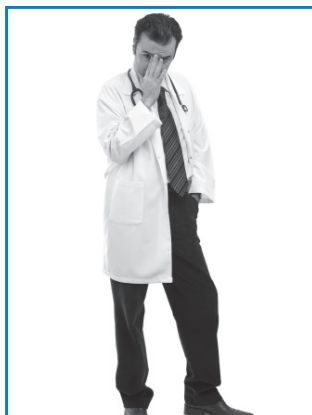




Prevention of Medical Errors

Course # 3011 • 2 CE Hours

About the Author

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Purpose and Goals

The goal of the enclosed course is to provide health care professionals with an overview of the problem of medical errors, factors contributing to the occurrence of these errors, and steps that can be taken by institutions and individual care providers to reduce medical errors in key care settings.

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Instructional Objectives

Upon completion of this course, the motivated student should be able to:

1. Delineate factors contributing to the occurrence of medical errors
2. Outline error prone situations and vulnerabilities among special populations
3. Identify processes for improvement of patient outcome
4. Recognize caregivers' responsibilities for reporting medical errors
5. Name methods to increase public awareness of medical errors and how to prevent them

Introduction

Patient safety is one of the Nation's most pressing health care challenges. A monumental report by the Institute of Medicine of the National Academy of Sciences (IOM), dropped a bombshell on the health care community and the general public alike with its publication of *To Err is Human: Building a Safer Health System*, with its claim that up to 98,000 Americans die each year as a result of preventable medical errors. While evidence of medical error has existed for some time, and has long been acknowledged within the medical community, the report captured the public's attention by revealing the magnitude of this pervasive problem and presenting it convincingly.

The IOM estimates that medical errors cause between 44,000 and 98,000 deaths annually in the United States, and that nearly half were preventable. Subsequent studies suggest that the medical error rate is even higher. These statistics are a call to action for health care professionals to explore creative ways to implement patient safety practices in their systems and procedures. Using the more conservative figure, medical errors rank as the eighth leading cause of death, killing more Americans than motor vehicle accidents, breast cancer, or AIDS. In addition to this terrible human toll, medical errors result in annual costs of \$3.5 billion in the United States. Moreover, fear of becoming a victim of medical error may lead patients to delay obtaining potentially beneficial medical care, which may allow their illnesses to worsen.

To Err is Human brought medical errors and patient safety the attention they have long needed but never had. The information presented in the report is not new. Many studies, some nearly fifty years old, have shown that patients were frequently injured by the same medical care that was intended to help them. The two key studies on medical error, conducted by Brennan and colleagues in 1991 and Thomas in 1999, suggested that adverse events occur to approximately 3 to 4 percent of patients.

Many of these adverse events are associated with the use of pharmaceuticals, and are potentially preventable. Each year, patients in the United States experience at least 1.5 million preventable injuries due to medication errors, according to the findings of an Institute of Medicine analysis. The report, released in July 2006 estimated that these preventable adverse drug events would add up to about \$3.5 billion in additional hospitalization costs this year, excluding the economic burden of lost wages and productivity. One study found that each preventable adverse drug event (ADE) that took place in a hospital added about \$8,750 (in 2006 dollars) to the cost of the hospital stay. All of us can recall at least one or two sensational stories in newspapers, on television, or in magazine articles of a tragic medical error that has forever changed the life of the victim and his family. The perception of medical errors among health care providers and the public has been shaped over the years primarily by such anecdotal reports in the popular press, and the proposed remedies have generally focused on fixing blame on individual providers, including health plans, hospitals, doctors, pharmacists, nurses, and other caregivers. However, the IOM report concludes that the majority of medical errors are the result of systemic problems rather than poor performance by individual providers, and thus has spawned a whole new approach to preventing medical mistakes and improving patient safety.

Defining & Recognizing Medical Errors

An error is defined as the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. Errors can include problems in practice, products, procedures, and systems. Errors are important because of their

potential effect on patient safety. The enhancement of patient safety thus encompasses three related activities: preventing errors, making errors visible, and mitigating the effects of errors.

Not all bad outcomes for patients are due to medical errors. Patients may not be cured of their disease or disability despite the fact that they are provided optimal care. Likewise, not all adverse events that are the result of medical care are, in fact, errors. An adverse event is defined broadly as an injury that was caused by medical management and that resulted in measurable disability. Some adverse events result from a complication that cannot be prevented given the current state of knowledge. For example, many drugs, even when used appropriately, have a chance of side effects, such as nausea from administration of a chemotherapy agent. A bout of severe nausea would be an adverse event, but it would not be considered a medical error to have given the chemotherapy medication if it was otherwise indicated for the patient's treatment. Medical errors are adverse events that are preventable with our current state of medical knowledge.

