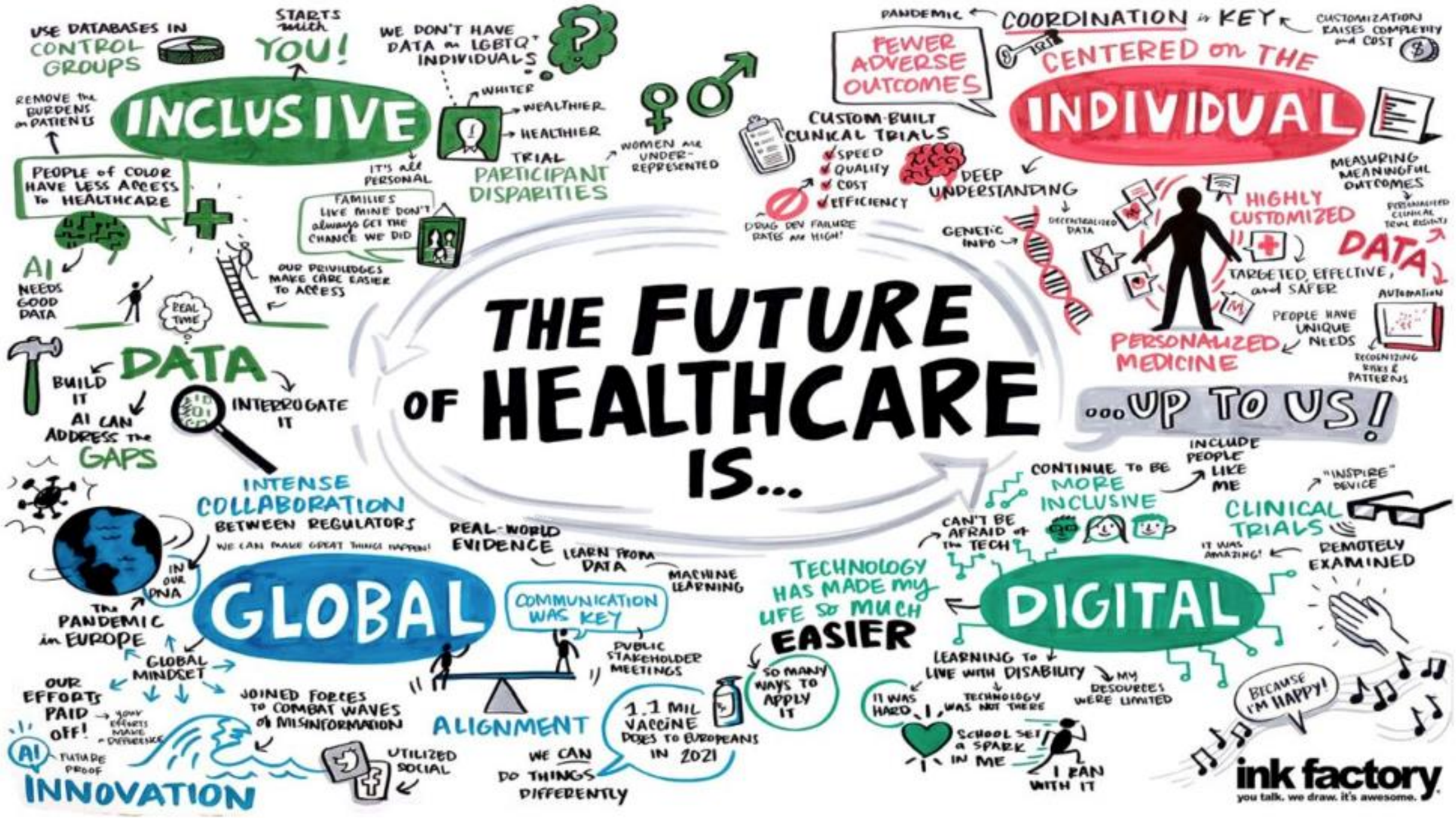

THE FUTURE OF HEALTHCARE IS...
INCLUSIVE
USE DATABASES IN CONTROL GROUPS
STARTS with YOU!
REMOVE the BURDENS on PATIENTS
PEOPLE of COLOR HAVE LESS ACCESS to HEALTHCARE
AI NEEDS GOOD DATA
OUR PRIVILEGES MAKE CARE EASIER TO ACCESS
FAMILIES LIKE MINE DON'T always GET the CHANCE WE DID
IT'S all PERSONAL
WE DON'T HAVE DATA on LGBTQ+ INDIVIDUALS
WHITER
WEALTHIER
HEALTHIER
TRIAL PARTICIPANT DISPARITIES
WOMEN are UNDER-REPRESENTED
DATA
BUILD IT
AI CAN ADDRESS the GAPS
REAL TIME
INTERROGATE IT
GLOBAL
INTENSE COLLABORATION BETWEEN REGULATORS
WE CAN MAKE GREAT THINGS HAPPEN!
IN OUR DNA
THE PANDEMIC in EUROPE
GLOBAL MINDSET
OUR EFFORTS PAID OFF!
YOUR EFFORTS MAKE a DIFFERENCE
JOINED FORCES TO COMBAT WAVES of MISINFORMATION
UTILIZED SOCIAL
AI FUTURE PROOF
INNOVATION
REAL-WORLD EVIDENCE
LEARN FROM DATA
MACHINE LEARNING
COMMUNICATION WAS KEY
PUBLIC STAKEHOLDER MEETINGS
ALIGNMENT
WE CAN DO THINGS DIFFERENTLY
1.1 MIL VACCINE DOSES TO EUROPEANS IN 2021
PANDEMIC
COORDINATION is KEY
CUSTOMIZATION RAISES COMPLEXITY and COST
FEWER ADVERSE OUTCOMES
CENTERED on THE INDIVIDUAL
CUSTOM-BUILT CLINICAL TRIALS
SPEED
QUALITY
COST
EFFICIENCY
DRUG DEV FAILURE RATES are HIGH!
DEEP UNDERSTANDING
GENETIC INFO
DECENTRALIZED DATA
MEASURING MEANINGFUL OUTCOMES
PERSONALIZED CLINICAL TRIAL REALITY
HIGHLY CUSTOMIZED DATA
TARGETED, EFFECTIVE, and SAFER
AUTOMATION
PEOPLE HAVE UNIQUE NEEDS
PERSONALIZED MEDICINE
RECOGNIZING RISKS & PATTERNS
...UP TO US!
DIGITAL
CONTINUE to BE MORE INCLUSIVE
INCLUDE PEOPLE LIKE ME
CAN'T BE AFRAID of the TECH
TECHNOLOGY HAS MADE my LIFE SO MUCH EASIER
SO MANY WAYS TO APPLY IT
CLINICAL TRIALS
"INSPIRE" DEVICE
REMOTELY EXAMINED
IT WAS AMAZING!
LEARNING to LIVE with DISABILITY
IT WAS HARD
TECHNOLOGY WAS NOT THERE
MY RESOURCES WERE LIMITED
SCHOOL SET a SPARK IN ME
I RAN WITH IT
BECAUSE I'M HAPPY!
ink factory
you talk. we draw. it's awesome.

