



HEALTHCARE FOR HEALTHY AGEING

3-4 JUNE 2014



Institutet för  
**FRAMTIDSSTUDIER**

Anders Ekholm  
Deputy Director

[www.iffs.se](http://www.iffs.se)

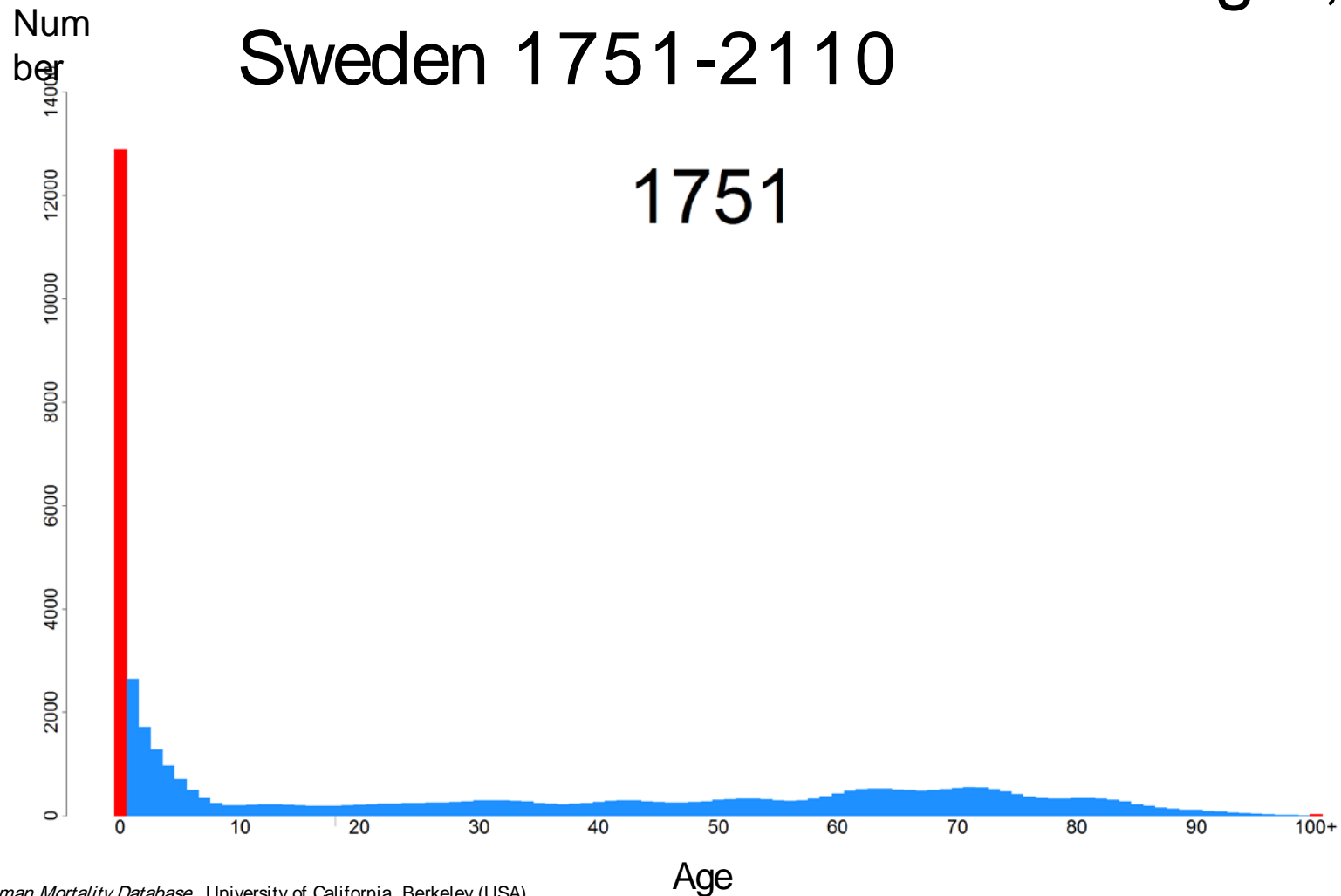
