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W H I T E P A P E R

Enhancing Patient Safety: *A Priority* in Modern Healthcare

THE REPORT

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CONTENT

1} Statistical Background

Patient safety is a critical area in healthcare, and the statistics reveal its global importance. Here are some key facts related to patient safety:

A. Adverse Hospital Events: According to the WHO, at least 50% of adverse hospital events are preventable, and roughly 10% of patients globally suffer injury while undergoing treatment.

B. Medication Errors: One of the most frequent reasons for preventable injury in healthcare is medication errors. According to WHO estimates, these mistakes cost the world $42 billion on average per year.

C. Surgical errors: It is estimated that between 3% and 16% of procedures globally end in unfavourable outcomes, of which around half are avoidable.

D. Healthcare-Associated Infections (HAIs): While undergoing treatment, 10% of patients in low- and middle-income countries and nearly 7% of patients in high-income countries get at least one HAI.

E. Diagnostic Errors: In outpatient settings alone, diagnostic errors impact an estimated 12 million Americans each year, with 10% of cases resulting in serious injury.

F. Healthcare Facility Falls: Hospital patient falls are frequent, with rates ranging between 3.3 to 11.5 falls per 1,000 patient days, and they can lead to severe injuries.

G. Global Mortality from Unsafe Care: Millions of fatalities are attributed to unsafe care each year, making it one of the top 10 leading causes of death and disability globally.

Improving patient safety is a priority, requiring investment in training, technology, and system-level changes to reduce these statistics and enhance the quality of care.

2} Overview

The field of patient safety places a strong emphasis on health care safety by preventing, minimizing, reporting, and analyzing errors and other needless harms that frequently result in unfavourable patient outcomes. The most basic tenet of every health care system is "first, do no harm." No one should suffer injury while receiving medical care, but there is strong evidence that both industrialized and developing nations bear a heavy burden of preventable patient harm. This has significant financial, ethical, moral, and personal ramifications. The National Academy of Sciences' Institute of Medicine (IOM) published To Err is Human. To Err Is Human removes the taboo around medical blunders and their effects—but not by blaming compassionate medical personnel for their own sincere faults. Errors are human, after all. Rather, by creating a better health system, this book lays forth a national plan for lowering medical errors and enhancing patient safety, with state and local ramifications. Hence Err Is Human emphasized that "good people working in bad systems that need to be made safer" is the issue, not bad people in the healthcare industry.

(Photo Credit: Freepik/Freepik)

3} Sources of Patient Harm

A. Medication errors

One of the most prevalent types of adverse patient safety incidents is medication mistakes. Approximately 6.5% of acute hospital stays involve these kinds of patient safety issues. Prescription errors can happen in a number of ways, such as when the incorrect prescription or dosage is prescribed. Medicine errors can also occur when a medicine is accidentally administered, such as by oral rather than intravenous means. Lastly, merely not administering the drug or administering it at the incorrect time can result in a medication error.

B. A Surgical Error

A National Institutes of Health (NIH) report detailing various types of medical errors states that surgical errors are serious because they are the biggest drivers of severe patient injury and death. Specifically, intraoperative errors are the primary issue in 75% of medical malpractice cases involving surgeons. Surgical errors are mistakes that occur before, during, or after a surgical procedure. These include wrong-site surgery, wrong-patient surgery, surgeries during which surgical instruments were inadvertently left inside the patient, and postoperative complications, which can include infections and excessive bleeding. Since many surgical errors are caused by clinician factors, problems with medical records, and cognitive errors, process-related measures are crucial in preventing surgical errors. Surgical errors can be reduced by employing techniques including creating checklists, counting tools, and using specialist tools like radio-frequency sponges.

C. Diagnostic errors

Diagnostic errors are defined by the National Academies of Science, Engineering, and Medicine as "the failure to establish an accurate and timely explanation of a patient's health problems or to communicate that explanation to the patient." Missed, incorrect, or delayed diagnosis is examples of diagnostic mistakes. The Society to Improve Diagnosis in Medicine states that the majority of medical malpractice claims involve diagnostic errors. According to the Society, they also accrue the largest overall penalty payouts and inflict the most serious patient injury.

