Mindful
Continuing Education

Decreasing Medical Errors in Healthcare

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Introduction

Most individuals have heard horror stories from a friend or on television about mistakes in healthcare. Perhaps the doctor performed the procedure on the wrong patient or the anesthesiologist did not give the correct dosage of a medication to prevent the patient from feeling the procedure. Perhaps the team did not effectively communicate about the patient's allergies. There are a variety of examples that could be pulled from to articulate the danger of medical errors in the healthcare field. While errors in the workplace are common, errors in a healthcare workplace can be fatal. It is essential that all medical professionals, behavioral healthcare or not, are prepared for how to prevent medical errors from occurring as well as notice and stop them when they are occurring.

This course will review in-depth what medical errors are and how to prevent them in healthcare.

Section 1: What are medical errors?

Introduction

Medical errors are not uncommon in both behavioral health and medical healthcare services. While communities often think of doctors as superhuman, it is important to understand that doctors are like anyone else. They make mistakes. This is especially true of medical professionals who work in high-volume departments such as hospitals and emergency rooms.

While medical errors almost always occur by accident, medical professionals must be invested in reducing the likelihood of errors. This must occur at both micro and macro levels.

Where are healthcare services being delivered?

Healthcare services are being delivered in a variety of settings. While some might assume that healthcare errors are limited to hospitals, this is not the case. Errors are occurring across all healthcare settings and are not limited to hospital settings. Common healthcare settings include:

1. Ambulatory surgical centers - these are most commonly referred to as outpatient surgery facilities (Flavin, 2018). In these settings, more commonly occurring

outpatient surgical procedures are administered. High-risk procedures are typically done in hospital operating rooms

2. Birthing centers - individuals who have babies in birthing centers generally do so with the support of a midwife and a more holistic approach to care. Medical intervention is given as needed in these facilities but professionals will transport patients to hospitals when a C-section is necessary or high-risk birth complications arise

3. Clinics and medical offices - most people go to clinics and medical offices for routine appointments such as primary care, occupational therapy, dermatology, and other routine services. This includes walk-in clinics and urgent care settings

4. Dialysis centers - individuals who require dialysis generally receive it in outpatient centers specific to patients on dialysis. Because dialysis is a commonly needed service by patients (14% of Americans have kidney disease), there are now centers completely devoted to dialysis

5. Hospice - hospice centers are for individuals with terminal illnesses who need end of life care

6. Hospitals - emergency care is provided in hospital settings as well as surgical procedures; birthing and other acute care needs are met as well

7. Radiology centers - individuals who require diagnostic testing often receive it in outpatient radiology centers where staff administer CT scans, ultrasounds, X-rays, and various other tests

8. Mental health facilities - individuals in need of acute mental health or substance use services often receive it in a mental health facility that may or may not be connected to a hospital

9. Nursing homes - individuals who require long-term care or rehabilitation often receive it in nursing homes

10. Rehabilitation centers - rehabilitation centers are specifically for patients in need of post-operative rehabilitation or other therapies to improve functioning. For example, physical therapy or occupational therapy

11. Telehealth - telehealth services are fully remote services. Professionals who use a telehealth model must diligently pay attention to their patients to avoid

misdiagnosis and other errors as a result of not physically being in the room with the patient (Flavin, 2018)

Medical errors

A medical error is an error made in healthcare that has a negative effect (Carver, Gupta, & Hipskind, 2021). A medical error is made either unintentionally or intentionally. The most commonly occurring medical errors are made in intensive care units, operating rooms, and emergency departments. These are also where the highest acuity patients are being seen and because of the risk, errors are extremely dangerous and must be avoided.

Common examples of medical errors include the following:

- Administering the wrong medications
- Giving the wrong kind of transfusion
- Misdiagnosing and mistreating patients as a result of the misdiagnosis
- Overtreating patients
- Undertreating patients
- Injuries that occur during surgery
- Injuries that occur at the wrong site
- Mistaking patients
- Pressure ulcers (Carver, Gupta, & Hipskind, 2021)

Research shows there are two main types of errors:

1. Errors of omission - these errors are a result of behavior or action not taken (Rodziewicz, Houseman, & Hipskin, 2021). For example, forgetting to put a patient's waist belt on when the individual is in a wheelchair and is unable to control the way the body moves. This can result in the patient falling out of the wheelchair and ending up with a significant injury
2. Errors of commission - these errors are a result of behavior or action taken that is wrong. For example, knowing that a patient has an allergy but not labeling that allergy on the medical chart. This can result in the patient being given a

prescription that can cause an allergic reaction (Rodziewicz, Houseman, & Hipskin, 2021)

Errors are further broken down by the following labels:

1. Active error - active errors take place by individuals who are on the front line. For example, operating on the wrong limb
2. Adverse events - an adverse event is an error that is caused by the medical team and not by the underlying conditions of patients. These errors are preventable by following standardized healthcare practices and improving them as necessary
3. Latent errors - errors that are in the system and processes. For example, equipment that was installed or maintained incorrectly. These kinds of errors often occur but may not have a significant enough impact to be immediately improved. These are often thought of as “accidents waiting to happen”
4. Medical errors - when an action plan has not been completed the outcome is different than anticipated. For example, a deviation from the process of care occurs and results in harm
5. Negligence - when a provider does not adhere to standards of care. For example, the professional does not read toxicology reports or tests before administering a specific treatment plan
6. Near miss - when an event could have a negative consequence but in that situation, it did not. This offers the opportunity for developing prevention processes and plans
7. Never event - errors that should never occur. For example, completing surgery on the wrong side of the brain. These are serious errors
8. Noxious episode - not managing complications correctly. For example, if a patient who is not stable is sent for extensive testing instead of going into the operating room as needed
9. Compensable event - an error that can result in claims of malpractice
10. Sentinel event - the risk of a potential event occurring with a dangerous outcome. Once they are discovered, they must be immediately addressed

How significant are medical errors?

Medical errors result in high expenses in healthcare. Statistics find that 20 billion dollars are spent every year on medical errors (Rodziewicz, Houseman, & Hipskin, 2021).

The most recent study completed on medical errors found that such errors are the 3rd leading cause of death in the United States (Carver, Gupta, & Hipskind, 2021). This means that 210,000-440,000 deaths are occurring per year as a result of medical errors. Before this, the leading causes of death are cancer and heart disease.

Studies have also found that most medical errors are not made as a result of recklessness or lack of attention to detail but rather from poor communication and systemic issues between providers. For example, failure to communicate between teams.

Research finds these to be the most common medical errors by occurrence in the United States:

1. Adverse drug effects
2. Catheter-related urinary tract infections
3. Bloodstream infections from a central line
4. Injuries from falls
5. Obstetrical adverse effects
6. Pressure ulcers
7. Infections at surgical sites
8. Blood clots
9. Pneumonia
10. Wrong site or wrong procedure administered

Research finds these are the top five most misdiagnosed conditions:

1. Cancer-related issues
2. Neurological related issues
3. Cardiac related issues
4. Lack of timeliness responding to surgical complications

5. Urology related issues

Medical teams and organizations must build supportive systems to prevent such devastating errors from occurring.

Medical errors related to misdiagnosis

Because misdiagnosis is such a common error, it is important to understand that errors occur at various steps in the diagnosis process. These include the following:

1. Failing to identify a differential diagnosis
2. Failing to order the correct testing for diagnosis
3. Failure to identify any abnormal findings
4. Failure to consult with other professionals
5. Failure to identify appropriate clinical information
6. Discharging the patient from the emergency department before a correct diagnosis has been given

Research has found that the following factors often contribute to misdiagnosis:

1. Communication between providers
2. Lack of reviewing the medical records by professionals
3. Poor rapport between professionals
4. Poor communication between professionals and patients
5. Patient characteristics - common examples including obesity, non-adherence to treatment plans, failure to attend follow-up appointments, and poor patient hygiene (Carver, Gupta, & Hipskind, 2021)

How likely are medical errors to occur?

