Top 10 Solutions for Patient Safety

Making Health Care Safer

Rendre les systèmes de soins plus sûrs
Solutions efficaces pour la sécurité des patients
Top 10 Solutions for Patient Safety

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SAFETY IN AN UNSAFE HEALTH CARE ENVIRONMENT

Patient safety is a big and serious problem everywhere in the world and a health priority in many countries.

Health services are failing patients

- One in every 10 patients around the world is seriously harmed because of health care errors.
- A USA study estimated that medical errors cause up to 98,000 deaths annually in hospitals.
- The problem of unsafe care in developing countries is far more serious. There are few data on this.
- Developing countries account for around 77% of all reported cases of counterfeit or substandard drugs.
- In seven African countries up to 90% of antimalarial medication failed quality testing.
- At least half of medical equipment in developing countries is unusable or only partly useable.

Safety can not be improved without a range of valid solutions that address priority problems. The “Top 10” solutions selected to address patient safety problems with a high impact include:

Top 10 solutions

1. Better communication by health care providers.
2. Preventing wrong site, wrong procedure, wrong person surgery.
3. Preventing errors during the procurement, prescription, dispensing and administration of medication to patients.
4. Preventing misuse and mix-ups of concentrated electrolyte solutions during patient care.
5. Preventing health care-associated infection with hand hygiene.
6. Working to reduce errors from confusing drug names, brands and packaging.
7. Patient identification to prevent errors in medication, transfusion, testing, medical procedures and discharge of patients.
8. Reducing the incidence of catheter misconnections and wrong route administration of medication and feeding.
9. Putting an end to the reuse of injection needles.
10. Preventing patient deaths from the intrathecal injection of vincristine.
SOLUTION 1

BETTER COMMUNICATION BY HEALTH CARE PROVIDERS

Often, the communication between hospital units and care providers is not clear or does not include all necessary patient information.

Are there any data on “harm to patient” because of poor communication?

These gaps in communication can cause serious breakdown in the care process, result in incorrect treatment, and often lead to patient harm. Sometimes the harm that patients experience can result in serious injury and death.

Some recommendations for improving communications include:

4 Recommendations

1. Use a common language for communicating critical information.
2. Provide opportunities for care providers to ask and resolve questions.
3. Involve patients and families in the process of care.
4. Streamline change-of-shift reporting.
Wrong site surgery – including wrong side, wrong organ, wrong procedure, wrong implant, and wrong person surgery – is not a “rare” event as seen by a steady increase in the number of reported cases.

These preventable incidences are largely due to miscommunication and unavailable or incorrect information. A major contributing factor to error is the lack of a standardized preoperative procedures and to some extent a degree of staff

3 Recommendations: the Universal Protocol for preventing wrong site surgery

1. Preoperative verification process:
   - make certain that all relevant documents and tests are available before the procedure starts.
   - ensure that documents and tests have been reviewed and are consistent with each other, with the patient’s expectations, and with the team’s understanding of the patient, procedure, and site.

2. Marking the operative site: identify unambiguously the intended site of incision or insertion.

3. “Time out” immediately before starting the procedure: conduct a final verification of the correct patient, procedure, and site.
SOLUTION 3

PREVENTING ERRORS DURING PROCUREMENTS, PRESCRIPTION, DISPENSING AND ADMINISTRATION OF MEDICATION TO PATIENTS

Errors are common as medications to patients are procured, prescribed, dispensed, administered and monitored, but they occur most frequently during prescribing and administering medications.

Are there data on adverse events during drug administration, procurement etc

Some recommendations for preventing medication errors include:

4 Recommendations

1. Create the most complete and accurate list or the “Best Possible Medication History” (BPMH) of all medications the patient is currently taking—also called the “home” medication list.

2. When writing medication orders, compare the list against the admission, transfer, and/or discharge orders; identify and bring any discrepancies to the attention of the prescribing health professional; if appropriate, make changes to the orders while ensuring the changes are documented.

3. Update the list as new orders are written to reflect all of the patient’s current medications.

4. Communicate the list to the next provider of care whenever the patient is transferred or discharged.
SOLUTION 4
PREVENTING MISUSE AND MIX-UPS OF CONCENTRATED ELECTROLYTE SOLUTIONS DURING PATIENT CARE

While all drugs, biologicals, vaccines and contrast media — used in X-ray imaging— have a defined risk profile, concentrated electrolyte solutions for injection are especially dangerous.

It is especially critical that the availability, access, prescribing, ordering, preparation, distribution, labelling, verification, administration and monitoring of concentrated electrolyte solutions be planned in such a way that possible adverse events can be avoided.

