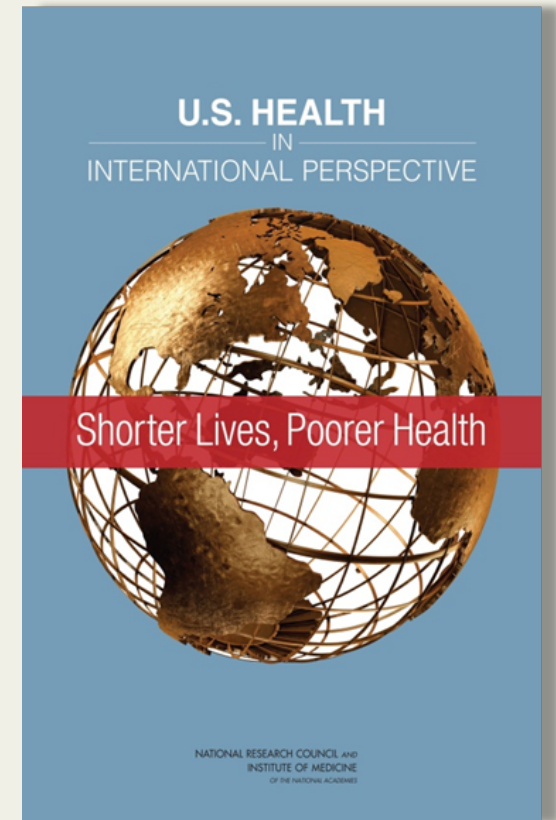
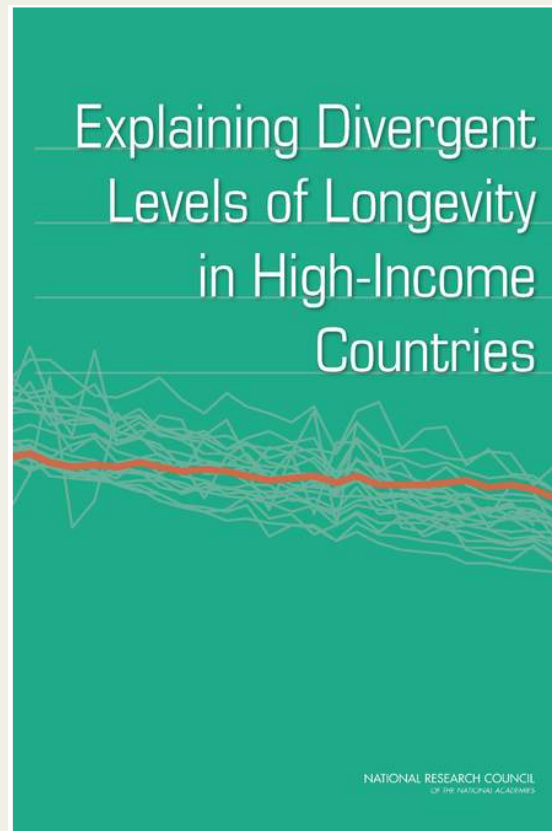
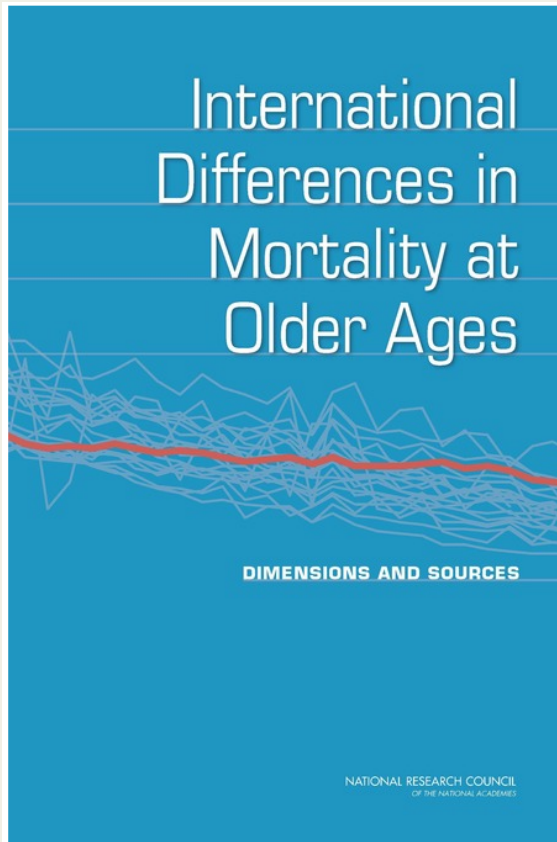


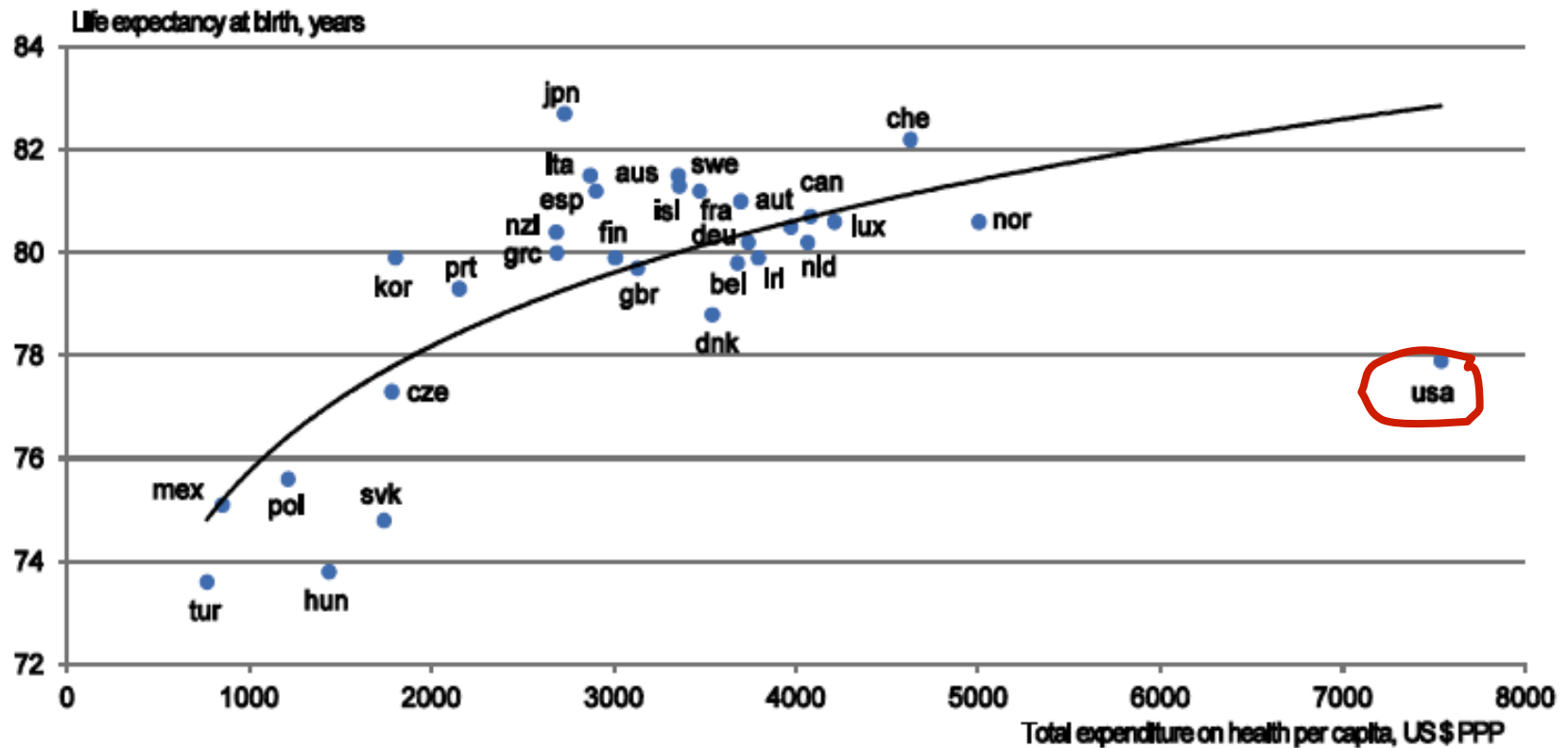
U.S. Health in International Perspective



Charles Hirschman
WSAS Annual Symposium
September 18, 2014

US health expenditures were 17.9% of GDP in 2010 ~ \$2.6 trillion

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

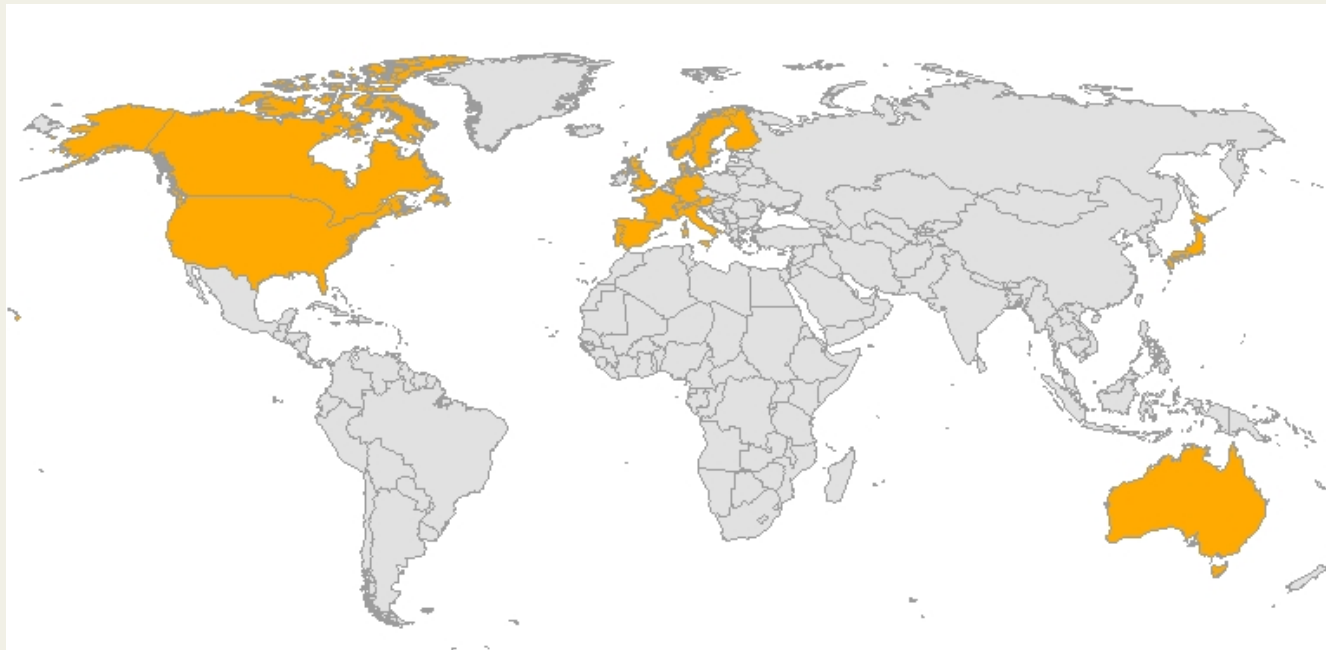


1. Or latest year available.

Source: OECD Health Data 2010.