Consideration of errors is usually expanded beyond preventable adverse events that lead to actual patient harm to include near misses, also sometimes referred to as close calls. A near miss is an event or situation that could have resulted in an accident, injury, or illness, but did not, either by chance or through timely intervention. Experience in other industries, including aviation, manufacturing, and nuclear energy, demonstrates that there is as much to learn from close calls as there is from incidents leading to actual harm.

The process by which medical errors are identified and addressed varies from institution to institution. However, many facilities utilize an approach called root cause analysis. This tool is part of an overall process for identifying prevention strategies by focusing on changes that need to be made to health care delivery systems. Root cause analysis involves those who are most familiar with the problem situation and encourages them to dig deeper and deeper into the problem by asking "why" at each stage of cause and effect. Human factors as well as the impact of related processes and systems are taken into account. The immediate goal of the root cause analysis is to generate specific prevention strategies, but it also is designed to foster a culture of safety in the organization that uses it. The technique is used in the Veterans Health Administration hospitals and clinics around the country. It has also been recommended for use in conjunction with the evaluation of sentinel events to be reported to the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

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Factors Contributing to Medical Errors

The rate of health care errors is far higher than the error rate in the other industries listed above, which also rely on systems that include the interaction of humans and technology to perform a number of functions leading to an outcome. Although there are similarities, health care is distinct in its complexity. For example, Leape noted in 1994 that a patient in an intensive care unit is the recipient of an average of 178 different activities performed per day that rely on the interaction of monitoring, treatment, and support systems.

The decentralized and fragmented nature of the American health care industry also contributes to the problem of errors, as can be illustrated by the process of prescription and delivery of medications. The medication process requires the successful completion of at least five interdependent steps: ordering, transcribing, dispensing, delivering, and administering. Poor system design can create numerous opportunities for error in any one of these steps.

Organizational factors may also contribute significantly to the occurrence of medical errors. Within many hospitals, departments are only loosely linked, and communications between primary care doctors and medical specialists are notoriously poor. As a result, information on problems, as well as improved practices to reduce errors and enhance safety, in one department or one facility do not migrate quickly to others. The variety of settings in which health care is provided (including hospitals, nursing homes, clinics, ambulatory surgery centers, private offices, and patients' homes) and the transitions of patients and providers among them provide additional challenges.

Errors may be especially difficult to recognize in health care because variations in individuals' responses to treatment are expected. Medical professionals may not recognize that a particular product or procedure contributed to or caused the problem because the patient is already ill, the product is not expected to work perfectly at all times, or the event appears unrelated to the product or procedure. Lack of recognition of a service's role in adverse events reduces reporting of the association and the opportunity to learn from previous experiences with the product. Because medical errors usually affect only a single patient at a time, they are treated as isolated incidents, and little public attention is drawn to these problems when compared with aviation or nuclear power accidents. Health care errors are also underreported due to liability and confidentiality concerns.

Perhaps the greatest barrier to the improvement of patient safety through reduction of medical error, however, has been due to the professional culture within the health care

community. Adverse medical events have existed since the beginning of organized medical practice, but may not have been recognized at the time of their occurrence. When errors were recognized, they were almost invariably attributed to lapses by individual practitioners, and the naming, blaming, and shaming approach to dealing with errors limited effective problem resolution.

The IOM report makes it clear that the majority of medical errors today are not produced by provider negligence, lack of education, or lack of training. Rather, errors occur in our health care systems due to poor systems design and organizational factors, much as in any other industry. For example, health care workers are sometimes expected to work 24-hour shifts to ensure patients are cared for and have some continuity of care, although it is known that overwork and fatigue lead to decreased mental concentration and alertness. They are expected to rely on their memories and deliver safe care without substantial investments in information technology or even the simple application of checklists. They often deliver care through a set of complex processes, although industry has shown that the probability of performing a task perfectly decreases as the number of steps in the process increases. Finally, they are expected to work in a climate where one error, even if not preventable, may mean a catastrophe or the end of a career. Improvement of the systems by which medicine is practiced will therefore be necessary to reduce the incidence of medical error.

