

***Handbook of Informatics for Nurses & Health Care Professionals, 6e (Hebda)***  
**Chapter 1 An Overview of Informatics in Healthcare**

1) A large healthcare organization is planning to implement a clinical information system. What should be considered when selecting this system?

- A) Training on the system should be limited.
- B) Nursing staff documentation needs are the priority.
- C) The organization needs to meet multiple competing demands.
- D) Laboratory data and pharmacy integration is considered nonessential.

Answer: C

Explanation: A) No evidence supports limiting training on the system.

B) Every department in a large healthcare organization has an essential role in patient care.

C) The healthcare organization today is a complex system faced with multiple, competing demands.

D) Every department in a large healthcare organization has an essential role in patient care.

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Cognitive Level: Applying

Client Need & Sub: Safe and Effective Care Environment: Management of Care

Standards: QSEN Competencies: VI.A.1. Explain why information and technology skills are essential for safe patient care | AACN Essential Competencies: IV.7. Recognize the role of information technology in improving patient care outcomes and creating a safe care environment | NLN Competencies: Quality & Safety | Nursing/Integrated Concepts:

Assessment/Communication and Documentation

Learning Outcome: Provide an overview of the current state of healthcare delivery.

2) The leadership team of a multisystem healthcare organization are analyzing potential clinical documentation systems. Which demands should the team keep in mind when selecting the system? Select all that apply.

- A) Adopting new models of care
- B) Eliminating disparities in care
- C) Financing the system
- D) Evolving roles for practitioners
- E) Ensuring quality, safety, and transparency

Answer: A, B, D, E

Explanation: A) The healthcare delivery system today is a complex system faced with multiple, competing demands. Among these demands are the need to adopt new models of care.

B) The healthcare delivery system today is a complex system faced with multiple, competing demands. Among these demands are efforts to eliminate disparities in care.

C) The healthcare delivery system today is a complex system faced with multiple, competing demands. Financing the system is not an identified demand.

D) The healthcare delivery system today is a complex system faced with multiple, competing demands. Among these demands are evolving roles for practitioners.

E) The healthcare delivery system today is a complex system faced with multiple, competing demands. Among these demands are the need for quality, safety, and transparency.

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Learning Outcome: Provide an overview of the current state of healthcare delivery.

3) The leadership team of a multisystem healthcare organization is hesitant to agree that the current electronic medical record should be replaced with one that would integrate information throughout the entire system. For which reasons should the organization update the system?

Select all that apply.

- A) Decrease costs
- B) Reduce staff turnover
- C) Improve communication
- D) Enable the delivery of safe quality care
- E) Ensure care is provided in an effective, efficient manner

Answer: A, C, D, E

Explanation: A) Technology is a pervasive part of every aspect of society, including healthcare delivery. Health information technology (HIT) provides the tools to decrease costs.

B) Technology is a pervasive part of every aspect of society, including healthcare delivery. Health information technology (HIT) is not identified as a mechanism to reduce staff turnover.

C) Technology is a pervasive part of every aspect of society, including healthcare delivery. Health information technology (HIT) provides the tools to improve communication.

D) Technology is a pervasive part of every aspect of society, including healthcare delivery. Health information technology (HIT) enables the delivery of safe, quality care.

E) Technology is a pervasive part of every aspect of society, including healthcare delivery. Health information technology (HIT) ensures care is provided in an effective, efficient manner.

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Learning Outcome: Discuss the role that technology plays in healthcare.

4) A healthcare provider practice associated with a multisystem healthcare organization uses paper documentation for patient notes and stores laboratory data in the electronic health record. What does this process exemplify?

- A) Resistance to change
- B) Insufficient number of electronic devices
- C) Slow to use technology to its full potential
- D) Limited time to learn the electronic system

Answer: C

Explanation: A) The healthcare sector has been slow to adopt and use technology to its full potential. This may or may not be due to resistance to change.

B) The healthcare sector has been slow to adopt and use technology to its full potential. This may or may not be due to an insufficient number of electronic devices.

