

Patient safety in hospitals: an overview

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Indian health care industry has widest possible extremes in health care delivery. On the one hand there are brilliant doctors practicing state of the art medicine using the latest technology. On the other, we have in our hospitals and nursing homes ayahs, ward boys, and other outsourced staff who have little or no concept of hygiene and sanitation. Health Care Institutions are of equally varying quality. Generally, the government and charitable hospitals are characterized by overcrowding, underfunding, and facilities are perpetually stretched to limit.^[1] Still, at times they are the unfair target of criticism during healthcare crises. Their work environment and busy schedule seldom allows time and means to realistically consider and ensure implementation of quality and safety in their day to day patient care.

Today about two thirds of the population in the country seeks the private sector for their health needs. Private hospitals and private medical colleges have mushroomed in the past 30 years.

Recently medical tourism has become a huge incentive for select institutions to strive for the highest international standards.^[2] The quality and safety of health care has therefore become prominent requirement of any health care facility.

Quality : In context of health care, quality can best be defined as “a degree of correspondence between goals set and goals achieved in relation to patient care, without excessive use of financial resources”.^[3]

Quality care can be provided by judicious use of:-

Protocols : These lay down the steps to be followed in managing a given medical condition, in undertaking a medical procedure, or in performing a laboratory test^[4].

Evidence based medicine: This depends upon the results of randomized clinical trials, systematic reviews and meta-analyses to establish the safe, superior treatment^[5].

Treatment guidelines : These are documents produced by a panel of experts or learned societies. Usually they are evidence based and state the level of evidence in support of a specific treatment^[6].

Timely health care: Rapid response to a medical emergency is a test of quality. Thus one may use time taken to perform certain test or to execute certain treatment protocol as a measure of quality like time taken for initiation of thrombolytic therapy in a patient of acute myocardial infarction or time taken to receive the result of blood sugar and ketone bodies in a suspected case of Diabetic Ketoacidosis^[7].

Fault Finding : When something goes wrong, search starts to find who is at fault, not how and why it went wrong, leading to witch hunt and blame game. The setting for this may vary from a departmental investigation, a peer review meeting, or a morbidity and mortality conference. All these activities represent a retroactive response to an untoward incident. By reviewing and dissecting out the full sequence of events that led to the incident one can use a process of root cause analysis^[8] to identify how the error occurred. The process can be effective but the health care workers (HCW) feel threatened, become defensive, and are unlikely to voluntarily report errors or adverse events in the future.

By and large errors occur because of bad systems and not bad people.^[9] 'Examine the system' should be the motto. Better be proactive and try to define the weak points in the system and take appropriate steps. For example, if hand sanitizers are not placed next to each bed in ICU or in Acute & Emergency ward, HCW cannot be expected to go to the nursing station to sterilize their hands after handling each patient. Theoretically they should, but they will not owing to various factors.

Patient Safety Indicators : The Patient Safety Indicators (PSIs) are a set of parameters that screen for adverse events that patients experience as a result of exposure to the health care system.^[10] These events are likely amenable to prevention by changes at the system.

Patient Safety Indexs are defined on two levels: the provider level and the area level^[11]

A) Provider-level indicators Provider-level

indicators provide a measure of the potentially preventable complications for patients who received their initial care and the complication of care within the same hospitalization. Provider-level indicators include only those cases where a secondary diagnosis code flags a potentially preventable complication.

Examples of patient safety indicators-

- Accidental Puncture or Laceration
- Birth Trauma – Injury to Neonate
- Complications of Anesthesia
- Decubitus Ulcer
- Foreign Body Left in the body during Procedure
- Iatrogenic Pneumothorax
- Obstetric Trauma – Vaginal with Instrument/without Instrument, Cesarean Delivery
- Postoperative Hemorrhage or Hematoma
- Postoperative Respiratory Failure
- Postoperative Pulmonary Embolism or Deep Vein Thrombosis
- Postoperative Sepsis
- Postoperative Wound Dehiscence
- Transfusion Reaction
- Ventilator Associated Pneumonia
- Infections associated with indwelling devices (central line, urinary catheter etc)

B) Area-level indicators capture all cases of the potentially preventable complications that occur in a given area (like a city or state) either during hospitalization or resulting in subsequent hospitalization. Area-level indicators are specified to include principal diagnosis, as well as secondary diagnoses, for the complications of care. This specification adds cases where a patient's risk of the complication occurred in a separate hospitalization.

Patient Safety Measures : The quality and safety measures listed below are implementable by any institution, government or private.

International Patient Safety Goals (Joint Commission International 200012)

- Identify patients correctly

- Improve effective communication among providers
- Improve the safety of high alert medications
- Eliminate wrong site, wrong patient, wrong procedure surgery
- Time out to verify check list before starting a procedure
- Mark the precise site for surgery
- Reduce the risk of healthcare acquired infections with hand hygiene
- Reduce the risk of patient harm from falls.

Ensure the patient's identity : At times of blood collection, blood transfusion, laboratory investigation, and surgery, correct identity is crucial. A wrist band should be worn by the patient stating his name and hospital number.

Identity on the basis of bed number or name in case file is insufficient.

Use evidence based medicine : Common clinical situations need to be identified where simple clinical interventions including drug therapy are known to be effective. Examples are

a) Acute myocardial infarction, b) status epilepticus, c) poisonous snake bite and d) surgical site infections. Ideally, it should be just the implementation of what is already known to all the HCWs though already displayed protocols/ treatment guidelines^[12].

Better communication between HCWs : Even one day's stay in the hospital involves interaction with ten or more care givers. Errors usually occur during changes in shifts. Proper documentation of unstable patients' status in case files can ensure proper attention to sick patients. Nurses should also follow a protocol for receiving verbal laboratory reports and other information over the telephone to avoid error.^[13]

Safer delivery of health care : Multitasking is inbred into the daily life of doctors and nurses with the distraction of mobile phones and emergency calls superimposed upon patient work and academic activities. Also, in most facilities the clinicians are assigned additional administrative duties. Checklists and SOPs should be followed for common clinical conditions for delivering daily care to patients to ensure

no component of care has been missed.^[14]

Hand hygiene to prevent nosocomial infections :

These infections cost lives and increase morbidity and health care costs.^[15]

Constant Vigil : Today, medicine is increasingly technology driven. New technologies create new methods for producing errors and constant vigilance is required to track these. One powerful tool that can be used is anonymous incident reporting by doctors, nurses and technicians working in high risk areas^[16] Lapses of discipline, errors or incidents are noted and dropped into a 'ballot box'. The head of department or medical superintendent opens the box at regular intervals and uses the reports to generate a discussion on how practices can be improved. Free dialogue should be encouraged and no one need feel threatened.

When all the above measures are part of daily practice one can say there exists a culture of patient safety in an institution.

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