

Component 6 -Health Management Information Systems

Unit 6-1 Patient Monitoring Systems

This material was developed by Duke University, funded by the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology under Award Number 1U24OC000024.

Objectives

- Describe the purpose, attributes, and functions of patient monitoring systems.
- Discuss ways in which automation can improve the quality of patient care.
- Analyze how the integration of data from many sources assists in making clinical decisions.

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*

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*

Purpose

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

Attributes

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

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Functions

- Monitors physiological data
- Captures raw data
- Processes raw data
- Communicates data
- Displays 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
 - Reduce mortality risk

Primary Applications

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

Primary Applications



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

Primary Applications

- Application
 - Remote
 - Glucometer
- Outcome
 - Better tracking
 - Patient conditions
 - Medication regimen adherence
 - 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
