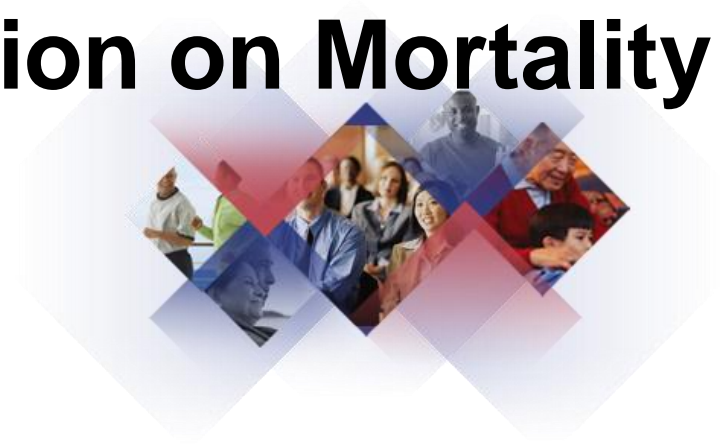


Live Long and Prosper: The Impact of Education on Mortality



Understanding the Relationship Between
Years of Education and Longevity

Robert M. Kaplan
Agency for Health Care Research and Quality
July 27, 2015



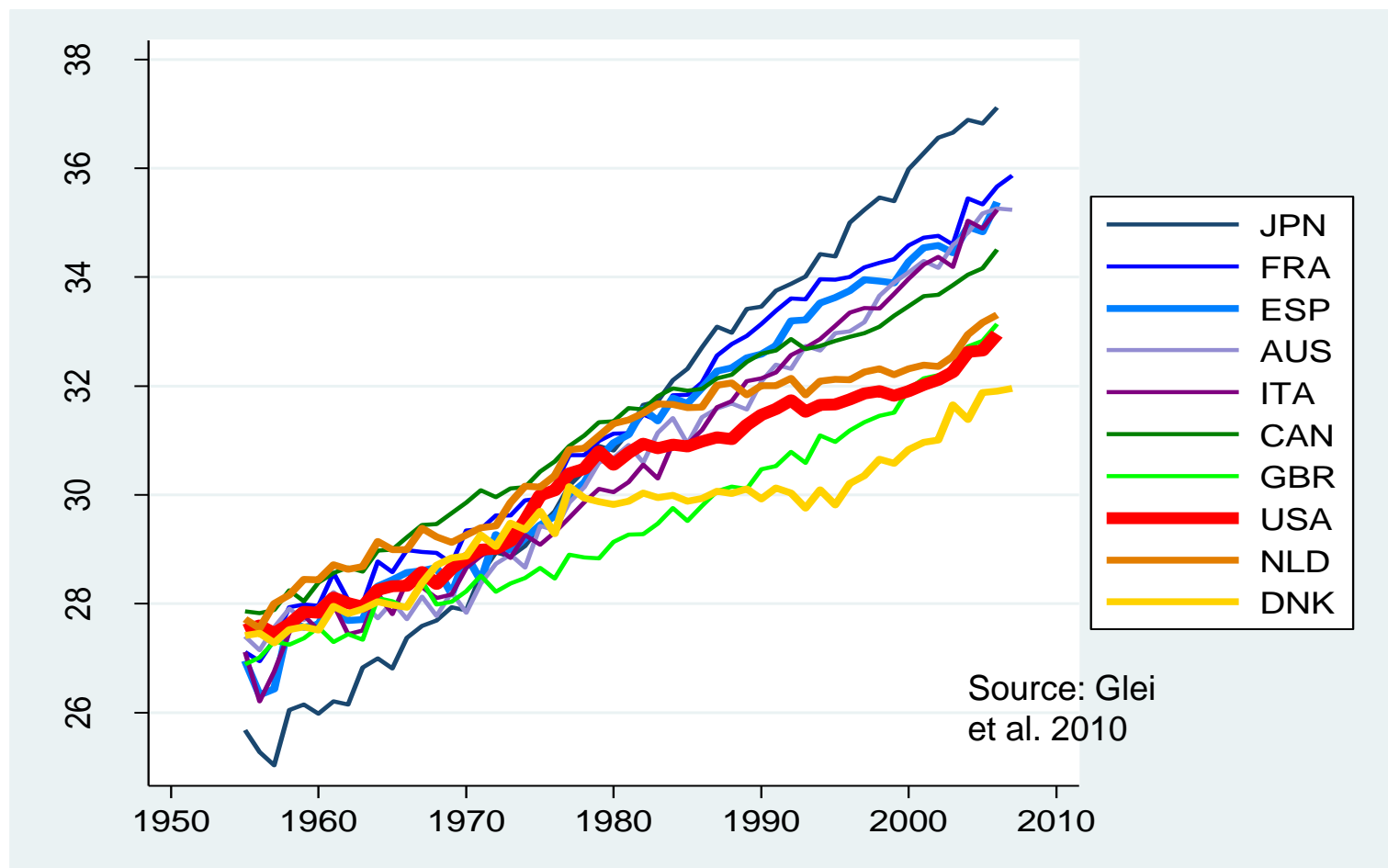
NIH: Steward of Medical and Behavioral Research for the Nation

“Science in pursuit of fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life and reduce illness and disability.”





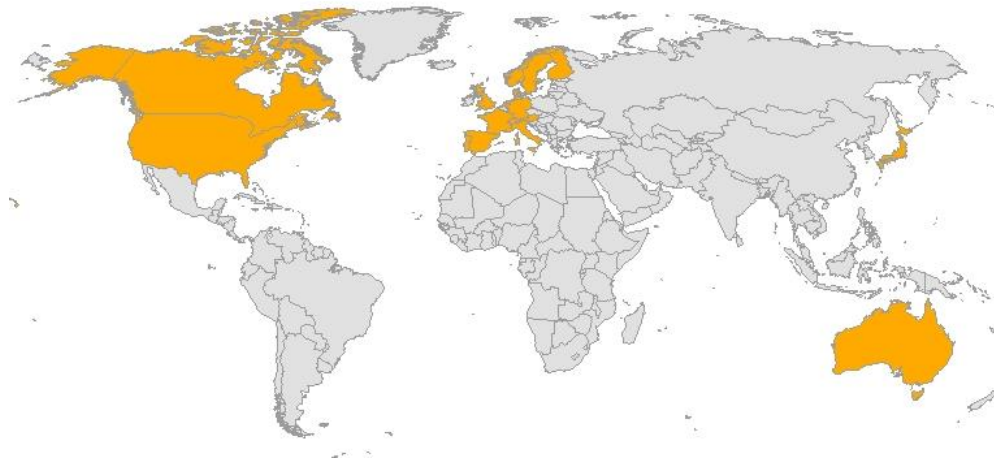
Trends in Current Life Expectancy for 50 Year Old Women



