



Lebensformen eines 100-jährigen Lebens – Nur wer plant, erntet im Alter

3. Multimorbidity Day
Zürich
22. November 2018



Agenda & Themen

- **Worum geht es?**
- Zur Geschichte der Langlebigkeit
- Wie geht es weiter?
- Chancen und Herausforderungen
- Fazit



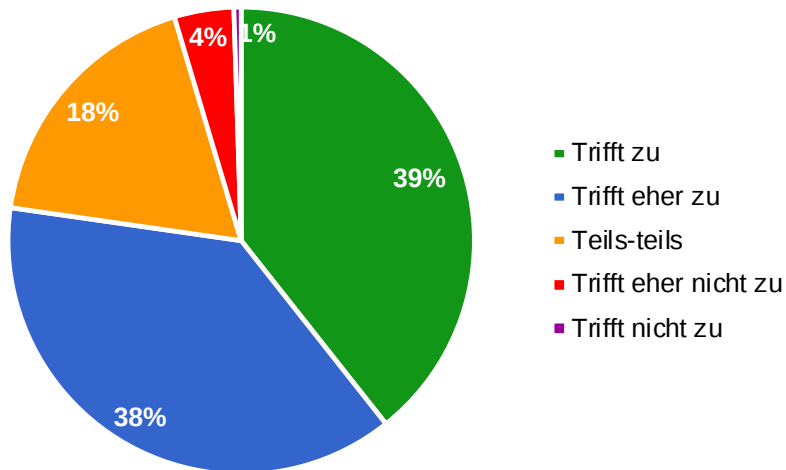
Unsere Reise wird immer länger



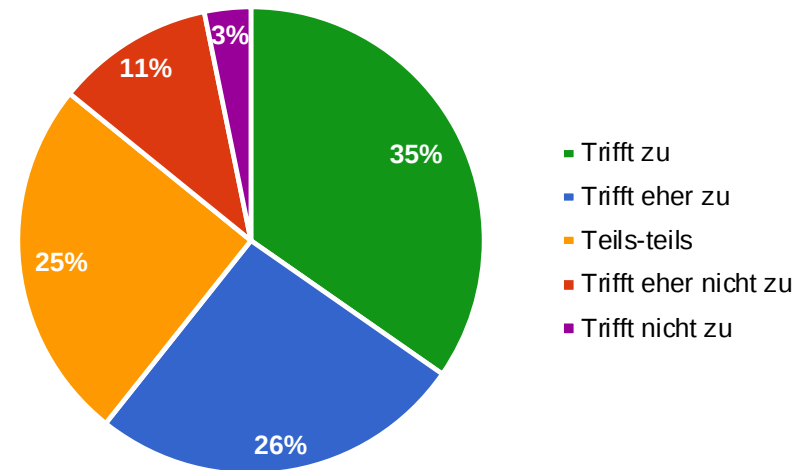


Vorstellungen über ein gelingendes Leben

**Sie achten auf eine gesunde Lebensweise
(Ernährung, Sport, Entspannung)**



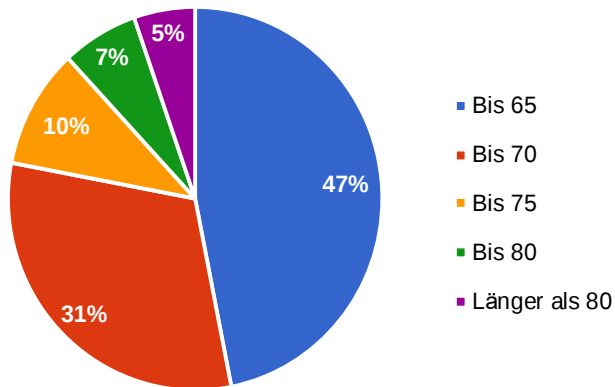
**Sie können sich vorstellen, etwas komplett
anderes in Ihrem Leben zu machen**



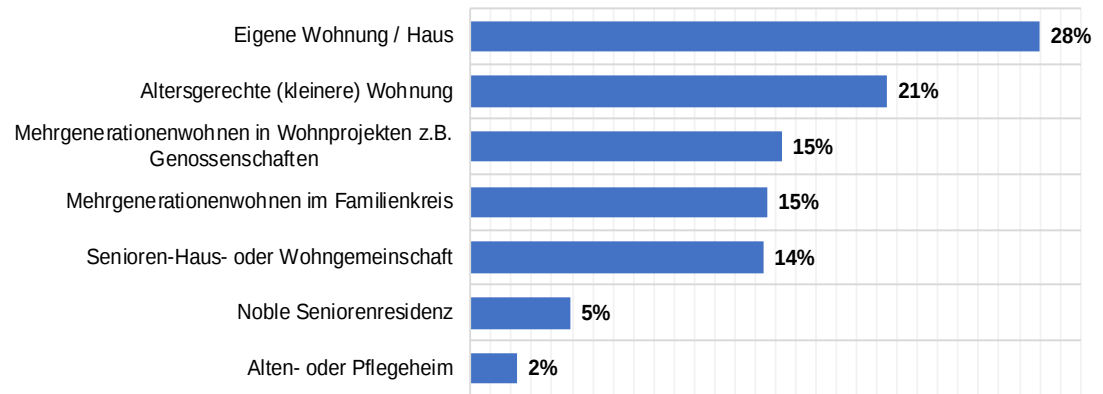
n=250, 35- bis 55-Jährige (Generation X)

Vorstellungen über ein gelingendes Leben

Bis zu welchem Alter, können Sie sich vorstellen zu arbeiten?



