info@andreanienstedt.com   andreanienstedt.com

ANDREA NIENSTEDT

Original text for article in *The Gale Encyclopedia of Public Health* (2013)

MORTALITY AND MORBIDITY

Definition-
Morbidity refers to the rate of disease (in general, or a specific disease) in a given population. Mortality refers to the rate of death (in general, or from a specific cause) in a given population.

Description-
The terms mortality and morbidity are used to track and measure the trends of disease and death within or across populations. One use of mortality and morbidity statistics is to measure the quality of life that a population has – developed countries can examine their mortality and morbidity rates against those of developing nations, urban areas can measure their rates against rural areas, etc. Lower mortality and morbidity rates suggest a better quality of life. Mortality rates – often closely related to life expectancy – are usually grouped per 1,000 persons, and are usually sorted by gender and age group. Generally speaking, as an area experiences developments in municipal infrastructures and increases in access to medical care, its inhabitants experience higher quality of life and life expectancies, and lower mortality and morbidity rates. Often, this decline in mortality is accompanied by a shift in causes – as societies develop, problems change from those of sanitation and malnutrition to issues like smoking, alcohol abuse, obesity, and cancer.

Tracking rates of mortality and morbidity helps government and public health officials plan and revise legislation, treatment, and other measures to protect citizens and improve future rates. This data can also be used to track the progress and efficiency of implemented measures.

In the United States, according to the Centers for Disease Control and Prevention (CDC), the leading causes of death are: heart disease, cancer, chronic lower respiratory diseases, stroke, accidents, Alzheimer's disease, and diabetes. The most recent data from the CDC estimates the death rate in the United States at 793.8 deaths per 100,000 members of the population.

Infant Mortality-
Infant mortality measures the mortality rates of children under one year of age, and represents the number of deaths per 1,000 live births in a specific population. Given the specific challenges faced by newborns shortly after birth, infant mortality is usually split into two categories: neonatal (27 days old and younger) and postneonatal (28 days to 12 months old). Like other mortality data, infant mortality rates have varied over time and geography. According to the most recent data from the Centers for Disease Control and Prevention (CDC), the approximate infant mortality rate in the United States is 6.39 deaths per 1,000 live births.

Infant Mortality rates in the United States have been generally decreasing over the past few decades. Despite this decrease, however, as of the most recent data available from the Central Intelligence Agency (CIA) World Factbook, the U.S. is rated 49th among nations that have reliable data available. There is dispute as to the reason for this low ranking – one potential causes are disparity in prenatal and medical care among racial and ethnic groups. Proponents of alternative and natural birthing often point to the increase in U.S. rates of cesarean section and other interventions in the birthing process, because many higher-ranking nations have more nationally-diversified birthing cultures that utilize both midwives and obstetricians, and avoid interventions in the birthing process.

Despite the overall decrease in American infant mortality rates, the burden of these rates is not borne equally across the population. The infant mortality rate for African American babies in recent years has been

more than two times higher than the rate for Caucasian babies. Low birthweight is the number one cause of death among African American babies. Puerto Rican American babies have a 40% higher mortality rate than Caucasian babies. Despite some overall trends across racial backgrounds, racial and socioeconomic differences are unable to fully account for disparities in American infant mortality rates.

Common causes for infant mortality include: preterm birth, infections, birth defects, tetanus, diarrhea, asphyxia, and abuse. These factors can be exacerbated or reduced by access to adequate medical care – this is especially true for many neonatal mortality causes.

Maternal Mortality-

Maternal mortality rates have similar statistical benefits to infant mortality rates, but international statistics usually follow United Nations standards and measure the deaths of women during pregnancy and childbirth per 100,000 births. Despite advances in overall healthcare technology and accessibility, for a number of years, maternal mortality rates have stalled (have not declined) globally.

There are a number of factors that typically contribute to maternal mortality, including: age, economic resources, access to healthcare, access to effective family planning, access to adequate healthcare, and the power of women to make decisions regarding their own gynecological care.

In America, mortality rates are higher among certain ethnic groups. Around the world, certain regions have consistently high maternal mortality rates. Africa is particularly plagued by high maternal mortality rates. According to the United Nations (UN), one-third of sub-Saharan African countries have maternal mortality rates higher than 1,000 deaths per 100,000 live deaths. Additionally, 1 out of 11 women in sub-Saharan Africa die in pregnancy or childbirth, compared to 1 out of 30,000 women in Sweden. The maternal mortality rates in Asia account for one-third of the maternal mortality rates of the entire world. Among the Asian rates of maternal mortality, 34% are attributed to hemorrhaging.

Effects on Public Health-

Mortality and Morbidity rates are public health concerns on local, national, and international levels. Other than the immediate and peripheral effects of the individual deaths, these statistics often indicate systemic issues of abuse, disease, health habits, medical care, and legislation. The data gathered in the compiling of mortality and morbidity statistics, and the inferences that can be made from this data, can contribute to general improvements in quality of life, life expectancy, and broader improvements in legislation, health care availability and practices, and cultural attitudes.

Costs to Society-

The data used to compile mortality and morbidity statistics in the United States is gathered by cities and states and collected and organized by the Centers for Disease Control and Prevention (CDC). The collection of this data is not a cost to society, however, the loss of life and peripheral effects that the data represents are significant costs to society. The financial burden of these deaths and often the emergency care required – particularly after illness or death subsequent to inadequate medical care – falls to society. Additionally, illnesses and death cause additional losses in work productivity and income, as well as lasting effects on the financial viability and mental health of survivors, and their families and communities.

Efforts and Solutions-

The Centers for Disease Control and Prevention (CDC) tracks the statistics for a number of diseases across the 50 states and numerous major U.S. cities. Provisional data is published by the CDC weekly and revised reports are published annually.

The World Health Organization (WHO) started a program called the Integrated Management of Childhood Illness (IMCI). IMCI is an effort aiming to improve the health and well-being of children under five years old. IMCI deals with both preventative and curative components of health care. According to WHO, IMCI seeks to improve three major facets affecting a child's well-being: case management skills of health care providers, general health care systems, and the health practices of communities and individual families.

The United Nations Millennium Development Goals (MDG) seeks to reduce global maternal mortality rates by 75%; by 2015. MDG seeks to make these changes by implementing programs that improve maternal conditions with initiatives including: reducing teen pregnancies and family size, diagnosing high-risk pregnancies, and increasing the time between births.

Key Terms:

Life expectancy- indicates the average age an individual in a given population can expect to live. This figure is often further categorized by gender and age group. Factors contributing to life expectancy include income, education, access to adequate healthcare, dietary habits, hygiene, and sanitation.

Developing nation- a country characterized by a minimal level of socioeconomic development. Citizens of developing nations are often subject to political crisis or instability, low productivity farming, human rights violations, limited infrastructures for things like sanitation and water distribution, limited access to healthcare and education. According to the United Nations (UN), of the least developed nations, 33 are in Africa, 14 in Asia, and Haiti in the Caribbean.

Developed nation – a country with highly-developed socioeconomic status. Citizens of developed nations are not usually subject to the same levels of political instability as citizens of developing nations. Developed nations also have more established municipal infrastructures, better human rights records, as well as increased access to health care and education.