Common Problem Areas and Possible Solutions

Medication Errors

One of the major areas of medical error is the improper administration of medications. The IOM estimates that preventable medication errors result in more than 7000 deaths each year in hospitals alone, and tens of thousands more in outpatient facilities. In some instances the errors originate with the order itself: it may be illegible, incomplete (e.g., 650 mg Tylenol - no route, no frequency indicated), or blatantly incorrect (5 mg Lanoxin po, qd, when in reality only 0.5 mg was meant).

Name confusion is another common cause of drug related errors. For example, the antiepileptic drug Lamictal has often been confused for the antifungal drug Lamisil. The volume of errors involving the two drugs was so large that Glaxo Wellcome, Lamictal's manufacturer, launched a campaign to warn pharmacists of possible errors. There have also been well over 100 reports of confusion among the arthritis drug Celebrex, the anticonvulsant Cerebyx, and the antidepressant Celexa; fortunately none of these has resulted in serious harm to a patient.

Under the FDA's authority to regulate drug labeling, the agency evaluates medicine brand names and works with the drug company to change the product's name if necessary to avoid confusion. FDA is also developing new standards to prevent name confusion, and to reduce similar-appearing drug packaging.

Some medical centers have begun using computer programs and other systems supports to double-check care decisions by doctors and nurses. Even simple computer systems that replace handwritten prescriptions with electronic ones have resulted in substantial error reductions. Bar coding systems have been developed in which the patient, nurse, and medication have ID strips which can be scanned to verify that the drug is being given correctly and will not cause drug interactions. Also, storage of concentrated potassium chloride, large containers of insulin, and other potentially hazardous medications is now recommended well away from patient care areas. Still, the vigilance of the health care provider is often key to the medication process. One of the many ways a nurse is expected to safeguard a patient is to know all about the medications to be administered. This knowledge includes the medication name, action, use, dose, route, elimination, side effects, contradictions, and nursing considerations. If the nurse is unsure about any of these points, the answer should be obtained before the medication is administered.

Other nursing considerations include teaching the patient about the medications he is receiving, administering only those medications which you have personally prepared, taking a thorough drug history to include allergies, and being aware of potential drug-drug and drug-food interactions. Medication errors and idiosyncratic reactions should be noted on an incident report and in the nurse's notes, and the physician and the supervisor should be informed.

Special Populations

Children have been shown to be particularly vulnerable to medication errors. Such errors have been shown to be common in pediatric hospital settings, with the rate for potential adverse drug events three times higher for children than for adults. Doses of children's medications are determined by weight, and the extra calculations involved leave room for possible error. Also, few drugs have been specifically tested for pediatric use, so physicians often must estimate dosages in order to treat children. It may be difficult to get children to cooperate adequately with various aspects of care. Lack of familiarity among health care providers with standards of care for rare pediatric illnesses may also lead to medical error.

The elderly also seem to be particularly vulnerable to medical error; this has been attributed to the increased complexity of their care rather than to any systemic discrimination against provision of good care to this age group. As

with most patient populations, a major source of adverse events in the elderly is medication error. Cardiovascular drugs are the leading class of drugs that produce adverse drug reactions in the elderly, followed by central nervous system active agents, nonsteroidal anti-inflammatory drugs (NSAIDs), endocrine agents, anti-infectives, gastrointestinal agents, respiratory agents, and blood formation and coagulation agents. Surprisingly, warfarin, despite its narrow therapeutic index, causes the lowest number of adverse drug events. Polypharmacy is a significant concern in the care of elderly patients and can lead to hospitalizations for gastrointestinal bleeds, falls resulting in fracture, low blood sugars, and dehydration.

The Patient Safety and Quality Improvement Act of 2005

This Act, was signed into law in 2005, in response to growing concern about patient safety in the United States. It creates Patient Safety Organizations (PSOs) to collect, aggregate, and analyze confidential information reported by health care providers.

Currently, patient safety improvement efforts are often hampered by the fear of discovery of peer deliberations, resulting in under-reporting of events and an inability to combine sufficient patient safety event data for analysis. By analyzing patient safety event information, PSOs will be able to identify patterns of failures and propose measures to eliminate patient safety risks and hazards. It encourages voluntary reporting of errors without fear of retribution.

Data, stripped of identifiers, will be maintained by public or private entities. The analysis of the information collected will be used to improve medical systems and practice. This is a common-sense law that gives legal protections to health professionals who report their practices to patient safety organizations. By providing critical information about medical procedures, health care professionals can help others learn from their experiences.