In welcher Form könnten Sie sich vorstellen im Alter zu wohnen?



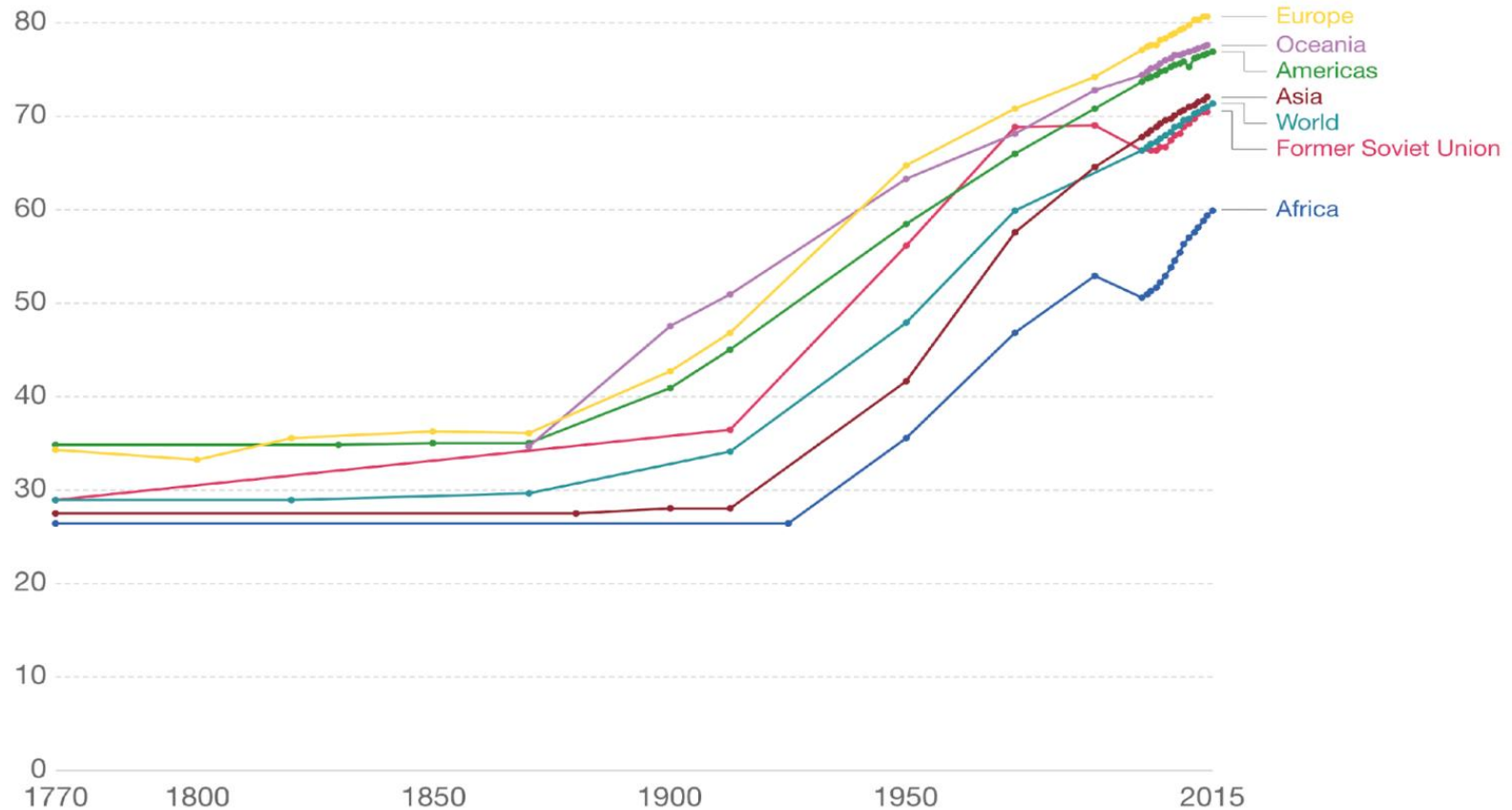
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Agenda & Themen

