



Health(care) Economics

Austin University Area Rotary Club
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1

1

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2

2

Outline

- What is Health(care) Economics?
- Taking the Pulse of the Health Economy
- Health Care Systems and Institutions
- Health Insurance and Reform
- Pharmaceuticals – Big Pharma



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What is Health(care) Economics?

- Health Economics is a special field of (applied) microeconomics that focuses on the health care industry.
- Examples of other subfields of microeconomics are labor economics, industrial organization, economics of education, public economics, and urban economics.



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Health Economics is part of Microeconomics

- Although health economics is part of “micro-” economics, it is actually very big:
- In 2019, U.S. national health expenditure was 17.8% of GDP, which is equivalent to around \$3,427 billions.
- For comparison, the entire GDP of Germany in 2019 was \$3,845 billions (4th largest economy), GDP of UK was \$2,827 billions (6th largest economy), and \$2,715 billions in France (7th largest economy).



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What is Health Economics?

- Health economics studies health care resources markets and health insurance.
- Healthcare is the biggest industry and the largest employer in the US.



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What is a Market?

- A **market** is a group of buyers and sellers of a particular product in the area or region under consideration. The area may be the earth, or countries, regions, states, or cities.
- The concept of a market is any structure that allows buyers and sellers to exchange any type of goods, services and information.
- Markets can be physical and non-physical.

Markets studied in health economics

- **Markets for:**
 - Physicians
 - Nurses
 - Hospital facilities
 - Nursing homes
 - Pharmaceuticals
 - Medical supplies (such as diagnostic and therapeutic equipment)
 - **Health Insurance**

Pulse of the Health Economy

- **Health economy involves activities related to population health:**
 - Production and consumption of goods and services
 - Distribution of those goods to consumers
- **Performance indicators of medical care**
 - Costs
 - Quality
 - Access



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9

Tradeoffs

Tradeoffs take place among the three legs:

- By increasing quality health care this leads to higher health care costs, which means that some individuals might not be able to afford it and the access may be more limited.
- By increasing access, the costs and/or quality may suffer.
- By decreasing costs, access and/or quality may suffer.



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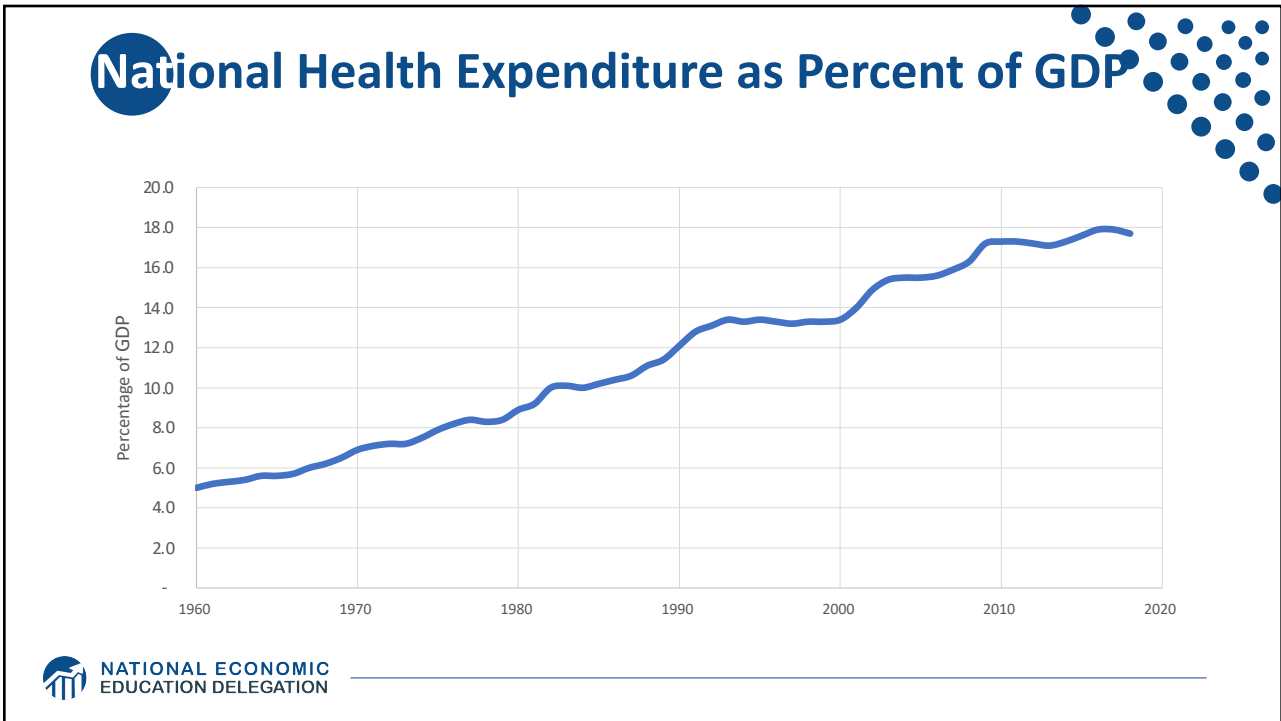
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Costs

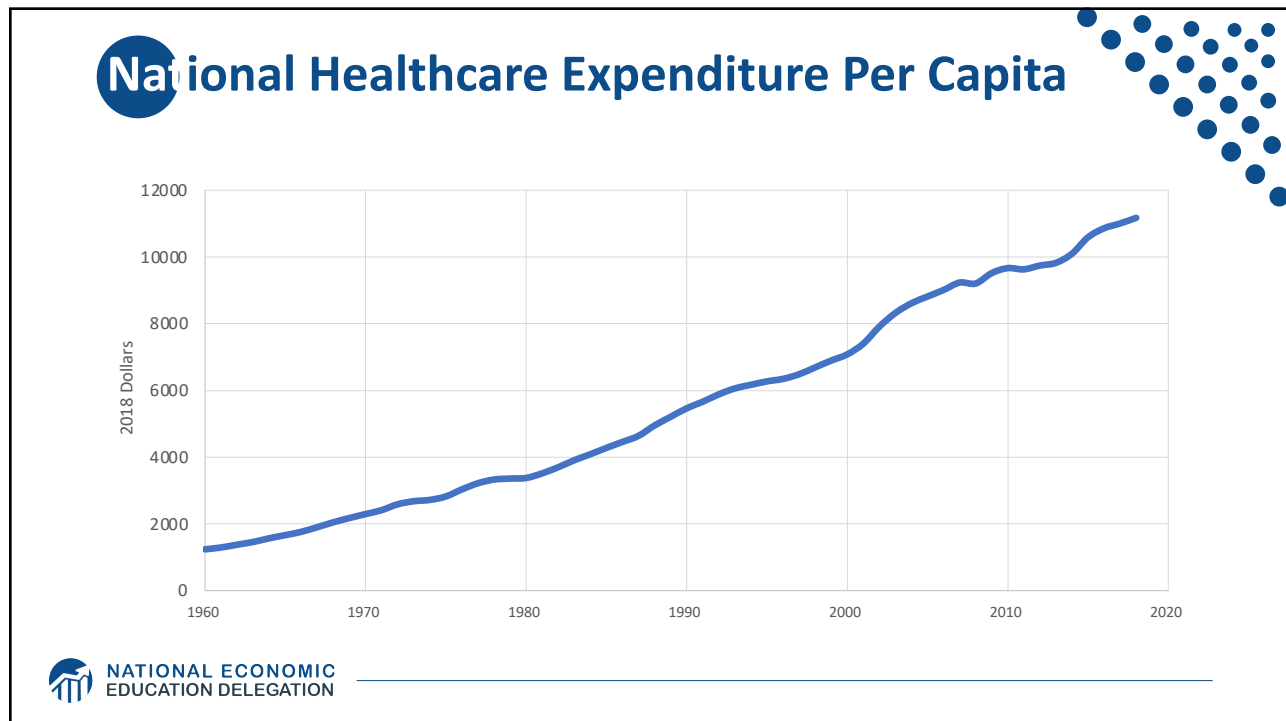


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11



12



13

Amount of Medical Care Spending

- **Costs of health care are high and continually rising**
 - U. S. spent 17.7% of GDP or \$11,172 per person in 2018
 - Compared to 5.0% of GDP and \$1,239 per person in 1960
- **Trade-offs may be involved**
 - High health care costs implies lower amounts of other goods produced and consumed.

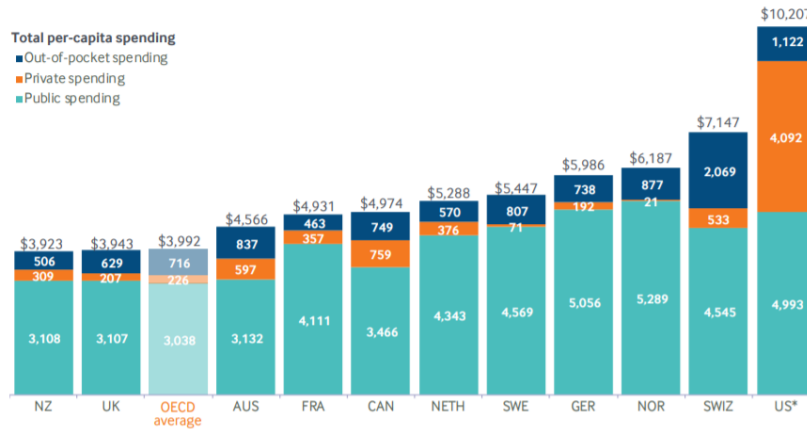
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14

International Per Capita Healthcare Spending

Dollars (US\$), adjusted for differences in cost of living

Total per-capita spending
 ■ Out-of-pocket spending
 ■ Private spending
 ■ Public spending



Source: Roosa Tikkanen and Melinda K. Abrams, *U.S. Health Care from a Global Perspective, 2019: Higher Spending, Worse Outcomes* (Commonwealth Fund, Jan. 2020).

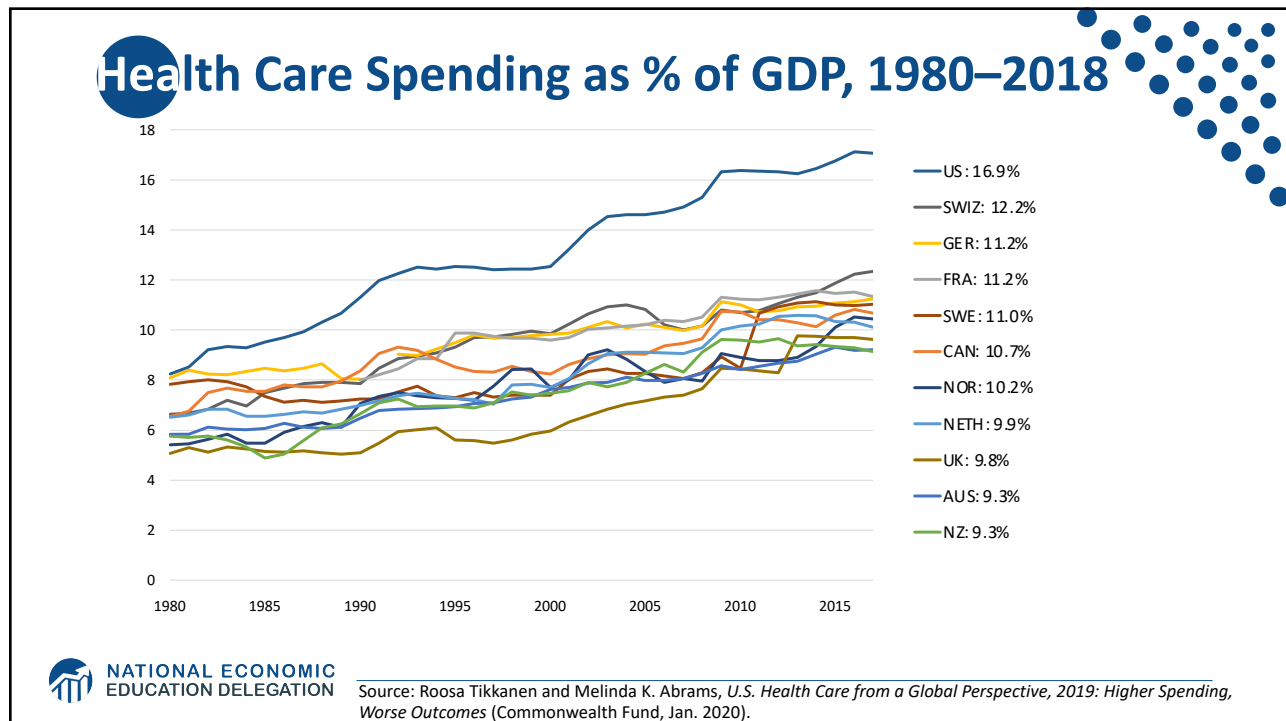
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International Comparison

- Per capita health spending in the U.S. exceeded \$10,000, more than two times higher than in Australia, France, Canada, New Zealand, and the U.K.
- At \$4,092 per capita, U.S. private spending is more than five times higher than Canada, the second highest spender.
- In Sweden and Norway, private spending made up less than \$100 per capita. As a share of total spending, private spending is much larger in the U.S. (40%) than in any other country (0.3%–15%).



16



17

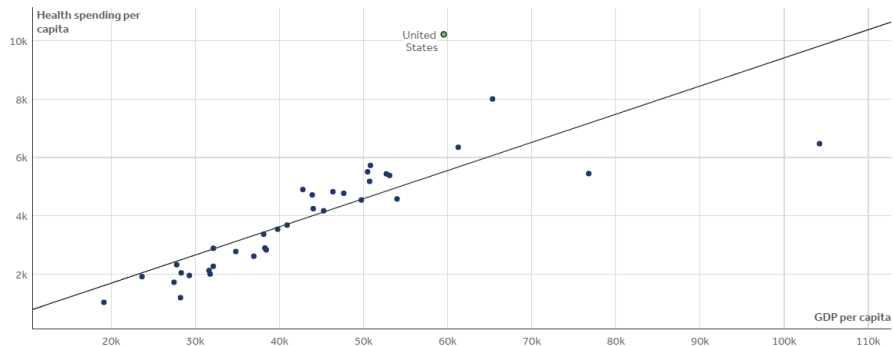
International Comparison

- In 1960, the U.S. was spending a higher percent of GDP on health care compared to other OECD countries, but was still part of the pack.
- In 2018, the U.S. spent 16.9 percent of gross domestic product (GDP) on health care, nearly twice as much as the average OECD country.
- The second-highest ranking country, Switzerland, spent 12.2 percent.
- At the other end of the spectrum, New Zealand and Australia devote only 9.3 percent, approximately half as much as the U.S. does.

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GDP per capita and health consumption spending per capita, 2017



Notes: U.S. value obtained from National Health Expenditure data. Health consumption does not include investments in structures, equipment, or research.

