



Nursing Education and Research :

❖ Educational Preparation for Nursing Practice:

Educational preparation for the nurse has become a major issue in nursing. It involves several different types of programs that lead to **licensure** or the legal authority to practice as a nursing professional.

Students may choose to enter a **practical nursing program** and become a **licensed practical nurse (LPN)**, or they may enter a **diploma, an associate degree, or a baccalaureate program** to be licensed as a **registered nurse (RN)**.

Various levels of nursing education are providing programs for educational advancement. For example, the (LPN) can complete an associate degree and become an RN, and the RN prepared at the diploma or associate degree level can attain a bachelor of science in nursing (BSN) degree. There are also programs that provide RN-to-master's degrees as well as BSN and master's degree-to-PhD. Graduate programs in nursing provide masters and doctoral degrees.

In the United States, candidates must pass the National Council Licensing Examination (NCLEX) to obtain a license to practice nursing. In Canada, the licensing examination is administered by the Canadian Nurses Association Testing Service (CNATS). These examinations ensure the safe practice of nursing by setting minimum educational requirements and guaranteeing the graduate of the program.

❖ Types of Educational Programs for nurses:

1. Licensed Practical or vocational Nursing (LPN or LVN):

Practical (vocational) nursing programs were established to teach graduates to give bedside nursing care to patients. **Schools for practical nursing programs are located in varied settings, such as:** (High schools, Technical or vocational schools, Community colleges, and Independent agencies). Most programs are (1 year) in length, divided into one-third classroom hours and two-thirds clinical laboratory hours.

LPNs work under the direction of RN in the following activities:

1. To give direct care to patients,
2. Focusing on meeting healthcare needs in hospitals,



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3. Nursing homes, and
4. Home health agencies.

The Canadian equivalent to the LPN is a registered nurse's assistant (RNA).

2. Registered Nursing (RN):

Registered nurse candidates are graduates from programs that are state approved and, in many cases, accredited by national accrediting organizations.

RNs are prepared for entry into practice typically in three ways:

- a. Associate degree nursing programs,
- b. Hospital diploma programs, and
- c. Baccalaureate degree nursing programs.

a. Associate Degree:

In response to the nursing shortage that followed World War II, established the associate degree graduate as a technical nurse who would work under the supervision of a professional nurse. Associate degree programs are typically 2 years in length and are located in community colleges. Program content in associate degree has reflected basic skill preparation and has traditionally emphasized clinical practice in a hospital setting.

However, because of the decreasing demand for hospital beds, these students are likely to spend more clinical education hours in community-based institutions (ambulatory settings, schools, and clinics).

b. Diploma Programs:

Hospital-based diploma programs vary from 2 to 3 years in length and are often affiliated with colleges or universities. Diploma education has always been associated with providing nursing students with strong hospital-based clinical experience. With the decline in hospitalized clients, diploma programs have expanded their practice sites to include community-based services.

c. Baccalaureate Degree:

In the early 1900s, baccalaureate nursing programs were established in university settings in the United States and Canada to provide the students with a liberal arts education. The typical (4) year educational preparation provides the student with a Bachelor of Science degree in nursing (BSN). Most baccalaureate programs have special curriculum to accommodate RNs of associate degree and diploma programs to articulate to a BSN.

The major components of baccalaureate nursing education are:

- a. Liberal education,
- b. Professional values,

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- c. Core competencies (critical thinking, communication, assessment, and technical skills),
- d. Core knowledge, and
- e. Role development .

Table (1) the types of education for RNs.

	Diploma	Associate Degree	Baccalaureate
Location of study	Hospital	Community college	College or university.
Length of study	24-36 month	2 academic years.	4 academic years.
Course work	(Biologic science, Physical science, Nursing theory, Nursing practice).	(Basic science, Social sciences, General education, Nursing theory, Nursing practice).	(Basic science, Social sciences, General education, Nursing theory, Nursing practice, Nursing research, Community health, administration).
Clinical component	-Both hospitals and community settings.	-Both hospitals and community settings.	-A variety of settings in which healthcare and nursing care are provided.
Further education opportunity	- If affiliated with a college, may transfer some credit toward a bachelor of science in nursing (BSN) degree.	- Credits often apply toward a bachelor of science in nursing (BSN) degree.	- Base for advanced education at the masters and doctoral levels.
Competencies on graduation	- Plans and gives direct care to patients in structured settings. -Works with other healthcare team to provide care to ill patients.	-Plans and gives direct care to patients in structured settings. -Works with other healthcare team to provide care to ill patients.	-Plans and gives direct care to individual patients, groups and communities. -Directs other healthcare members and providing care to ill and well patients in a variety of settings. -Assumes beginning leadership roles, provides comprehensive healthcare including health promotion, illness prevention, and rehabilitative , educational, and health counseling.