Source: Chapter 2, Diverging Trends in Life Expectancy at Age 50: A Look at Causes of Death , D. Glei, F. Mesle, J. Vallin

17 Peer Comparison Countries

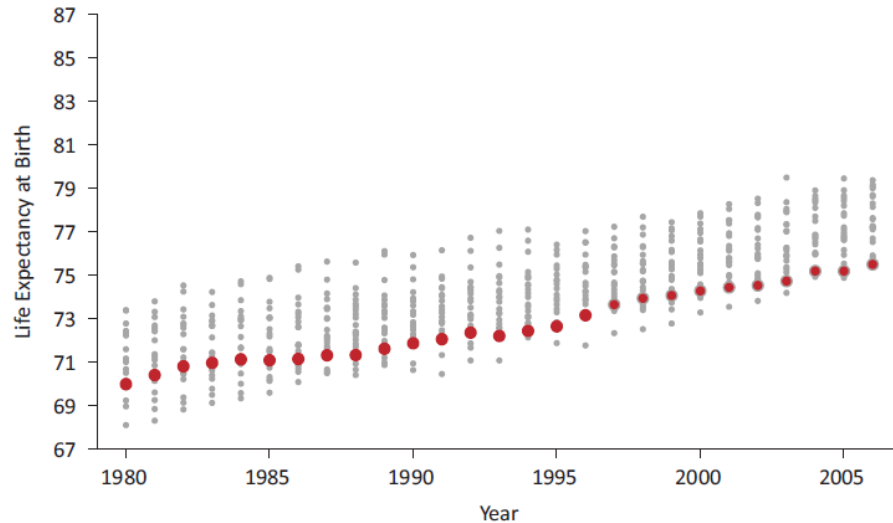
- Australia
- Austria
- Canada
- Denmark
- Finland
- France
- Germany
- Italy
- Japan
- Norway
- Portugal
- Spain
- Sweden
- Switzerland
- The Netherlands
- United Kingdom
- United States



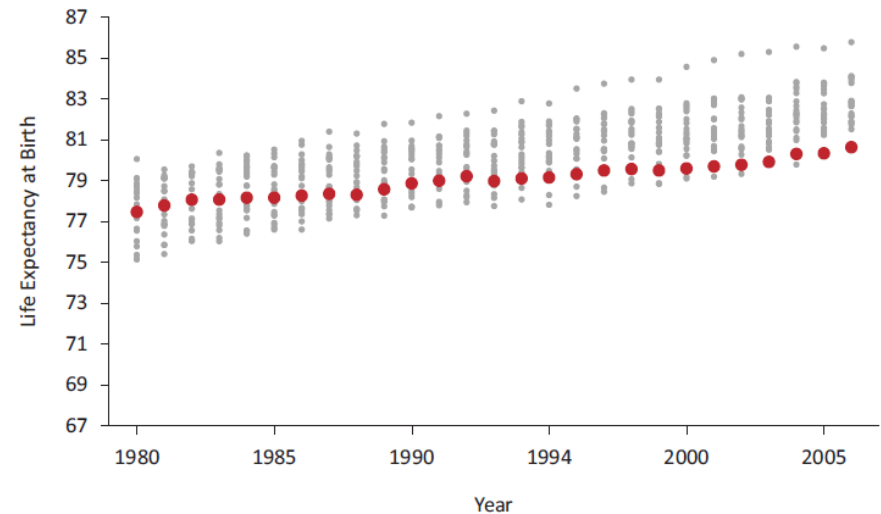
Life Expectancy at Birth in 21 High-Income Countries, 1980-2006

From IOM/NAS Report US Health in International Perspective: Shorter Lives, Poorer Health

Males



Females



Explaining Divergent
Levels of Longevity
in High-Income
Countries

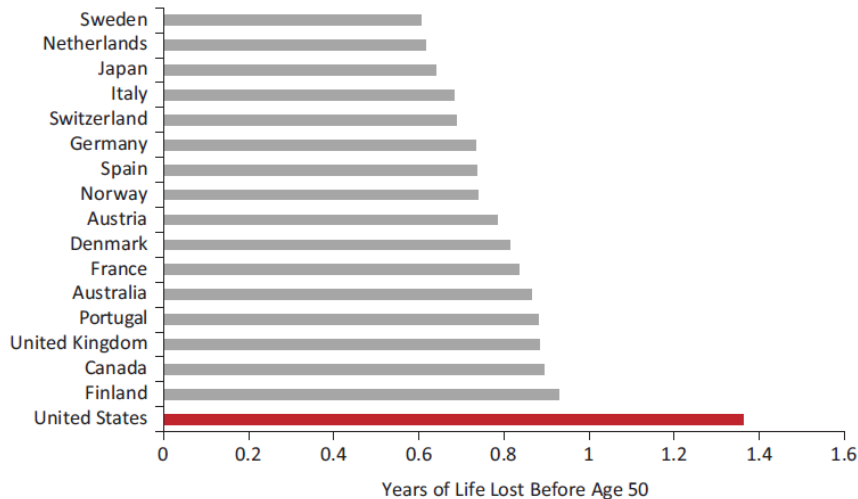
The problem is longstanding and worsening.

In 1980, US life expectancy among females was about average, and was near the bottom for males, but by 2006 US life expectancy for both sexes had fallen to the bottom ranks.

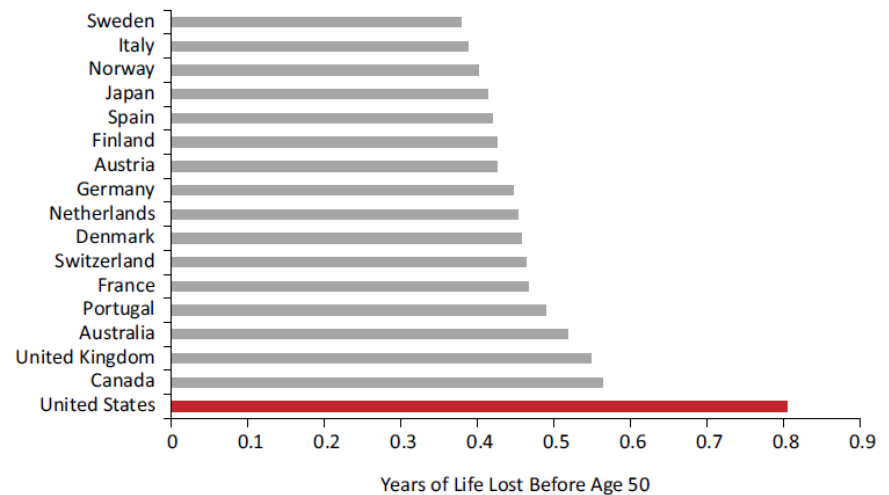
Years of Life Lost Before Age 50, 2006-2008