Medical errors are, as mentioned, the third leading cause of death in the United States and are unfortunately happening often. Every year there are 200 million procedures performed globally. The following statistics have been found:

- 4000 errors occur during surgery in the United States every year (Rodziewicz; Houseman, & Hipskind, 2021)

- The most common surgical error is operating on the wrong body part
- Surgeries that use robotics result in an increase in accidental hemorrhages
- One in every six patients is impacted by a diagnostic error
- One in every 1000 primary care visits results in preventable harm
- Delaying treatment after a diagnosis is the third most common error (Rodziewicz; Houseman, & Hipskind, 2021)
- 12,000,000 Americans receive the wrong diagnosis every year (MyMedicalScore, 2020)
- 80% of medical bills have an error in them (medical billing errors cost patients 210 billion dollars annually)
- 7,000-9,000 patients die every year from medical errors (MyMedicalScore, 2020)

Causes of medical errors

There are a variety of reasons for medical errors occurring. Not surprisingly, research finds that sleep deprivation and fatigue is a common cause of medical errors (Bari, Khan, & Rathore, 2016). 66% of medical residents reported that the medical errors they made in residency were related to lack of sleep and tiredness as a result of working long hours. Other causes include the following:

1. Lack of experience in the medical intervention being utilized, despite needing to complete the task for the patient - this was reported by 52% of medical residents
2. Poor supervision and coaching availability - this was reported by 45% of medical residents
3. Poor communication between teams in the healthcare system - 36% of medical residents reported this (Bari, Khan, & Rathore, 2016)

Well-known medical errors

There have been many well-known cases of medical errors that have been unfortunate but helpful in determining policies that will hopefully prevent additional errors.

In 2003 Duke University's medical facility completed a lung transplant on a patient without verifying the blood type of the donor (Leighton Law, 2021). Unfortunately, the

donor was not a match and the patient experienced fatal brain damage as a result. Moving forward the hospital required multiple checks to ensure blood types are the same for patients receiving transplants.

In 2007, Rhode Island Hospital had three surgeries with errors. Three separate patients had the wrong side of their brain operated on. Two of the mistakes were identified soon enough to close the initial holes but one of the surgeries resulted in the death of a man.

In 2004, a couple who were receiving treatments at a fertility clinic were accidentally given sperm from the wrong man. This resulted in a baby being born that was not the child of the woman's husband (Leighton Law, 2021).

Countless other stories like this can be addressed with more effective policies, procedures, and communication with providers.

Closing

While medical errors are most common in emergency departments and intensive care units, they are occurring everywhere that medical services are offered and at very high rates. Professionals must be aware of some of the most common procedures that result in errors as this can help them be more cautious. It is also important to understand the characteristics of patients that often have higher experiences with misdiagnosis and medical errors as this can help them notice and check their biases that could result in errors.

Section 2: Medical errors in behavioral health

Introduction

Medical errors are not isolated to medical healthcare. They are occurring in behavioral healthcare as well. Counselors, psychiatrists, and psychologists must be aware of the issues in behavioral healthcare that lead to errors, just as it is the case in medical healthcare for professionals to be informed.

Misdiagnosis

The following are the most common reasons for misdiagnosis or lack of appropriate diagnosis in behavioral healthcare:

1. Incorrect patient history - when time is limited, mental health professionals often find a diagnosis to be very difficult and can sometimes get it wrong (Brenner,

2018). Time is often limited because of insurance reimbursement and acuity issues. Without ample time to understand a patient's current and historical presentation of symptoms, it is easy to misdiagnose. This is further complicated by the fact that services are only billable with a designated diagnostic code. Therefore, clinicians feel pressure to diagnose individuals to quickly enroll them in services and provide relief for their symptoms. Furthermore, patient history is often difficult to identify if the patient has a history of substance use, trauma, or refuses to offer consent to consult with collateral contacts

2. Presentation of symptoms - often symptoms present in a way that could be mistaken for other diagnoses. For example, individuals may present with anxiety and be given a diagnosis of Generalized Anxiety Disorder when in reality their symptoms qualify them for a diagnosis of Post Traumatic Stress Disorder. The treatment for that would not be the same as for Generalized Anxiety Disorder because it would include trauma processing. It is not uncommon for complex mental health issues to be missed but it does make proper treatment difficult

3. Stigmatized disorders - some clinicians may be hesitant to give correct diagnoses to patients if the disorder is highly stigmatized. For example, psychiatric conditions, personality disorders, and bipolar disorders are more stigmatized than depression and anxiety. Some clinicians may be hesitant to offer such diagnoses because of the stigma that may follow that patient. While this generally comes from a good place by that clinician, it actually can prevent the patient from accessing the appropriate treatment services that are more tailored to or specific to those disorders (Brenner, 2018). For example, a patient with Borderline Personality Disorder (BPD) will benefit greatly from Dialectical Behavioral Therapy. This isn't generally a treatment service given to patients who have mild anxiety and is often specific to patients with BPD. Individuals who are not given the correct BPD diagnosis, may not be able to attend Dialectical Behavioral Therapy as needed

Medication errors

Medication errors or the act of giving the wrong medication or doses to patients, forgetting to give medication to patients, or giving patients their medications at the wrong times can be extremely dangerous and is a very common error in behavioral health.

Inpatient psychiatric facilities are very busy. Generally, they are staffed by nurses, aides, social workers, counselors, and other professionals who may be in and out, such as psychiatrists and doctors. Psychiatric facilities are high stress environments because patients are not generally admitted unless they are a danger to themselves or someone else. Because of the high pressure and demand on units, it isn't surprising that professionals make medication errors, however, it must be prevented as much as possible because the psychiatric medication can be dangerous when misprescribed. Many patients in psychiatric facilities may be taking Benzodiazepines for their mental health, which when given wrong can cause drowsiness, dizziness, weakness, and slowed breathing (Food and Drug Administration, 2020).

Research has found that the most common errors in mental health hospitals are the medication administered errors (MAEs) (Keers, Placido, Bennett, Brown, & Ashcroft, 2018). A medication administration error is defined as "a deviation from the prescriber's order as written on the patient's chart, manufacturers instructions or revelation institutional policies" (Keers, et al., 2018). There are a few different types of MAEs:

1. Slips and lapses: these are errors from nursing staff selecting the wrong drug or dosage of the drug. For example, the nurse might give the patient Prozac when they intended to give the patient Zoloft

2. Knowledge mistakes: these are errors that result from a lack of planning or understanding about medications. For example, a new nurse might have given double the dosage of medication because of a lack of understanding of how to convert two different measurement types

3. Violations: these are errors that involve the administration of one patient's drugs to another patient. This occurs when nurses forget to verify the name and date of birth of the patient

Research has also found that these are commonly the reasons why medication errors occur in psychiatric hospitals:

1. Communication issues among the health care team. For example, staff misinterpret one another, make assumptions in difficult scenarios, and are easily distracted in the high demand environment. These communication issues often result in medication errors and violations

2. Supervision or lack thereof often contributes to high numbers of errors. Supervision is the regular process of a supervisor providing coaching,

consultation, and ongoing training to staff members. When this does not occur, staff may easily forget the policy and procedure necessary to prevent dangerous errors in healthcare. “Lone working” or the process of working alone often results in nurses not having someone to notice their mistakes

3. Stress is a significant barrier to error-free healthcare. Nurses and other behavioral health professionals who are administering medications are less likely to work error-free when they feel anxious, stressed, and pressured. Because psychiatric units are naturally high stress the health of the staff must be a priority. Strategies include ensuring that staff members are not working too much overtime, are taking their breaks, and are having healthy partnerships with their peers. When this does not occur, stress-related errors are more likely

4. Patient behaviors are also a cause of medication errors. When patients have behaviors such as aggression or hostility, the nurse might be distracted when passing their medication. This can cause errors to occur. Additionally, high requests from patients for medications can cause staff who are stressed to perform to lower standards than normal

5. The environment on the psychiatric wing can result in errors when it is not regulated. The setting is often busy, loud, and chaotic. Patients may not get along and may present with dangerous behavior. Staff is often overworked and underpaid. There may be rushing to try to maintain a schedule and ensure that patients meet their treatment plan goals. All of these factors contribute to the stress of the staff and can result in medication errors

6. Medications that look alike are often mistaken for one another and can result in mix-ups and errors

7. Prioritizing demands on the unit can result in rushing the administration of medications and therefore causes errors (Keers, et al., 2018)

Professionals recommend the following strategies for the prevention of medication errors:

1. Establish a protocol to double and triple check medication before administration (Rodziewicz, Houseman, & Hipskind, 2021)

2. Install backlighting for keypads

3. Engage pharmacists in the process of medication administration and ordering

4. Seal the drug sets that have dosing
5. Concentrate on one screen only during medication administration
6. Reprint labels for drugs to appropriately label tubing as needed
7. Identify a process for alerting when a dose is not in the normal range
8. Ensure that nurses and pharmacists are double-checking pump dosages
9. Separate tubing
10. Perform regular maintenance for all tubing
11. Standardize equipment utilized in medication administration
12. Develop policy and procedure related to ongoing maintenance and training of staff who administer medications (Rodziewicz, Houseman, & Hipskind, 2021)

Seclusion and restraint

Seclusions and restraints are not uncommon practices in psychiatric settings, however, they can be dangerous and lead to medical errors when not administered properly. They should always be used as a last case scenario and be handled with extensive care and consideration for the patients. However, in practice, this is not always happening.