D. Patient Fall

One of the most frequent patient safety incidents involving people over 65 is falls. Three to five falls occur for every 1,000 bed-days, and they cause between 700,000 and one million hospitalizations annually, according to data from the Agency for Healthcare Research and Quality. In addition to increasing lengths of stay, medical care expenses, and lawsuits against the hospital organization, inpatient falls cause substantial physical and financial difficulties for patients and increased injury and fatality rates and worse quality of life. Even if falls have been declining over the last few years, hospital falls are still a major issue.

E. Hospital Acquired Infections (Nosocomial Infections)

Infections acquired while obtaining treatment at a healthcare institution, such as a hospital, or from a healthcare practitioner, such as a doctor or nurse, are known as healthcare-associated infections (HAIs). You can become seriously ill from healthcare-acquired infections that enter your bloodstream, lungs, skin, urinary tract, or digestive tract. In addition to being extremely difficult to cure, these infections can persist for a very long period. These infections can potentially be fatal in the worst situations. Ventilator-associated Pneumonia (VAP)**,** Clostridium difficile Infections (CDIs)**,** Sepsis**,** Surgical Site Infections (SSI) and Catheter Associated Urinary Tract Infections (CAUTI) are some types of HAI. According to the NIH, hospital-acquired infections (HAIs), also known as healthcare-associated infections, are a prime illustration of a health system or process failure. Most HAI prevention strategies are human-cantered. The following discipline can be followed at workplace and during handling the patient.

- Make certain that all visitors and medical personnel wash their hands or liquid hand sanitizer.
- Maintain the cleanliness of exposed wounds and replace dressings as needed.
- Maintain the cleanliness of medical tube and catheter sites.
- Ensure that newly arrived patients are kept apart from previously admitted patients when they arrive at the facility.
- Make sure patients take the entire medication and only give antibiotics to those who truly need them.
- Implement a good antimicrobial stewardship program in hospital.

F.Venous Thromboembolism

Blood coagulation disorders like venous thromboembolism (VTE) can cause avoidable patient injury when doctors make mistakes in risk assessment and prophylactic medication administration. According to estimates, between 300,000 and 600,000 Americans suffer from VTE annually, making it the main cause of major orthopaedic surgery-related deaths and the third most common vascular diagnosis after heart attacks and strokes. VTE is frequently brought on by hospitalization, immobility, malignancy, or surgery. Patients having significant orthopedic surgery, such as total knee arthroplasty (TKA), total hip arthroplasty (THA), or hip fracture surgery (HFS), are at the highest risk of developing VTE. According to estimates, up to 60% of these people will get VTE if proper prophylaxis is not taken. In this case Aspirin can be used as VTE prophylaxis. Aspirin usage is part of several hospitals' surgical regimens for patients having major orthopedic surgery.

G. Pressure Ulcer

Localized soft tissue and skin injuries known as pressure injuries occur when prolonged pressure is applied to particular bodily parts, usually bony prominences. When skin or soft tissue is subjected to continuous pressure from a hard surface, such as a chair or bed, over an extended period of time, pressure ulcers may form. This lessens the area's blood flow, which may cause skin tissue damage or death. Medical malpractice, such as insufficient treatment or prevention, may be the reason. Despite being largely preventable, pressure ulcers have a substantial negative influence on people's mental and physical health as well as their quality of life, affecting over 10% of adult hospitalized patients.

H. Unsafe Transfusion Practice

Human error accounts for three-quarters of all blood transfusion-related accidents that are documented. Errors in transfusion and patient safety can have fatal consequences. Blood products are collected, stored, tested, and administered without following the correct procedures, which leads to unsafe transfusion practices.

• Incompatible blood types might result in potentially fatal haemolytic responses when transfused.

• Blood that has not been adequately tested for infectious pathogens, such as HIV and hepatitis B/C, can spread illness.

• Blood products that are stored at the wrong temperature may lose their integrity, which could result in dangerous or inefficient transfusions.

• Negative results may result from mistakes like giving the wrong volume or transfusing the incorrect patient.

Implementing evidence-based guidelines for transfusion practices is part of the prevention and mitigation strategy. These includes accept global guidelines for blood safety. Make sure all blood donors undergo thorough testing for infectious diseases. To prevent expiration

problems, rotate your stock and keep an eye on storage conditions. Provide healthcare professionals with frequent training on error prevention and safe transfusion procedures.