From IOM/NAS Report US Health in International Perspective: Shorter Lives, Poorer Health

Males



Females

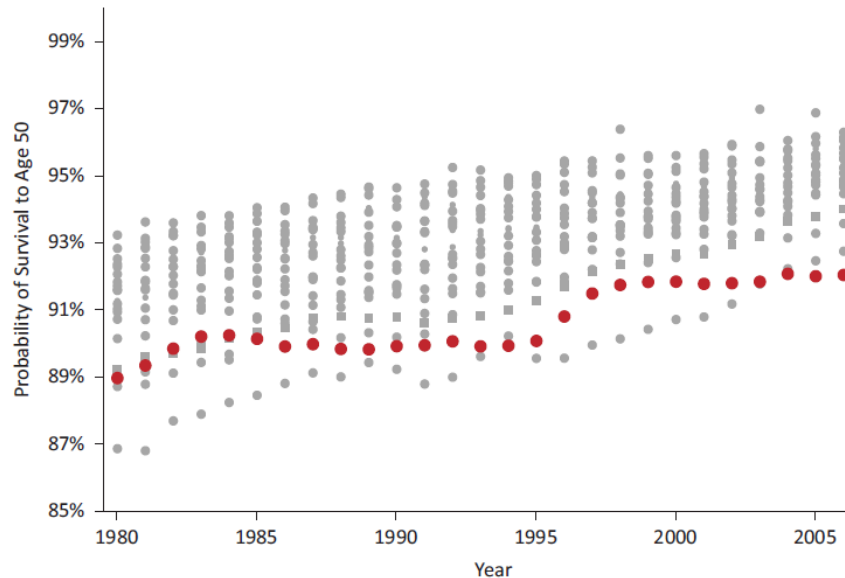


- US male and female newborns can expect to lose about 1.4 years and 0.8 years of life, respectively, before age 50.
- The US losses before age 50 are double those of Sweden, the best performing country.

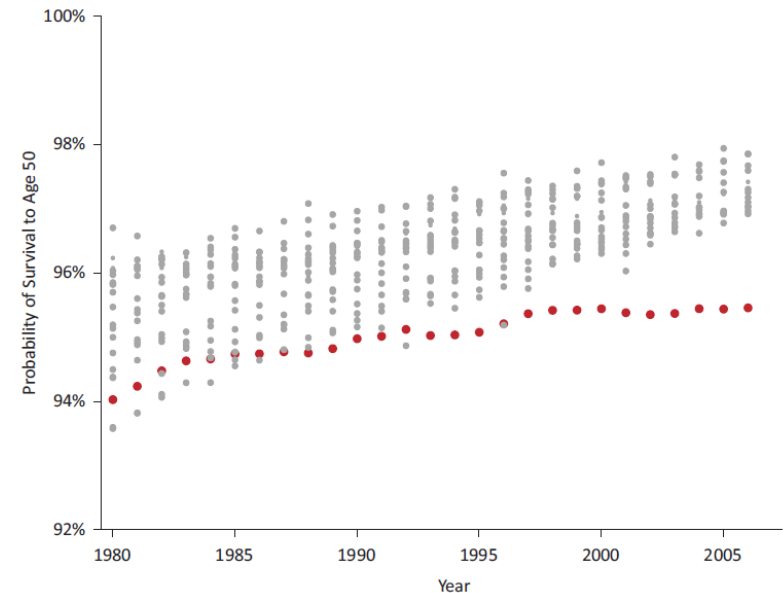
Probability of Survival to Age 50 in 21 High-Income Countries, 1980-2006

From IOM/NAS Report US Health in International Perspective: Shorter Lives, Poorer Health

Males



Females

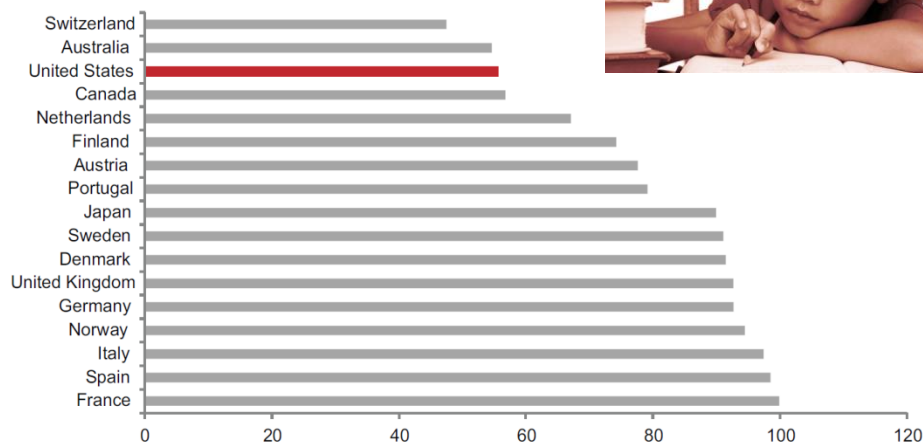


Explaining Divergent
Levels of Longevity
in High-Income
Countries

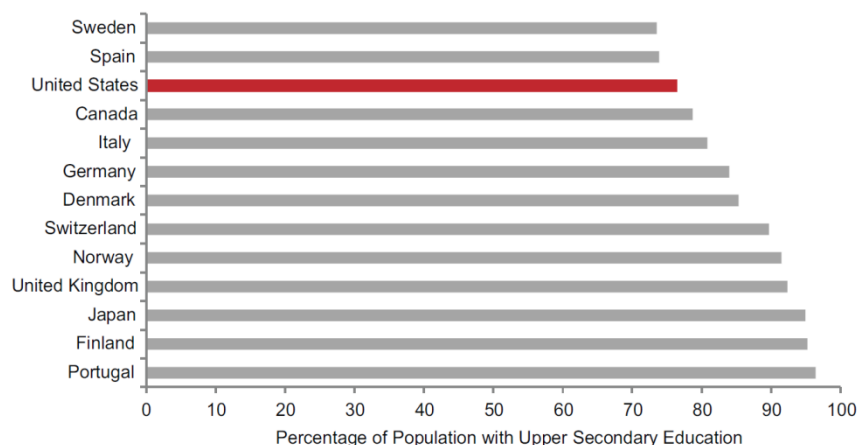
For decades, American youth have been less likely to survive to age 50 than people in other rich nations.