Coercion is an issue in psychiatric care, which involves using an intervention against an individual's will (Chieze, Hurst, Kaiser, & Sentissi, 2019). These interventions, such as holding patients down, using restraints on patients, placing patients in seclusion rooms, and injecting medications into patients without their consent are used when patients are a risk to themselves or others. These choices risk the patients' freedom, human rights, autonomy, and integrity. Because of this, to utilize such as intervention, professionals must follow state, federal, and local laws. It is in the interpretation of such laws that errors can be made. Before reviewing errors related to seclusion and restraint, it is essential to understand how often these interventions are used.

The largest psychiatric hospital in Vermont utilized the following between October 1st, 2020, and November 9th, 2020:

1. 32 emergency medication administrations that required force (Jickling, 2020)
2. 75 manual restraints that required force

3. 27 mechanical restraints that required force
4. 25 acts of seclusion that required force (Jickling, 2020)

While data at macro-scales are difficult to identify, it is clear that involuntary interventions are actively being used today.

Many adverse effects of physical restraint and seclusion have been identified. These include the following:

1. Deep vein thrombosis during restraint (Chieze, Hurst, Kaiser, & Sentissi, 2019)
2. Development of PTSD after restraint
3. Hallucinations during restraint
4. Agitation, suicide attempt, self-harm, any other poor mental health outcomes as a result of restraint
5. Death as a result of restraint
6. Hypertension as a result of restraint
7. Pain or fracture as a result of restraint

Research finds the following as a result of restraints and seclusions:

1. 25-47% of patients report PTSD symptoms
2. The main individuals who are restrained have Schizophrenia, Schizoaffective disorder, or Bipolar disorder
3. Clinical restraint is generally thought of as negatively punishing and distressing by patients (Chieze, et al., 2019)

The Substance Abuse and Mental Health Services Administration (2019) identifies the following five main domains that will help reduce physical restraints and seclusions that can end in errors and dangerous outcomes:

1. Training and technical support to staff - staff must have adequate training, mentorship, coaching, and supervision to understand when to use interventions successfully

2. Improved data collection on behaviors and interventions as well as effectiveness - this will measure how change is occurring and its success
3. Utilizing evidence-based practices - prevention tools will reduce the risk of violence, trauma, and injury. Evidence-based practices should be creative in ensuring that environmental change occurs
4. Leadership development - leaders that are training staff and interacting with patients on an example basis must be trauma-informed and invested in restraint-free behavioral healthcare
5. Protecting the rights of patients - patients must become their advocates. Engaging individuals and families in self-advocacy will help professionals to understand what is and is not appropriate because their patients will be able to teach them (SAMHSA, 2019)

Closing

Medical errors are not limited to emergency rooms and the operating room. Behavioral healthcare settings have errors as well. The administration of the wrong psychiatric medications, implementing inappropriate holds, and misdiagnosis contribute to equally as dangerous and fatal situations as medical healthcare. While they may not occur as often as errors in the emergency room or operating room, errors in psychiatric units should be avoided at all costs.

Section 3: The impact of medical errors

Introduction

As one can imagine, there are significant effects of medical errors. Individuals might have physical responses to errors that are outside of their control, such as having the wrong limb removed, cognitive functioning loss resulting from a device being left in someone's brain during surgery, or suicidal ideation from having been given the wrong psych medications. Any of these responses is dangerous and unfortunate, however, the impact of medical error is not limited to just the physical outcome from the error. Medical errors result in a variety of outcomes.

The psychological impact of medical errors

There are negative psychological effects of medical errors for both professionals and patients. Professionals, not surprisingly, struggle with guilt and other negative emotions when they make mistakes. Patients struggle with anger and frustration when mistakes are made against them.

Research shows that professionals feel the following negative emotions from their errors:

1. Emotional distress - 66% of medical residents report this (Bari, Khan, & Rathore, 2016)
2. Sorrow - 70% of medical residents report this
3. Guilt - 69% of medical residents report this
4. Inadequacy - 40% of medical residents report this
5. Frustration - 38% of medical residents report this
6. Fear - 30% of medical residents report this (Bari, Khan, & Rathore, 2016)

The impact of these emotional responses should not go unnoticed. Many professionals report poor sleep, interpersonal conflicts, feelings of distrust in the workplace, feeling detached from patients, poor self-esteem, and experiencing less goodwill (Heyhoe, Birks, Harrison, O'Hara, Cracknell, & Lawton, 2015).

While these feelings are likely difficult to manage, the benefit to these feelings can be a behavior change by medical professionals. This same study reported the following behavior changes:

1. 85% of medical residents sought advice from senior staff after errors (Bari, Khan, & Rathore, 2016)
2. 68% of medical residents sought advice from their peers after errors
3. 76% of medical residents sought supervision more often
4. 67% of medical residents sought out additional literature
5. 50% of medical residents read more example cases
6. 85% of medical residents began to pay more attention to their patients
7. 77% of medical residents began to use more evidence-based medicine

8. 69% of medical residents began to personally confirm healthcare data
9. 93% of medical residents started to be “more careful” (Bari, Khan, & Rathore, 2016)

The psychological impact of medical errors on patients is equally as difficult as it is on medical professionals. Research has found that what patients want after an error most is for the doctor to listen to them (Rapaport, 2017). Patients want to hear directly from the doctor about what happened and not another person such as a case manager or social worker. They want the provider to report a level of accountability, even if the error was a true accident.

A common theme is a loss of trust with the medical system after a medical error occurs. Victims of errors report wanting to know what the medical team will do in the future to prevent additional errors from occurring. Many lawyers report that medical systems may follow a “deny and defend” trend after an error occurs. Patients want this kind of behavior to change (Rapaport, 2017).

Many patients report being traumatized after being a victim of medical errors (Shapiro Law Group, 2015). Some patients report being diagnosed with Post Traumatic Stress Disorder (PTSD) and struggle to feel “normal again” even up to years after the medical error occurred. Many patients report nightmares, panic attacks, feeling irritable often, and even thinking about death regularly (Shapiro Law Group, 2015).

The psychological impact of medical errors is not limited to the patient who is the victim of the error. Research has found that the families of individuals who had a medical error experience also reported healthcare avoidance and loss of trust in the medical system (Cheney, 2020). These emotional impacts include anxiety, anger, depression, feelings of abandonment or feeling betrayed by the doctor, and sadness.

Emotional impacts are of course not the only negative effects of medical errors. Many patients report a loss of physical functioning after medical errors as well as ongoing pain, even up to years after the error occurred (Cheney, 2020).

Closing

While some patients may not present with any negative impacts associated with medical errors, others will. It is important that individuals who present with psychological impacts of medical errors are offered services that can be helpful in reducing that impact.

Section 4: Ways to prevent errors in healthcare

Introduction

There are a variety of ways to prevent errors in healthcare that are detrimental, and even fatal, to patients. Errors can be prevented at multiple levels: at the patient level, at the clinician level, at the systems levels, and at legal levels.

