciplinary rounding, and use of restraint alternatives at 4 participating hospitals and saw a reduction in restraint use from 5.87% to 1.73%. The authors cite multidisciplinary rounding as the primary element in reducing restraint use through a bedside review of patient and coaching directed at staff. Another study that further contributed to the development of this project was conducted by Enns, Rhemtulla, Ewa, Fruetel and Holroyd-Leduc (2014). A research study was conducted on 4 medical units and showed a decrease in restraint use from 13 to 27% prior to study implementation to 7 to 14% post-implementation of interventions including education and training on the use of restraints and conducting least restrictive rounds. The authors showed that rounding and education had a significant impact on restraint use and reduction. In conjunction with this study, Said and Kautz (2013) provide recommended practices for reducing restraint use, citing that education for nurses and physicians is an important step in reducing restraint use in order to eliminate arbitrary use. Lane and Harrington (2011) identify elements that influence a nurse to use physical restraint through a literature review of 18 studies. The authors explain that restraints were commonly used to protect patients or prevent injury, but the authors argue that the research does not support the claim that physical restraints prevent patient injury and

assert that difficult clinical situations such as workload may lead to restraint use. These findings are connected to the CNL project because they provide evidence that has shown reduction in the use of restraints through multidisciplinary rounds, and evidence that restraint reduction is best practice.

Utilizing the PICO statement, '*Adults in restraints,*' '*multidisciplinary rounding,*' '*no multidisciplinary rounding*' and '*restraint reduction*' more than two hundred results were yielded. The search criterion was further narrowed by using 'advanced search' field to limit the results to the year range of 2010 - 2015 and peer-reviewed articles. Some of the results didn't fit the project and the search criterion was further limited by adding '*acute care.*' The search results included studies conducted in psych facilities, whereas this project is focused on an acute care facility. The search criterion was then further limited to '*medical/surgical unit,*' this search was too specific and did not provide any results. The PICO statement assisted in narrowing search results and acquiring a selective group of literature to review. Initial challenges in the literature search were that the database selected, *PubMed*, is a multidisciplinary database and the search results were far too broad returning over 2,000 results. After narrowing the search to nursing and allied health using *PubMed* database and *CINAHL* results were narrowed and returned about two hundred results. The phrase '*least restraint*' and '*restraint-free*' were used instead of restraint reduction to acquire different articles that may not have been included previously. The term '*rounding*' instead of '*multidisciplinary rounding*' was used to expand results.

### **Timeline**

The steps taken during the course of this project include conducting a microsystem assessment which was accomplished from May 26, 2015 thru June 20, 2015. Implementation of the RAT and RLT to be conducted every shift and will continue throughout the course of the project May 26, 2015 thru August 1, 2015 with the goal of capturing 100% of restrained patients. Pre-intervention data will include data from May 1, 2015 thru June 14, 2015. Post-intervention data will include data from June 15, 2015 thru August 1, 2015. Restraint Reduction Team meetings will be conducted on a monthly basis, during the first or second week of the month occurring on June 8, 2015 and July 18, 2015. Review of the restraint policy occurred during the first Restraint Reduction Team Meeting on June 8, 2015. The Restraint communication board displayed restraint data, myths/misconceptions, research findings, and alternatives to restraint use, displayed in the staff lounge, completed June 20, 2015. The change to be tested and measured is MDR of all restrained patients. MDR will be implemented by June 15, 2015 with the intervention period being June 15, 2015 thru August 1, 2015. A Gantt chart was created to provide a physical representation of the project timeline (Appendix F).

### **Expected Results**

The expectation is to achieve a 10% reduction in the prevalence of restraint use on the med/surg unit. The expectation is that there will be a deeper interest in restraint reduction rather than restraint maintenance and documentation as there is now.

Throughout the course of this project trends in restraint use may emerge and will be communicated to unit staff through the communication board. The theory is that through the implementation of MDR for all restrained patients and communicating with staff about the negative effects of restraint use, presenting best practices, and myths related to

restraint use, front-line staff will become engaged in the process of reducing restraint use and seek out opportunities to remove restraints.

### **Evaluations**

In order to evaluate the effectiveness of this project pre and post project data was gathered on restraint prevalence. To reiterate, the aim is to reduce restraint use by 10% by August 1, 2015. The population of patients included in this project is patients 18 years of age and older who are restrained on the med/sug acute care unit. Initial audits using the RLT were conducted every shift. The results of these audits found that the reason for physical restraint use was for one of three reasons, patient '*pulling at tubes or lines*', '*prevent a patient from falling*' or because a patient was '*combative, agitated or restless*' (Appendix A). Information obtained on the RLT was further sorted by length of time in restraints to provide an average and median time (Appendix I). Baseline prevalence data was gathered for the time period of May 1, 2015 to June 14, 2015 and showed a restraint prevalence rate of 2.4%.

A Restraint Reduction Team was formed to identify the reasons for restraint use and identify opportunities to reduce restraint use. A literature review was conducted and findings were brought to the Restraint Reduction Team members. Throughout the literature reviewed one of the interventions described in the studies was the use of MDR on all restrained patients as a means to reduce restraint use. MDR is already a part of the nurse's workflow, the addition of addressing restraint use was thought to be a feasible intervention to implement. All shift leaders were notified about the addition of addressing restraints during MDR, and all staff members were notified about this change during

daily huddles. Implementation of MDR began on June 15, 2015. MDR included physician, primary nurse, shift leader, pharmacist, social worker, and on some occasions dietician and chaplain. MDR occurred every weekday at 10:30. In addition to MDR, the unit purchased restraint alternatives that were not previously available to staff members, such as self release belts and activity aprons. The unit also purchased less restrictive restraints such as mittens and roll belts. It was projected that a 10% reduction in restraint prevalence would be seen after project implementation.