C) The healthcare sector has been slow to adopt and use technology to its full potential. This is viewed as being due to the complexity of healthcare delivery.

D) The healthcare sector has been slow to adopt and use technology to its full potential. This may or may not be due to the time required to learn the electronic system.

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Assessment/Communication and Documentation

Learning Outcome: Discuss the role that technology plays in healthcare.

5) The informatics nurse is preparing a presentation for new nursing staff. Which definition should the nurse use when explaining informatics to these colleagues?

- A) A subspecialty of nursing that focuses on training in the use of computers
- B) A specific area of medicine that highlights the importance of technology in patient care
- C) A profession that is seeking an identity separate from medicine, nursing, or other behavioral sciences
- D) An interdisciplinary field that includes computer, decision, information, management, and cognitive sciences

Answer: D

Explanation: A) Informatics is not a subspecialty of nursing that focuses on training in the use of computers.

B) Informatics is not a specific area of medicine that highlights the importance of technology in patient care.

C) Informatics is not a profession that is seeking an identity separate from medicine, nursing, or other behavioral sciences.

D) The American Medical Informatics Association states that informatics is an interdisciplinary field that draws from, as well as contributes to, computer science, decision science, information science, management science, and cognitive science.

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Planning/Teaching/Learning

Learning Outcome: Provide a definition for informatics.

6) The nurse is considering attending a program that focuses on informatics. On which field will the curriculum most likely be based?

- A) Clinical informatics
- B) Public health informatics
- C) Translational bioinformatics
- D) Consumer health informatics

Answer: A

Explanation: A) Clinical informatics focuses on the delivery of timely, safe, efficient, effective, evidence-based, and patient-centered care. Nursing informatics is an example of this field.

B) Public health informatics focuses on surveillance, prevention, health promotion, and preparedness.

C) Translational bioinformatics focuses on the storage, analysis, and interpretation of large volumes of data.

D) Consumer health informatics focuses on the consumer, or patient, view and the structures and processes that enable consumers to manage their own health.

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Assessment/Teaching/Learning

Learning Outcome: Provide a definition for informatics.

7) The nurse is preparing a white paper, explaining how informatics supports the use of data. Which example should the nurse include that demonstrates a structure for data use?

- A) Care plans
- B) Concept map
- C) Nursing process
- D) Nursing diagnosis

Answer: D

Explanation: A) Care plans are not identified as a structure to use data.

B) Concept maps are not identified as a structure to use data.

C) The nursing process is a problem-solving approach to provide patient care. It is not a structure to use data.

D) To be useful, data and information must be available when needed and in a form that can be analyzed or used. Improved communication among professionals requires the adoption of standardized languages and terminologies. An example of a standardized language is NANDA, which provides standardized terms for nursing diagnoses.

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Planning/Teaching/Learning

Learning Outcome: Discuss the significance of informatics for healthcare.

8) The informatics nurse is focusing on the analysis of big data. What would be an expected outcome of this analysis? Select all that apply.

- A) Support decisions
- B) Recommend actions
- C) Enhance staff satisfaction
- D) Forecast the likelihood of an event
- E) Improve patient perception of care providers

Answer: A, B, D

Explanation: A) Real-time analytics use current data from multiple sources to support decisions.  
B) Analysis of big data, or analytics, looks for patterns in data, then uses models to recommend actions.

C) Analysis of big data is not used to enhance staff satisfaction.

D) Analytics can be used to forecast the likelihood of an event.

E) Analytics is not used to improve patient perception of care providers.

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Cognitive Level: Applying

Client Need & Sub: Safe and Effective Care Environment: Management of Care

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Learning Outcome: Discuss the significance of informatics for healthcare.

9) The quality improvement committee is analyzing ways to prevent errors. Which approaches should this committee consider? Select all that apply.

- A) Checklists
- B) Automation
- C) Using big data
- D) Hand-off tools
- E) Standardization

Answer: A, B, D, E

Explanation: A) Steps to prevent errors in healthcare include checklists that can prevent slips and lapses.