Steve’s Future View

We are unwilling to talk about 2 things

Have we been asking the right questions?

Current debates:

- Economics
- Constitutional federal-state relations

Which we have covered in our discussion of the Medical Industrial Complex

At the heart of the debate is really this question:

To what extent should the more fortunate members of society be made to provide care for the less fortunate members of society?

Two ominous long-term trends on the uninsured:

1. *The rapid growth in the cost of American health care.*
2. *The growing imbalance in the distribution of income and wealth in this country.*

Source: Priced Out; The Economics and Ethical Costs of American Health Care 2019 Uwe E. Reinhardt

Medicare and Medicaid

Arguments over the economic “sustainability” of Medicare and Medicaid:

We have officially sanctioned a multi-tiered health system:

Quality of health insurance and the health care experience

- Low-income and middle-class
- Uninsured

Don’t have to match

- Seniors
- Employed

Are rationed by income class

Different classes and government involvement today

Age, income, company employment, self-employment, disability, service to country

Common thread: none; except government involved in all and significant systems set up to support all the nuances of all these different elements

Medicare

- Payroll taxes
- Retiree contributions
- Taxes
- Gov’t sets rates paid to providers
- Basic set of benefits
- Covers all
- Stable
- Competition in MA and Medigap

Medicaid

- General tax revenue
- Matching by states
- States set coverage and eligibility rules
- Changes often
- Covers Disabled, dependent children and mothers, ESRD
- Bureaucratic nightmare

Different classes and government involvement today

Age, income, company employment, self-employment, disability, service to country

Common thread: none; except government involved in all and significant systems set up to support all the nuances of all these different elements

Other federal programs

- FEHBP
- VA
- TriCare -Military
- Public Health
- Indian Health Service

- Paid for by taxes and some employee premiums

- ACA
  - Standard plans
  - Cost and Profit rules
  - 4/5 get subsidy paid by taxes
  - Competition
- Uninsured
  - Emergency coverage
  - Missed revenue covered by increasing hospital costs to all other payors

Different classes and government involvement today

Age, income, company employment, self-employment, disability, service to country

Common thread: none; except government involved in all and significant systems set up to support all the nuances of all these different elements

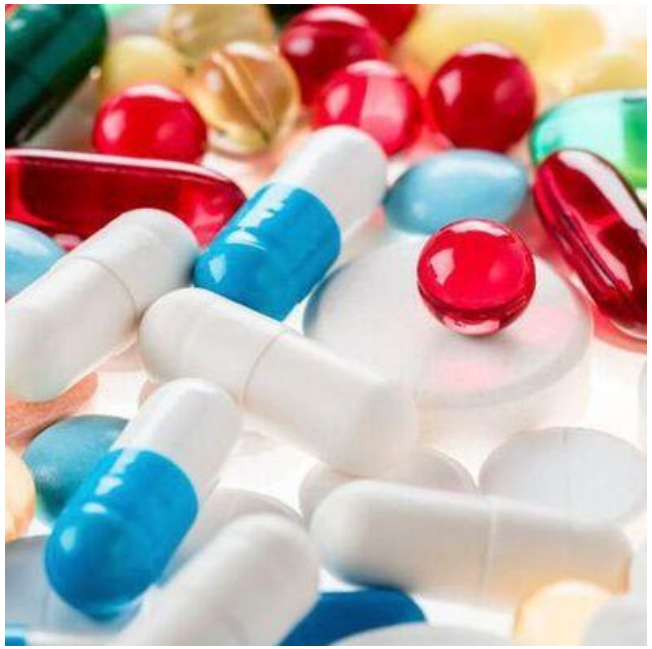
- Employer-sponsored plans
  - Market and regulatory-driven benefits
  - Varying eligibility
  - No pre-existing limits
  - Employer paid
    - Significant federal contribution- tax benefit
    - Deductible to ER/not included to EE
    - FSA and HSA = further tax breaks
  - Competition
  - Market pricing
  - Small and large employers different

The Price of US Healthcare

We have a problem

Drugs

- 9% of Healthcare Cost



RAND CORPORATION

RESEARCH BRIEF

U.S. Prescription Drug Prices Are 2.5 Times Those in Other OECD Countries

THE ISSUE

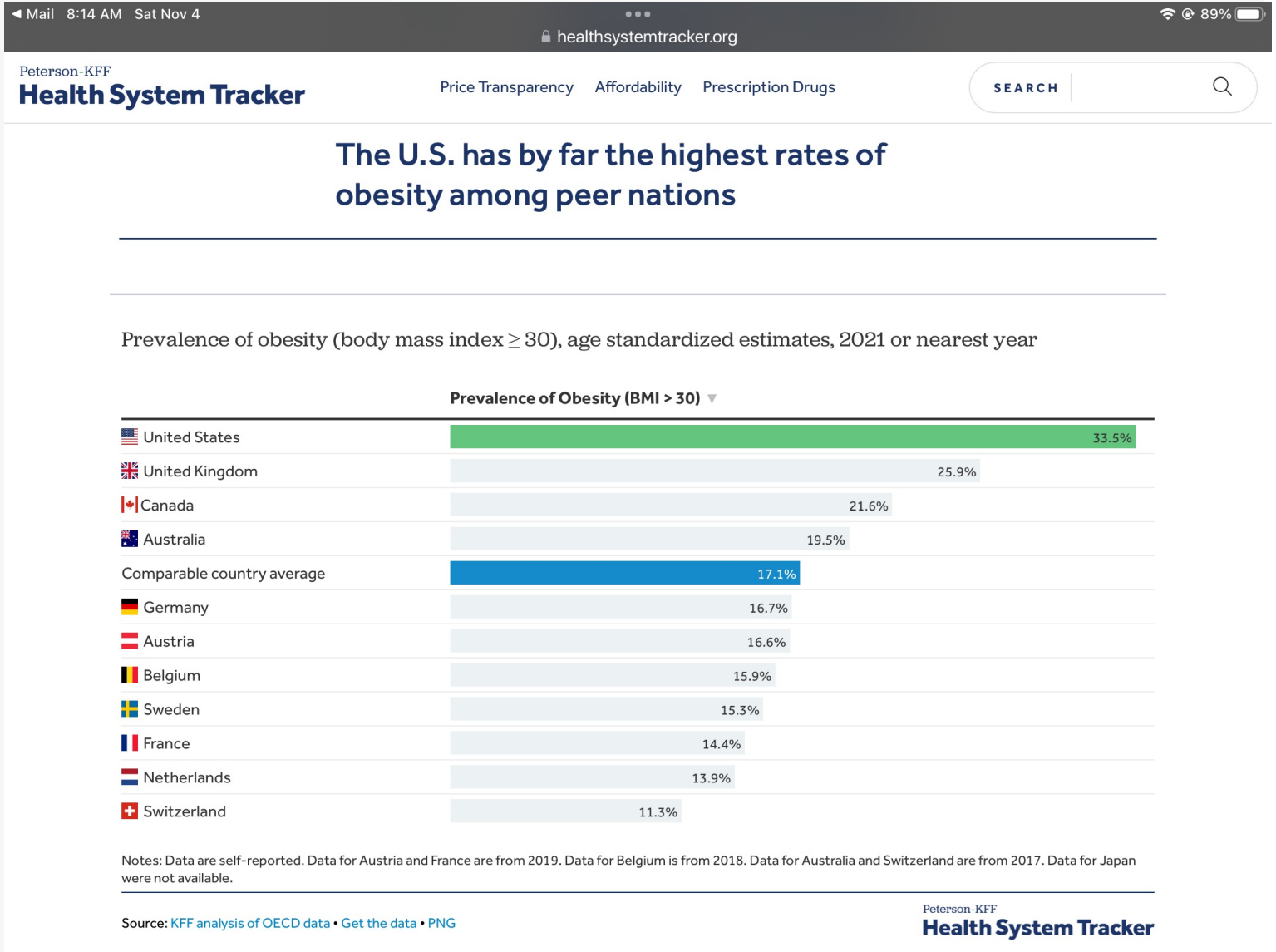
U.S. prescription drug costs continue to rise, and prior research shows that the United States spends more per capita on prescription drugs than do other Organisation for Economic Co-operation and Development (OECD) nations. While high U.S. drug prices likely play a central role in driving higher U.S. spending on prescription drugs, the last study to systematically compare drug prices in the United States with those of other countries used data that are now over a decade old.

