# SUCCESSFUL INTEGRATION OF CLINICALLY RESPONSIBLE AI FOR IMPROVED PATIENT OUTCOMES
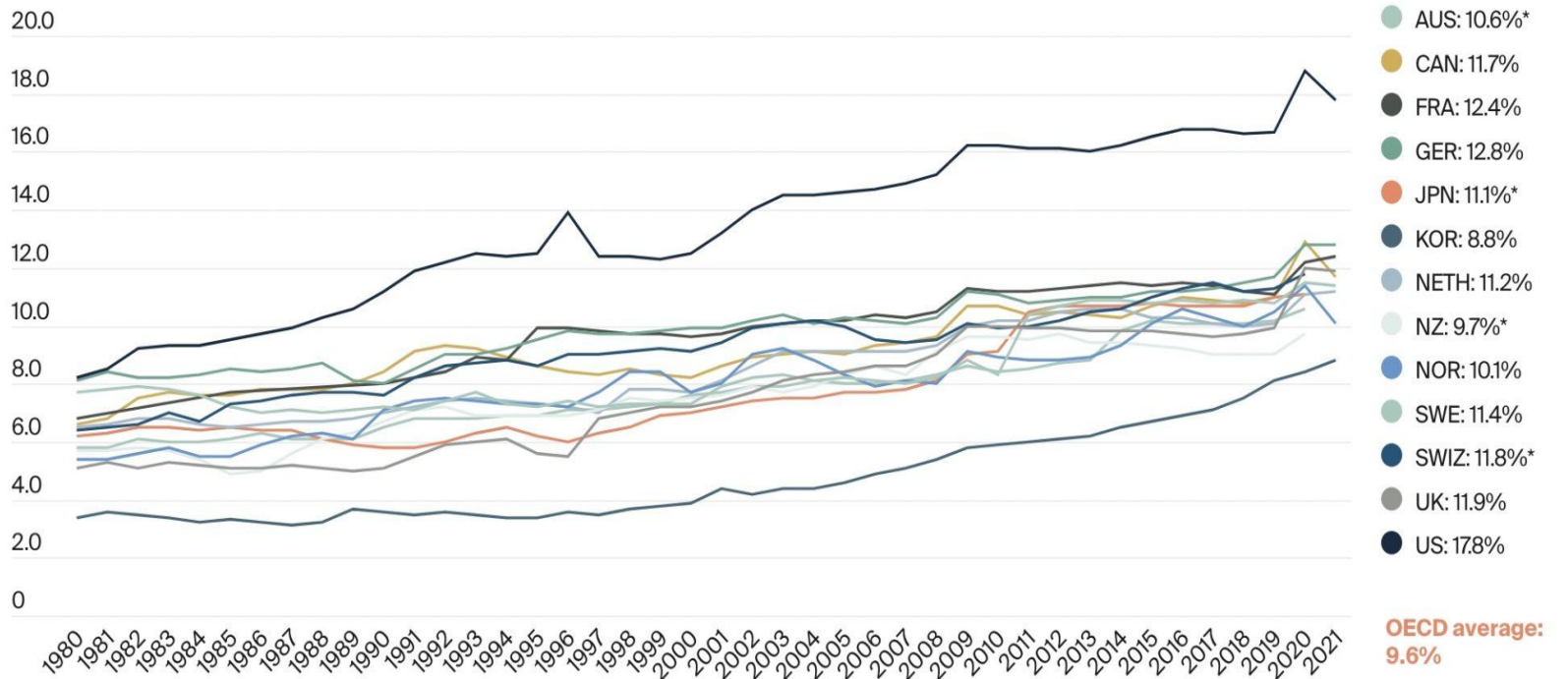
**AMY MOLTEN, MD, FAAP**