(Photo Credit: Freepik/freepik)

4} Factors leading to patient harm

Numerous causes at different stages of the healthcare system can result in patient harm. These elements frequently combine to increase the risk of injury. Below is a summary of the main contributors.

A. Personal Level Factors

These pertain to the behaviours, abilities, and expertise of patients and healthcare providers:

Human error: Misdiagnosis, drug errors, or procedural errors brought on by stress, exhaustion, or ignorance.

Communication problems: Misunderstandings among members of the care team or between patients and providers.

Insufficient training: Not having the requisite abilities or being acquainted with the tools and procedures.

Patient actions include giving an inadequate medical history or not following recommended therapy.

B. System-Level Factors

These result from flaws in healthcare procedures and systems:

• **Inadequate system design**: convoluted processes, ambiguous responsibilities, or hazardous settings.

• **Insufficient staffing**: Overworked employees become weary and pay less attention to details.

• **Inconsistent protocols**: Not adhering to evidence-based practices or lacking defined recommendations.

• **Communication system failures**: Ineffective information conveyance, like during handoffs.

C. Organizational-Level Factors

Management and organizational culture are important:

Safety culture: A lack of focus on safety or a setting where employees are unwilling to admit mistakes.

Lack of resources: Financial limitations that result in antiquated machinery or inadequate employee training.

Ineffective leadership is characterized by inadequate supervision or a lack of responsibility for risk management.

D. Technological Factors

Both positive and negative effects of technology on patient safety

Problems with electronic health records (EHRs) include bugs in the system, mistakes made by users, or inadequate documentation.

Sophisticated medical equipment: misuse or malfunction of technology as a result of poor upkeep or training.

E. Environmental and External Factors

These are effects of the larger environment:

Physical environment: Untidy or badly planned areas increase the risk of mishaps. Issues with regulations and policies: Insufficient guidelines or adherence to safety procedures.

Socioeconomic factors: Patients' restricted access to medical treatment, prescription drugs, or prophylactics.

F. Patient-Specific Factors

Vulnerability may be increased by specific patient characteristics:

Multiple co morbidities necessitate coordinated care for complex medical issues. Risks associated with age: Children and elderly patients are more prone to mistakes. Linguistic and cultural barriers: misunderstandings brought on by linguistic or cultural barriers.

5} System approach to patient safety

A system approach to patient safety is an all-encompassing method that sees safety concerns as inherent in the structure and operation of healthcare systems rather than as the faults of specific healthcare practitioners. This method places a strong emphasis on creating settings, tools, and processes that minimize mistakes, identify them early, and lessen their impact. An overview of the essential elements of a systemic approach to patient safety is provided below:

A. **Understanding Errors and Systems**

Human Factors: Acknowledges the fallibility of people and builds systems to take this into consideration.

System Failures: Reorients attention from placing blame on specific people to locating and resolving the system's underlying issues.

Learning Culture: Promotes reporting and error-learning without fear of repercussions.

B. **Key Principles**

Designing mechanisms that avoid mistakes rather than penalize them when they do is known as "prevention over punishment."

Including checks and backups in systems to identify and fix problems before they affect patients is known as redundancy and resilience.

Transparency: Informing patients and other stakeholders about safety concerns and advancements.

C. Core Components

Leadership Commitment: Strong leadership that makes patient safety a top priority for the company.

Funds should be allotted to safety-related projects.

D. Culture of Safety

A setting where all employees are encouraged to raise safety issues

Free exchange of ideas without fear of reprisal

Frequent instruction in safety procedures

Systems for Error Reporting and Learning

Mechanisms for anonymous and non-punitive reporting

Systems for evaluating events and applying the knowledge gained

E. Uniformity

Application of checklists, rules, and procedures based on evidence

Decreasing care variability in order to reduce the possibility of mistakes

F. Human Factors Engineering

Creating intuitive and error-proof settings, tools, and systems

Examples include ergonomic desk designs and standardized pharmaceutical labelling

G. Teamwork and Communication

Multidisciplinary cooperation: Instruments for organized communication, such as SBAR (Situation, Background, Assessment, Recommendation)

H. Patient Involvement

Engaging patients as active participants in their care

Encouraging patients to ask questions and verify their treatments

I. Continuous Monitoring and Feedback

Ongoing assessment of safety performance

Feedback loops for continuous improvement

J. Frameworks and Tools

Root Cause Analysis (RCA): Determines the fundamental reasons for unfavourable occurrences.