STUDY FOCUS

RAND researchers used 2018 prescription drug volume and price data to compare U.S. drug prices with those in 32 other OECD nations, both overall and for specific categories of drugs, such as brand-name and generic medications.

KEY FINDINGS

- U.S. prices were 250 percent of those in the 32 comparison countries combined.
- In comparisons with individual countries, U.S. prices ranged from 170 percent of prices in Mexico to 779 percent of prices in Turkey.
- Brand-name drugs drove the disparity: U.S. prices for this category were 344 percent higher.
- For unbranded generics, U.S. prices were lower than those of other countries—specifically, 84 percent of prices in the comparison



US Population

BMI > 30

- 2x average
- 50% higher than UK

“Miracle Drugs” work but…. Prices

Ozempic 6.3 x Canada
Wegovy 4x Germany

◀ Mail 8:15 AM Sat Nov 4 89%

healthsystemtracker.org

Peterson-KFF Health System Tracker

Price Transparency Affordability Prescription Drugs SEARCH

List prices are significantly higher in the U.S. than in peer nations

List prices of drugs used for weight loss in the U.S. and peer nations

	Ozempic (semaglutide, injection)	Rybelsus (semalglutide, tablets)	Wegovy (semaglutide, injection)	Mounjaro (tirzepatide, injection)
U.S.	**$936**	**$936**	**$1,349**	**$1,023**
Japan	$169	$69	-	$319
Canada	$147	$158	-	-
Switzerland	$144	$147	-	-
Germany	$103	-	$328	-
Netherlands	$103	$203	$296	$444
Sweden	$96	$103	-	-
United Kingdom	$93	-	-	-
Australia	$87	-	-	-
France	$83	-	-	-

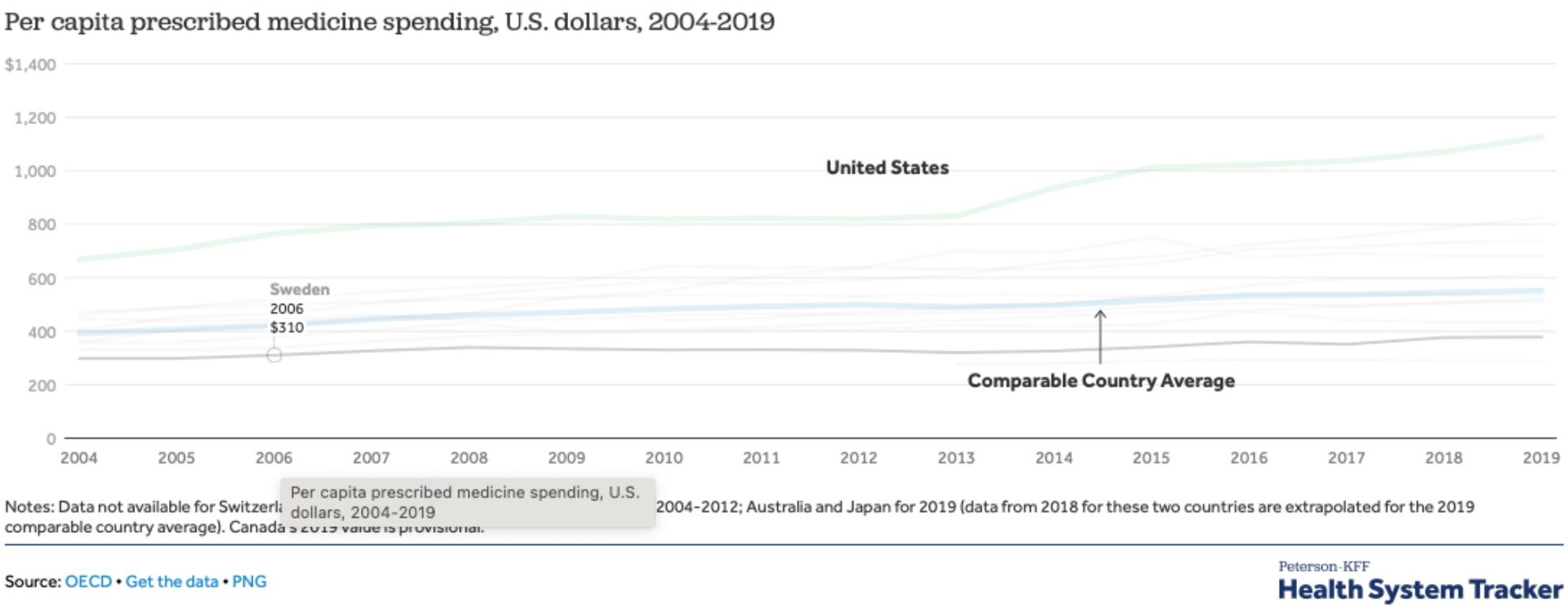
Note: List prices in $USD based on web searches as of August 15, 2023. Prices are for one-month supply of Ozempic 1mg, Rybelus 7mg, Wegovy 2.4mg, and Mounjaro 15mg. Some drugs are not available in all countries and prices were unable to be found in other countries. Some drugs are approved for diabetes and prescribed off-label for weight loss.

