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A Nursing Point of View: Investigating the Causes of Medical Errors and Strategies for Prevention

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Abstract

Bedside nursing is more of an art then what is seen or heard of from news articles or stories depicting a day in the life of a healthcare worker. “250,000 people die every year from medical errors, making it the third leading cause of death in the United States” (James, 2013). While there is no definitive answer or clear-cut solution to avoiding medical errors within nursing practice, indefinitely, there are possible ways to greatly reduce the effects and harm that *accidental* human errors have within the world of medicine. Through time, thousands of new policies and protocols have evolved from widely known sentinel events that have aided in kickstarting a chain of greater safety in the workplace and at the bedside within patient care. By directing the issues of medical errors in nursing away from the fault of the nursing staff, a safer healthcare system can be created by learning from deadly mistakes and implementing newer protocols and continuing education.

Keywords: Medical errors, medication errors, nursing errors, bedside safety, medication administration

Investigating the Causes of Medical Errors and Strategies for Prevention

Background

Throughout the lifespan, an individual will visit a hospital, primary care provider or urgent care clinic for many reasons ranging from a quick vaccination to treatment of a chronic illness. Going into an environment that is full of hundreds of people who all are experiencing different periods of life can be intimidating and nonetheless frightening. Some scenarios are bringing life to this earth or on the opposite side of the spectrum, watching the last bit of light fade away into the next lifetime. Being in the healthcare setting is one of the most vulnerable areas a person can experience but the most daunting fact is that the human race is absolutely held in the hands of that itself, the human race. Trust is taught in all disciplines of healthcare careers from the beginning of each individual curriculum. Patients and their families are placing their entire life in the hands of healthcare workers the exact moment a footsteps through the hospital entrance. Finding out the unknown factors that are causing an individual fear, pain and deterioration is what most tend to seek when going to a healthcare provider. Hoping that a group of highly educated and well-trained individuals in a healthcare team are competent enough and fully capable of reverting the storms brewing within an individual's body.

While that is the hope millions carry, patients like Charlene Murphey, Lewis Blackman, Josie King, and Mayra Cabrera along with many others, have tragically lost their lives due to major medical errors within their time of care. While considered a devastating tragedy, the trust between a patient and the healthcare team can be lost quicker than the blink of an eye. Nurses and medical staff experience countless hours of further education within the workplace no matter the years of experiences associated with that individual. The purpose of continued education credits for registered nurses and providers is to ensure that the most recent and up to date

evidence-based practice is being taught and implemented as soon as it is deemed worthy for patient care.

In this study, medical errors under inpatient care protocols will be investigated for the cause of the issue and finding strategies to reduce the risk of error. The search for changes to promote better patient outcomes, implied newly implemented strategies needed to avoid medical errors within the volatile world of nursing. This topic will also include factors that are most common of where these errors tend to erupt. For the sake of a larger perspective, the notable cases mentioned previously have all occurred due to common medical errors that are associated with direct nursing care. Lewis Blackman died from failure to rescue (Acquaviva et al., 2013), Josie King died from undetected infection signs (Mansperger et al., 2020), Mayra Cabrera died from medication error resulting in toxicity (Sud et al., 2018), and Charlene Murphey died from receiving an accidental dosage of a paralytic (Williams et al., 2023). As mentioned in *Hospital-Acquired Infections: Current Trends and Prevention*, "Health care-associated infections (HAIs) are the primary cause of preventable death and disability among hospitalized patients. According to the Centers for Disease Control and Prevention (CDC), complications or infections secondary to either device implantation or surgery are referred to as HAIs. Specifically, the CDC monitors surgical site infections, central-line-associated bloodstream infection, catheter-associated urinary tract infections, and ventilator-associated pneumonias" (Boev & Kiss, 2017).The mentioned stories from victims of medical errors are just touching the surface of the types of errors that result in sentinel events. There are unfortunately hundreds upon hundreds of errors that occur each year similar to these notable cases. While it may seem uncommon due to the news articles and major broadcast of these issues, it only is one story at a time that allows light to be shed compared to how often these issues actually occur.

