

Business model transformation in healthcare

Research & Education view



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Death toll

- 1918-1920: H1N1 - 20 - 100M
- 2020 - : SARS-CoV2 - 20M+

Covid-19 overtakes 1918 Spanish flu as deadliest disease in American history



By [Helen Branswell](#) Sept. 20, 2021

[Reprints](#)

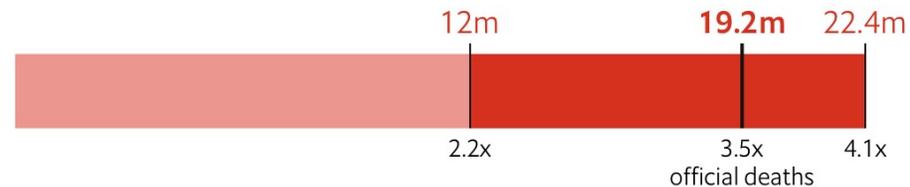


Volunteer nurses from the American Red Cross tend to influenza patients in the Oakland Municipal Auditorium, used as a temporary hospital in 1918.

UPDATED ON JANUARY 13TH



Estimated global excess deaths
With 95% confidence interval



Official global covid-19 deaths

5.5m



Meanwhile on planet Earth



Google Finance

INDEXNYSEGIS: NYA

NYA • INDEKSI

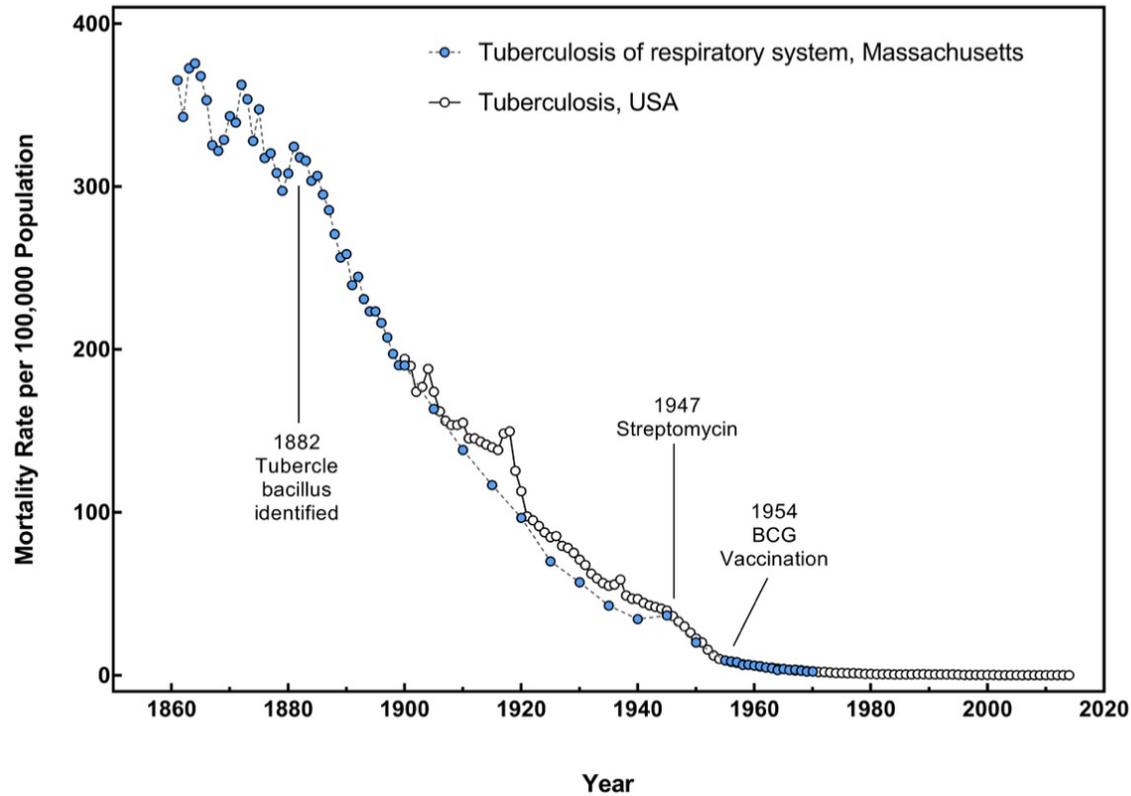
NYSE Composite

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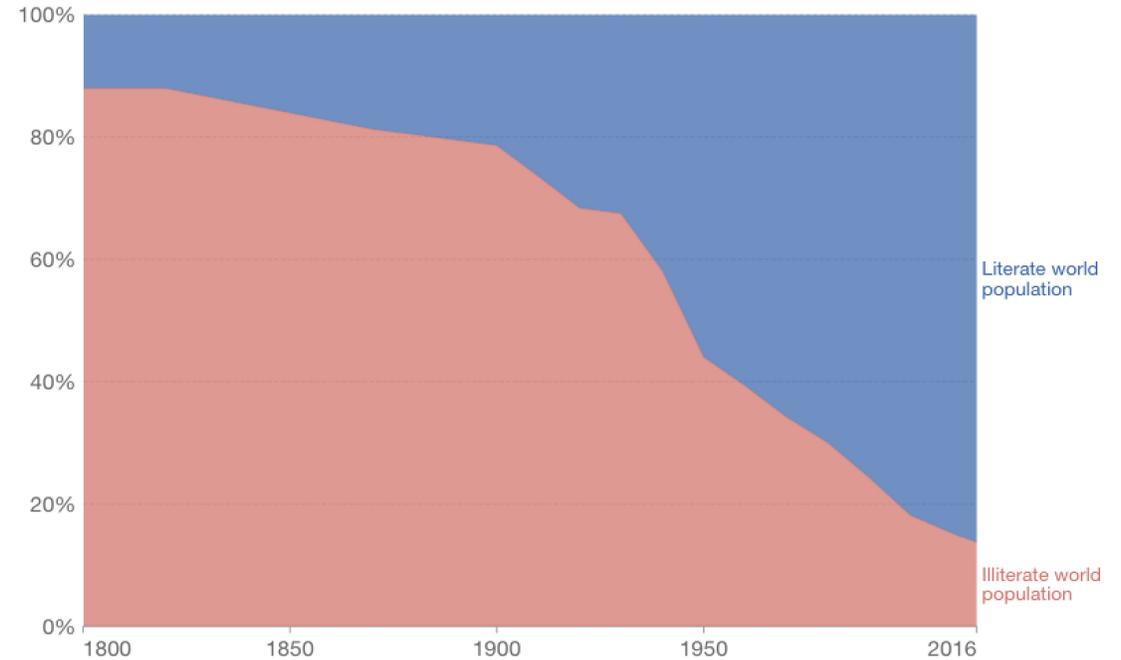




Literate and illiterate world population

Population 15 years and older.

Our World
in Data



Source: Our World in Data based on OECD and UNESCO (2016)

OurWorldInData.org/global-rise-of-education • CC BY

McKeown's thesis: **The growth of population can be attributed to a decline in mortality from infectious diseases, *primarily thanks to better nutrition*, later also to better hygiene, and only marginally and late to medicine.**

What does data tell us beyond Covid-19 of global healthcare ?

<https://ourworldindata.org/>

Can you buy health ?

Healthy life expectancy vs. Health expenditure per capita, 2014

Healthy life expectancy, defined as the average number of years lived free from disability or disease burden, versus average per capita health expenditure measured in 2011 international-\$.