Potential failures are proactively identified and addressed via Failure Modes and Effects Analysis (FMEA).

Protocols and Checklists: guarantees uniformity in procedures like as medicine administration or surgery.

6} Outcomes of a System Approach

A. Decreased Errors: A decrease in unfavourable incidents and close calls

B) Increased Patient Trust: Confidence is built through improved communication and transparency.

C) Effective Use of Resources: Error prevention lowers damage-related expenses.

D) Sustained Improvement: Continuous improvements in safety are guaranteed by a culture of learning.

This strategy emphasizes that safety is a shared organizational objective, supported by strong processes, involved leadership, and ongoing development, rather than the exclusive domain of one person or group.

7. Key International Regulations for Patient Safety

Patient safety is a global priority, and numerous international laws and programs have been put in place to protect patients' health and lower the number of medical errors. An outline of the most noteworthy initiatives is provided below:

A.WHO Guidelines on Patient Safety

The Global Patient Safety Action Plan 2021–2030 is one of the extensive standards and guidelines that the World Health Organization (WHO) has created. This approach seeks to decrease avoidable harm in healthcare by encouraging international cooperation.

Key initiatives include:

The Nine Patient Safety Solutions (e.g., correct patient identification, improved communication).

Advocacy for Medication without Harm campaigns

(Photo Credit: Freepik/pikisuperstar)

B. International Health Regulations (IHR)

By strengthening health systems around the world to avoid and respond to health risks, these legally binding WHO standards seek to ensure patient safety during emergencies and public health crises.

C. International Accreditation Standards

The *Joint Commission International* **(JCI)** and other accrediting bodies set standards for healthcare institutions, guaranteeing adherence to global patient safety regulations.

Medication management, infection prevention, and safe surgical techniques are a few examples.

8. Key International Initiatives for Patient Safety

A. World Patient Safety Day

Established by the WHO in 2019, this yearly event mobilizes global action under certain themes (e.g., pharmaceutical safety, maternal and newborn care) and raises awareness about patient safety.

B. The International Patient Safety Goals (IPSG)

These JCI-developed objectives include important topics including

Accurately identifying patients

Making sure that communication is effective.

Lowering the chance of infections linked to healthcare.

C. Global Patient Safety Challenge

WHO-led initiatives like:

Clean Care is Safer Care (2005): Focused on hygiene to reduce infections.

Safe Surgery Saves Lives (2008): Promoted surgical safety checklists.

Medication without Harm (2017): Aimed at reducing severe harm related to medication use.

D. The Declaration on Patient Safety

This declaration, which has been adopted by the International Alliance of Patients' Organizations (IAPO), places a strong emphasis on patient-cantered treatment, accountability, and openness in healthcare systems.

E. International Medication Safety Network (IMSN)

A volunteer worldwide network of professionals dedicated to lowering pharmaceutical errors and enhancing medication safety procedures.

F. OECD Patient Safety Indicator Development

Patient safety indicators and the performance of healthcare systems are benchmarked by the Organization for Economic Cooperation and Development (OECD)

9. Regional and Cross-Border Effort

A. European Union (EU) Initiatives

The EU actively promotes patient safety through programs like the European Network for Patient Safety and Quality of Care (PaSQ).

Directives on cross-border healthcare ensure quality and safety when patients seek medical treatment in other EU countries.

B. Pan American Health Organizations (PAHO)

It works together with nations in the Caribbean and Latin America on patient safety projects, especially those pertaining to safe delivery techniques and infection control.

C. Africa Patient Safety Initiative (APSI)

A regional effort focused on improving hospital safety and healthcare worker training in African nations.

10. Common Themes and Challenges

Despite these efforts, challenges remain like

Underreporting of medical errors due to fear of blame

Lack of resources, especially in low- and middle-income countries

Need for stronger integration of technology, such as electronic health records, to minimize errors.

In order to promote a culture of safety, accountability, and ongoing progress in healthcare, cooperation and adherence to these international laws and initiatives are essential. If you would like further information about a certain rule or program, please let me know!

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