CAUSES OF DEATH PROJECT

Definitions: Cause of death vs risk factors

It is important to understand what is meant by the *cause* of death and the *risk factor* associated with a premature death:

In the epidemiological framework of the Global Burden of Disease study each death has *one* specific cause. In their own words: 'each death is attributed to a single underlying cause — the cause that initiated the series of events leading to death

This is different from the deaths that happened due to risk factors. These deaths are an estimation of the reduction of the number of deaths that would be achieved if the risk factors to which a population is exposed would be eliminated (in the case of tobacco smoking, for example) or reduced to an optimal, healthy level (in the case of body-mass index)

Analysis!!

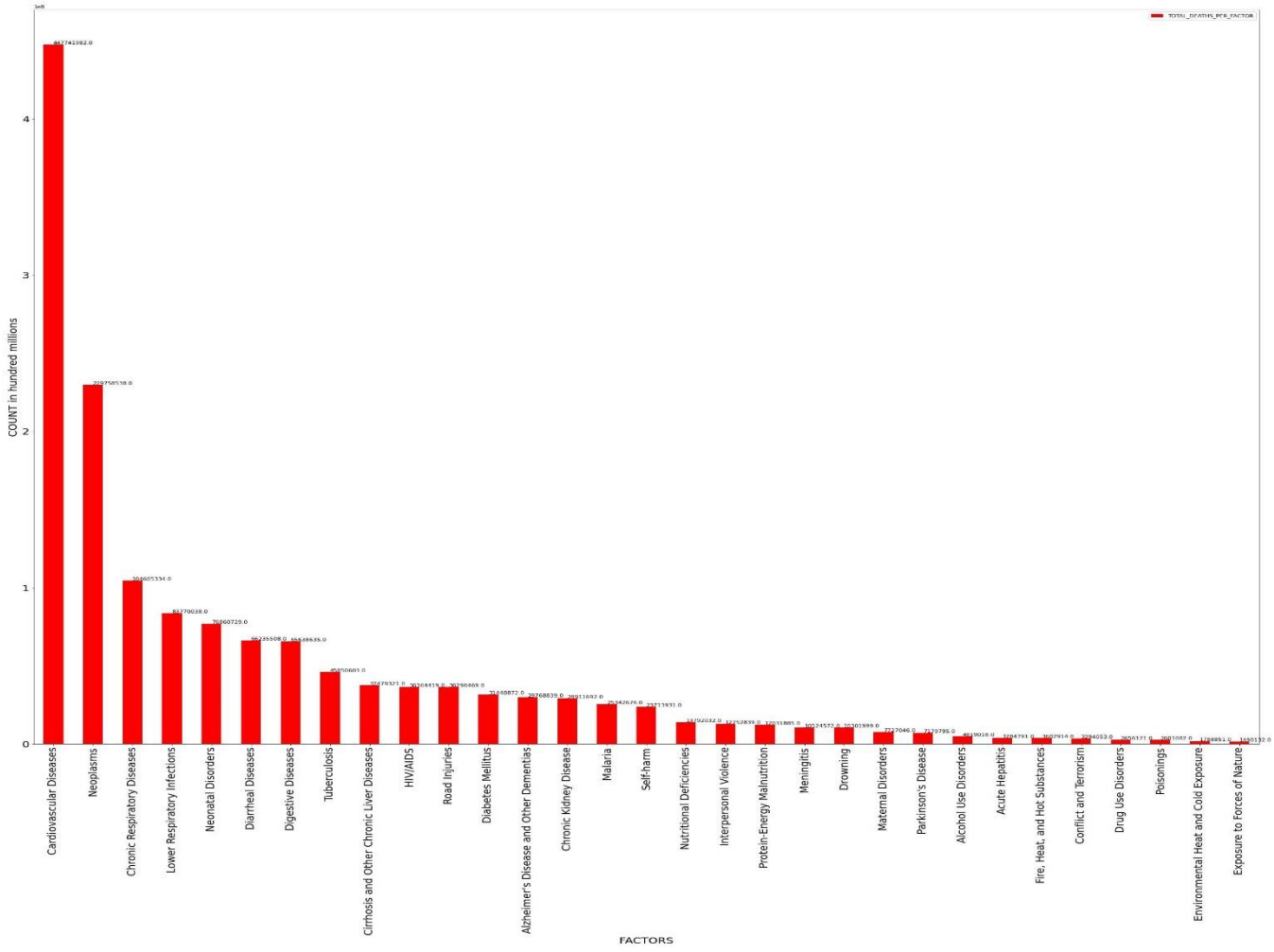
Non-communicable diseases (NCDs) not only dominate mortality figures at a global level, but also account for most deaths in high-income countries.

Deaths from causes such as infectious disease, malnutrition, nutritional deficiencies, neonatal and maternal deaths are common – and in some cases dominant – across low- and middle-income nations. In Kenya, for example, the leading cause of death remains diarrheal diseases. In South Africa and Botswana, the leading cause of death is HIV/AIDS. In high-income countries however the share of deaths caused by these is very low.