Our World
in Data

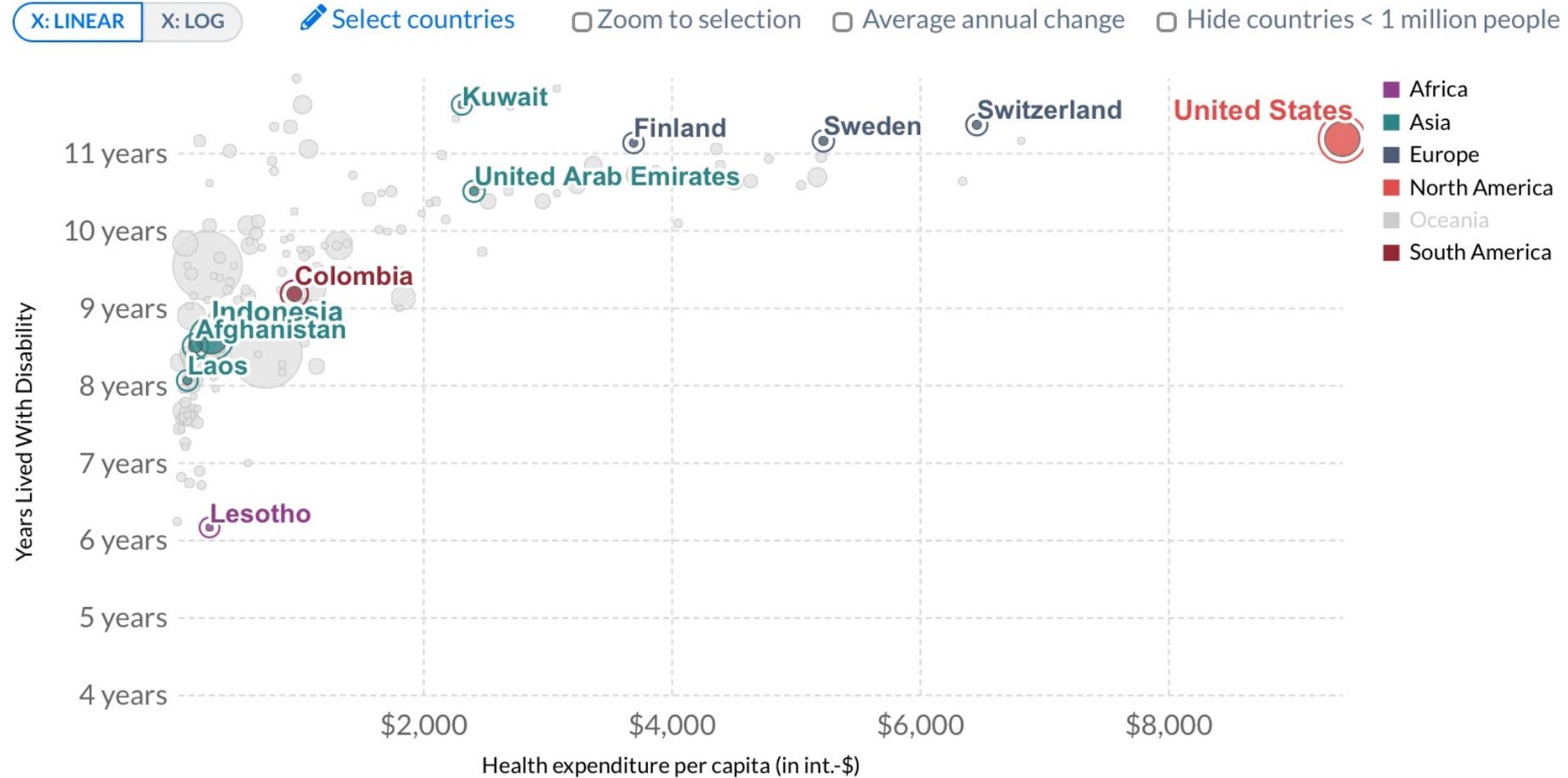


Can you buy health ?

Years lived with disability vs. Health expenditure per capita, 2014

Average number of years lived with disability or disease.

