

# USC Price

Sol Price School of Public Policy

# USC Schaeffer

Leonard D. Schaeffer Center  
for Health Policy & Economics

## Public Policy For Addressing the COVID-19 Pandemic

**Neeraj Sood, PhD**

Vice Dean for Research and Professor, USC Price School of Public Policy  
COVID Initiative Director, USC Schaeffer Center



# Public Policy for COVID-19

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# Overview:

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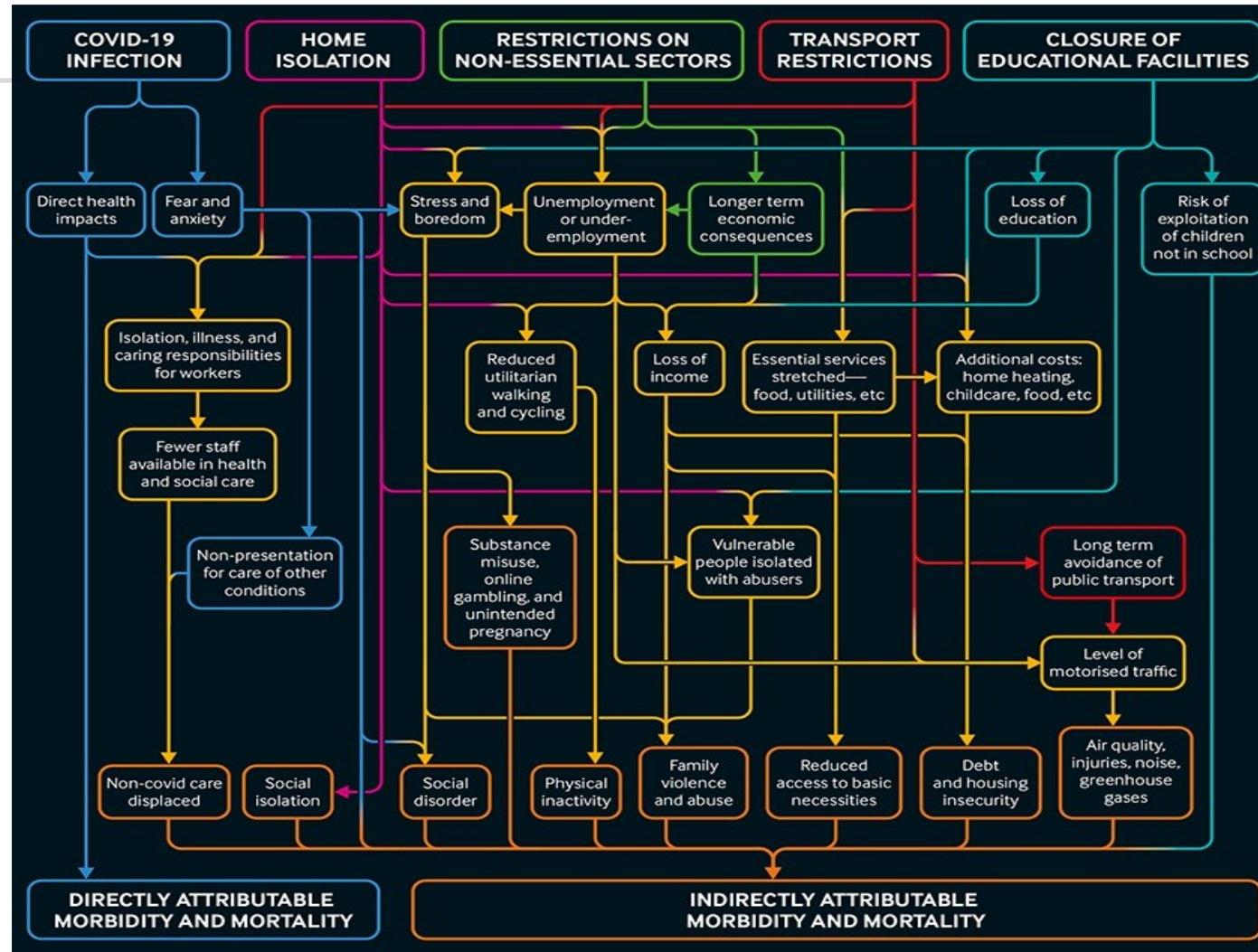
- **Today I will:**
  - **Propose two broad principles on how to think about public policy for addressing the COVID-19 pandemic**
  - **Apply these principles to evaluate “shelter in place” policies**

# What should the goal or objective of COVID-19 public policy be?

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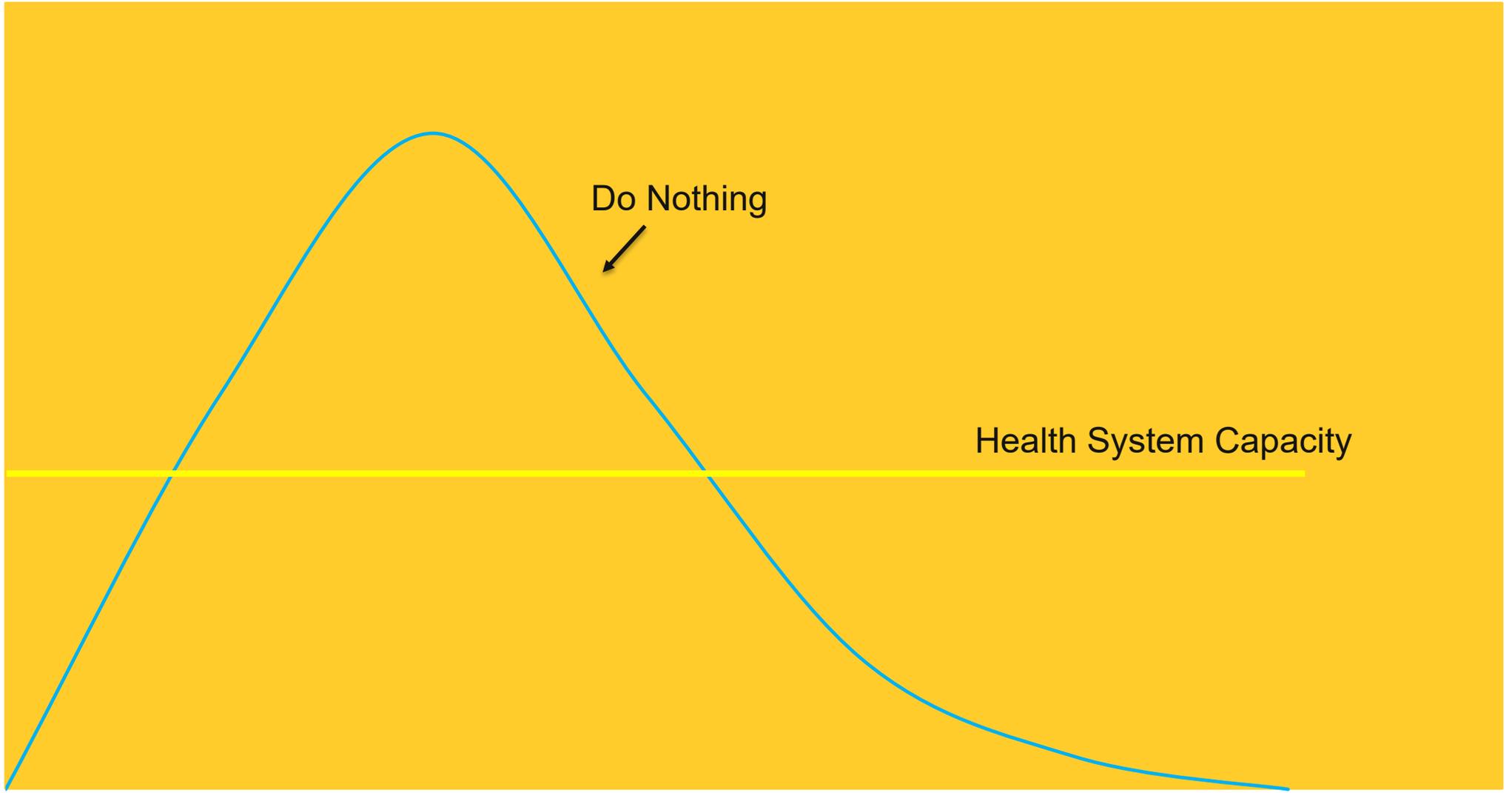