# *Technologies for autonomous ageing*

*– gains, risks, needs, and obstacles.*

Anders Ekholm  
Deputy Director

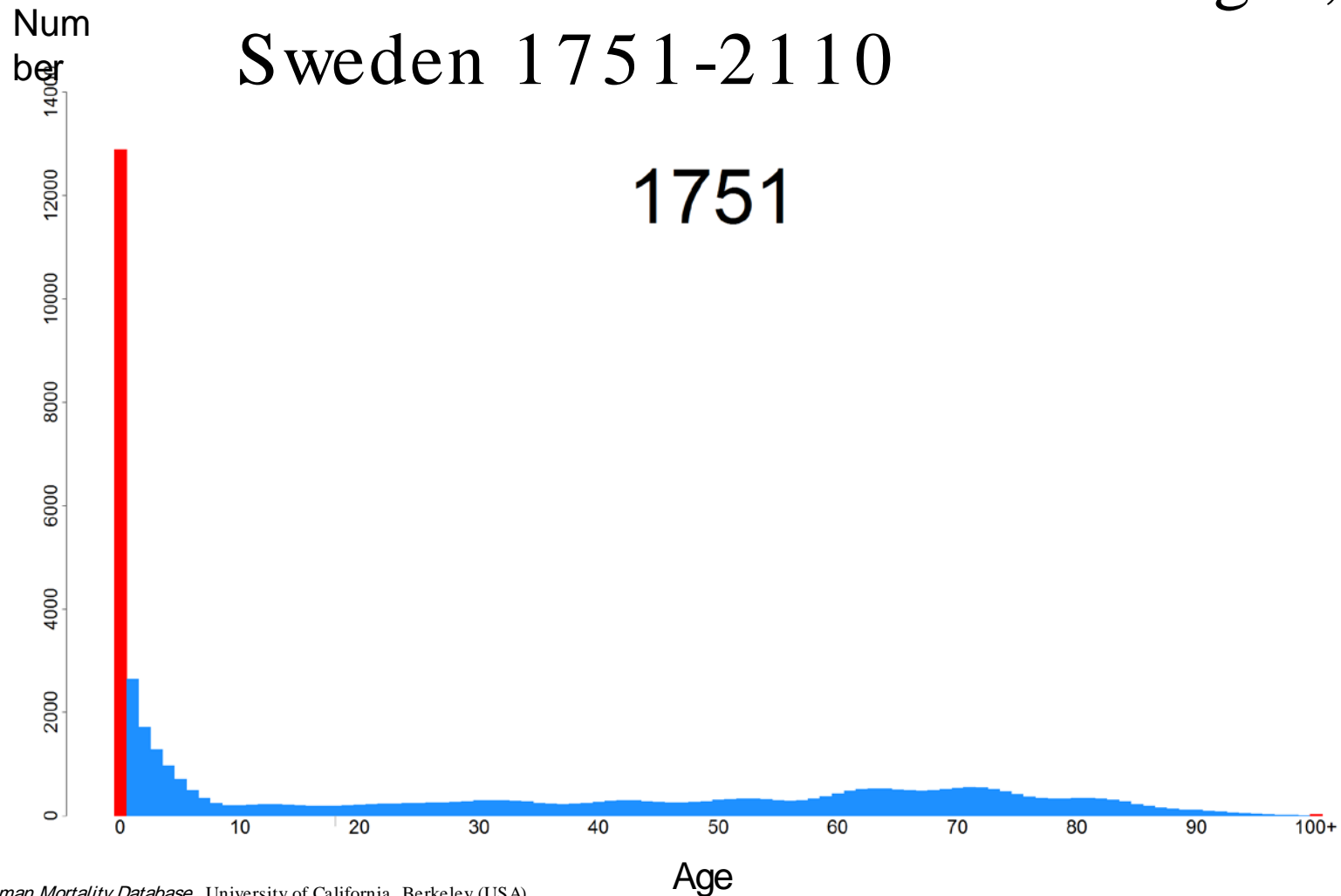


# Number of deaths at various ages, Sweden 