From 2000-2017, four major and tragic deaths have highlighted thousands of news articles, kick started campaigns and changed the lives of the directly involved medical staff. Due to the four notable cases, protocols regarding medication administration, rapid response teams, and sepsis treatment has evolved the last two decades. While continuing to move forward for the better, being able to shine light on other "hidden" medical errors in nursing that tend to happen quite often as a harsh reality. Registered nurses, pharmacists and physicians have created plans to take timeouts to check every single small but vital aspect of patient care to ensure any issue can and will be avoided, especially unexpected death. *The Journal of Nursing Administration* supports the push for continuing education for patient safety by concluding, "Research confirms that patient outcomes improve when nurses practice in an evidence-based manner. Described as a problem-solving approach to clinical care that incorporates the conscientious use of current best practice from well-designed studies, a clinician's expertise, and patient values and preferences, evidence-based practice (EBP) has been shown to increase patient safety, improve clinical outcomes, reduce healthcare costs, and decrease variation in patient outcomes" (Black et. al., 2015). As referenced above, "protocols" are utilized within a care setting to ensure all interventions are done with set standards that are approved by specialized teams who know the actions being taken are beneficial to patient care, similarly, to evidence-based practices.

Finding loop holes in patient care is one of the many factors that have caused these tragedies to occur. While a loophole may seem like the quickest way to do routine interventions for healthcare workers just to check a duty off a list, such as clicking through the screen of a charting system fast or the Pyxis cabinet, is when life altering events tend to happen. Revision of protocols and taking a step back to look at the bigger picture of the various lawsuits for the listed cases above, have ultimately allowed a greatly needed reset to the healthcare system to open the

eyes of individuals caring for patients. While new protocols are needed frequently due to the ever-changing findings in healthcare, being able to pin point the root of the errors and the series of events that occurred is what millions of healthcare workers may wonder. Putting into perspective the percentage of effected patients, and how the hopeful changes have impacted a common error; can show healthcare workers and the families of loved ones how these issues are being addressed for the betterment of the wellbeing of mankind.

Undetermined Information

Although there are many factors that come into play when discussing the reasoning behind medical errors, how one intervention led to another, why a patient deteriorated quicker than expected, what is never truly known is why these issues came to be and the prevalence. Also, why is it that with hundreds of new protocols, electronic systems and endless amounts of training/further education criteria that are required to be met, a slew of common errors is still happening at the bedside resulting in sentinel events and lawsuits.

According to Edwin, “Although medical errors will likely continue as long as clinicians remain fallible humans, it does not mean that it should be accepted as a matter of fact. Once they occur, what should be the attitude of the medical profession? Should it be to withhold such information from patients since ‘what they don't know can't hurt them’ or should such information be honestly disclosed to patients and the appropriate measures taken to redress and prevent any such errors in future?” (2009). While medical errors do happen more often than they should, there must be a change that can take away these events and truly reduce the effects of errors on patient lives and also the cause of effects while keeping into consideration the “to err is human” ideal.

Purpose of Research

This research has been aimed to examine the most common nursing errors, identify effects of patient deaths, and evaluate the effectiveness of strategies used to prevent future occurrences. While these errors occur, what time of day is most common for an issue to arise on a nursing shift and why? Does shift work play a role in the occurrence of errors and how can that be modified to show effective and positive outcomes? Overall, there are many unknown issues that play a role in the occurrence of a medication error rather than just looking at human error as a whole, digging deeper is what can help find effective solutions to look into a brighter and healthier future.

Through this research the following questions will be addressed and supported:

- What are the most common types of errors related to nursing care?
- How have these errors affected patient outcomes after they have occurred?
- If any, what are needed changes that have been identified in regard to prevention?
- What new strategies have been created to prevent the occurrence of bedside errors?
- What are the outcomes from implementation of prevention strategies?

Summary

Medical errors in nursing have not only taken hundreds of thousands of lives each year and created harmful views on the trust within the healthcare system and will likely continue to do so within years to come. Based on the effectiveness of policy changes within nursing and the need for open minds from higher ups, these issues may have evolving solutions that create a larger margin between failures versus successful outcomes within inpatient nursing.

Identification of Nursing Error Types

Within each healthcare system, it is known that registered nurses play a central role, serving as the primary point of contact between patients and the bulk of the healthcare team.

With their pivotal position comes great responsibility, as errors in nursing practice can have steep consequences on patient safety and patient outcomes. “Medication errors are a great concern to healthcare organizations as they are costly and pose a significant risk to patients” (Marufu et al., 2022). Identification of the most common types of nursing errors is a critical step towards enhancing quality care delivery, improving patient safety, and implementing a culture of continuous improvement within healthcare.

