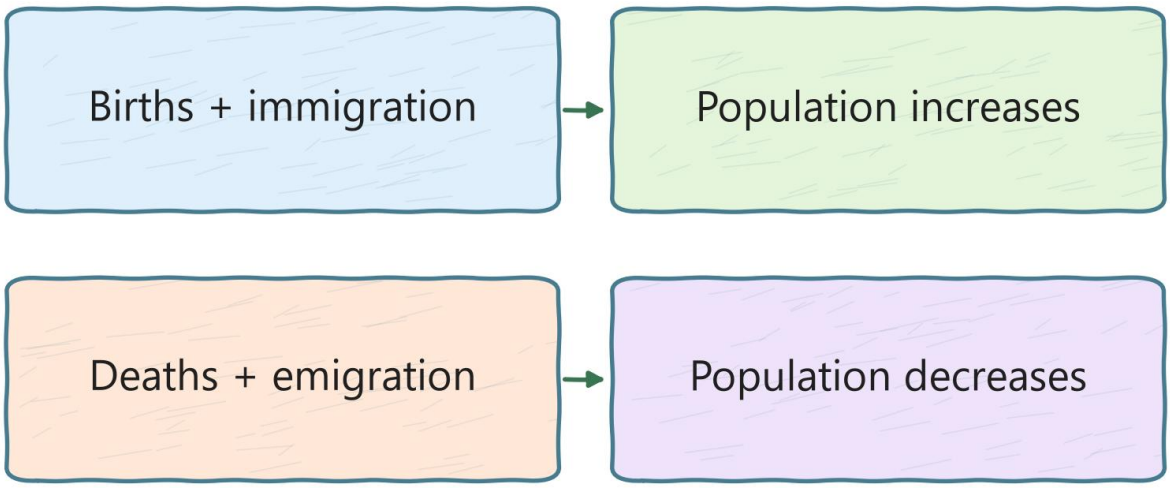
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Community Health Nursing II — Unit 3: Demography, Surveillance and Interpretation of Data