1751-2110



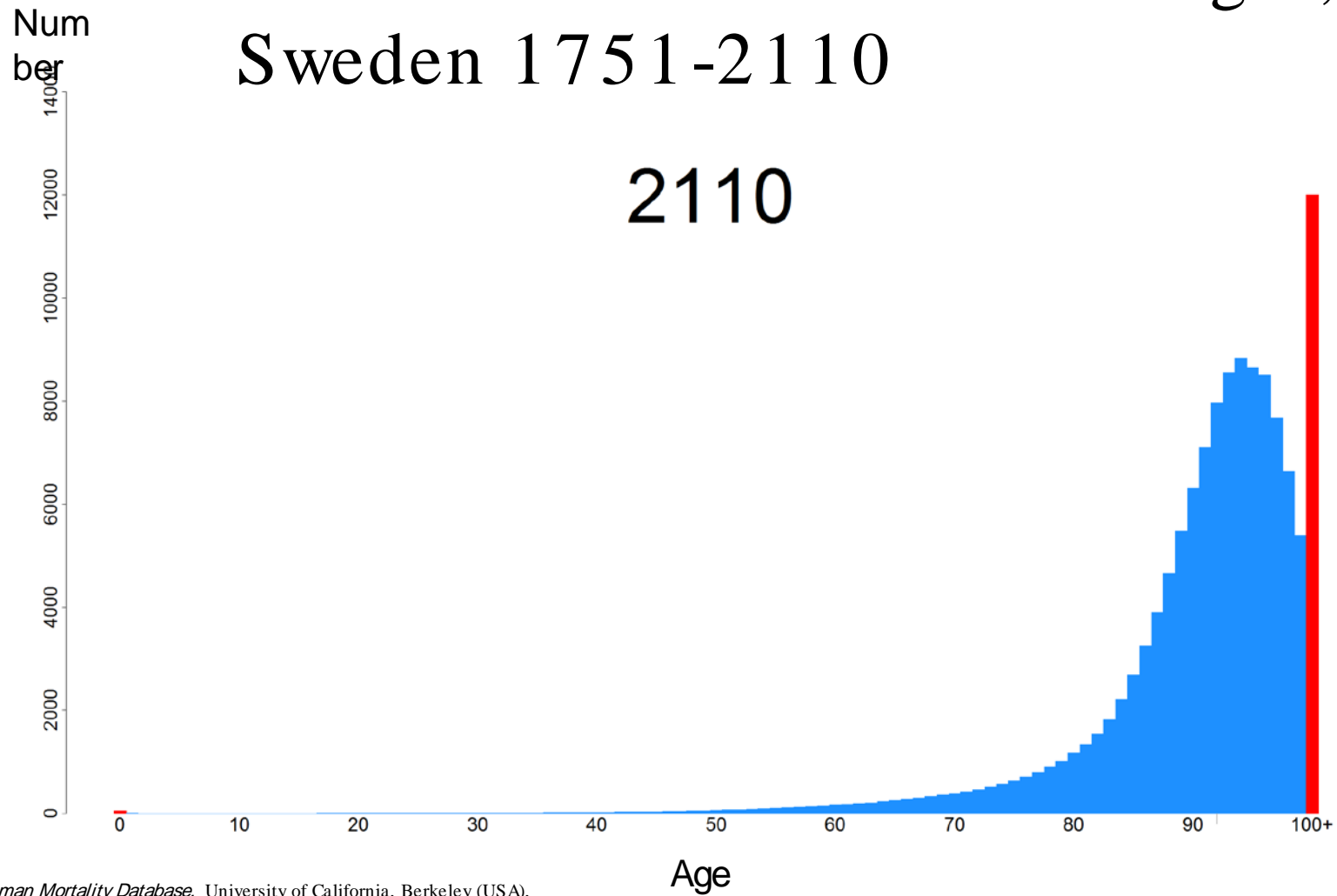
*Källa: Human Mortality Database. University of California, Berkeley (USA), and Max Planck Institute for Demographic Research (Germany), SCB.*

