

The image features a large hourglass on the left side, with dark sand in the top bulb and a small amount in the bottom bulb. To the right, a silhouette of a person with a cane stands against a sunset background. The text is centered on the right side of the image.


Mortality and the theory of epidemiological transition

Introduction

According to the WHO definition, death is *"Permanent, i.e. irreversible cessation of functions of organs necessary for life (regardless of the period after live birth), as a consequence of which there is a cessation of vital functions of the entire organism."*

Death is a demographic event that is **inevitable and unique.**





death and taxes are the only certa

How long can we live?

- **lifespan** – the maximum amount of years a species can live,
- **life expectancy** – the average length of life for a population
- **healthy life expectancy** – takes into account years lived in less-than-full health due to disease or injury.



Human lifespan on record:
122 years and 164 days



Jeanne Louise Calment



Do you think aging
should be classified
as a disease?



How long can we live?

"An elegant and exciting book that deserves to be read broadly and deeply."

—Siddhartha Mukherjee, Pulitzer Prize-winning and #1 *New York Times* bestselling author

Lifespan

New York Times
Bestseller

Why
We Age—
and
Why We
Don't
Have To

Read by
David A. Sinclair, PhD

Includes
exclusive conversations
with the authors

David A. Sinclair, PhD,
with Matthew D. LaPlante



Diseases of Civilization

- cardiovascular diseases,
- malignant neoplasms,
- diabetes,
- obesity,
- kidney stones,
- depression,
- peptic ulcer disease.

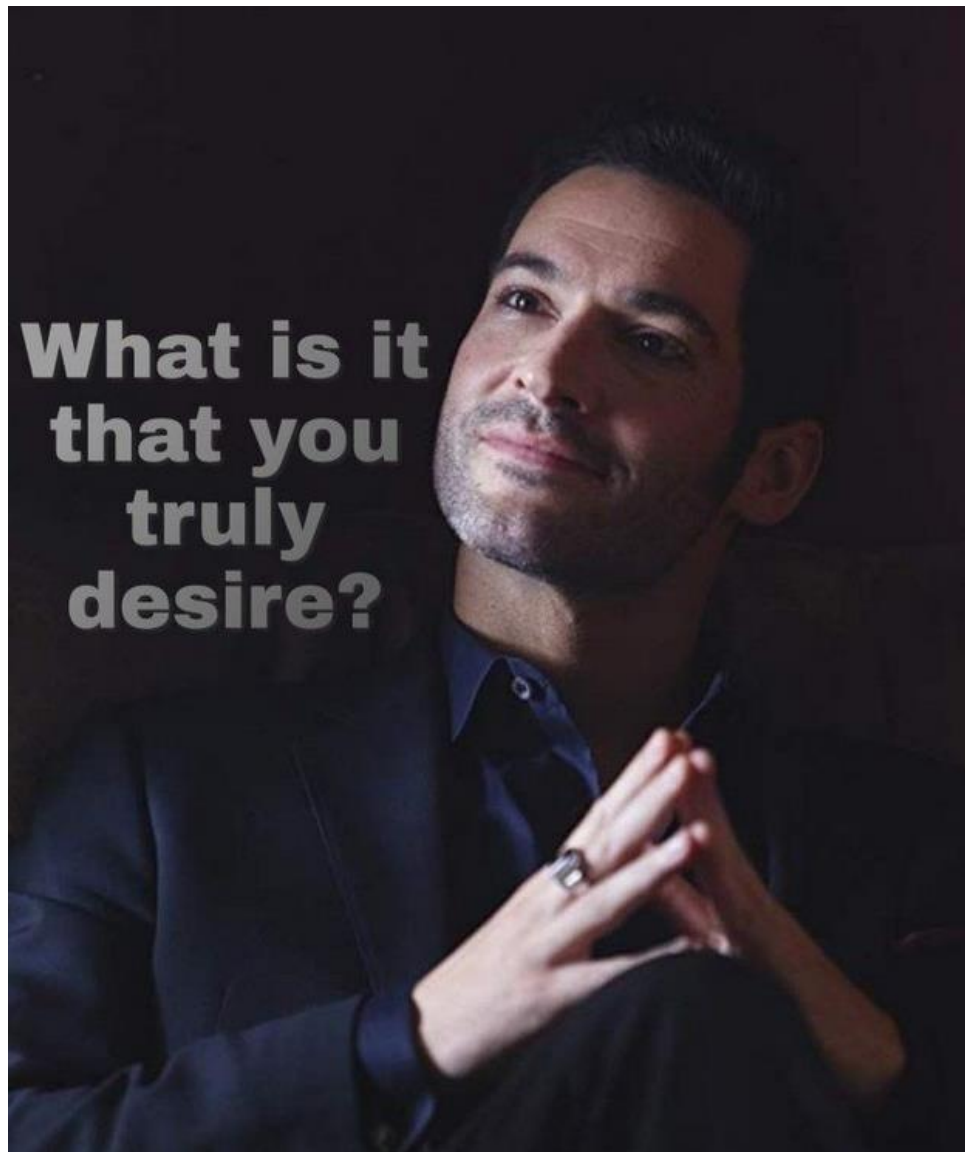


Diseases of Poverty

- AIDS,
- malaria,
- tuberculosis,
- hepatitis B.