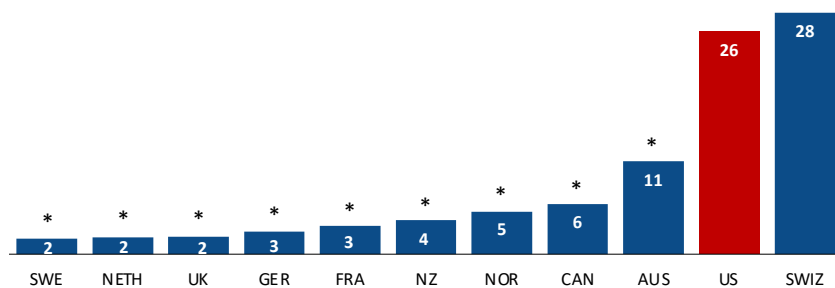
Source: KFF analysis of OECD and National Health Expenditure (NHE) data • Get the data • PNG

Peterson KFF
Health System Tracker

19

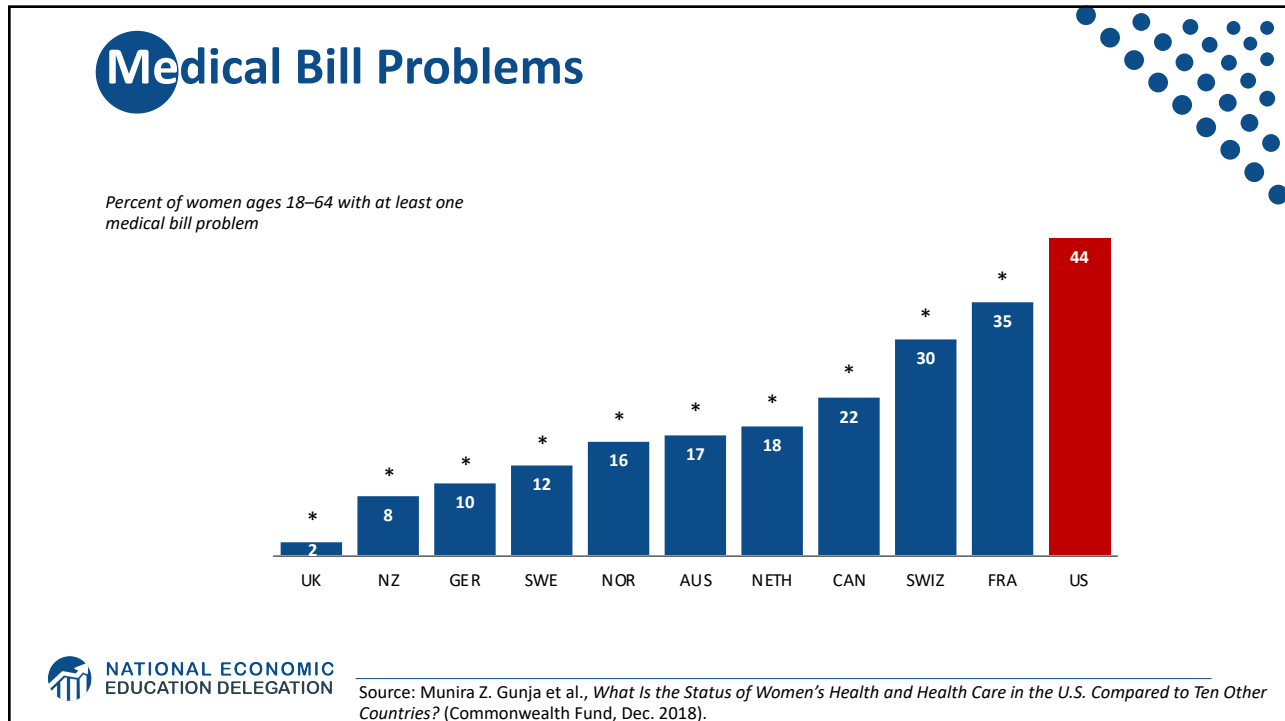
Out-of-Pocket Costs

Percent of women ages 18–64 with out-of-pocket costs of \$2,000 or more

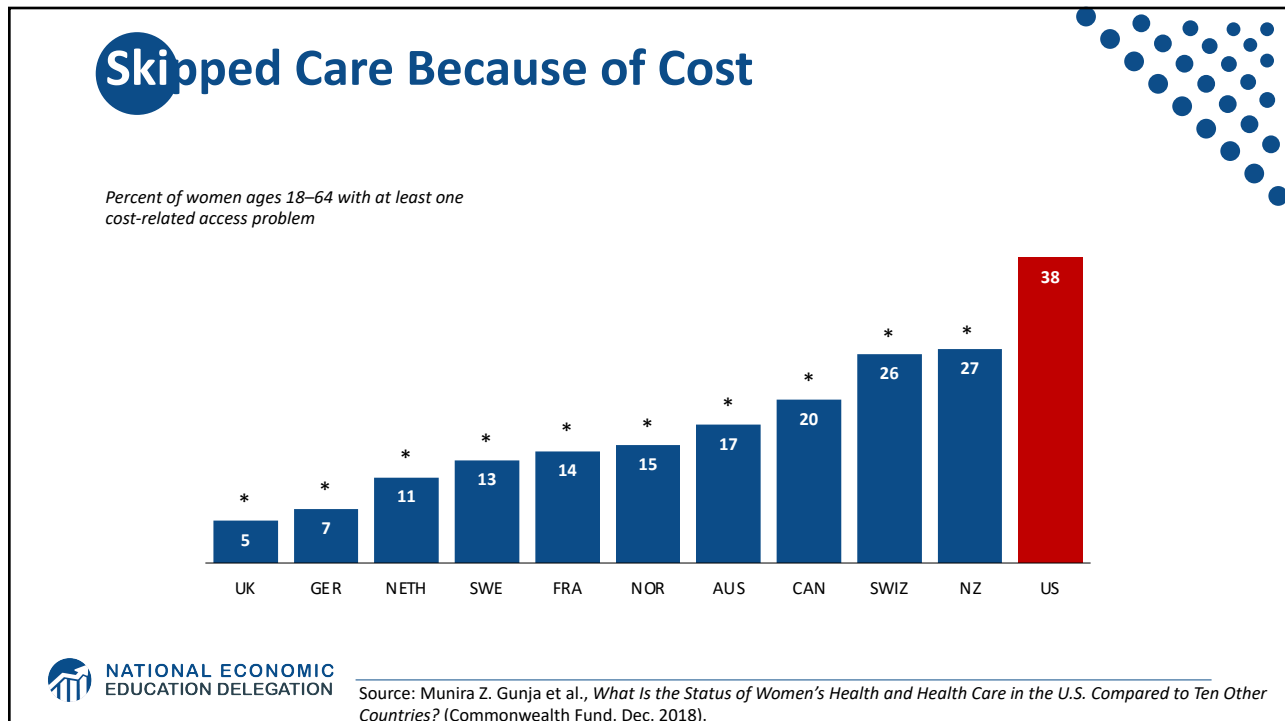


Source: Munira Z. Gunja et al., *What Is the Status of Women’s Health and Health Care in the U.S. Compared to Ten Other Countries?* (Commonwealth Fund, Dec. 2018).

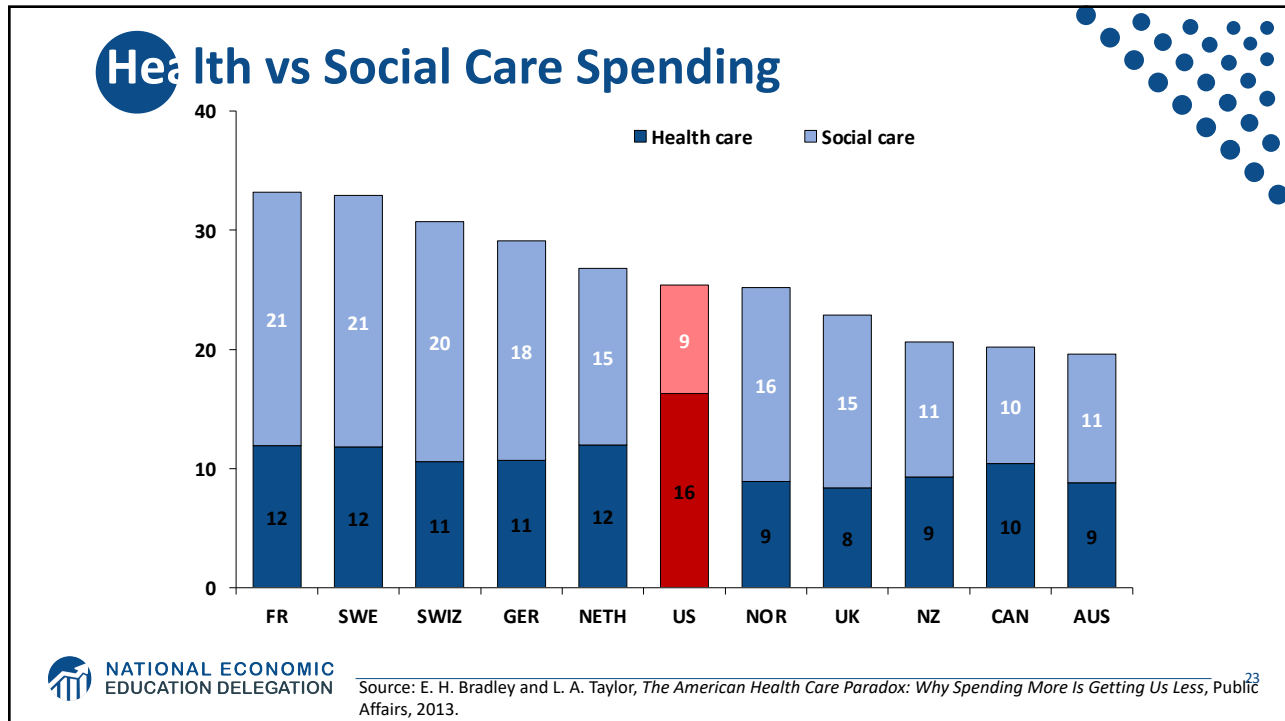
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21



22



23

Health vs Social Care Spending

- A 2013 study by Bradley and Taylor found that the U.S. spent the least on social services—such as retirement and disability benefits, employment programs, and supportive housing—among the countries studied in this report, at just 9 percent of GDP.
- From 2000 to 2011, for every dollar the US spent on health care, the country spent another \$1.00 on social services, whereas across the OECD, for every dollar spent on health care, countries spend an additional \$2.50 on social services

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Why this increase in healthcare spending?

- The share of the economy spent on health care has been steadily increasing for all countries because
 - health spending growth has outpaced economic growth.
- Also because of
 - advances in medical technologies
 - increased demand for services
 - rising prices in the health sector – why?



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Quality



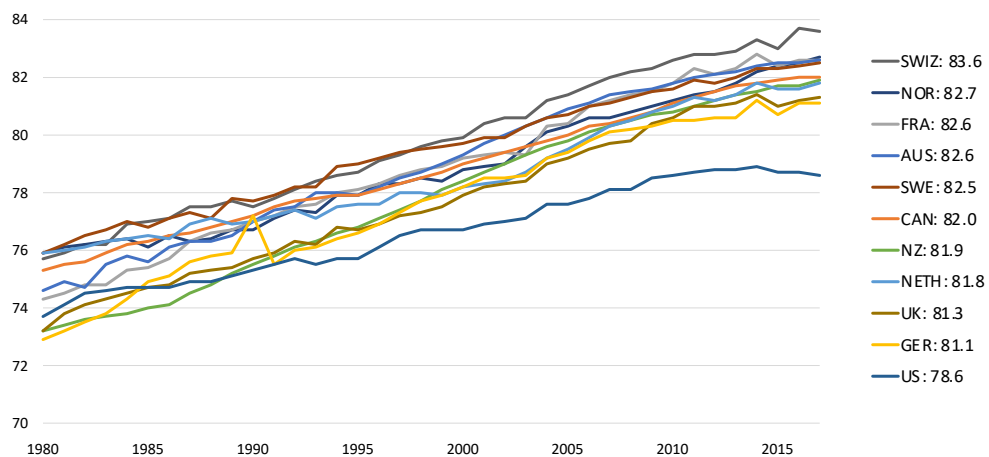
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26

Summary

- The U.S. has the highest chronic disease burden and an obesity rate that is two times higher than the OECD average.
- Americans had fewer physician visits than peers in most countries, which may be related to a low supply of physicians in the U.S.
- Americans use some expensive technologies, such as MRIs, and specialized procedures, such as hip replacements, more often than our peers.
- The U.S. outperforms its peers in terms of preventive measures — it has the one of the highest rates of breast cancer screening among women ages 50 to 69 and the second-highest rate (after the U.K.) of flu vaccinations among people age 65 and older.
- Compared to peer nations, the U.S. has among the highest number of hospitalizations from preventable causes and the highest rate of avoidable deaths.

Life Expectancy



Life Expectancy

- Despite the highest spending, Americans experience worse health outcomes than their international peers.
- Life expectancy at birth in the U.S. was 78.6 years in 2017 — more than two years lower than the OECD average and five years lower than Switzerland, which has the longest lifespan.



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Life Expectancy

- In the U.S., life expectancy masks racial and ethnic disparities. Average life expectancy among non-Hispanic black Americans (75.3 years) is 3.5 years lower than for non-Hispanic whites (78.8 years).
- Life expectancy for Hispanic Americans (81.8 years) is higher than for whites, and similar to that in Netherlands, New Zealand and Canada.