From IOM Report: Woolf, S & Aron, L *US Health in International Perspective: Shorter Lives, Poorer Health*. 2013

Educational Attainment in the US is Slipping



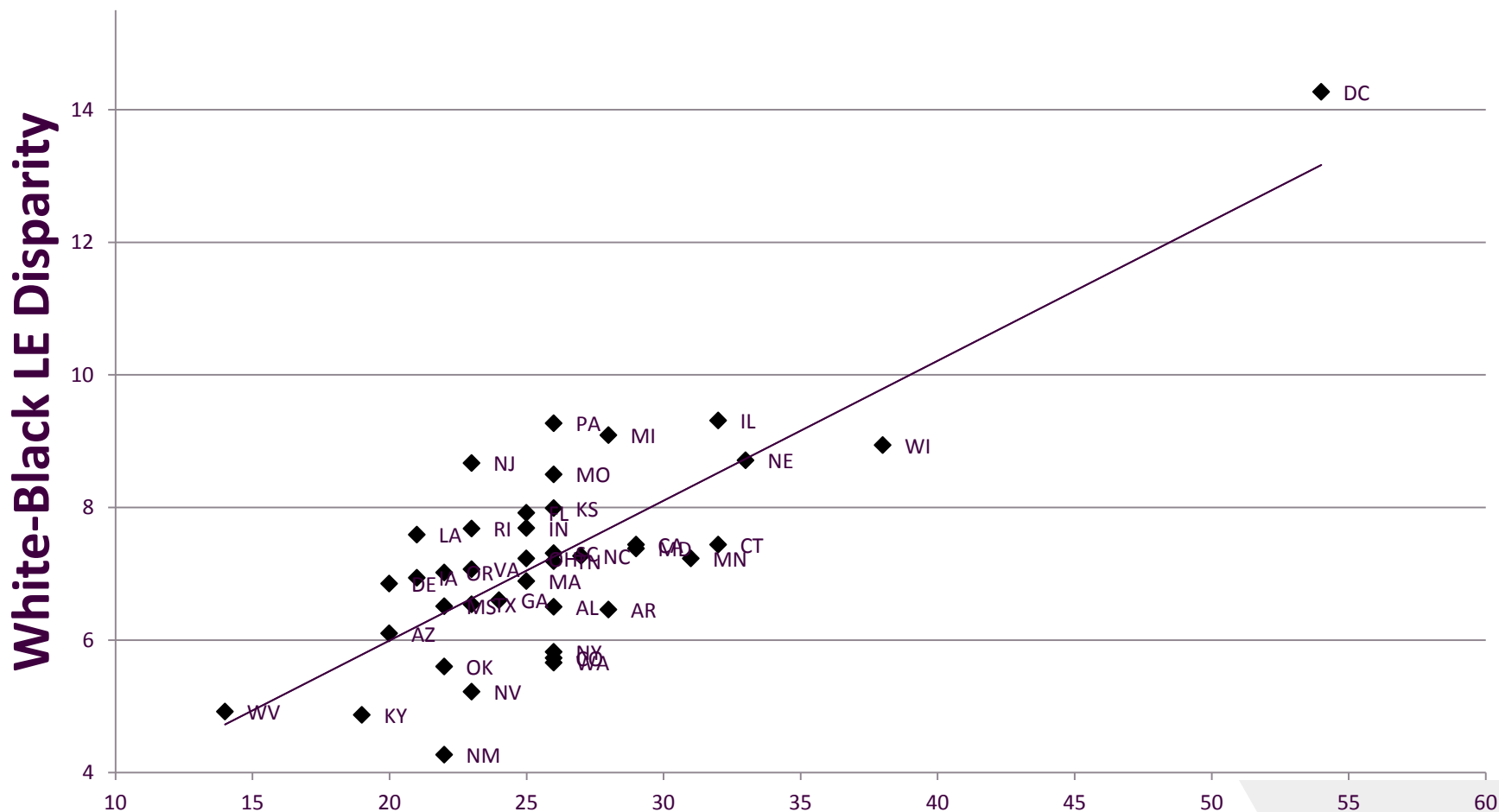
Percent of children aged 3-5 enrolled in preschool, 2008



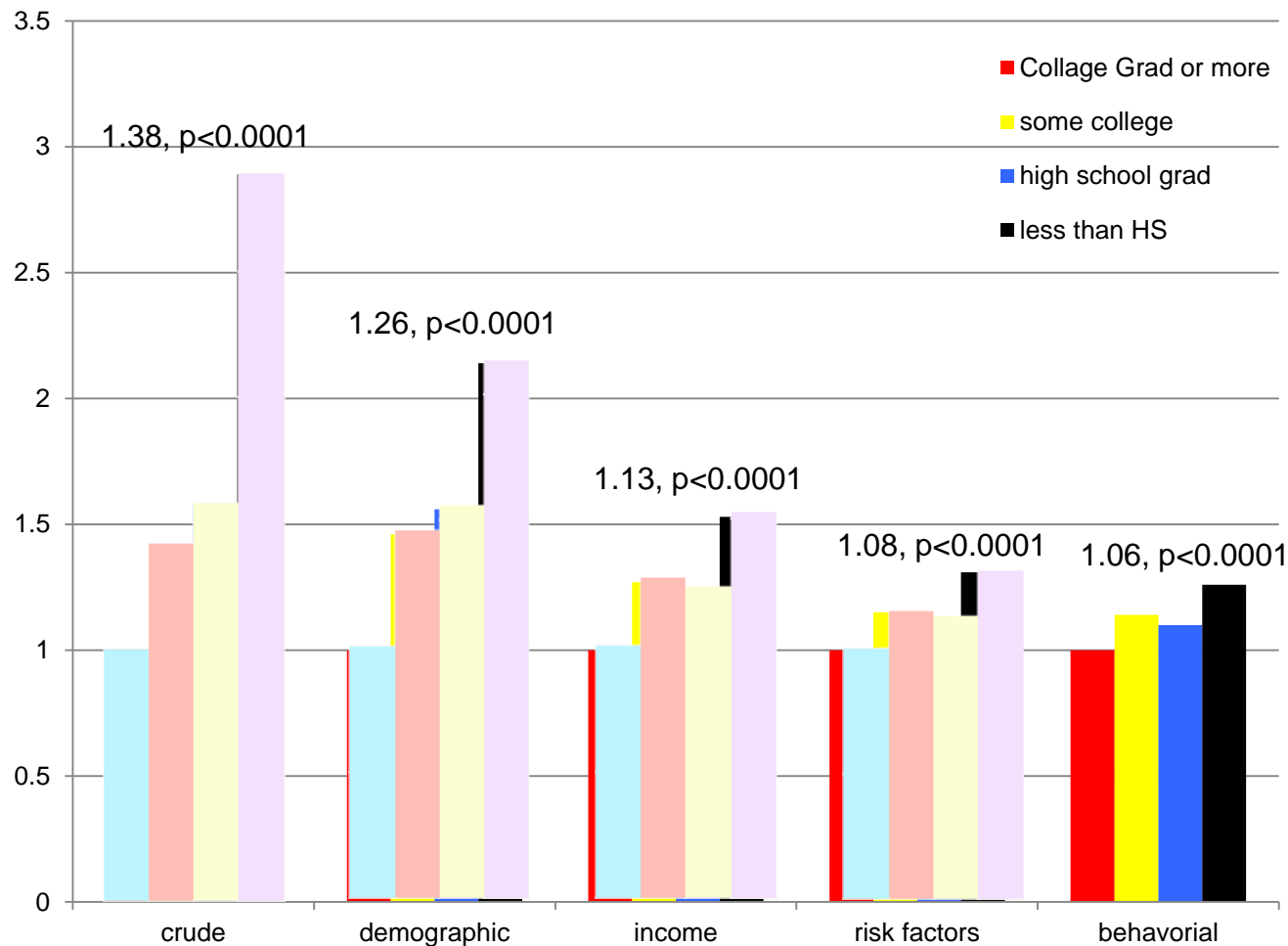
Percent of population with secondary education, 2008