17 Peer Comparison Countries

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



Overview of Presentation

- Major Findings of Higher Mortality and Poorer Health in US
- Causes of US Health Disadvantage
 - Individual Factors: Smoking, Obesity, Diabetes
 - Social Conditions: Inequality, Public Policy
- Recommendations

Major Findings – “Facts”

- US has shorter life expectancy and poorer health than comparable advanced countries
 - The gap has widened over time, esp. since 1980s
- US mortality/morbidity disadvantage is pervasive
 - Men and women, all stages of life course < 75
 - Across a broad range of health conditions & diseases
 - Not explained by SES or minority composition

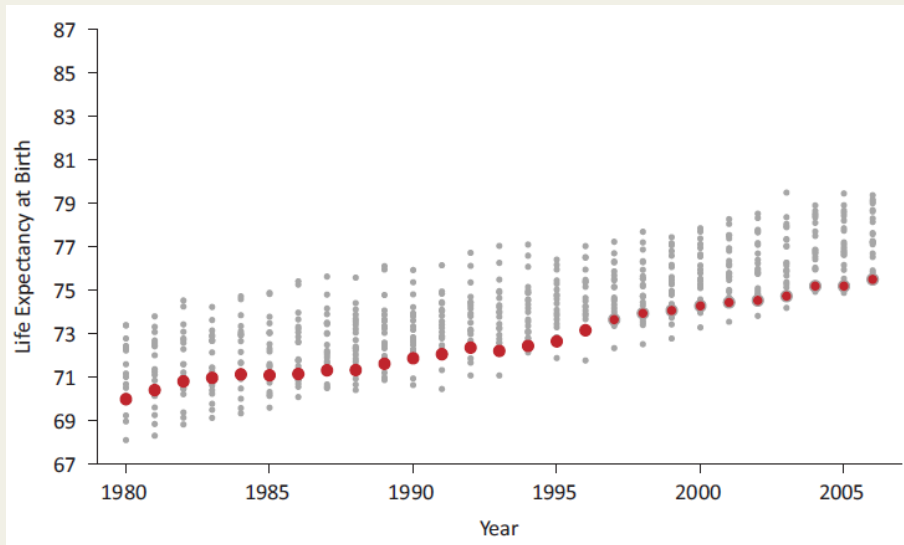
Life Expectancy at Birth, 2007

Males			Females		
Country	LE	Rank	Country	LE	Rank
Switzerland	79.33	1	Japan	85.98	1
Australia	79.27	2	France	84.43	2
Japan	79.20	3	Switzerland	84.09	3
Sweden	78.92	4	Italy	84.09	3
Italy	78.82	5	Spain	84.03	5
Canada	78.35	6	Australia	83.78	6
Norway	78.25	7	Canada	82.95	7
Netherlands	78.01	8	Sweden	82.95	7
Spain	77.62	9	Austria	82.86	9
United Kingdom	77.43	10	Finland	82.86	9
France	77.41	11	Norway	82.68	11
Austria	77.33	12	Germany	82.44	12
Germany	77.11	13	Netherlands	82.31	13
Denmark	76.13	14	Portugal	82.19	14
Portugal	75.87	15	United Kingdom	81.68	15
Finland	75.86	16	United States	80.78	16
United States	75.64	17	Denmark	80.53	17

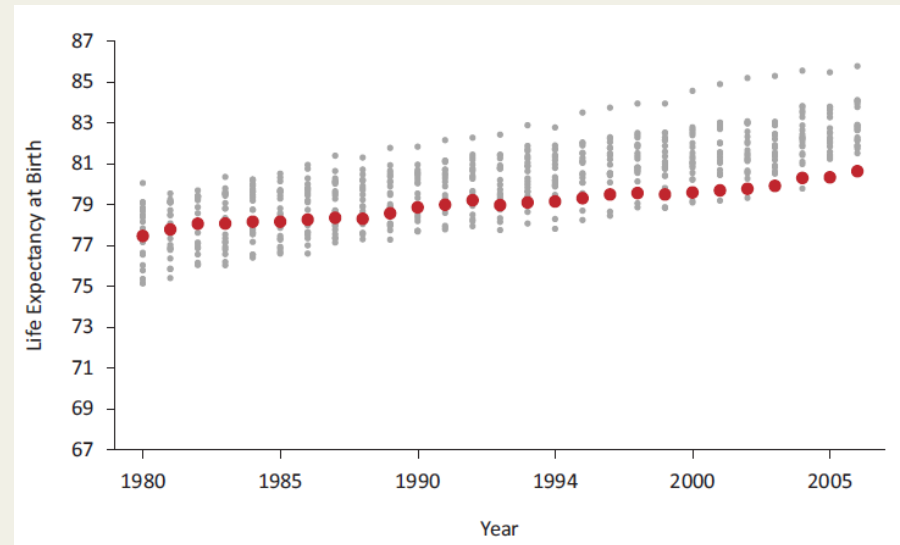
- ▣ US life expectancy ranked last among males (75.6 years) and next to last among females (80.8 years)
- ▣ Difference from top-performing country = 3.7 (males), 5.2 years (females)

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

Males



Females



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.

Life Expectancy at Birth at Age 50 in 21 High-Income Countries, 1980-2006

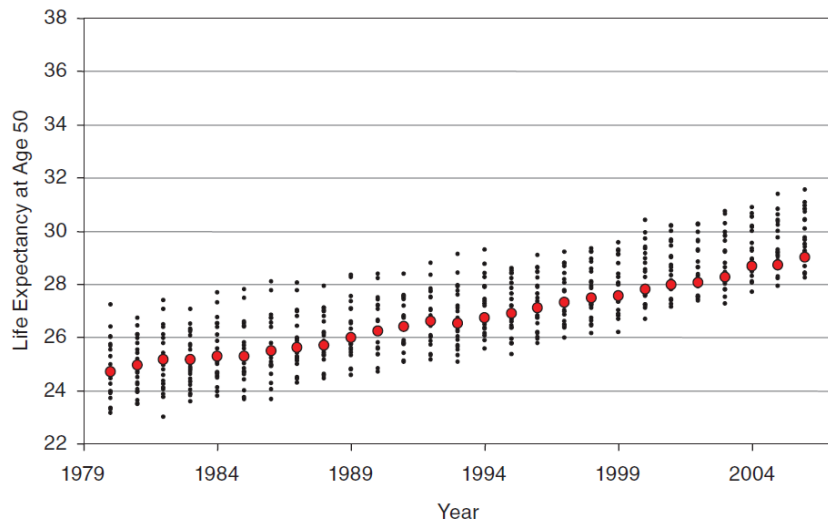


FIGURE 1-7 Life expectancy at age 50 for men in the United States and selected OECD countries.

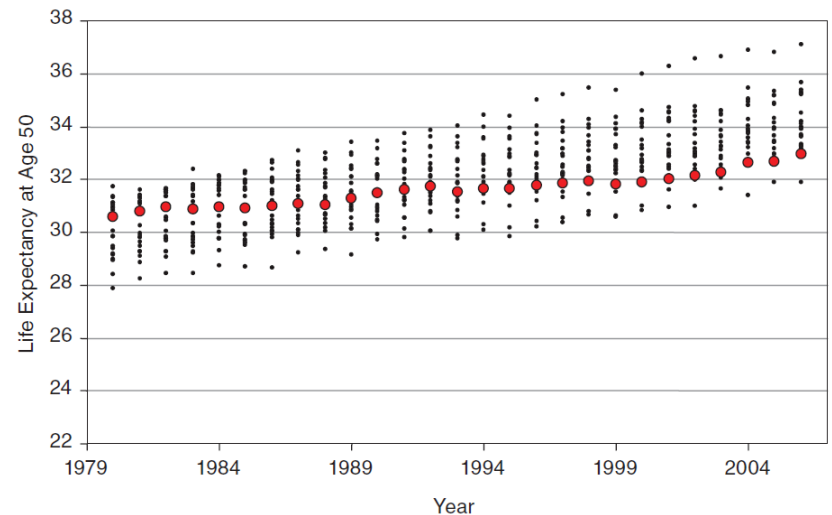
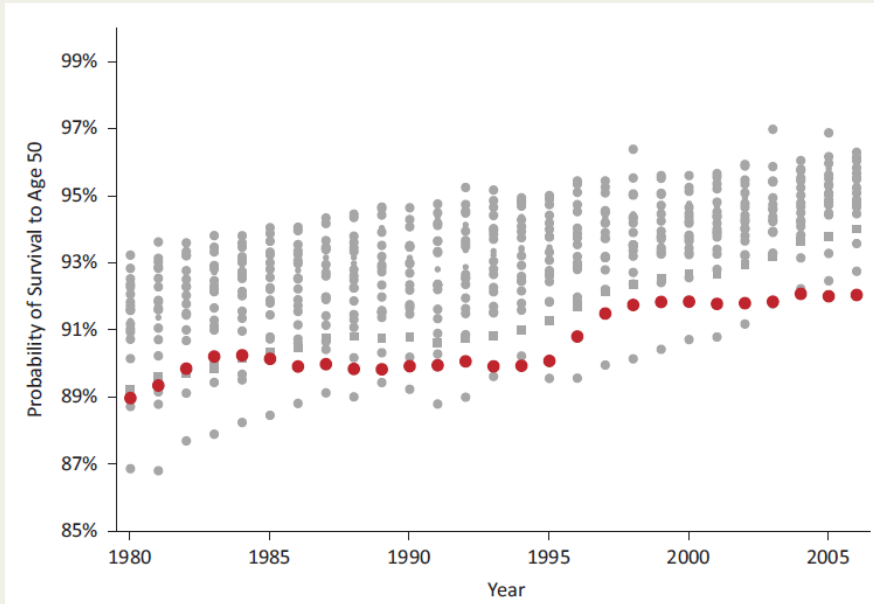


FIGURE 1-8 Life expectancy at age 50 for women in the United States and selected OECD countries.

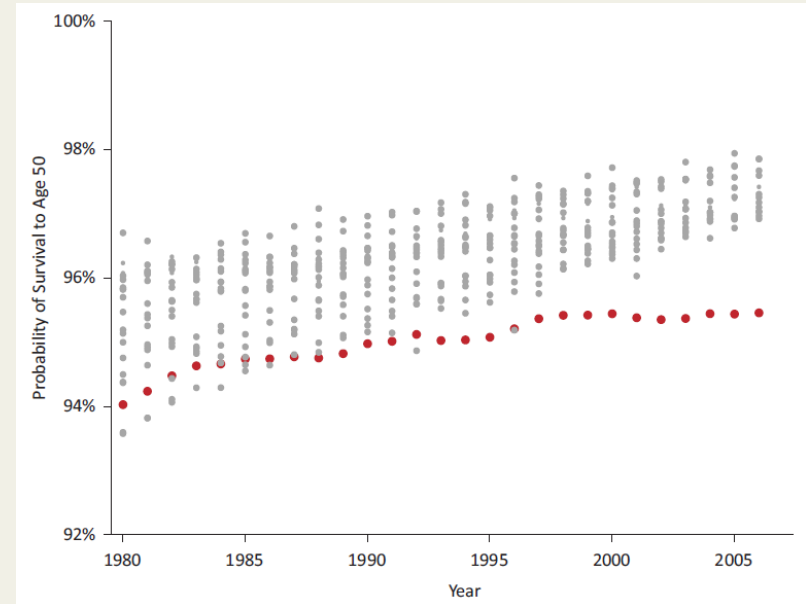
Older Americans had average to above average life expectancies in 1980. Other countries have improved, as the United States has fallen behind.