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30

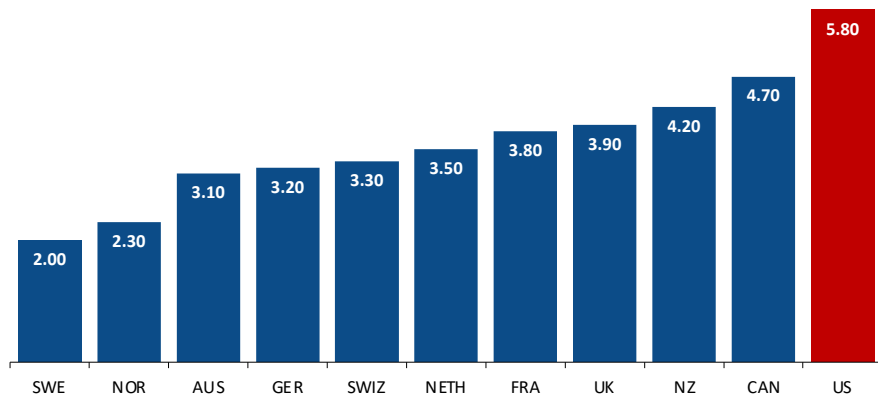
Life Expectancy by Race

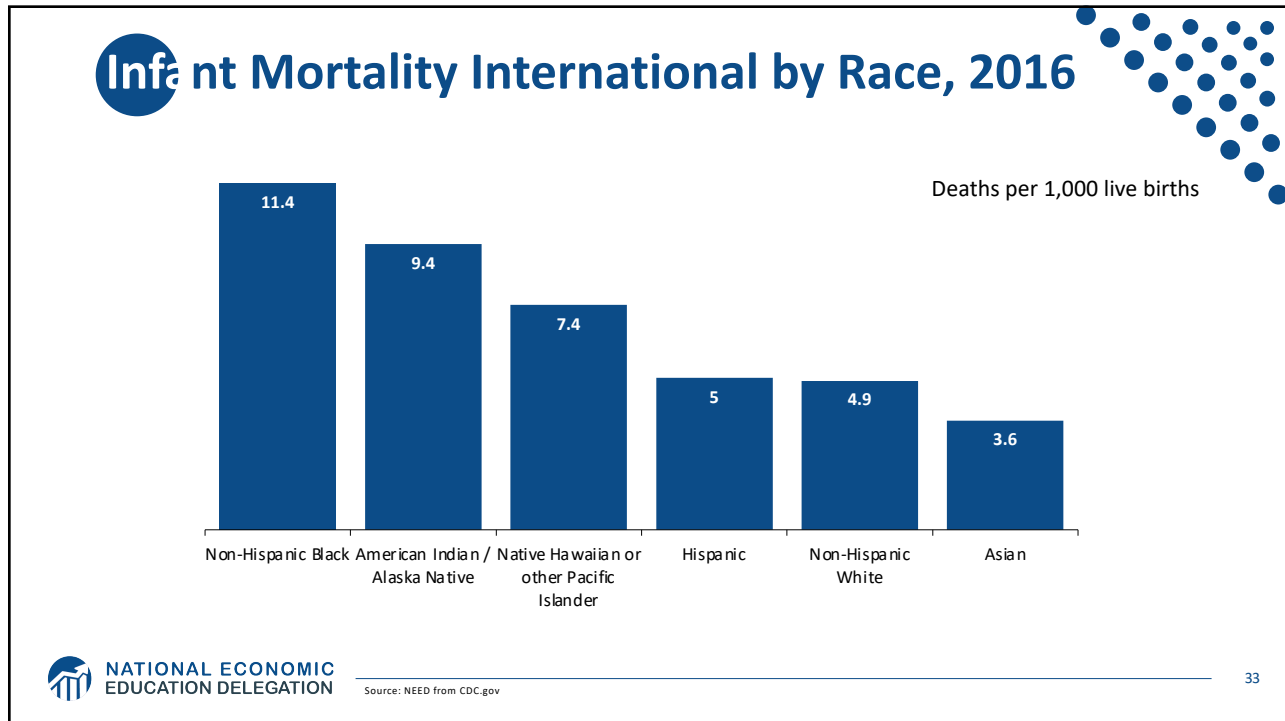
All Races	78.6
White	78.8
Black	75.3
Hispanic	81.8
Non-Hispanic white	78.5
Non-Hispanic black	74.9

Life expectancy at birth 2017

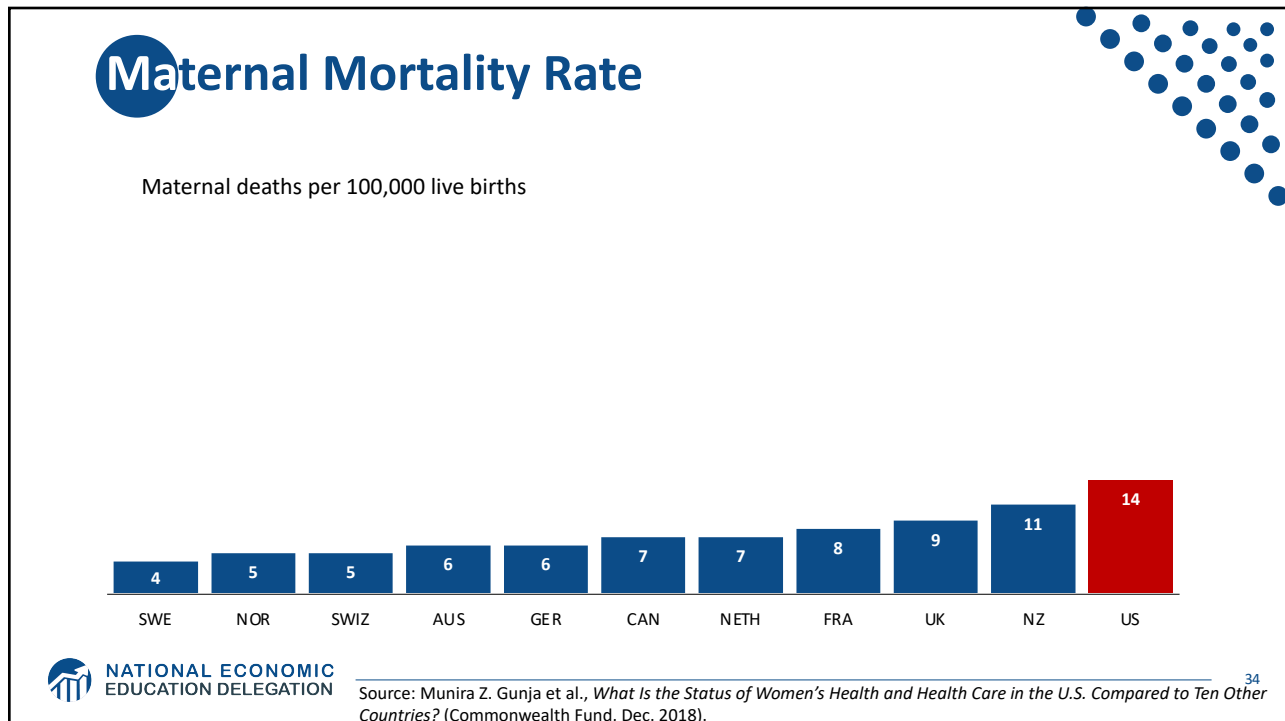
Infant Mortality International Comparison

Deaths per 1,000 live births






33



34

Maternal Mortality Rate


- American Indian/Alaska Native and Black women are 2 to 3 times as likely to die from a pregnancy-related cause than white women.



35

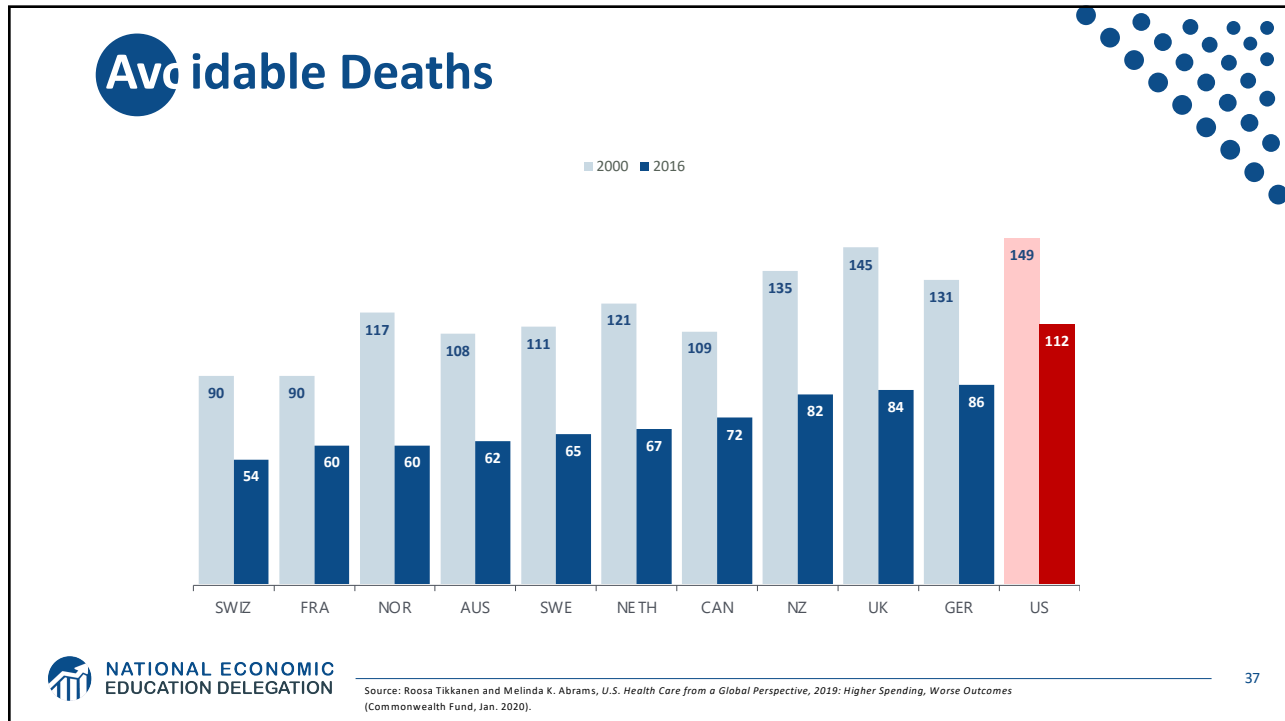
Hospital Acute Care Average Length of Stay, 2017

Country	Average Length of Stay (ALOS)
AUS	4.2
NZ	4.9
NETH	5.0
SWE	5.5
SWIZ	5.5
US	5.5
FRA	5.6
UK	5.9
NOR	6.0
CAN	7.4
GER	7.5
OECD average	6.4

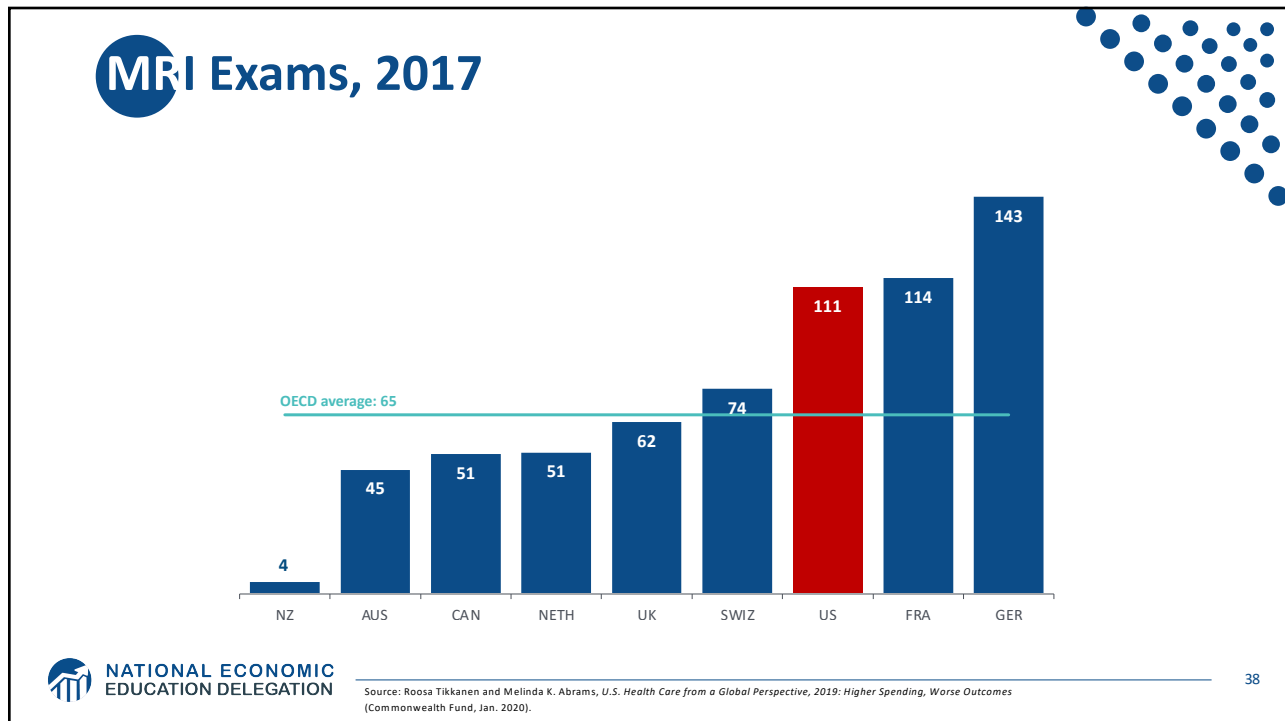


Source: Roosa Tikkanen and Melinda K. Abrams, *U.S. Health Care from a Global Perspective, 2019: Higher Spending, Worse Outcomes* (Commonwealth Fund, Jan. 2020).