Post-implementation data was gathered for the time period of June 15, 2015 to August 1, 2015 and showed a reduction in restraint prevalence from 2.4% to 1.6%, which is a 33% reduction (Appendix G). Restraint prevalence rates were gathered by looking at daily restraint use rather than restraint events. A change in the length of time in restraints affects restraint prevalence data. Everyday the number of restraints in use is counted, that number is then looked at over the daily census and then an average for the time period specified was calculated. If, for example one month the length of days patients spend in restraints decreases than the restraint prevalence would also decrease. The average length of time in restraints for the month of July 2015 decreased from the previous month from 73 hours to 25 hours and the median time in restraints decreased from 20 hours to 18 hours (Appendix H).

In order to evaluate nurse's perceptions of restraint reduction a three question survey was conducted. The top three most common reasons staff members stated for using a physical restraint was to '*prevent a fall/fall risk (27%)*,' '*danger to self or others (26%)*,' and '*pulling at treatment lines or tubes (21%)*. The majority of staff members stated the



negative consequences associated with reducing restraint use would be an increase in staff injuries. 42% thought '*there would be more staff injuries*', 33% thought '*there would be more patient injuries*' and 25% thought '*there would be an increase in the number of patient falls*' as restraint use decreased. The last question on the survey asked whether or not staff members thought reducing restraint use was possible. 100% of staff members answered yes, 50% of the staff members said this could be done by '*using sitters*,' 25% said this could be done by '*adding additional staff*' 13% said this would be done by '*collaborating with doctors regarding medications*,' and 12% said this could be done by '*using bed exit alarms*' (Appendix I).

It is clear that staff members feel that restraints may protect them from injury as evidence by almost half of them stating staff injuries as a negative consequence of reducing restraint use. One staff member described how a fellow co-worker was hit in the back of the head by an 80 year old woman with dementia and that the nurse still suffers neck pain due to this assault. Another nurse described an elderly man with dementia who was biting and kicking staff members, and stated that staff members had no choice but to restrain the man. Both of these nurses also stated that there is a balance between restraint use and not using restraints. Other staff members stated that at times restraints are necessary but that they attempt not to use restraints if possible. Another staff member stated that restraints are helpful to "make the patients safe from further injuries like falling, hurting themselves and injuring staff." Another staff member stated that the new beds all have bed exit alarms and that this new capability has reduced the number of patient falls. Another staff member said they like the new mitts that were purchased. It is encouraging to know that all staff members believe it's possible to reduce restraint use.

The results of this project have shown that it is possible to reduce restraint use and that MDR is one intervention that may aid in accomplishing reduction. Other interventions that may have contributed to the reduction in restraint use is the purchasing restraint alternatives (self-release belts & activity aprons), shift leader auditing every shift, staff awareness of project, and/or restraint communication board in staff lounge. The results of this project showed a 33% reduction in restraint prevalence, this information will be shared with unit staff and management.

Although MDR did aid in reducing restraint use it is by no means the only viable intervention to reduce restraint use. There are other interventions that were not attempted that may be tested in the future to further reduce restraint use. These include, identifying a restraint champion on the unit, this individual would be responsible for rounding on restrained patients to identify in tandem with the primary nurse if there are any alternatives to restraint use. The restraint champion is a respected peer and may help sustain the work that has already been done and provide continued momentum for future restraint reduction interventions. Restraint education during orientation and annually is another solution that is recommended. Including educating new nurses and existing nurses on restraint alternatives available in the institution, myths/misconceptions about restraint use, patient needs not being met that may lead to behavior warranting restraint use, and harmful effects associated with the use of restraints. Feedback would be elicited from employees to learn what perceptions or suggestions they have regarding the use of restraints.

Another recommendation is to conduct staff in-services on restraint reduction techniques. This may be a positive way to educate individuals across disciplines. A short 15 minute in-service that can be geared towards physicians, respiratory therapists, residents, physical therapists, etc. may prove useful in reaching a wider audience of influence. Further recommendations include starting a journal club to discuss recent articles and best practice guidelines. This may be beneficial in engaging front-line staff. A journal club may also provide a safe place to discuss fears and barriers to restraint reduction as well as share lessons learned.

A Restraint Decision Tool is also recommended to guide staff members in their decision to restrain a patient. The Restraint Decision Tool would be a checklist of activities or interventions that would be assessed when a nurse is considering applying restraints. Some examples of what might be included in the decision tool include, assessing vital signs, blood glucose, dehydration, electrolytes, elimination, pain management, new or changes to medications, and consults needed. The Restraint Decision Tool may aid in guiding critical thinking with the ultimate goal of finding the reason for the behavior that led to considering restraint use. The last recommendation is to educate all staff regarding the importance of questioning restraint use. Just because the patient is in restraints when they arrive to the unit doesn't mean they should be continued. An individualized assessment to determine continued need is imperative. Everyone needs to be willing to question the use of physical restraints.

Sustaining this project will require continued auditing, data collection, and follow-up. This project has strong leadership support and staff involvement. Data from

this project has been presented to staff members, the restraint reduction team, and senior leadership and their interest is high in continuing the efforts made thus far. The specific way in which this project will be sustained is by shift leaders collecting the restraint prevalence data on a daily basis and continuing MDR on restrained patients. The analysis of the data being collected by shift leaders will need to be passed on to the quality department to continue tracking and consolidating the data into easy to view dashboards.