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

Males

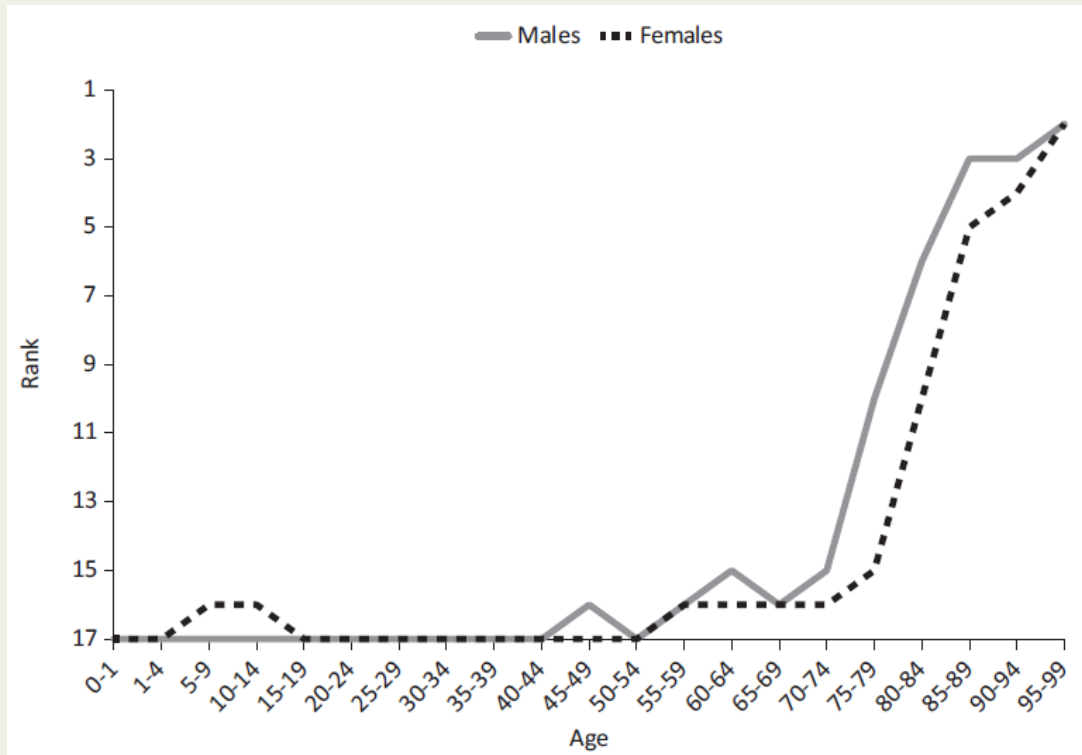


Females



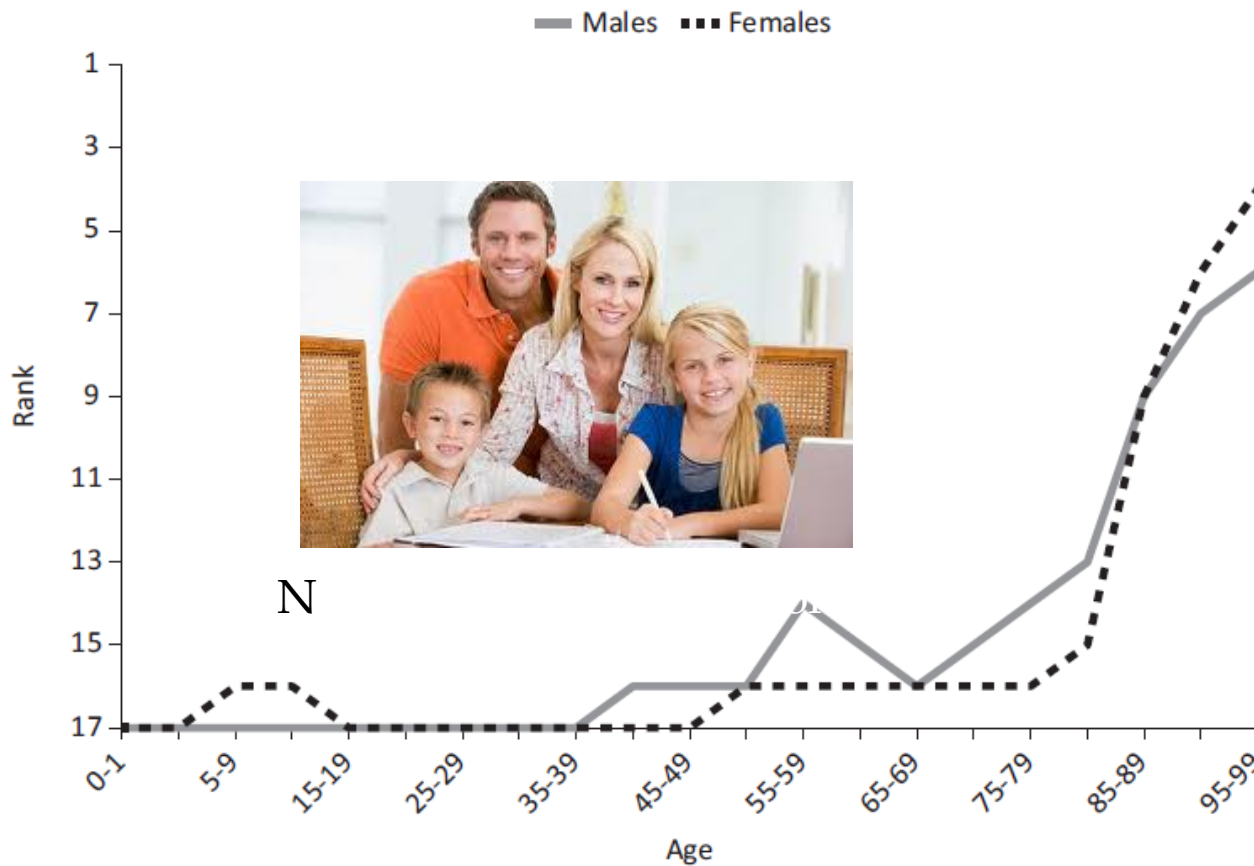
For decades, American youth have been less likely to survive to age 50 than people in other rich nations.

Ranking of US Mortality Rates by Age Group in 17 Peer Countries, 2006-2008



- US life expectancy is low at every age.
- In either sex, the US rank is never better than 15th out of 17 until age 75.

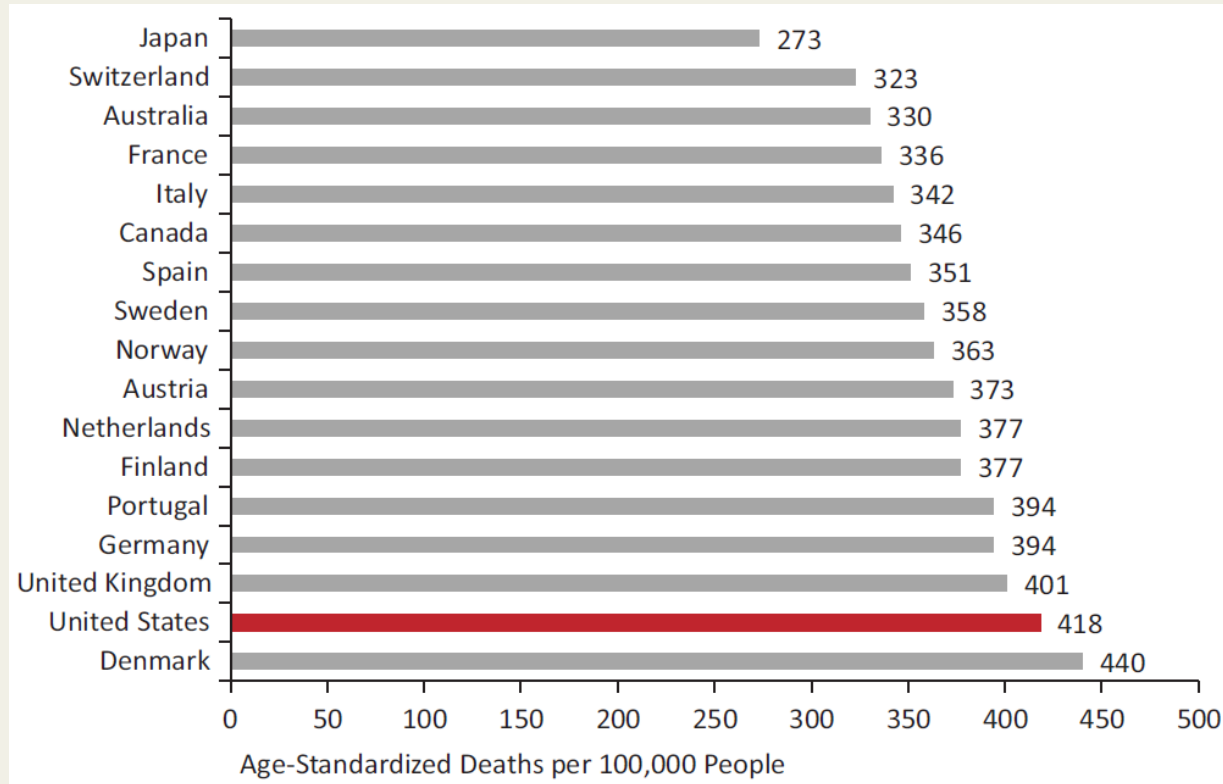
Ranking of Mortality of non-Hispanic Whites by Age Group in 17 Peer Countries, 2006-2008



At no age below 55 do US non-Hispanic whites rank better than 16th out of 17 countries (for either sex).

US IMR rate of mothers with 16 or more years of education is higher than the IMR of most other high income countries

Mortality from Non-Communicable Diseases (NCD), 2008

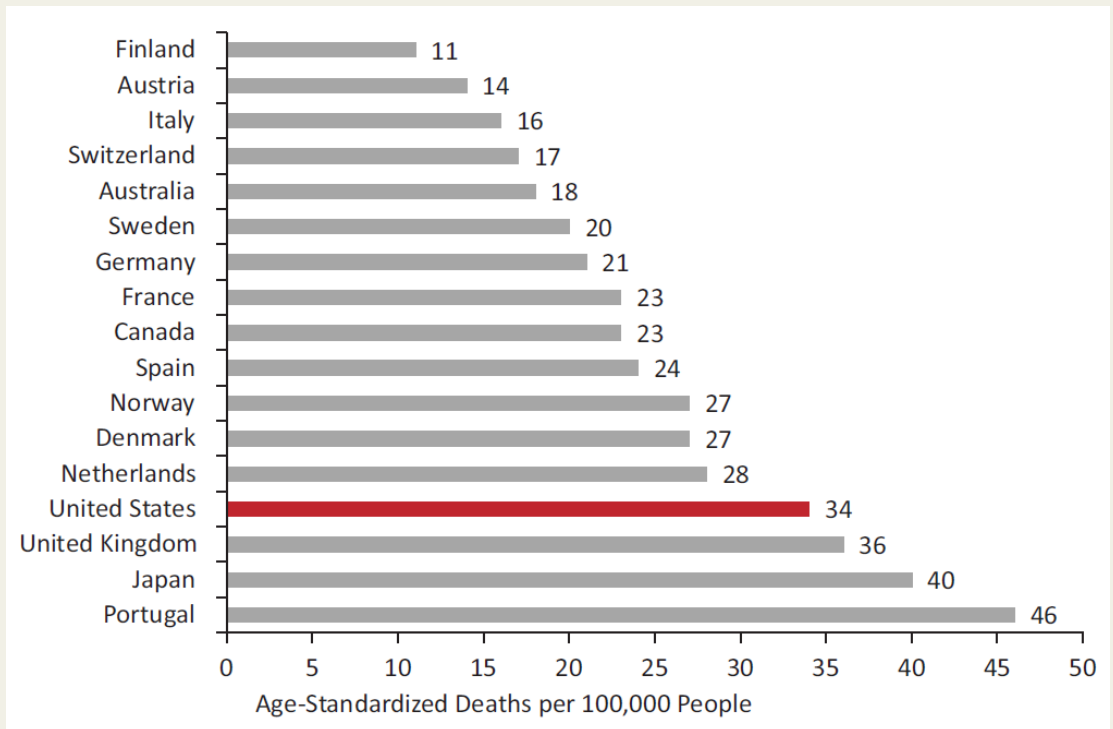


Among the 17 peer countries, the US had 2nd highest NCD mortality rate in 2008 (418:100,000)

Mortality from Communicable (Infectious) Diseases, 2008

Among the 17 peer countries:

- US had 4th highest infectious disease mortality rate in 2008 (34:100,000)
- US had the highest incidence of AIDS (3rd highest in OECD, exceeded only by Brazil and South Africa).
- AIDS incidence in the US (122 per million) was almost 9 times the OECD average (14 per million).