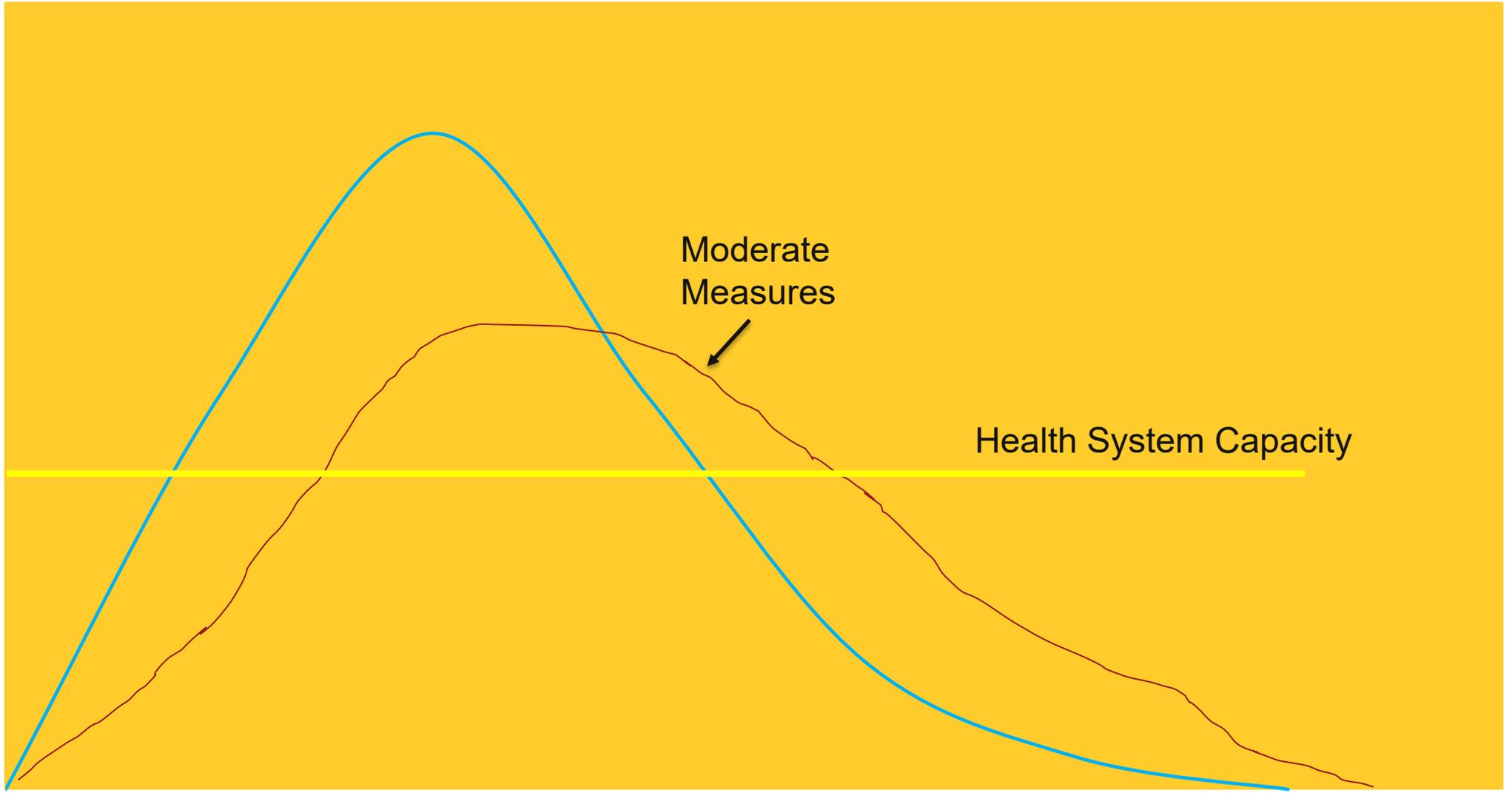
# Principle 1: Maximize Welfare

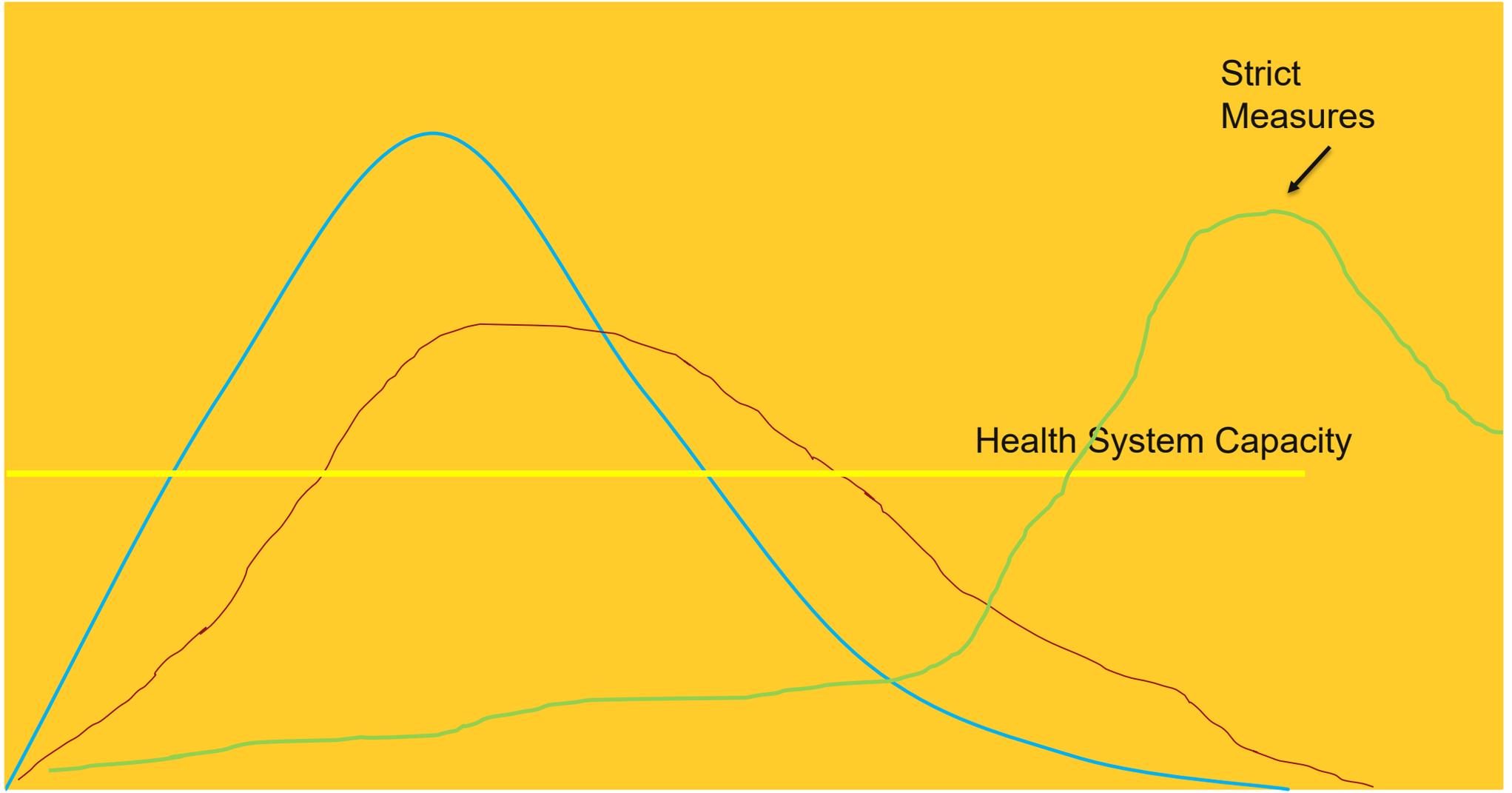


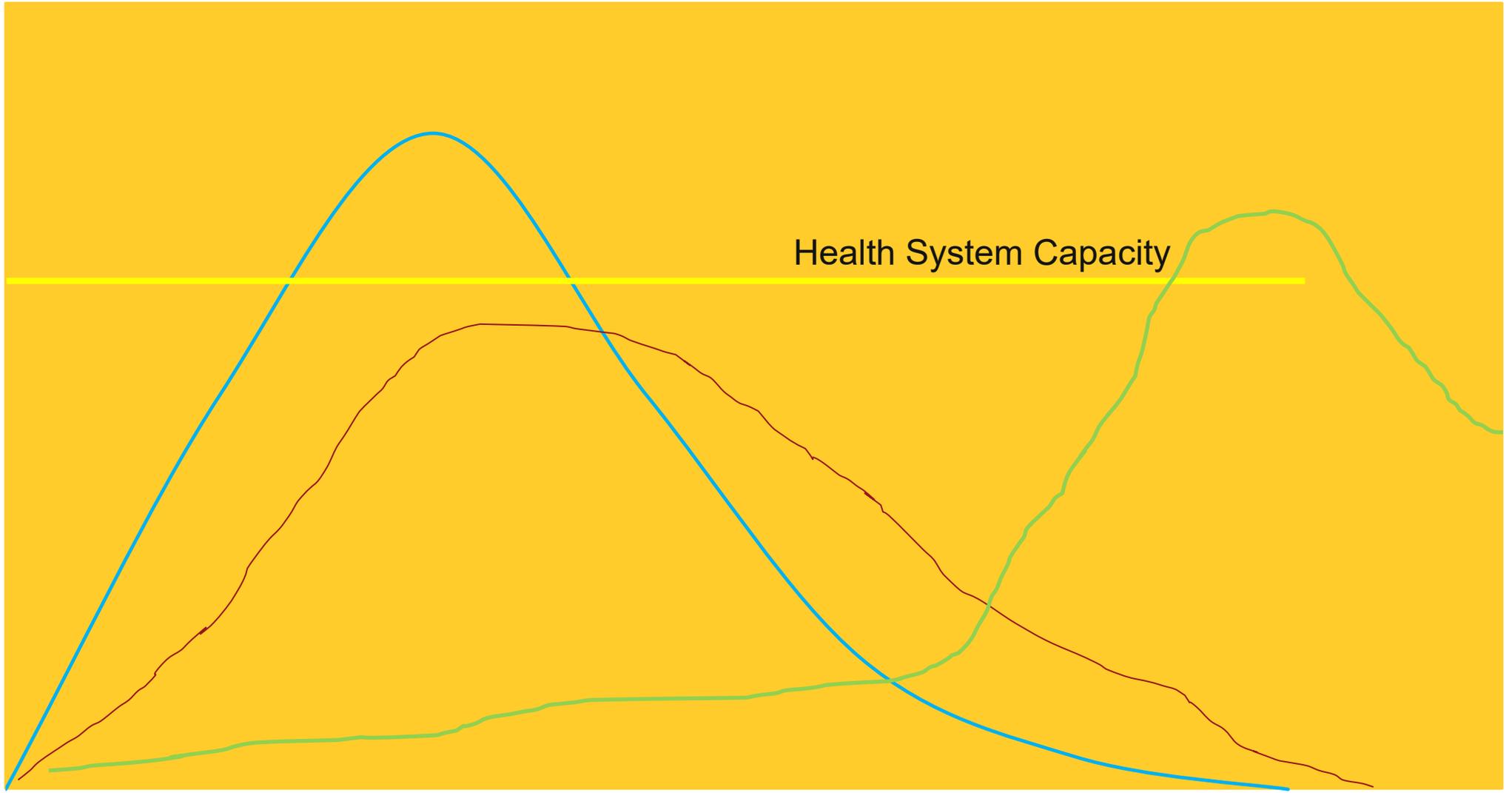
## Principle 2: Think Long Term





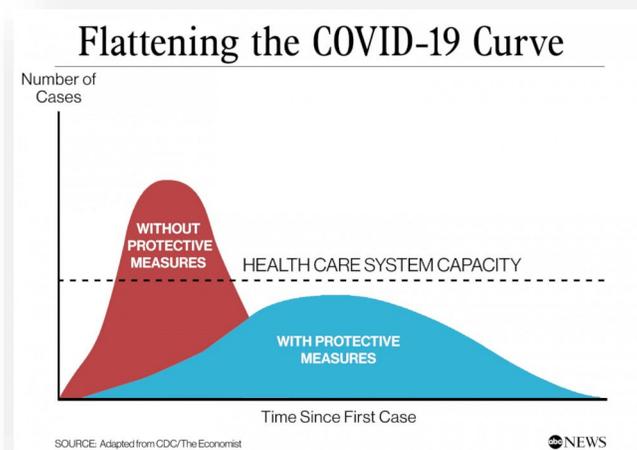






# It is unclear what shutdowns do to improve health

- Reduce the number of cases
- Flatten the curve



- Reduce non-COVID healthcare use
- Impact health in other ways (stress, mental health, etc)

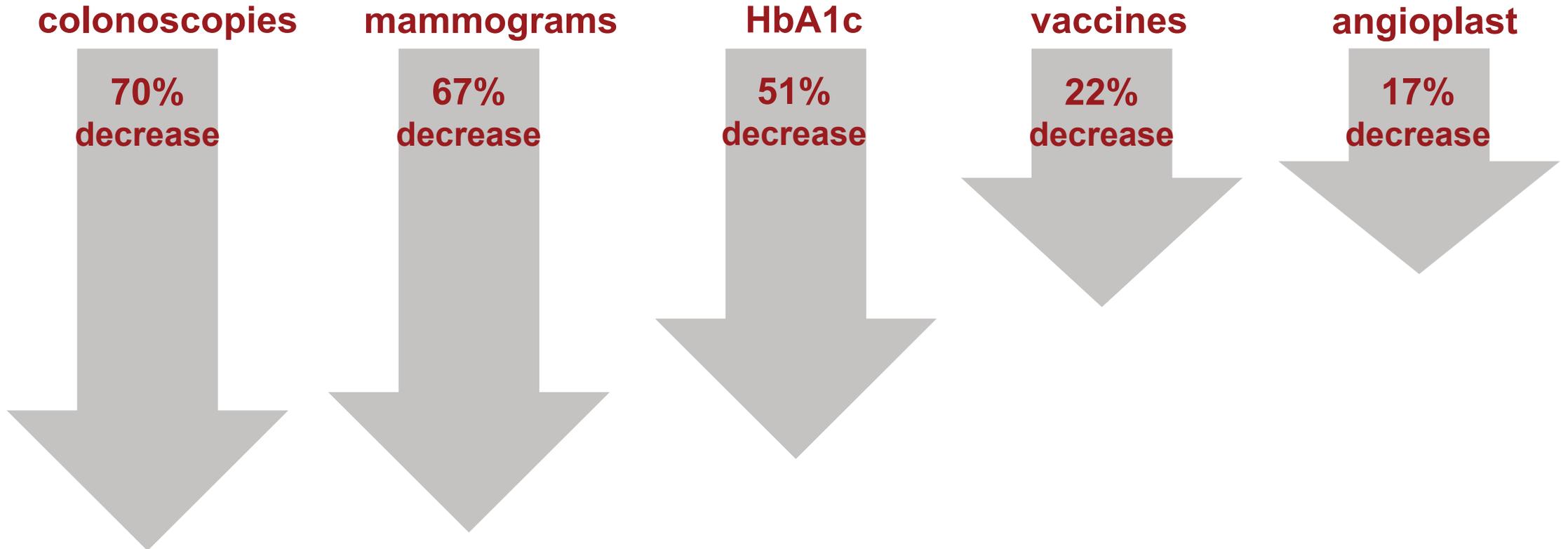


**Were the COVID-19  
Shutdowns Worth It?  
Measuring their Impact  
on Health**

- **Patients' interactions with the healthcare system**
- **Country and state stay-at-home orders and excess mortality**
- **School shutdowns and COVID-19 cases**