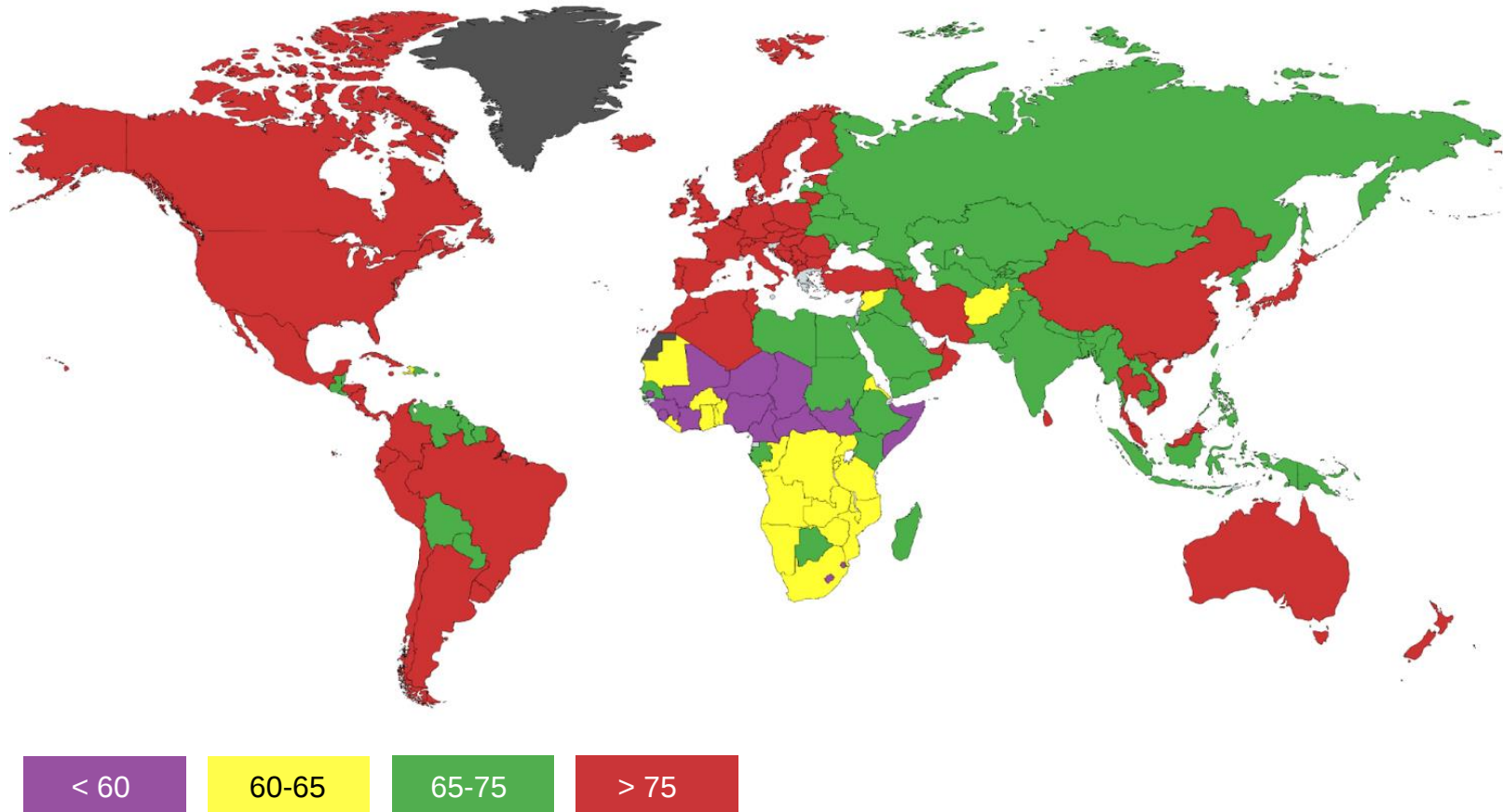
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Unsere Lebenserwartung seit 1770



Source: Riley (2005), World Health Organization, Our World in Data

Lebenserwartung 2018



Data Source: World Health Organization, Publish Date: 2018

Unsere Langlebigkeit: Was “treibt” sie?



Scientific Progress

Main causes of Death

- Microbes, bacteria and viruses were the major cause of deaths before the mid-20th century
- People died young of consumption, quinsy, fever, childbirth...

Major progresses made

- Discoveries of bacteria and viruses
- Development of antibiotics, drugs and vaccines
- Sanitary measures



Food & Water

- No/low access to clean water, no separation between clean and dirty water
- Mass starvation, bad nutrition

- Sanitation improvements: cleaner water, filtering systems
- Better access to good food, improved nutrition, refrigeration



Living & Working Conditions

Main causes of Death

- Terrible living and working conditions: crowded, filthy, poorly ventilated, poor isolation
- Conditions fostering microbe development

Major progresses made

- More houses build with better economic conditions, less hospitable to vermin and germs
- Better working conditions



Technological Progress

- Low understanding of diseases
- Low ability to accurately diagnose them
- Low ability to treat diseases

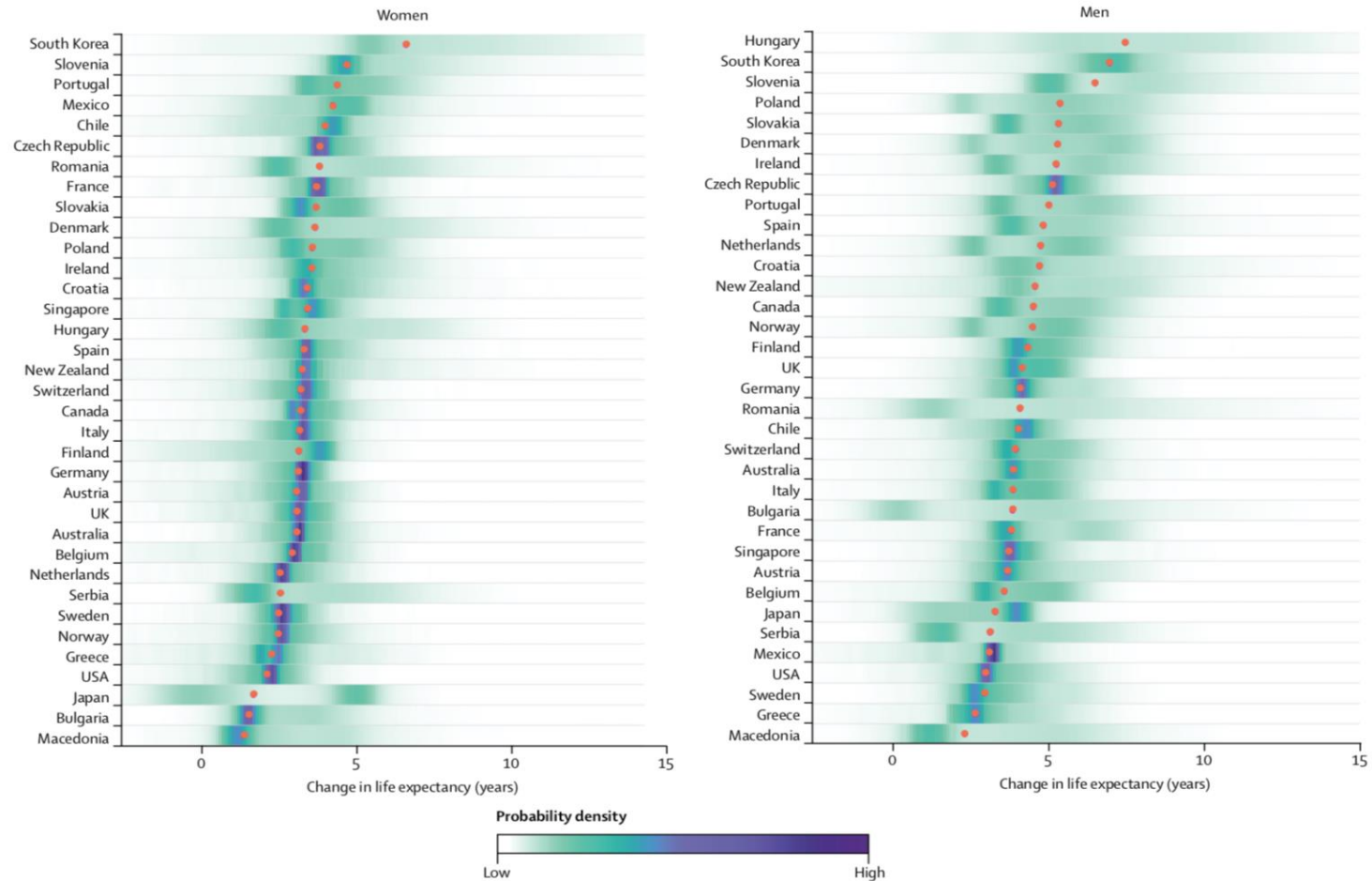
- Better diagnosing techniques (identifying viruses, serologic testing...)
- Computerization for diagnosis