These efforts require special attention, appropriate expertise, inter-professional collaboration, and process verification so that the safe use of concentrated electrolyte solutions can be assured.

Some recommendations on the safe use of concentrated electrolyte solutions:

1. Standardizing the dosing, units of measure and terminology of concentrated electrolyte solutions.
2. Averting mix-ups of specific solutions (e.g. confusing sodium chloride with potassium chloride).
3. Removal of concentrated electrolyte solutions from patient care units. This has shown to have a marked positive impact on the reduction of death and disabling injury associated with these agents. By not having these agents on patient care units, several forcing functions are inherently implemented; namely, the drug must be prescribed and ordered, it must be properly prepared (e.g. diluted), packaged and labelled, and it must be administered with appropriate care and expertise.

Are there data on misuse of electrolytes?
SOLUTION 5
PREVENTING HEALTH CARE-ASSOCIATED INFECTION WITH HAND HYGIENE

These infections are a major patient safety concern. They affect millions of people worldwide every year. Infections take their toll in terms of avoidable patient deaths and disability. They also waste scarce resources.

Health care–associated infection is a growing problem worldwide
- At any time, over 1.4 million people worldwide are suffering from infections acquired in hospital.
- Between 5% and 10% of patients admitted to modern hospitals in developed countries acquire one or more infections.
- The risk of health care-associated infection in developing countries is 2-20 times higher than in developed countries. In some countries, the proportion of patients affected by health care-associated infection can exceed 25%.

Hand hygiene is a critical action to ensure patient safety which should occur in a timely and effective manner during patient care. The following are recommendations for improving hand hygiene:

1. Promote the adoption at national, regional and facility level of the 9 recommendations of the WHO Guidelines on Hand Hygiene in Health Care.
2. Implement a multidisciplinary, multimodal strategy;
   - Provide health care providers with instruction to install accessible alcohol-based hand-rubs at the point of care.
   - Ensure access to a safe continuous water supply and necessary facilities to perform hand hygiene.
   - Educate staff on correct hand hygiene techniques.
   - Display promotional reminders in the workplace.
   - Perform measurement of hand hygiene compliance and feedback of performance to health care workers.
   - Where alcohol-based hand-rubs are not available or too costly, local hand-rub production should be considered according to the WHO Recommended Hand Antisepsis Formulation: Guide to Local Production.
   - Consider measuring the financial aspects of health care-associated infection to assist in demonstrating impact.
   - Promote hand hygiene adherence as a priority that requires leadership, administrative support and financial resources.
Look-Alike Sound-Alike Medication

Working to reduce errors from confusing drug names, brands and packaging

SOLUTION 6

LOOK-ALIKE, SOUND-ALIKE MEDICATION

Confusing drug names is one of the most common causes of medication errors worldwide. With tens of thousands of drugs currently on the market, the potential for error due to confusing brand or generic drug names is significant. Many drug names look or sound like other drug names.

Recommendations

1. Make sure prescription legibility, use of pre-printed orders, or electronic prescribing.
2. Ensure medication orders and prescriptions include both the brand and generic name, dosage form, strength, directions, and the indication for use. This can be helpful in differentiating look-alike or sound-alike medication names.
3. Read-back clarification of oral orders and improvements in communication with patients.
5. Physically separate LASA* medications and similar looking drug packages in all storage areas.
6. Include both the generic and brand names on medication orders to provide redundancy.
7. Use “tall man” (mixed case) lettering (e.g. DOPamine versus DoBUTamine) to emphasize drug name differences.
8. Limit the number of stocked medication strengths.
9. Train and educate staff on LASA medications and risks for medication errors.

* LASA: Look-Alike Sound-Alike
SOLUTION 7

PATIENT IDENTIFICATION

The ongoing problem of failure to correctly identify patients continues to result in medication errors, transfusion errors, testing errors, wrong person procedures and the discharge of infants to the wrong families.

Are there data on problems due to lack of patient identification?

Technologies to improve patient identification include:

- Bar-coding
- Radiofrequency identification (RFID)
- Card-based technologies (magnetic strip, embedded chip)
- Biometrics (fingerprint, iris scanning).

Regardless of the technology used to identify patients, careful planning will ensure proper patient identification before any medical intervention and will provide safer care with significantly fewer errors.

Strategies for identifying patients:

1. Educate health care providers to check/verify patients’ identity. Patients should be actively involved in verifying their own identification bands.

2. Upon and prior to the administration of care, use at least two identifiers to verify a patient’s identity.

3. Standardize the approaches to patient identification among different facilities within a health care facility or system.