Versus average health expenditure per capita, measured in 2011 international- $\$$.



Source: IHME (2017), World Bank - WDI



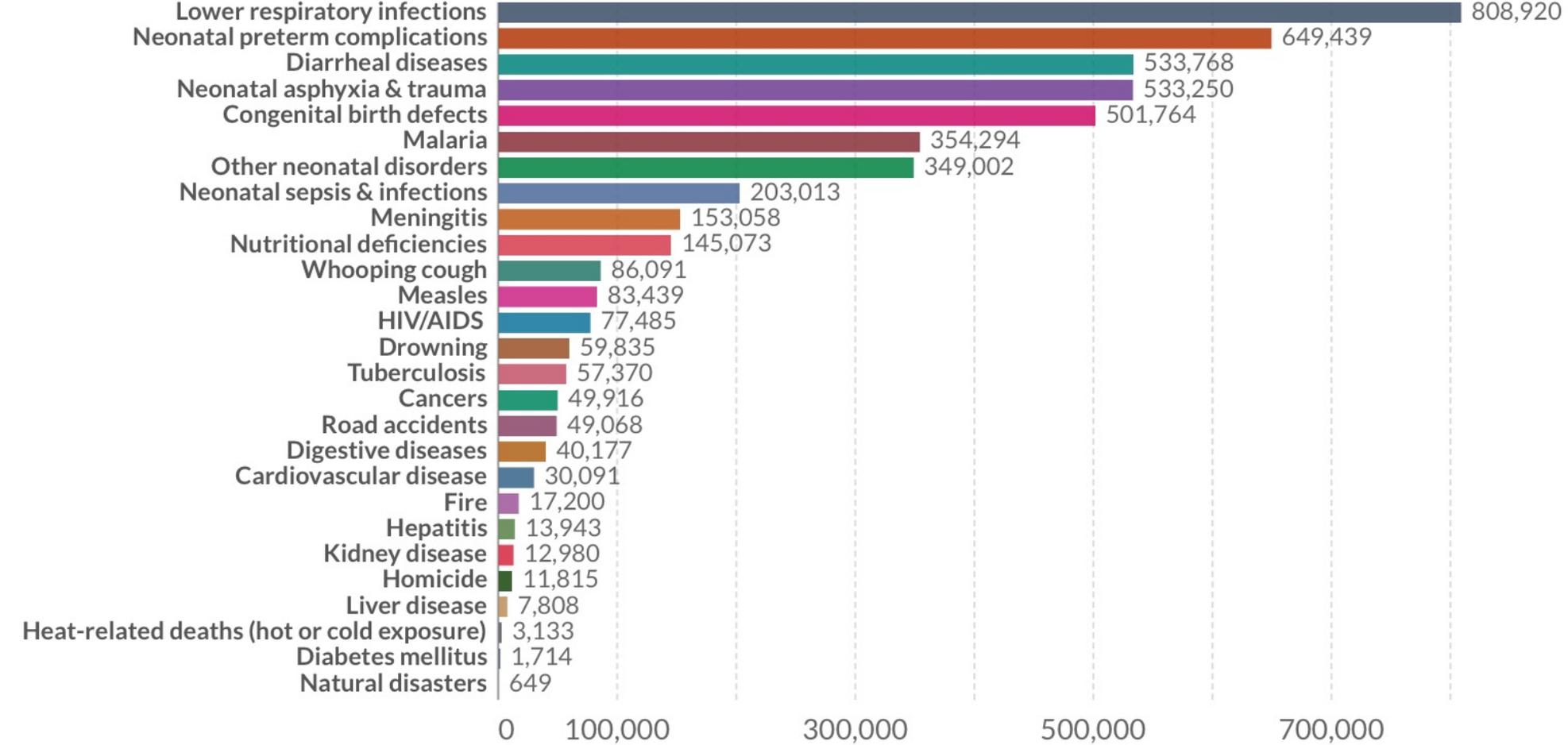
Where should we then invest ?