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Lebenserwartung 2030 (Bayesianisches Projektionsmodell)



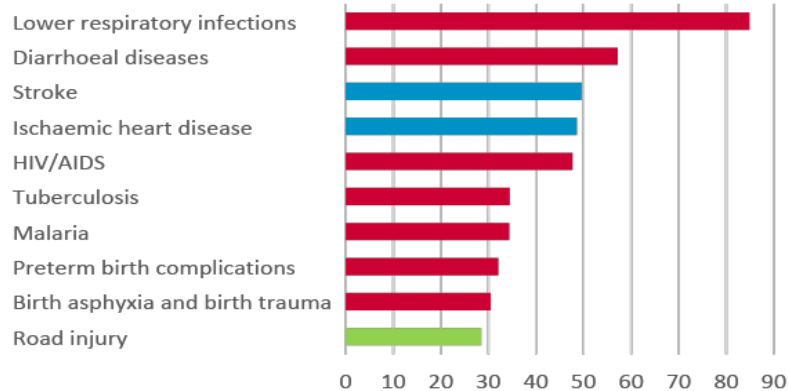
Posterior distribution of projected change in life expectancy at birth from 2010 to 2030

Red dots show the posterior medians. Countries are ordered vertically by median projected increase from largest (at the top) to smallest (at the bottom)

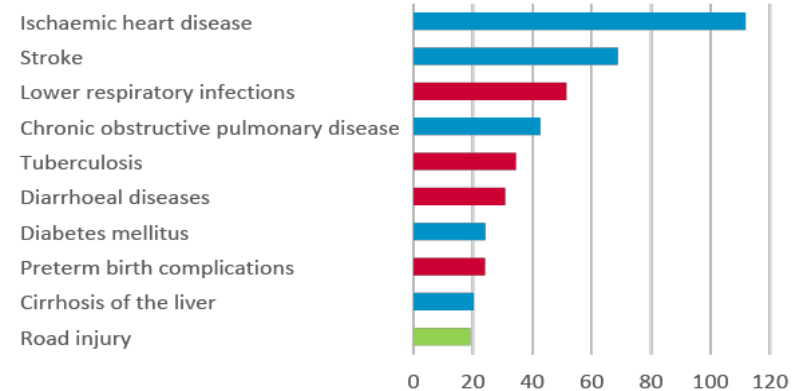


Wachsender Wohlstand, andere Todesursachen

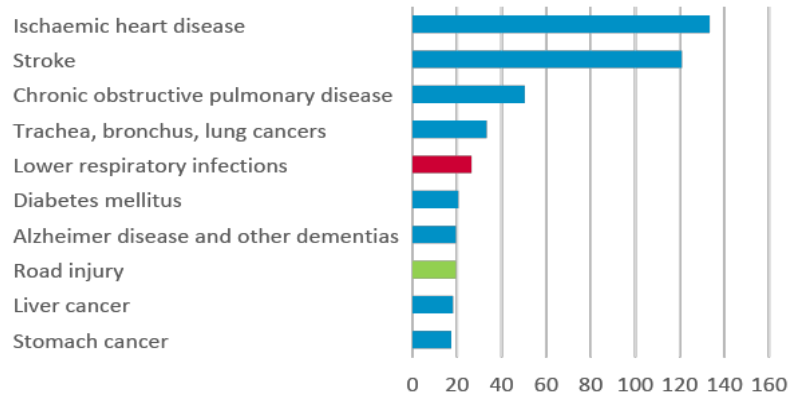
**Top 10 causes of death in low-income countries in 2015
(crude death rate per 100,000 population)**