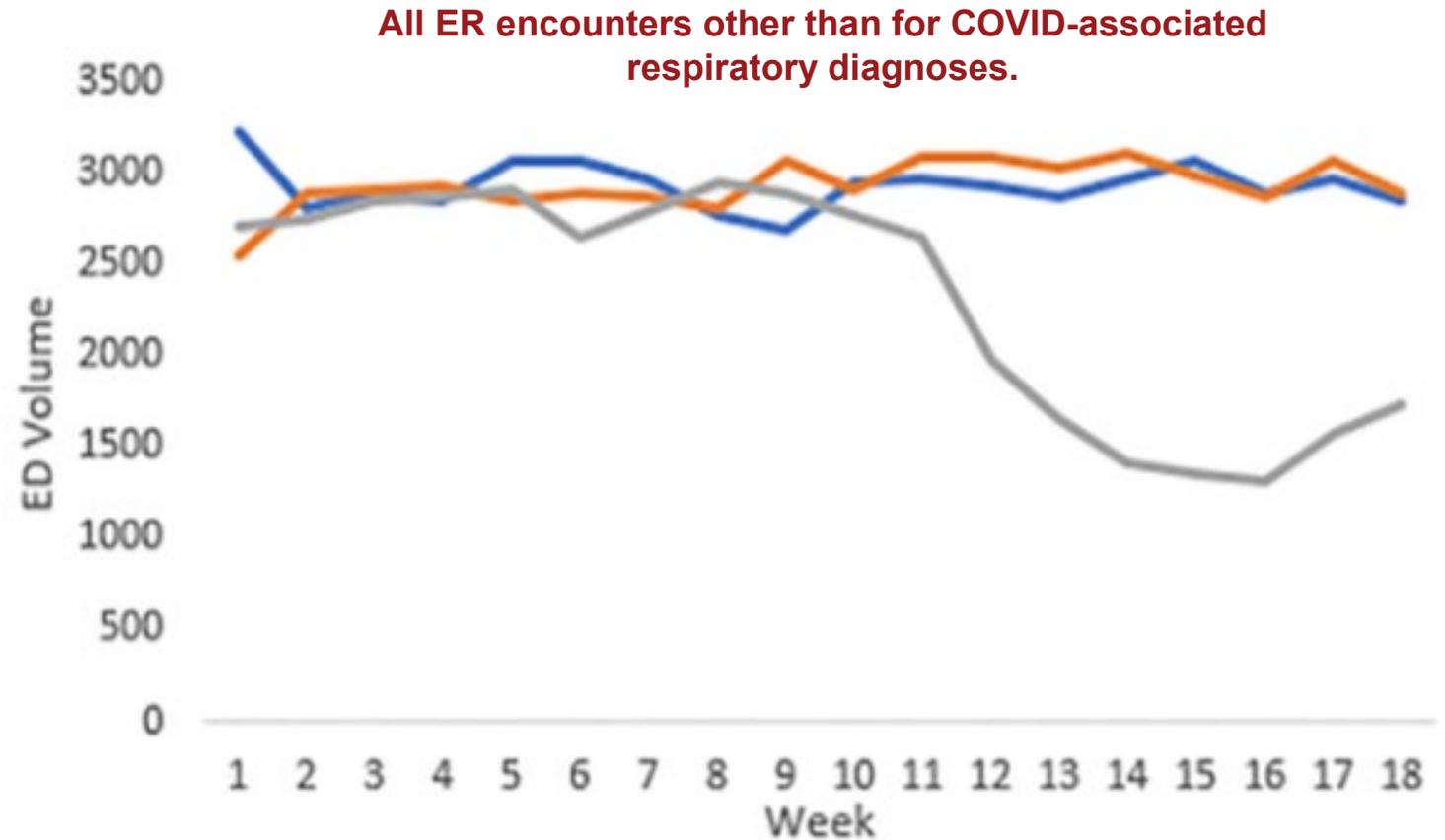
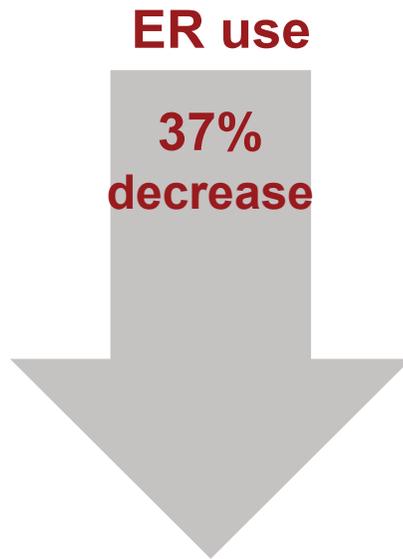
# There were significant declines in healthcare use in the first two months of the pandemic

\*Relative to March and April, 2019



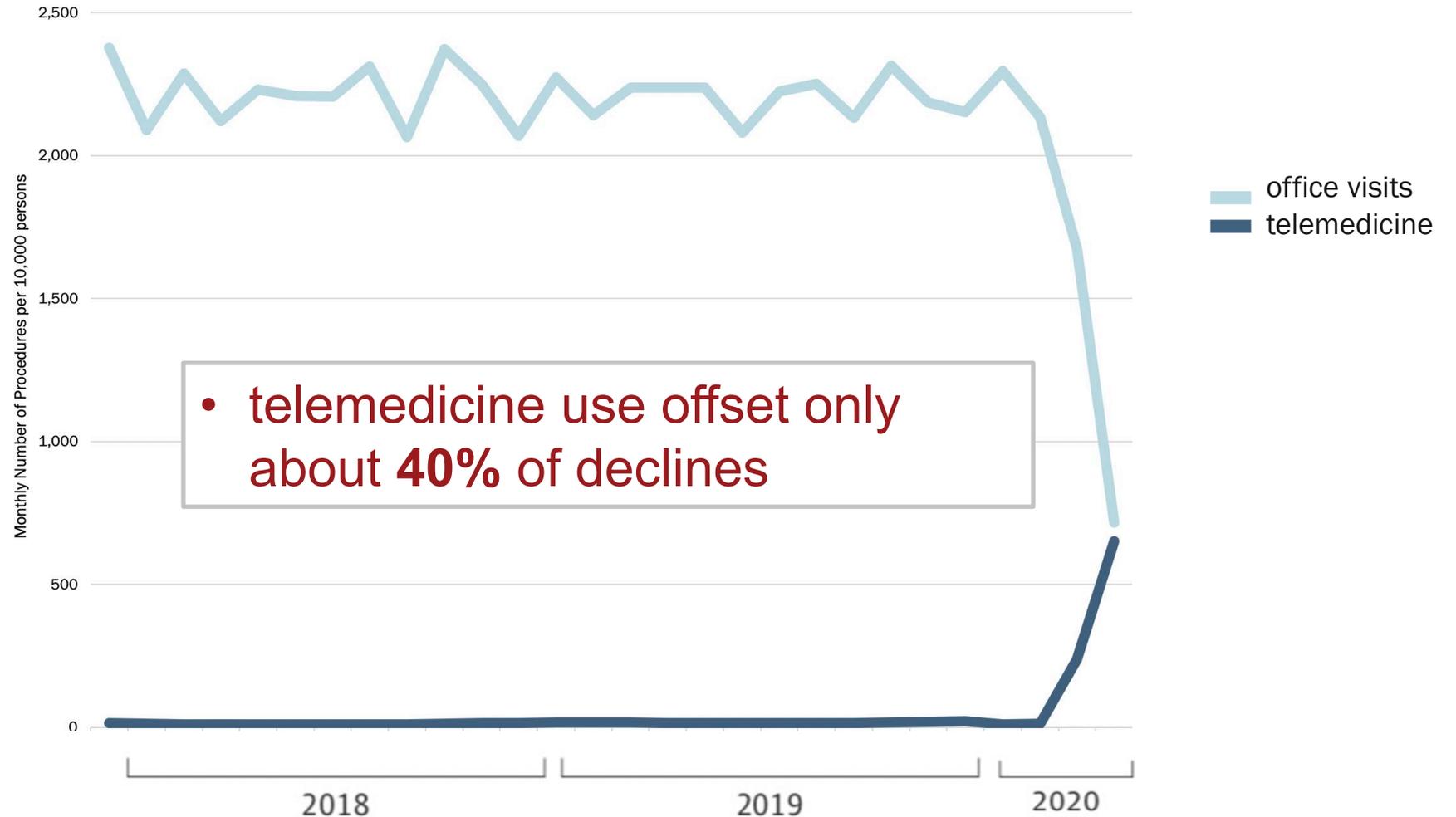
# Emergency department use also declined dramatically during the first surge in L.A. County