Death rates related to disease, illness and other health factors tend to change relatively slowly over time. Whilst death rates may fall or decline from year-to-year as part of a general trend, dramatic changes in such deaths are typically rare. Natural disaster and terrorism-related deaths are an important exception to this rule, as they can vary significantly between countries. This can make the annual comparison of deaths and death rates between health-related factors

and volatile events more challenging. Understanding the relative risk of these events can require a longer-term overview of high and low-mortality years

TOP FACTORS CAUSING DEATH



Risk Factors for death:

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This is different from the deaths that happened due to risk factors. These deaths are an estimation of the reduction of the number of deaths that would be achieved if the risk factors to which a population is exposed would be eliminated (in the case of tobacco smoking, for example) or reduced to an optimal, healthy level (in the case of body-mass index). Risk factors can be grouped into four broad categories: behavioural risks, environmental risks, occupational risks, and metabolic risks.

All these estimates are developed independently. This means that we cannot sum all 'attributed deaths' and conclude that this is the actual number of deaths. The attributed number of deaths by risk factor in many cases exceeds that of those by cause of death.

Here we see that there are several dominant risk factors for death: notably, those related to dietary and activity lifestyle factors (including blood pressure, physical activity, body-mass index, blood sugar, and dietary intake); smoking; air pollution (both outdoor and indoor); environmental factors including clean water and sanitation; and safe sex (for the prevention of HIV/AIDS). This is shown for deaths worldwide. But you can explore data on the annual number of deaths by cause for any country or region using the "change country" toggle. The contribution of specific risk factors varies significantly by country. For most high-income countries, the dominant risk factors are those related to healthy diets, smoking and alcohol intake. Other risk factors such as clean water, sanitation, and child wasting or stunting are very low. In low-income countries the inverse is true: in Sierra Leone for example, the top risk factors include child wasting, household air pollution, unsafe water source, poor sanitation, and the lack of access to handwashing facilities. For countries where HIV/AIDS is a major health burden, such as South Africa and Kenya, unsafe sex is the top risk factor.

FACTOR WISE ANALYSIS:

Cardiovascular Diseases-

Cardiovascular disease (CVD) is a term used to refer to the range of diseases which affect the heart and blood vessels. These include hypertension (high blood pressure); coronary heart disease (heart attack); cerebrovascular disease (stroke); heart failure; and other heart diseases. Cardiovascular disease is the top cause of death globally.

Overall, we see a strong East-West divide in CVD death rates. Rates across North America and Western/Northern Europe tend to be significantly lower than those across Eastern Europe, Asia, and Africa. Across most of Latin America, these rates are moderate. In France, for example, the age-standardized rate was around 86 per 100,000 in 2017; across Eastern Europe this rate was around 5 times higher at 400-500 per 100,000.

Dementia:

Dementia comprises several forms — the most common being Alzheimer's disease — is an illness which results in a deterioration of cognitive capacity and function beyond what is expect from the normal ageing process. It can occur either in a chronic or progressive form. It affects several cognitive functions including memory, comprehension, judgement, language and learning capacity

Across most countries, the death rate from dementia-related illness is below 55 per 100,000 individuals. Dementia rates in some countries have changed slightly since 1990, but significantly less so than other disease burdens.

Diarrheal Diseases:

Diarrheal diseases are caused primarily by viral and bacterial pathogens. They are particularly dominant at lower incomes where there is poor access to safe sanitation, drinking water and hygiene facilities. Diarrheal diseases are a leading cause of death in children.

Tuberclosis:

Tuberculosis (TB) is an illness caused by the ingestion of bacteria (Mycobacterium tuberculosis) which affects the lungs. The World Health Organization (WHO) estimate that up to one-quarter of the global population has latent TB, meaning they have been infected with the disease but are not ill with the disease (although this does not inhibit it from becoming active in the future).

People with compromised immune systems, such as those suffering from malnutrition, diabetes, or are smokers are more likely to become ill with TB. There is a strong link between HIV/AIDS and TB: those infected with HIV are 20-30 times more likely to develop active tuberculosis. Across most countries, the death rate from TB is below 5 per 100,000. Rates in 2017 across Eastern Europe were slightly higher, between 5-10 per 100,000. Across South Asia, these reach 25-50 per 100,000, with highest rates across Sub-Saharan Africa ranging from 50 to over 250 per 100,000.

Malnutrition:

Malnutrition arises in various forms, with the broad definition capturing undernourishment, micronutrient deficiencies and obesity. In this case, we refer to 'protein-energy malnutrition' (PEM) which refers to energy or protein deficiency caused by insufficient food intake. Protein-energy deficiency can also be exacerbated by infection or disease, which can have the effect of increasing nutritional needs, and/or reducing the body's ability to retain energy or nutrients. You can find more information on hunger and undernourishment in our entry. The highest rates are seen across Sub-Saharan Africa, which are typically in the range of 10-100 per 100,000 individuals. For most countries, this rate is below 5 per 100,000. In North Korea during its famine period, rates reached over 400 per 100,000.