Demography

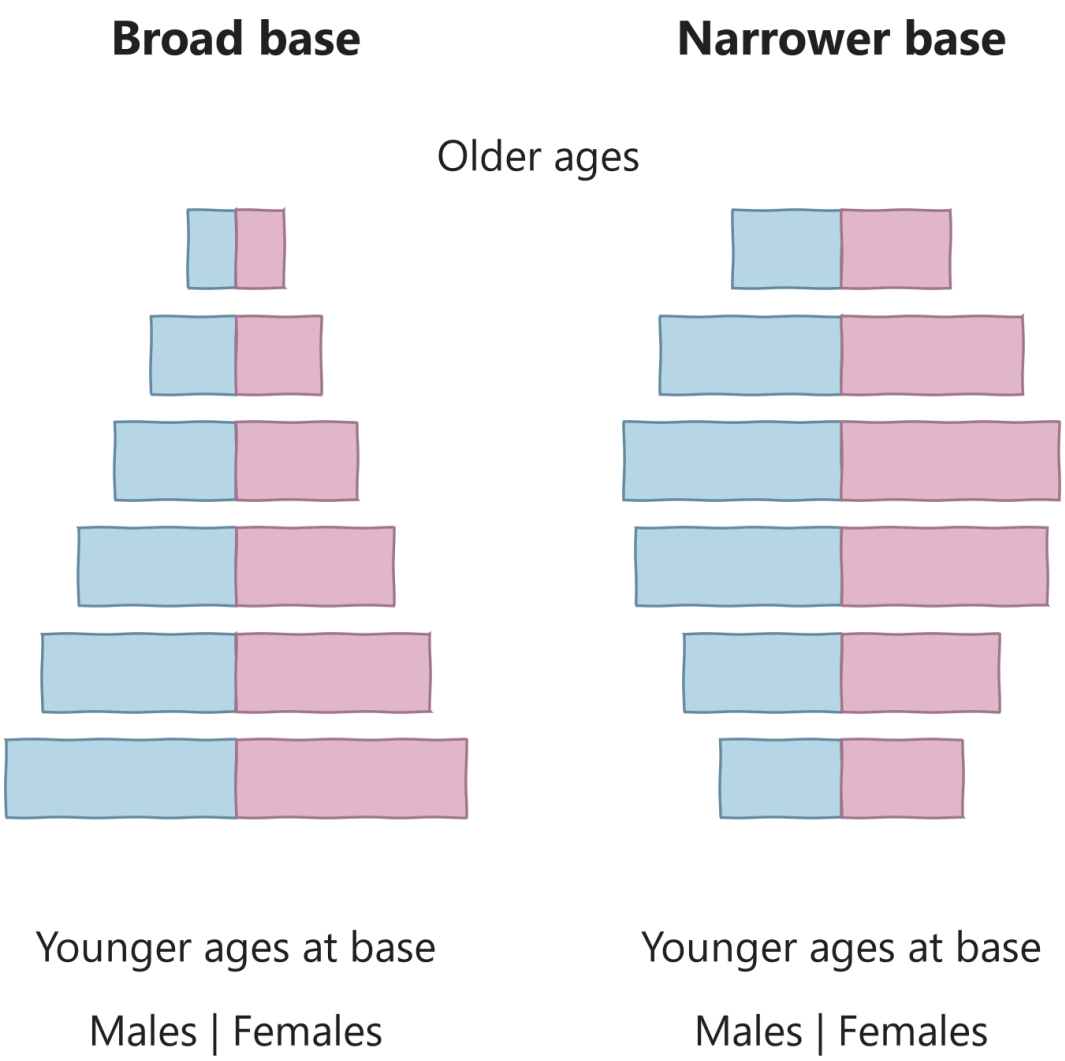
Definition

- **Demography** is the study of the size, distribution, composition and changes of human populations.
- Population change results mainly from births, deaths and migration.
- Community nurses use demographic information to estimate service needs and identify groups who may be underserved.



Components of population change

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Population age profiles

Components of Population Change

1. Fertility

- **Fertility** refers to actual childbearing in a population.
- It is influenced by age structure, marriage patterns, contraception, education, economic circumstances and personal reproductive choices.
- Fertility is different from fecundity, which refers to biological capacity to reproduce.

2. Mortality

- **Mortality** refers to deaths in a population during a defined period.
- The level and causes of mortality reflect disease patterns, living conditions and access to effective care.

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3. Migration

- **Migration** is movement that changes a person's usual place of residence.
- Immigration adds people to a population, while emigration removes them.
- Seasonal and temporary movement can also affect access to vaccination, maternity care and follow-up even when it is not recorded as permanent migration.