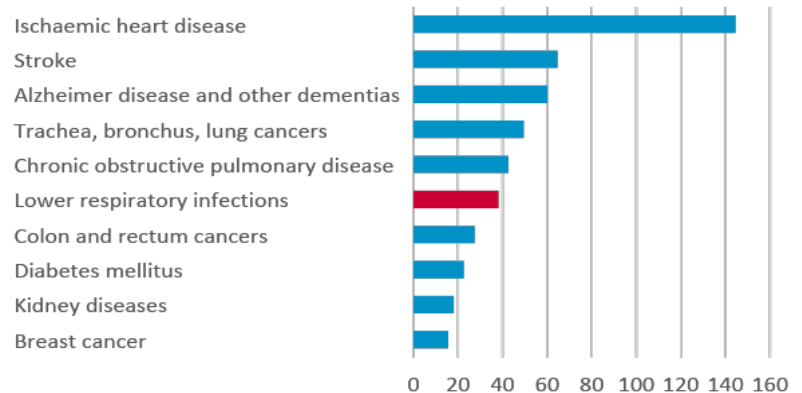
**Top 10 causes of death in lower-middle-income countries in 2015
(crude death rate per 100,000 population)**



**Top 10 causes of death in upper-middle-income countries in 2015
(crude death rate per 100,000 population)**



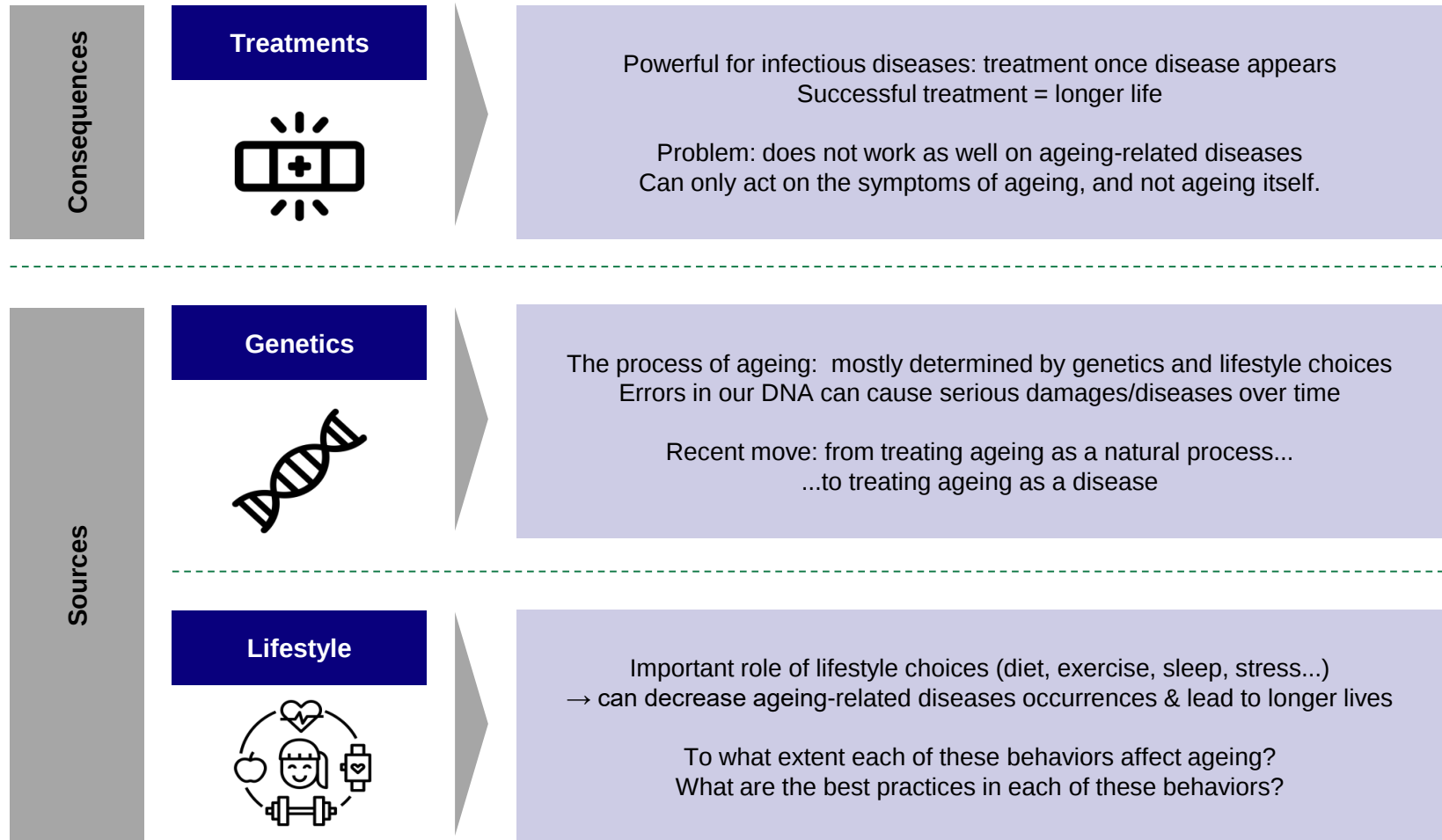
**Top 10 causes of death in high-income countries in 2015
(crude death rate per 100,000 population)**



Communicable, maternal, neonatal and nutritional conditions Non communicable diseases Injuries