Source: KFF analysis of country websites (see Methods section) • PNG

Peterson-KFF Health System Tracker

Drugs

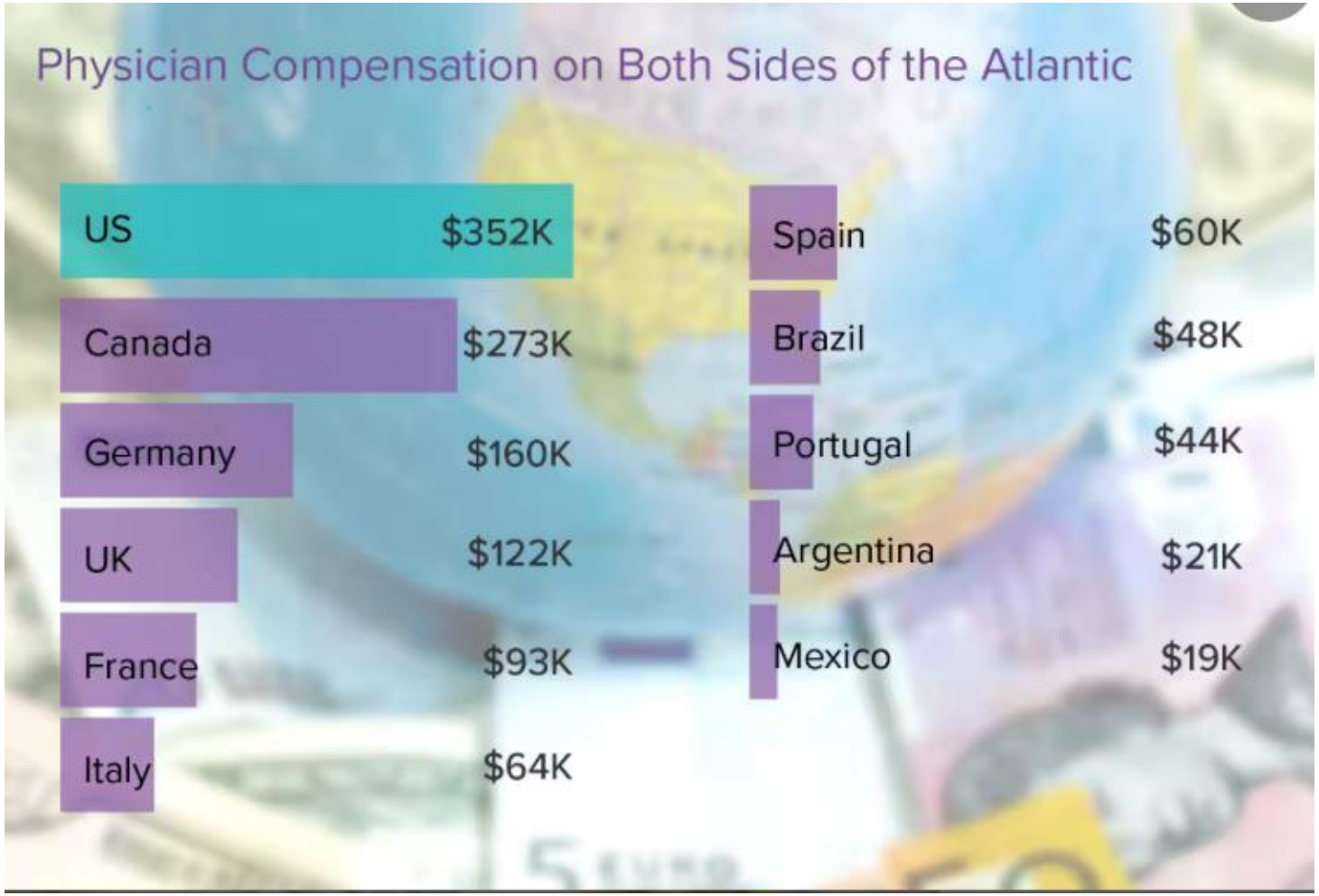
9% of Healthcare Cost



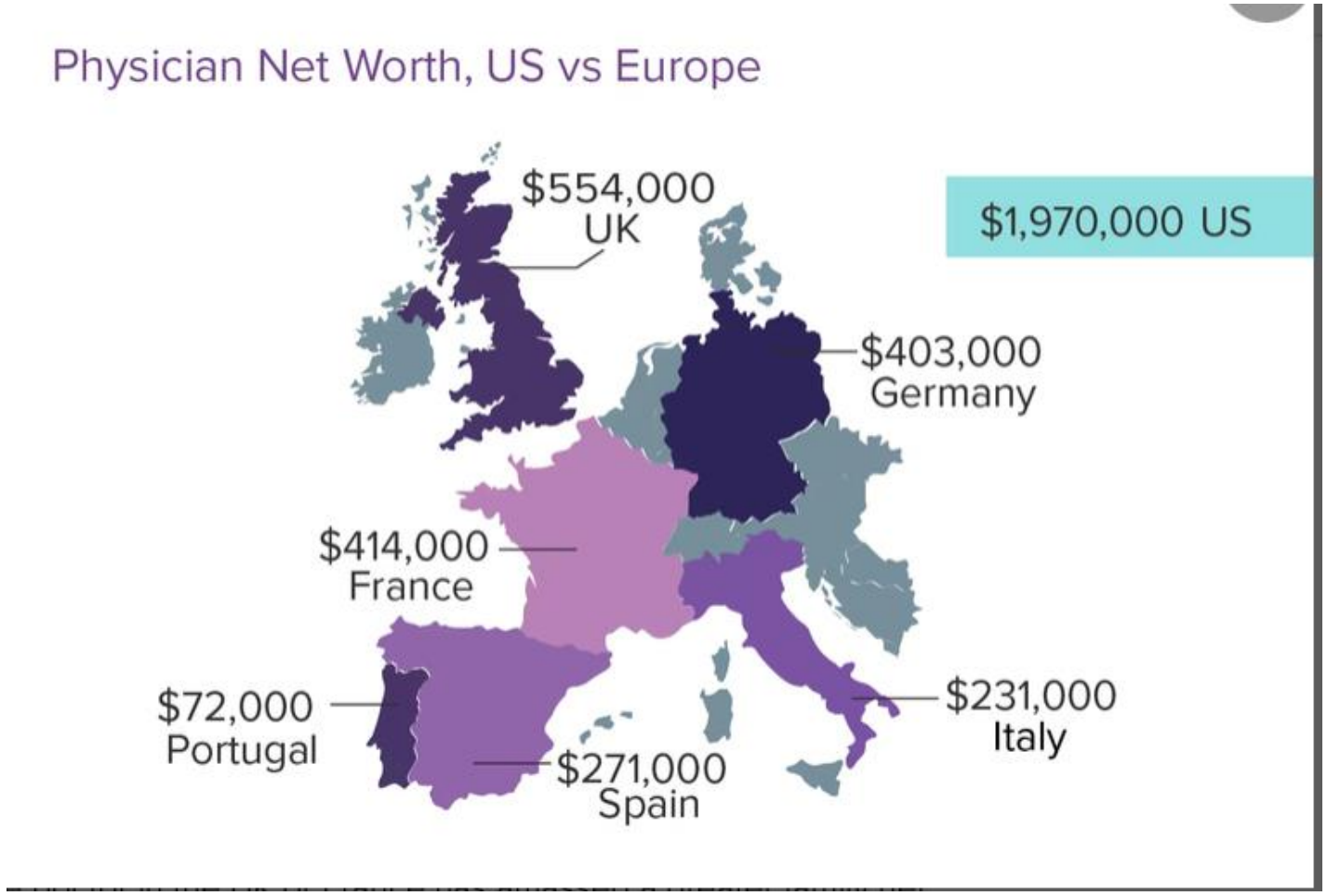
Physicians