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Processes for Improving Patient Outcome

The experience of health care organizations since publication of the IOM report has led to some consensus on the necessary components of effective error prevention systems. The foundation for such systems needs to rest on thoughtfully developed programs within local health care organizations, managed and directed by local personnel. These programs should be

complemented by coordinated, external support and guidance from Federal, State, and non-governmental agencies and organizations.

Specifically designated personnel within each health care setting should be charged with the tasks of:

- identifying and monitoring the occurrence of errors, and developing an understanding of their root causes, especially those that are preventable
- analyzing, interpreting, and disseminating data to clinicians and others in a position to effect changes within the organization
- implementing error reduction strategies based on analysis and restructuring of health care systems
- seeking input as needed from experts with clinical, epidemiologic, and management
- training and experience for technical support and investigatory assistance
- evaluating the impact of these programs on patient safety

Reporting Responsibilities

Currently, several databases exist that collect information on specific types of errors, such as the Center for Disease Control and Prevention's hospital acquired infections reporting systems, the Food and Drug Administration's adverse drug and device event reporting systems, and JCAHO's sentinel event system. Individual institutions or health care systems may have their own internal data collection system, such as that at the Veterans Health Administration. A number of states have also implemented systems for facilities within their boundaries. Unfortunately, all of these systems have been limited by under-reporting of adverse events, and the problem is especially severe for systems designed to hold organizations or individuals accountable for bad outcomes. In order for any system for reduction of medical errors to be effective, it is essential that errors be reported and evaluated. Effective programs need to incorporate protection from legal discovery and liability, which cause errors to be concealed.

Basic tenets of a successful reporting system are that those who report must feel safe in doing so and that their confidentiality must be protected. Reporting systems in which these factors are missing are generally unsuccessful in obtaining data, inaccurate, and incomplete. The question "Who did it?" is not important. However, it is critical to find out what happened, why it happened, and how it can be prevented in the future.

The IOM recommends a two-tier error reporting system: a nationwide, state-based system that includes mandatory reporting of mistakes that result in death or serious injury, and a voluntary

reporting system for other medical mistakes, including those so-called close calls or near misses. Considerable support exists for Federal and State legislation that protects provider and patient confidentiality, while safeguarding the legal remedies of those whose health has been harmed.

The Role of the Patient in Prevention of Medical Errors

Well-informed patients are key participants in the effort to enhance the quality and safety of American health care. The right question from a patient at the right time may be the intervention that averts an error. Initiatives have been undertaken to encourage programs geared to education of the individual patient as well as the public at large.

An example of the latter is the Food and Drug Administration's "Take Time to Care" program, a national public awareness campaign about safe medicine use. The only campaign of its kind in the U.S., the program targets women with a critical message: Use Medicines Wisely. Women were chosen as the primary audience for the campaign because they often dispense medications to family members, and women over 45 use more medicines than any other group. In addition to disseminating safety information through consumer literature and the media, the program promotes local, interactive educational sessions led by pharmacists and other health professionals throughout the country. In just over four years, the program has grown from a small grass roots effort into a massive national health campaign that reaches millions of women. More than 80 nonprofit and corporate supporters are involved, as well as thousands of chain drug stores across the country.

The Federal Agency for Healthcare Research and Quality tools. This patient fact sheet covers ways for the patient to reduce risks associated with medicines, hospital stays, and surgeries, as well as other useful recommendations. A copy of the fact sheet is provided as an Appendix to this course.

Suggested Readings

A particularly useful summary of the problem of medical errors and possible solutions is provided in the Quality Interagency Task Force's Report to the President on Medical Errors at <http://www.quic.gov/report/index.htm>, and portions of this document were adapted for presentation in this course. Other sources of information include:

Avery J, Beyea SC, Campion P "Active error management: use of a Web-based reporting system to support patient safety initiatives." *J Nurs Adm* 2005 Feb; 35(2): p81-5

Banja J Medical errors 101: a primer. *Case Manager* 2005 May-Jun; 16(3): p57-9

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Hader R "Best-practice protocols: get your board on board." *Nurs Manage* 2007 Jun; 38(6): p32-6;

Hastings C "Reduce errors with computerized prescriber order entry." *Nurs Manage* 2006 Dec; 37(12): p68

Kendig S, Adkins-Bley K, Carson-Smith W, et al. "Patient safety. Expert roundtable discussion." *AWHONN Lifelines* 2006 Jun-Jul; 10(3): p218-24