Causes of death in children under 5, World, 2017

Annual number of deaths by leading causes in children under 5 years old.

Our World
in Data

[↔ Change country](#)



Source: IHME, Global Burden of Disease (GBD)

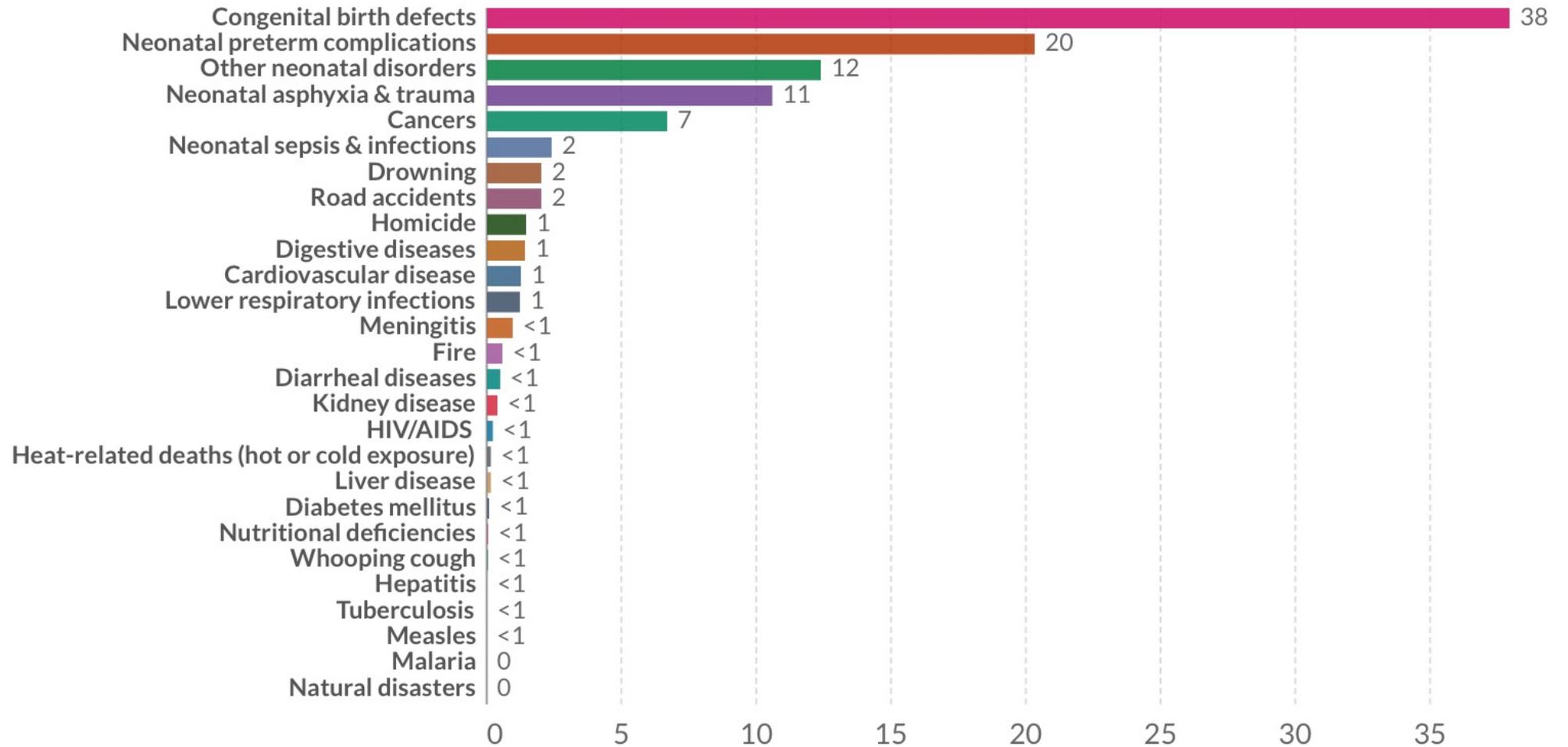
Where should we then invest ?