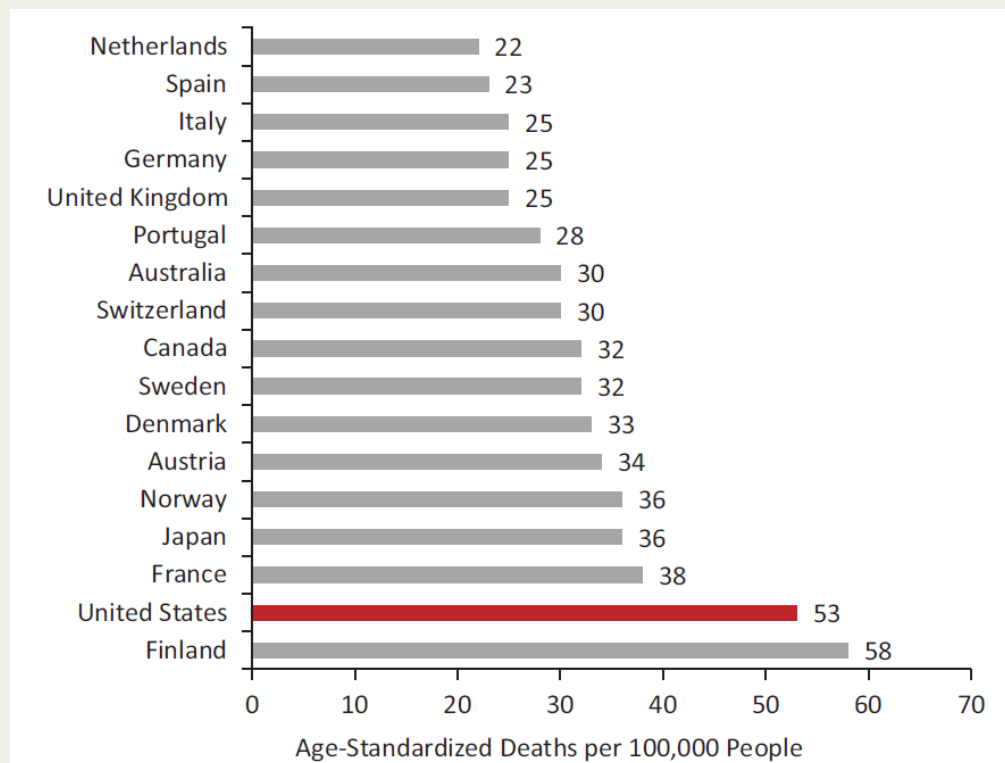


Cause of Death	Mortality Rate (per 100,000)		
	United States	Peer Countries (N = 16)	
		Unweighted Mean	Range
	U.S. Death Rates Above Average		
Cardiovascular diseases ^a	155.7	133.6	97.4-174.9
Neuropsychiatric conditions ^b	39.2	28.1	7.2-48.4
Respiratory disease	34.3	21.0	12.7-34.4
Infectious and parasitic diseases	15.4	7.7	4.4-17.5
Diabetes mellitus	15.2	10.2	4.5-19.3
Genitourinary diseases ^c	12.3	7.2	3.0-12.2
Endocrine disorders	7.1	4.2	1.6-8.1
Congenital anomalies	4.3	3.3	2.6-4.0
Musculoskeletal diseases ^d	2.9	2.4	1.2-3.5
Nutritional deficiencies	1.0	0.7	0.1-2.0
Skin diseases	0.8	0.6	0.1-1.5
Maternal conditions	0.4	0.1	0.0-0.2
Perinatal conditions	7.1	3.7	1.3-5.9
Unintentional injuries ^e	35.5	20.4	13.7-38.6
Intentional injuries	17.3	11.4	5.6-20.2
	U.S. Death Rates at or Below Average		
Malignant neoplasms ^f	123.8	127.3	106.5-157.7
Digestive diseases ^g	19.8	19.8	13.0-29.5
Respiratory infections	9.7	12.3	4.0-29.7
Other neoplasms	2.9	3.3	2.1-5.3
Oral conditions ^h	0.0	0.0	0.0-0.1
Sense organ diseases ^h	0.0	0.0	0.0

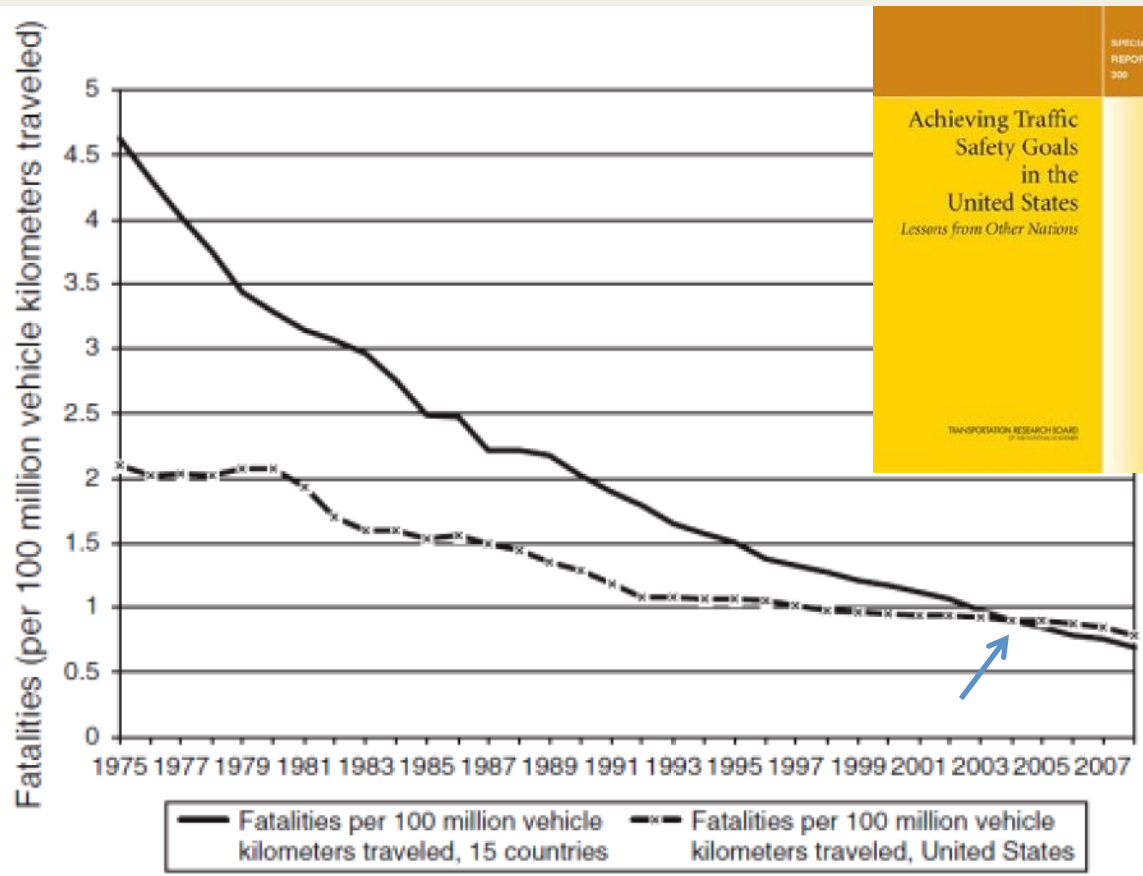
Mortality from Injuries



- Among the 17 peer countries, the US had the 2nd highest injury mortality rate in 2008 (53:100,000).
- US had the highest death rate from transport accidents in 2009 (3rd highest in OECD, behind Mexico and the Russian Federation).



Mortality from Transport Accidents



Among the 17 peer countries, mortality from transport accidents decreased by 42% in the OECD between 1995 and 2009, but by only 11% in the US (OECD, 2011).

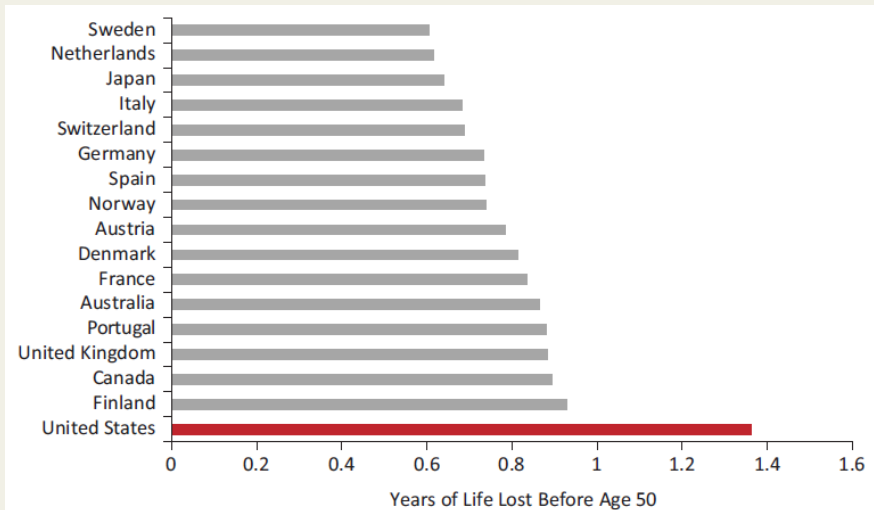
Mortality from Violent Injuries

- ▣ In 2007, 69% of US homicides (73% of homicides before age 50) involved firearms, compared with 26% in peer countries.
- ▣ A 2003 study found that the US homicide rate was 7 times higher (the rate of firearm homicides was 20 times higher) than in 22 OECD countries.
- ▣ Although US suicide rates were lower than in those countries, firearm suicide rates were 6 times higher.

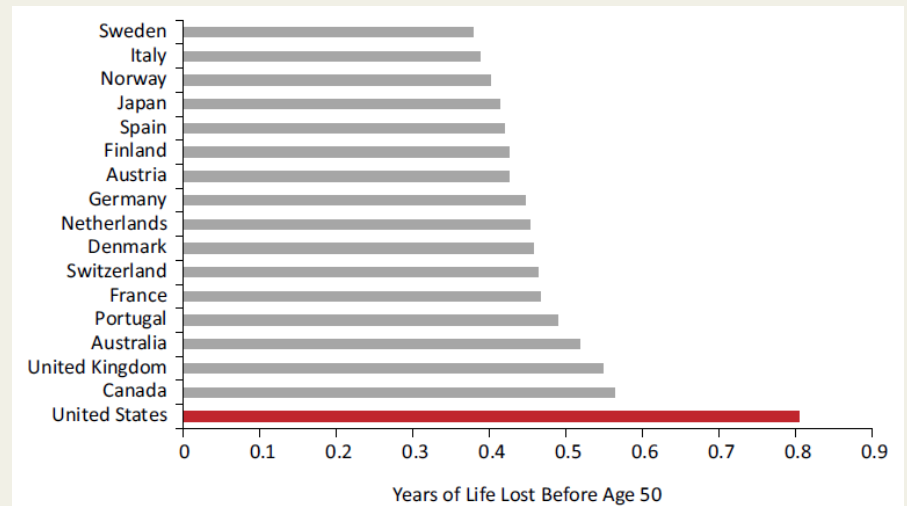


Years of Life Lost Before Age 50, 2006-2008

Males



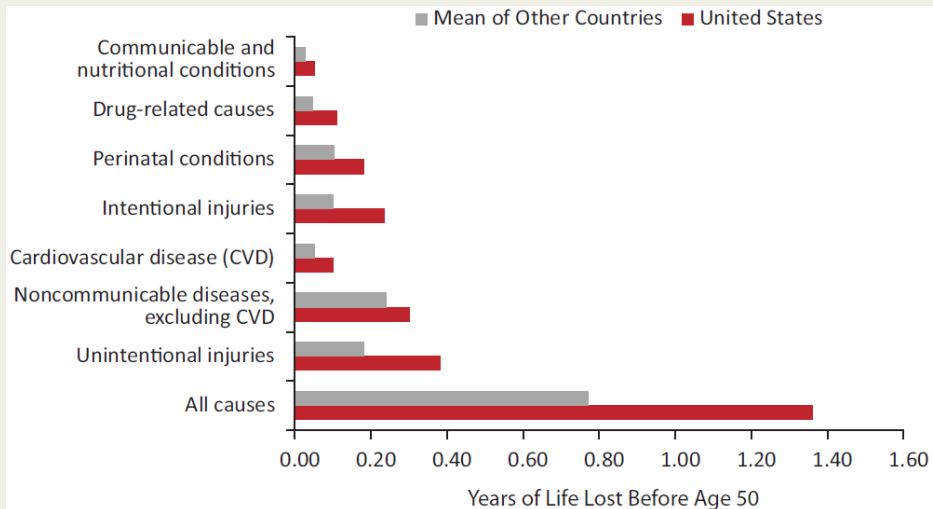
Females



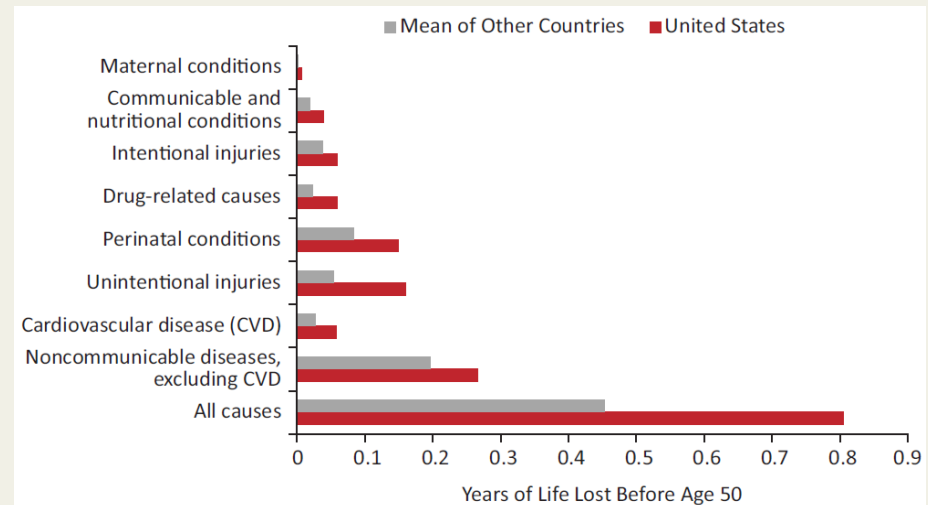
- US male and female newborns can expect to lose about 1.4 years and 0.8 years of life, respectively, before age 50.
- The US losses before age 50 are double those of Sweden, the best performing country.