\*Relative to March and April, 2019 and 2018



# Decline of in-person care was accompanied by a significant uptick in telehealth use

**Telehealth visits increased**  
**1,000%** in March  
**4,000%** in April



# County-level shelter in place orders explain part of the decline



Shelter-in-place policies lead to:

colonoscopies

23%  
decrease

MRIs

18%  
decrease

mammograms

16%  
decrease

angiogram

11%  
decrease

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# We analyzed the impact of country-level stay at home orders on excess deaths

## Shelter in place orders ranked:

**0** – No measures

**1** – Recommended not leaving house

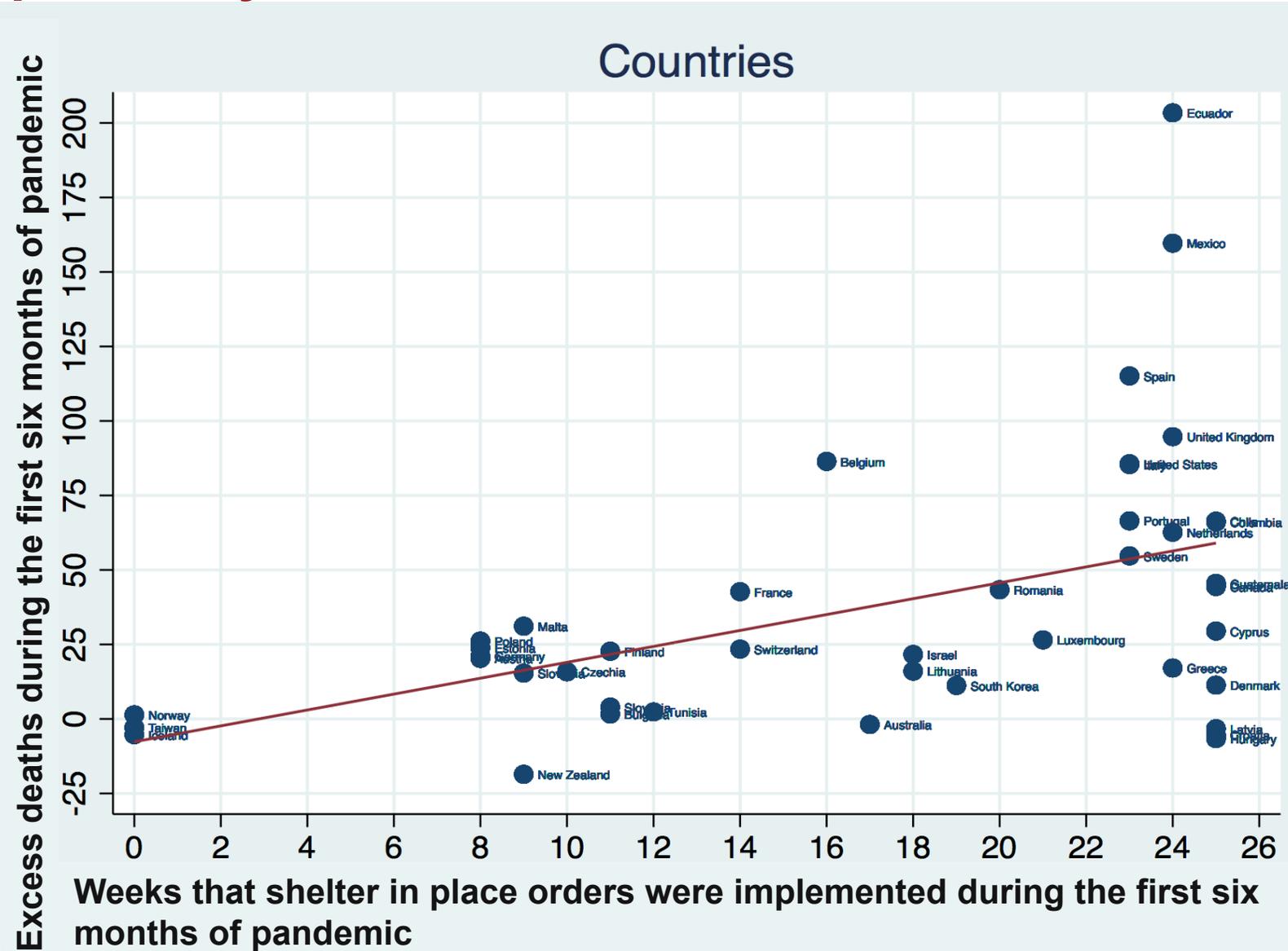
**2** – Required not leaving house with exceptions for daily exercise, grocery shopping, and essential trips

**3** – Required not leaving house with minimal exceptions (e.g. allowed to leave only once a week, or only one person can leave at a time, etc.)