B) Steps to prevent errors in healthcare include automation when possible.

C) Big data is not identified as a step to prevent errors in healthcare.

D) Steps to prevent errors in healthcare include using hand-off tools to improve communication.

E) Steps to prevent errors in healthcare include standardization.

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Cognitive Level: Applying

Client Need & Sub: Safe and Effective Care Environment: Safety and Infection Control

Standards: QSEN Competencies: VI.A.1. Explain why information and technology skills are essential for safe patient care | AACN Essential Competencies: IV.7. Recognize the role of information technology in improving patient care outcomes and creating a safe care environment | NLN Competencies: Quality & Safety | Nursing/Integrated Concepts: Planning/Communication and Documentation

Learning Outcome: Discuss the significance of informatics for healthcare.



10) The leadership team of a multisystem healthcare organization is strategizing ways to create a culture that values informatics. On which foundational skills should the team focus? Select all that apply.

- A) Health literacy
- B) Establish policies
- C) Computer literacy
- D) Information literacy
- E) Enforce competencies

Answer: A, C, D

Explanation: A) Health literacy is a foundational skill required for an information-driven culture and is the ability to understand and act upon basic healthcare information.

B) Policy establishment is a separate action that needs to be developed to create an information-driven culture.

C) Computer literacy is a foundational skill required for an information-driven culture. It is a term used to refer to the basic understanding and use of computers, software tools, spreadsheets, databases, presentation graphics, social media, and communication via email.

D) Information literacy is a foundational skill required for an information-driven culture. It is defined as the ability to read and understand the written word and numbers as well as the ability to recognize when information is needed.

E) Competency development and enforcement is a separate action that needs to be developed to create an information-driven culture.

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Cognitive Level: Applying

Client Need & Sub: Safe and Effective Care Environment: Management of Care

Standards: QSEN Competencies: VI.A.1. Explain why information and technology skills are essential for safe patient care | AACN Essential Competencies: IV.7. Recognize the role of information technology in improving patient care outcomes and creating a safe care environment | NLN Competencies: Quality & Safety | Nursing/Integrated Concepts: Planning/Communication and Documentation

Learning Outcome: Describe the process required to create an informatics culture.

11) The committee working on the implementation plan for the clinical information system is finalizing a policy to address responsibilities when safeguarding sensitive information. Which ethical values should the committee emphasize in this policy? Select all that apply.

- A) Justice
- B) Veracity
- C) Autonomy
- D) Beneficence
- E) Non-maleficence

Answer: A, C, D, E

Explanation: A) Justice refers to the standards practiced by healthcare professionals.

B) Veracity refers to telling the truth; however, it is not identified as a guiding principle for moral action with informatics.

C) Autonomy is the individual's freedom to control interferences by others, retaining a personal capacity for intentional action.

D) Beneficence refers to actions that result in positive outcomes in which benefits and utility are balanced.

E) Non-maleficence is the obligation to do no harm.

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Cognitive Level: Applying

Client Need & Sub: Safe and Effective Care Environment: Management of Care

Standards: QSEN Competencies: I.A.7. Explore ethical and legal implications of patient-centered care | AACN Essential Competencies: IV.8. Uphold ethical standards related to data security, regulatory requirements, confidentiality, and clients' right to privacy | NLN

Competencies: Personal & Professional Development | Nursing/Integrated Concepts: Planning/Caring

Learning Outcome: Describe the process required to create an informatics culture.

12) The nurse on the clinical information system committee is charged with locating information on technical infrastructure. Which federal agencies should the nurse research before the next committee meeting? Select all that apply.

A) The Joint Commission (TJC)

B) National Institutes of Health (NIH)

C) Centers for Medicare and Medicaid Services (CMS)

D) Agency for Healthcare Research and Quality (AHRQ)

E) Office of the National Coordinator for Health Information Technology (ONCHIT)

Answer: B, D, E

Explanation: A) TJC is not a federal agency that addresses technical infrastructure.

B) The NIH provides funding for research to improve health.