A woman watches white flags on the National Mall on September 18, 2021, in Washington, DC. Over 660,000 white flags were installed here to honor Americans who have lost their lives to COVID-19.
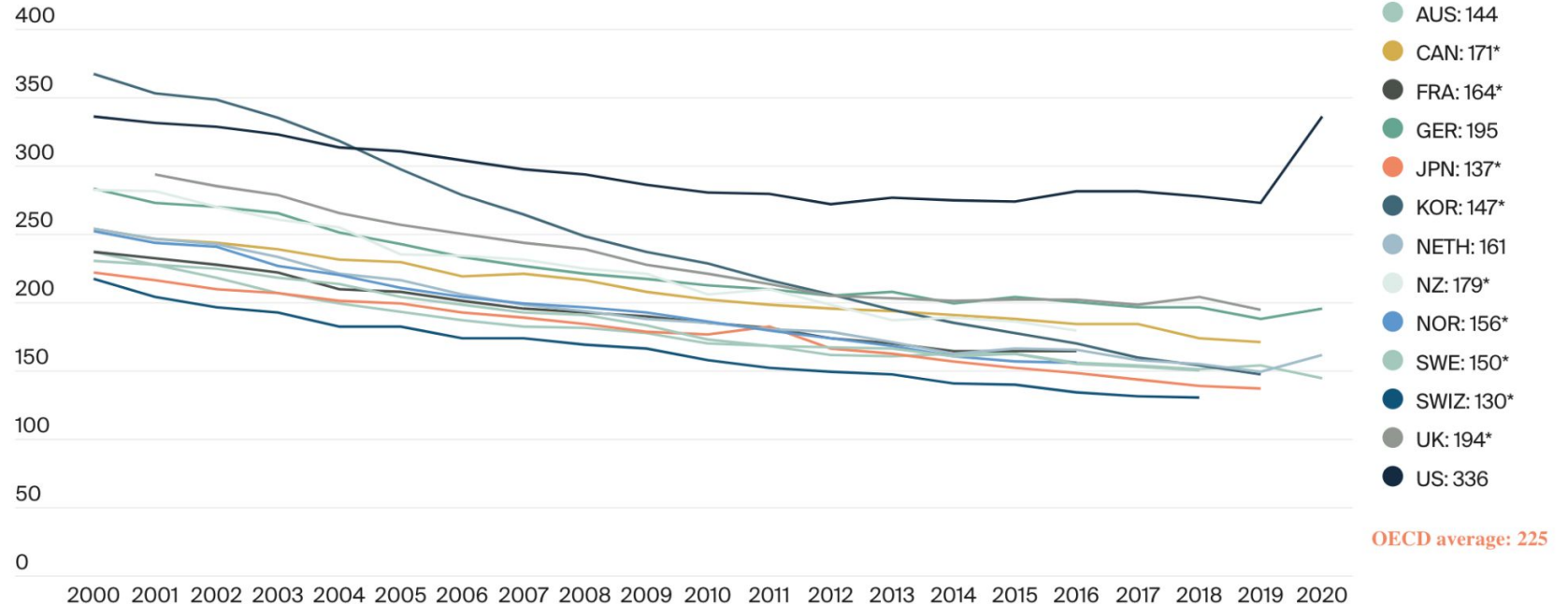Credit: Getty | Chen Mengtong

# The U.S. is a world outlier when it comes to health care spending.

*Percent of GDP spent on health, 1980–2021\**



2021 data (or latest available year)\*:

- AUS: 10.6%\*
- CAN: 11.7%
- FRA: 12.4%
- GER: 12.8%
- JPN: 11.1%\*
- KOR: 8.8%
- NETH: 11.2%
- NZ: 9.7%\*
- NOR: 10.1%
- SWE: 11.4%
- SWIZ: 11.8%\*
- UK: 11.9%
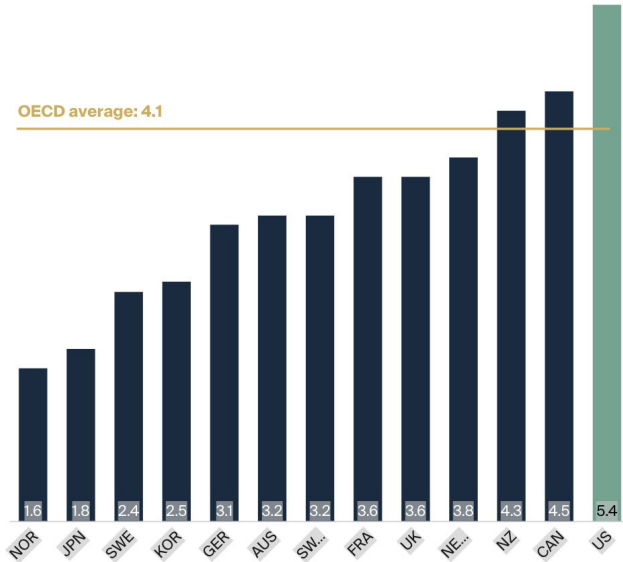- US: 17.8%