Teaching patients to prevent errors

Patients should be empowered individuals and when they are involved actively in their healthcare, fewer errors occur. The following are ways to prevent medical errors at the patient level:

1. Patients should ensure that their medical team is aware of all of the medications they are prescribed and taking (Agency for Healthcare Research and Quality, 2020). This includes prescription and over the counter medication
2. Patients should bring all of their medications to their appointments to help keep their doctors up to date with their prescriptions and the doses they are taking
3. Patients should ensure that their medical team is knowledgeable about their allergies - this will help ensure they do not get prescriptions that may cause adverse reactions
4. Patients should ask clarifying questions when they are prescribed medications:
    a. What is this medication for?
    b. How do I take it?
    c. How long do I take it for?
    d. Is this medication safe to take with other medicines and supplements?
    e. Is this medication safe with my lifestyle (driving, with food, with drinks, etc.)?
5. Patients should ask for written information about the prescribed medication they are taking
6. Patients should ask medical doctors to wash their hands when they enter their room if they did not prior. This helps prevent infections

7. Patients should ask their doctors to explain their treatment plans in full to them - this is especially true when they are discharging from a hospital or inpatient setting
8. Patients should ensure they understand and agree to all surgical procedures before they occur
9. Patients should be able to choose where they have surgery - for example, the specific hospital and provider if possible
10. Patients should always ask as many questions as they need to feel fully informed about their care
11. Case managers and patients should meet regularly so patients can remain informed about their care coordination
12. Patients should take a friend or family member to appointments if it helps them feel comfortable and understand their care
13. Patients should seek information about their care from reliable, peer-reviewed sources (Agency for Healthcare Research and Quality, 2020)

Teaching clinicians to prevent errors

Individual providers have a high level of responsibility where preventing errors is concerned. Of course, the system that they participate in largely dictates the policy and procedure related to error prevention, however, the following recommendations are made to individual professionals to prevent errors:

1. Assess for specific dangers and risks of patients (Rodziewicz, Houseman, & Hipskind, 2021)
2. Confirm the identity of patients in multiple ways - for example, name and date of birth can be verified
3. Communicate quickly and efficiently with patients - this is especially important when communicating assessment and test outcomes
4. Verify body parts before surgery and pause before surgery to double-check
5. Utilize alarms on medical equipment to ensure the proper functioning
6. Respond to alarms as quickly as possible when they go off

7. Ensure that medications being used are appropriate to patient allergies and have been double-checked before administration
8. Ensure that patients understand procedures and plans before them being implemented
9. Label all medications appropriately
10. Take time with patients
11. Hand wash and follow all protocols around cleanliness to prevent infection

When healthcare professionals do make mistakes, they must immediately report these mistakes and attempt to reverse and negative effects that the mistake could have on the patient. Unfortunately, this is not occurring fast enough or at all (Rodziewicz, Houseman, & Hipskind, 2021). A recent study found that the majority of medical residents have not been taught to report their medical errors (Bari, Kahn, & Rathore, 2016). Professional error reporting must be taught in medical school and residency, however, only 57% of residents in a 2016 study reported having discussed their medical errors with supervisors and 24% of medical residents reported their errors to the patients that errors were made with (Bari, Khan, & Rathore, 2016). There are many reasons why professionals fail to report errors that are made. These include the following:

1. Fear of disciplinary action (Rodziewicz, Houseman, & Hipskind, 2021)
2. Fear of addressing guilt with patients
3. Fear of feeling inadequate or as a “failure”
4. Fear of legal action
5. Fear of losing public trust as a professional
6. Fear of damaging the reputation of the medical institution if mistakes are communicated publicly
7. Fear of being blamed

Regardless of why professionals might not report an error that they made, despite it being an accident, it is unacceptable to not report errors as they often lead to adverse patient experiences. Systems must train professionals to report errors in an ethical and timely fashion, despite it being difficult for the professional to do so (Rodziewicz, Houseman, & Hipskind, 2021).

Systemic ways to prevent errors in healthcare

Error management and prevention occur at all levels in healthcare: micro (the patient level); mezzo (the provider pool level); and macro (the healthcare systems level). There are a variety of strategies that must occur at systems levels. Some recommendations include:

1. Specifically developing a procedure for highly vulnerable populations - for example, people with limited or no English speaking skills are highly vulnerable to misunderstanding and medical errors as a result (Maxik, 2017). Healthcare systems must build an additional policy to support a reduction in errors for people with low health literacy, low psychosocial support, cognitive disabilities, and other vulnerable groups. Communication must be improved between professionals and these patients to ensure a reduction in errors

2. Promote collaboration between teams - communication must be more effective between providers who collaborate to support the same patients. Lack of communication or poor communication is a common cause of high rates of medical errors. During patient handoffs and in the referral process, providers must take time for better understanding and communication. This means that providers need to be face to face more often and communicate by email or message less often

3. Normalizing supervision and “second eyes” - it has been historically thought that having a “second pair of eyes” on a patient meant that the professional working with patients is not adequately trained or professional enough to support them. This must be reframed in the medical system as a kind of punishment to a normal way to manage fewer medical errors and double-check each other's work. This should not be thought of as “trying to catch someone in an error” but rather supporting one another to do the best patient work possible

4. Developing a high-reliability culture - the culture in medical and behavioral health must support the self-reporting of error making by professionals. This is the only way to effectively teach professionals to avoid errors: by appropriately reporting and processing errors instead of hiding them for fear of punishment. This can be implemented through the use of a third-party to analyze errors and improve processes. Consultation is very effective in developing appropriate processes to prevent errors (Maxik, 2017)

A culture of communication

Improving communication in healthcare is one of the most sustainable ways to prevent errors moving forward. It is also one of the best ways to ensure that patients can trust the medical system again after errors occur (Cheney, 2020). Patients who did not receive open communication after an error occurred reported avoiding doctors in 77%-80% of cases, whereas patients who did receive open communication only avoided doctors moving forward in 30% of cases.

Open communication is a major component in Communication and Resolution Programs (CRPs) that are being discussed in healthcare (Cheney, 2020). While not yet widely implemented, CRPs are being presented as a solution to lessen the impact of medical errors. CRPs are plans to support providers, risk managers, leaders in healthcare and quality improvement, and other appropriate staff, to effectively support patients after an error occurs (Collaborative for Accountability and Improvement, 2017).

Best practices for preventing and addressing patient harm according to the Collaborative for Accountability and Improvement are presented below:

Communication and Resolution Programs are utilized to:

1. Report any incidents of harm to a patient immediately
2. Complete an investigation of the harm immediately after it occurs
3. Share the full explanation with the patient and the family after harm occurs
4. Provide psychosocial supports to individuals and families after an error occurs
5. Offer apologies to individuals and families after an error occurs
6. Provide compensation as needed proactively for individuals who had experienced care that was below traditional standards
7. Ensure that lessons are learned by providers to prevent any future incidents from occurring

Communication and Resolution Programs have the following core commitments:

1. Being open and transparent with patients about what could potentially happen during a medical intervention

2. Being open and transparent with patients about anything that did go wrong during an intervention, why it went wrong, and how prevention will be developed for the future

3. Analyzing events that did not go well or as planned to develop action planning for preventing any future recurrences

4. Supporting the physical and emotional needs of individuals and families that may be impacted by errors in medical care

5. Promptly offering financial and non-financial services and resolutions to individuals and families when an adverse event occurs

6. Educating individuals and families about their right to legal representation after a medical error occurs

7. Working in collaboration with individuals and other healthcare partners as well as insurance brokers to respond to adverse events and medical errors and address liability

8. Continuing to assess for the effectiveness and making improvements in the CRP programs that are being utilized in healthcare

An in-depth review of the CRP process looks like this:

1. Responding to the initial medical error:

    a. Immediately report the error (within 30 minutes of identifying that the error occurred)

    b. Treat the patients' immediate medical needs as a result of the adverse event and medical error

    c. Immediately address and support the needs of the medical professional who made the error - as the error often causes distress in the physician/ professional as well as the patient

    d. Support the patients and families as soon as possible after the event occurs by establishing expectations and norms for how to move forward as a team. Provide empathetic responses to the family and explain the CRP process

e. Monitor the patients' and families' needs. Address all questions effectively and kindly based on factual and evidence-based information

f. Hold the patients' bills until an analysis of the event is completed

2. Address patient safety and quality improvement

    a. Complete an analysis of the human factors that caused the medical error to occur and develop a prevention plan for any future errors

    b. Develop and implement plans for preventing recurrences of the event in the future