Causes of death in children under 5, Finland, 2017

Annual number of deaths by leading causes in children under 5 years old.



[↔ Change country](#)



Source: IHME, Global Burden of Disease (GBD)

OurWorldInData.org/causes-of-death • CC BY

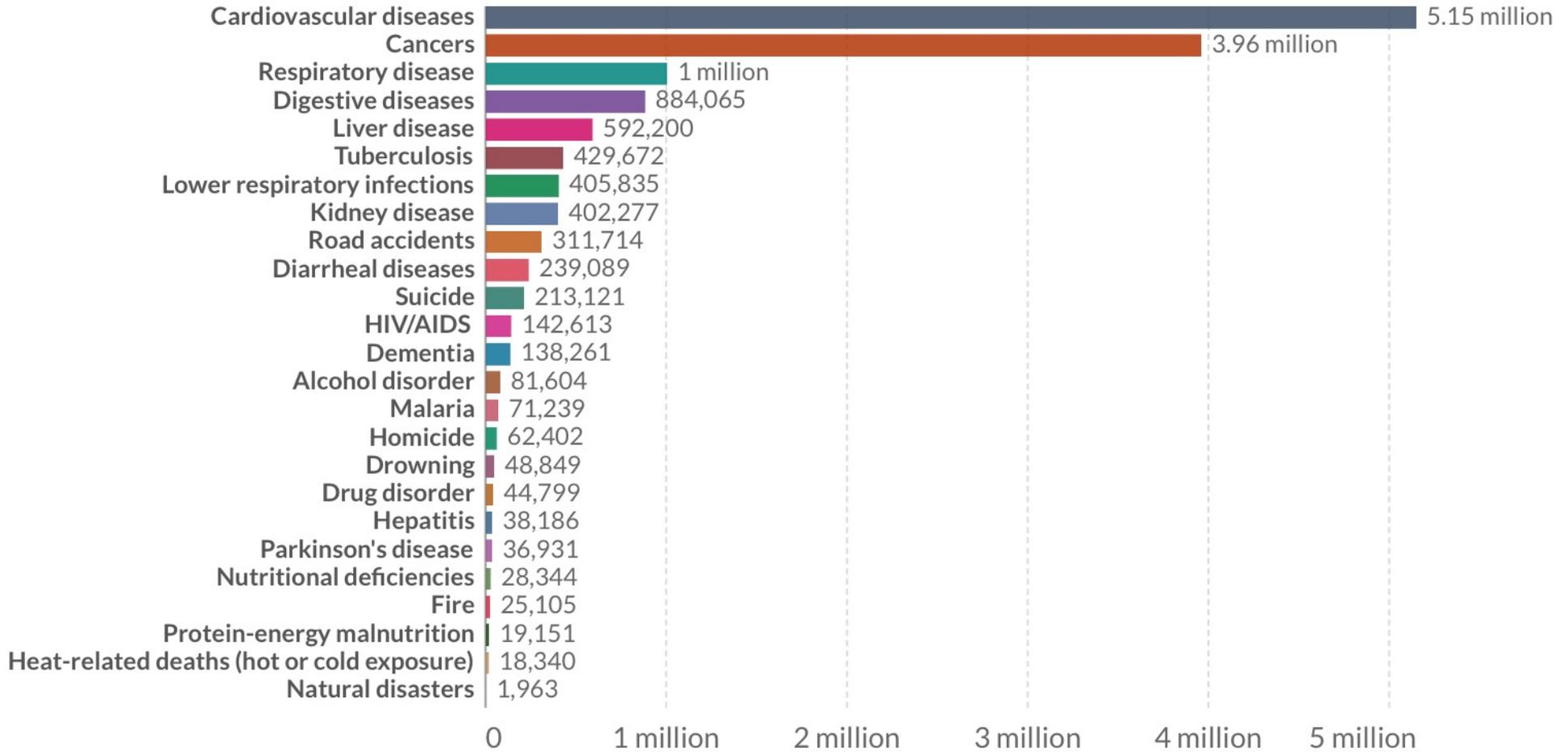
Where should we then invest ?