- US preschool enrollment is lower than in most high-income countries.
- Among adults of all ages, the US ranks well in educational attainment, but other countries (including emerging economies) are outpacing the US in the educational attainment of young people (e.g., graduation rates).
- US grade school students score above average, but by age 15 US students have average or below-average scores on math, science, and reading.

With State as Unit of Analysis, Life Expectancy Health Disparities Are Highly Correlated with 4th Grade Math Performance Disparities (from Kaplan 2013)

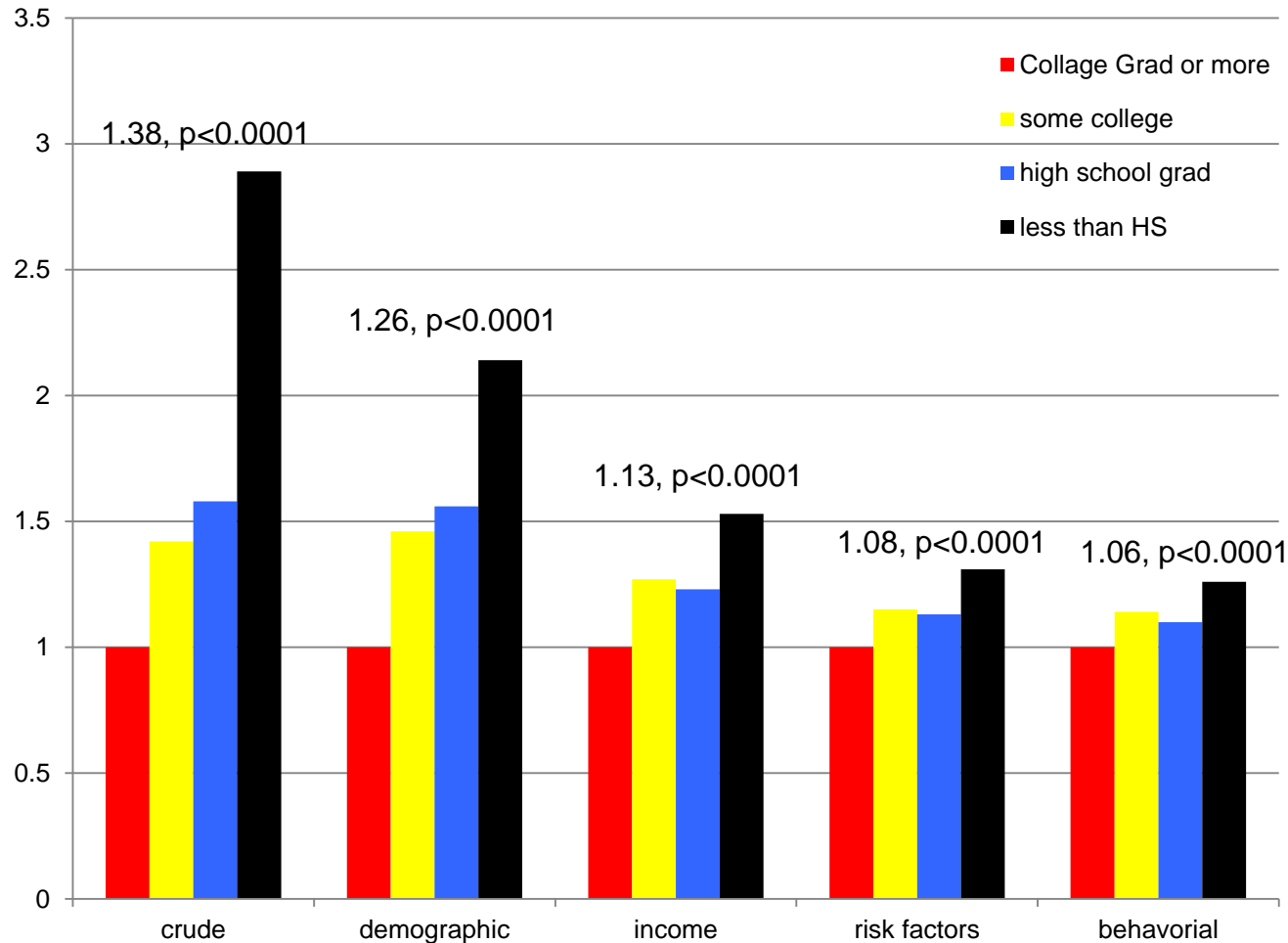


Education and Longevity in the REGARDS Study With Adjustments



From Kaplan, Howard et al, *Annals of Epidemiology*, Epidemiology 25(5), 323-328

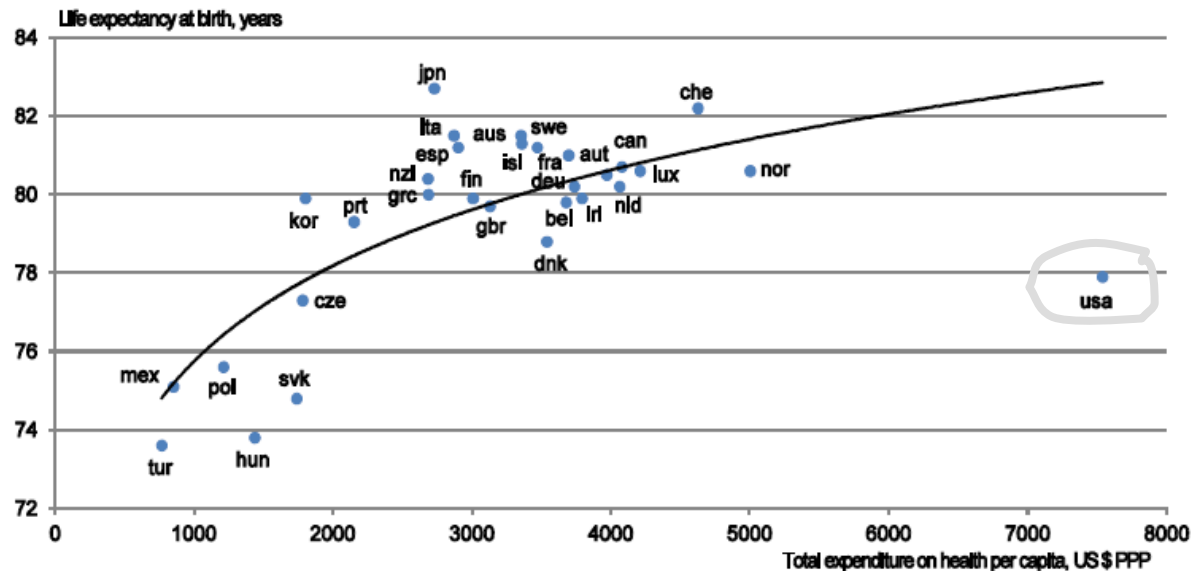
Education and Longevity in the REGARDS Study With Adjustments



From Kaplan, Howard et al, *Annals of Epidemiology*, Epidemiology 25(5), 323-328

The Health of Nations: More Spending Does Not Translate into Longer Lives

Figure 1. There are large differences in life expectancy and health care spending across OECD countries 2008¹



1. Or latest year available.

Source: OECD Health Data 2010.

Education and Health: Is it Access to Care?

