Clinical Applications: Facility Based Dr. Laila M. Akhu-Zaheya

Outlines

- Applications for facility-based clinical practice
- Assessment?
- Documentation
- Planning
- Decision Support Systems
- Implementation
- Evaluation
- Summary

Applications for facility-based clinical practice

- … continue to be the fastest growing area of interest in NI

  - Clinical applications of NI are related to:

    - Assessment,
    - Planning,
    - Implementation,
    - Evaluation

Assessment

- Computerization helps when gathering & storing data about each patient.

- For example, assessment data can be physiological measures automatically charted through a patient monitoring system

- Other assessment data are added to the electronic patient record by departments such as the Lab & X-ray.

Assessment

- The largest source of assessment data is the ongoing nursing assessment. Including
  - *Patient Monitoring* (CCU, Pacemaker), computer use for:
    - Monitor ECG
    - Recognized Deviation
    - Alert about the deviation
    - hemodynamic & vital sign monitoring,
    - Calculation of physiological indices such as peripheral vascular resistance & CO,

Assessment, continue

- Automated approaches to patient monitoring allow nurses to focus their attention on pt., the family, & nursing process.

- It is now widely accepted that computerized cardiac monitoring of pts dramatically increases early detection of arrhythmias & contributes to decreased mortality of CCU patients.

Assessment, continue

- Additionally, many of these monitoring systems are integrated into decision support systems
  - ***Assessment Data from Other Departments***
    - **Lab, X-ray, pharmacy; nurses must be able to retrieve**

Assessment, continue

- ***Nursing-Generated Assessment Data***
  - Means gathering data and information about pts where it originates, with pt
  - Entering data wherever the pt is, increase the reliability; less chance of transcription errors than if the nurses copy data
  - To be feasible, nurses must be able to enter pt data from many places other than the nursing station.

Assessment, continue

Nursing-Generated Assessment Data...

- This need required a revolution in computer hardware

- Computer data entry must occur wherever pts found.

- This is called a "point of care" information system

Assessment, continue

- Goal of "point of care" system:
- To minimize time of documenting
- To eliminate redundancies & inaccuracies
- To improve the timeliness of data communication
- To optimize access to information
- To provide information required by the clinician to make the best possible patient care decisions

Assessment, continue

- Portable, real-time, communication device with many input options (e.g., touch, pen, voice) able to display pt. information as needed, & long battery life, is preferred.

Assessment, continue

- Now, most POC system rely on full-sized personal computers, workstations, bedside terminals, & some portable terminals
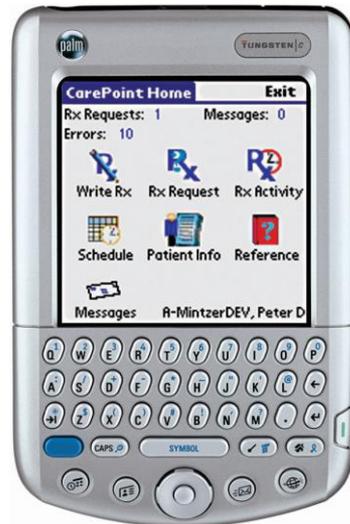
Assessment, continue

- Consider the following on adoption of POC systems:.
  - Must allow the nurse to interact with the main information system.
  - Must interface with the existing HIS
  - Must be open systems; allows machines from all vendors to communicate.

Assessment, continue

- Consider the following on adoption of POC systems :.
  - Must have a small footprint (take up a small amount of floor space).
  - Must be easy to use & must adapt to a variety of nursing environment.
  - Must be easily disinfected & cleaned between pts

Assessment, continue

- Consider the following on adoption of POC systems :.
  - For effective source data capture, the nurse must go wherever pt is.
  - To retrieve information using the POC, it must be represented in ways that can be quickly used & easily understood by nurses

Documentation

- Computer mediates documentation:.
    - Important for NI.
    - Good nurses' notes usually lengthy, narrative, handwritten, & unbiased observations.
    - At their worst, they are inaccurate, inconsistent, incomplete.
    - Automated methods for recording observations are some of the most readily available NI applications

Documentation….