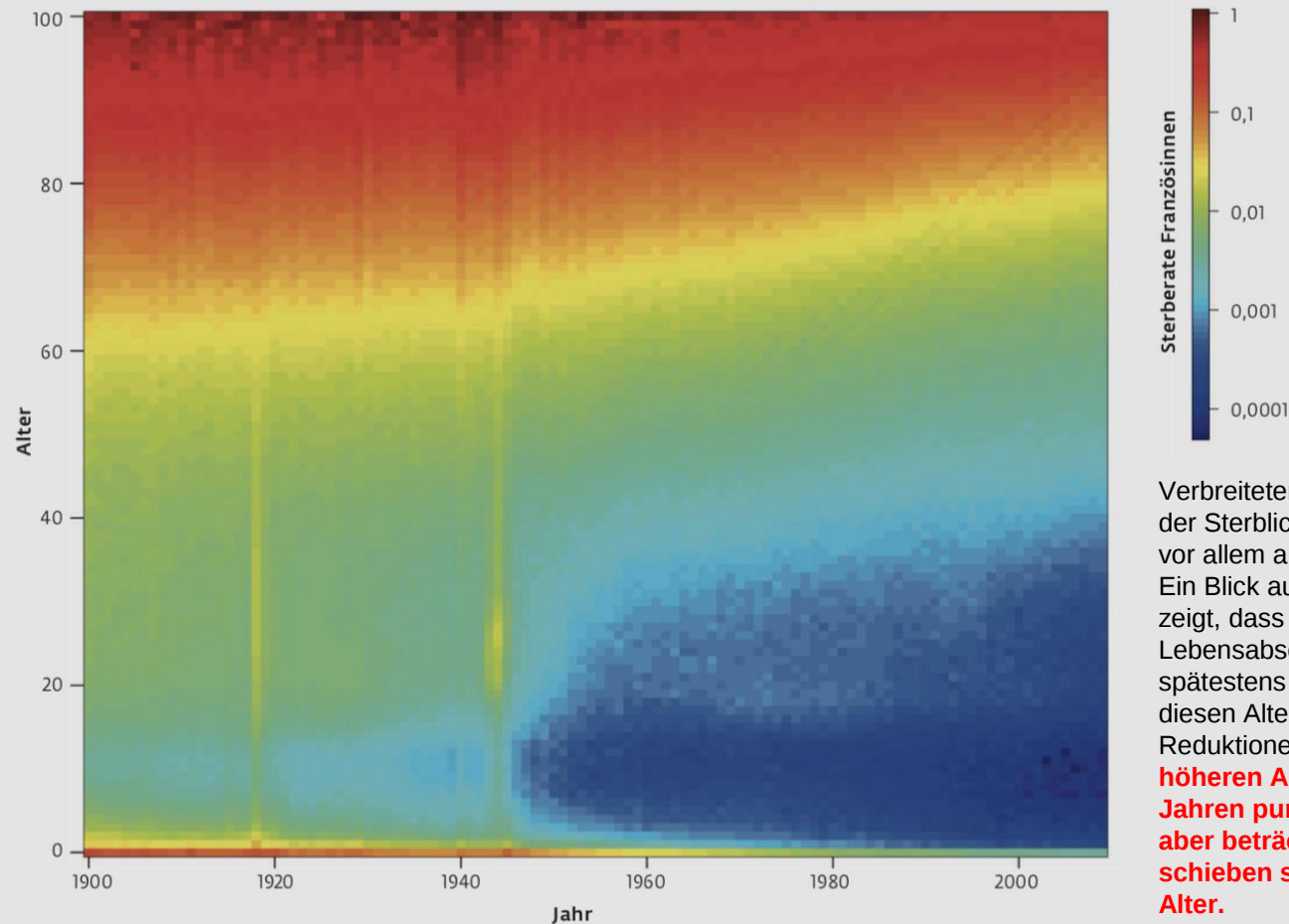


Neue Behandlungen, unsere Gene, unser Lebensstil: Die Motoren der steigenden Lebenserwartung





Mehr Leben erleben – nicht nur in Frankreich



Verbreiteter Irrtum: Die Verbesserungen der Sterblichkeit beziehen sich keineswegs vor allem auf das Kinder- und Jugendalter. Ein Blick auf das vergangene Jahrhundert zeigt, dass die Mortalität in diesem Lebensabschnitt zwar weiter sinkt. Aber spätestens in den 1950er- Jahren ist sie in diesen Altersgruppen so klein, dass Reduktionen sich kaum noch auswirken. **Im höheren Alter von 60, 70 und sogar 80 Jahren purzeln die Raten inzwischen aber beträchtlich. Die Verbesserungen schieben sich also in ein immer höheres Alter.**

Source: Max Planck Forschung



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Unsere Lebenserwartung: Die Herausforderungen