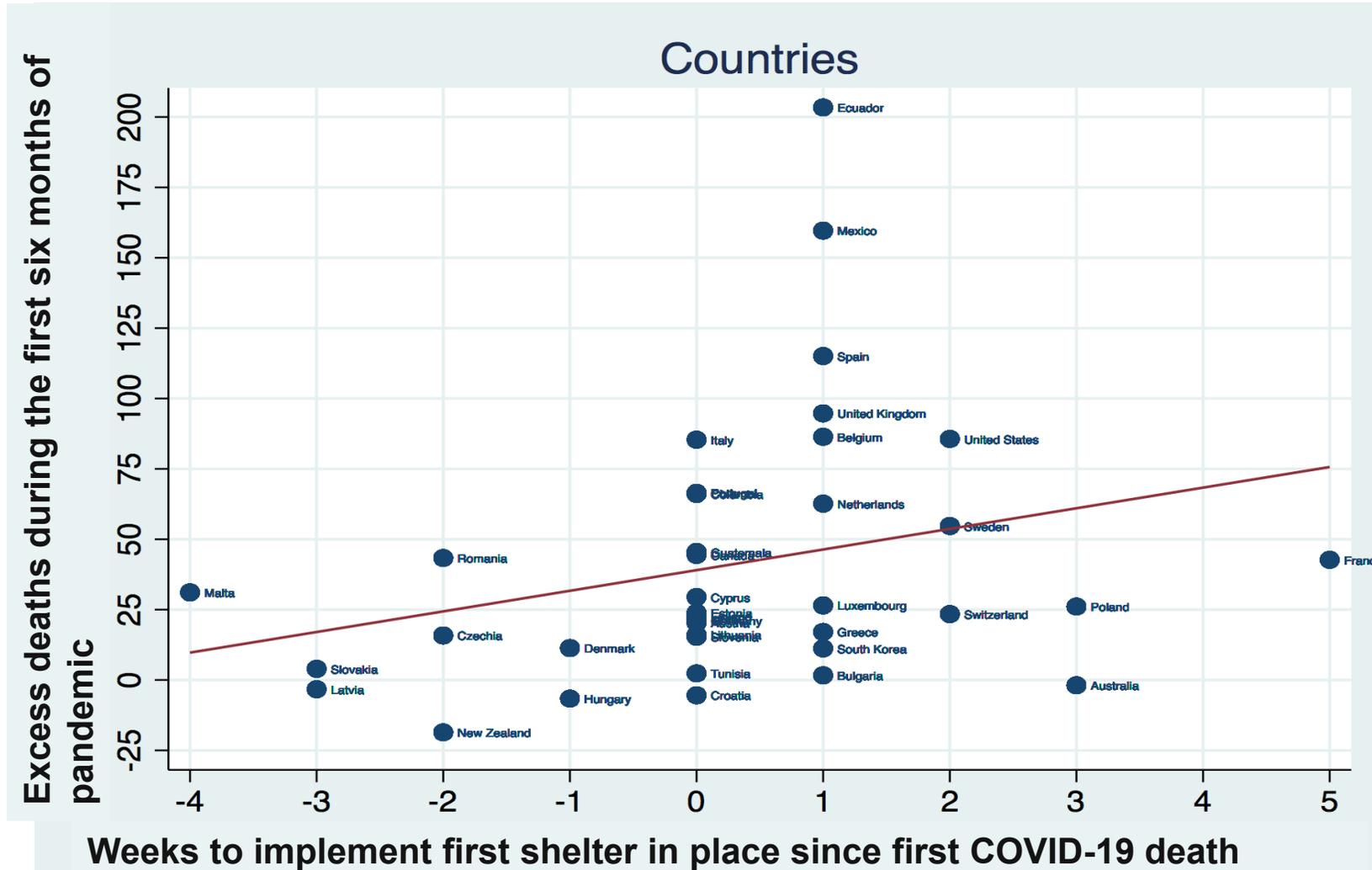
## Excess deaths:

Deaths in 2020 in excess of the average deaths in 2015-2019 (all causes)