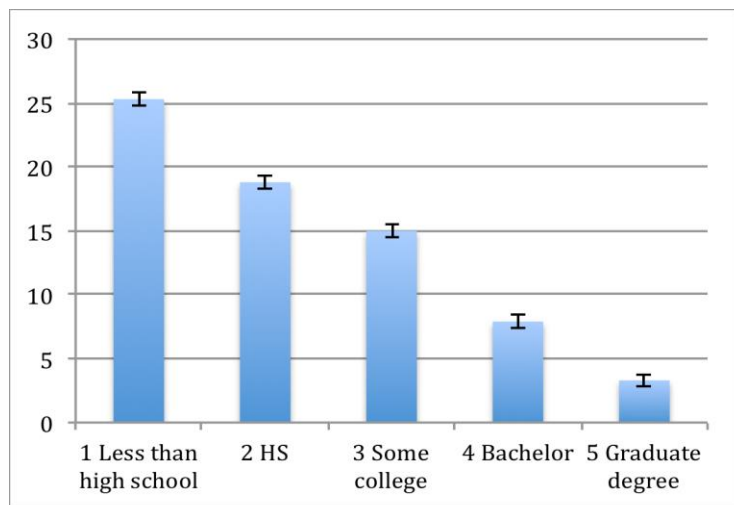


Fig 3a Uninsured all year

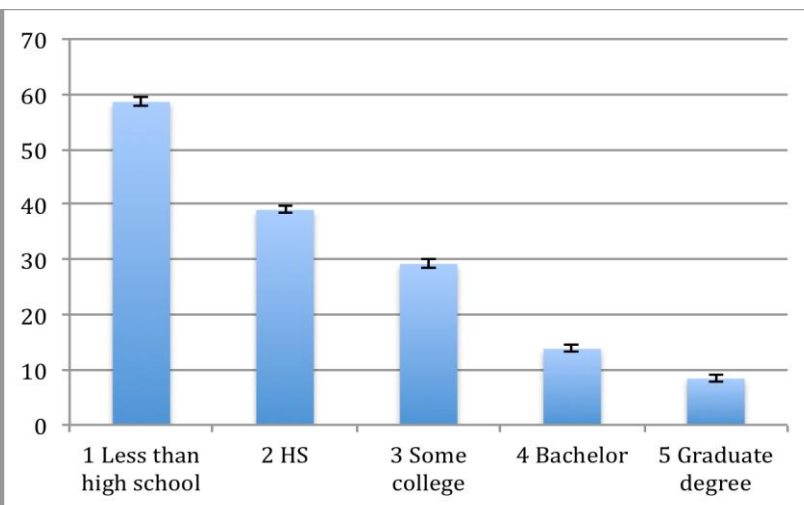


Fig 3b Family income < 200% FPL