**What is it
that you
truly
desire?**



MARTÍN CAPARRÓS

*"A work of great
significance..."*
—The Columbia
School of
Journalism
Maria Moura
Cabot Prize
Citation

HUNGER

THE OLDEST PROBLEM

AN INTERNATIONAL BESTSELLER



Hunger

Hunger is an uncomfortable or painful physical sensation caused by insufficient consumption of dietary energy.



Hunger



Food Insecurity

Food insecurity is defined as the disruption of food intake or eating patterns because of lack of money and other resources.



Food speculation



The same or two different phenomena?



Hunger and food insecurity

FOOD INSECURITY BASED ON THE FIES: WHAT DOES IT MEAN?



**FOOD SECURITY
TO MILD FOOD INSECURITY**

**MODERATE
FOOD INSECURITY**

**SEVERE
FOOD INSECURITY**



This person has:

- insufficient money or resources for a healthy diet;
- uncertainty about the ability to obtain food;
- probably skipped meals or run out of food occasionally.



This person has:

- run out of food;
- gone an entire day without eating at times during the year.



Causes of deaths

According to the definition of Eurostat, the cause of death is all diseases, conditions, injuries or poisonings that caused death or contributed to death, as well as the circumstances of the accident or deliberate act which resulted in these injuries.



Causes of deaths

- underlying
- secondary
- direct



Mortality rate

The mortality rate is most often measured by the crude death rate, i.e. the ratio of the number of deaths per unit time to the average population.



Infant mortality rate

One of the most important demographic indicators.

It is believed to be a kind of "barometer" of demographic processes taking place in society.



Excess mortality rate

Excess mortality refers to the number of deaths from all causes measured during a crisis, above what could be observed under 'normal' conditions.