# International Comparison: Duration of Shelter in Place orders positively associated with increased excess deaths

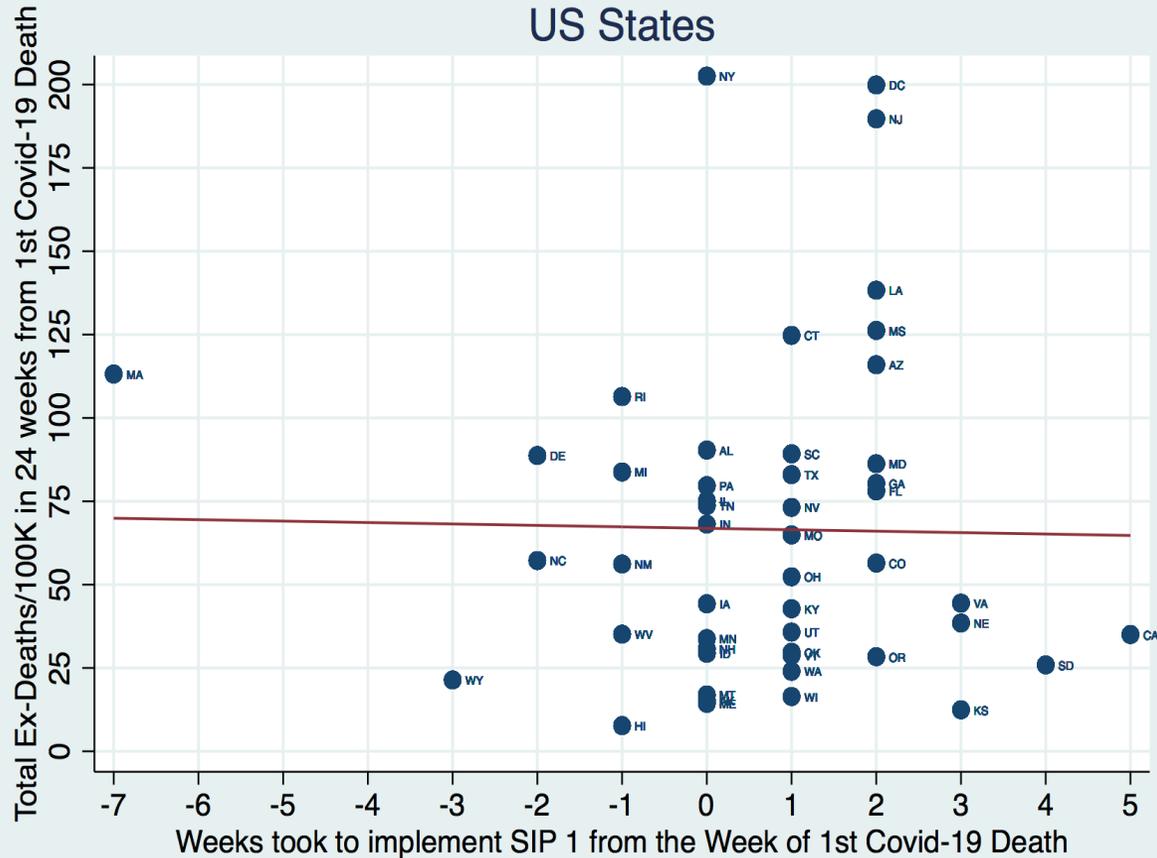


# International Comparison: Speed of Shelter in Place orders positively associated with increased excess deaths

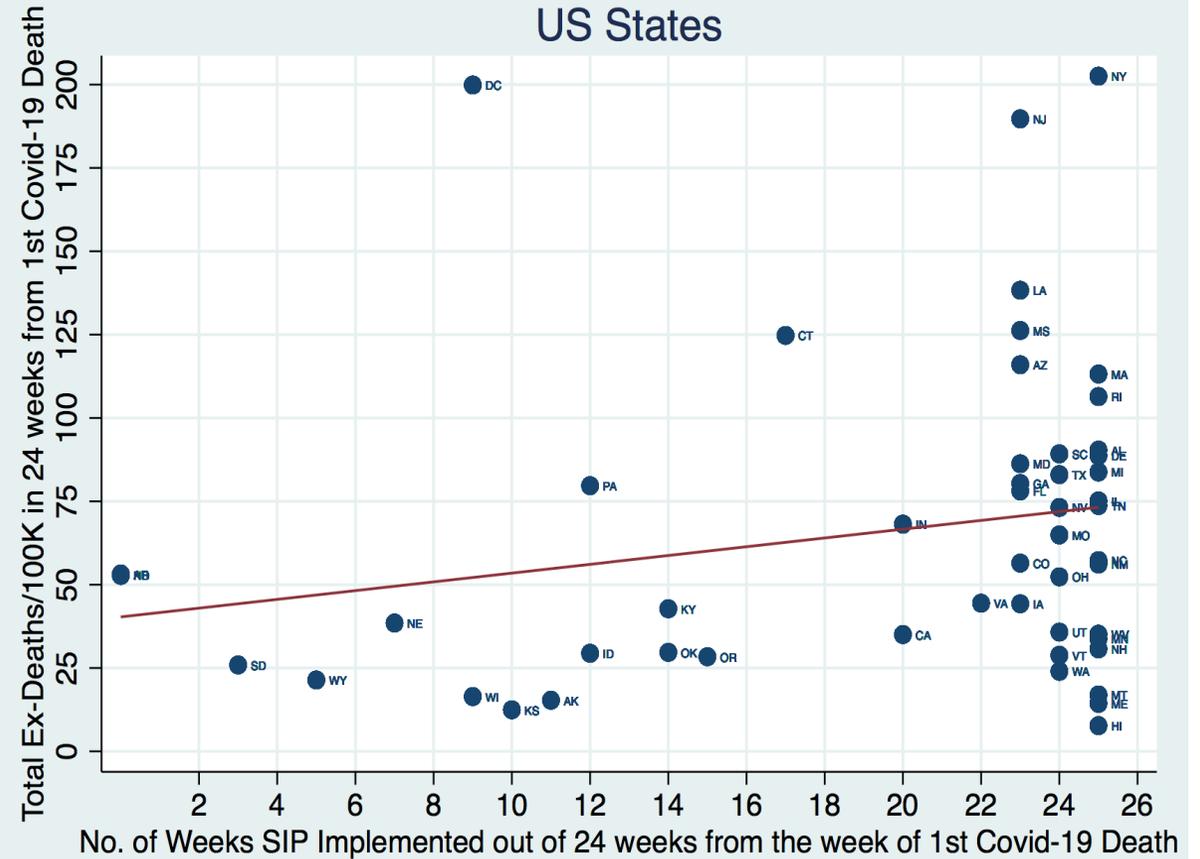


# We also analyzed excess deaths across U.S. states and found a similar pattern

## Speed of Shelter in Place order



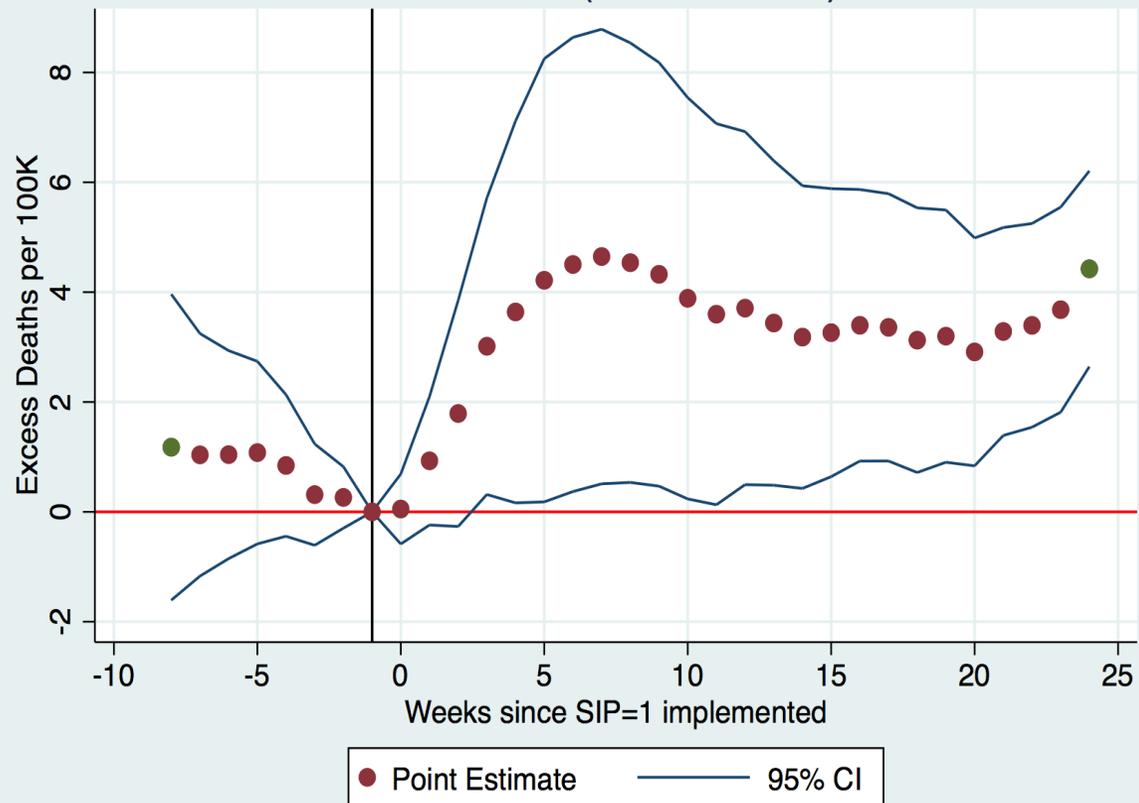