### **Nursing Relevance**

This study will contribute to the understanding that restraint use is not a necessary part of routine care and that it does not need to be an “unquestioned practice” (Oersakul et al., 2011, p. 126). Rather, restraint use is a practice that needs a team approach, meticulous assessments and reassessments, and continuous questioning in order to ensure patient rights are maintained and not abused. This project will have a significant impact on the understanding of restraint use, through assessment of literature, communication with staff and collaboration with the Restraint Reduction Team.

### **Conclusions**

One of the more challenging parts of this project was actually getting all the shift leaders to audit restraints with the RAT and RLT. This effort was not accomplished by me alone, the restraint reduction team helped to spread the information, to ensure responsibilities were clear. Although, at times the audit forms had blank fields, which required further investigating and follow up, but overall the shift leads took accountability for this action. Another challenge was discussing restraint use with unit staff. After discussing the topic with many nurses it was clear that they all had varying

thoughts about restraint use depending on their personal experiences. It was also challenging taking on such a large project that relied heavily on others involvement for project success. For example, MDR was conducted at 10:30am Monday thru Friday. I relied heavily on the team to ensure all restrained patients were rounded on because I was unable to round everyday to see that this was being done. It was also challenging to identify how to report the data, ultimately restraint prevalence was the way in which we though the data would be most understandable and was seen throughout the literature to be used.

One major obstacle was time. There were many things I would have liked to accomplish but could not because of time constraints. For example, looking at the number of restraint events put into the event reporting system and looking at sentinel events, or patient deaths while in restraints. I would have liked to identify characteristics of restrained patients more in-depth, assessing diagnosis, age of restrained patient, at what point during the stay patient was restrained, any new medications started or changed in 24 hrs, and whether family members were contacted and educated about restraint use.

There were also positives throughout the course of this project. Staff members were willing to participate. The unit director was on board and participated in the project. The facilities vision was inline with the project, and senior management was supportive of the project. It was also exciting to see the data change and know that the interventions being done were having an impact. Being a change agent is not easy, but it's the right thing to do for our patients. I felt overwhelmed at times by the enormity of work that needed to be done and still needs to be done, but I am also very proud of the work we

have done thus far. Having the guidance of mentors also helped throughout the process of project implementation, to provide support, answer questions, and provide renewed energy. Mentors in nursing practice are important and I have found some really great mentors throughout the course of this project.

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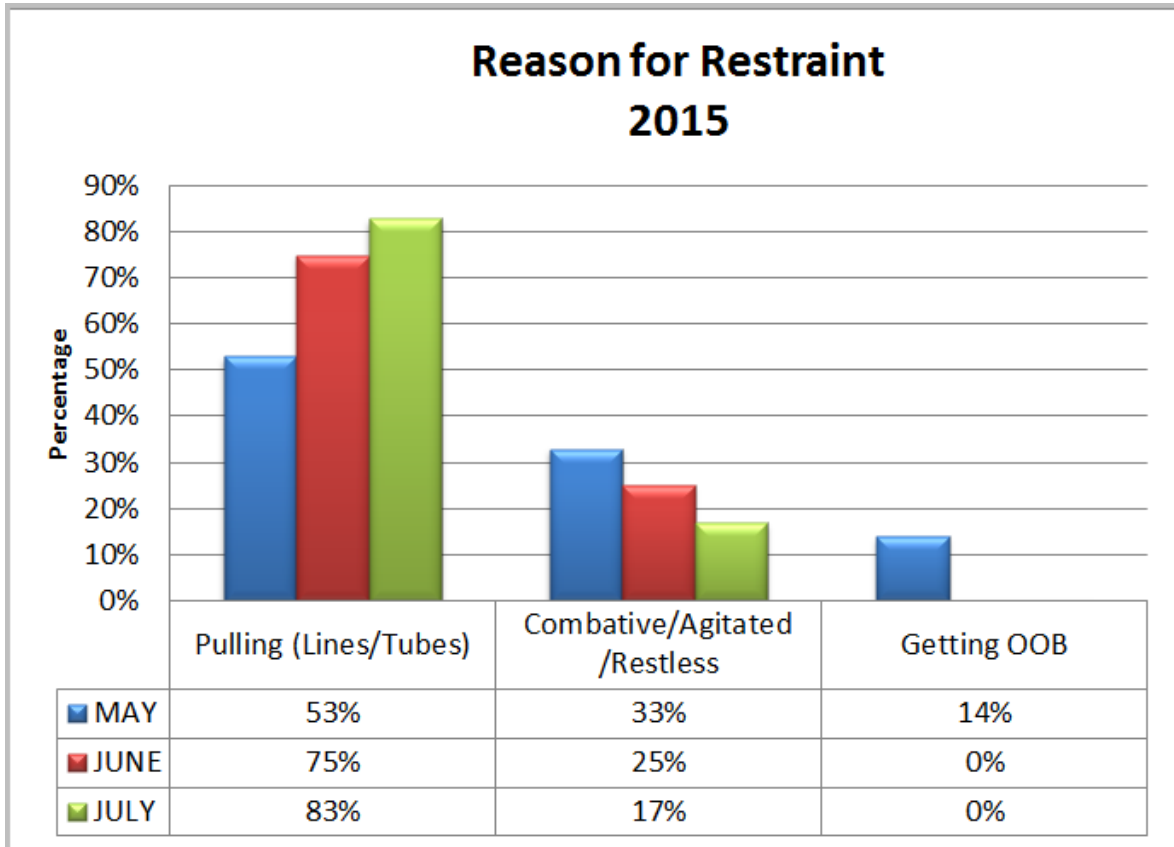
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Appendix A