Speaking to medical errors alone, the categorization of errors is far beyond just medication or accidental bodily harm, “There are two major types of errors: Errors of omission occur as a result of actions not taken. Examples are not strapping a patient into a wheelchair or not stabilizing a gurney prior to patient transfer. Errors of the commission occur as a result of the wrong action taken. Examples include administering a medication to which a patient has a known allergy or not labeling a laboratory specimen that is subsequently ascribed to the wrong patient” (Rodziewicz et. al., 2023). Rodziewicz and associates have gone to the base roots of determining types of errors that can occurs. While errors of omission can be linked to negligence and errors of commission seem to stem from a result of malpractice. Similarly, “Medical negligence is an increasing public health concern among healthcare providers worldwide as it affects patient safety. It poses a significant risk of patient injury, disease, disability, or death. The World Healthcare Organization (WHO) has recognized deficiencies in patient safety as a global healthcare issue to be addressed. This study aimed to analyze various components of medical negligence research literature” (Dahlawi et. al., 2021), identifies that one of the main causes of medical errors is mainly due to negligence and that poses harmful effects on all areas of healthcare, not solely within an inpatient setting.

While errors begin at the root cause and determining the types such as error of commission, error of omission, negligence, and malpractice, the categories are recognized and very broad which then leads into, besides looking into direct bodily errors, medical staff can also create errors by accident due to what they have been taught and picked up from generations, such as loop holes to care. Continuing with a focus on loopholes and missed care,

> Fourteen studies reported associations between missed care and patient outcomes. Some studies were secondary analyses of a large parent study. Most of the studies used nurse or patient reports to capture outcomes, with some using administrative data. Four studies found significantly decreased patient satisfaction associated with missed care. Seven studies reported associations with one or more patient outcomes including medication errors, urinary tract infections, patient falls, pressure ulcers, critical incidents, quality of care and patient readmissions. Three studies investigated whether there was a link between missed care and mortality and from these results no clear associations emerged (Recio-Saucedo et. al., 2018).

Reverting back, "missed care" is considered to be an error of omission and can be deemed as negligence no matter the true intention of the person committing the interventions or failing to perform the needed care. The term "missed care" is also used to describe what is known as a loophole. Throughout the years nurses and medical staff may pick up short cuts, quick tricks, and quick fixes that can aid with time management throughout a shift that can also minimize the time spent focused on a patient. Li and Luo explain, "The influencing factors of clinical nurses' problem-solving dilemma are diverse. Hospital managers and nursing educators should pay attention to the problem-solving of clinical nurses, carry out a series of training and counselling of nurses by using the method of situational simulation, optimize the nursing

management mode, learn to use new media technology to improve the credibility of nurses to provide guarantee for effective problem-solving of clinical nurses" (2022). The influence that well-seasoned nurses have on upcoming and newly graduated nurses is retained and considered to be support, shared expertise and also accepting educational information from an authority figure in the field helps create confidence.

While confidence and support sounds nothing like a negative experience in the field, the tips and tricks being learned and passed down can mean a nurse is bypassing lifesaving notifications on a medication administration screen or warnings that show a dosage is too high and could be fatal to a patient, if given. For example, in 2017 RaDonda Vaught was a registered nurse who was working at Vanderbilt University Medical Center and surpassed all of the warning notifications on the Pyxis medication cabinet resulting in a medication error and death of her patient, "Vaught incorrectly administered vecuronium, instead of Versed® (midazolam) as ordered, without patient monitoring, and immediately reported the error. The prosecution argued for Vaught's negligence in issuing an override and failure to recognize different medications, whereas the defense argued that systemic factors contributed" (Lusk et. al., 2022). RaDonda Vaught is not the only case that highlights the perfect yet tragic example of a loop hole that many nurses across the country have put into practice due to continued use of the same technology every day and being engulfed in the daily routine of bedside nursing for years on end.

From the multiple types of errors that occur within the hospital systems, it has shown through countless studies that these issues are unavoidable unless there is a perfect relationship between the user and the system. Within the different types of errors, there are seen to be many that can be decreased through continued education, slowing down the process with precision and identifying the common human mistakes. Through time, these issues can never be fully evicted

from the healthcare world but, there are enough patient outcomes that have been negatively impacted by negligence, unintentional torts, and *honest* mistakes within the work place.