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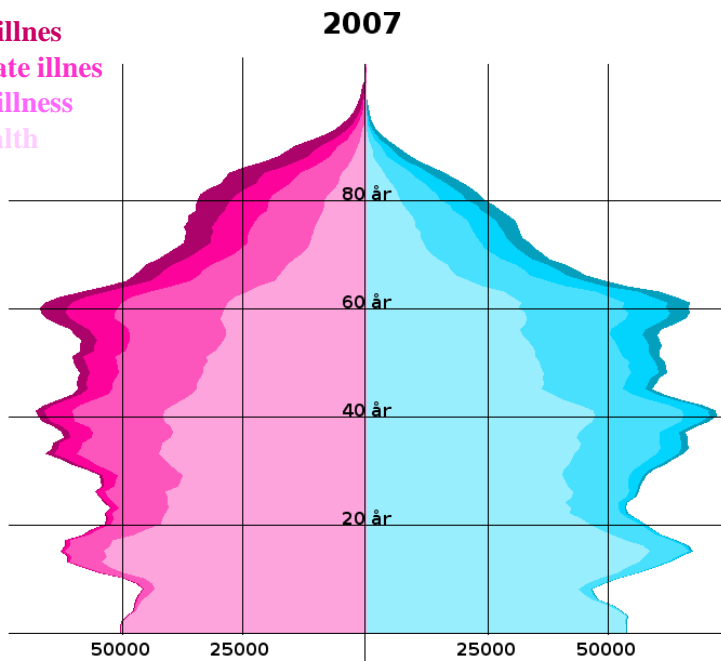
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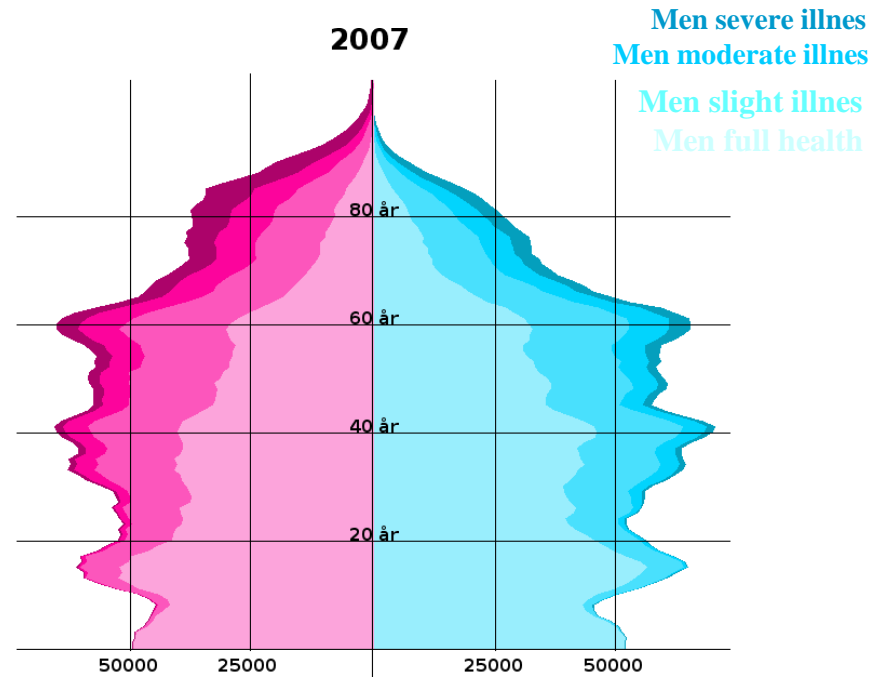
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# Population composition