**OECD average: 9.6%**

# Avoidable deaths per 100,000 population in the U.S. are higher than the OECD average.

Avoidable deaths per 100,000 population (standardized rates), 2000–2020*
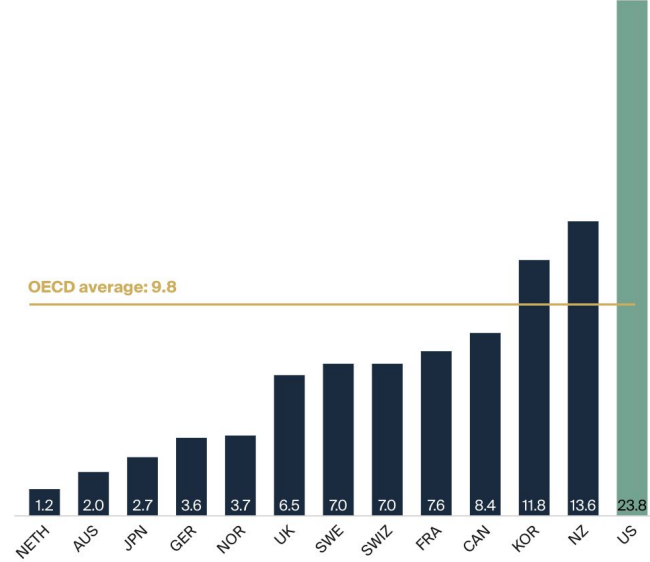


2020 data (or latest available year)*:

- AUS: 144
- CAN: 171*
- FRA: 164*
- GER: 195
- JPN: 137*
- KOR: 147*
- NETH: 161
- NZ: 179*
- NOR: 156*
- SWE: 150*
- SWIZ: 130*
- UK: 194*
- US: 336

OECD average: 225

# The U.S. has the highest rate of infant and maternal deaths.

**Infant mortality, deaths per 1,000 live births**

OECD average: 4.1

| NOR | JPN | SWE | KOR | GER | AUS | SW... | FRA | UK | NE... | NZ | CAN | US |
|-----|-----|-----|-----|-----|-----|-------|-----|-----|-------|-----|-----|-----|
| 1.6 | 1.8 | 2.4 | 2.5 | 3.1 | 3.2 | 3.2 | 3.6 | 3.6 | 3.8 | 4.3 | 4.5 | 5.4 |

**Maternal mortality, deaths per 100,000 live births**

OECD average: 9.8

| NETH | AUS | JPN | GER | NOR | UK | SWE | SWIZ | FRA | CAN | KOR | NZ | US |
|------|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| 1.2 | 2.0 | 2.7 | 3.6 | 3.7 | 6.5 | 7.0 | 7.0 | 7.6 | 8.4 | 11.8 | 13.6 | 23.8 |

Notes: Infant mortality rates reflect no minimum threshold or gestation period or birthweight. Infant mortality 2021 data for FRA and SWIZ; 2020 data for AUS, CAN, GER, JPN, KOR, NETH, NOR, SWE, UK, and US; 2018 data for NZ. Maternal mortality 2020 data for AUS, CAN, GER, JPN, KOR, NETH, NOR, SWE, and US; 2019 data for SWIZ; 2018 data for NZ, 2017 data for UK; 2015 data for FRA. OECD average reflects the average of 38 OECD member countries.

Data: OECD Health Statistics 2022.

Source: Munira Z. Gunja, Evan D. Gumas, and Reginald D. Williams II, *U.S. Health Care from a Global Perspective, 2022: Accelerating Spending, Worsening Outcomes* (Commonwealth Fund, Jan. 2023). https://doi.org/10.26099/8ejy-yc74

**AI in Healhcare offers potential to solve longstanding challenges impact health outcomes**

Preventic
and Welln

Therapeutics

Management
and Care

Research and
Development

Diagnostics

Clinical Systems
and Workflows

What does clinically responsible AI integration look like?

**So how does this apply to successful and responsible implementation of AI in healthcare?**

It means:

- Safety-first, human-centered design

- Evidence-base implementation

- Careful clinical workflow integration

- Governance and safety monitoring

- Value focus

# 1) Clinical-Technical Resilience

Sustained interdisciplinary collaboration

Shared language

Mutual learning while adapting

Short-, mid- and long-term quality and safety governance

Reliability

## 2) Frontline Care Integration

Natural workflow alignment

Clinical care optimization

Clear handoffs between AI and human decision-making

Easily interpreted  governance structures

Intelligently designed to enhance the patient health continuum

Supports evidence-based scientific discovery and innovation

## 3) Measurable Impact

Purposefully improves the patient experience

Reduces health disparities

Decreases individual and system costs

Improves population health

Genuinely makes the provider experience better

# Path to success

Clinically responsible AI integration is possible

It's never too late to transform AI from a potential risk to a reliable healthcare tool

Strategically encoded impact metrics can build trust and improve health outcomes of the patients we serve

End