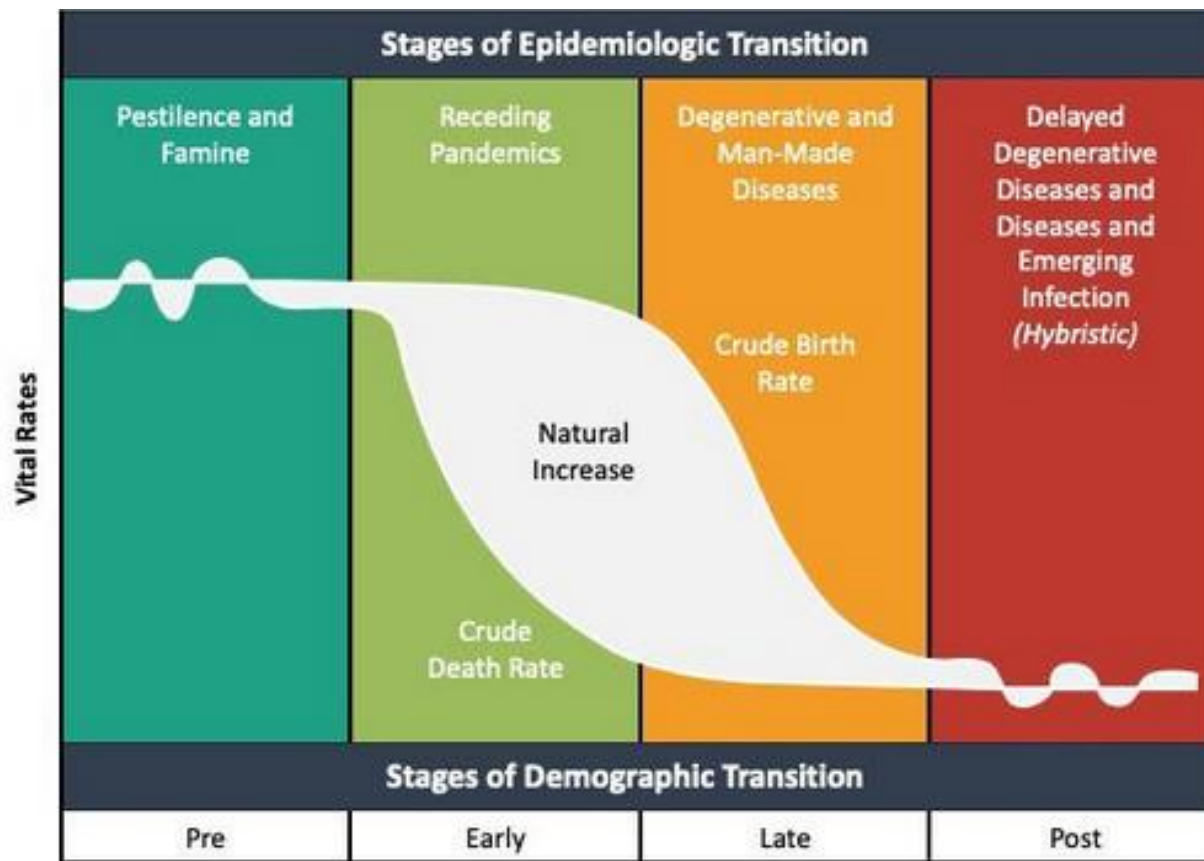


Epidemiological transition

The theory of Omran (1971) seeks to explain the changes in mortality, referring to changes in the state of health and disease profile as well as their socio-economic conditions.



ET and DT



The phases of the ET

Phase I - high, fluctuating mortality mainly caused by infectious diseases, as well as by hunger and wars. Life expectancy for newborns is very low, between 20 and 40 years.

Phase II - Disease epidemics are declining or even disappearing, and mortality from infectious diseases is significantly decreasing. The average life expectancy is systematically increasing, reaching the level of about 50 years.



The phases of the ET

Phase III - the degenerative and civilization diseases phase is a period characterized by a further decrease in mortality until it stabilizes at a relatively low level. We are dealing here with an increase in the average life expectancy, which exceeds the level of 70 years.

Phase IV - Relatively rapid increase in life expectancy, even up to 80 years. Mortality from external causes of death and deaths associated with pathological behavior are increasing.



The phases of the ET

Phase V - the developing occurrence of infectious diseases (viral and bacterial).

Research is still ongoing whether the re-expansion of infectious and bacterial diseases is only a periodic breakdown in the disease profile, or a harbinger of the next stage of the epidemiological transition



Factors of the ET

- ecobiological factors,
- socio-economic, political and cultural factors,
- medical factors and the public health system.



What's the difference between an endemic, epidemic and pandemic disease?



ENDEMIC DISEASE

is constantly present in a certain population or region, with relatively low spread (or there may be periods when it doesn't affect people at all, if it is only present in the environment).



EPIDEMIC DISEASE

is when there is a sudden increase in cases spreading through a large population like a country (an outbreak is similar, but usually covers a smaller geographic area).

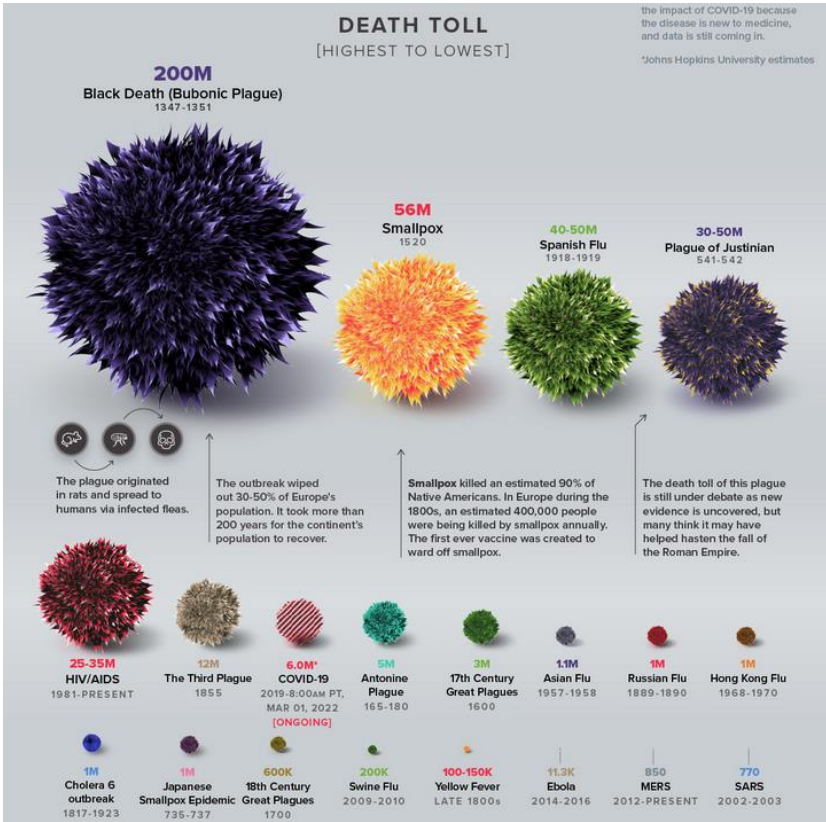


PANDEMIC DISEASE

is when there is a sudden increase in cases spreading through several countries, continents, or the whole world.