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❖ **Postgraduate Programs:**

During the 1970s and 1980s, nurses wanting to expand their clinical practice in certain areas of specialization enrolled in postgraduate, non degree-granting programs. These programs, usually 9 to 12 months in length, include a formal course of study (didactic and clinical practice) and award a diploma or certificate on completion. The graduate, on successful completion of the program and national certification in the area of specialization (for example, midwife, neonatal nurse practitioner, and certified nurse anesthetist), can apply for recognition or licensure as an advanced practitioner with the state Board of Nursing.

❖ **Graduate Nursing Education:**

The master's degree in nursing allows nurses to expand their roles (educator, administrator, or advanced practitioner). Various master's degrees in nursing are offered by educational institutions of higher learning: Master of Arts (MA), Master in Nursing (MN), and Master of Science in Nursing (MSN). The program of studies exposes the student to advanced knowledge in the humanities, sciences, nursing theory, and specialization in an area of clinical practice.

Doctorate programs in nursing build on the master's preparation with emphasis on the application of research findings to clinical nursing. Doctoral programs confer a Doctorate of Science in Nursing (DSN) or Doctorate of Nursing in Science (DNSc) degree. the majority of current nursing doctorates are PhD degrees .

Advanced Practice:

Advanced practice RNs have acquired and demonstrated a knowledge base and the practical experiences to prepare them for specialization, expansion, and advancement in practice. Nursing organizations and regulatory agencies now recommend graduate education (master's degree) as preparation for advanced practice roles such as clinical nurse specialists, nurse anesthetists, and nurse midwives.

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Table (2) expanded educational and career roles of nursing

Title	Description
Clinical nurse specialist (infection control nurse, oncology nurse, medical-surgical nurse)	A nurse with an advanced degree, education or experience who is considered to be an expert in a specialized area of nursing carries out direct patient care, consultation, research, teaching of patients, families, and staff .
Nurse practitioner	A nurse with an advanced degree, certified for a special area or age of patient care, works in a variety of healthcare settings.
Nurse anesthetist	A nurse who completes course of study in an anesthesia school, carries out preoperative visits and assessments. Administers and monitors anesthesia during surgery, and evaluates postoperative status of patients.
Nurse –midwife	A nurse who complete a program in midwifery , provides prenatal and postnatal care, and deliver babies for women with uncomplicated pregnancies.
Nurse educator	A nurse, usually with advanced degree, who teaches in educational or clinical settings , teaches theoretical knowledge and clinical skills, conducts research.
Nurse administrator	A nurse who functions at various levels of management in healthcare settings, is responsible for the management and administration of resources and personnel involved in giving patients care.
Nurse researcher	A nurse, usually with advanced degree, who conduct research relevant to the definition and improvement of nursing practice and education.
Nurse entrepreneur	A nurse, usually with advanced degree, who may manage a clinic or health –related business, conduct research , provide education, or serve as an adviser or consultant to institutions, political agencies, or businesses.



❖ **Staff Development and Continuing Education.**

Once nurses are in practice, both staff development and continuing education are used to maintain the requisite knowledge and skill needed for modern practice in addition to a formal academic degree. Staff development typically occurs in the setting of employment and is described as the delivery of instruction to assist the nurse to achieve the goals and responsibilities of the employer.

Nursing staff development is a process of :

1. Orientation,
2. In-service education, and
3. Continuing education.

Orientation: is an important organizational tool for employment and retention. Orientation sessions typically occur at the initiation of employment and whenever positions and roles change. Content in orientation education unique to the institution of employment includes: (philosophy, goals, policies and procedures, role expectations, facilities, resources and special services, and assessment and development of competency with equipment and supplies used in the work setting).

In-service education: is that phase of the staff development process that occurs after orientation and supports the nurse in acquiring, maintaining, and increasing skills to perform assigned responsibilities for example, a specific nursing skill or how to use new equipment.

Challenging learning opportunities in the employment setting include:

- a. Technology development.
- b. Changing nature of health care and nursing science.
- c. Interdisciplinary practice.
- d. Changing delivery systems.
- e. New equipment and supplies.
- f. Enlarging roles of nursing related to leadership, management, delegation, supervision, and legal and ethical demands on practice .