## Compressed illness

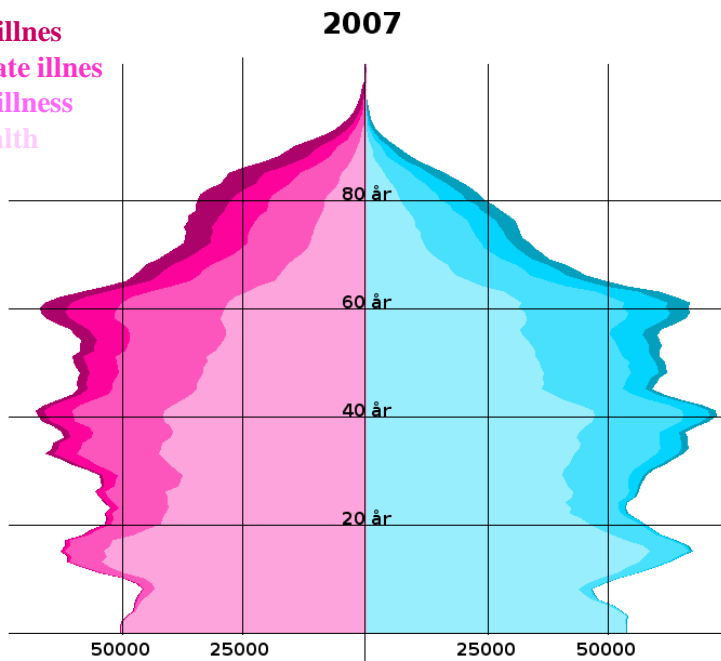


## Lancet

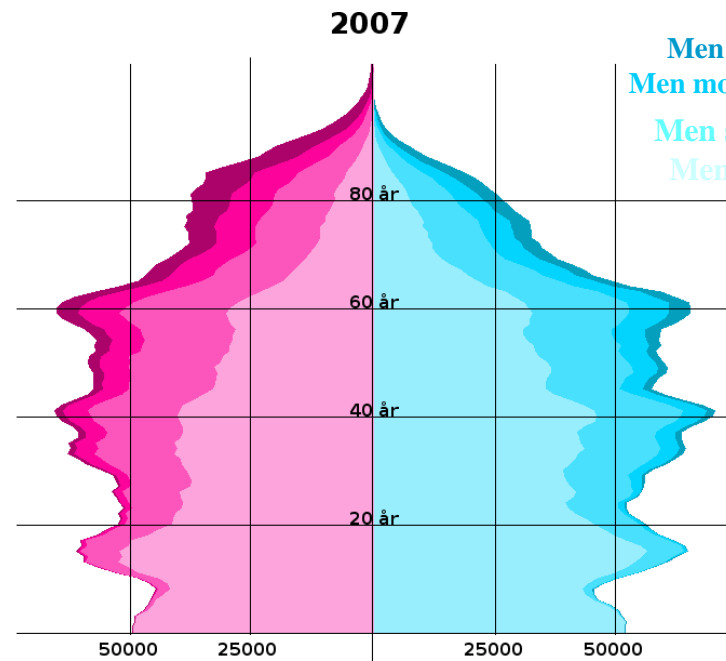


# Population composition

## Compressed illness



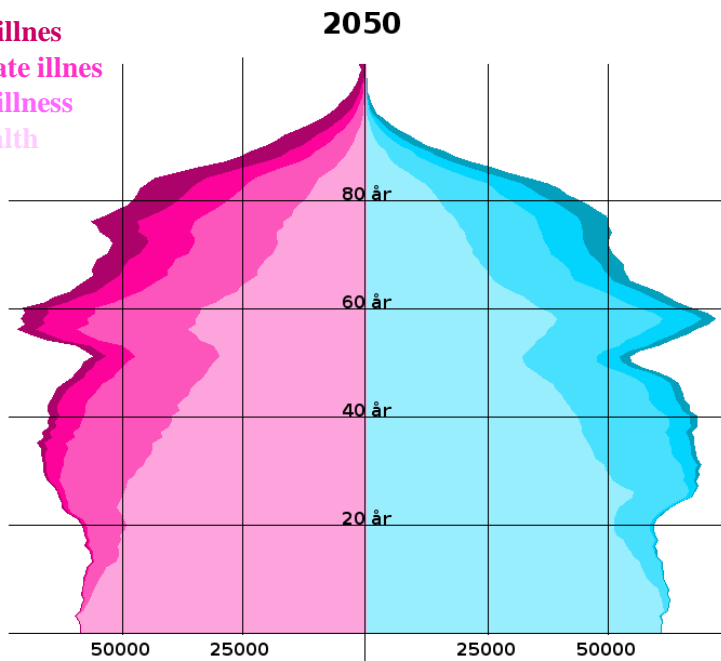