1

psychosozial

2

Klima

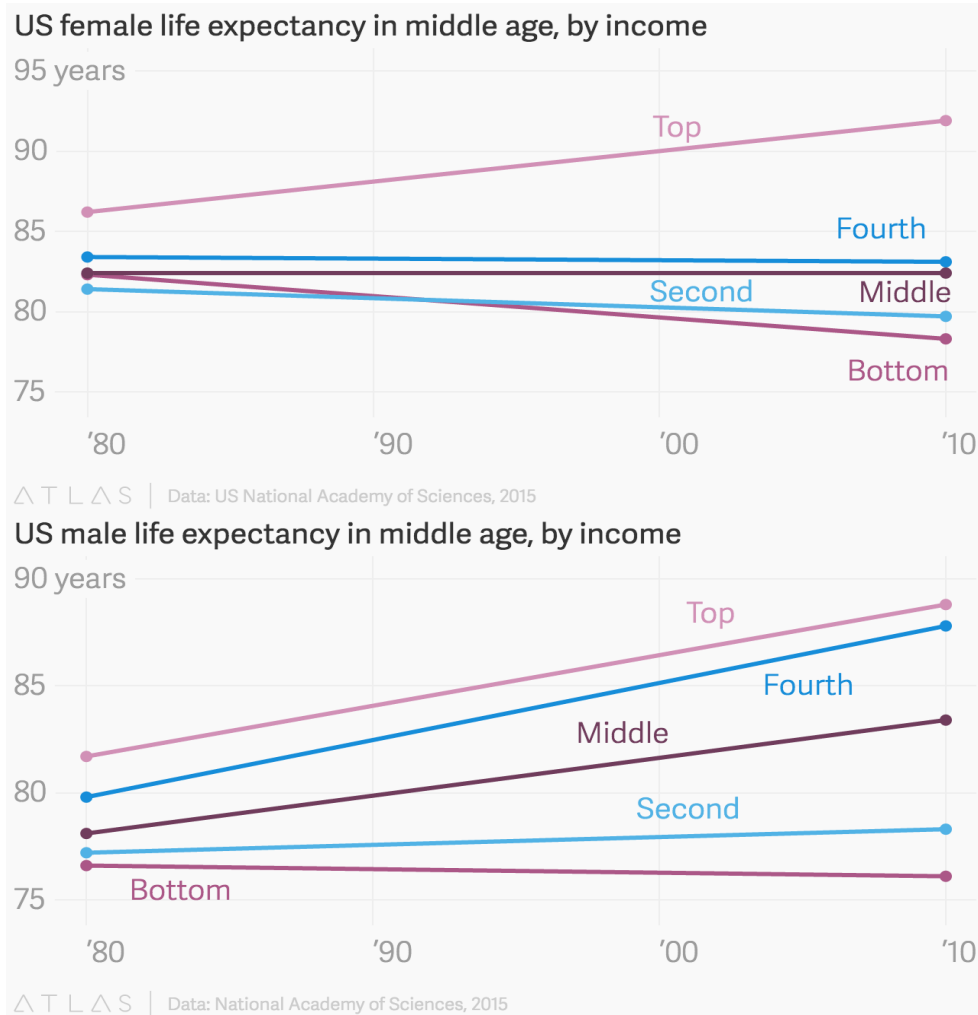
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Luftverschmutzung

4

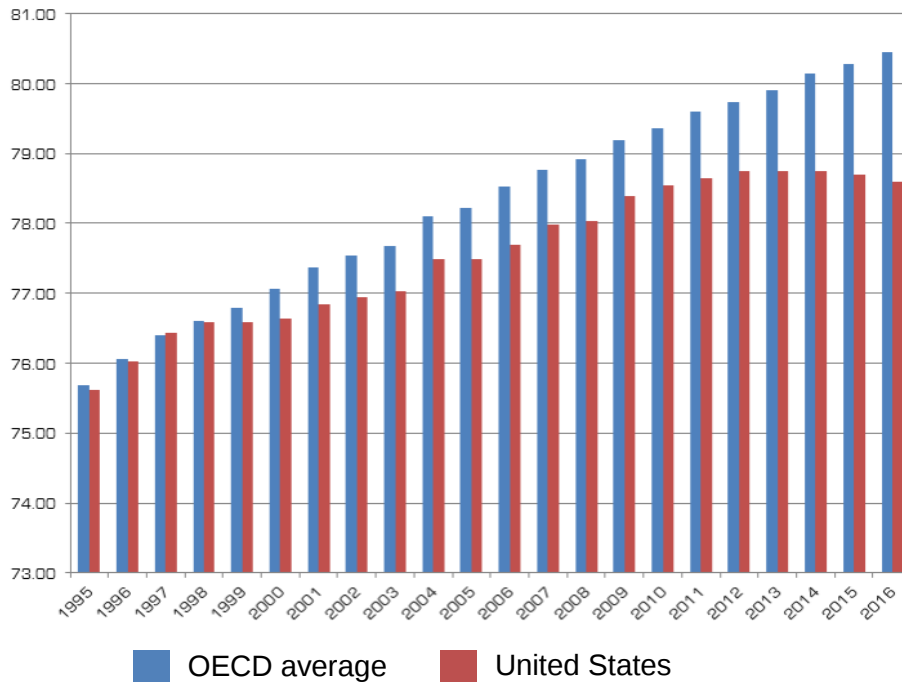
sozioökonomisch

Zunehmende Einkommensunterschiede



- Higher traditional risk factors i.e. poor diet, alcoholism, and smoking
- High income inequality and psychological issues due to social exclusion etc => bad choices
- Cuts to public and social services have drastic effect
- Lancet: high and inequitable mortality from chronic diseases and violence, and insufficient and inequitable health care

Zunehmend ungleiche Lebensumstände



- Opioid crisis considered to be behind the decline
- Further research pointed to decline in emotional well-being
- Deaths from alcoholism and suicides increased significantly – deaths of despair

