

COMPUTERS IN NURSING

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Computer is a technological aid in gathering information, storage, retrieval, processing and in making decisions. Computers can help in various aspects of clinical & nursing services. As technology advances in health care it promises the chance for more direct patient care by shortening the length of time for documentation and access to patient data quickly. Computer systems are developing to become more user friendly with bar codes, light pens, touch screens, handwriting and voice recognition applications, the promise seems to be closer.

Trends that are influencing the nursing profession

1. Surplus hospital capacity.
2. More doctors.
3. Excess medical and nursing education capacity.
4. Increasing gap between what is taught in nursing schools/colleges and what is needed in the hospital.
5. Insufficient and inefficient health information capacity.
6. Increasing numbers of both independent and dependent seniors.
7. Increasing customer demand for health services and disease management services.
8. Decreasing ability of health

professionals to establish monopolies via legislations.

9. Increasing ability of alternative health professionals to compete medical professionals.
10. Increasing requirements for health service professionals to be effective educators.
11. Too much clerical tasks leading to inefficiency in hospital administration and nursing care.

STRATEGIES FOR NURSING

1. Be clear about who the customers are.
2. Nursing diversification (medical, surgical, psychiatric, critical care, etc.)
3. Develop managerial and personal skills, clinical reasoning, problem solving and decision making.
4. Develop computing skills.
5. Develop computing applications.

Implementing Computers

- I) Installations
- II) Training
- III) Parallel testing
- IV) Going live
- V) Post-implementation evaluation.

Computers can help in following areas:

1. Planning Nursing Care:

Since each patient's and ward's nursing needs are different, computers can assist in effective plan-

ning. For each patient a nursing care plan can be constructed which will have all information about the health history of the patient, medicines to be administered, dosage, diet and therapies. This will help the physicians and surgeons, besides the nursing personnel to enhance the quality of care.

2. Monitoring and Interpreting Physiologic Variables

Eg. T.P.R., B.P., Cardiac rate, Rhythm, etc.

3. Administering medications

Computers assist in calculating drug dosage according to age, weight and body surface area of the patient.

4. Patient Classification System

Patients can be classified as per their acuteness with the help of the computer. Based on this, number of nursing personnel required can be computed.

5. Scheduling Staff

Work schedules can be prepared keeping in view the in patient and out patient load, acuteness, number of operations to be performed, camps to be conducted, staff location, preferences for shifts or availability of the consultants, policy guidelines, etc.

6. Record Keeping

All admissions, discharges, materials, equipment, person-

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nel; payroll, insurance, billing, inventories, referrals and all other information can be easily handled by the computer.

PERCEIVED BENEFITS AND IMPLICATIONS

1. Access to comparable, minimum nursing care.
2. Enhanced documentation of nursing care is provided.
3. Identification of problems of patients and nursing care provided.
4. Improved data for quality assurance evaluations.
5. Impetus to development and refinement of nursing information system.
6. Comparative research on nursing care referral for further nursing services.
7. Contributing towards advancing nursing as a research based discipline.

FOR STAFF NURSES

1. Accurate documentation of nursing care according to the nursing process model.
2. Facilitate continuity of care of patients.
3. Reduce errors.
4. Computers get relieved of routine documentation, clerical functions, reduce paper work, sparing more time with professional for patient care.
5. Easy access to valuable medical information.
6. Easy for job rotation.
7. Sets standards for procedures.

FOR NURSING ADMINISTRATORS AND ADMINISTRATION

1. Emphasize the need to mea-

sure nursing care and resources consumed.

2. Develop computerized nursing information systems.
3. Recognize the research needs.

MODULES OF HEALTH INFORMATION SYSTEM OF PATIENT

1. Patient record
2. Admission / discharge
3. Order entry/results reporting
4. Drug profile
5. Care planning
6. Personnel /staff planning
7. Financial

FACTORS THAT INHIBIT THE USE OF COMPUTERS IN NURSING PROFESSION

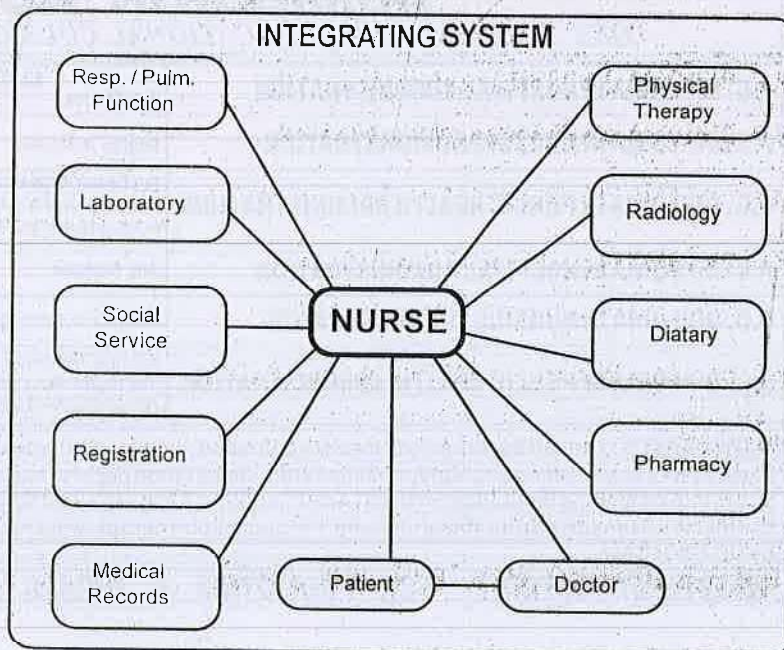
1. Faculty do not want to change
2. Faculty do not want to learn
3. Faculty's lack of opportunities to learn
4. Faculty's lack of skill
5. Hardware costs
6. Software costs

7. Lack of useful software
8. Lack of information about software
9. Lack of faculty time and interest
10. Lack of evaluative evidence of worth
11. Who should take responsibility of maintenance if problem arises?
12. In many hospitals physical environment is inadequate for computers
13. Wiring may be difficult in the existing structure

ELEMENTS OF THE NURSING DATA SET

1). Patient or client demographic elements:

1. Personal identifications
2. Date of birth or Age
3. Sex
4. Hobbies
5. Habits
6. Address
7. Diagnosis



II) Nursing Care Elements

1. Nursing diagnosis
2. Nursing intervention
3. Nursing outcome
4. Nursing intensity of nursing

3. Less dependence but more informed contacts
4. Broader basis for decisions
5. Shifts in tasks
6. Acceptance by staff

2. Nursing diagnosis
3. Nursing intervention
4. Nursing outcomes
5. Nursing intensity
6. Demographics.

III) Service Elements

1. Unique facility or service agency number
2. Unique health record & number of patients
3. Unique number of principals & R.N. provider.
4. Episode admission or encounter date
5. Discharge or termination date
6. Disposition of patient.

NURSING SYSTEM MANAGERS SHOULD PROMOTE

1. Ensuring adequate preparation of the nursing users
2. Encouraging involvement of nurses in system testing
3. Soliciting feedback from nurses and responding to concerns
4. Communicating with nursing staff during implementation
5. Providing support during the implementation period.

EFFECTS OF COMPUTER SYSTEMS ON HEALTH CARE

1. More users
2. Demands for standardised procedures

TASK FORCE

1. Nursing assessment

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