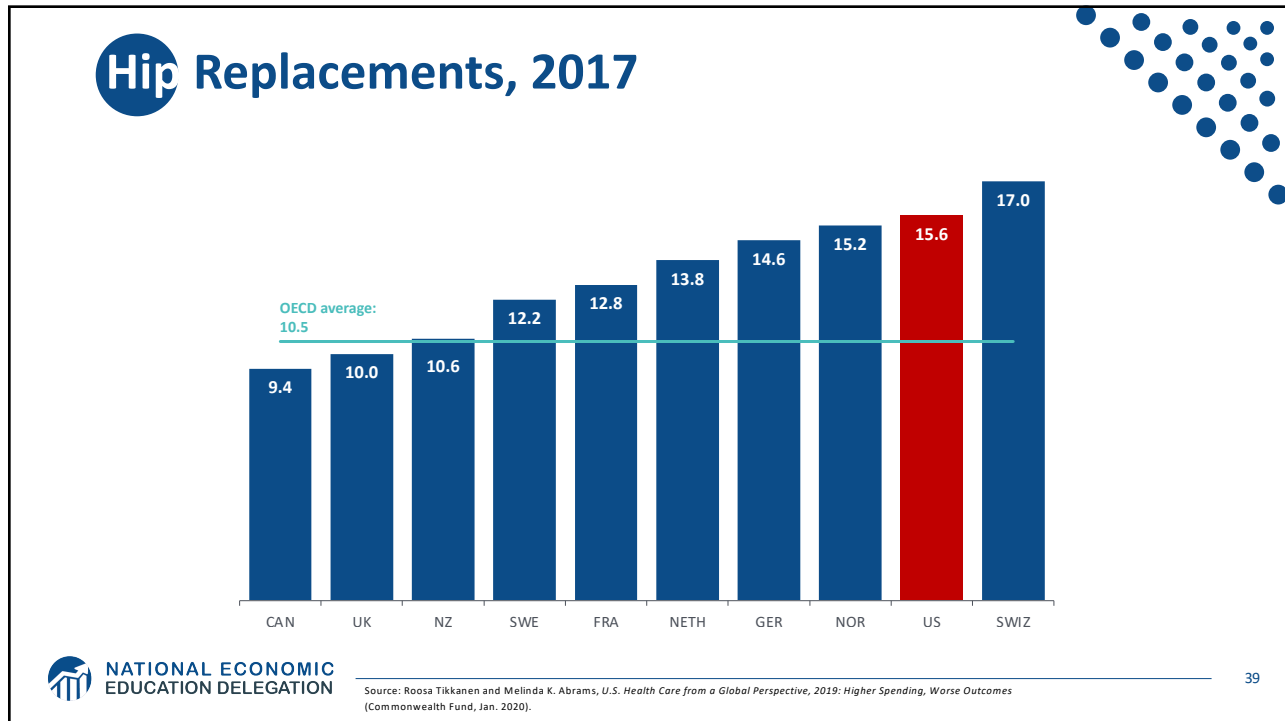
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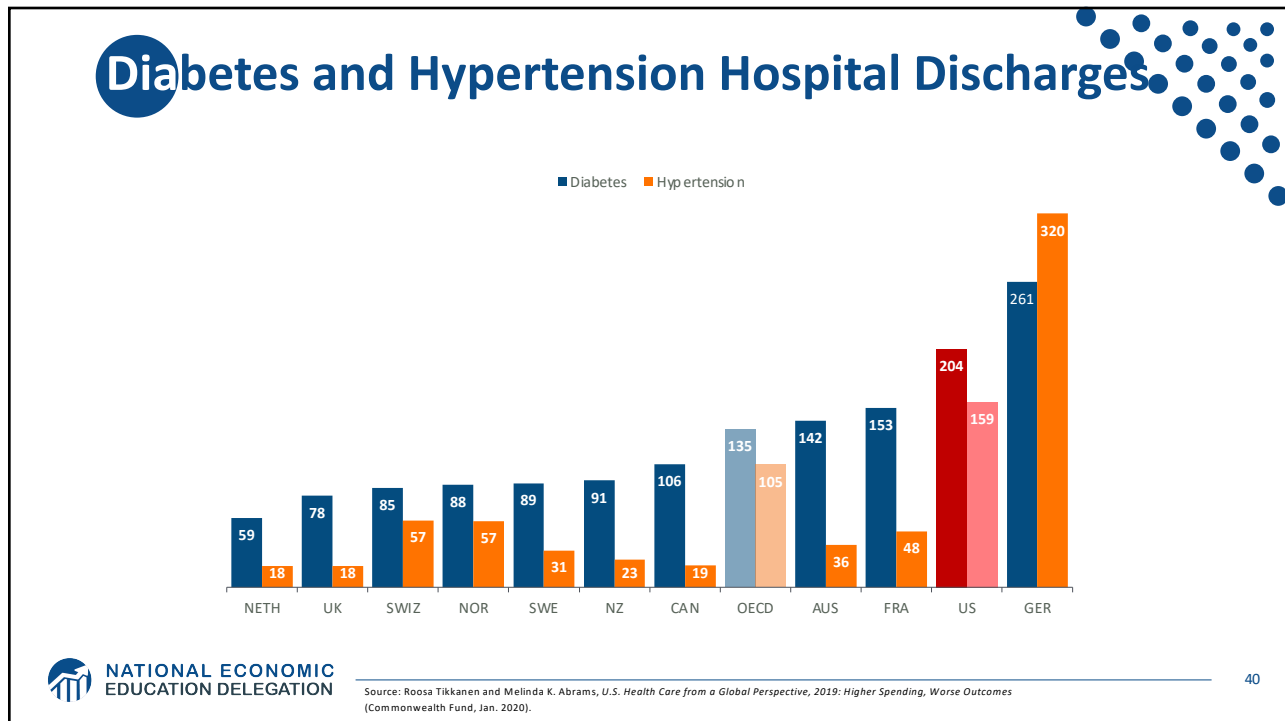
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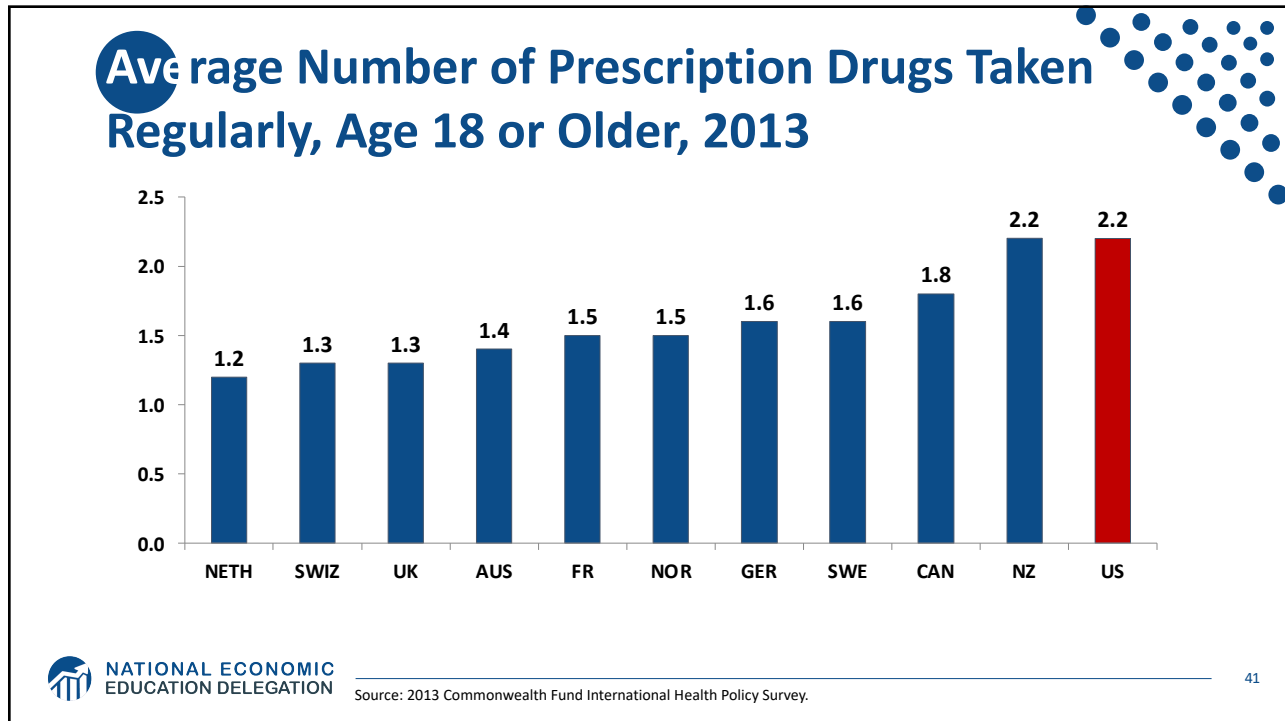
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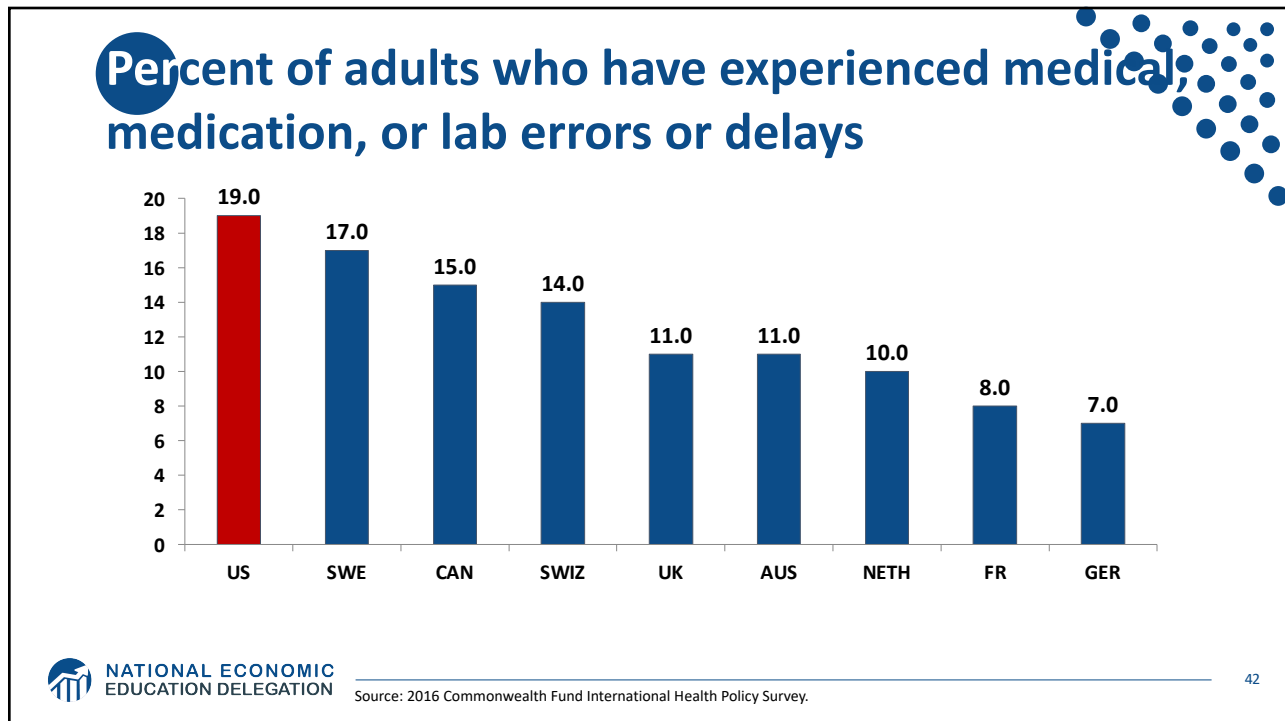
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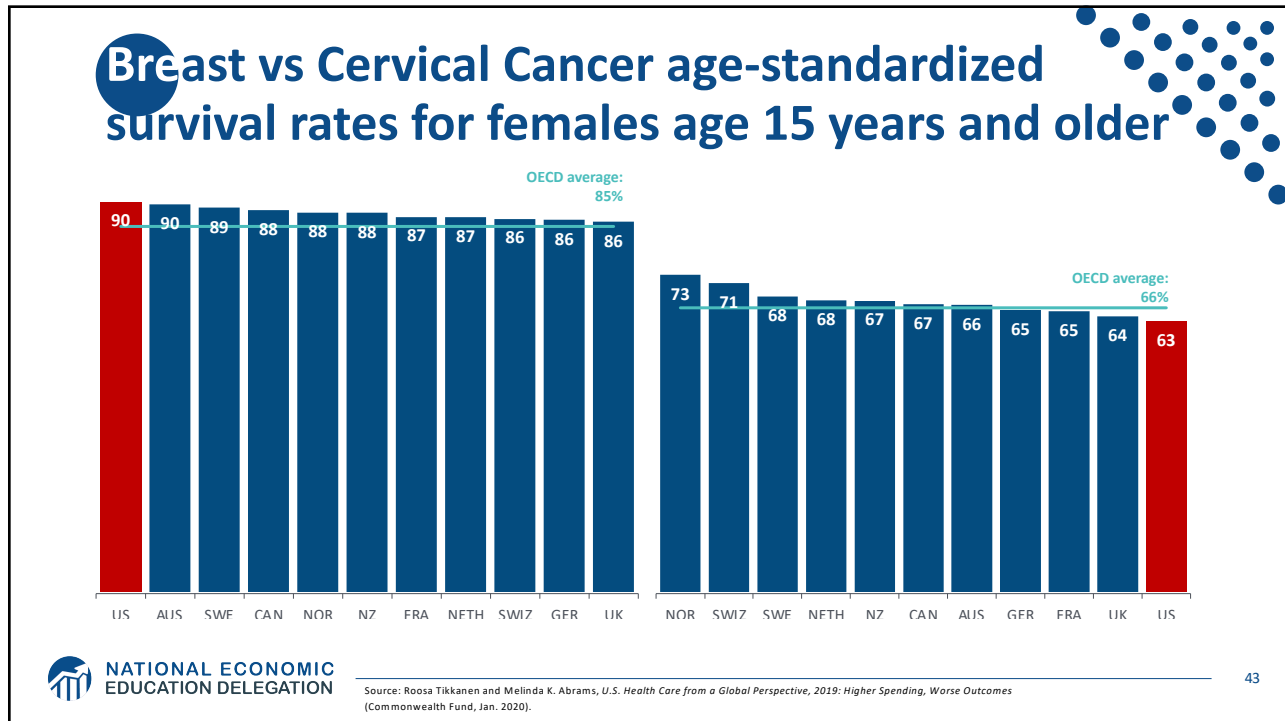
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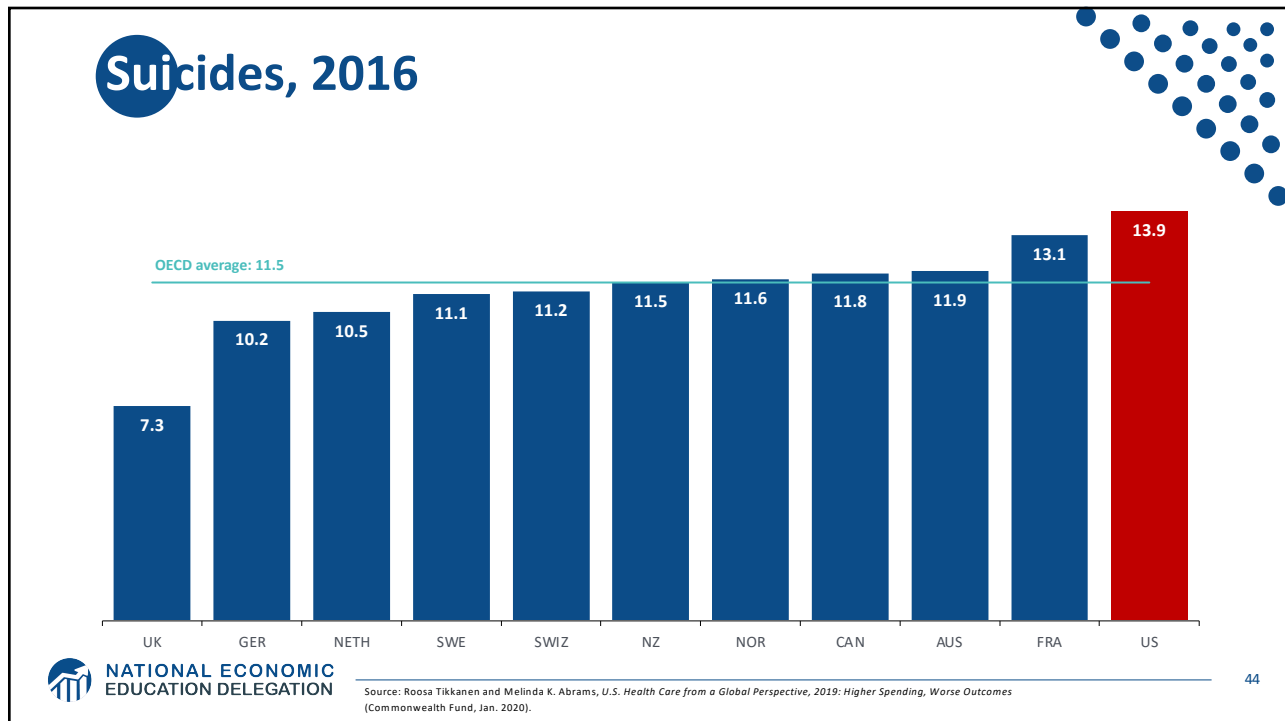
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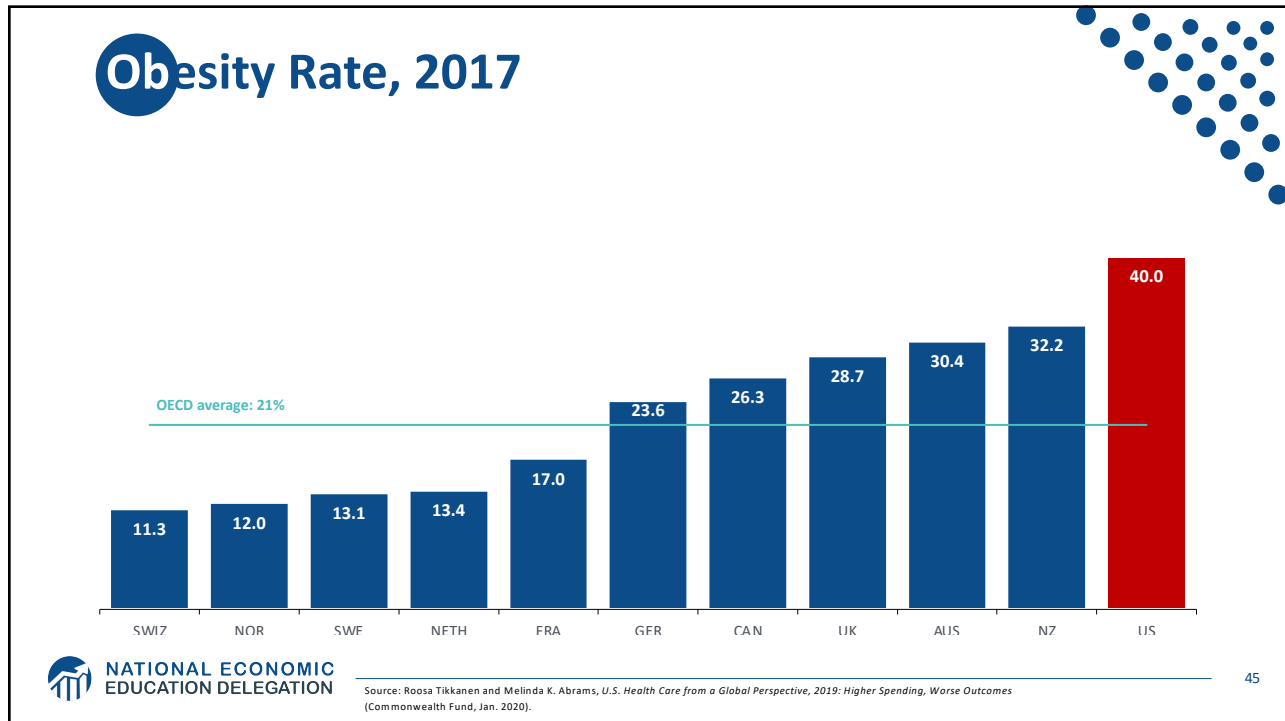
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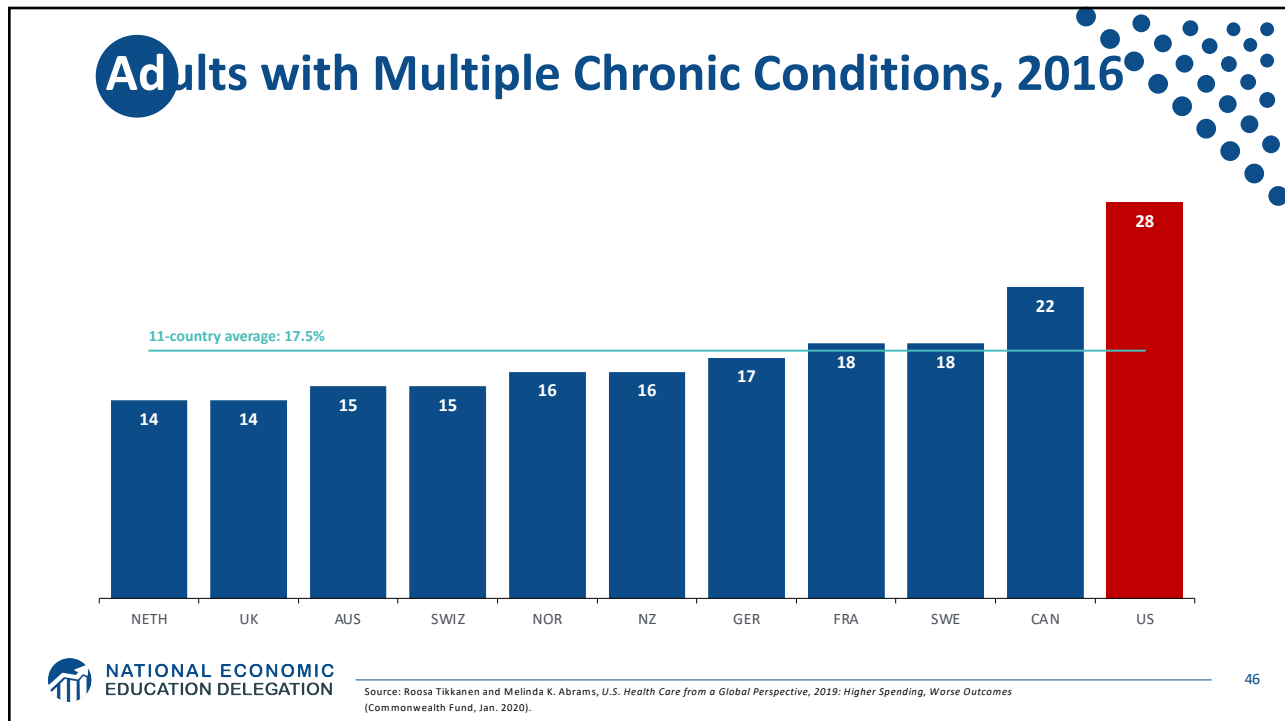
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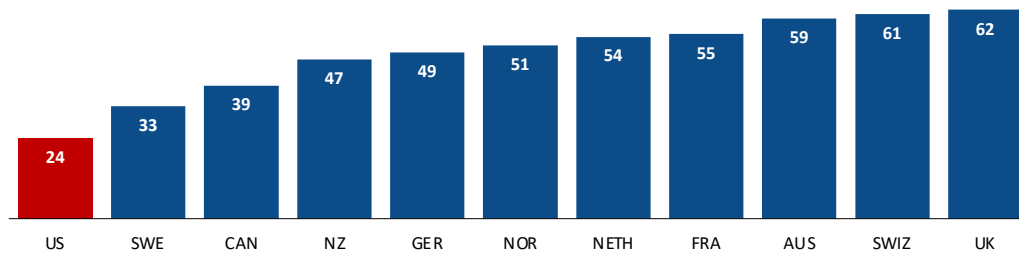
The World Health Report 2000, *Health Systems: Improving Performance*