Source: peer-reviewed journal, The BMJ



Neue Industrien machen “longer & healthy living” möglich

	AI & Machine learning	Rejuvenation biotechnology
Case studies	• Drug discovery: very expensive to develop a new drug and takes an average of 12 years • Disease identification/diagnosis: faster, more accurate and cheaper than humans	• Senolytic treatments: induce death of senescent cells, ongoing research, uncertain • Vampire therapy: transfusion of blood plasma from young donors, promising
Example of Players	• Google DeepMind Health: technology for cancer, degeneration in aging eyes, UK • BenevolentBio: delay in the onset of motor neuron disease, positive results	• SENS Research Foundation: public charity focusing on funding research against ageing • Google Calico: biotech arm of Google focusing on fighting ageing-related diseases, secret
	Tracking devices & Prevention	Others
Case studies	• Early prevention: today's medical touchpoints are very limited, here constant • Lifestyle recommendations: use data to recommend behaviors, insurance incentives	• Gene editing: Extending life by editing out rogue genes • Singularity: Uploading consciousness into a robot
Example of Players	• Discovery: one of the first insurance company to offer lower premiums with tracking devices • Fitbit: collect medical information that can be used by third parties if clients link account	• CRISPR: gene editing tool capable of removing specific sequences of DNA • 2045 Initiative: enabling transfer of one's personality to a non-biological carrier



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Demografie ist nicht verhandelbar

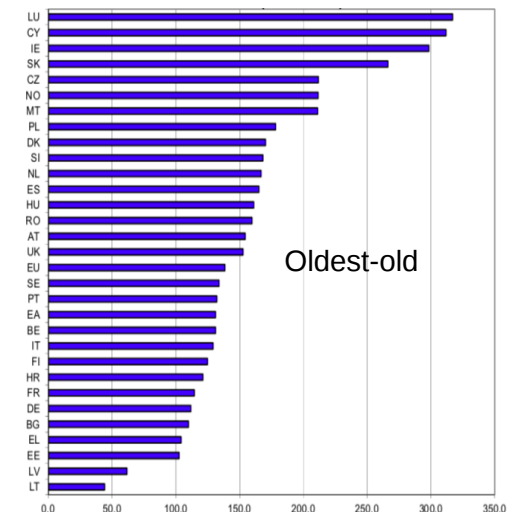
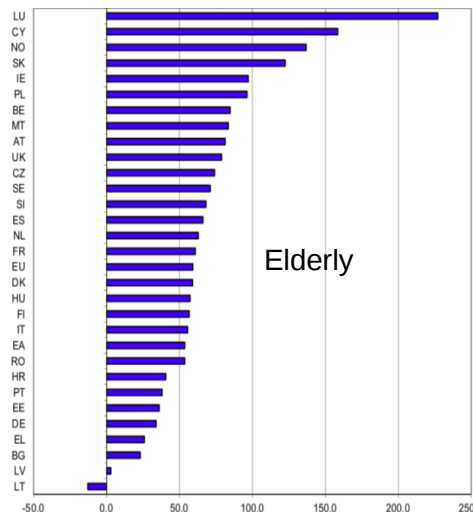
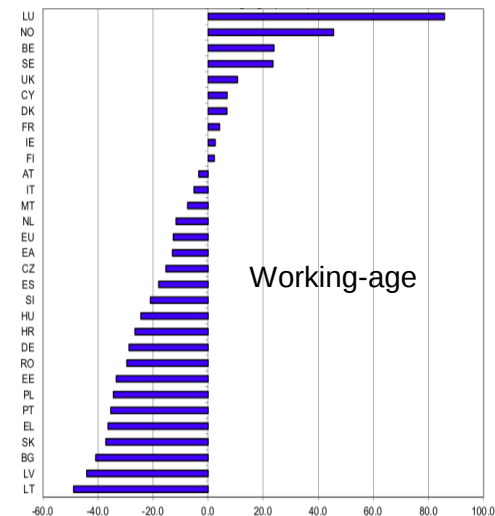
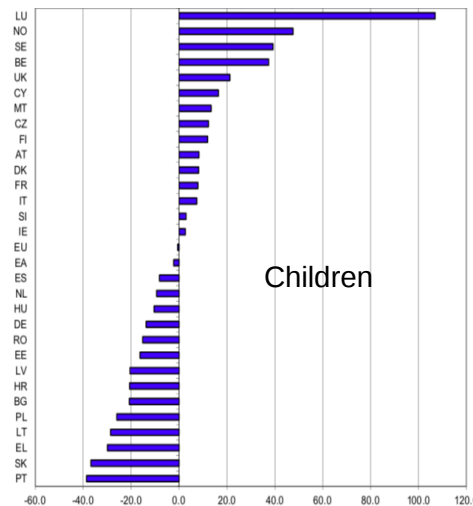
Projected change of main population groups

(in %, 2013-2016)

- Children (below 20 years old)
- Working-age (20 to 64 years old)
- Elderly (65 years old and above)
- Oldest-old (80 years old and above)

“The EU would move from having four working-age people for every person aged over 65 years to about two working-age persons.”

*- European Commission
(2015 Report)*



Source: Commission Services, Eurostat, EUROPOP2013

Demografie ist nicht verhandelbar

Immer mehr und immer länger prägen Langlebige unsere Gesellschaft und ihre Mechanismen. Somit ändern sich auch die Schwerpunkte und Anforderungen an ihre Akteure – auch das Gesundheitswesen.



Health

- Policies to ensure healthy ageing
- Ensuring mental health in old age
- Providing necessary health and social services
- Climate resilience
- Eliminating health inequality
- Inclusion in decision making
- Promoting connect with the young



Financing

1. Money for health and social services
2. Immigration policies
3. Percentage work to reduce burden to health and social services
4. Budget allocations to awareness, trainings, and care services
5. Partnerships



Meine Fragen an Sie

1

- Glauben Sie auch, dass unsere Lebenserwartung weiter zunimmt?

2

- Gesunde Lebenserwartung: Was kann man erreichen? Was ist der Beitrag der Medizin?

3

- Ein gelingendes Leben: Was verstehen Sie darunter?



Our Next World

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August 27, 2019

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