## Duration of Shelter in Place order



# Similar results even when we look at trends in excess mortality within states/countries after shelter in place orders

## International

Excess Deaths/100K (43 Countries) and SIP=1



## US States

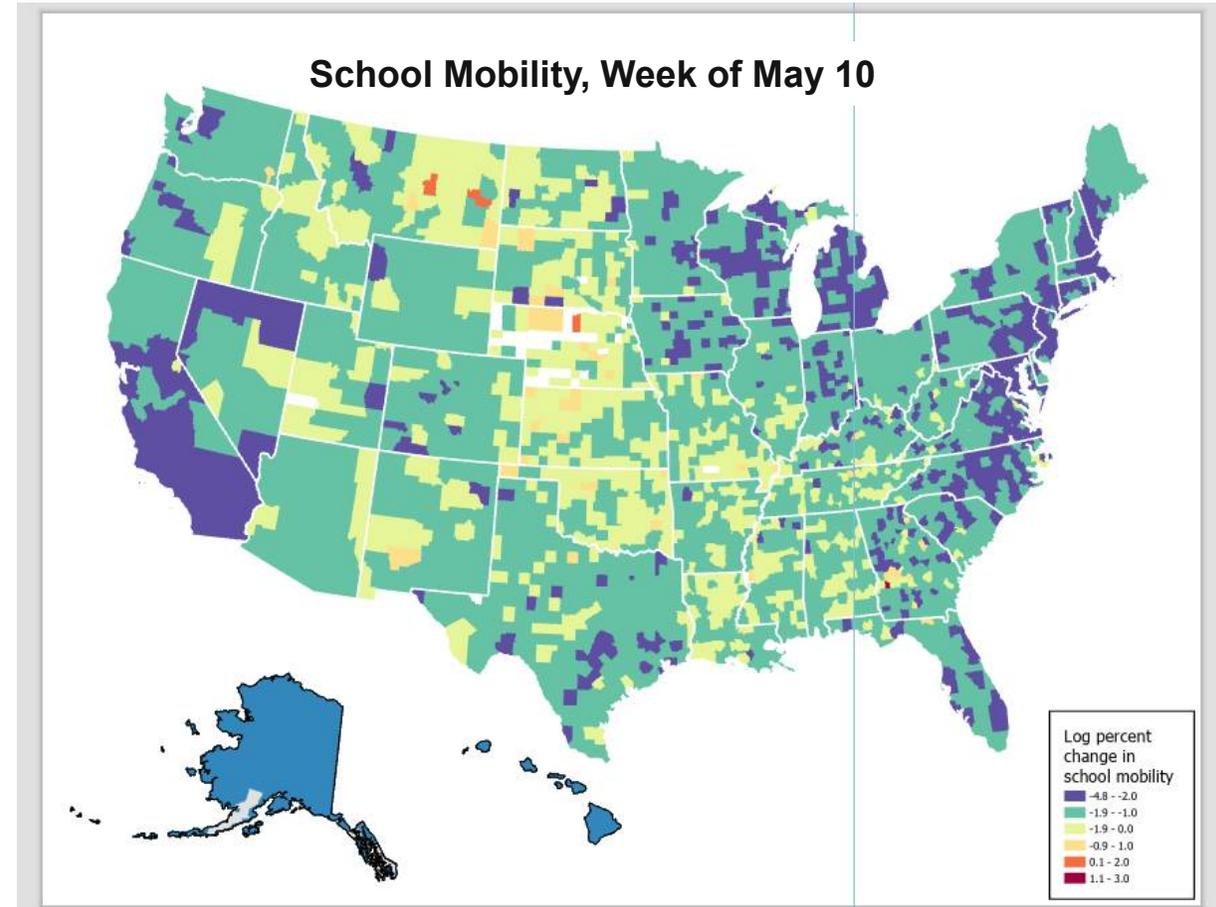
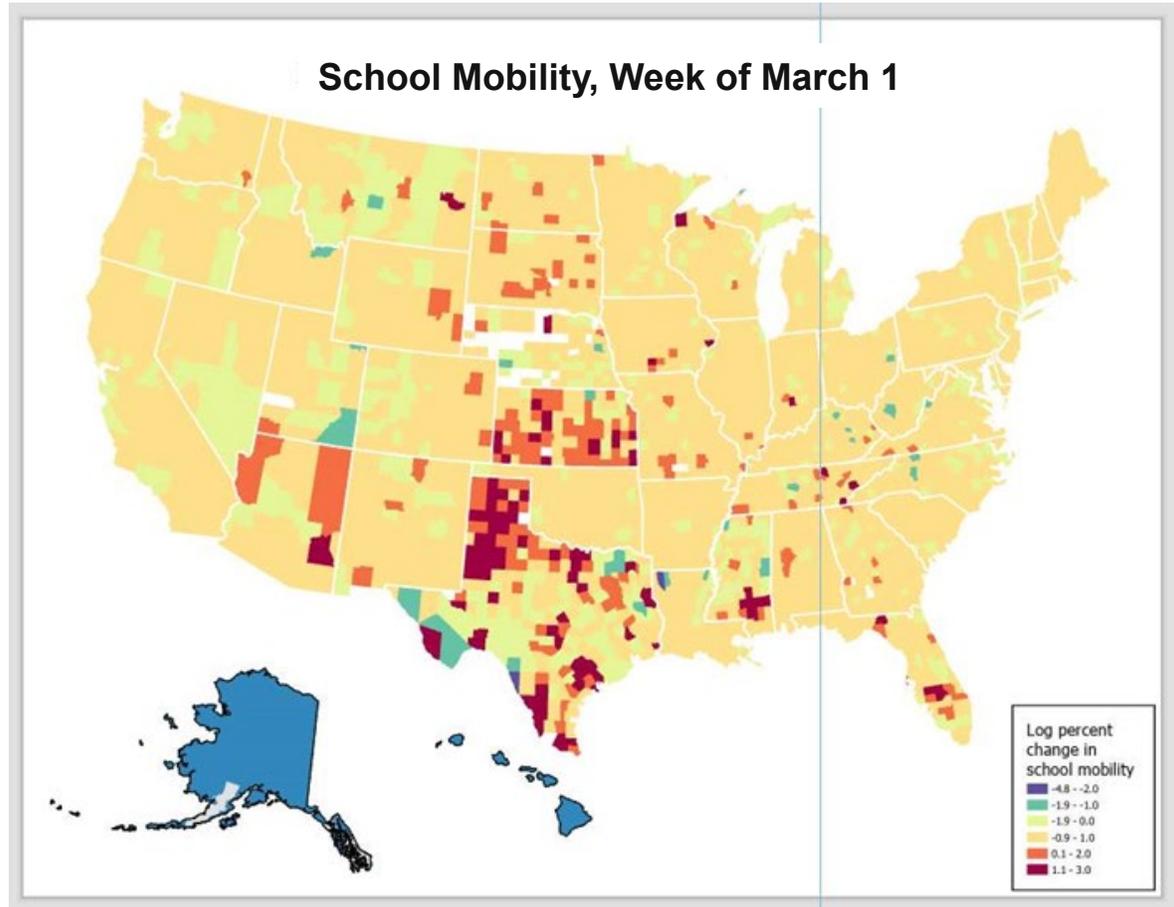
Excess Deaths/100K (All states) and SIP=1