Years of Life Lost Before Age 50 Due to Specific Causes of Death in 17 Peer Countries, 2006-2008

Males

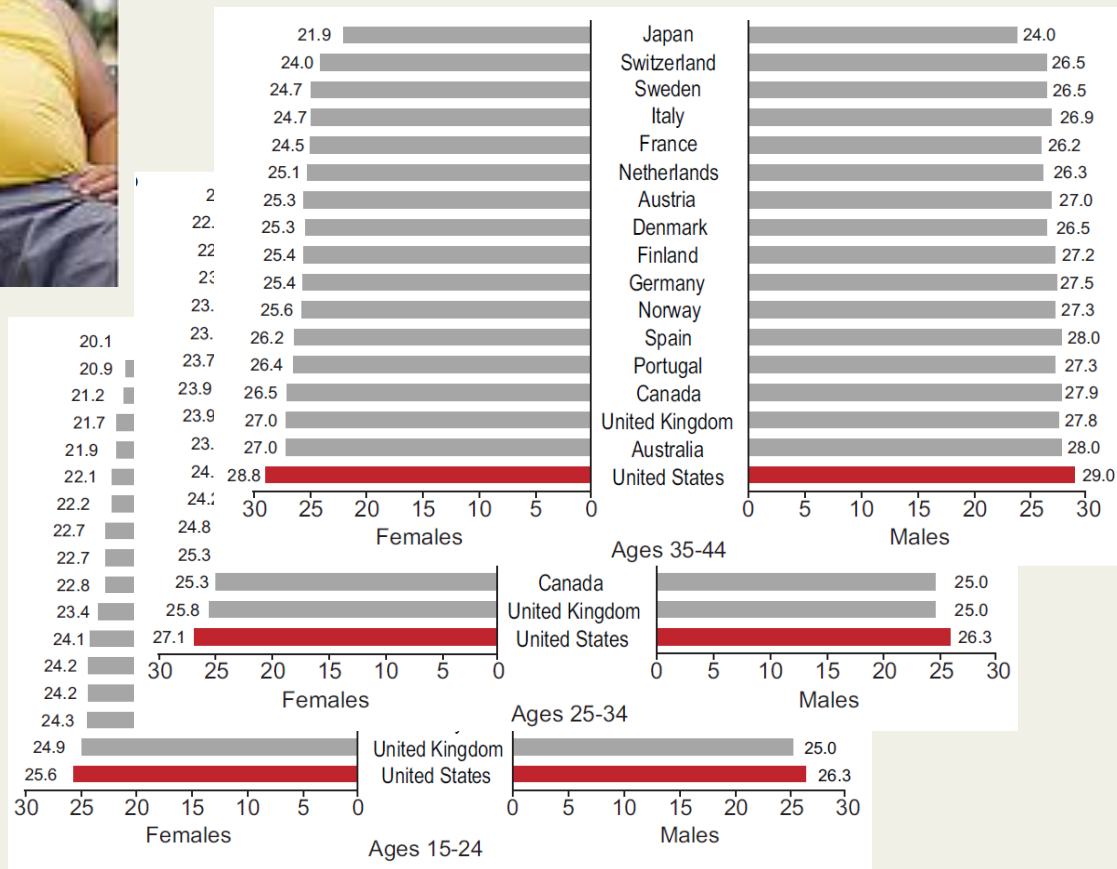


Females



For every cause of death examined, young Americans lost more years of life before age 50 than did young people in peer countries.

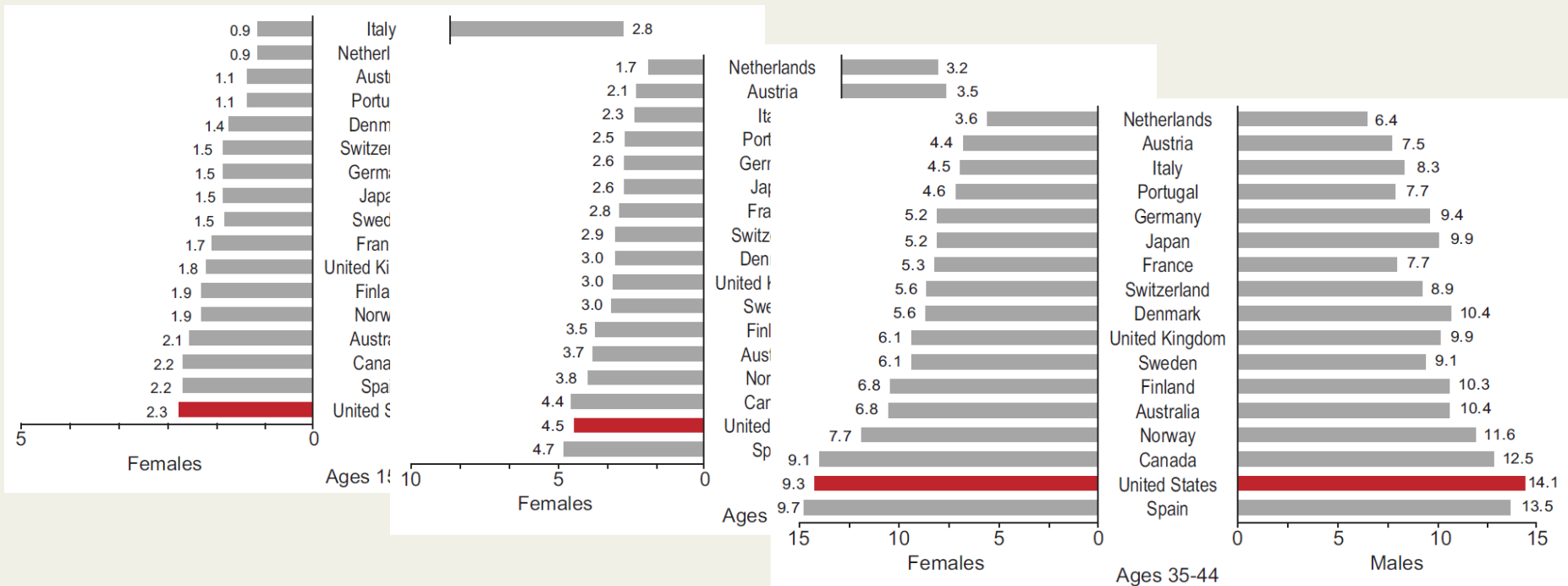
Obesity: Average BMI in 17 Peer Countries, 2008



- The US has the highest prevalence of adult obesity among the 17 peer countries (and all other OECD countries) ...a position it has held for decades.

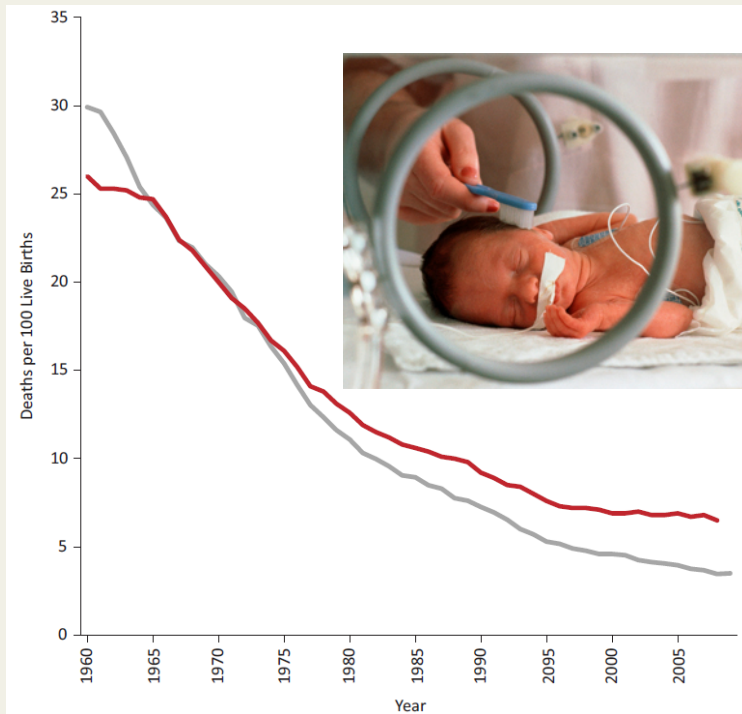
- As of 2009, the prevalence of obesity in the US (34%) was twice the OECD average (17%).

Diabetes: Self-Reported Prevalence in 17 Peer Countries, 2008

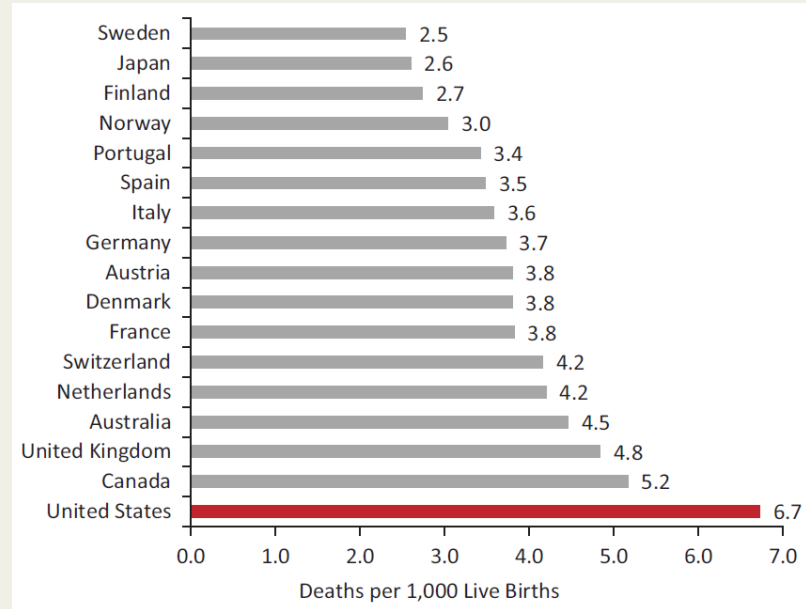


As of 2010, the US had the highest prevalence of diabetes (among adults aged 20-79) across all 17 peer countries (and all OECD countries except Mexico).