- 2 approaches:.

    1- A computerized library of frequently used phrases arranged in subject categories.

    The nurse chooses the phrase or combination of phrases that best describes the pt's condition.
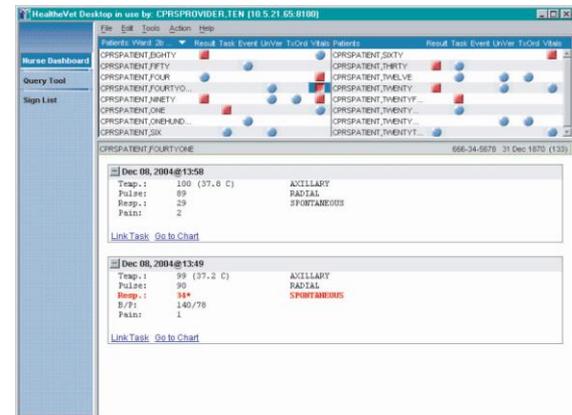
Documentation…..

2- Develop a "branching questionnaire."

- The terminal displays a list of choices, & the nurse selects her choice & indicates it by pressing the corresponding number on the keyboard or touching the terminal with a light-sensitive input device (called a light pen).

- The terminal then displays a further list of choices appropriate to the original selection.

- Thus, the nurse is led through a series of questions that can be "customized for each pt".

Advantages of Automated Documentation

- Content standardization: increased charting completeness & increased standardization, accuracy, & reliability of observations

- Improved standards compliance

- Increased efficiency

Advantages of Automated Documentation continue…

- Enhanced timeliness: less time spent writing notes, specifically end of-shift charting
- Expanded accessibility: data available on-line immediately & access not limited to one person at a time as with paper record
- Augmented data archive: ready statistical analysis & easier nursing audit because of the use of standard terminology

Planning

- Advantages of Automated Care Planning:
  - Time is saved by eliminating the need for daily handwriting of pt assignments & by decreasing the amount of verbal explanation required.
  - Accountability is increased because personnel have printouts of care plans for each of their pts.
  - Errors & omissions are decreased.

Planning, continue…

- Advantages of Automated Care Planning
  - Consistency of care from shift to shift & day to day is increased; quality of pt care improves.
  - Judgments for nursing care are no longer delegated to whoever walks into a room to care for the pt; they are the responsibility of the professional nurse who now has tools available to help make nursing judgments

Decision Support Systems

- Help nurses maintain and maximize their DM responsibilities and focus on highest priority aspects of pt care.

- A true DSS allows nurses to enter their assessments at the bedside using source data capture technology & then use the computer to analyze those assessments & recommend ND.

- The nurse then accepts or rejects the recommendations

Decision Support Systems

- Having accepted a particular ND, range of interventions acceptable in that agency or institution can be retrieved & presented by the computer.

- The nurse can then choose the nursing interventions appropriate for the pt

- Decision support systems can never replace the need for nurses with expert clinical and decision-making skills.

- DSS are not appropriate for all patient care settings or at all times. (i.e., Emergencies such as cardiac arrest)

Implementation

- Computers rarely help the nurse in the giving of care or nursing service.

- Generally, computers are used more in other phases of the nursing process.

- One example of how computers are used in intervention is the programmed administration of preloaded drugs in the ICU

Evaluation

- Computers can be used to evaluate nursing care through real-time auditing & quality management activities

Summary

- Nurses must respond to challenge to identify the data essential for decisions about patient care;

    "Nurses cannot leave the DM about nursing's essential retrievable data to vendors & other healthcare professionals; those decisions are part of the responsibilities that members of an autonomous profession must assume" (Werley, 1988, p. 431).

Summary

- Nurses must evaluate technology so it better serves their needs & the needs of their PT.

- Finally, it is the time to capture the immense collective knowledge of nurses to create the DSS that will lead to consistent, high-quality pt care & acknowledgment of our nursing expertise.