The Effect on Patient Outcomes

Mistakes, errors, accidents, and any other word that can describe something that is unintended to cause harm are all terms that relate to what occurs in hospitals across the country each day. Various studies have looked into how these medical/medication errors have affected the population yearly and through the decades. The results are devastating but have the potential to have a major change with the right data collected and the root cause being pinpointed.

> Sizable numbers of Americans are harmed as a result of medical errors. Two studies of large samples of hospital admissions, one in New York using 1984 data and another in Colorado and Utah using 1992 data, found that the proportion of hospital admissions experiencing an adverse event, defined as injuries caused by medical management, were 2.9 and 3.7 percent, respectively. The proportion of adverse events attributable to errors (i.e., preventable adverse events) was 58 percent in New York, and 53 percent in Colorado and Utah. Preventable adverse events are a leading cause of death in the United States. When extrapolated to the over 33.6 million admissions to U.S. hospitals in 1997, the results of these two studies imply that at least 44,000 and perhaps as many as 98,000 Americans die in hospitals each year as a result of medical errors. Even when using the lower estimate, deaths in hospitals due to preventable adverse events exceed the number attributable to the 8th-leading cause of death. Deaths due to preventable adverse events exceed the deaths attributable to motor vehicle accidents (43,458), breast cancer (42,297) or AIDS (16,516) (Kohn et al., 2009).

Kohn and associates have looked into the statistics related to unintentional deaths compared to other predisposed health issues and the results show that the toll that unintentional deaths have had are almost incomparable to issues that cause deaths such as cardiovascular disease, motor vehicle traumas and breast cancer. Similar to the research above, this broad overview of unintentional deaths can be looked into deeper by seeing which are the most common issues that have been related to these deaths.

Health concerns that arise while being treated in a hospital are termed as “hospital associated” or “hospital acquired”. This can be any health issues from pressure sores, catheter related urinary tract infections, sepsis, acute kidney injury due to urinary tract infections, hospital acquired pneumonia, ventilator associated pneumonia and any infection that can be caused due to invasive line treatment. “Health care-associated infections cause approximately 75,000 deaths annually, in addition to increasing morbidity and costs. Over the past decade, a downward trend in health care-associated infections has occurred nationwide” (Hsu, 2014). Throughout the United States and across the world, many healthcare systems have created protocols that maintain sterile fields for invasive line changes periodically, scheduled turns to prevent pressure injuries on bony prominences, and also implementation of almost constant oral care for ventilator dependent patients. With all of these solutions that may seem like they are the answer to why there are so many deaths related to these “avoidable” issues, why is the case that these are still occurring and being part of the third greatest cause of death in the United States.

Exhibit 1. New 2014 national HAC rate baseline (rounded), updated January 2019

Hospital-Acquired Infections	**2014 Measured Baseline for HACs**	**2014 Total HACs per 1,000 Discharges**
Adverse Drug Events	1,001,000	33.7
Catheter-Associated Urinary Tract Infections	170,000	5.7
Central-Line Associated Bloodstream Infections	8,500	0.3
Clostridioides difficile Infections	86,000	2.9
Falls	239,000	8.0
Obstetric Adverse Events	67,000	2.3
Pressure Ulcers	647,000	21.8
Surgical Site Infections	73,000	2.5
Ventilator-Associated Pneumonias	36,000	1.2
(Post-op) Venous Thromboembolisms	25,000	0.9
All Other HACs	584,000	19.6
Total	2,940,000	99

Figure 1: *AHRQ National Scorecard on Hospital-Acquired Conditions Updated Baseline Rates and Preliminary Results 2014–2017*

The AHRQ National Scorecard is used to determine and layout the total hospital-acquired conditions in a certain period of time. This is based on adverse events that should have been caught and are avoidable of the right process of care was taken or better implemented. While all of these cases do not have an exact explanation to compare why the thousands of adverse events have occurred, the main point being presented is the fact that all of these occurred due to hospital admission and being in the hospital for more than one night stay. Within patient outcomes, it is

shown that per 1,000 discharges there were 33.7% hospital acquired adverse drug events from 1,001,000 patients. That is solely the depiction from adverse drug events. Through this, the types of adverse events are not only based on recoverable issues but also any adverse that counts as a death in the hospital. Within the last decade, almost three million patients have suffered from added injury after being admitted to the hospital. These issues have not only added to the rising death toll due to adverse hospital events, but this has also affected the medical staff involved, hospital systems and extremely added to the cost of care to every single patient who entered a hospital and had to receive treatment for a health complication they initially did not arrive with at the time.