Overall Ranking		Overall Ranking	
30.	Canada	1.	France
31.	Finland	2.	Italy
32.	Australia	3.	San Marino
33.	Chile	4.	Andorra
34.	Denmark	5.	Malta
35.	Dominica	6.	Singapore
36.	Costa Rica	7.	Spain
37.	United States	8.	Oman
38.	Slovenia	9.	Austria
39.	Cuba	10.	Japan



47

Perception of quality of medical



Source: Munira Z. Gunja et al., *What Is the Status of Women's Health and Health Care in the U.S. Compared to Ten Other Countries?* (Commonwealth Fund, Dec. 2018).

48

48

Some Other Interesting/Alarming Facts

- One classic benchmark for a national medical system is “avoidable mortality” – that is, how well a country does at curing diseases that are curable.
- The number of people under 75 who die from curable illness was almost twice as high in the US as in the countries that do the best on this measure; France, Spain, Japan.



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Access




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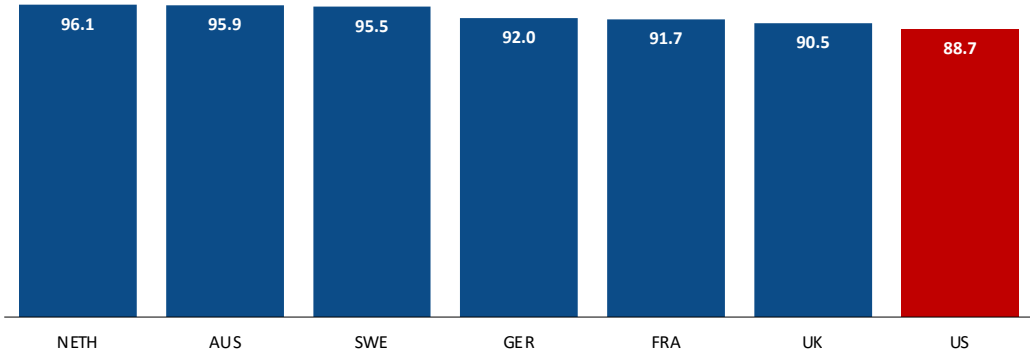
Healthcare Access

- Based on the Commonwealth Fund comparative studies of health system performance in 23 developed nations; they ranked US last when it comes to providing universal access to medical care.
- WHO rated the national health care systems of 191 countries in terms of “fairness”. The US ranked 54.


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51

Healthcare Quality and Access Index

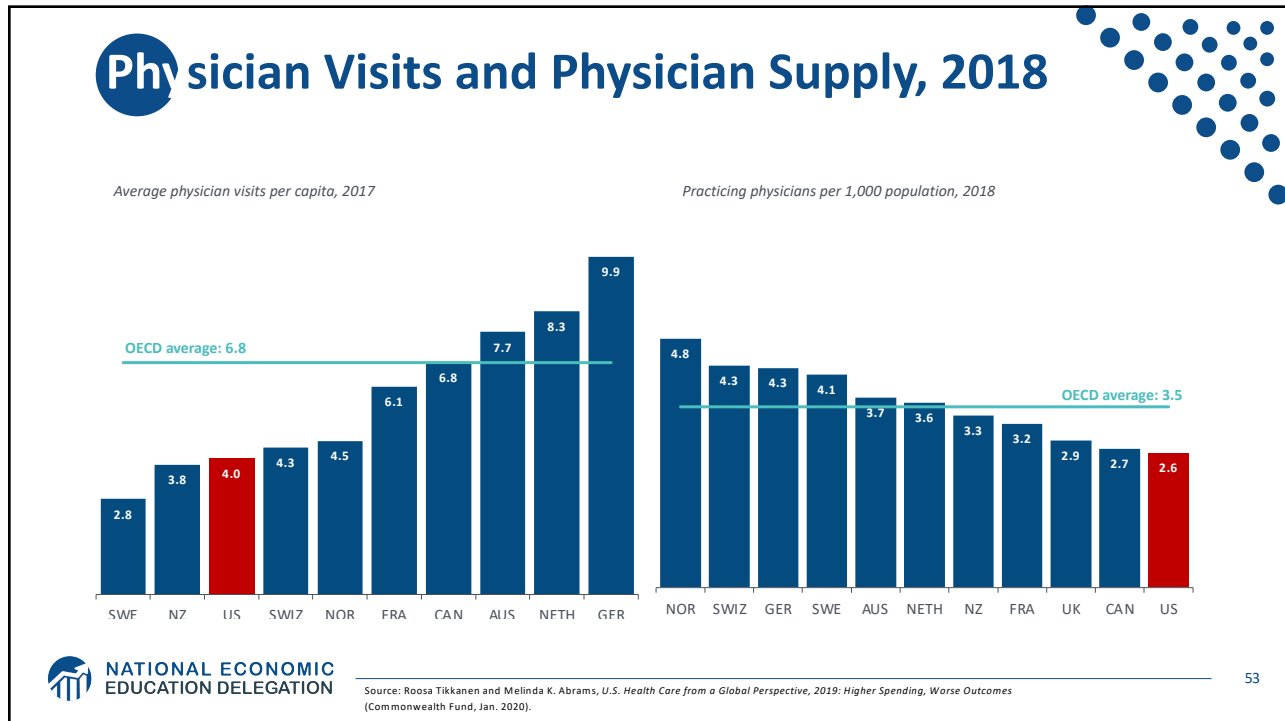


Country	Index Score
NETH	96.1
AUS	95.9
SWE	95.5
GER	92.0
FRA	91.7
UK	90.5
US	88.7

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© 2016 Healthcare Access and Quality Collaborators. Measuring performance on the Healthcare Access and Quality Index for 195 countries and territories and selected subnational locations: a systematic analysis from the Global Burden of Disease Study 2016. *The Lancet*. 23 May 2018.