Population Composition

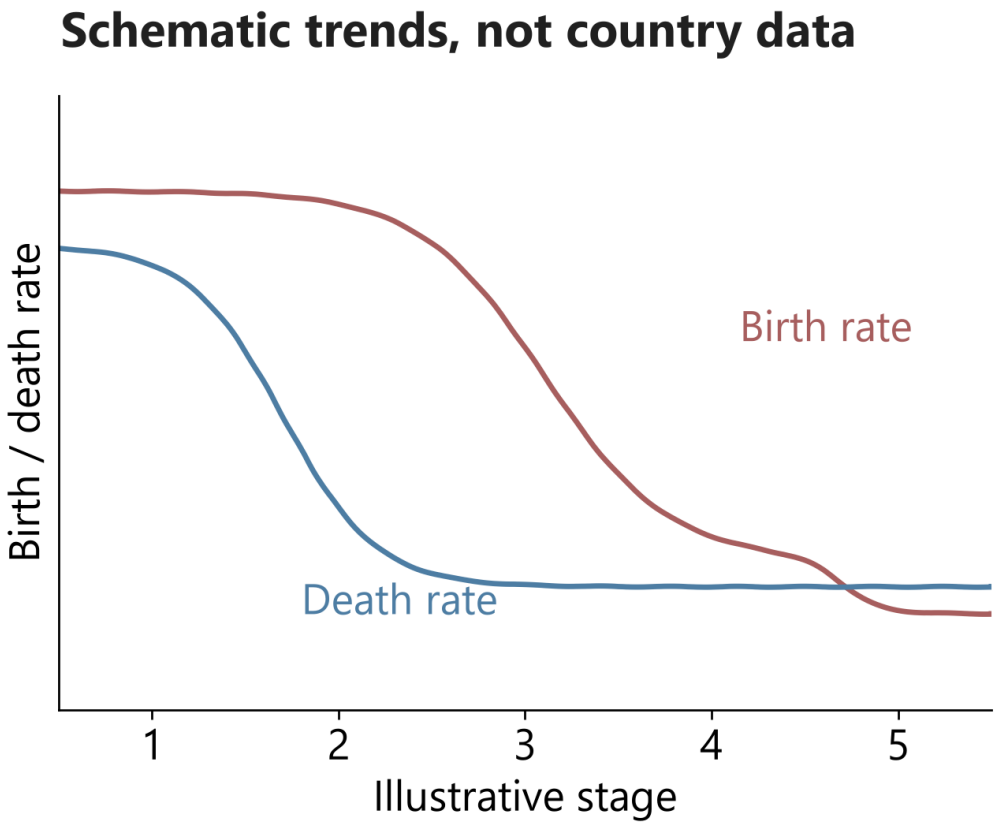
- Age and sex composition help estimate demand for maternity, child, adolescent, occupational and older-adult services.
- Education, occupation, household structure and place of residence influence health risks and access to care.
- A population with many children needs different services from one with a growing proportion of older adults.
- Population density shows the number of people living in a defined area, but does not by itself describe their living conditions.

Population Change Calculation

- Population at the end of a period equals the starting population plus births and inward migration, minus deaths and outward migration.
- Natural increase considers births minus deaths and excludes migration.
- A growing clinic workload may reflect migration or improved service use rather than a rise in the local birth rate alone.

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Demographic Cycle



Schematic demographic transition

Meaning

- The **demographic cycle**, or demographic transition, describes a broad shift from high birth and death rates towards lower rates as social and health conditions change.
- It is a model for understanding population change rather than a fixed sequence every country follows in exactly the same way.
- Differences can exist between regions and social groups within one country.

Stages

1. High Stationary Stage

- Birth and death rates are both high, so population growth is usually limited and may fluctuate.
- Infection, poor nutrition and inadequate sanitation contribute to high mortality in the classic model.

2. Early Expanding Stage

- Death rates fall while birth rates remain relatively high.
- Improvements in food supply, sanitation and healthcare allow more people to survive, producing rapid population growth.

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3. Late Expanding Stage

- Birth rates begin to decline as education, child survival, reproductive choice and social circumstances change.
- Population continues to grow, but the rate of growth slows.

4. Low Stationary Stage

- Birth and death rates are both low, with relatively slow natural population growth.
- A larger share of the population survives into older age, increasing the importance of chronic disease and long-term care.

5. Declining Stage

- Births may remain below deaths, creating natural decrease and population ageing.
- Migration can partly offset the decrease, so total population change must be assessed separately.

World and Indian Population Trends

- Global population growth has slowed compared with earlier decades, but growth remains uneven across regions.
- Some populations continue to grow rapidly, while others have very low fertility and a rising proportion of older people.
- Urbanisation and migration change where health services are needed and can produce overcrowding alongside better access to facilities.
- India has experienced declining fertility and mortality, with substantial differences between states and communities.
- Population momentum means that a large number of people entering reproductive ages can sustain growth even after fertility declines.
- Avoid assigning a single demographic stage to every part of India because local birth rates, mortality and migration differ.

Sex Ratio and Child Sex Ratio

Definitions

- In Indian demographic reporting, the **sex ratio** commonly means the number of females per one thousand males in a defined population.
- The **child sex ratio** commonly refers to girls per one thousand boys in the zero-to-six-year age group.
- The **sex ratio at birth** concerns female live births per one thousand male live births during a defined period.

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