Pandemics



Vaccinations

Widespread vaccination has helped decrease or virtually eliminate many dangerous and deadly diseases.

Yet because vaccines have been so effective at removing threats, it's sometimes difficult to appreciate just how significant they have been to public health.



What do you think are the key ethical considerations when it comes to **mandatory** vaccination policies?



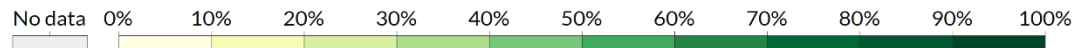
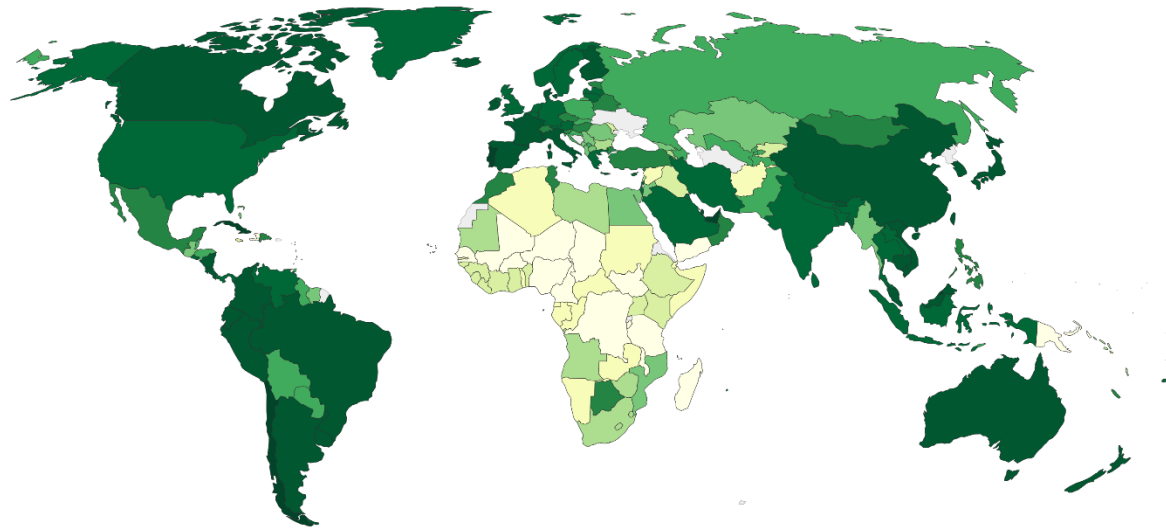
COVID-19 vaccinations

28.03.2022

Share of people who received at least one dose of COVID-19 vaccine, Mar 28, 2022

Total number of people who received at least one vaccine dose, divided by the total population of the country.

Our World
in Data



Source: Official data collated by Our World in Data - Last updated 29 March 2022, 11:00 (London time) OurWorldInData.org/coronavirus • CC BY



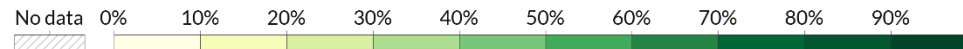
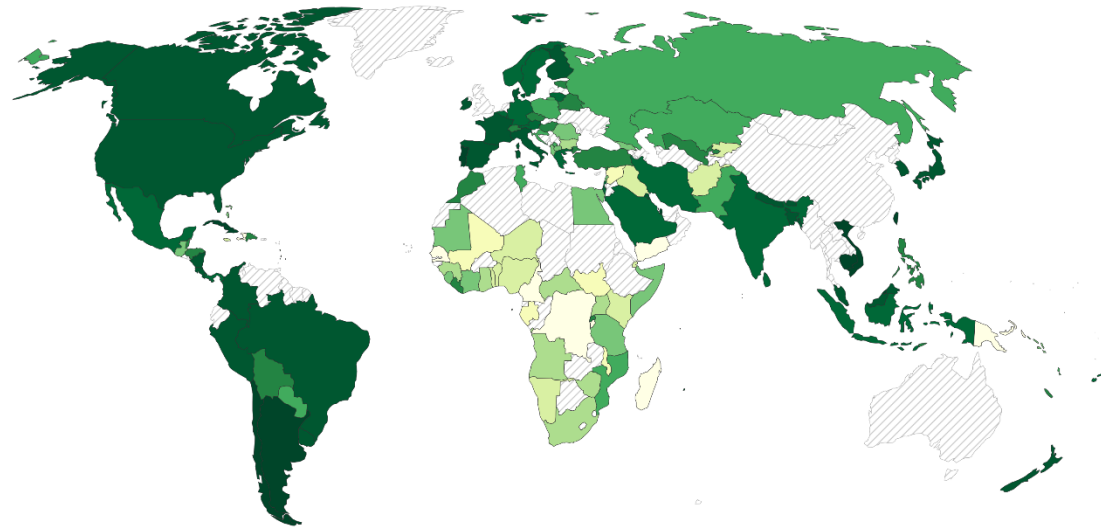
COVID-19 vaccinations