Needed Changes to Correct and Promote Positive Patient Outcomes

Within the workplace, it has been identified that the highest rate of medical errors resulting in sentinel events comes from adverse medication effects, medication administration errors, failure to rescue, failure to recognize systemic infections and failure to recognize the impending respiratory failure in patients. Many medication errors occur while medications are being extracted from the medication cabinet due to split attention and distractions from other staff members during this crucial time. “Nurses are frequently interrupted during medicine administration, which jeopardizes patient safety” (Alteren et al., 2021). Alteren and associates interview nineteen senior nurses and all of the interviewees described medication administration as “working in a minefield” due to the split attention and high chance of errors to occur of full attention is not given to the task at hand. Many nurses have five to six patients on a basic medical surgical floor in a hospital and that means pulling thirty plus medications at the same time for all of the patients each time medications are due during a shift. Split attention at this point of patient care places all of the patients at risk and the nurse pulling the medication.

Hospital-acquired infections (HACs) are also within the top of the list for avoidable errors that negatively alter patient outcomes. The rate of HACs are extremely high, and the root cause is due to lack of hygiene and aseptic technique being continuously implemented onto hospital units, especially for higher acuity patients who are at high risk for contracting an infection in invasive line. Hand hygiene has been identified as one of the main causes for the transmission of hospital-acquired infections. While the use of hand sanitizer between every patient room that is visited seems as though it should be a routine practice, the lack of hand hygiene has added to many cases of unidentified sepsis within patients. Also, there are many signs within hospitals and inpatient care facilities that promote aseptic technique for all care procedures and interventions. “The lack of awareness of healthcare workers led to poor hand washing practices. Some healthcare workers were unaware of the importance of hand washing and its role in decreasing nosocomial infections and its costs and problems. Also, some healthcare workers did not believe in hand hygiene and were inattentive to it” (Ahmadipour et al., 2022) speaks on the lack of awareness and attention for how impactful hand hygiene is within the healthcare system. Recognizing that there is great disconnect between hand hygiene and healthcare staff is a major reason behind the decline in positive patient outcomes within many categories.

Hand hygiene and medication administration are two of greatest issues within the healthcare system that causes unintentional deaths and adverse effects for patients after hospital admission. The roots that grow off of hand hygiene and medications issues stems all the way to explaining many issues that occur within the hospital. For example, hand hygiene failure can result in transmission of viruses, central-line associate infections, promote the spread of Clostridioides difficile between patients and staff, and many other major healthcare issues that

occur every day. While these examples are very common on a hospital unit, it is not intended to occur as frequently as it does and there needs to be better precaution implemented and promotion of hygiene for all staff and patients. Similarly, medication administration errors also have extensive roots that grow into each subcategory of errors. For example, medication errors can cause allergic reactions, respiratory failure, cardiac arrest, organ failure, increase fall risks and ultimately result in unintended death of a patient.

The search for strategies to help improve and reduce the risks associate with all of the adverse events listed above have been in the works for years on end, yet the issues continue to arise. Stemming from two common errors in practice, the areas that should be the start and focus for improvement would be staffing education on medication administration and hand hygiene. These two issues alone could change and save thousands of live a year and reduce the incidence of medical errors occurring after admission. Continuing to use evidence-based practice to find the best solutions that show a decrease in negative patient outcomes could be the answer for many hospital systems and save patients and nurses from turning a hospital visit into legal matters.

Implementation of Prevention Strategies

Being able to identify the types of medical error that occur most frequently is the first step to promoting and implementing change. Identification of the most common errors allows for the ability of change to come easier by knowing what the major issues are that effect patient outcomes negatively. “Medication errors are a common problem that places a massive burden on healthcare systems and are often avoidable by implementing effective preventive strategies” (Mutair et. al., 2021). Implementations of the prevention strategies in the previous section have been shown to greatly improve the rate of medical errors being caused at the bedside and many

hospitals have shown a decrease in hospital-acquired infections across the nation. Haque and associates have found that, “The strict practice of HH has been reported to reduce nosocomial infections by between 40% to 70%” (2020). With slight changes and education on a practice such as hand hygiene can greatly show improvement within a hospital unit.