## Lancet



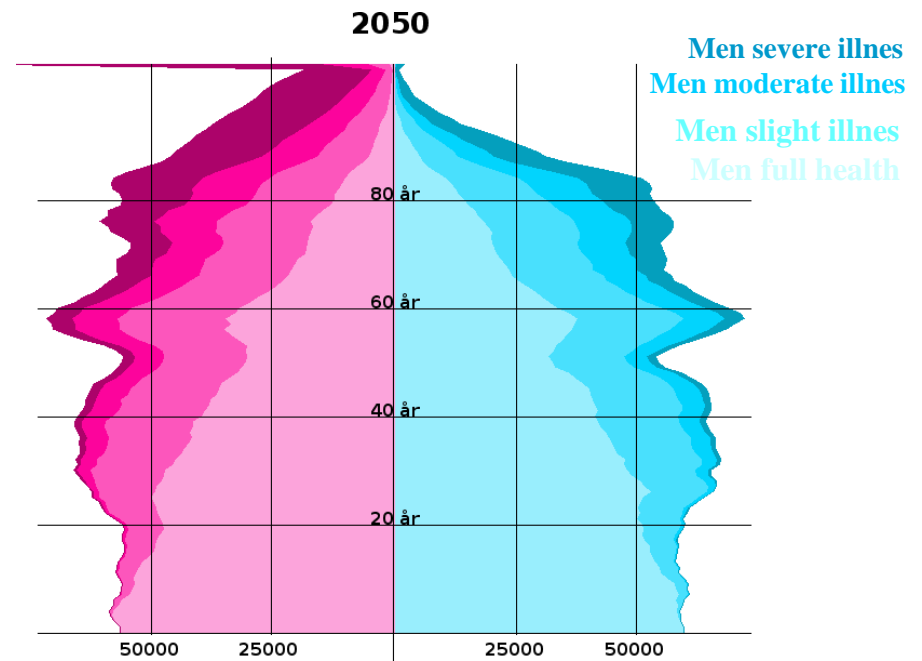


# Population composition

## Compressed illness



## Lancet



# Result

By 2050 cost are expected to:

