

Health Management Information Systems

Unit 6 Patient Monitoring Systems

Objectives

- Describe the purpose, attributes, and functions
- Discuss the primary applications
- Analyze how the integration of data from many sources assists in medical decision making

m-Health Technology

- Patient monitoring systems
- Telehealth

Patient Monitoring Systems

- Patient monitor
 - “An instrument that collects and displays physiological data, often for the purpose of watching for, and warning against, life-threatening changes in physiological state.”

Shortliffe, E., Biomedical informatics: computer applications in health care and biomedicine

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Patient Monitoring Systems

- Patient monitoring
 - “Repeated or continuous measurement of physiological parameters for the purpose of watching for, and warning against, life-threatening changes in physiological state.”

Shortliffe, E., Biomedical informatics: computer applications in health care and biomedicine

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Purpose

- Assist providers with
 - Diagnostic decisions
 - Therapeutic choices
- Support decision-making
- Improve care delivery

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Attributes

- Instrument for monitoring
- Microcomputer
- Communication protocol
- Patient monitoring software
- Knowledge database
- Information exchange protocol

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Functions

- Monitors physiological data
- Capture raw data
- Process raw data
- Communicate data
- Display data

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Primary Applications

- Intensive/critical care units, operating suites, recovery rooms
- Other locations within the hospital
- Remote locations

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Primary Applications

- Application
 - Intensive/Critical Care Units, Operating Suites/Recovery Rooms
 - Example: bedside monitor
- Outcome
 - Strengthen the caregivers' clinical expertise
 - Reduces mortality risk

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Primary Applications



http://commons.wikimedia.org/wiki/File:BIS_JPN.jpg

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Primary Applications

- Application
 - Other hospital locations
 - Example: respiratory therapy
- Outcome
 - Facilitate early diagnosis and timely decisions

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Primary Applications

- Application
 - Remote
 - Glucometer
- Outcome
 - Better tracking of patient conditions, medication regimen adherence, and follow-up scheduling
 - Improves compliance

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Data Integration

- Automated aggregation and consolidation of information
 - Variety of disparate systems and sources
 - Across
 - Sites of care
 - Domains
 - Technologies

<http://www.impact-advisors.com/UserFiles/file/IA%20Whitepaper%20-%20HC%20Data%20Integrator%20Market%20Overview%202008030.pdf>

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Data Integration

- Use of wireless technology
- Physiological data with other clinical data
- Systems with algorithms help put into context the vast amount of data collected
 - Information distributed throughout the enterprise

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Summary

- Patient monitoring systems
 - Purpose
 - Attributes
 - Functions
- Primary applications
- Data integration