The *International journal of environmental research and public health* has described the benefits of implementing many healthcare initiatives that promote better hygiene to reduce infection rates. “In 2005, the World Health Organization launched its “Clean Care Is Safer Care” campaign, an international initiative to promote patient safety. This was followed in 2009 with “Save Lives: Clean Your Hands”, which is the main strategy program currently being promoted worldwide” (Martos-Cabrera et. al., 2019). Many other organizations have gone on to show that the use and promotion of hand hygiene during patient care and between each interaction has greatly reduced the incidence of nosocomial diseases in the hospital. Hand hygiene has been shown to be a large part of reducing in-hospital health issues with a 7.5% reduced rate of bacterial formation within each patient interaction (Martos-Cabrera et. al., 2019), alongside hand hygiene, implementing medication administration has also reduced major error rates.

Through the work day on an inpatient hospital unit, hundreds of medications re extracted from the Pyxis and administered daily. The Joint Commission has created Patient Safety Goals that are a set standard for nurses and healthcare providers to maintain when passing medication and providing other interventions. “Use medications correctly and safely, double-checking labeling and correctly passing on patient medicines to the next provider. Label all medications, even those in a syringe. This should preferably be done in the area where the medications are prepared” (Rodziewicz et. al., 2023). Hospitals across the United States have used the Joint Commission’s Patient Safety Goals to set a standard for patient care and to avoid medication

errors. Similarly, the *five rights of medication administration* that are as followed, “Most health care professionals, especially nurses, know the “five rights” of medication use: the right patient, the right drug, the right time, the right dose, and the right route” (Grissinger, 2010). The “five rights” are taught in many nursing programs within the first few months of the programs and consistently put into practice. The usage of key rules for medication administration are also posted in hundreds of hospitals across the country near the Pyxis machine as a reminder to always verify all medications multiple time.

Through teaching, continuous education and applying strategies from learned mistake, medical errors within nursing at the bedside can be reduced by implementation of many strategies. While the reduction is nothing near extreme, this is just the beginning of a downward trend due to the use of evidence-based practice that are shown to reduce medical errors and harm induced by a hospital admission. The use of frequent hand hygiene can reduce number of hospital-acquired infections by promoting aseptic technique while the use of medication verification system can greatly reduce the chances of adverse events and sentinel issues.

Conclusion

In conclusion, the world of nursing has been greatly impacted by the incidence of medical errors ranging from hospital-acquired infection rates to medication errors causing avoidable deaths. Over 250,000 lives are taken each year from medical errors and the trends have continued to stay within higher rate limits even with hundreds of protocol changes and actions being taken. However, medical errors unfortunately can never be fully eradicated due to the nature of human error paired with the inevitable error of the systems behind a functioning hospital.

Through examples from RaDonda Vaught and the story of Josie King, these tragic events alongside many others, have created a long line of further education to registered nurses, physicians, and pharmacist. These have aided in promoting the reduction of these errors that occurred due to failure of the system not caught by the provider who were also the victim of multiple errors preceding the events. Hospitals have used these notable events as a way to provide examples of how easily a medical error can occur and what a major consequence can come out of everyday actions that occur at the bedside.

The types of medical errors are considered to be at the top of a flow chart that then leads to the physical aspects of error and down to the overall patient outcome. Error of omission and error of commission are a result of negligence and malpractice no matter if they are unintended as the result of actions or not. Through the types of errors come the greatest incidence of errors that are concluded to be hospital-acquired infections due to lack of aseptic technique and medication errors due to missed warnings, common names, and lack of medication verifications. All of these categories have resulted in thousands of lives lost due to action that can take less than a minute to commit. The eradication of common medication names has aided greatly in the reduction of adverse effect yet, dosage errors are still a major issue due to rushed work. The implementation of quiet areas when drawing medications is being rapidly spread through the United States to lessen mistakes and distraction. The promotion of hand hygiene has also been a major campaign that has become extremely push since the prevalence of hospital-acquired infection rates have skyrocketed.

Overall, being able to identify the anatomy of medical errors and providing evidence-based practices to reduce the mortality rate are being put into effect everyday hoping for a change to lower rates can be shown. Registered nurses endure countless hours of direct patient

care and clinical education but no matter the level of skill and education a medical error is inevitable in every line of career. While errors in nursing have extremely devastating consequence, the push towards change and further awareness to avoid patient mortality are at a high. Healthcare providers prioritize their patients within the field of medicine and with the chance of human error always being present, there are many areas where the healthcare system is working to better the health of the United States through further education and increase the number of positive patient outcomes.

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