Elderly care will increase by 70%

Health care increase by 30%

Increased ambition/technology level  
80%



# Crossroads

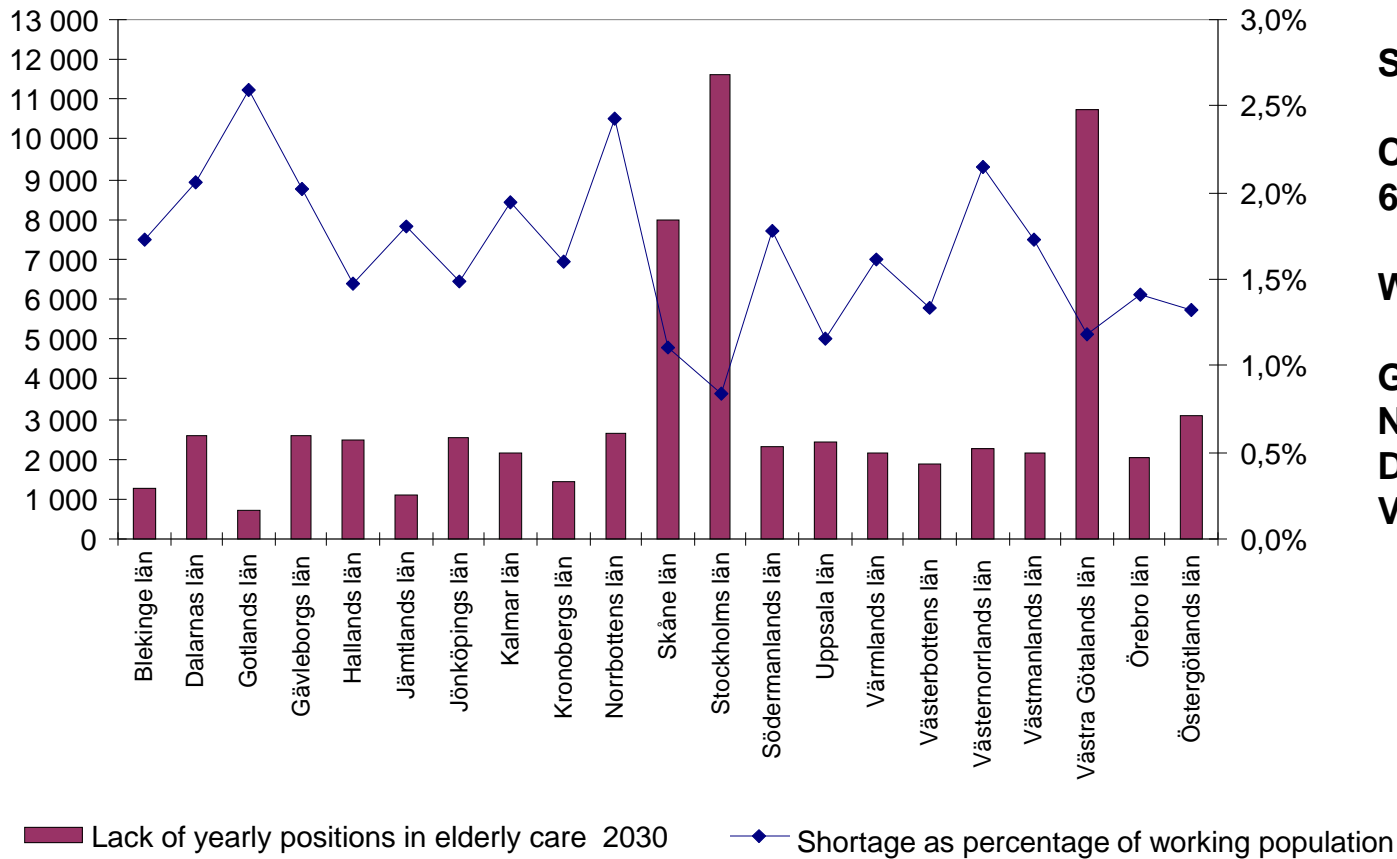
Financing models,  
Cost cuts

Or

Improving efficiency?



# Staff shortage in elderly care the year 2030 per region



**Shortage 2030**

**Country approx:  
65 000**

**Worst regions:**

**Gotland  
Norrbotten,  
Dalarna and  
Västerbotten**



# Is technology important?

You can not predict the future since you can not predict all future technology. If you predict future technology, then its not the technology of the future any more.

Henri Pointcaré



# Technology is almost everything

Technology is the result of the development of a society, as well as the catalyst for its further development

Benjamin R Barber



# What new technologies are emerging?

Internet of things

Self measurement – quantify self movement

Decision support systems

Daily life support systems – memory – lifestyle

Robotics



# IBM Watson Cognitive systems

It uses programmatic computing plus the combination of three additional capabilities that make Watson truly unique:

- natural language processing,
  - hypothesis generation and evaluation, and
  - dynamic learning.
- 
- The new jeopardy grandmaster 2010





# HAL

Power Units  
for upper limb  
(+Angle Sensor)

Battery Pack

Control Unit on back

Bio-electric Signal Sensors

Power Units  
for lower limb  
(+Angle Sensor)

Floor Reaction Force Sensor



# Bestic; eating assistive device



# Gains; when health care turns into IT

Inexpensive care – automated care, co-production

Secure care – monitoring and warnings

Equal care -not possible without decision support systems

Important for mental as well as physical well being



# Risks

Risks are more linked to old technology, as are costs

Social contacts in every day life

The aids makes our life too comfortable, lures us in to a too lazy lifestyle

New technology always poses a risk, when not matured



## *Obstacles -the great AND-problem on a system level*

Laws

AND

IT-maturity of the Government (Public sector) Rank 16 vs Private 2

AND

Organization, processes

AND

Business models

AND

Staff, anxiety, conservatism

But NOT

IT-technology

Patients, -Yet!



Thank you!





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