Project Report on

CAUSE OF DEATH

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Internship 33

Introduction

ABSTRACT

A straightforward way to assess the health status of a population is to focus on mortality – or concepts like child mortality or life expectancy, which are based on mortality estimates. A focus on mortality, however, does not take into account that the burden of diseases is not only that they kill people, but that they cause suffering to people who live with them. Assessing health outcomes by both mortality and morbidity (the prevalent diseases) provides a more encompassing view on health outcomes. This is the topic of this entry. The sum of mortality and morbidity is referred to as the 'burden of disease' and can be measured by a metric called 'Disability Adjusted Life Years' (DALYs). DALYs are measuring lost health and are a standardized metric that allow for direct comparisons of disease burdens of different diseases across countries, between different populations, and over time. Conceptually, one DALY is the equivalent of losing one year in good health because of either premature death or disease or disability. One DALY represents one lost year of healthy life. The first 'Global Burden of Disease' (GBD) was GBD 1990 and the DALY metric was prominently featured in the World Bank's 1993 World Development Report. Today it is published by both the researchers at the Institute of Health Metrics and Evaluation (IHME) and the 'Disease Burden Unit' at the World Health Organization (WHO), which was created in 1998. The IHME continues the work that was started in the early 1990s and publishes the Global Burden of Disease study.

Content

In this Dataset, we have Historical Data of different cause of deaths for all ages around the World. The key features of this Dataset are: Meningitis, Alzheimer's Disease and Other Dementias, Parkinson's Disease, Nutritional Deficiencies, Malaria, Drowning, Interpersonal Violence, Maternal Disorders, HIV/AIDS, Drug Use Disorders, Tuberculosis, Cardiovascular Diseases, Lower Respiratory Infections, Neonatal Disorders, Alcohol Use Disorders, Self-harm, Exposure to Forces of Nature, Diarrheal Diseases, Environmental Heat and Cold Exposure, Neoplasms, Conflict and Terrorism, Diabetes Mellitus, Chronic Kidney Disease, Poisonings, Protein-Energy Malnutrition, Road Injuries, Chronic Respiratory Diseases, Cirrhosis and Other Chronic Liver Diseases, Digestive Diseases, Fire, Heat, and Hot Substances, Acute Hepatitis.

Dataset Glossary (Column-wise)

- 01. Country/Territory - Name of the Country/Territory
- 02. Code - Country/Territory Code

• 03. Year - Year of the Incident

• 04. Meningitis - No. of People died from Meningitis

• 05. Alzheimer's Disease and Other Dementias - No. of People died from Alzheimer's Disease and Other Dementias

• 06. Parkinson's Disease - No. of People died from Parkinson's Disease

• 07. Nutritional Deficiencies - No. of People died from Nutritional Deficiencies

• 08. Malaria - No. of People died from Malaria

• 09. Drowning - No. of People died from Drowning

• 10. Interpersonal Violence - No. of People died from Interpersonal Violence

• 11. Maternal Disorders - No. of People died from Maternal Disorders

• 12. Drug Use Disorders - No. of People died from Drug Use Disorders

• 13. Tuberculosis - No. of People died from Tuberculosis

• 14. Cardiovascular Diseases - No. of People died from Cardiovascular Diseases

• 15. Lower Respiratory Infections - No. of People died from Lower Respiratory Infections

• 16. Neonatal Disorders - No. of People died from Neonatal Disorders

• 17. Alcohol Use Disorders - No. of People died from Alcohol Use Disorders

• 18. Self-harm - No. of People died from Self-harm

• 19. Exposure to Forces of Nature - No. of People died from Exposure to Forces of Nature

• 20. Diarrheal Diseases - No. of People died from Diarrheal Diseases

• 21. Environmental Heat and Cold Exposure - No. of People died from Environmental Heat and Cold Exposure