3. Continue patient engagement and move toward resolution

    a. Hold discussions with patients and families to share the results of any analysis completed on the medical error that occurs and share the prevention plans that are developed after the error occurred

    b. Offer fair financial and non-financial resolution to individuals and families based on unreasonable care - do this before the patient requests compensation

    c. Provide ongoing education to individuals and families about their right to legal representation during the process

4. Post-event dissemination of safety and quality improvement lessons that were learned

    a. Summarize what was learned during the investigation and share it with the entire healthcare organization

    b. Widely distribute all information learned to clinicians, physicians, and all other medical institutions with the goal of any future errors being reduced

    c. Support the launch and growth of additional CRPs

Healthcare organizations recommend the following process for how to implement a CRP:

1. Obtain a commitment from leadership for growth

    a. Board members and other leadership staff must adopt formal CRPs and the commitments that CRPs hold to best support community members and patients

b. Board members and other leadership provide the resources necessary to develop CRPs

2. Implement operational elements that support a successful CRP

    a. Review current policies that support the core commitments (referenced above) of CRPs

    b. Develop additional policies as needed to more accurately support the core commitments of CRPs

    c. Identify appropriate roles and responsibilities that best support the CRP process

    d. Integrate positions of risk management and patient relations - ensure these individuals are prepared for effectively communicating about medical errors

    e. Track functions of reporting, analyzing, and developing prevention plans within 3 weeks of an incident occurring

    f. Develop best practices to prevent errors from occurring and provide coaching to all medical professionals on such practices

    g. Strategically place experts in medical systems available to assist/consult on medical errors as they occur

    h. Allow for anonymous and confidential reporting as necessary

    i. Provide immediate feedback to individuals

    j. Optimize the legal protections of healthcare staff as necessary

    k. Create a secure process for internal communication where risk and errors are concerned

3. Communication expectations

    a. Communicate to staff about the goals and functions of a CRP

    b. Clarify roles and responsibilities of various staff involved in a CRP

    c. Emphasize to staff that punishment or retribution is unacceptable

d. Refer professionals for coaching and support as necessary

e. Communication expectations about liability as necessary with patients and professionals from insurance, risk management, attorneys, and other professionals (Collaborative for Accountability and Improvement, 2017)

Risk management in healthcare

In addition to developing clear practices around communication and reporting errors, healthcare errors are reduced when strong risk management teams are implemented. Risk management has historically been utilized to protect patients by reducing errors that make it difficult for healthcare organizations to implement their mission in communities (NEJM Catalyst, 2018).

Healthcare organizations are adopting a model called Enterprise Risk Management (ERM). It impacts the following domains:

1. Operational
2. Clinical and patient safety
3. Strategic
4. Financial
5. Human capital
6. Legal and regulatory
7. Technological
8. Environmental and infrastructure based hazards (NEJM Catalyst, 2018)

The role of the risk manager is to identify potential risks and reduce them, and therefore reduce any significant consequences associated with those risks. They hold the responsibility of communicating with stakeholders, reporting on risks and adverse situations or errors, creating improved procedures for mitigating risk, and managing uncertainty. They should be monitoring how healthcare grows and shifts to ensure that organizations are prepared for such changes.

Risk managers do the following:

1. Identify risks - this is done through analyzing data, understanding the healthcare system and being knowledgeable about what is going on, engaging with providers and patients, and identifying threats to the whole health of an organizations

2. Quantifying risks - risks must be scored, ranked, and prioritized based on potential danger and impact. When assessing risks, risk managers must assign resources and tasks to address such risks and mitigate them. There should be collaboration in this decision-making. No risk manager can do this work in isolation

3. Investigate sentinel events - risk managers must anticipate events that can result in danger to patients and teams. This is referred to as a “sentinel event.”. Risk managers must develop investigation processes to address immediately any significant issues or concerns should they arise

4. Compliance reporting - risk managers are responsible for reporting to the Joint Commission, federal, and state agencies that oversee healthcare any incidents, including sentinel events, that occur. These are documented, coded, and reported

5. Learn from near misses - risk managers understand that “near misses” and “good catches” are helpful for learning and implementing policy to prevent errors. They meet with teams to understand such situations and implement procedure as appropriate

6. Think deeply about failures and errors - risk managers have the goal of thinking beyond what are obvious errors and seeking to understand errors at a deeper level

7. Implement evidence-based models of analysis - risk managers should identify and implement analysis models that help investigate errors and identify risk relationships. Two common models are the Sharp and Blunt End Evaluation of Clinical Errors model and the Failure Mode and Effects Analysis model. Root Cause Analysis models are also often used in healthcare. Risk managers will choose and implement the models that they believe will best serve the organization and patients

8. Identify and invest in a risk management system - risk managers identify programs for how to track incidents, track risks, identify trends, manage data

points, and compare data to other healthcare organizations. These systems are necessary for having a robust risk management plan

9. Identify appropriate balance of risk financing - organizations are often responsible for providing compensation when an error occurs. Funding those errors occur through insurance and risk-retention. The risk manager is responsible for navigating this and preparing for it based on data (NEJM Catalyst, 2018)

Models for analyzing errors: Sharp and Blunt End Evaluation

There are several common models used in risk management for healthcare. One of the common models is the Sharp and Blunt End Evaluation of clinical errors (Pedagogy Education 2017). This model reviews the errors by identifying the point of care versus the organizational structure, system, and processes.

The “Share End” of the model has a focus on the specific actions the clinician made with regards to the patient. This end analyzes the following, for example:

1. Did the medical professional follow standardized administration processes for the medical intervention?
2. Did the medical professional order the correct tests?
3. Did the medical professional review the chart appropriately?
4. Did the medical professional consult other professionals as necessary?

The “Blunt End” of the model focuses on the errors made as a result of policy, procedure, resources, and other systems-related issues. For example:

1. What policy is in place regarding the medical intervention that took place?
2. What tracking is in place regarding the intervention that took place?
3. Are there adequate processes for the specific medical intervention that was recommended?
4. Are the staff working on this case appropriately trained to do so?
5. Is there enough staffing to support the medical intervention being completed?

6. Is there adequate communication to support the medical intervention being completed?

When using this model for analysis, it is important to be aware of any biases that may commonly occur. For example:

1. Error bias: a risk manager might identify a character flaw of the professional at the sharp end, whereas the blunt end needs to be more adequately assessed
2. Confirmation bias: a risk manager might make a short judgment of the error while neglecting evidence that another cause might be the reason for the error
3. Hindsight bias: risk managers might assume the cause because they know of the outcome. It is important to avoid doing this (Pedagogy Education 2017)

Models for analyzing errors: Failure Mode and Effects Analysis model

The Failure Mode and Effects Analysis model is another commonly used tool for understanding healthcare errors. The failure mode investigates when something goes wrong and the analysis of the effects understands the consequences of the errors or failure (American Society for Quality, 2021). This assessment model detects errors, consequences, and reduces potential failures. This tool should be used in the following situations:

1. When there is a quality functioning issue that must be understood or redesigned
2. When there is an existing process that needs to be applied in a new way
3. When goals are planned for an existing process
4. When there is an existing process or product that is failing
5. On an ongoing basis during the lifetime of a process or product

The way that this occurs is as follows:

1. Develop a cross-functional team with various participants of different backgrounds They work on design, manufacturing, quality, testing, reliability, and maintenance of healthcare
2. Determine the scope of the Failure Mode and Effects Analysis team and tool. For example, it could support concepts, systems, designs, processes, or services. The

team must identify their specific goals and desires. Flowcharts can help manage this

3. Establish what function of the scope is identified in step #2. Subsystems are broken down as necessary
4. Identify the ways that each function of the scope could potentially fail and why
5. Rewrite processes when necessary to detail how failures occur and how to prevent failures
6. Identify the consequences of the failures that are identified in step #4
7. Evaluate how serious each consequence is and could become - prioritize these consequences based on the significance of risk
8. Rate the likelihood of those consequences occurring where 1 is extremely unlikely and 10 is inevitable
9. For each cause of failure, identify the current process for prevention and rewrite as necessary
10. Determine the detection rating based on those processes where 1 is the control plan that will detect the potential cause and upcoming failure and 10 does not at all
11. Identify the recommended actions to lower the severity and occurrence of failure (American Society for Quality, 2021)

Models for analyzing errors: Root Cause Analysis

A Root Cause Analysis is another tool for understanding healthcare errors and how to prevent them in the future. This is a tool that studies events where patient harm occurs and identifies what was the root cause of that harm (Institute for Healthcare Quality Improvement, 2021).