**Documented Reason for Restraint**



Appendix B

**Restraint Audit Tool (RAT)**

<b>Restraint Audit Tool</b>			Date: _____	Day Shift: _____	Noc Shift: _____			
<b>Patient:</b> Name / DOB / MRN	<b>Auditor</b> Initial & Date	<b>Restraint Start/Stop Time</b> Date & Time	<b>Restraint Order</b> Initial order & renewed order Qday. Includes: duration, type, and reason for restraint	<b>Q 2 hour Monitoring</b> Iview/ Assessment/ Restraint monitoring	<b>Q Shift Assessment</b> Iview/ Assessment/ Restraint assessment	<b>Care Plan</b> Initiated, documented Q Shift & dc'd when restraints dc'd	<b>Education Documented</b> Interdisciplinary education & handout printed & documented given to patient & family	<b>Nurse Caring for Patient</b>
	<b>Day:</b>	Start: Stop:	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	
	<b>Noc:</b>	Start: Stop:	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	
	<b>Day:</b>	Start: Stop:	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	
	<b>Noc:</b>	Start: Stop:	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	
	<b>Day:</b>	Start: Stop:	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	
	<b>Noc:</b>	Start: Stop:	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	
	<b>Day:</b>	Start: Stop:	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	
	<b>Noc:</b>	Start: Stop:	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	

**If any of the above measures were not met, please indicate what actions were taken:**

Appendix C

**Restraint Log Tool (RLT)**

Holyoake Grande Community Hospital  
 Marian Regional Medical Center
 

**Restraint Log Tool**    Month

Date Restraint Began	Time Restraint Began	Patient Name	ANM or SL	Reason for the Restraint Comments	Applied By	Date Restraint Ended	Time Restraint Ended

To be updated by ANM or SL leader every shift to document the incidence of restraints. 100% of restrained patients to be captured on this log. This is in addition to the shift audit. Audit to be done concurrently and any deficiencies corrected in real-time.