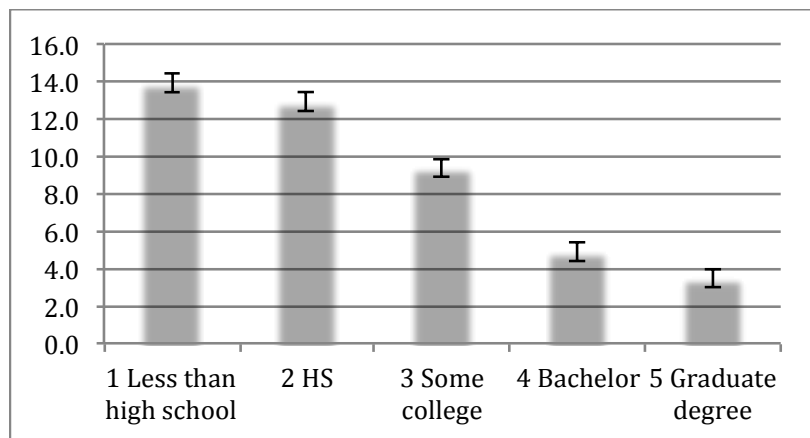


Fig 1 c Percent with activity limitations

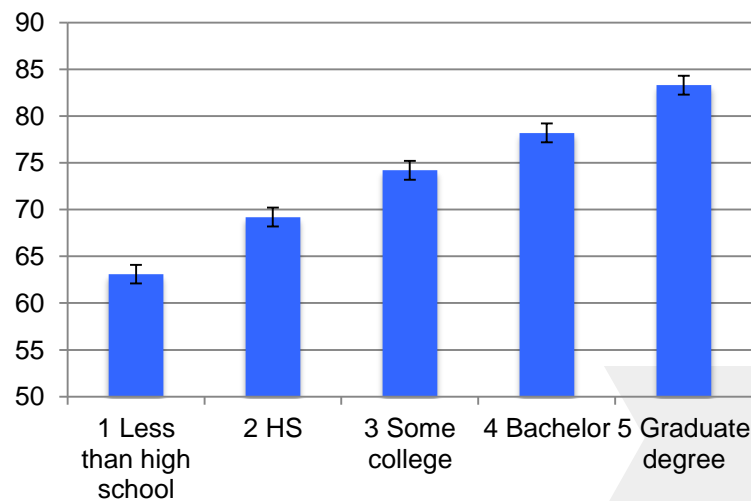
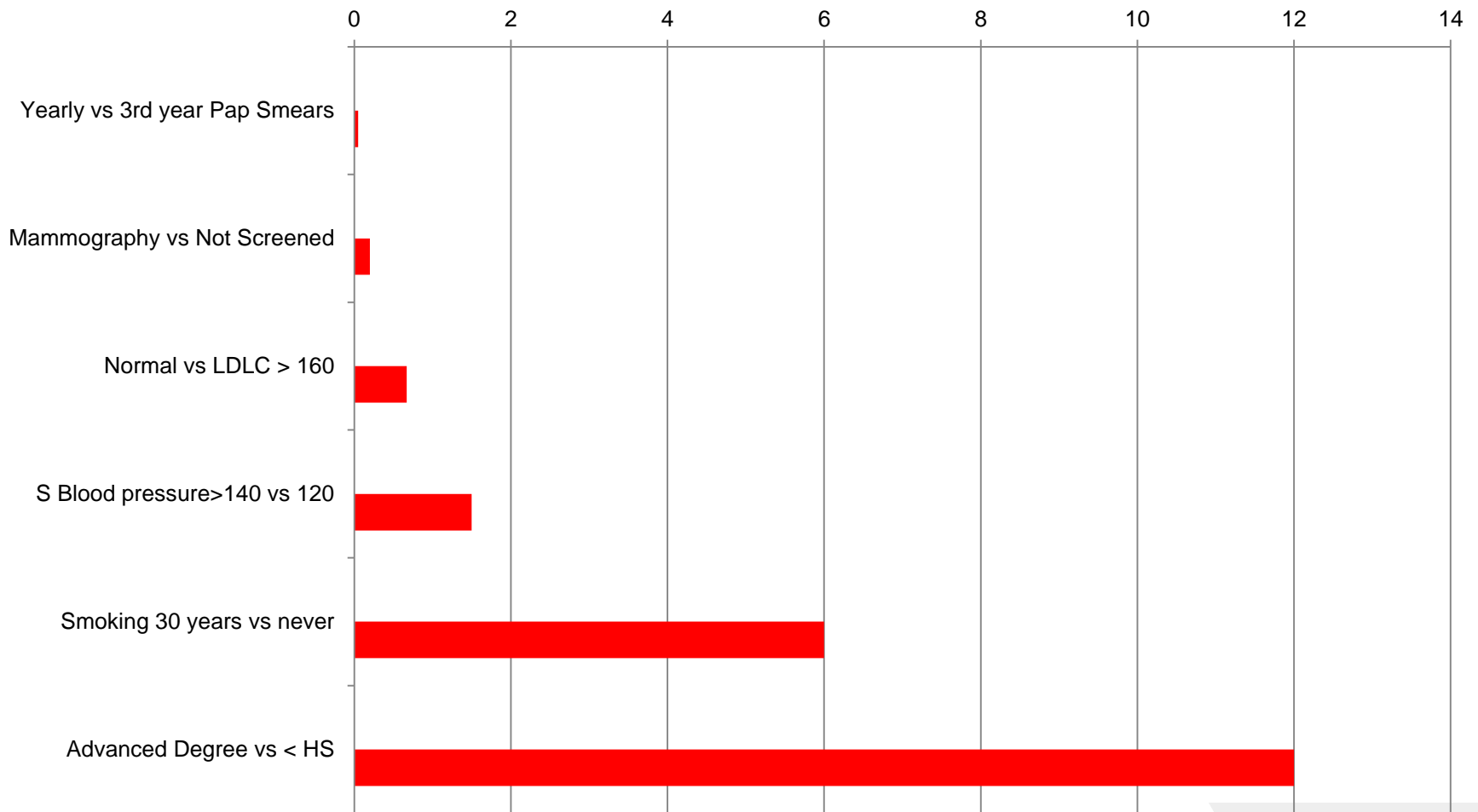