C) The CMS does not address technical infrastructure.

D) The AHRQ is a division of the U.S. Health and Human Services committed to research and evidence to improve the safety and quality of healthcare and to provide education for healthcare professionals that will enable them to improve care.

E) The ONCHIT was funded with a grant from the Public Health Service Act (PHSA) and provides electronic health record certification. Its structure includes multiple offices that are relevant for HIT.

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Cognitive Level: Applying

Client Need & Sub: Safe and Effective Care Environment: Management of Care

Standards: QSEN Competencies: VI.A.1. Explain why information and technology skills are essential for safe patient care | AACN Essential Competencies: V.4. Examine legislative and regulatory processes relevant to the provision of health care | NLN Competencies: Quality & Safety | Nursing/Integrated Concepts: Planning/Communication and Documentation

Learning Outcome: Describe the process required to create an informatics culture.

13) The clinical information system committee is finalizing health-information standards to safeguard collected data. Which categories of standards need to be addressed by this committee? Select all that apply.

- A) Process
- B) Content
- C) Transport
- D) Vocabulary
- E) Privacy/security

Answer: B, C, D, E

Explanation: A) Process is not a category of health-information data standards.

B) Content standards establish the structure and organization of the content.

C) Transport standards establish the format for exchange.

D) Vocabulary standards improve communication through the use of structured terms and facilitate the organization of data.

E) Privacy standards protect personal health information, whereas security standards provide administrative, physical, and technical actions that provide patient confidentiality as well as the availability and integrity of health information.

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Cognitive Level: Applying

Client Need & Sub: Safe and Effective Care Environment: Safety and Infection Control

Standards: QSEN Competencies: VI.A.1. Explain why information and technology skills are essential for safe patient care | AACN Essential Competencies: IV.3. Apply safeguards and decision-making support tools embedded in patient care technologies and information systems to support a safe practice environment for both patients and healthcare workers | NLN

Competencies: Quality & Safety | Nursing/Integrated Concepts: Implementation/Communication and Documentation

Learning Outcome: Discuss the significance of informatics for healthcare.

14) The nurse enters the room of a patient whose cardiac monitor alarm is sounding. Which action should the nurse take first?

- A) Greet the patient.
- B) Turn off the alarm.
- C) Look at the monitor.
- D) Check for lead placement.

Answer: A

Explanation: A) Electronic devices should not be a replacement for compassionate patient care. B) Turning off the alarm could harm the patient if it is not reset once the reason for the alarm is discovered.

C) Ignoring the patient when entering the room gives the impression that the machine is more important than the patient.

D) Immediately searching for lead placement before talking with the patient gives the impression that the machine is more important than the patient.

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Cognitive Level: Applying

Client Need & Sub: Safe and Effective Care Environment: Management of Care

Standards: QSEN Competencies: VI.A.1. Explain why information and technology skills are essential for safe patient care | AACN Essential Competencies: IV.2. Use telecommunication technologies to assist in effective communication in a variety of healthcare settings | NLN

Competencies: Relationship Centered Care | Nursing/Integrated Concepts: Assessment/Caring

Learning Outcome: Examine the relationship between technology, informatics, and caring.

15) While assessing a new patient, the nurse's phone rings. Which action should the nurse take to demonstrate caring?

- A) Answer the phone.
- B) Leave the patient's room.
- C) Place it on the windowsill.
- D) Apologize for the interruption.

Answer: D

Explanation: A) Limitations to building a trusting, caring relationship come when patients perceive the nurse as not caring or being distracted during interactions, such as answering the phone during a nurse-patient interaction.

B) Leaving the patient's room indicates that the phone call is more important than the patient.

C) Placing the phone on the windowsill is distracting to the nurse and patient.

D) Apologizing for the interruption is the best approach to demonstrate care.

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Cognitive Level: Applying

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Competencies: Relationship Centered Care | Nursing/Integrated Concepts: Assessment/Caring

Learning Outcome: Examine the relationship between technology, informatics, and caring.