52



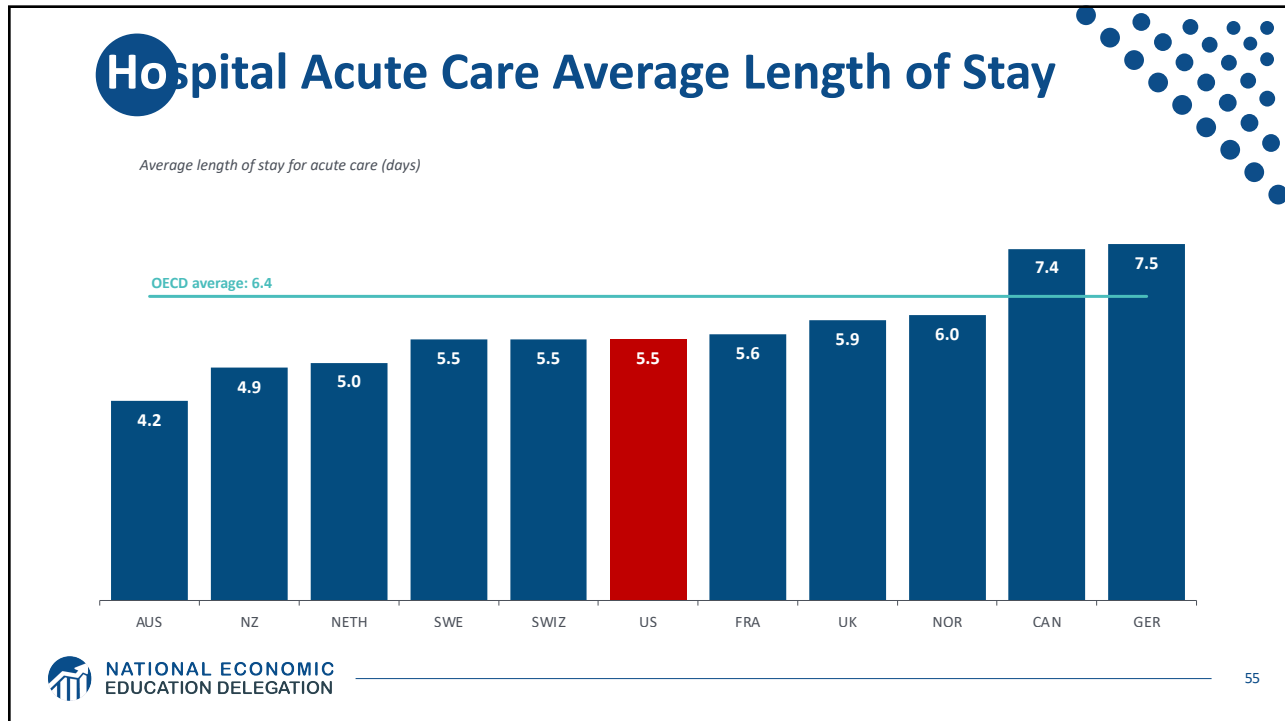
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Healthcare Access

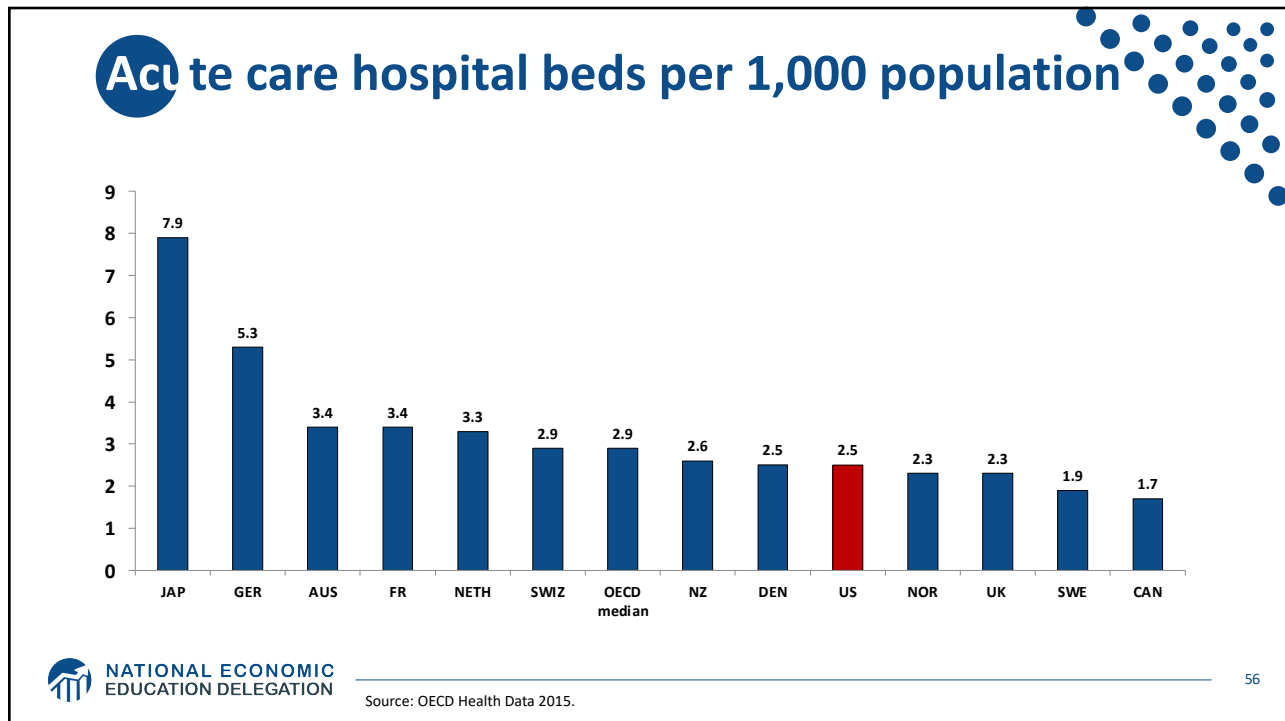
- Despite having the highest level of health care spending, Americans had fewer physician visits than their peers in most countries. At four visits per capita per year, Americans visit the doctor at half the rate as do Germans and the Dutch. The U.S. rate was comparable to that in New Zealand, Switzerland, and Norway, but higher than in Sweden.
- Less-frequent physician visits may be related to the low supply of physicians in the U.S. compared with the other countries. The U.S. has slightly more than half as many physicians as Norway, which has the highest supply.

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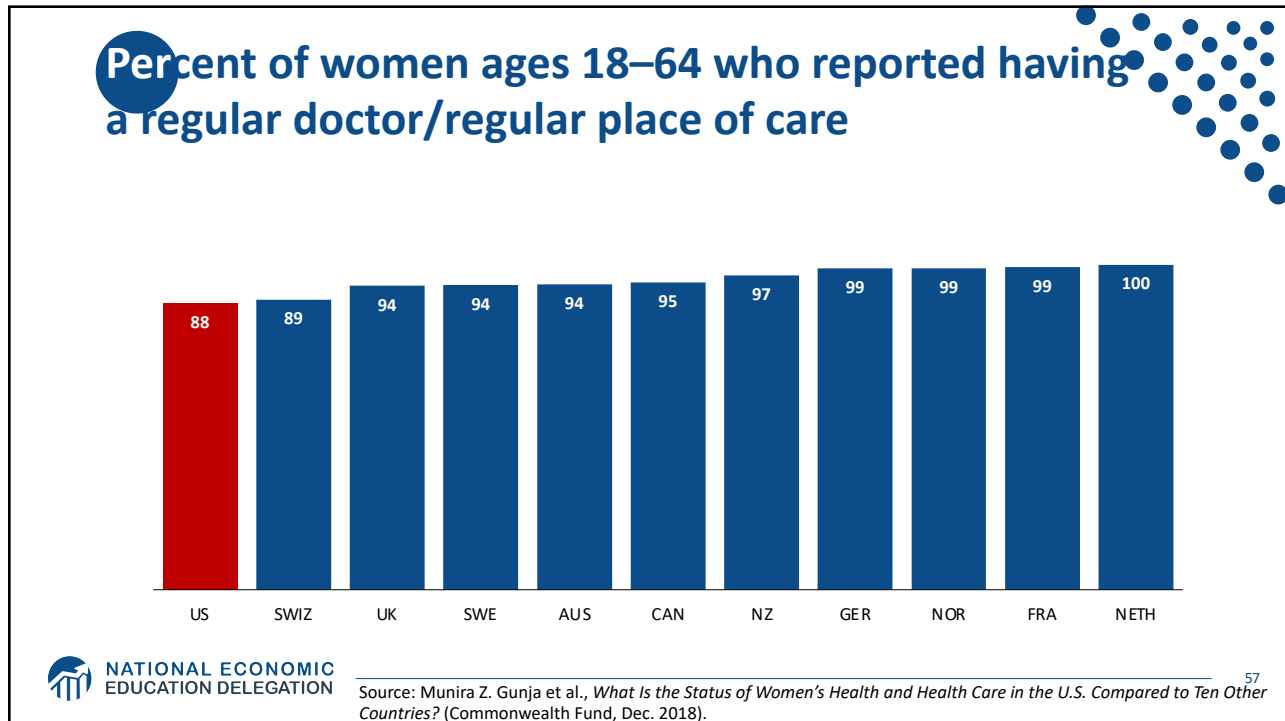
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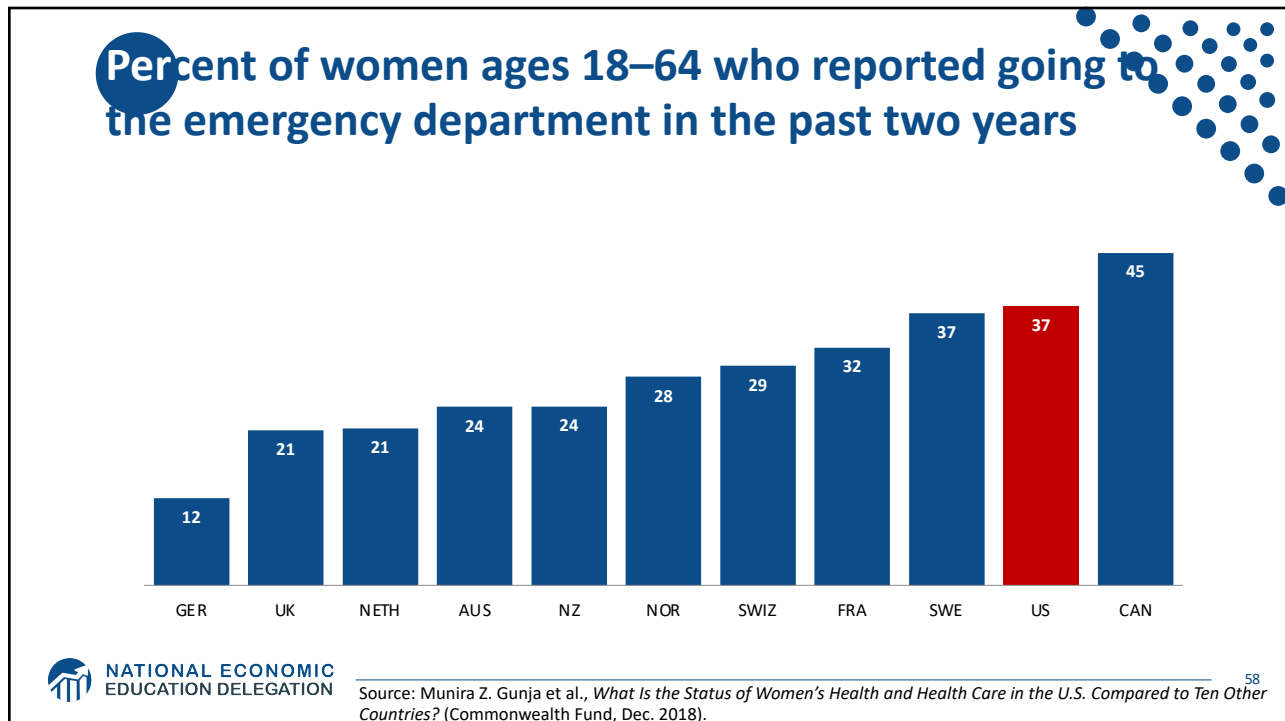
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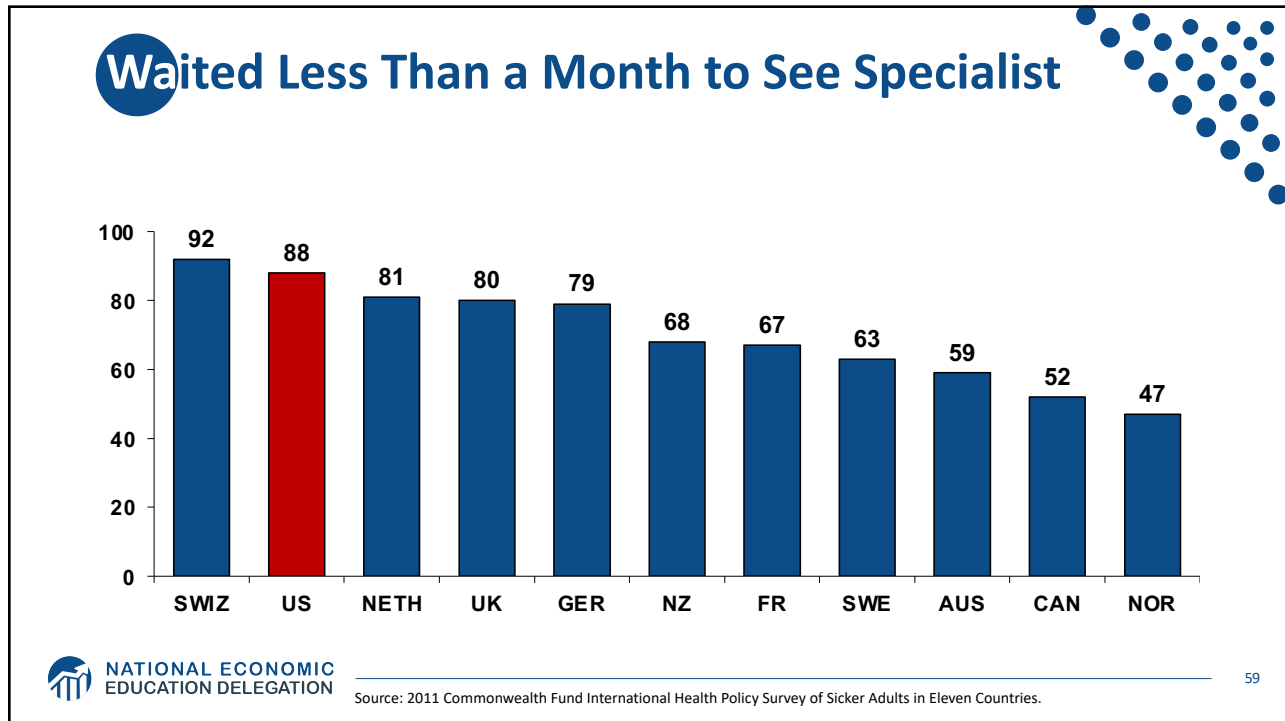
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57



58



59

Health Care Systems and Institutions

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60

Elements of a Health Care System

- **Health care system**
 - Deals with the production, consumption, and distribution of health care services in a society
- **Structure**
 - Determines who actually makes the following choices
 - What medical goods to produce?
 - How to produce?
 - Who should receive medical care?
- **Financing Methods**
 - Who payments for the healthcare services made



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Elements of Health Care System

- **Centralized**
 - Choices are decided by a centralized government, or authority
 - Through a single individual or an appointed or elected committee
- **Decentralized**
 - Individual consumers and health care providers, through their interaction in the marketplace, may decide the answers to the basic questions



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62

62

Elements of a Health Care System

- **Health care systems are huge, complex, and constantly changing as they respond to:**
 - Economic forces
 - Technological forces
 - Social forces
 - Historical forces

Health System Classification

- **Developed countries of the world have each taken a different approach for their health care delivery systems**
- **5 basic models:**
 - National health insurance (Canada)
 - Bismarck (France, Germany, Japan, Switzerland)
 - Beveridge – socialized medicine (United Kingdom)
 - Out of pocket model – you pay yourself
 - Mixed (United States)

US Health Care System

- Medicare is a national health insurance program run by the federal government. Since it is a federal program, Medicare does not differ much from state to state.
- Medicaid is an assistance program. It serves low-income people of every age. Medicaid is a federal-state program. It varies from state to state. It is run by state and local governments within federal guidelines.