A Root Cause Analysis is conducted via a multidisciplinary team, similar to the Failure Mode and Effects Analysis mode. This consists of subject matter experts, individuals who were not present or familiar with the event that caused the error, individuals who are well versed in root cause analysis in healthcare, front line staff, and patient representatives. These individuals act as the team for analyzing the error that caused

patient harm. The process for such analyses is outlined below (Institute for Healthcare Quality Improvement, 2021).

There are five rules of causation that the root cause analysis considers once a root cause is identified:

1. The cause and effect relationship
2. Specific descriptors for what happened in the error
3. Human errors that have a preceding cause
4. Violations of procedures that are not root causes
5. Failure to act when there was a duty to act by the professional

Root cause analysis works best when the following occurs:

1. Leadership is actively involved in the root cause analysis and action-planning process. Leaders should review the status of actions, if action is implemented, and if there is an understanding of what happened in the error
2. Leadership should review the root cause analysis process specific to that organization at least annually for it to be the most effective
3. If an event is blameworthy, it is not appropriate for a root cause analysis and this should be defined
4. Facilitators must be transparent and formal in how they communicate the cause of adverse events and errors
5. Root cause analysis should be initiated within 72 hours of an error or adverse event occurring
6. Root cause analysis teams should consist of four to six people. These teams should be composed of experts, leaders, and other individuals so that the team remains objective and unbiased
7. Time must be offered during a work shift for various staff members to participate in a root cause analysis team
8. Any tools used during a root cause analysis must also be utilized to assist in the investigation process

9. Feedback provided to staff who were involved in the error or adverse event must also be given to individuals and families who were involved in the error or adverse event

The root cause analysis process in the overview looks like this:

1. Identify the event/error that occurred and treat the patients immediately who were involved to ensure their safety is maintained
2. One person is assigned to act as the risk manager on the case. This person is responsible for managing the investigation and prioritizing the next steps
3. There will be multiple meetings lasting 90-120 minutes in length for the interview process. Patients and professionals will be interviewed to understand what caused the error/adverse event. This is referred to as “fact-finding”
4. The risk manager will ensure the five rules of causation have been analyzed specific to the event that occurred
5. Solutions will be identified, although no final decisions will be made over the work of the team
6. The responsible individual (most likely the risk manager) will act on implementing the most appropriate solution
7. A clear plan to measure progress will be developed and implemented as the action is implemented
8. Feedback will be given to the CEO/board/service department/staff/individual and family involved/anyone else who needs feedback

Examples of actions involved and recommended in the root cause analysis are:

1. Stronger actions: physical plant changes, new devices used, processes are simplified, equipment is standardized, and there is involvement by leadership
2. Intermediation actions: redundancy is analyzed and reduced, enhancements are made, staffing has a workload reduction or more staff are identified for the work, education is offered, cognitive aids are implemented, and communication is improved and standardized
3. Weaker actions: double checks are implemented, warnings are implemented, and training is given

Root cause analysis includes the premise that if any of the following are true then the root cause analysis process is failing and needs to be rebuilt:

1. There are no contributing factors identified that show the cause of the error or adverse event - there must always be a cause identified with data to support the cause
2. If human error or blame is the entire reason for the event
3. No stronger or intermediate strength actions are identified to improve the process that caused the error
4. Causal statements are not complying with the rules of causation
5. No corrective actions can be identified and implemented
6. Follow-up actions are assigned to a group and not to a risk manager or individual to oversee
7. There are no identified dates for completion of action steps and implementation
8. The review of the event took longer than 45 days to complete
9. There is poor confidence in the actions to be implemented

Severity in the root cause analysis is defined by the following four categories:

1. Catastrophic - death is possible; permanent functioning loss is possible that is not caused by the patient's current status; or more than three individuals may need to be hospitalized
2. Major - there may be a permanent reduction in functioning that is not caused by the patient's current status; hospitalization may be required for one or two individuals, or there may be damage of $100,000 or more
3. Moderate - there may be a length of stay in a hospital for one or two patients or damage more than $10,000 but less than $100,000
4. Minor - no injury is sustained; no increased length of stay and damage, as a result, is less than $10,000.00 (Institute for Healthcare Quality Improvement, 2021)

Closing

There are many different ways to reduce errors from occurring in healthcare. The first step is always to understand why the errors occur. This is done via a variety of models including, but not limited to, a root cause analysis, the failure mode and effects analysis model, and the sharp and blunt end evaluation model.

Regardless of what model is used, the risk manager and risk management team are essential for ensuring that errors and adverse events are appropriately managed. These teams should be comprised of individuals at various levels and with varying backgrounds and education. They should work with leaders to ensure the system is working as well as possible and adjustments are made to mitigate and reduce error. This is an ethical requirement and a business requirement as the cost of errors in healthcare is so high.

Section 5: The hierarchical nature of healthcare

Introduction

One of the characteristics that is commonly found in healthcare is a strong hierarchical nature, which can be problematic when it comes to addressing medical errors. This means that individuals who are perceived to have less education or knowledge are often afraid of confronting potential mistakes being made by their peers who are in positions of more power or esteem. For example, nurses versus doctors.

The hierarchy

Medical professionals being afraid to confront either other mistakes while they are being made is thought of as an “age-old issue” in healthcare (Howley, 2018). There are perhaps a few reasons for this: generally, individuals who are in the highest positions of power are male whereas those under are often female. The differences that occur in gender and societal norms complicate hierarchical communication. Hesitation can also be related to patient load and how busy the professionals are. The biggest cause, however, remains that doctors have historically held the responsibility of decision-making while nurses have the job of delivering a significant portion of the actual care.

This has caused some doctors to refuse to listen to nurses, unfortunately, because of the power dynamic. What is missed when this occurs, however, is that the nurses often know the patients better than doctors do because they spend more time with them. They may pick up on abnormal responses by patients that doctors would not.

When nurses and other professionals do not speak up, patients are at risk for more errors. This kind of hierarchical issue is often the reason for communication breakdown and adverse events. When patient information is shared at the time of hand-off or in the moment of adversity, patient outcomes and care are much improved.

Nurses and other staff members must feel empowered to speak up when situations are not going as planned. This is especially important in the operating room where errors are potentially fatal. The following are ways to empower nurses and other professionals to be more vocal with physicians:

1. Create a culture that celebrates asking questions instead of punishes individuals for it
2. Address cultural barriers that cause a breakdown in communication
3. Hire diverse individuals into all positions - address the gender gap (Howley, 2018)
4. Talk to staff frequently and positively about speaking up (QlickSmart, 2021)
5. Regularly review the chain of command process so that staff know where to ask for support if they receive pushback in speaking up
6. Share stories of situations that silence impacted patients negatively
7. Provide clinical support for all staff (QlickSmart, 2021)

The best functioning teams have mutual respect for the differences in positions (Heath, 2018). This means that professionals respect and trust one another, regardless of their roles. In addition, there should be a balance and trust between patients and providers. Providers must believe and respect patients when they speak up or ask questions that indicate something is not right. Patients have an active role in understanding their healthcare and should participate in that role. Statistics show the following:

1. Between 50-70% of patients are hesitant when they voice a concern to their professionals about a potential error in their care
2. Half of the respondents in a 2018 research study reported they felt asking questions made them “troublemakers” and they did not want to be perceived this way
3. Respondents also felt as though their care team was too busy to answer any questions they might propose (Heath, 2018)

The hierarchy between doctors and patients

Often patients can identify errors when they are happening and for patients who feel comfortable bringing them to the attention of the medical professional, fewer errors happen. To do this, there must be a patient-provider partnership that is mutually trusting.