Active orientation and in-service development for nurses is a critical element of a delivery system that holds high standards for quality of care delivery in a cost-effective manner.

Continuing education: offers both personal and professional growth to the nurse and may serve as an incentive to follow an academic degree. Continuing education builds on acquired knowledge, attitudes, and skills and constitutes an essential dimension of lifelong learning.



Research :

Research: is a systematic method of exploring, describing, explaining, relating, or establishing the existence of a phenomenon, the factors that cause changes in the phenomenon, and how the phenomenon influences other phenomena.

Research is conducted to validate and refine current knowledge or to develop new knowledge. The goals of research are to develop explanations (in theories) and to find solutions to problems.

Evidence-Based Practice: Nursing as a profession has always recognized the importance of research as an essential basis for its development. **Evidence-based practice** is the application of the best available empirical evidence that applies recent research findings to clinical practice in order to assist the provider's clinical decision-making.

Research Process:

The person conducting the research is called *researcher, investigator, or scientist*. When a researcher poses a problem or answers a question using the scientific approach, it is called *a study, an investigation, or a research project*. The people who are being studied are called *subjects or study participants*. Scientific research is mainly concerned with vehicles of thought defined as **concepts**. The process of developing and refining concepts is referred to as **conceptualization**

Methods of Conducting Nursing Research:

1. **Quantitative research:** involves the systematic collection of numerical information, often under conditions of considerable control, and the analysis of the information using statistical procedures.
2. **Qualitative research:** involves the systematic collection and analysis of more subjective narrative materials, using procedures in which there tends to be a minimum of researcher-imposed control.

The scientific method requires an exact, orderly, and objective approach of acquiring knowledge. Controlled methods are used to study problems and test the **hypothesis** (statement of an asserted relationship between two or more variables). A **variable** is anything that may differ from the norm. The two types of variables are independent and dependent. The **independent variable** (criterion variable) is that variable that is believed to cause or influence the **dependent variable**, which is the outcome variable of interest and is the variable that is hypothesized to depend on or be caused by or predicted by the independent variable .



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For example, if the question reads *what is the effect of patients age on recovery from surgical anesthesia*, the independent variable is patients age and the dependent variable is recovery from surgical anesthesia.

Steps in the research process:

1. Formulating a research question or problem.
2. Defining the purpose of the study.
3. Reviewing relevant literature.
4. Developing a conceptual framework.
5. Developing research objectives, questions, and hypotheses.
6. Defining research variables.
7. Selecting a research design (overall plan used to conduct the research).
8. Defining the population, sample, and setting.
9. Conducting a pilot study.
10. Collecting data.
11. Analyzing data.
12. Communicating research findings, their implications, and the limitations of the study.

Types of research design :

1. **Historical:** Systematic investigation of a past event using relevant sources to describe or explain the event.
2. **Exploratory:** Preliminary investigation designed to develop or refine hypotheses or to test the data collection methods.
3. **Evaluative:** Systematic investigation of how well a program, practice, or policy is working.
4. **Descriptive:** Investigations that have as their main objective the accurate description of the characteristics of persons, groups, or situations and the frequency with which certain phenomena occur.
5. **Experimental:** In which the investigator controls (manipulates) the independent variable and randomly assigns subjects to different conditions.
6. **Quasi-experimental:** Studies that deviate from the methods of the experimental component in that subjects cannot be randomly assigned to treatment conditions even though the researcher manipulates the independent variable and exercises certain controls to enhance the internal validity of the results.

Protecting human rights in research:

- a. **Self- determination:** The person has the right to control his or her own destiny.



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- b. Privacy:** The person has to determine the time, extent, and general circumstances under which private information will be shared with or withheld from others.
- c. Anonymity:** Data collected will be kept confidential.
- d. Fair treatment:** The person should be treated fairly and should receive what he or she is due or owed.
- e. Protection from discomfort and harm:** the person should be protected from physical, emotional, social, and economic discomfort and harm.
- f. Informed consent:** The person understands the reason for the proposed intervention and its benefits and risks, and agrees to the treatment by signing a consent form.

Abstract contents:

- a. Title of the Study.**
- b. Introduction of the Scientific Problem.**
 - Statement of the problem and purpose of the study.
 - Identification of the framework.
- c. Methodology:**
 - Design.
 - Sample size.
 - Identification of data analysis methods.
- d. Results:**
 - Major findings.
 - Conclusions.
 - Implications for nursing.
 - Recommendations for further research