Understanding terms used to describe aspects of a population.

Populations are dynamic and continually changing. There is no single term that describes what is happening to a population and what will happen. However, understanding the different elements helps in responding now and in the future.

Term	Definition	Comment
Birth Rate	Number of live births per year per 1,000 midyear population.	Births are a key element in contributing to population. Birth rates rise and fall for many different reasons.
Death Rate	Number of deaths per year per 1,000 midyear population.	Deaths limit the size of the population. The number of deaths occurring at different ages determine the age profile of the community
Demographic Transition	A fall in death rates, followed by a fall in birth rates.	A fall in overall death rates may be result of better community health and nutrition, often associated with urbanisation. Birth rates begin to fall as the community has more confidence that their children will survive and family planning services become available. The longer the time interval between the fall in death rates and the fall in birth rates the greater the consequent increase in population size.
Demographic entrapment	A rise in the population in a defined area above the carrying capacity of the area with a consequent impact on health of the population.	The carrying capacity of any area is always going to be finite, although it may be increased by improve agriculture, trade or external support. Carrying capacity falls as a result of conflict, crop failures or a reduction in trade.
Demographic dividend	Socioeconomic growth associated with an increasing proportion of the population who are economically active while the proportion of the very young or aged decreases.	So long as there are economic opportunities the higher the proportion of people available to work the population can thrive.

Dependency Ratio	Number of people aged 0 to 14 years plus the number of people aged 65 years or over per 100 people aged 15 to 64 years.	The proportion of the population that require support determines the human resource available to do other tasks and grow the economy.
Population Growth Rate	Change in the number of people in a defined population over a one year period expressed as a percentage of the population at the start of the year.	Population growth rate is a key determinant is predicting future population size. Populations rise with births and inward migration and fall with deaths and outward migration.
Life Expectancy	Average number of years a person of a defined age may expect to live if current age specific mortality rates continue. Often calculated at birth and then at defined ages in later life.	Understanding life expectancy at different ages allows population size to be predicted for the population as a whole and enables the life insurance industry to calculate their premiums for individuals seeking to provide for old age or their children.
Migration	Movement of people across specified boundaries for the purpose of establishing new or semi permanent residence.	People migrate for many different reasons. Climate change is accelerating migration. Wars and poverty also cause people to migrate. Migration may be within a country or between countries.
Natural Increase	Difference between the number of live births and the number of deaths during a year.	The number of people in a population may rise or fall because of changes in birth or death rates.
Net migration rate	Number of immigrants minus number of emigrants divided by the midyear population, expressed per 1,000 of the midyear population.	Migration affects population size and structure. Migration is often started by movement out of young males resulting in labour force shortages in the area of origin.
Fertility Rate	Average number of children that would be born alive to a woman as she passes through her child bearing years, usually taken as 15 to 49 years.	The number of children born to a woman is a major factor in population changes.

Age at first birth	Average age of a woman in a defined population having her first live birth.	The age at which women start giving birth affects overall fertility. Very young women have a higher fatality rate associated with pregnancy and delivery.
Birth Interval	Average time between all live births.	The longer the interval between births the better the health of existing children.
Age at last birth	Average age of a woman in a defined population having her last live birth.	Older women giving birth have a higher fatality rate than younger women, there is also a higher neonatal fatality rate.
Neonatal mortality rate	Number of children dying at birth or within one month of birth per 1,000 live births.	Neonatal mortality rates are an indicator of the health of mothers and the competence of those providing maternity services.
Infant mortality rate	Number of children dying within the first 5 years of life per 1,000 live births.	Infant mortality rates are an indicator of disease prevalence and nutritional state of the community.
Population Pyramid	A graphical way of showing the structure of the population showing the proportion by age and gender.	Understanding the age and gender structure of the population enables predications and service planning.

Martin Schweiger
17 March 2023