• 22. Neoplasms - No. of People died from Neoplasms

• 23. Conflict and Terrorism - No. of People died from Conflict and Terrorism

• 24. Diabetes Mellitus - No. of People died from Diabetes Mellitus

• 25. Chronic Kidney Disease - No. of People died from Chronic Kidney Disease

• 26. Poisonings - No. of People died from Poisoning

• 27. Protein-Energy Malnutrition - No. of People died from Protein-Energy Malnutrition

• 28. Chronic Respiratory Diseases - No. of People died from Chronic Respiratory Diseases

• 29. Cirrhosis and Other Chronic Liver Diseases - No. of People died from Cirrhosis and Other Chronic Liver Diseases

• 30. Digestive Diseases - No. of People died from Digestive Diseases

• 31. Fire, Heat, and Hot Substances - No. of People died from Fire or Heat or any Hot Substances

• 32. Acute Hepatitis - No. of People died from Acute Hepatitis

Data Analysis Steps of Jupyter notebook:-

1. Importing Libraries
2. Collection of Data.
3. Checking data types
4. Checking the null values
5. Exploratory Data Analysis
6. CORRELATION BETWEEN FEATURES

Benefits to study cause of death:

Accurate reporting of causes of death on death certificates is essential to **formulate appropriate disease control, prevention and emergency response** by national health-protection institutions such as Center for disease prevention and control (CDC).

Cause-of-death data is important **for surveillance, research, design of public health and medical interventions, and funding decisions for research and development**.

Need to study cause of death:

Why do we need to know the reasons people die? It is important to know why people die **to improve how people live**. Measuring how many people die each year helps to assess the effectiveness of our health systems and direct resources to where they are needed most.

Understanding the basic concept of disease burden can **help decision-makers understand the impact on population health using the disability-adjusted life year (DALY) as a summary measure of both mortality and disability**.
The GBD is a critical resource for policymakers, researchers, donors, and others **to make informed decisions and guide priorities using the most current information possible**.
It describes mortality and morbidity from major diseases, injuries and risk factors to health at global, national and regional levels.

Observations:

- For India major contributors in total number of deaths are Alzheimer's disease and other dementias.
- Parkinson's disease drug use disorders cardiovascular diseases alcohol used disorders, environmental heat and cold exposure neoplasms diabetes mellitus chronic kidney disease road injuries chronic respiratory diseases cirrhosis and other chronic liver diseases and digestive diseases.
- Over the years diseases like HIV AIDS cardiovascular diseases alcohol used disorders neoplas diabetes mellitus chronic kidney diseases road injuries have specifically kept on increasing.
- For Russia Alzheimer's disease and other dementia's Parkinson's disease HIV AIDS diabetes mellitus syrosis and other chronic liver diseases, digestive diseases have specifically kept on increasing with year.
- In USA and China also Alzheimer's disease and other dementious, Parkinson's disease, HIV AIDS cardiovascular disease poisoning road injuries chronic kidney disease diabetes mellitus neoplasms contributed the most.

Conclusion:

The world's biggest killers are Cardiovascular disease responsible for 30% of the world's total deaths. Since 1990, the largest increase in deaths has been for this disease. Neoplasms and chronic respiratory disease are the 2nd and 3rd leading causes of death, responsible for approximately 16% and 7% of total deaths respectively.

Lower respiratory infections remained the world's most deadly communicable disease, ranked as the 4th leading cause of death and contributing approximately to 6% of total deaths.

Neonatal disorders are ranked 5th.

Diarhea and digestive diseases rank 6^{th} and 7^{th} respectively.

In 2019, Alzheimer's disease and other forms of dementia ranked as the 7th leading cause of death. Women are disproportionately affected. Globally, 65% of deaths from Alzheimer's and other forms of dementia are women.

Diabetes, Cirhosis and HIV/AIDS have entered top 10 contributors in deaths around the world.

Countries having largest population such as China, India, United States, Russia and many others inclusing Japan and Indonesia contribute to maximum number of deaths.

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With advancement in technology and increase in population year by year, we need to focus on finding cures for these diseases and maximum contributors to death.