Causes of deaths for 50 to 69 year olds, World, 2017

Annual number of deaths – by cause – for people between 50 and 69 years.



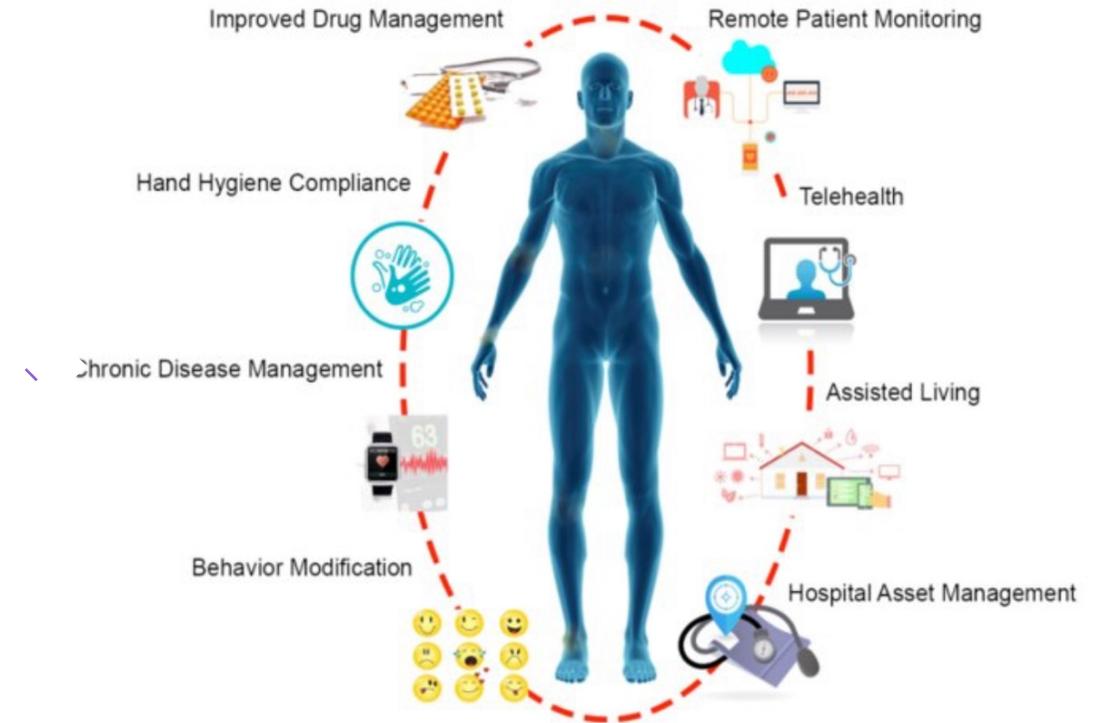
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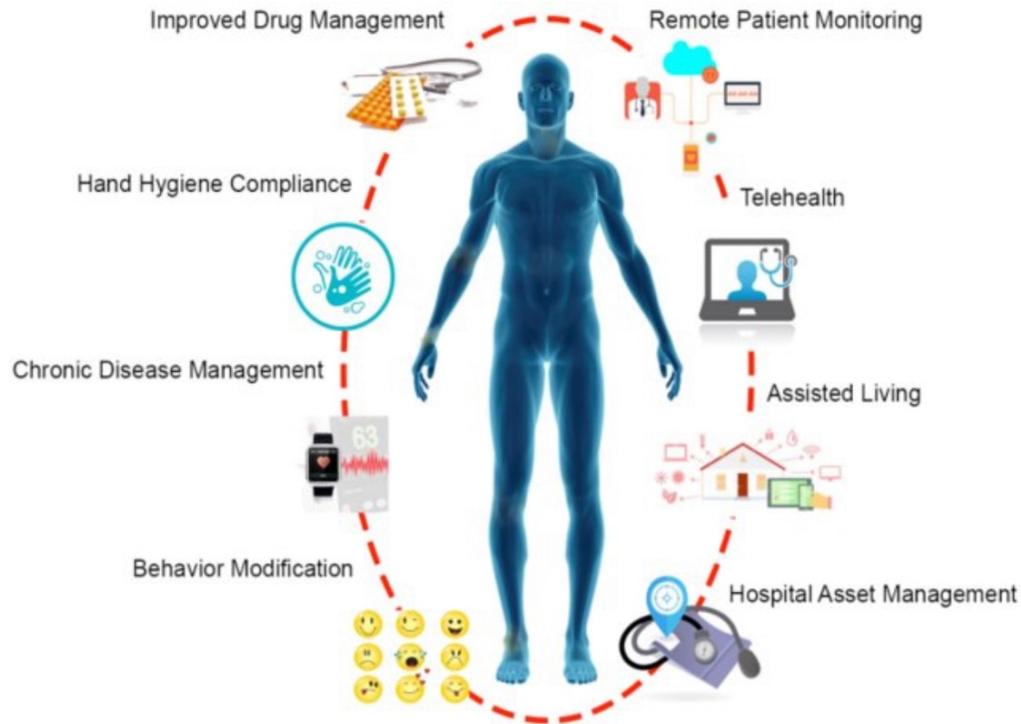
Source: IHME, Global Burden of Disease (GBD)