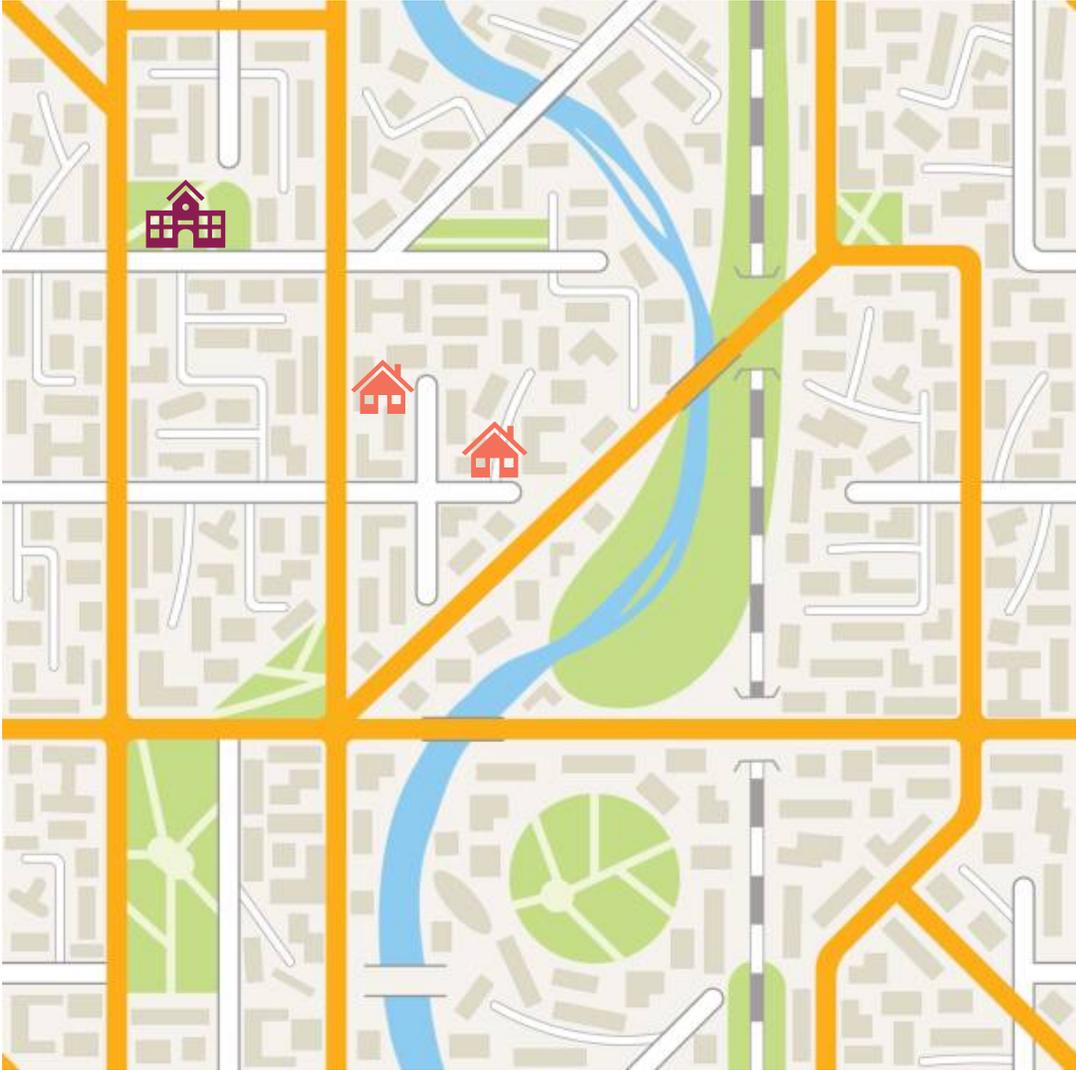
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# We identified whether schools were open based on cell-phone data



# When schools re-open, risks for households without children should not change much



# School re-openings lead to small increases in cases

**Risk is low overall:** A doubling of county-level school mobility leads to a **0.3 per 10,000 household increase in COVID-19 diagnoses for households with children.**

**Risk is higher in lower income counties:**

- **Lowest income:** 1.2 increase in cases per 10,000 households
- **Low income:** 0.6 per 10,000 households
- **Medium income:** 0.4 per 10,000 households
- **High income:** 0.1 per 10,000

**Risk is higher in counties with higher prevalence:** A one per 10,000 increase in new cases leads to a 0.16 per 10,000 increase in COVID-19 cases for households with children.