4. Check the details of a patient’s identification before any interaction or intervention and encourage the patient to participate in this confirmation.

5. Develop an organizational protocol for identifying patients without identification and for distinguishing the identity of patients with the same name.
The best solution lies with introducing design features that prevent misconnections and prompt the user to take the correct action.

This is due to the multiple devices used for different routes of administration being able to connect to each other.

Tubing and catheter misconnections can lead to wrong-route medication errors and result in serious injury or death to the patient.

While various approaches to preventing catheter misconnection and wrong-route administration have been suggested, meticulous attention to detail when administering medications and feedings (i.e. the right route of administration) and when connecting devices to patients (i.e. using the right connection/tubing) is a basic first step.

By implementing preventive measures—many of them simple and inexpensive—wrong-route administration errors can be effectively eliminated.
SOLUTION 9

PUTTING AN END TO THE REUSE OF INJECTION NEEDLES

One of the biggest global concerns is the spread of HIV, hepatitis B and hepatitis C due to the reuse of injection needles.

- The estimated burden of infection per year due to unsafe injection practices is: 21.7 million hepatitis B, 2 million hepatitis C, and 260,000 HIV infection cases.
- In some countries the proportion of injections given with syringes or needles reused without sterilization is 70%.
- The estimated proportion of syringe and needle re-use by various regions: Europe: 1-11%, South-East Asia: 30-75%, Western Pacific: 30%, Africa: 17-19%, Americas (Centrals and South): 11%.

The reasons contributing to the reuse of needles are complex and involve combinations of socio-cultural, economic and facility-level structural factors.

8 Recommendations

The following recommendations address the problem of needle reuse:
1. Health care facilities prohibit the reuse of needles.
2. Practitioners and health care workers receive training regarding infection control principles and safe injection practices.
3. Practitioners and health care workers are educated about the effectiveness of non-injectable (e.g. oral) medications and are trained to educate patients and their families about these alternatives.
4. Patients and their families receive education regarding transmission of blood-borne pathogens.
5. Safe waste management practices that meet the needs of individual health care organizations are identified/implemented.
6. Procurement of equipment needed to promote safe practices is planned and budgeted.
7. An International Patient Safety Standard is developed to highlight existing standards/initiatives by WHO and other organizations that aim to tackle the transmission of blood-borne infections through the inappropriate use of injectable medications.
8. Organizations encourage technology and device manufacturing companies to continue R&D for new equipment and disposal methods which promote safe injection practices.
Recommendations

1. The USP* dispensing standard and requirements for specific labelling of vincristine should be followed.
2. The labelling of vincristine should include a label reading: "FATAL IF GIVEN INTRATHECALLY. FOR IV USE ONLY. DO NOT REMOVE COVERING UNTIL MOMENT OF INJECTION."
3. Vincristine should be prepared by dilution in intravenous bags, rather than in a syringe to avoid intrathecal injection.
4. Consideration should be given to abolish the use of syringes as a means of administering vincristine in order to eliminate the potential for spinal injection.
5. Intrathecal medications should be prepared in the pharmacy as close to the time of administration as possible.
6. There should be a dedicated area where only intrathecal medications are administered and equipment needed for their administration is kept. A list of medications that can be administered intrathecally should be posted and all other medications should be banned from the dedicated area.
7. A “time out” should be conducted by two qualified health care professionals to independently verify and document the drug, dose and route at the time of pharmacy preparation of drugs for intrathecal administration.
8. A “time out” at the patient’s bedside should be conducted by two qualified health care professionals to ensure that the right medication is given in the right dose, by the right route, and to the right patient before each intrathecal administration of such drugs.
9. Redesign spinal needles and spinal syringes to be incompatible with any other connectors.

* USP: United States Pharmacopeia

SOLUTION 10
PREVENTING PATIENT DEATHS FROM THE INTRATHECAL INJECTION OF VINCRISTINE

Vincristine, an anticancer agent, is injected into patients intravenously. Many patients receiving vincristine also receive more chemotherapy agents intrathecally — injected into the spinal canal — as part of the treatment. This treatment has led to many errors where vincristine intended for intravenous use is injected into the spinal canal. In these cases, patients become gradually paralysed and ultimately die.

Recommendations for preparing, dispensing, and administering intravenous vincristine include:

9 Recommendations

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2. The labelling of vincristine should include a label reading: "FATAL IF GIVEN INTRATHECALLY. FOR IV USE ONLY. DO NOT REMOVE COVERING UNTIL MOMENT OF INJECTION."
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