Historically, the relationship between patients and doctors has been viewed as paternalistic in that the doctor or medical professional is the person leading the treatment plan and is responsible for reducing health risks. This kind of partnership is no longer effective as doctors have such high caseloads and operate in high-pressure environments. They cannot possibly manage or mitigate all possible risks, however, they might struggle to say that to patients and therefore the paternalistic view of the provider-patient relationship continues. It is important to note that it is not an effective kind of therapeutic relationship.

Not only is this kind of hierarchical relationship between doctors and patients not effective, but it is not consistent with person-centered care and current values around patients. Healthcare is shifting toward a holistic view of health and it assumes that to do so, patients must be partners with their doctors instead of automatically taking orders from them. This kind of balanced partnership promotes shared decision-making and values the lifestyle wants and needs of the patients instead of simply caring for their health on such a prescriptive basis.

Here are a few strategies for medical professionals to engage patients in a more active partnership instead of this hierarchical model of care:

1. Doctors should explain to patients when they meet that the goal is to share in the decision making based on what patients want for their lives and not just their health - this being at the forefront of the provider-patient relationship will help establish trust immediately
2. Doctors should utilize open-ended questions and open body language. They should practice their active listening skills and ask verifying questions to ensure they understand individuals as intended
3. Providers should always allow patients to finish their statements without interrupting

4. Providers should remind patients that themselves they are the experts on their health and that the provider's job is simply to support their patients (Heath, 2018)

Medical professionals should pay attention to what their patients are saying as they may indicate a potential error is being made. The following are ways to notice if patients are feeling uncomfortable about an intervention:

1. Patients fail to convince providers that everything is okay (Tortorice, 2021)
2. Patients express frustration
3. Patients appear doubtful
4. Patients say "I feel different"

Patients may also pay attention to the following events that could indicate errors are being made. If they notice these events they should inquire further or advocate for themselves:

1. Medical professionals take a poor history or inventory at the start of an appointment
2. Medical professionals fail to identify a working diagnosis or pattern of symptoms
3. Medical professionals have poor reasoning for a diagnosis
4. Medical professionals say something such as "you look okay to me"
5. Medical professionals are acting in a way that indicates the patient is taking up a lot of their time
6. Medical professionals use the wrong gender pronouns or are unwilling to use a preferred name
7. Medical professionals are stereotyping based on age
8. Medical professionals appear hesitant to offer a diagnosis that is not very common
9. Patients receive treatment but their health does not improve
10. Patients receive referrals for services without guidelines or context around those referrals

11. Patients find that receiving an appropriate diagnosis takes a very long time
12. Patients notice financial incentives for specific services or treatment planning steps

(Tortorice, 2021)

Closing

Managing healthcare errors is not the responsibility of simply the doctor or therapist. There are a variety of individuals who have an obligation to notice and advocate for the prevention of healthcare errors. This includes doctors, nurses, therapists, and patients themselves. If patients are unable to advocate then they will ideally have a legal representative or family member who can help them do so. The hierarchy that has traditionally been in place that may have prevented individuals and professionals who are perceived to have less power than doctors from acknowledging errors is currently seeing pressure to dismantle. Individuals and nurses, for example, are often even more inclined to notice errors than doctors would and therefore have the responsibility of speaking up. Systems that do not support strong provider-patient relationships are not providing quality care, and systems that fail to support strong relationships between nurses, medical technicians, and other professionals who are perceived to have less power than doctors are not serving communities well. Dismantling this kind of hierarchy is an important step in moving forward more effectively.

Section 6: Need for more appropriate healthcare training

Introduction

Healthcare errors are not likely to be reduced unless a significant amount of time and energy is spent on risk management. Training is an essential component of a strong risk management team as it teaches individuals new strategies for noticing and addressing potential healthcare errors and active healthcare errors. While training does require clinicians to be pulled off the floor from patient care for a portion of their workday, it is time and resources well used as the cost of healthcare errors is so high.

Healthcare training: Tools to consider

Medical professionals require more training to best support patients and prevent errors in healthcare. The following error prevention tools should be being offered in all healthcare training settings:

1. STAR method for checking self: STAR is an acronym that stands for Stop, Think, Act, and Review (Mainline Health, 2021). This tool asks professionals to stop and focus on the intervention or task at hand, to visualize how to best administer that intervention, to concentrate while completing the intervention, and to check that the appropriate result occurred

2. 3-way repeat back: professionals using this strategy do so to verify they are understanding communications as intended. The process looks like this: a person sends an order or request for information -> the professional receiving the information acknowledges that it was received -> the professional receiving the information verifies if the information is accurate by saying it is or is not correct. The information is verified by confirmation via medical charts and not by memory

3. Numeric clarifications and phonetic clarifications: when professionals are communicating they must verify they are hearing the right information by saying something like “D as in David?”

4. Clarifying questions: clarifying questions must be used in high-risk situations or when information is incomplete or unclear. Statements such as “I want to make sure I’m understanding, can you confirm what you meant for me?”

5. SBAR handoff: SBAR is an acronym that stands for Situation, Background, Assessment, and Recommendation. In using this tool the professional must answer these questions: who/what another person is calling about or asking information about -> what the background information to the situation is -> how urgent the situation is -> the suggestion or request for the other person. The SBAR method is essential for high-risk situations

6. Question and confirm: when professionals feel as though something is not right, they must address this without assuming or misinterpreting the situation. They can ask something such as “this does not make sense to me. Can you explain?” or “this is not what I expected. Can you give me more information?”

7. ARCC method of communication regarding safety: ARCC is an acronym that stands for Ask a question; Make a request; Voice a concern; and Use Chain of

Command. Referring information that is identified about unsafe settings to a supervisor or someone in a leadership role is essential for ensuring safety for everyone involved

8. Peer checking: peer checking is a tool that professionals use to double-check the work of one another. This is not used as a punishment but rather to identify any slips or lapses. Teams must be trained to do this as a way of supporting one another and not "catching" one another (Main Line Health, 2021)

Closing

Regardless of what specific tool or process is the focus of training, medical professionals are ethically responsible for attending training that results in providing better, error-free healthcare services. Hospitals and healthcare organizations that are committed to improving patient care will be offering training by subject matter experts regularly. Training should also be being offered informally through supervision. Professionals who might have a desire to be trained on a specific process or improve their skill sets should advocate for that in their regular supervision meetings. The most effective teams are regularly meeting with their supervisors.

Section 7: Case studies

Case study 1: Charlie

Charlie is a 57-year-old man who recently began attending an outpatient group for anxiety. He briefly met with a clinician to onboard him for care. In his intake, he noticed that the clinician appeared tired, had a large stack of paperwork on her desk, and seemed to be rushing him. He was not sure what to expect as this was his first time attending therapy so he brushed this off. He also was nervous to ask any further questions.

As Charlie went along in the group for anxiety, he realized something always felt off. His anxiety presented very differently than the rest of the individuals in the group. He never felt as though they were talking in a way that resonated with him and they were not discussing resources and strategies for reducing anxiety that worked for him. He was frustrated and eventually left the group and was reluctant to attend therapy again.

After a few years, Charlie decided to try again. He met with an individual therapist this time who completed a full intake with him and diagnosed Charlie with Post-Traumatic

Stress Disorder from childhood trauma that occurred when he was in and out of foster care. Charlie was referred to a trauma-based group and continued to work with his therapist. Within a few weeks of having attended the trauma group, Charlie began to see a reduction in his symptoms and was processing his trauma.

Charlie's example shows how a lack of spending time with patients can cause a misdiagnosis. He was diagnosed with Generalized Anxiety Disorder because his trauma history was not considered. An outpatient group for generalized anxiety is not appropriate given his trauma history. He is more likely to benefit from trauma-informed treatment. This is what he found after a few weeks in a trauma group.

Charlie's case shows the need for clinicians to slow down and administer assessments in full before diagnosis.

Case study 2: Larita

Larita is a 27-year-old woman who was recently diagnosed with cancer. She was admitted to the hospital for acute pain and nausea. She has been vomiting and has been unable to keep fluids down. She is incredibly dehydrated and tired. She has been in and out of maximum cognitive functioning and mostly sleeping.