Infant Mortality in 17 Peer Countries

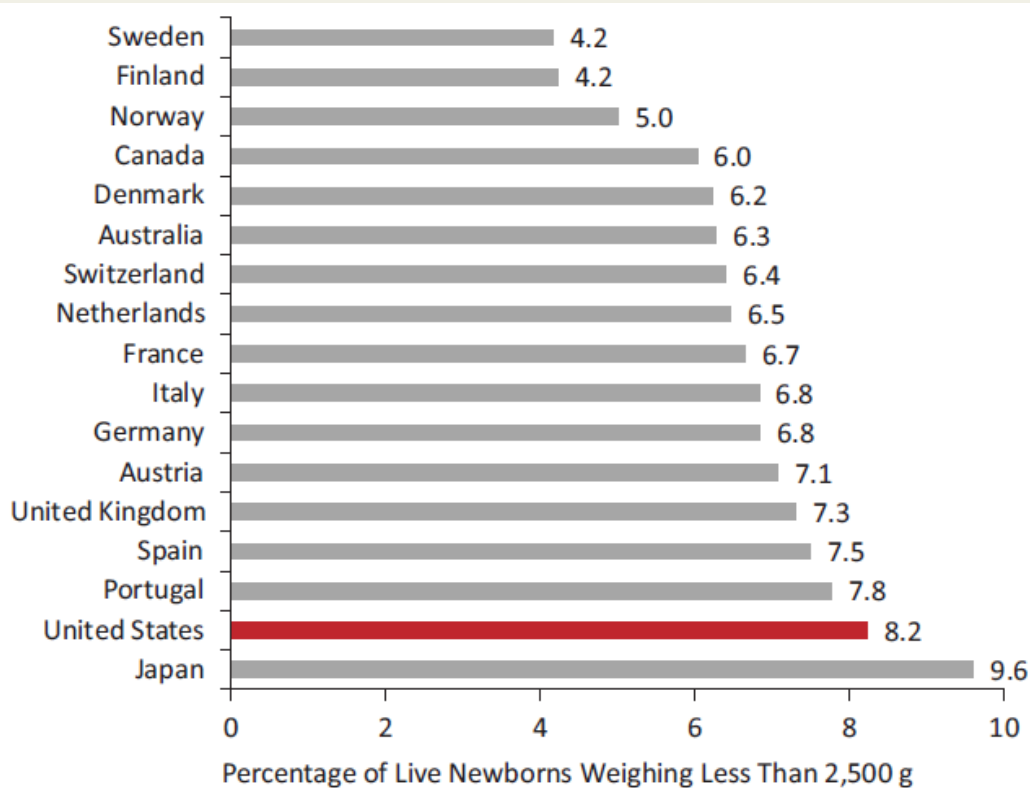


- Since the 1970s, US infant mortality has not kept pace with declines achieved by other countries.
- US infant mortality declined by 20% in 1990-2010, but high-income countries halved their rates.



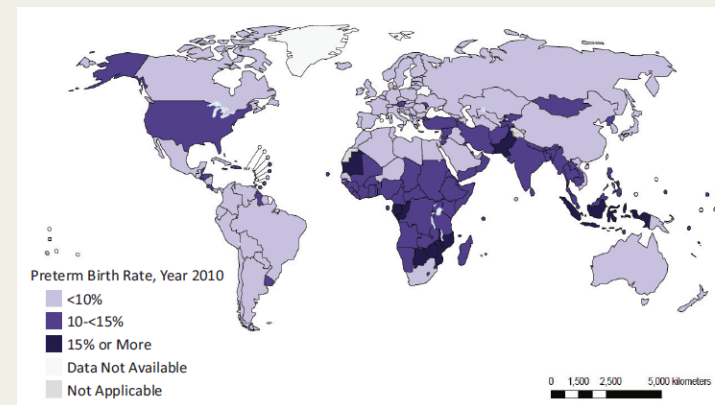
- From 2005-2009, the US had the highest infant mortality rate of the 17 countries and the 31st highest in the OECD.
- Non-Hispanic whites and mothers with 16+ years of education also have higher infant mortality rates than those in other countries.

Other Birth Outcomes



The US prevalence of low birth weight (8.2% for 2005-2009) is the 2nd highest among the 17 peer countries .

US stillbirths and perinatal mortality rates are also among the highest in peer countries.



A 2012 analysis of 184 countries found that the US preterm birth rate (12%) was comparable to that of sub-Saharan Africa (Blencowe et al, 2012).

US Children's Health Disadvantage

The probability of children dying before age 5 (8 per 1,000) is higher in the US than in the 16 peer countries.



In 2004, 11% of US deaths before age 5 were from injuries, the largest proportion of the 17 peer countries except Japan.

- ▣ In 2006, the US had the highest rate of child deaths due to negligence, maltreatment, or physical assault among the 17 peer countries.
- ▣ The rate of violent deaths among US boys aged 1-4 has exceeded the OECD average since the late 1960s; the same has been true for unintentional injury deaths in boys and girls.
- ▣ The OECD ranked the US 24th out of 30 on children's wellbeing for health and safety.
- ▣ UNICEF ranked the US 21st out of 21 countries on selected indicators of child well-being.

US Adolescent Health Disadvantage

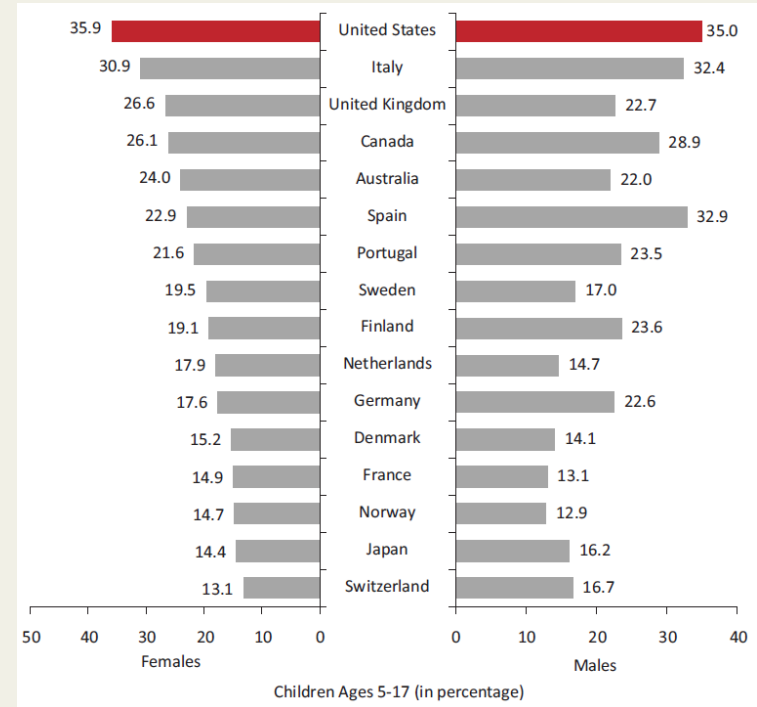
Among teens aged 15-19 in 2005, the US had the highest all-cause mortality rate among peer countries.

- Pattern is decades old: US mortality rates at ages 15-24 have been higher than the OECD mean since the 1950s for males and since the 1970s for females.

As of 2005, the prevalence of obesity among US teens aged 12-17 was more than twice the OECD mean:

- By 2011, one third of US children aged 5-17 were overweight/obese, the highest rate among peer countries.
- Obesity among US non-Hispanic whites aged 5-13 was higher than the OECD average for ages 5-19.

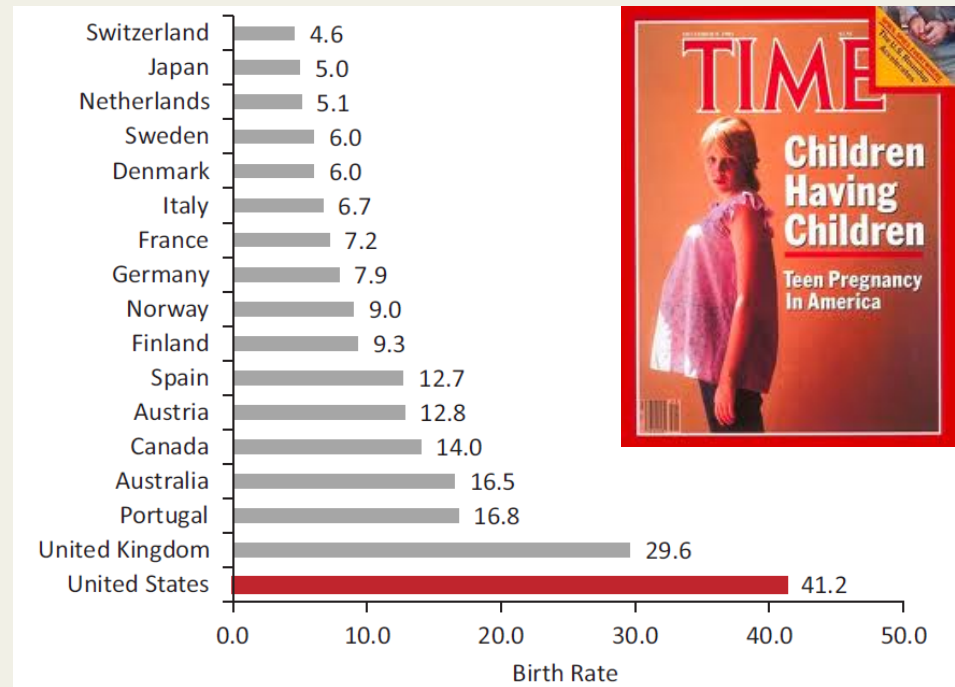
Among the 17 peer countries in 2010, the US had the 5th highest prevalence of diabetes among children ages 0-14.



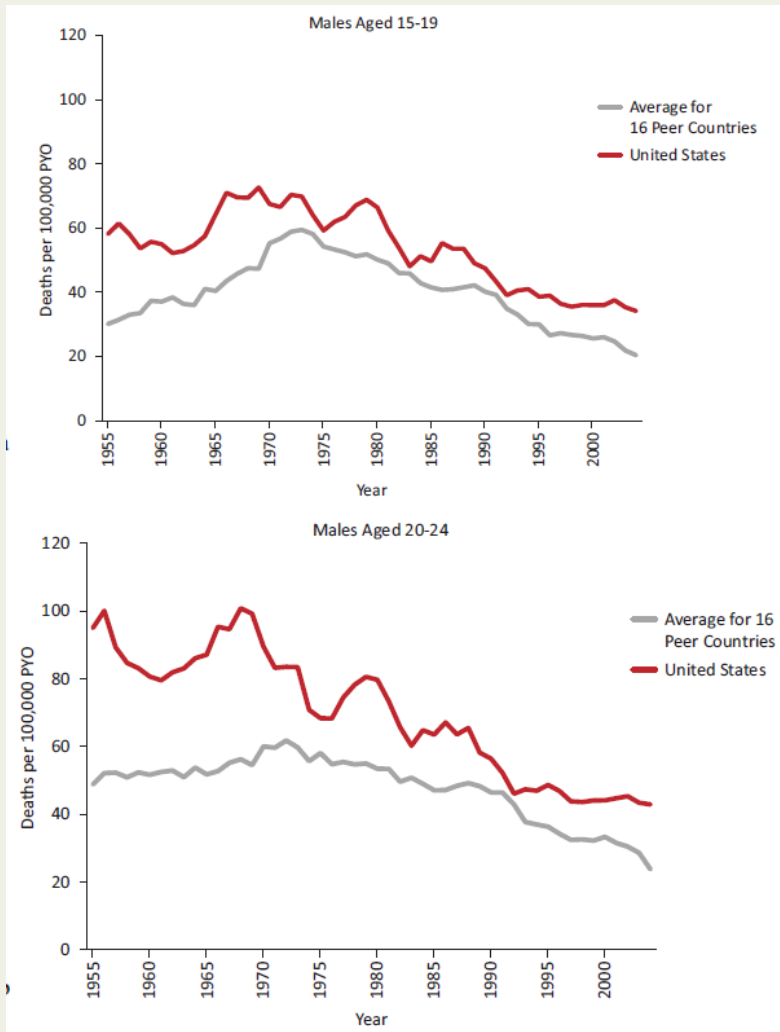
Prevalence of overweight (including obese) children in 17 peer countries

Adolescent Sexual Health

- The US has the highest teen pregnancy rate among peer countries:
 - The 2010 US teen pregnancy rate was nearly 3.5 times the average of peer countries.
- In 16 developed countries, the prevalence of syphilis, gonorrhea, and chlamydia among teens age 15-19 was higher in the US than in other high-income countries that provided comparison data.
- Among high-income countries, the US has the highest prevalence of HIV infection at ages 15-24.