Appendix D

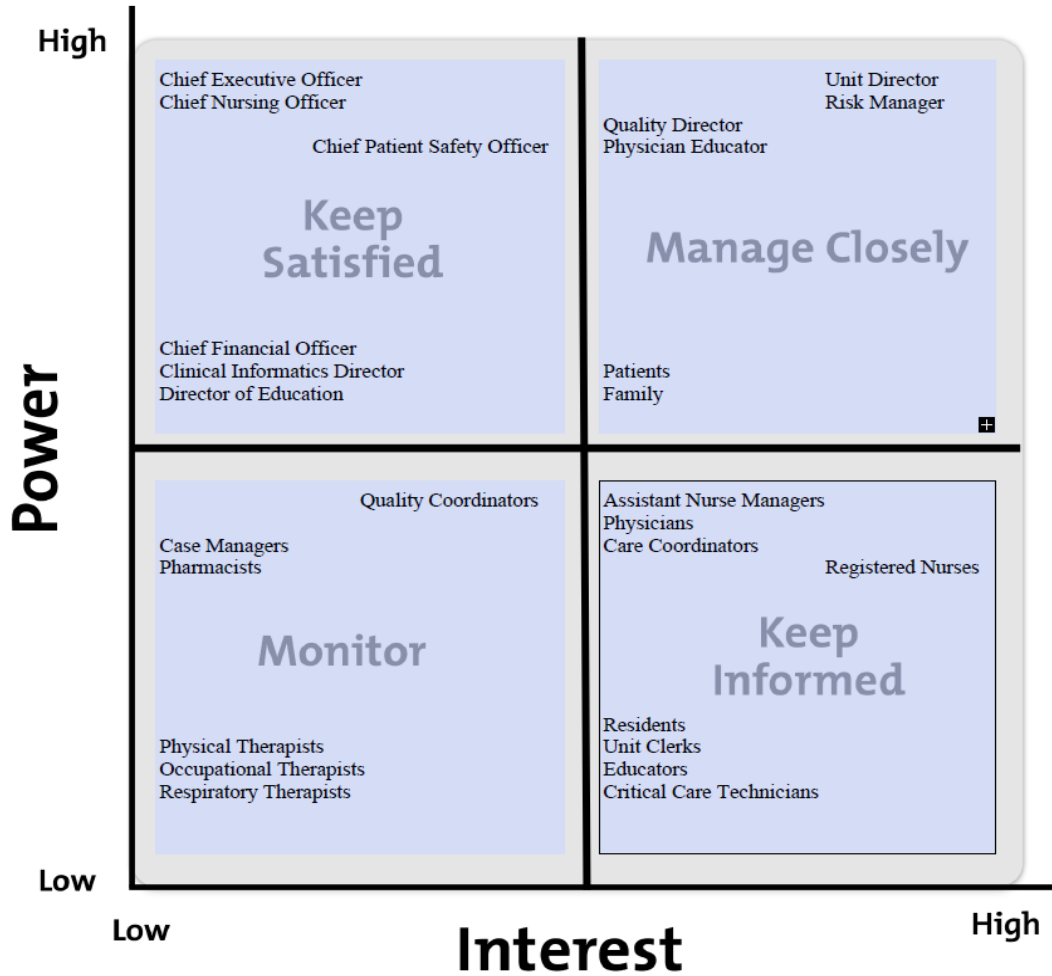
SWOT Analysis

SWOT Analysis Restraint Reduction Process

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• <i>Leadership support</i></li> <li>• <i>Medical/Surgical Unit Director support</i></li> <li>• <i>Small Facility</i></li> <li>• <i>Minimal cost for implementation</i></li> <li>• <i>No added work hours or positions</i></li> <li>• <i>Improves patient safety and patient rights</i></li> <li>• <i>Aligns with organizational goals</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>New electronic health record system</i></li> <li>• <i>Lack of Cerner reports available</i></li> <li>• <i>Lack of restraint alternatives available</i></li> <li>• <i>Education department resistant to help</i></li> <li>• <i>Travel nurses &amp; new nurses</i></li> <li>• <i>Lack of benchmark data available</i></li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• <i>Identify emergent leaders on unit</i></li> <li>• <i>Improve nursing sensitive indicators</i></li> <li>• <i>Increase staff knowledge</i></li> <li>• <i>Potential to expand to other units</i></li> <li>• <i>Learn from other facilities within system</i></li> <li>• <i>Improve documentation</i></li> <li>• <i>Increase staff engagement/awareness</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Restraint alternatives unavailable</i></li> <li>• <i>Cost of restraint alternatives</i></li> <li>• <i>Staff resistance to change</i></li> <li>• <i>Lack of time and resources</i></li> <li>• <i>Preoccupied with upcoming accreditation survey</i></li> <li>• <i>Conflicting priorities impact project momentum</i></li> </ul>