15% of Healthcare cost

Physicians Compensation Across Atlantic

- 2x Germany
- 3x UK

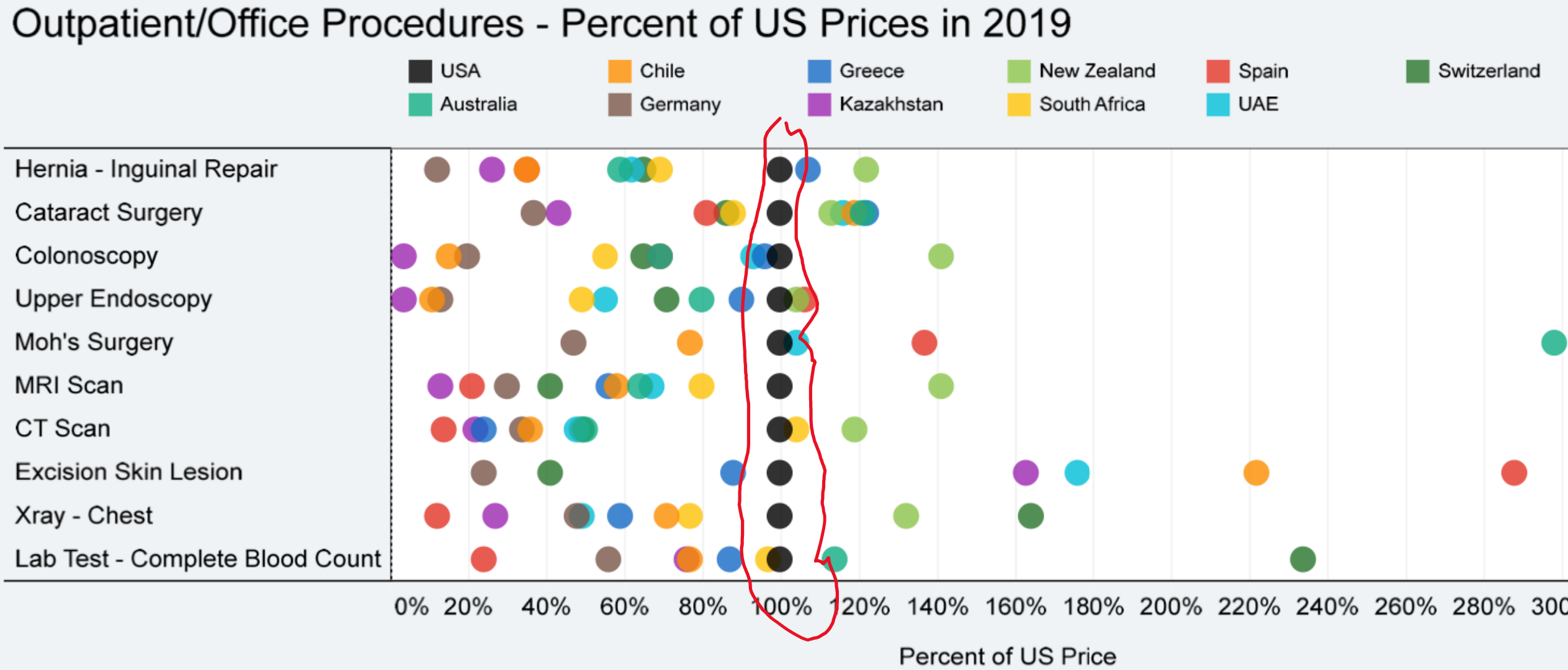


Physicians Net Worth

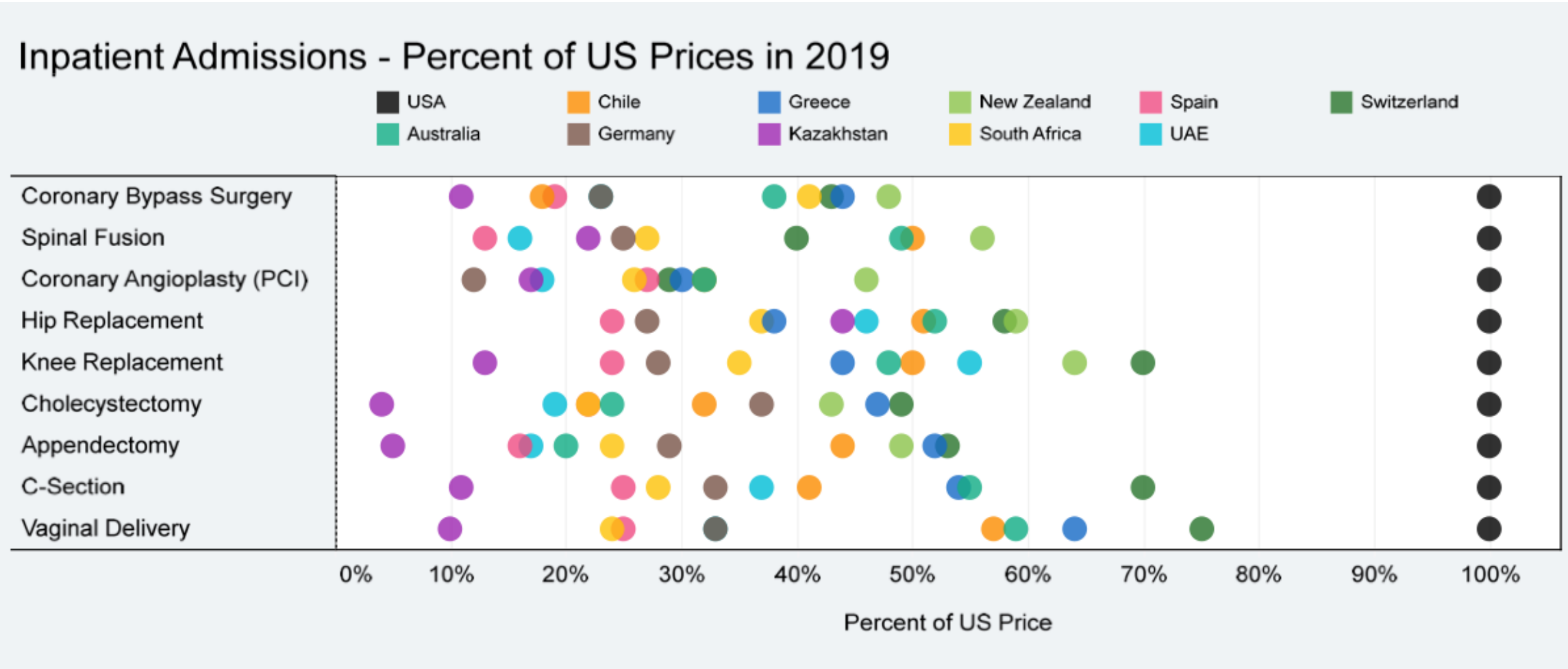


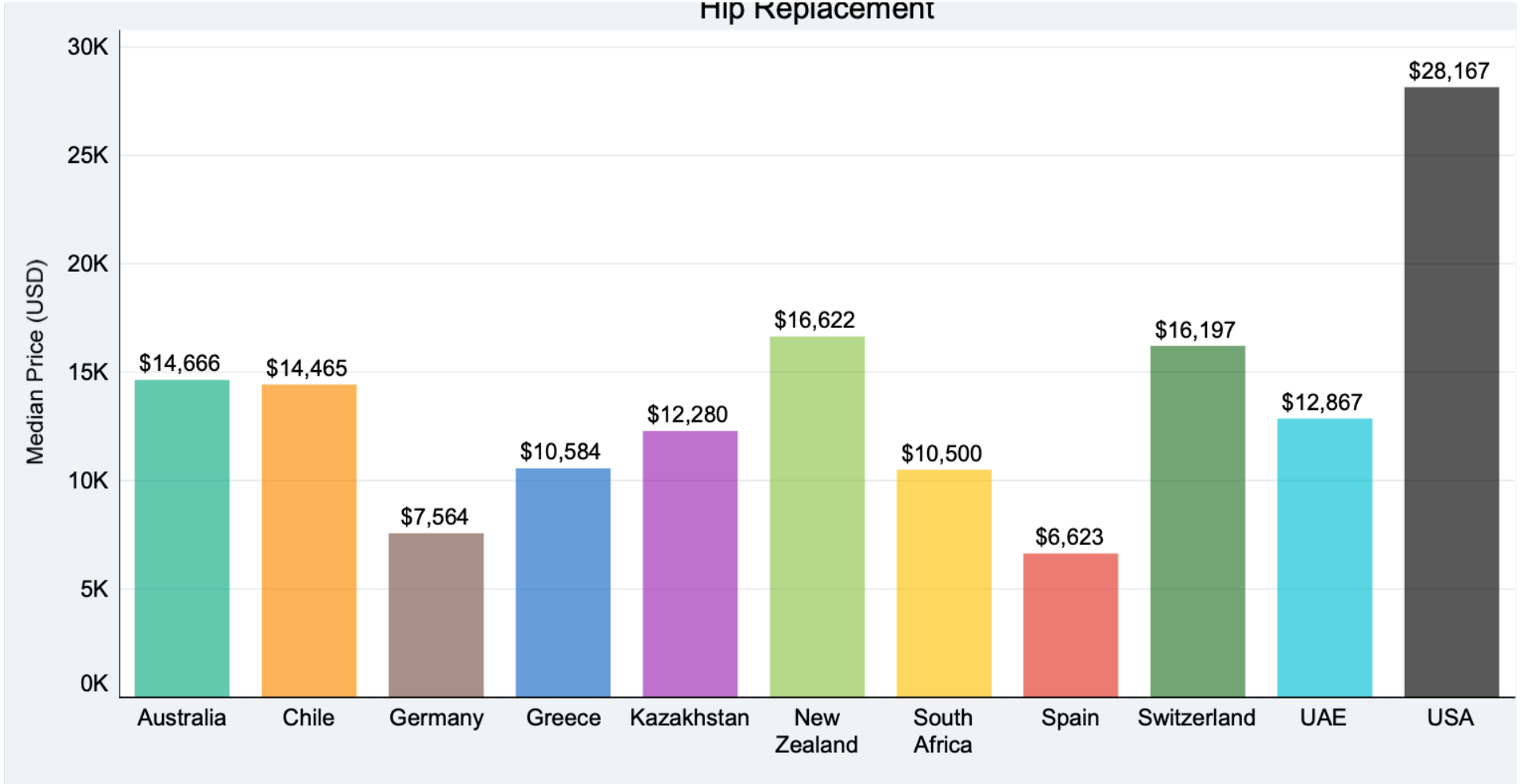
Hospitals

31% of Healthcare Cost



The picture shows signs of shifting since our last report, when US costs significantly outstripped other countries' costs in all but one category (cataract). In 2019, US data trends much more towards the middle.