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US Health Care System

- **Military Veteran Care – Beveridge model (socialized medicine)**
- **Employer-sponsored insurance – Bismarck model**
- **Individual market health plans - Bismarck model**
- **Uninsured - Out of pocket model**



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66

Market Economies

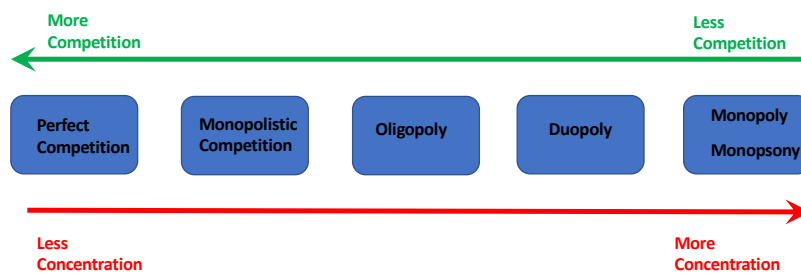
- In market economies, prices adjust to balance supply and demand. These equilibrium prices are the signals that guide economic decisions and thereby allocate scarce resources.



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What types of markets are there?



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Perfectly Competitive Market

- Many (numerous) buyers – price takers
- Many (numerous) sellers – price takers
- Identical (homogeneous) product
- Free entry and exit
- Both buyers and sellers have perfect information about the price, utility, quality, and production methods of products.



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When Free Market Does it Best

- The invisible hand works through the price system:
 - The interaction of buyers and sellers determines prices.
 - Each price reflects the good's value to buyers and the cost of producing the good.
 - Prices guide self-interested households and firms to make decisions that, in many cases, maximize society's economic well-being.
- In market economies, prices adjust to balance supply and demand. These equilibrium prices are the signals that guide economic decisions and thereby allocate scarce resources.



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70

70

When does “free market does it better” hold?

The value of a free and open market is its ability to efficiently allocate resources.

Two very important assumptions need for this to hold are:

1. Perfectly Competitive Market
2. No Market Failure

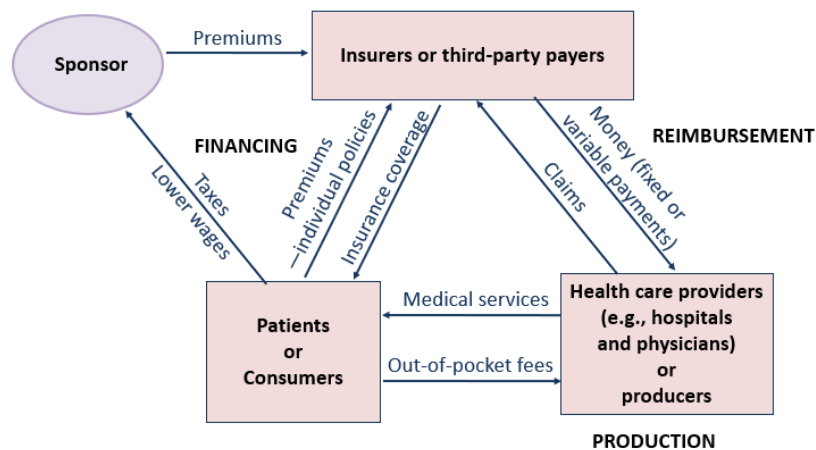
What is Market Failure?

Market Failure is a situation in which the allocation of goods and services by a free market is not efficient, often it leads to a net social welfare loss.

Examples of Market Failure:

- Externalities
- Public Goods
- Asymmetric Information

Health Care Markets are Different



Is there something special about Health Care Markets?

- Market Structure
- Type of products and services
- Principal-Agent Problem
- Asymmetric Information

Hospital Monopolization

Health Insurance and Reform



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75

Definitions

- **Universal coverage** refers to health care systems in which all individuals have insurance coverage.
- Generally, this coverage includes access to all needed services and benefits while protecting individuals from excessive financial hardships.



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76

Single Payer

- **Single-payer** refers to financing a health care system by making one entity solely and exclusively responsible for paying for medical goods and services.
- It is only the financing component that is necessarily socialized.
 - The money for the payment can be either collected by
 - Taxes collected by the government
 - Premiums collected by National or Public Health Insurance

Socialize Medicine

- **Socialized medicine:** this model actually takes the single-payer system one step further.
- In a socialized medicine system, the government not only pays for health care but operates the hospitals and employs the medical staff.
- This has NOT been proposed by any presidential hopeful and is not part of the current debate in the US.

Third-Party Payer

- A **third-party payer** is an entity that pays medical claims on behalf of the insured. Examples of third-party payers include government agencies, insurance companies, health maintenance organizations (HMOs), and employers.
 - Employer-sponsored health plans
 - Individual market health plans
 - National health insurance



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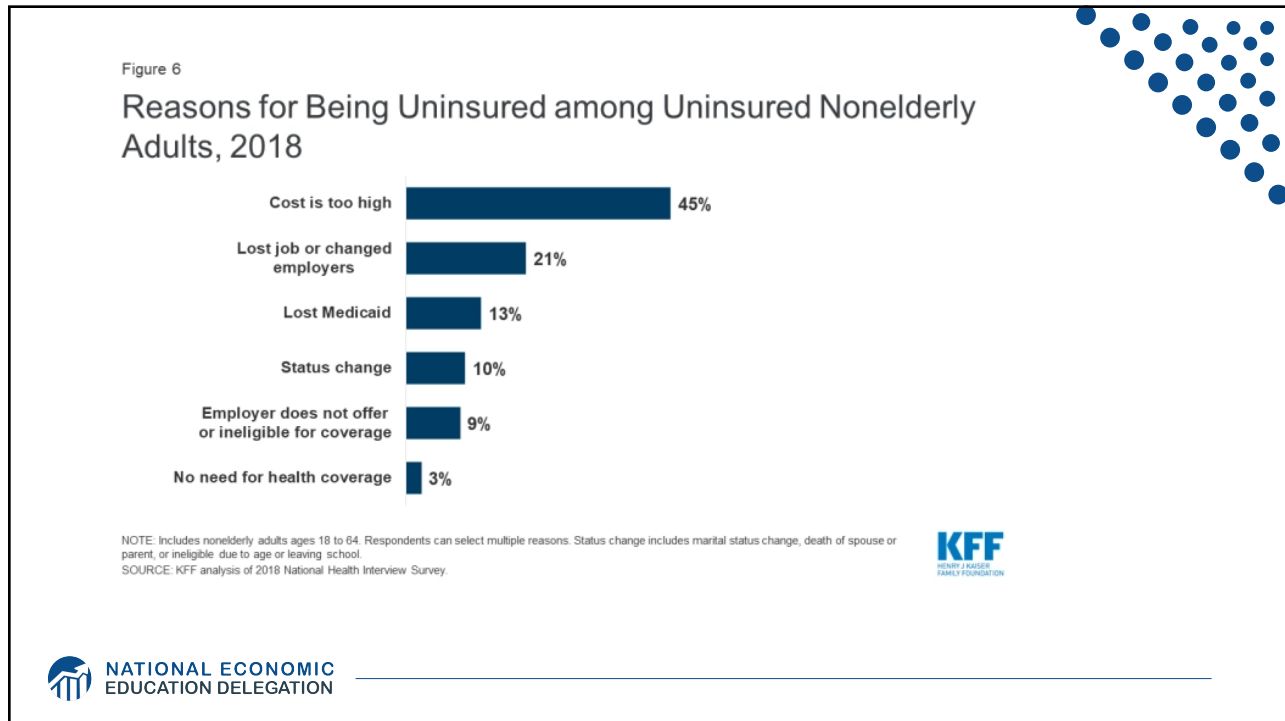
Role and Financing Methods of Third-Party Payers

- **Private health insurance company**
 - The consumer pays a premium in exchange for some agreed-upon amount of medical insurance coverage
- **Government / Public health insurance company**
 - Financing of medical care insurance comes from taxes

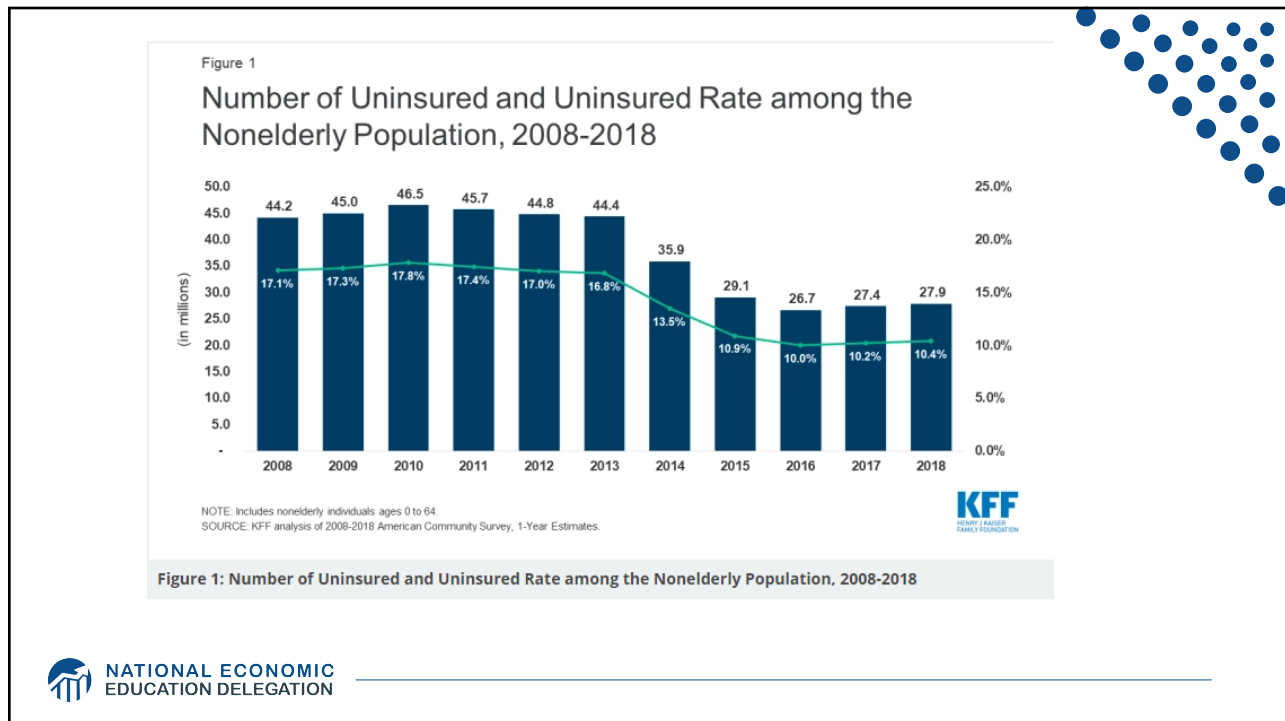


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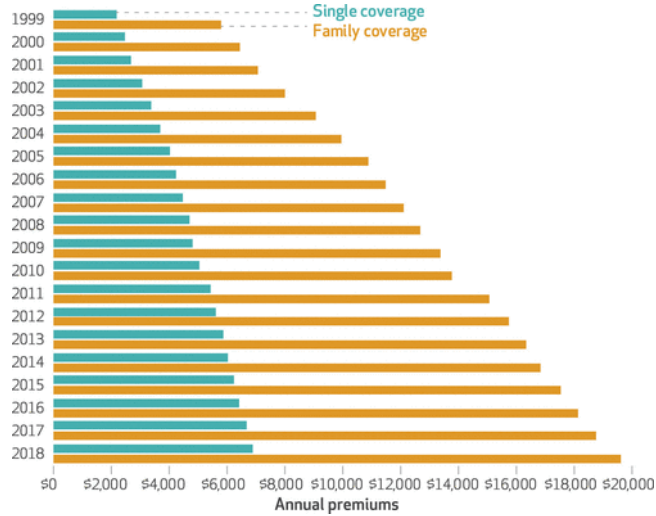


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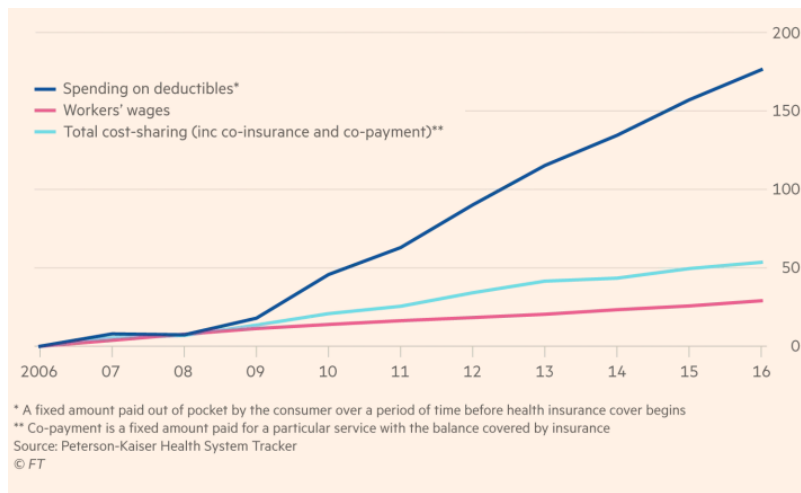


82

Average annual premiums for single and family coverage, 1999–2018



Spending on Deductibles



Death of Uninsured

- Since people who lack health insurance are unable to obtain timely medical care, they have a 40% higher risk of death in any given year than those with health insurance, according to a study published in the American Journal of Public Health.
- The study estimated that in 2005 in the United States, there were 45,000 deaths associated with lack of health insurance.

Why Care About the Uninsured?

- Physical externalities associated with communicable diseases; uninsured people are less likely to receive vaccinations and care for communicable diseases.
- Financial externality imposed by the uninsured on the insured through uncompensated care.
- When the uninsured get served by medical providers and don't pay their bills, those costs are passed on to other users of the medical system through high medial prices, a practice called cost-shifting.
- Misuse of service and inefficiencies (think of ER)
- Job lock – the unwillingness to move to a better job for fear of losing health insurance.

Reason for Higher Health Insurance Rates

- Advances in medical technologies
- Rising prices in the health sector (Why?)
- Increased demand for services
- Concentration of insurance companies!