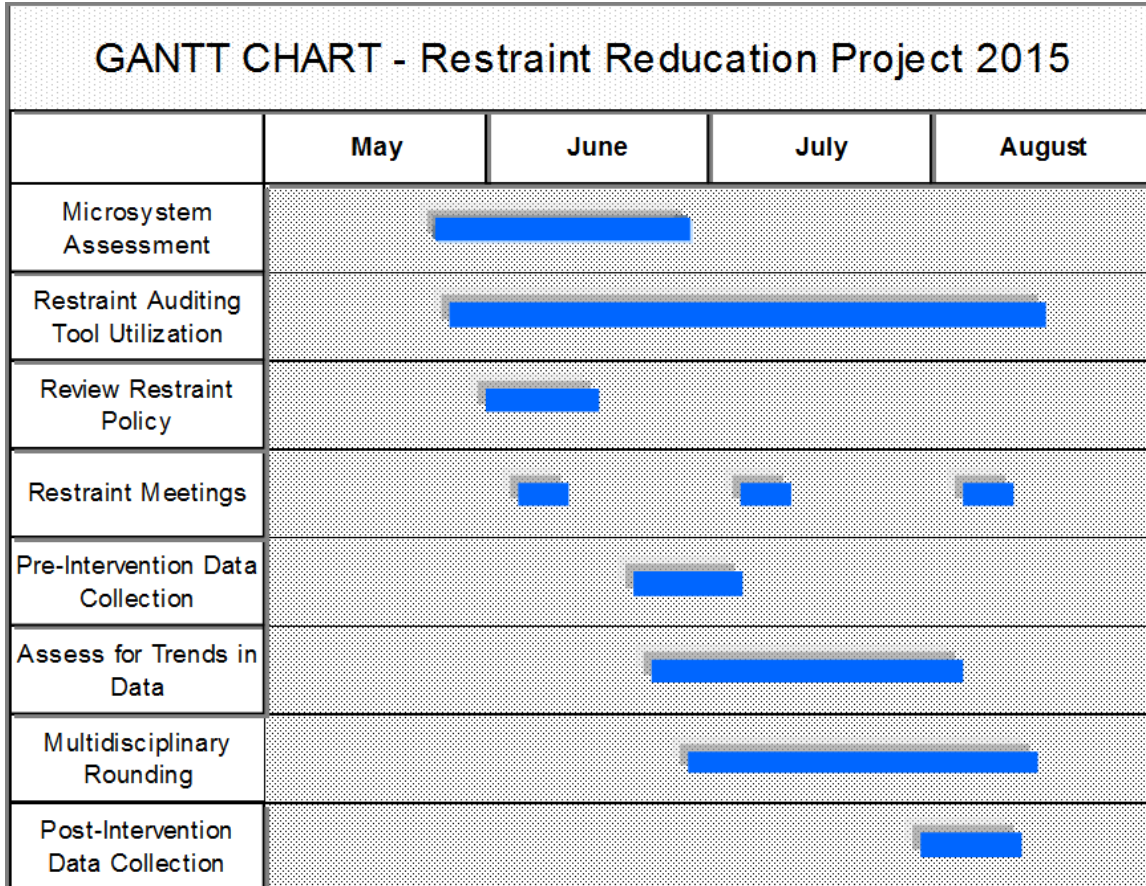
Appendix E

Stakeholder Analysis



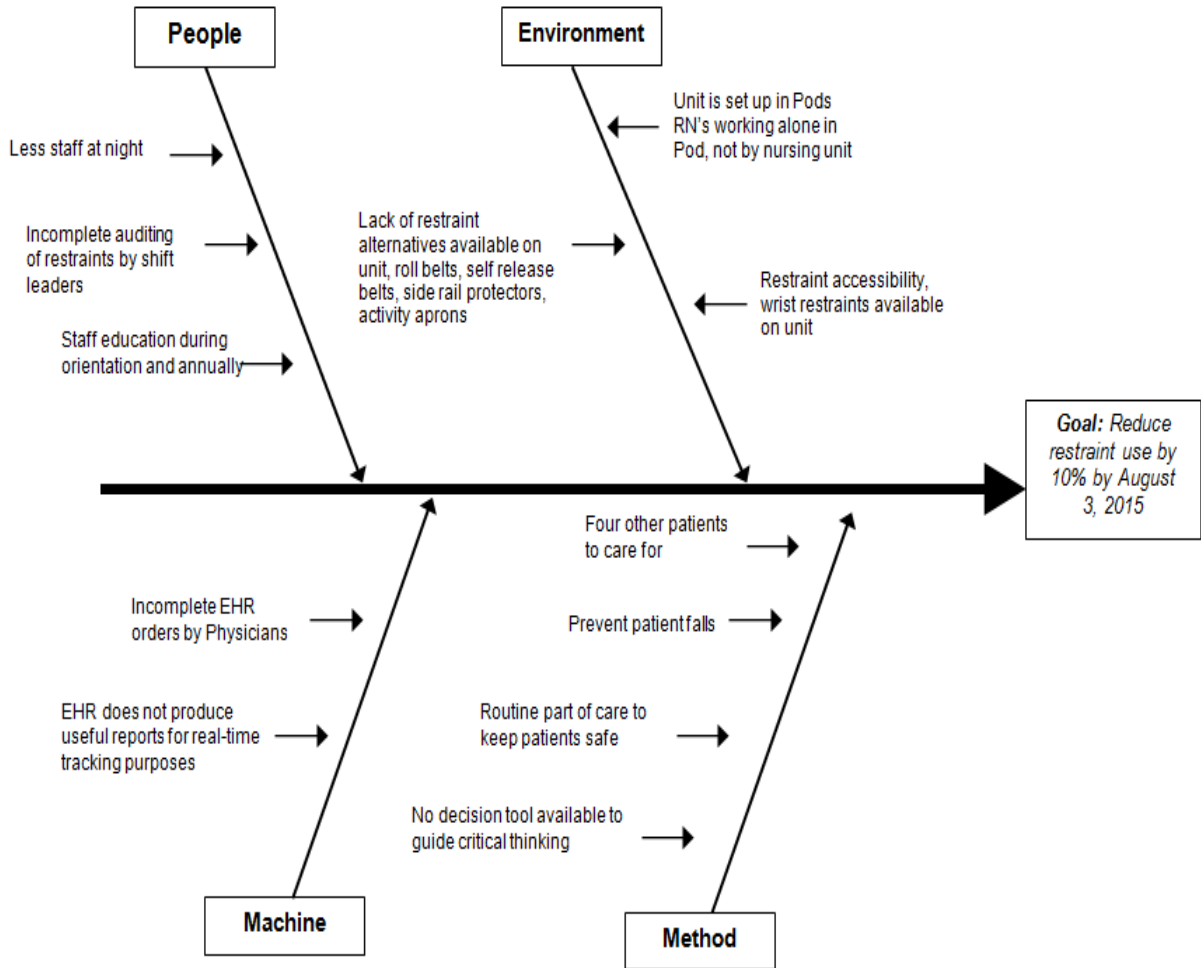
Appendix F

**Gantt Chart**



Appendix F