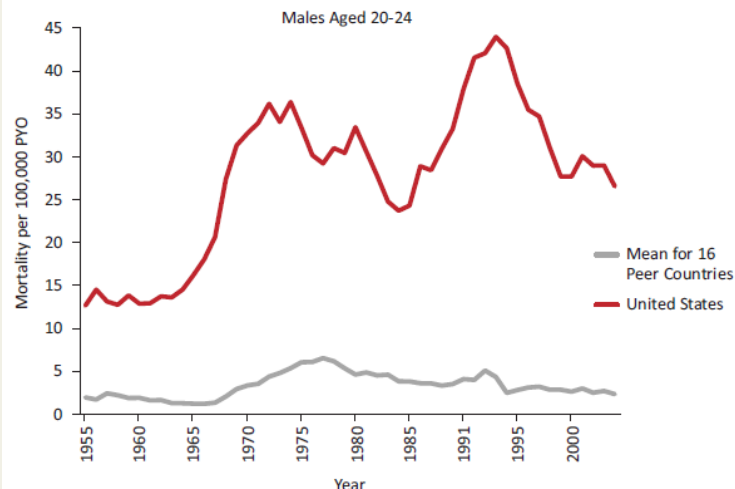
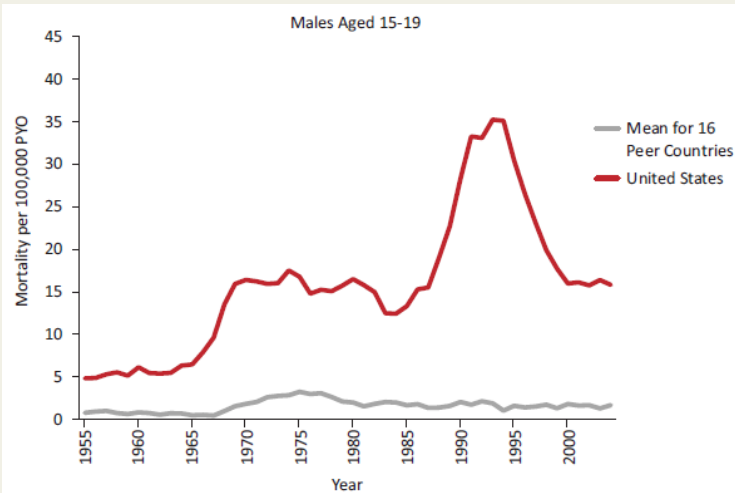


Adolescent Injury Mortality



- Among adolescents aged 15-19 in 2005, the US had the highest injury mortality rate of 17 peer countries.
- Since the 1950s, transport injury mortality at ages 15-24 has been higher in the US than in 17 peer countries.
- Since the 1960s, the US has had higher non-transport injury mortality among children aged 5-9, and especially among males aged 10-19.

Youth Mortality from Violence



- Since the 1950s, males aged 15-24 have been more likely to die from violence in the US than in 16 peer countries.
- US males aged 15-19 are 5 times more likely to die from violence than those in other OECD countries.

Age 50 and Above

Disease and Disadvantage in the United States and in England

James Banks, PhD
Michael Marmot, MD
Zoe Oldfield, MSc
James P. Smith, PhD

Context The United Kingdom, but
Objective To assess the United States, especially its socioeconomic position
Design Setting

Differences In Disease Prevalence As A Social U.S.-European Health Spending Gap

Americans are diagnosed with and treated for illnesses more often than their European counterparts.

by Kenneth E. Thorpe, David H. Howard, and

Differences in health and Effects on longevity and

Pierre-Carl Michaud^{a,*}, Dan

A Tale of Two Countries—the United States and Japan
Differences in Health Due to Differences in Overweight

Sandra L. Reynolds¹, Aaron Hagedorn², Jihye Yeom², Yasuhiko Saito³, and Eileen M. Crimmins²

¹University of South Florida, Tampa, FL, USA

²University of Southern California, Los Angeles, CA, USA

³Nihon University, Tokyo, Japan

EXPLAINING DIVERGENT LEVELS OF LONGEVITY IN HIGH-INCOME COUNTRIES

and Barney Cohen, *Editors*

evity in High-Income Countries

ged 50 to 74 Years: and Poor Americans

and Johan P. Mackenbach, PhD

ng^d

Conditions more prevalent in the US among those age 50 and older

- Overweight/obesity
- Diabetes
- Hypertension
- Heart disease
- Myocardial infarction
- Stroke
- Chronic lung disease
- Asthma
- Cancer
- Arthritis
- Activity limitations

Nine Areas of US Health Disadvantage

**Infant Mortality
&
Low Birth
Weight**

**Injuries &
Homicides**

**Adolescent
Pregnancy &
STIs**

HIV & AIDS

**Drug-related
Deaths**

**Obesity &
Diabetes**

**Cardiovascular
Disease**

**Chronic Lung
Disease**

Disability

The Good News: Some US Health Advantages

- Cancer mortality
- Stroke mortality
- Control of blood pressure and cholesterol levels
- Suicide
- Elderly survival
- Self-rated health

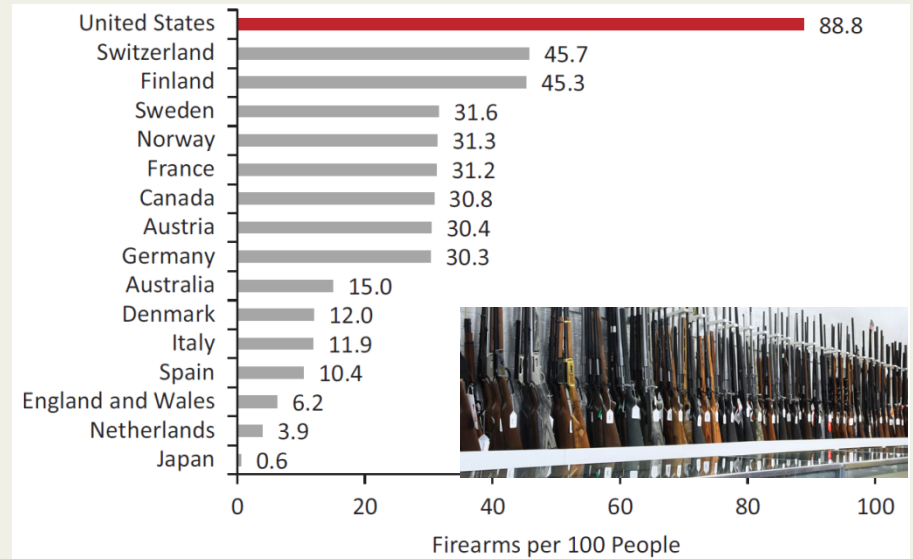
Explaining US Health Disadvantage

- Individual Behaviors
- Societal and Environmental Factors
- Public Policies – social welfare spending

Individual Behaviors

Injurious behaviors

- ▣ Civilian possession of firearms is much common in the US (89 firearms per 100 Americans) than in peer countries.
- ▣ US motorists are less likely to fasten front seatbelts, and motorcycle helmet use may also be lower in the US than in other high-income countries.
- ▣ 32% of US road accidents are attributable to alcohol, a higher proportion than in other high-income countries.



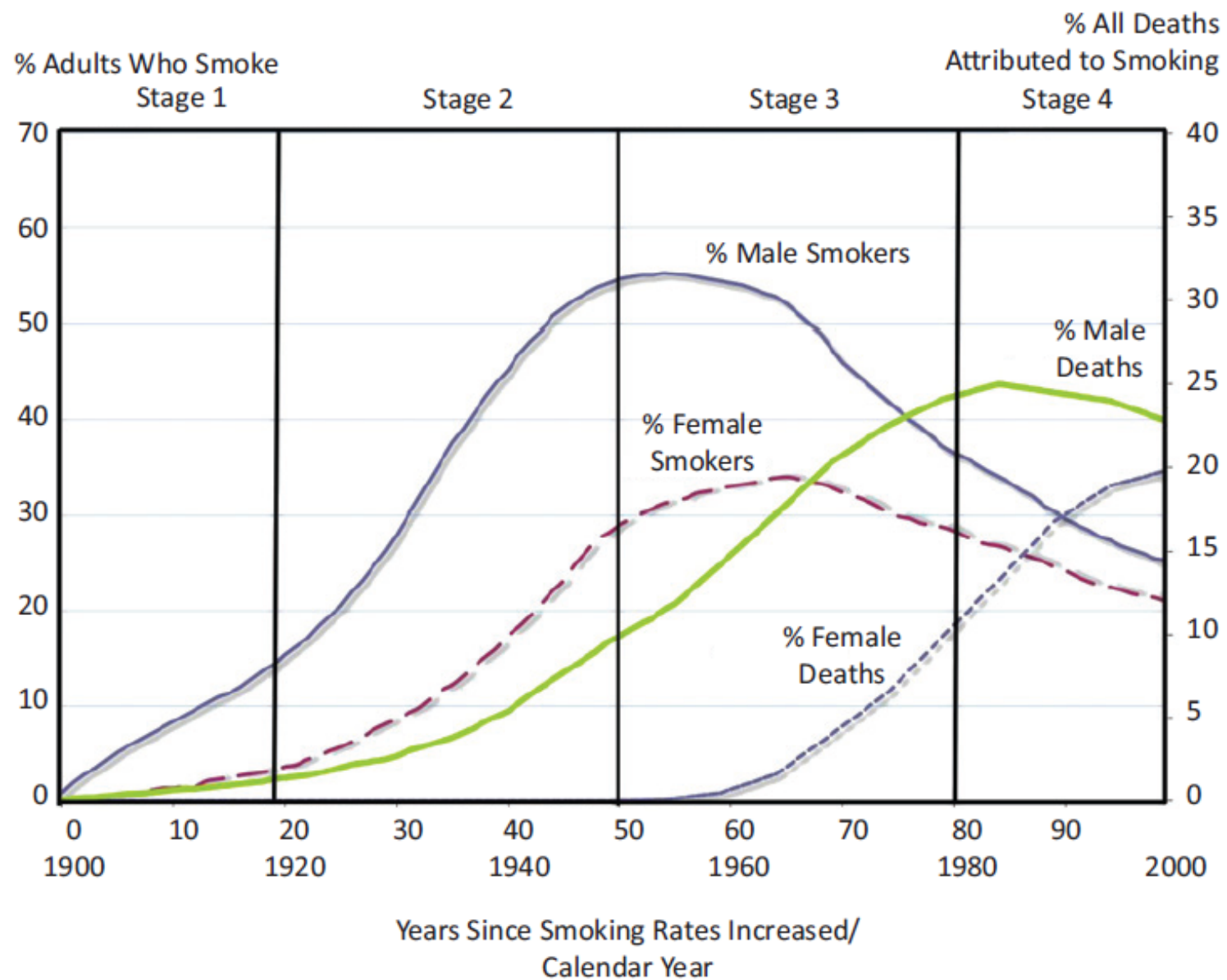
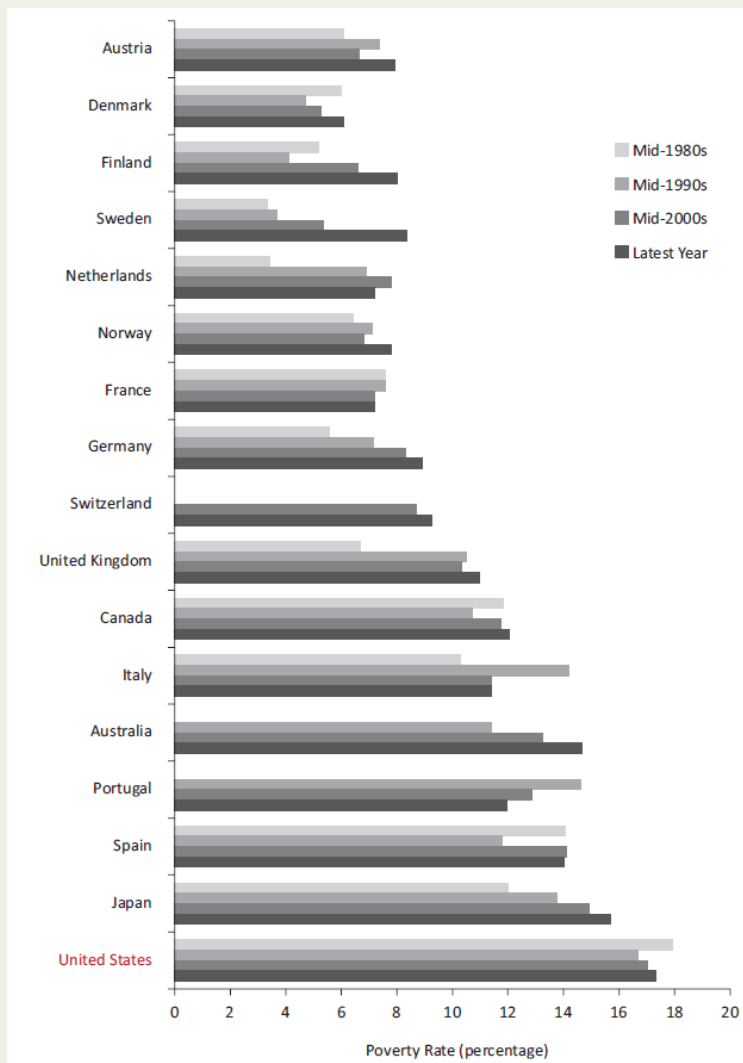