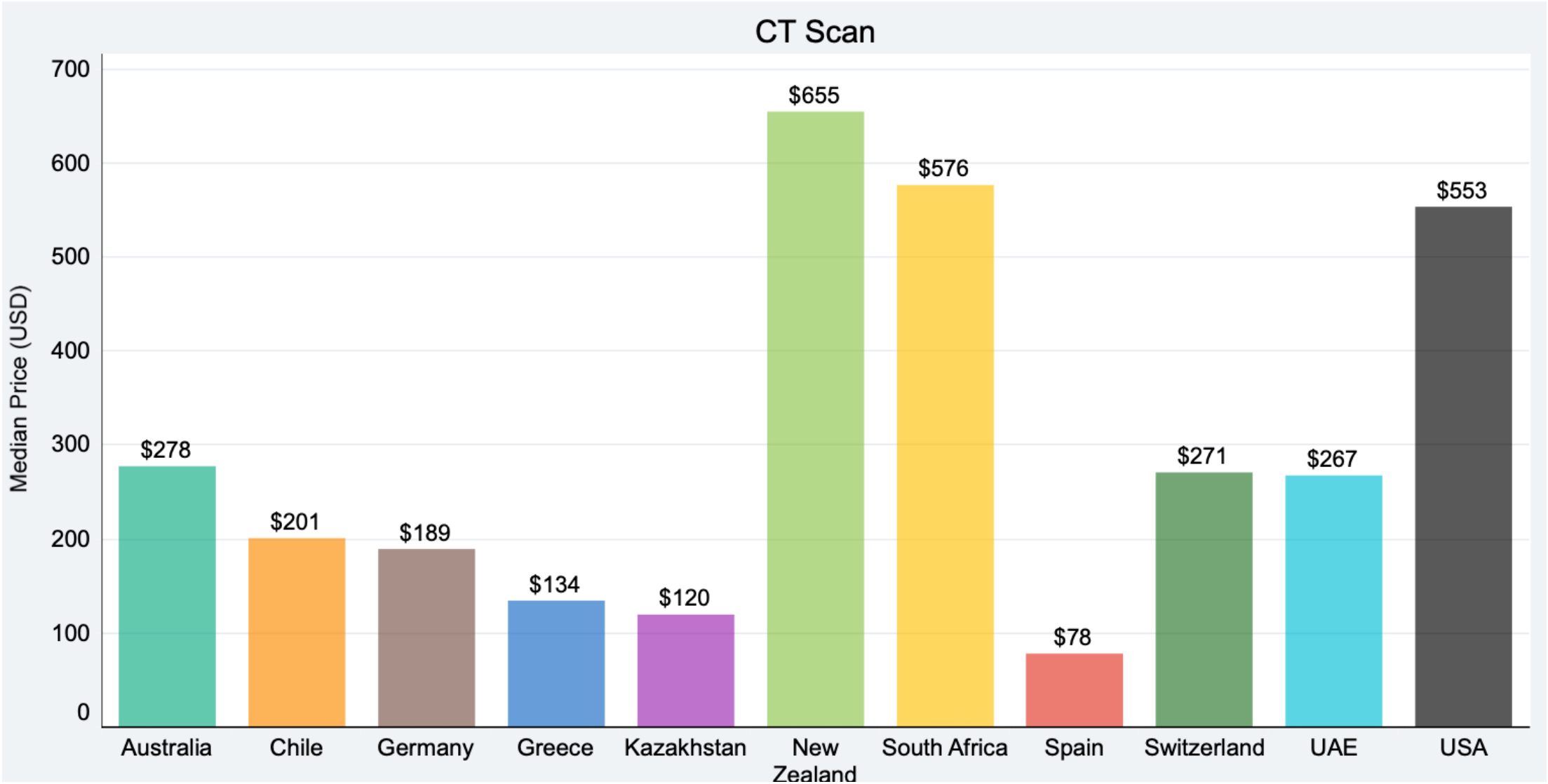

Inpatient Admissions - Percent of US Prices in 2019
USA
Australia
Chile
Germany
Greece
Kazakhstan
New Zealand
South Africa
Spain
UAE
Switzerland
Coronary Bypass Surgery
Spinal Fusion
Coronary Angioplasty (PCI)
Hip Replacement
Knee Replacement
Cholecystectomy
Appendectomy
C-Section
Vaginal Delivery
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of US Price



Definition used: Hip joint replacement without complications, with overnight hospital admission (uni), replacement of right hip joint with ceramic on polyethylene synthetic substitute, uncemented, open approach. Note that the number of hospital days covered by insurers ranges from 14 days to 3 days. These figures represent median costs of this procedure.

Outpatient/Office

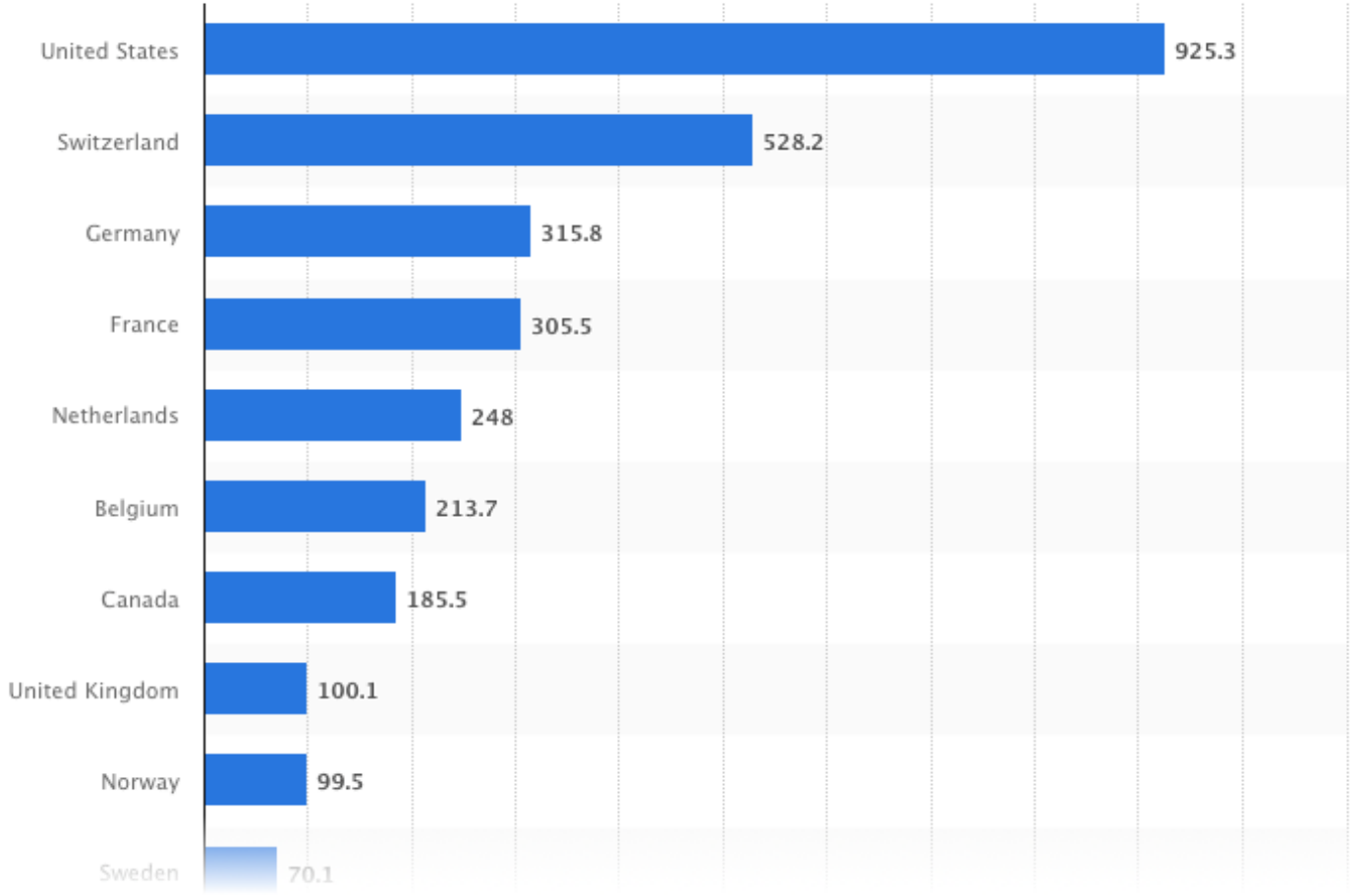
INTERNATIONAL FEDERATION OF HEALTH PLANS



Administrative Costs

9% vs. 3.6% OECD

Per capita expenditure on governance and health system and financing administration in select high-income countries in 2021 *(in U.S. dollars)*
Source: Statista