Cause & Effect (Fishbone) Diagram

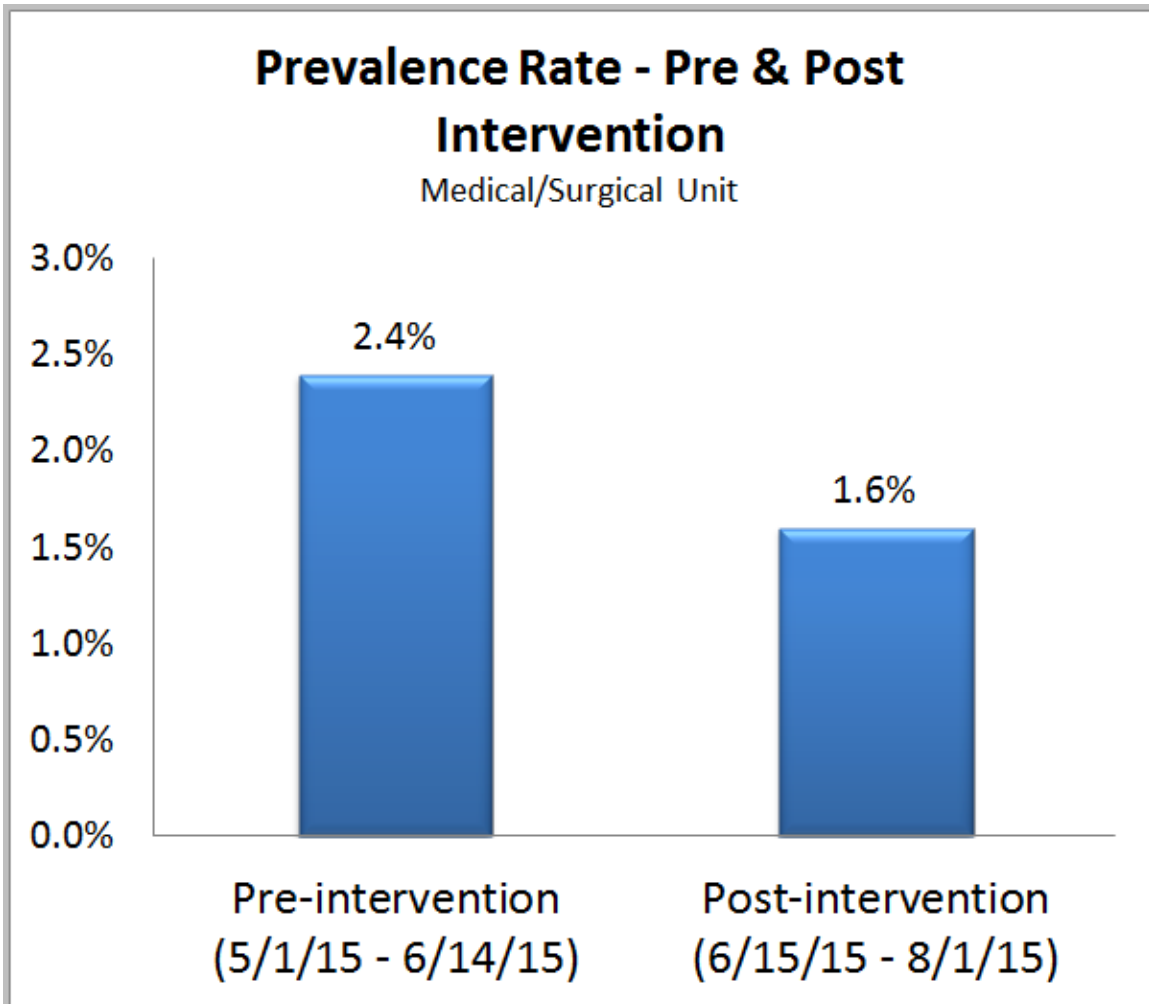




Appendix G

**RESULTS**

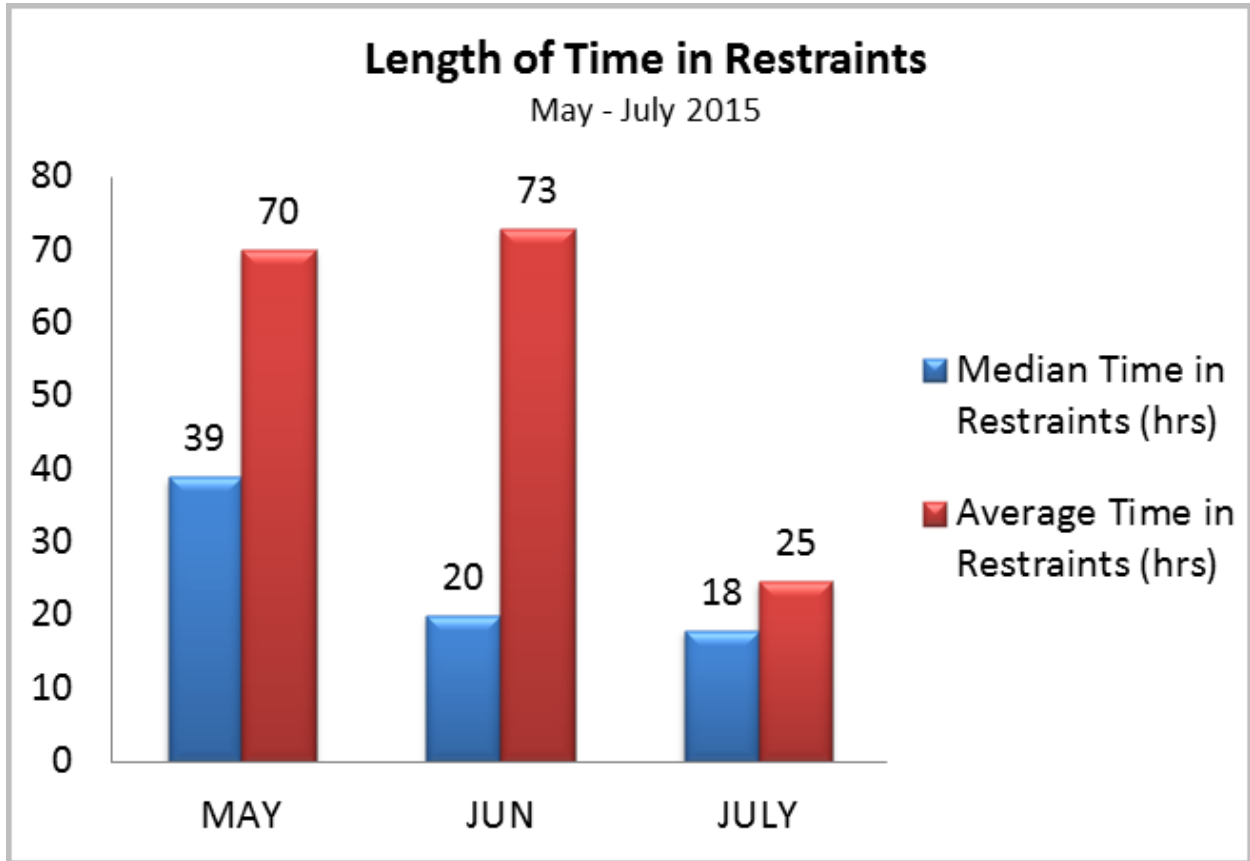
Pre-Intervention & Post-Intervention Date