Mewshaw MR, White KM, Walrath "J Medical errors: where are we now?" *Nurs Manage* 2006 Oct; 37(10): p50-4

Moss E, Maxfield D "Crucial conversations for healthcare: how to discuss lack of support, poor teamwork, and disrespect, Part II of III." *Prof Case Manag* 2007, Mar-Apr; 12(2): p112-5

Morrow S "Good nurse-bad nurse." *Am J Nurs* 2007 Jul; 107(7): p15

Ulanimo VM, O'Leary-Kelley C, Connolly PM "Nurses' perceptions of causes of medication errors and barriers to reporting." *J Nurs Care Qual* 2007 Jan-Mar; 22(1): p28-33

Veronica A "Electronic health records." *Am J Nurs* 2007 Jun; 107(6): p16

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MY NOTES

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Patient Medical Errors Fact Sheet

Adapted from information obtained by the Agency for Healthcare Research and Quality, Rockville, MD.

What are Medical Errors?

Medical errors happen when something that was planned as a part of medical care doesn't work out, or when the wrong plan was used in the first place. Medical errors can occur anywhere in the health care system.

They can happen during even the most routine tasks, such as when a hospital patient on a salt-free diet is given a high-salt meal.

Most errors result from problems created by today's complex health care system. But errors also happen when doctors and their patients have problems communicating.

What Can You Do? Be Involved in Your Health Care

The single most important way you can help to prevent errors is to be an active member of your health care team. That means taking part in every decision about your health care. Research shows that patients who are more involved with their care tend to get better results. Some specific tips, based on the latest scientific evidence about what works best, follow.

Medicines

- Ask for information about your medicines in terms you can understand both when your medicines are prescribed and when you receive them.
- What is the medicine for?
- How am I supposed to take it, and for how long?
- What side effects are likely?
What do I do if they occur?
- Is this medicine safe to take with other medicines or dietary supplements I am taking?
- What food, drink, or activities should I avoid while taking this medicine?

Other Steps You Can Take

- **Speak up if you have questions or concerns.** You have a right to question anyone who is involved with your care.
- Make sure that **someone, such as your personal doctor, is in charge of your care.** This is especially important if you have many health problems or are in a hospital.
- Make sure that **all health professionals involved in your care have important health information about you.** Do not assume that everyone knows everything they need to.
- Ask a **family member or friend to be there with you and to be your advocate** (someone who can help get things done and speak up for you if you can't). Even if you think you don't need help now, you might need it later.
- Know that **more is not always better.** It is a good idea to find out why a test or treatment is needed and how it can help you. You could be better off without it.
- If you have a test, **don't assume that no news is good news.** Ask about the results.
- **Learn about your condition and treatments** by asking your doctor and nurse and by using other reliable sources. For example, treatment recommendations based on the latest scientific evidence are available from the National Guidelines Clearinghouse at <http://www.guideline.gov>. Ask your doctor if your treatment is based on the latest evidence.

Five Steps to Safer Health Care

Adapted: Five Steps to Safer Health Care. Patient Fact Sheet. AHRQ Publication Number 04-M005, February 2004. Agency for Healthcare Research and Quality.

This fact sheet tells what you can do to get safer health care. It was developed by the U.S. Department of Health and Human Service in partnership with the American Hospital and the American Medical Association.

1. Ask questions if you have doubts or concerns. Ask questions and make sure you understand the answers. Choose a doctor you feel comfortable talking to. Take a relative or friend with you to help you ask questions and understand the answers.

2. Keep and bring a list of ALL the medicines you take. Give your doctor and pharmacist a list of all the medicines that you take, including non-prescription medicines. Tell them about any drug allergies you have. Ask about side effects and what to avoid while taking the medicine. Read the label when you get your medicine, including all warnings. Make sure your medicine is what the doctor ordered and know how to use it. Ask the pharmacist about your medicine if it looks different than you expected.

3. Get the results of any test or procedure. Ask when and how you will get the results of tests or procedures. Don't assume the results are fine if you do not get them when expected, be it in person, by phone, or by mail. Call your doctor and ask for your results. Ask what the results mean for your care.

4. Talk to your doctor about which hospital is best for your health needs. Ask your doctor about which hospital has the best care and results for your condition if you have more than one hospital to choose from. Be sure you understand the instructions you get about follow up care when you leave the hospital.