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87

Monopolization of Health Insurance Market

- As of 2011, there were close to 100 insurers in Switzerland competing for consumer health care dollars, forcing firms to compete by setting prices to just cover costs.
- In the United States, markets are state specific and consumers may choose from plans available in the state in which they reside.
- In 2014, of the 50 states and the District of Columbia, 11 had only 1 or 2 insurers, 21 had 3 or 4, and only 19 states had 5 or more.
- As of July 2019, the number of states with only 1 or 2 insurers had increased from 11 to 20, indicating a growing divide between ACA exchanges and competitive markets.



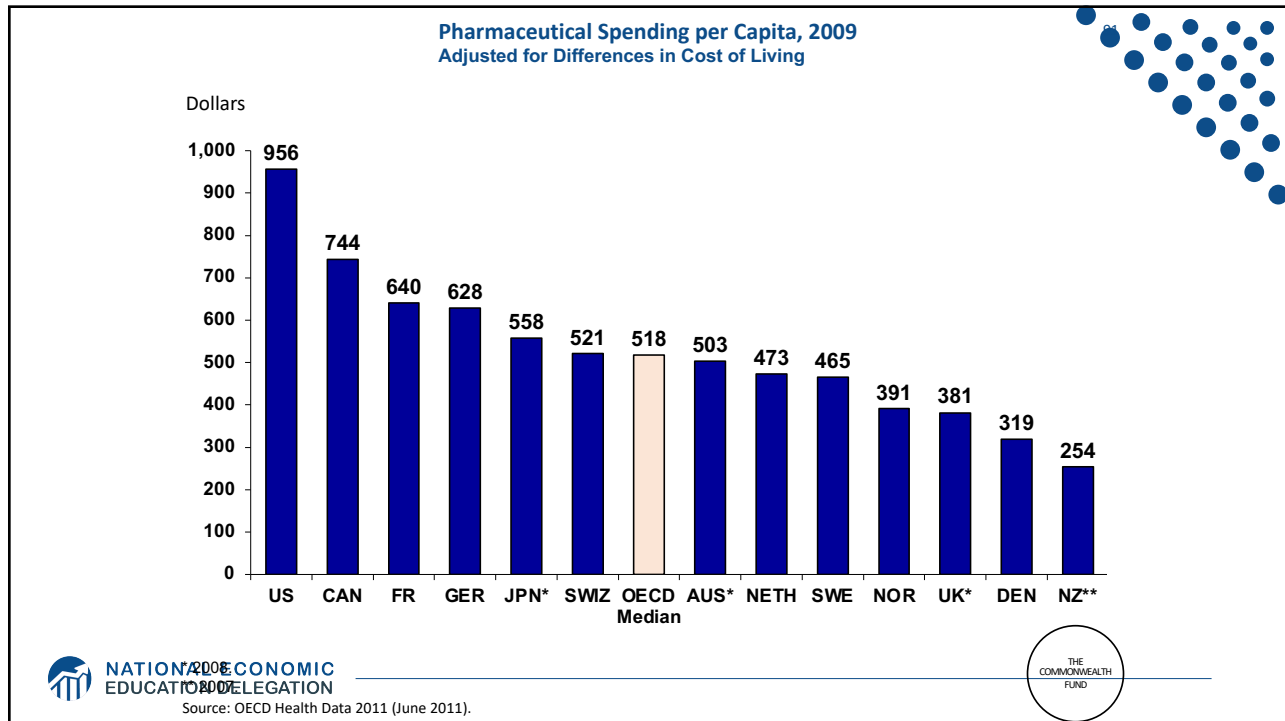
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88

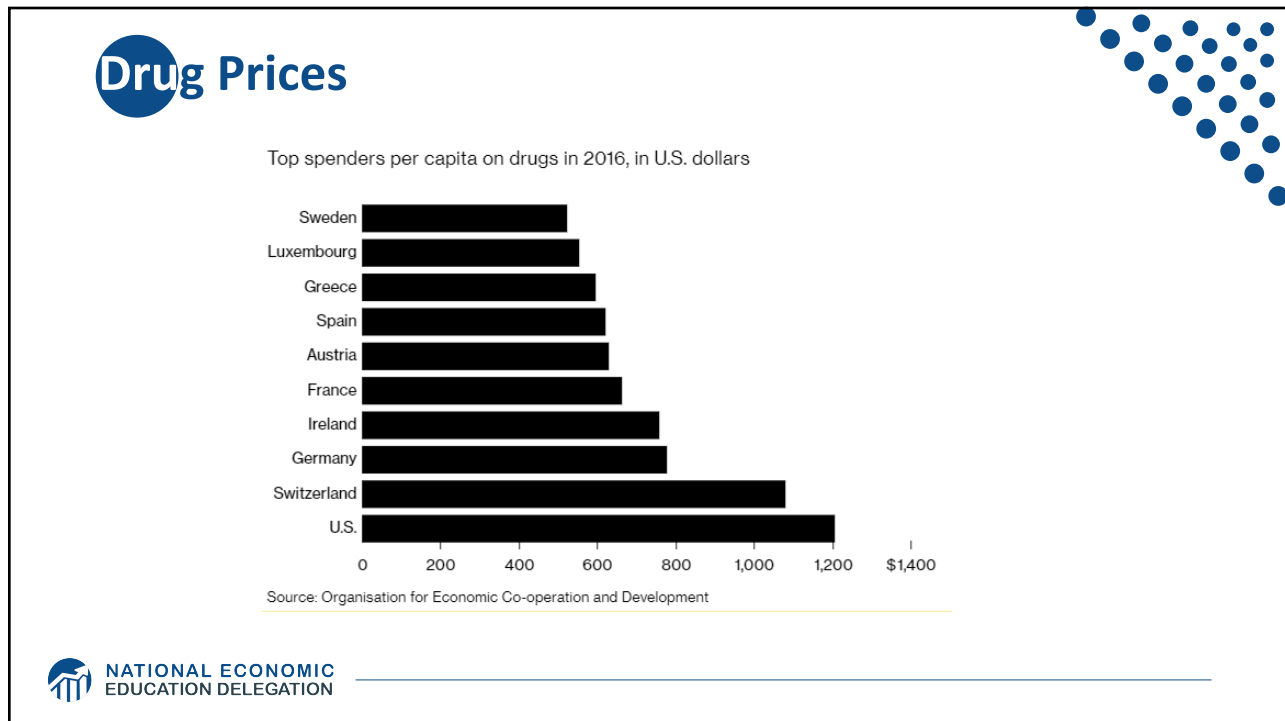
Big Pharma

Drug Prices for 30 Most Commonly Prescribed Brand-Name and Generic Drugs, 2006–07
 US is set at 1.00

	AUS	CAN	FR	GER	NETH	NZ	SWITZ	UK	US
Brand-name drugs	0.40	0.64	0.32	0.43	0.39	0.33	0.51	0.46	1.00
Generic drugs	2.57	1.78	2.85	3.99	1.96	0.90	3.11	1.75	1.00

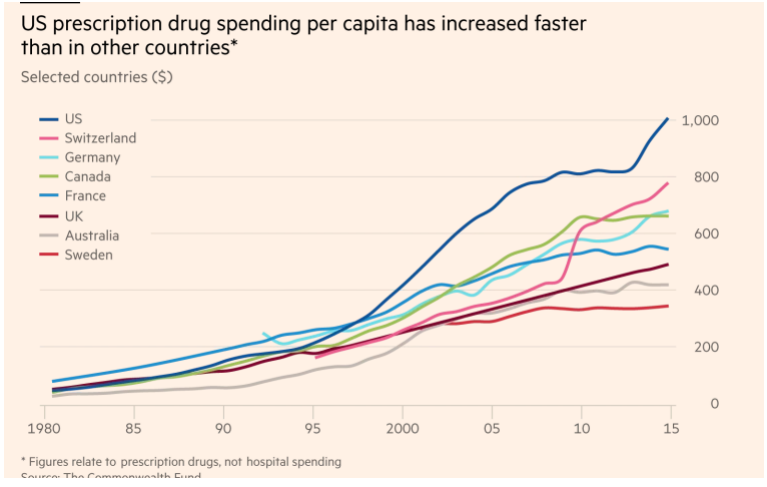


91



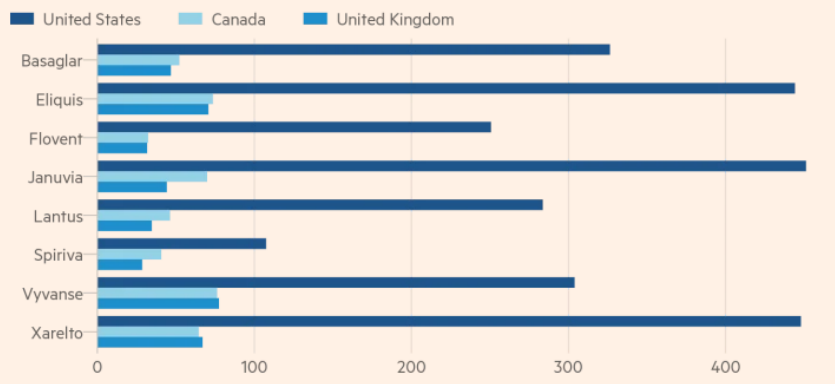
92

Drug Prices



Drugs in the US cost much more than their equivalent in the UK and Canada

Eight bestselling brand drugs for conditions ranging from diabetes to asthma and ADHD.
Drug price (\$)



Note: Their equivalents may be generic versions. Prices have been converted to US dollars using exchange rates available on September 17th, 2019

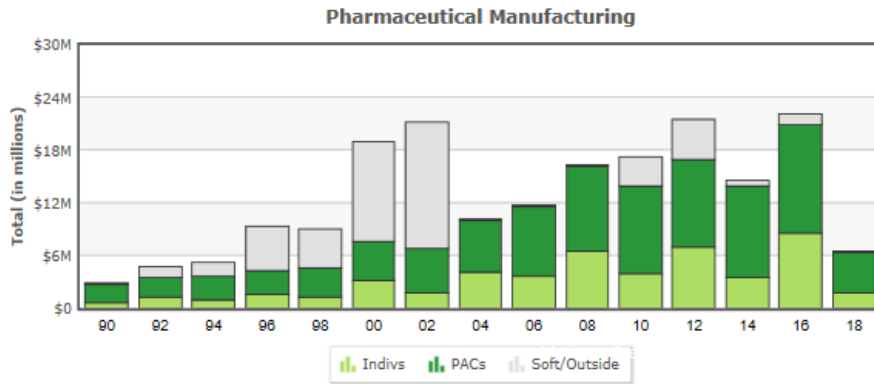
Price Hikes

- Turing Pharmaceuticals' 5,555% price increase of Daraprim® in 2015 and Mylan's 500% increase of EpiPen®...
- More than 3,400 drugs have boosted their prices in the first six months of 2019, an increase of 17% in the number of drug hikes from a year earlier.
- The average price hike is 10.5%, or 5 times the rate of inflation.
- About 41 drugs have boosted their prices by more than 100% in 2019.
- Over the course of a decade, the net cost of prescription drugs in the United States rose more than three times faster than the rate of inflation.

Reasons for higher drug prices

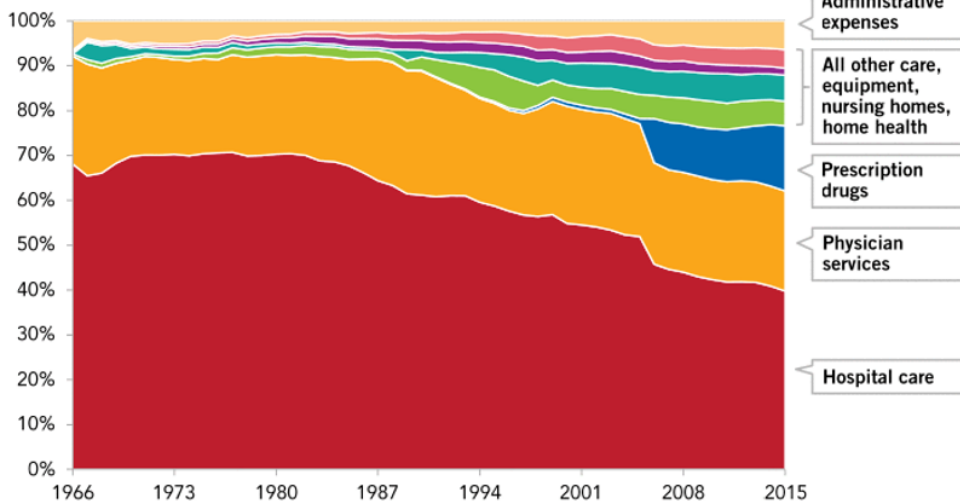
- The **Medicare Prescription Drug, Improvement, and Modernization Act**, also called the **Medicare Modernization Act** or MMA, is a federal **law** of the United States, enacted in 2003.
- Concentration of pharmaceutical companies and increase in prices.

Contribution Trends, 1990-2018



97

COMPOSITION OF MEDICARE PAYMENTS (% OF TOTAL MEDICARE SPENDING)



SOURCE: Centers for Medicare and Medicaid Services, National Health Expenditures December 2016. Compiled by PGPF.

98

98

Impact of Medicare Modernization Act

- Medicare Part D, by law, cannot negotiate drug prices like other governments do.
- The study found that in 2017, Medicare spent nearly \$8 billion on insulin. The researchers said that if Medicare were allowed to negotiate drug prices like the U.S. Department of Veterans Affairs (VA) can, Medicare could save about \$4.4 billion *just* on insulin.



Concentration in Pharmaceutical Companies

- The number of mergers and acquisitions involving one of the top 25 firms more than doubled from 29 in 2006 to 61 in 2015, in part due to lax merger review.
- Between 1995 and 2015, 60 pharmaceutical companies merged into 10.
- In 2010, R&D returned 10.1%. In nearly every year since, that figure has dropped. In 2017, the return was 3.7%, and in 2018, 1.9%.



Summary

- US HealthCare system is not performing well (very expensive and low quality and access)
- One of the main reasons for very high costs is the monopolization of healthcare markets (hospitals, health insurance, big pharma, etc.)
- In addition, the Medicare Modernization Act of 2003 by law prevents government to negotiate drug prices.
- Few simple solutions could drastically decrease the costs:
 - Enforcement of antitrust laws in this sector
 - Introduction of a public option in health insurance market
 - Ability for the US government to negotiate drug prices like most every other nation
- Universal health insurance would increase the access and potentially also reduce the costs



101

Thank you!

Any Questions?

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102

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- **Housing Policy**
- **Federal Budgets**
- **Federal Debt**
- **Black-White Wealth Gap**
- **Autonomous Vehicles**
- **US Social Policy**