Fig 1D Office Visits

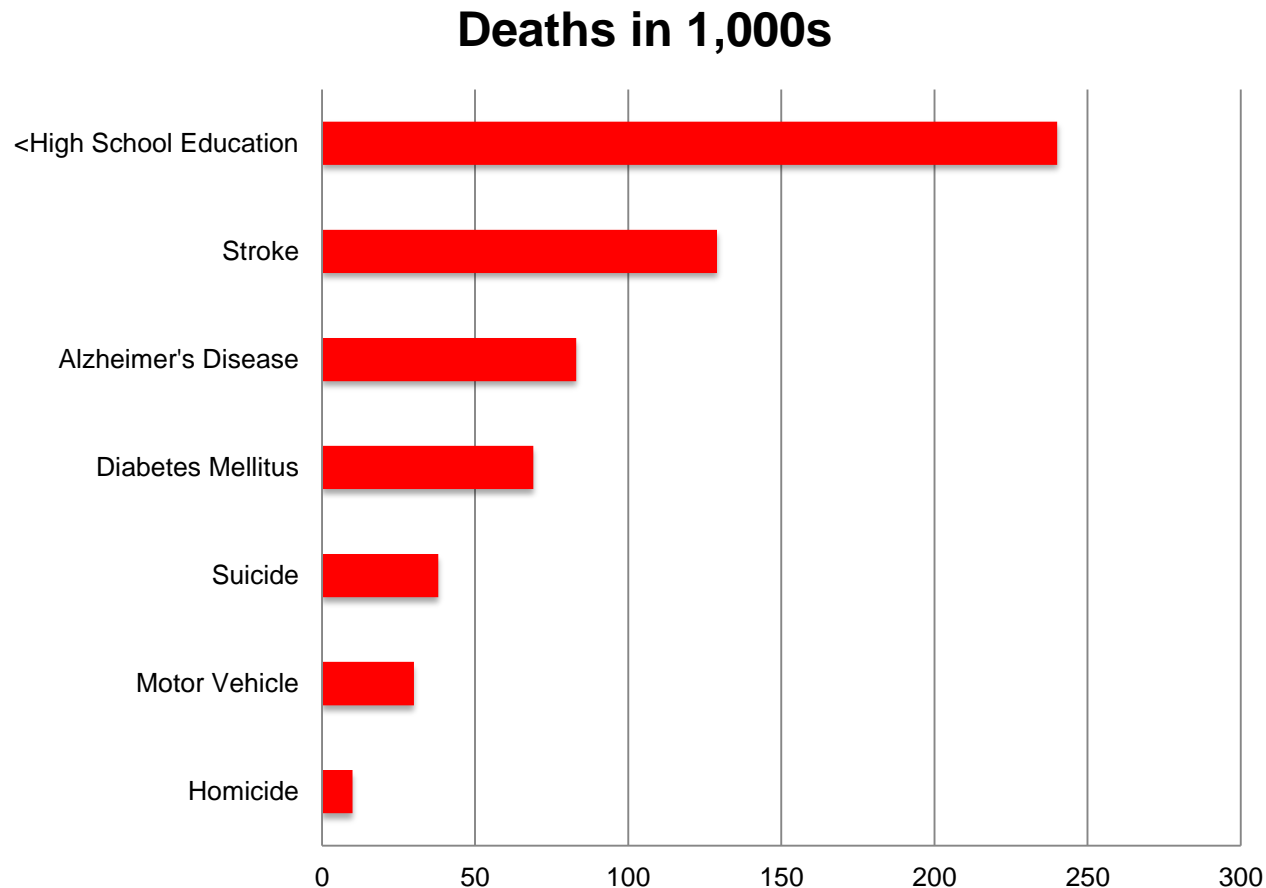
FROM Kaplan et al 2015: MEPS 2013 data

Quality-Adjusted Life Years By Risk Group



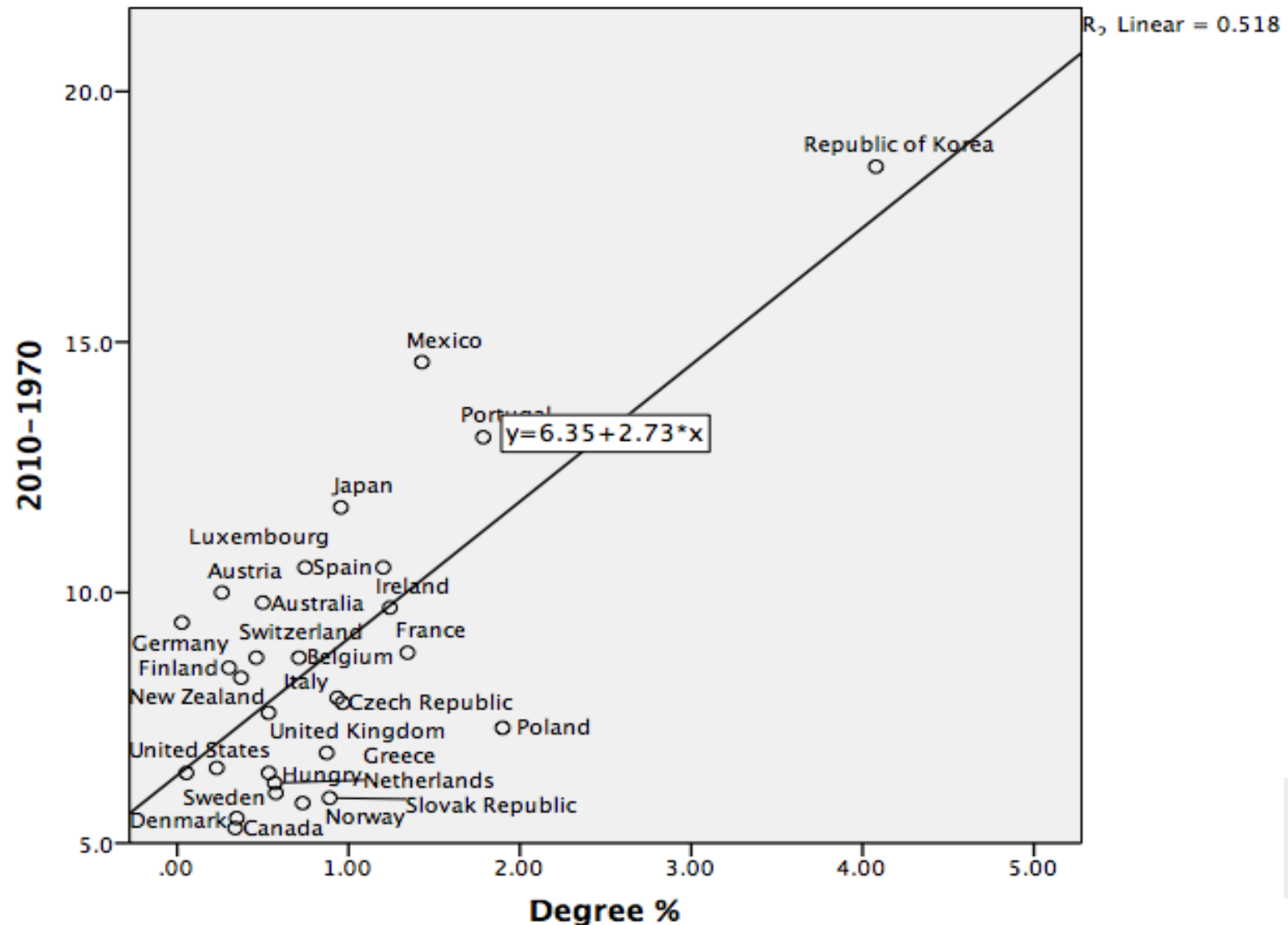
Data estimated from Whitehall 39 year follow-up: Clarke BMJ 2009;339:b3513

Deaths Associated With Low Education



Death data from National Vital Statistics Report, 61 (4), May 8, 2013.
Education estimate from Galea et al AJPH, 2011

Scatterplot of relationship between increases in % with college degree and increase in life expectancy 1970-2010: OECD data



Jerry Garcia the Grateful Dead

***"Somebody has
to do
something,
and it's just
incredibly
pathetic that it
has to be us."***