04.11.2022

Share of people who received at least one dose of COVID-19 vaccine, Nov 4, 2022

Total number of people who received at least one vaccine dose, divided by the total population of the country.

Our World
in Data



Source: Official data collated by Our World in Data - Last updated 5 November 2022

OurWorldInData.org/coronavirus • CC BY



Euthanasia

Euthanasia and physician-assisted suicide refer to deliberate action taken with the intention of ending a life, in order to relieve persistent suffering.

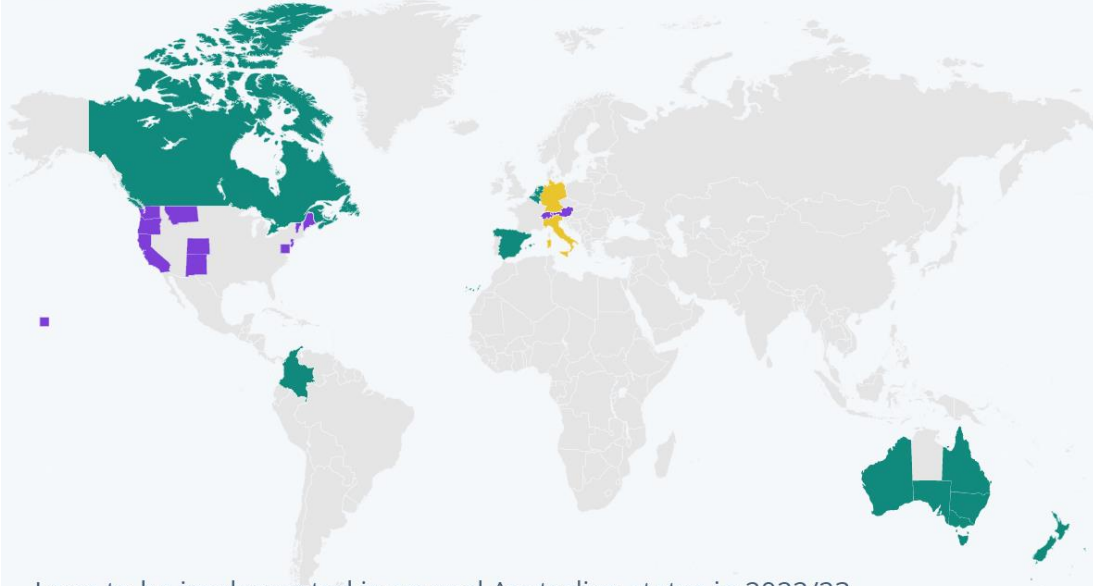
The first countries to legalize euthanasia were the Netherlands in 2001 and Belgium in 2002.



Where Assisted Suicide is Legal

Legality of assisted suicide and euthanasia around the world
(as of Aug 31, 2022)

- Legal for a doctor to prescribe medication & to administer it
- Legal for a doctor to prescribe medication
- Parliamentary debate after high court ruling



Laws to be implemented in several Australian states in 2022/23

Sources: British Medical Association, Annals of Palliative Medicine, Statista research



statista 



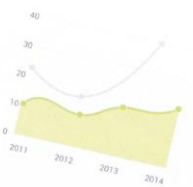
Thank
you!

Morris Charts

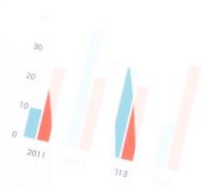
Line Chart



Area Chart



Bar Chart

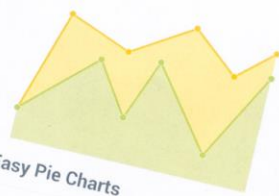


Donut Chart



Sparkline Charts

Line Chart



Bar Chart



Easy Pie Charts