Larita's new nurse comes on shift and gives her medication to reduce her nausea. This nurse does so without reading her allergies in her medical chart. Shortly after Larita was given the medication she had an allergic reaction and her throat began to swell and close. Larita had to be treated immediately for an allergic reaction. Upon stabilizing, Larita's nurse apologized to her, but Larita became extremely anxious about receiving any further care in that hospital and asked to be transferred to another.

Larita's case, despite having had no long-term effects physically from the allergic reaction, shows how emotionally damaging healthcare errors can be for patients. Moving forward, the nurse who treated her will ensure she always double-checks the chart for allergic reactions before medication administration.

Case study 3: Travis

Travis is a 72-year-old man with Alzheimer's disease. He resides in a long-term care facility as he is unable to function independently at home and has no family or friends who can support in-home care. He has been in this care facility for several years and knows the staff well.

Recently, a new nurse started working with Travis at night. Travis's behavioral symptoms increase at night and he is often given an as-needed medication to reduce his agitation and anxiety. When Travis's new nurse was giving him his regular nighttime medications she also administered the as-needed medication to him, despite him having been at baseline at the time. Travis was not agitated and did not need the as-needed medication.

This is an example of a medication error made by not confirming on his medication administration record the type of medication: regularly occurring at night or as-needed at times. She administered the med because she didn't check to ensure it shouldn't be administered. While this had no negative effect on Travis necessarily, it did make him quite tired and withdrawn the rest of the night.

Travis's nurse self-reported the medication error that she made and was able to discuss in supervision ways to better manage medication administration to prevent errors. Accidentally giving the wrong medication is a common, but dangerous error in healthcare. While in Travis's case it was not a high-risk error, it still is an inappropriate error that must be avoided.

The nurse was unable to process with Travis the error because of his Alzheimer's and lack of cognitive understanding. This further complicates the error because generally, the nurse would want to explain to the patient about the error and how to prevent the error in the future. Because Travis struggles to comprehend and track in conversations, this is very difficult to do.

Case study 4: Laurie

Laurie is a 19-year-old woman with a genetic condition that makes it difficult for her to see out of her right eye. She has scheduled laser surgery on her right eye to help improve her vision. Upon the start of the procedure, Laurie notices that they begin setting up around her left eye for the service. Laurie speaks up and says, "It's not my left eye. I can see fine from my left eye. It is my right eye you need to perform on."

Laurie's medical team immediately apologizes for the mix-up. Despite their apology, Laurie asks that they not go ahead with the service in her right eye because she was worried about the competency of the medical team as she caught their error. Laurie scheduled the procedure at another clinic moving forward and was able to receive the procedure necessary to improve the vision in her weakened eye.

Laurie's example is one of how patients know their bodies better than anyone and when they are not afraid to speak up, they protect themselves against the harm that errors can cause. Laurie was able to catch the error early on so that no damage was accidentally done to her left eye. It is important that all patients feel as empowered as Laurie to tell doctors they are making the wrong move during a procedure. While Laurie was not confident moving forward with that same medical team, she was able to make an informed decision and find another team she felt more comfortable with to complete the procedure on her eye.

References

Agency for Healthcare Research and Quality. (2020). 20 tips to help prevent medical errors: Patient fact sheet. Retrieved from https://www.ahrq.gov/questions/resources/20-tips.html

American Society for Quality. (2021). Failure mode and effects analysis (FMEA). Retrieved from https://asq.org/quality-resources/fmea

Bari, A., Khan, R. A., & Rathore, A. W. (2016). Medical errors; causes, consequences, emotional response and resulting behavioral change. Pakistan journal of medical sciences, 32(3), 523–528. https://doi.org/10.12669/pjms.323.9701

Brenner, G. (2018). 6 reasons for common psych diagnostic mistakes. Retrieved from https://www.psychologytoday.com/us/blog/experimentations/201805/6-reasons-common-psych-diagnostic-mistakes

Carver N, Gupta V, Hipskind JE. Medical Error. [Updated 2021 Feb 16]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK430763/

Cheney, C. (2020). Open communication softens impact of medical errors on patients and families. Retrieved from https://www.healthleadersmedia.com/clinical-care/open-communication-softens-impact-medical-errors-patients-and-families

Chieze, M., Hurst, S., Kaiser, S., & Sentissi, O. (2019). Effects of Seclusion and Restraint in Adult Psychiatry: A Systematic Review. Frontiers in psychiatry, 10, 491. https://doi.org/10.3389/fpsyt.2019.00491

Collaborative for Accountability and Improvement. (2017). Communication and resolution programs (CRPs): What are they and what do they require? Retrieved from http://communicationandresolution.org/pix/Collaborative_CRP_Essentials.pdf

Flavin, B. (2018). 14 types of healthcare facilities where medical professionals provide care. Retrieved from https://www.rasmussen.edu/degrees/health-sciences/blog/types-of-healthcare-facilities/

Food and Drug Administration. (2020). FDA requiring boxed warning updated to improve safe use of benzodiazepine drug class. Retrieved from

https://www.fda.gov/drugs/drug-safety-and-availability/fda-requiring-boxed-warning-updated-improve-safe-use-benzodiazepine-drug-class

Heath, S. (2018). Understanding the power hierarchy in patient-provider relationships. Retrieved from https://patientengagementhit.com/news/understanding-the-power-hierarchy-in-patient-provider-relationships

Heyhoe J, Birks Y, Harrison R, O'Hara JK, Cracknell A, Lawton R. The role of emotion in patient safety: Are we brave enough to scratch beneath the surface? Journal of the Royal Society of Medicine. 2016;109(2):52-58. doi:10.1177/0141076815620614

Howley, E. (2018). How communication issues between doctors and nurses can affect your health. Retrieved from https://health.usnews.com/health-care/patient-advice/articles/2018-09-05/how-communications-issues-between-doctors-and-nurses-can-affect-your-health

Institute for Healthcare Quality Improvement. (2021). Root cause analysis. Retrieved from https://www.med.unc.edu/ihqi/resources/root-cause-analysis/

Jickling, K. (2020). State data shows frequent use of psych patient restraints. Retrieved from https://vtdigger.org/2020/12/15/state-data-shows-frequent-use-of-psych-patient-restraints/

Keers, R. N., Plácido, M., Bennett, K., Clayton, K., Brown, P., & Ashcroft, D. M. (2018). What causes medication administration errors in a mental health hospital? A qualitative study with nursing staff. PloS one, 13(10), e0206233. https://doi.org/10.1371/journal.pone.0206233

Leighton Law. (2021). 12 most famous medical malpractice cases - Dirty dozen of medical mistakes. Retrieved from https://leightonlaw.com/12-famous-medical-malpractice-cases/

Main Line Health. (2021). Error prevention toolkit. Retrieved from https://www.mainlinehealth.org/employees/employee-training-videos/error-prevention-toolkit

Maxik, K. (2017). Four ways to reduce dangerous medical errors at your hospital. Retrieved from https://www.managedhealthcareexecutive.com/view/four-ways-reduce-dangerous-medical-errors-your-hospital

Pedagogy Education. (2017). Making ends meet: The blunt end and sharp end of clinical error. Retrieved from https://www.pedagogyeducation.com/Main-Campus/News-Blogs/Campus-Blog/April-2017/Making-Ends-Meet-The-Blunt-End-and-Sharp-End-of-Cl.aspx

QlickSmart. (2021). Silence isn't "safe" - Speaking up is. Retrieved from

https://www.qlicksmart.com/speaking-up-safe-silence-not/

Rapaport, L. (2017). After medical errors, patients want doctors to hear them out. Retrieved from https://www.reuters.com/article/us-health-medicalerrors/after-medical-errors-patients-want-doctors-to-hear-them-out-idUSKBN1CI2ZH

Rodziewicz TL, Houseman B, Hipskind JE. Medical Error Reduction and Prevention. [Updated 2021 Jan 4]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK499956/

Shapiro Law Group. (2015). Hospital errors and PTSD: How medical malpractice traumatizes survivors. Retrieved from https://www.shapirolawgroup.com/hospital-errors-and-ptsd-how-medical-malpractice-traumatizes-survivors/

Substance Abuse and Mental Health Services Administration. (2019). Trauma and violence. Retrieved from https://www.samhsa.gov/trauma-violence

Tortorice, J. (2021). Medical errors. Retrieved from https://ceufast.com/course/medical-errors/

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