HIV/AIDS:

An infection with HIV (human immunodeficiency virus) can lead to AIDS (acquired immunodeficiency syndrome). AIDS results in a gradual and persistent decline and failure of the immune system, resulting in heightened risk of life-threatening infection and cancers.

In most cases, HIV is a sexually-transmitted infection. However, HIV can also be transmitted from a mother to her child, during pregnancy or childbirth, or through breastfeeding. Non-sexual transmission can also occur through the sharing of injection equipment such as needles. Most countries have a rate of less than 10 deaths per 100,000 – often much lower, below 5 per 100,000. Across Europe the death rate is less than one per 100,000. Across Sub-Saharan Africa the rates are much higher. Most countries in the South of the region had rates greater than 100 per 100,000. In South Africa and Mozambique, it was over 200 per 100,000.

Malaria:

Malaria is a disease that is transmitted from person to person by infected mosquitoes. The bite of an infected Anopheles mosquito transmits a parasite that enters the victim's blood system and travels into the person's liver where the parasite reproduces. There the parasite causes a high fever that involves shaking chills and pain. In the worst cases malaria leads to coma and death.

Smoking:

Tobacco smoking is not a direct cause of death, but it nonetheless one of the world's largest health problems. Smoking is one of the world's leading risk factors for premature death. Tobacco a risk factor for several of the world's leading causes of death, including lung and other forms of cancer, heart disease, and respiratory diseases.

Homicides:

Intentional homicides are defined as "an unlawful death deliberately inflicted on one person by another person". Civilian and military deaths during interstate wars, civil wars and genocides are not counted as homicides – but Our World in Data presents the evidence on deaths in the linked articles.

Road Accidents:

Road incident deaths include those of drivers – motor vehicles and motorcyclists – in addition to cyclists and pedestrian deaths. Death rates are typically lowest across Western Europe and Japan, with less than 5 deaths per 100,000 individuals. Across the Americas, rates are typically slightly higher at 5 to 20; most countries in Asia lie between 15 and 30; and rates are typically highest across Sub-Saharan Africa with over 25 per 100,000.

Drowning:

The World Health Organization (WHO) emphasises that drowning is one of the most overlooked, preventable causes of death across the world. For every country in the world, drowning is among the top 10 killers for children. In some countries, such as Bangladesh, it is the top mortality cause for children under 15 years old. In 2016, death rates were highest in Papua New Guinea and

Seychelles, between 10 to 16 deaths per 100,000. Rates were also high in countries such as Bangladesh, Central African Republic, Vietnam, and Haiti. If we look at death rates, we see a significant decline since 1990 — especially in low to middle-income countries. In Bangladesh and China, for example, rates have fallen by more than two-thirds over this period.

Fire:

Most countries across the Americas, Western Europe, East Asia and Oceania average death rates below 2 per 100,000. Rates across other regions are typically higher at 2-6 per 100,000. When viewed through time we see a notable decline in fire death rates, particularly across Sub-Saharan Africa and Eastern Europe.

Terrorism:

Terrorism is defined in the Oxford Dictionary as "the unlawful use of violence and intimidation, especially against civilians, in the pursuit of political aims." We quickly see that this definition is unspecific and subjective.[9] In our full article on *Terrorism* we look at adopted definitions, and how it's distinguished from other forms of violence.

Deaths by Animal:

Around 1.5 million people are killed by animals every year. More than half a million are killed by other humans – in war, homicides, and terrorism. And close to a million people are killed by other animals in any given year. Mosquitoes are, by far, the world's deadliest animal for humans: at estimated 780,000 died from the transmission of disease from mosquitoes in 2016. Mosquito deaths are the sum of deaths (in order, highest to lowest) from: Malaria, Dengue fever, Japanese encephalitis, yellow fever, Zika virus, Chikungunya, West Nile virus, and Lymphatic filariasis, for which it is the vector.

Conclusions from the separate analysis:

- around one-third of the considered causes of deaths resulted from heart disease, yet this cause of death receives only 2-3 percent of Google searches and media coverage;
- just under one-third of the deaths came from cancer; we actually Google cancer a lot (37 percent of searches) and it is a popular entry here on our site; but it receives only 13-14 percent of media coverage;
- we searched for road incidents more frequently than their share of deaths; however, they receive much less attention in the news;
- when it comes to deaths from strokes, Google searches and media coverage are surprisingly balanced;
- the largest discrepancies concern violent forms of death: suicide, homicide and terrorism. All three receive much more relative attention in Google searches and media coverage than their relative share of deaths. When it comes to the media coverage on causes of death, violent deaths account for more than two-thirds of coverage in the *New York Times* and *The Guardian* but account for less than 3 percent of the total deaths in the US.