5. Make sure you understand what will happen if you need surgery. Make sure you, your doctor, and your surgeon all agree on exactly what will be done during the operation. Ask your doctor, "Who will manage my care when I am in the hospital?" Ask your surgeon: "Exactly what will you be doing?
About how long will it take?
What will happen after the surgery?
How can I expect to feel during recovery?"

Tell the surgeon, anesthesiologist, and nurses about any allergies, bad reaction to anesthesia, and any medications you are taking.

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Instructions to the learner:

▶ The questions are to be answered either A, B, C, or D.
There is only one correct answer.

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1. According to the course, fear of becoming a victim of medical error may lead patients to:
 - A. delay obtaining potentially beneficial medical care
 - B. sue health care providers for not prescribing enough medication
 - C. demand liability coverage be included in their health insurance
 - D. lobby for more governmental control of the health care system
2. Key studies of medical errors performed during the 1990s found that medical errors occurred in what percentage of patients?
 - A. 1 to 2%
 - B. 3 to 4%
 - C. 5 to 6%
 - D. over 10%
3. Adverse events associated with the use of pharmaceuticals are:
 - A. at an all time low due to increased government oversight
 - B. potentially preventable in many instances
 - C. inevitable due to the proliferation of newer and more powerful pharmacological agents
 - D. primarily due to the carelessness of individual health care providers
4. Errors are failures of a planned action to be completed as intended, or the use of a wrong plan to achieve an aim. Errors can include problems with:
 - A. practice
 - B. products
 - C. systems and procedures
 - D. all of the above
5. Which of the following events should be considered a medical error?
 - A. a patient dies of congestive heart failure despite optimal care
 - B. a chemotherapy patient experiences severe nausea, a common side effect of the medication given
 - C. a patient was administered an antidepressant instead of an anticonvulsant with a similar name
 - D. all of the above
6. A commonly used process for the identification of error prevention strategies by focusing on changes needed in health care delivery systems is called:
 - A. root cause analysis
 - B. human factors assessment
 - C. close call evaluation
 - D. analysis of variance
7. All of the following factors are likely to contribute to the occurrence of medical errors **EXCEPT**:
 - A. poor communication among primary physicians and medical specialists
 - B. variations in patients' responses to treatment
 - C. increased autonomy of nurses in most health care settings
 - D. the overall complexity of the health care industry
8. An example of a systems design or organizational factor that might contribute to the occurrence of medical errors is the:
 - A. negligence of individual providers
 - B. number of steps in a complex patient care task
 - C. assignment of staff to teams for care delivery
 - D. tendency to regard health care as a business
9. Steps that have been recommended to reduce medication errors include:
 - A. bar code systems to verify drug and dose
 - B. FDA standards to prevent name confusion and reduce similar-looking packaging
 - C. storage of potentially hazardous medications away from patient care areas
 - D. all of the above
10. Nurses can safeguard patients from medication errors by:
 - A. administering only those medications that they have personally prepared
 - B. taking a thorough drug history, including allergies
 - C. watching for potential drug-drug and drug-food interactions
 - D. all of the above
11. The leading class of medications that produce adverse drug reactions in the elderly are:
 - A. CNS active agents
 - B. NSAIDS
 - C. cardiovascular drugs
 - D. antibiotics
12. What Act was signed into law in response to growing concern about patient safety in the U.S.?
 - A. The JCAHO Bill of Patient Rights 2006
 - B. The Patient Safety & Quality Improvement Act 2005
 - C. The Institute of Medicine Act of Safer Health
 - D. The Protecting Lives from Harm Campaign of 2005
13. Necessary components of effective error prevention systems include:
 - A. Thoughtfully developed programs within local healthcare organizations.
 - B. External support from Federal, State and non-governmental agencies.
 - C. Specifically designated personnel to handle the identifying and monitoring occurrence of errors.
 - D. All of the Above are necessary components of effective error prevention.
14. The most critical component of a successful medical error reporting system is:
 - A. state and Federal monitoring of local hospitals' systems
 - B. mandatory reporting of "close calls" as well as mistakes that result in serious injury or death
 - C. utilization of clinical and management experts from outside the system
 - D. protection of the safety and confidentiality of those who report errors
15. The "Take Time to Care" program is an example of:
 - A. federally subsidized inservice training for health care providers
 - B. a consumer-oriented public awareness campaign on safe medication use
 - C. a way to encourage pharmacists to provide more detailed patient education to the elderly
 - D. an incentive program for hospitals to increase staff to patient ratios

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