Appendix H

**Results**

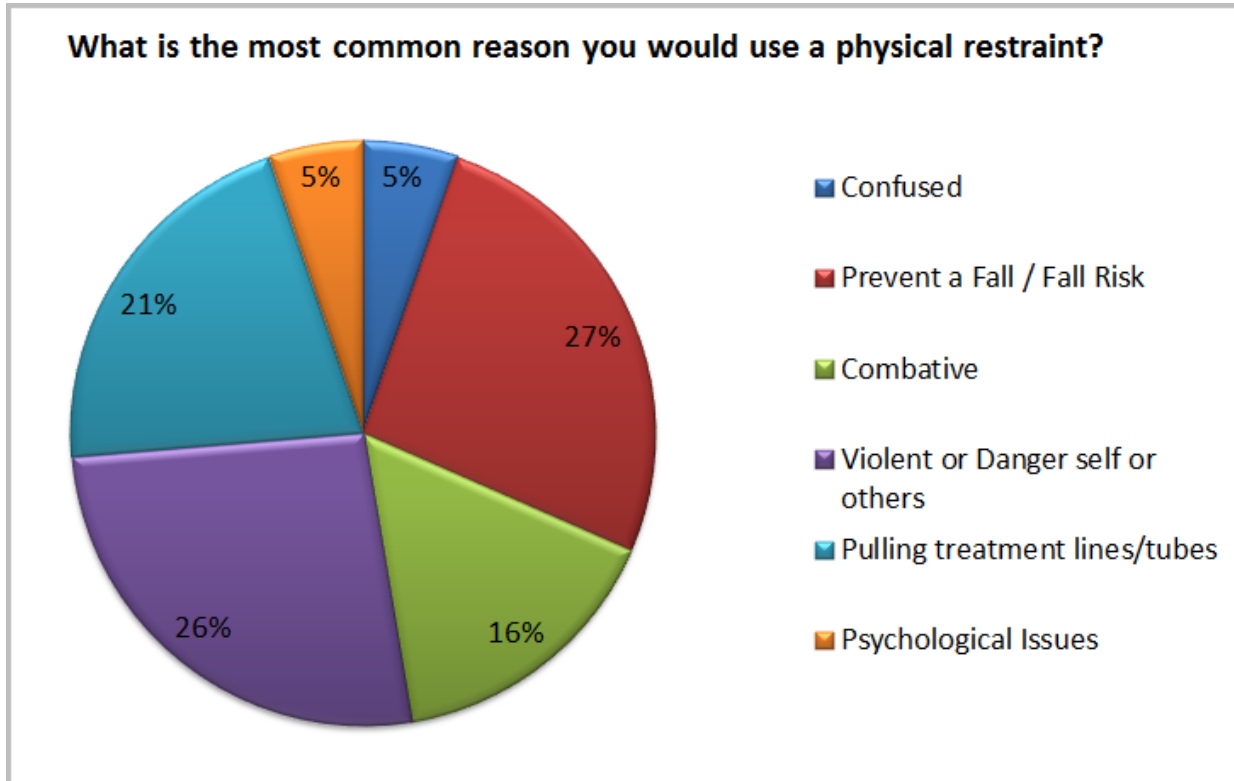
Length of time in restraints



Appendix I

Survey Results

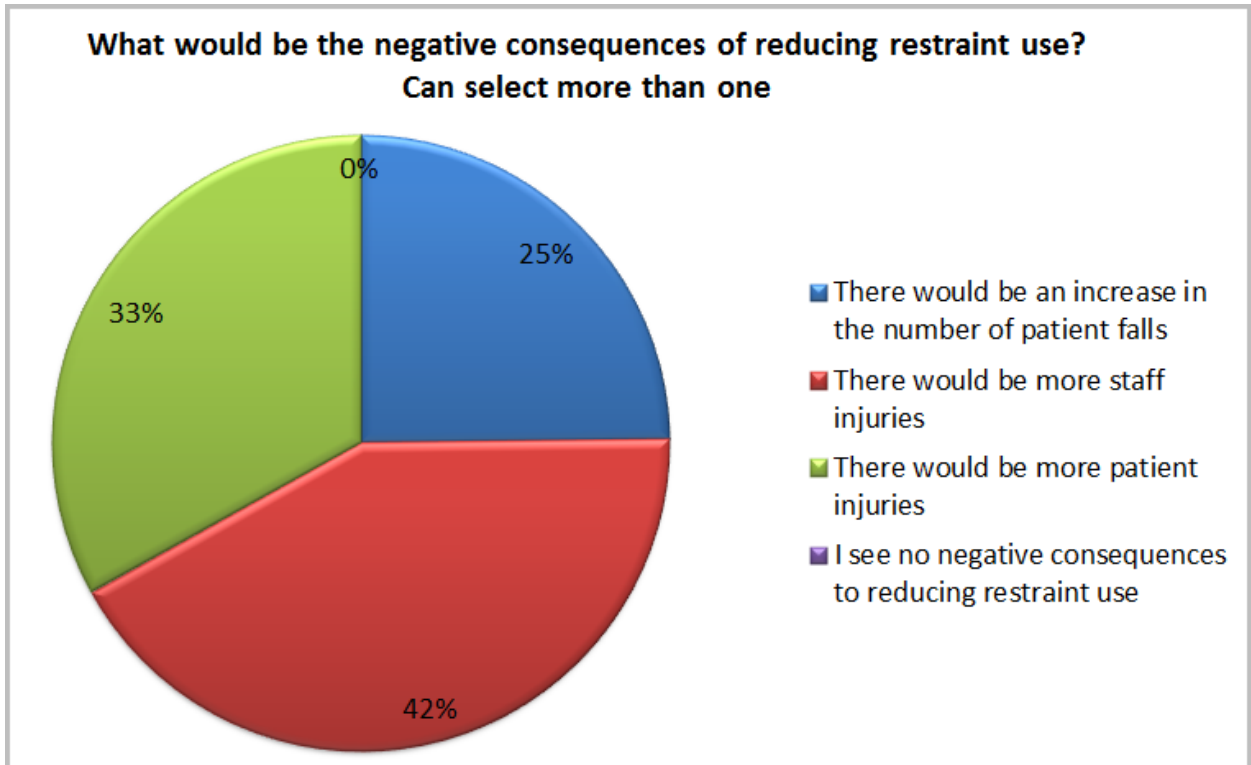
Barriers to Reducing Restraint Use (Question #1)



Appendix I

Survey Results

Barriers to Reducing Restraint Use (Question #2)



Appendix I

Survey Results

Barriers to Reducing Restraint Use (Question #3)