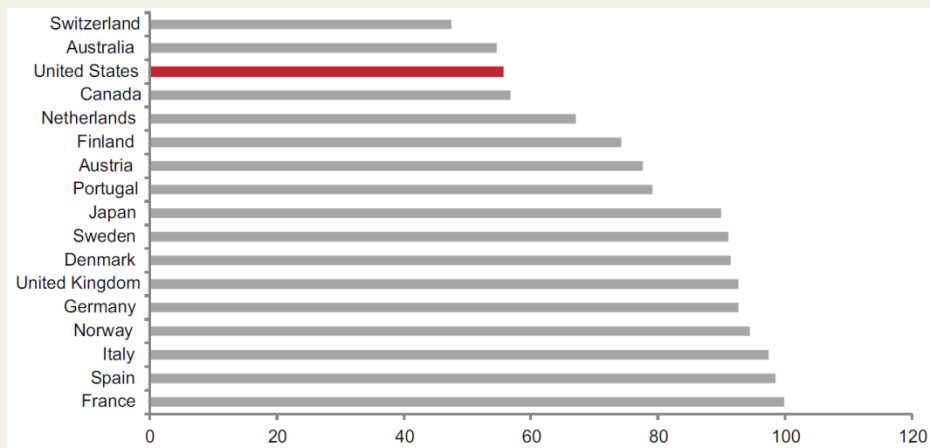
FIGURE 5-3 Four stages of the U.S. tobacco epidemic.
SOURCE: Thun et al. (2012, Figure 1).

Social Factors

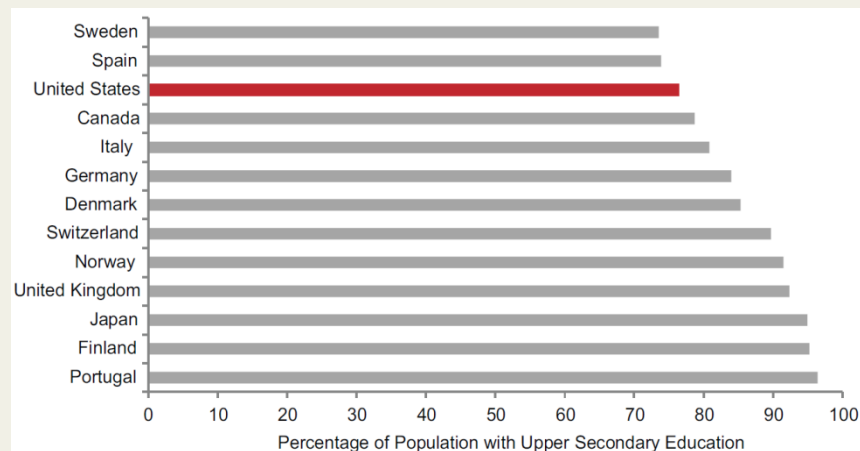


- The US has the highest level of income inequality among peer countries, 4th highest in the OECD.
- Since the 1980s, the US has had the highest relative poverty rates among peer countries.
- Since the mid-1980s, the US has had the highest rate of child poverty among peer countries.
- As of 2008, 22% of US children lived in poverty, the 5th highest rate among 34 OECD countries.

Education



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



Percent of population with secondary education, 2008



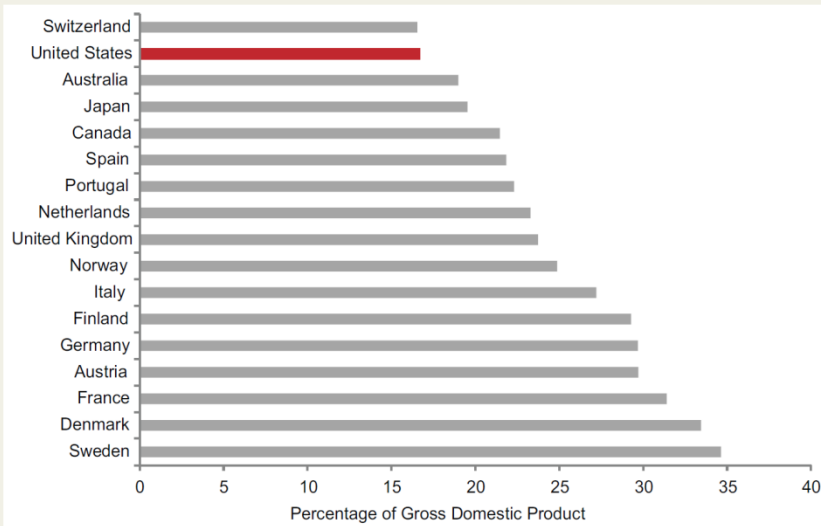
US preschool enrollment is lower than in most high-income countries.

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.

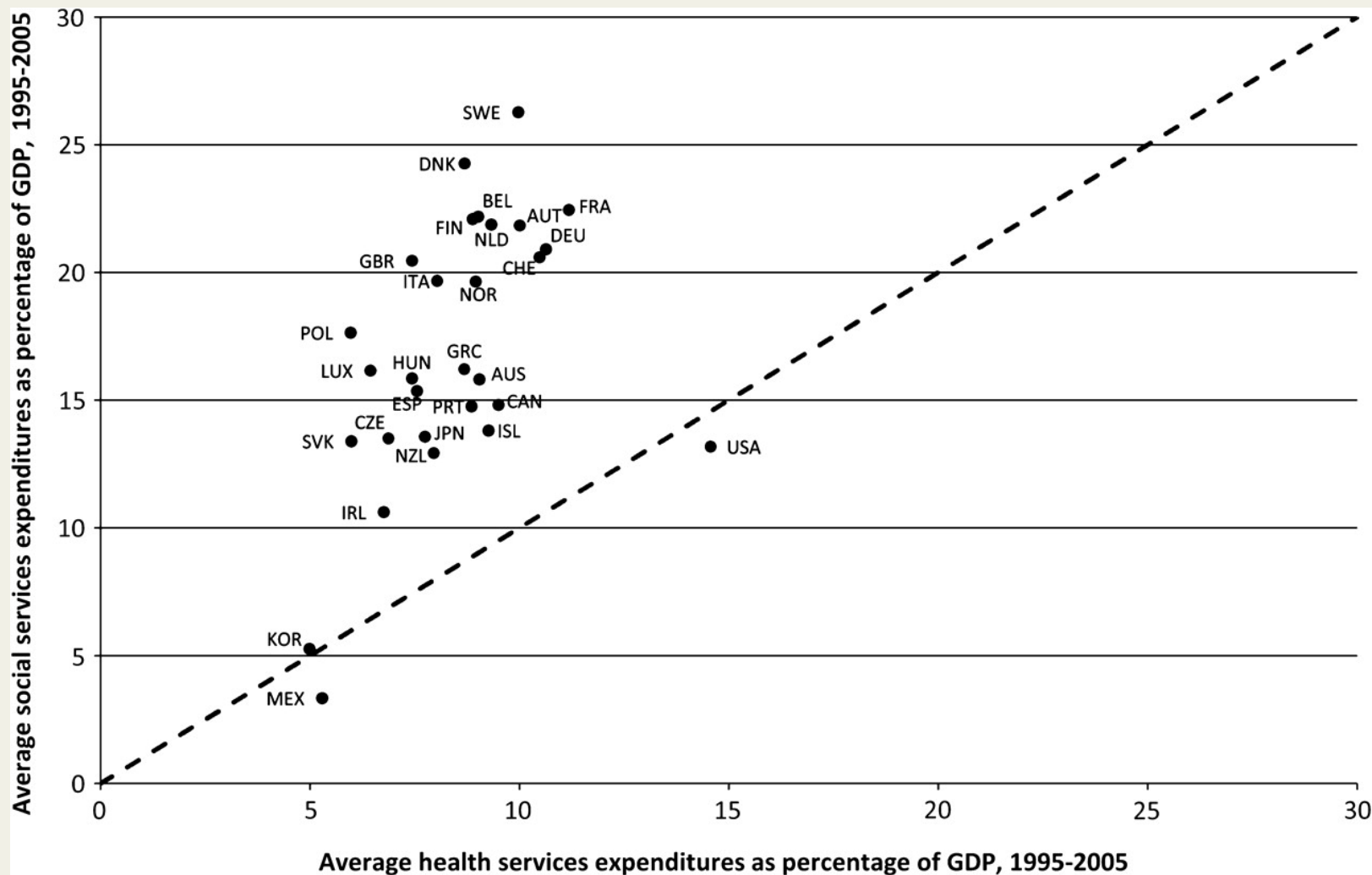
Public Policies

- Studies suggest that style of governance may influence health outcomes, independent of individual-level variables.
- Countries with social democratic models (e.g., in Scandinavia) tend to have better aggregate health outcomes than countries with “Liberal” models (e.g., US, UK).
- Studies report an association between social spending and life expectancy, infant mortality, and potential years of life lost.



Policy differences between Europe and US noted by Avendano and Kawachi (2011):

- Tax systems are more progressive
- Child benefits are traditionally available for parents in many countries regardless of income
- Social programs are generally not restricted to the poor
- Employment protection is substantially higher
- Unemployment benefits are more generous
- Labor standards for working parents are more extensive.



Bradley E H et al. BMJ Qual Saf 2011;20:826-831

RECOMMENDATIONS

Recommendations Related to Policy

ALERT THE PUBLIC

RECOMMENDATION 5 The philanthropy and advocacy communities should organize a comprehensive media and outreach campaign to inform the general public about the U.S. health disadvantage and to stimulate a national discussion about its implications for the nation.



Recommendations Related to Policy

EXPLORE INNOVATIVE POLICY OPTIONS

RECOMMENDATION 6 The National Institutes of Health or another appropriate entity should commission an analytic review of the available evidence on (1) the effects of policies (including social, economic, educational, urban and rural development and transportation, health care financing and delivery) on the areas in which the United States has an established health disadvantage, (2) how these policies have varied over time across high-income countries, and (3) the extent to which these policy differences may explain cross-national health differences in one or more health domains. This report should be followed by a series of issue-focused investigative studies to explore why the United States experiences poorer outcomes than other countries in the specific areas documented in this report.

THANK YOU!

National Academy of Sciences
Institute of Medicine

Steven Woolf, Chair of Panel of “Shorter Lives,
Poorer Health”

Thomas Plews, Director of NAS Committee on
Population

Dr. Maxine Hayes

UW Clinical Professor of Pediatrics

- BA: Spelman; MD: State University of New York-Buffalo; MPH: Harvard
- 1988 to 2013: Assistant Secretary and State Health Officer, Washington State Department of Health.

HONORS

- Fellow of the American Academy of Pediatrics
- Elected to Institute of Medicine
- Honorary Doctorates
 - Spelman College
 - State University of New York