Comparative price level indices are the ratios of purchasing power parities to market exchange rates. At the level of GDP, comparative price levels provide a measure of the differences in the general price levels of countries. This indicator is measured as an index.

Latest publication

OECD Economic Outlook

PUBLICATION (2023)

Indicators

- Inflation (CPI)
- Inflation forecast
- Producer price indices (PPI)
- Price level indices
- Housing prices
- Share prices

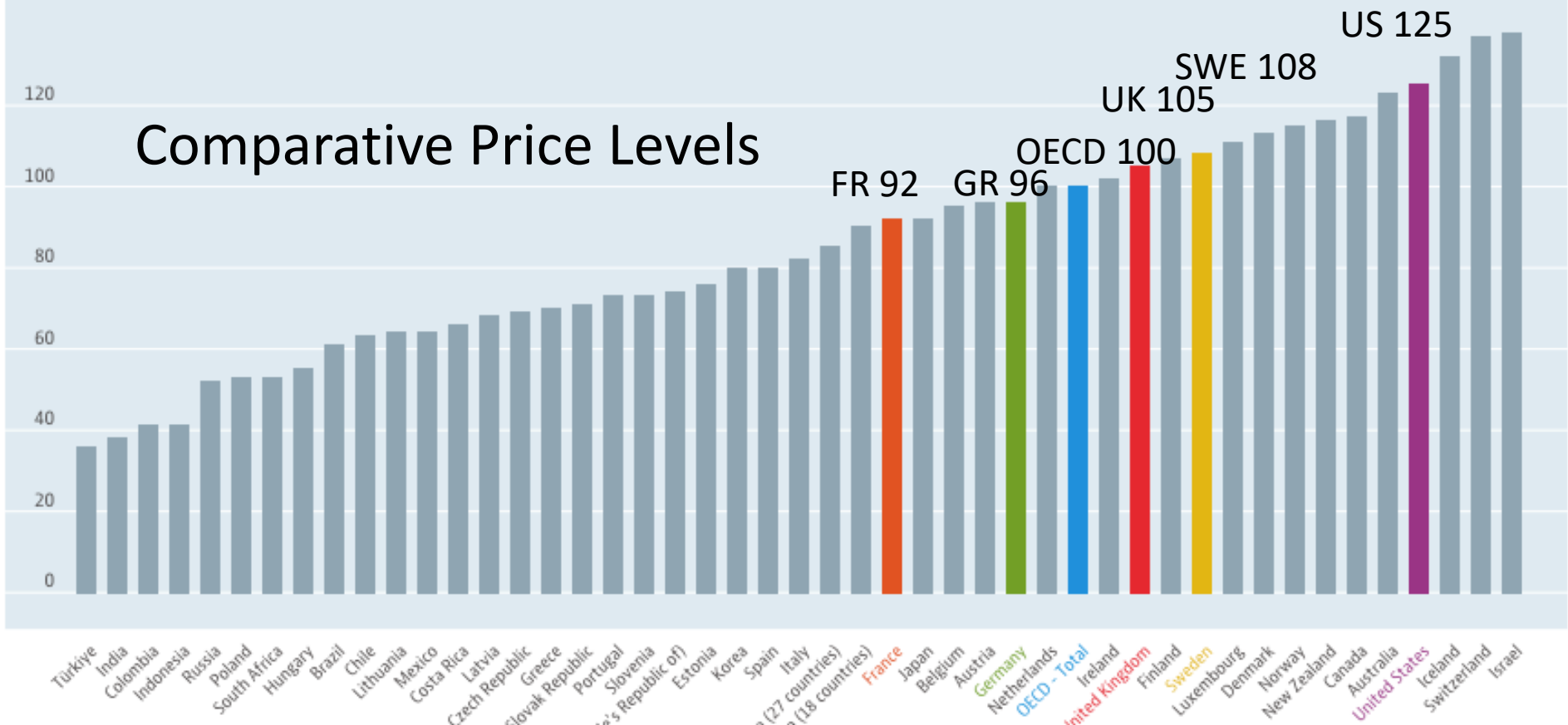
Price level indices

Total, OECD=100, 2022 or latest available

Source: Prices: Comparative price levels

Show: Chart | Map | Table

fullscreen | share | download | My pinboard



We have 2 Problems in Healthcare that we must first face prior to Healthcare Reform

1. Moral and ethical question of universal coverage
2. Prices
   - Care delivery
   - Administrative costs and complexity

And continue to work on:

1. Movement to Value-Based Care models
2. Improving the clinical aspects of healthcare

Health Reform for a Kinder America

"The issue of universal coverage is not a matter of economics. Little more than 1 percent of GDP assigned to health could cover it all. It is a matter of soul."

- Ewe Reinhart

Uwe Reinhardt was a professor of political economy at Princeton University and held several positions in the healthcare industry. Reinhardt was a prominent scholar in healthcare economics and a frequent speaker and author.

Knowing is not enough; we must apply. Willing is not enough; we must do.

-Johann Wolfgang von Goethe

Johann Wolfgang Goethe was a German poet, playwright, novelist, scientist, statesman, theatre director, and critic.

Health Reform for a Kinder America

- Universal Essential Care for all
  - Auto enrolled
  - Defining really “essential care”
  - Zero payments
  - No copays or deductibles
  - Set national budgets
  - Fewer issues with medical debt
- Upgrades available to purchase on your own
- Continue with the current delivery system
  - Improvements VBC
  - Reduced admin for complex eligibilities of all different plans
- Medicare is a model
  - Traditional Medicare
  - Medigap
  - Medicare Advantage
  - Employer wrap around

Discussion

Course Objectives

Understand the complexities of:

U.S. Healthcare System

Medical Industrial Complex

Business Models

Government Role

Empower YOU

Encourage critical thinking.