What next ?

- People are increasingly aware of their health
 - Highly dependent on education and social status
 - New Opportunities for technology, education and preachers
- Remote/Internet doctor services
 - In some areas already covering more than 50% of health visits
- Health tech from fitness industry comes to every day life
 - Personal wearables



What next ?



- People demand their "rights"
 - Young doctors facing aging opinionated customers
- Growth for Health Industry from developing countries
 - Many modern "Western World" solutions are not economically nor ethically sustainable
- Cost-effectiveness criteria for health care

What next ?

- Opportunities for avoidance and early detection of non-communicable diseases
- More effort on infectious disease control ? – will we forget ?
- And above all - we will learn to use DATA better - the key to future lies in data



How do we approach all these questions in Education:

- Close collaboration with the service providers (Incl. private sect)
- Emphasis on areas of growing needs
 - Generate attractivity by introducing to specialist areas early on during medical education
 - Geriatric medicine, Psychiatry, General medicine...
- Patient communication
- Simulation teaching
- Science track also for the medical students
- Multidisciplinary education
 - Academy concept of the faculties

How do we approach all these questions in Science:

- Network of collaboration within Turku Area
- The faculty profiles in
 - Drug Development, Diagnostics and Health⇒ Profiling actions beyond basic research on e.g.:
 1. Long term follow-up studies on major non-communicable diseases
 2. Interventions and studies with social dimension
 - Invest, Center of Excellence of Physical Activity for Children and Youth (HCT)
 3. Novel early diagnostics & therapeutics
 1. InFLAMES
 4. Strong efforts&investments in data-sciences



My theses

- Deregulate
 - (Good hearted) regulation slows down and kills innovation processes
 - The first X-ray came to Finland just two years after the innovation – would it ever happen today ?
 - New regulation on biobanking and GDPR are killers for research
- Challenge dogmas
 - Even scientists often revert to beliefs beyond data
 - Many Nobel laureates have had to walk this path of unjust disbelief
- Data is the king
 - We only have to read it **right**



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