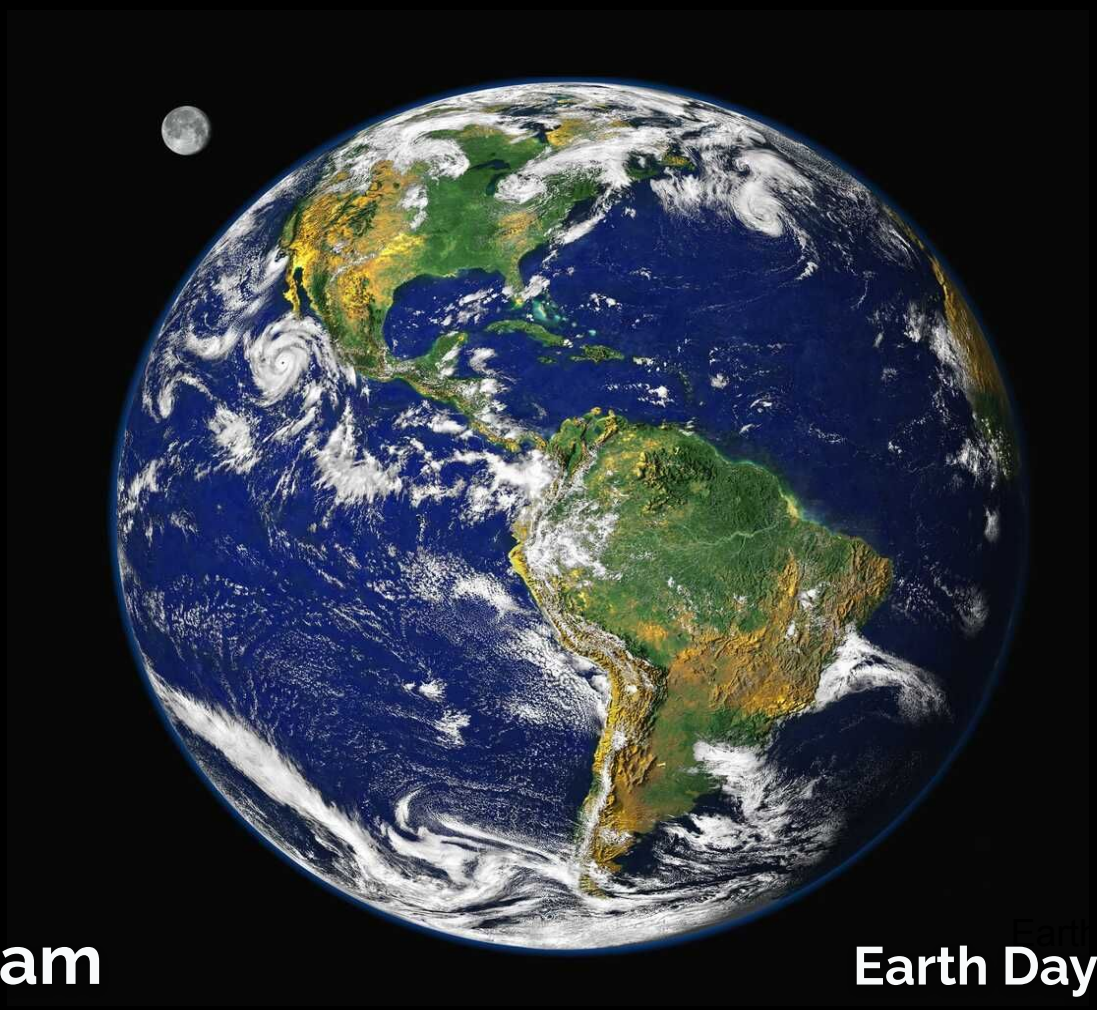
AHMC COVID Report

April 14, 2023

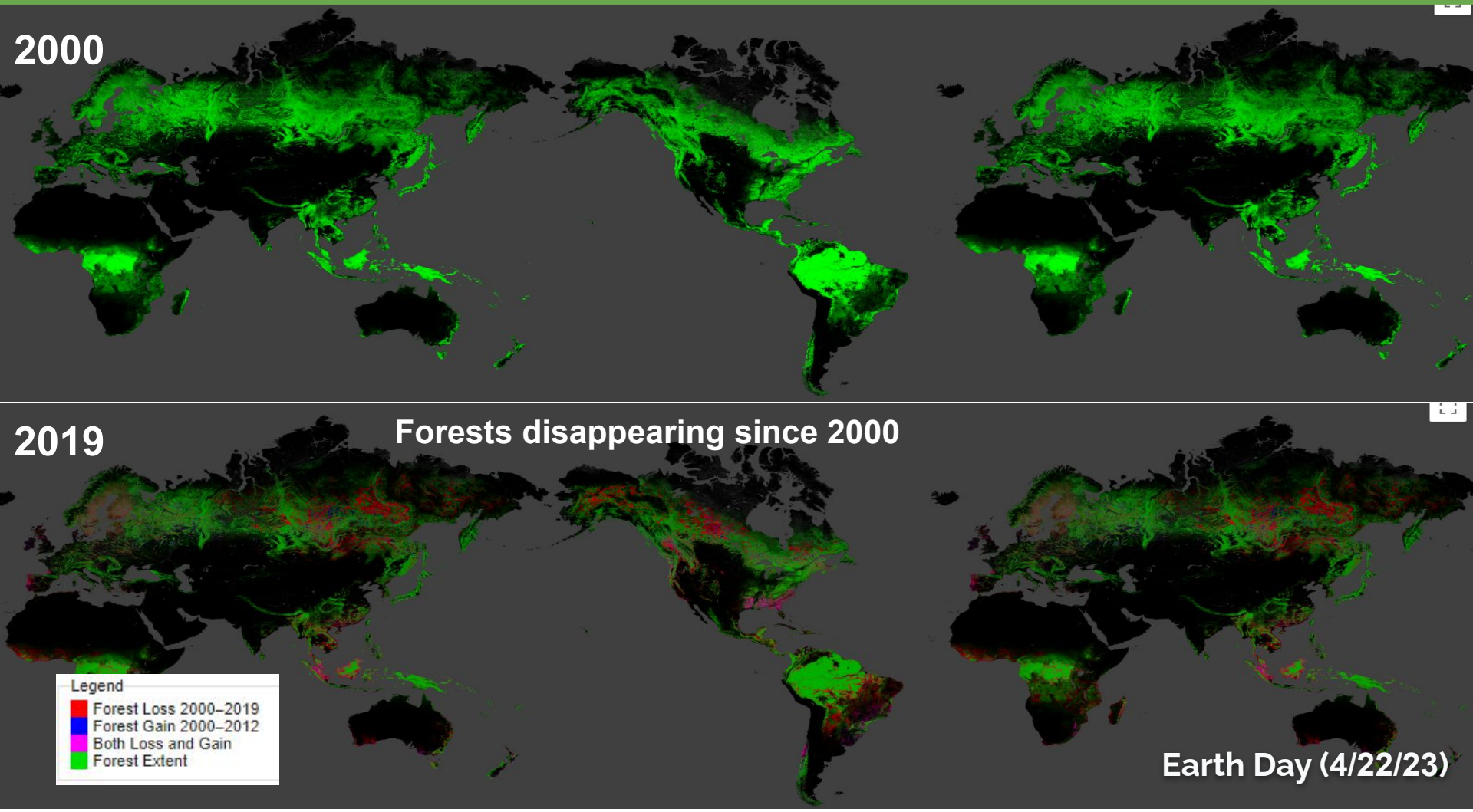


AHMC COVID Team

Earth Day (4/22/23)

Outline

1. New Developments

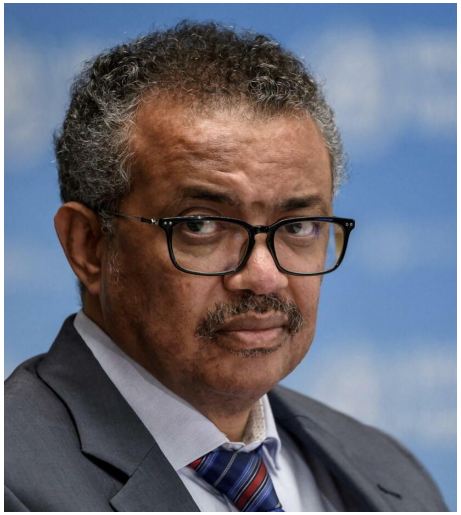


Source: NBC News; Global Forest Change

WHO: End of COVID Public Health Emergency (PHE) Expected in 2023

- **The end of the declaration will be this year**

(KFF, 3/20/23)



- **WHO Director-General Tedros says he's optimistic that the agency will lift the PHE designation this year if current COVID trends remain.**
- **Global weekly COVID deaths are at their lowest point in 3 years, the WHO is still concerned about vulnerable populations.**

Source: KFF

New Variant of Concern: XBB.1.16

- WHO is closely monitoring XBB.1.16's spread

(WHO, 4/3/23; Becker's Hospital Review, 4/3/23; Smart News, 3/30/23)

- XBB.1.16 has been reported in at least 22 countries, with most cases detected in Southeast Asia and the Middle East.
- In India, Maharashtra's cases of XBB.1.16 are over 60%.
- XBB.1.16 has also been detected in > 27 U.S. states (7.2%).
- XBB.1.16 has one extra spike protein mutation vs. previous subvariants, which may potentially influence its severity.
- Research suggests that XBB.1.16 could boost infection severity, but most patients appear to experiencing only mild symptoms.

Source: BHR, WHO, Smart News

XBB.1.16 May Cause New Symptom

- Conjunctivitis among children now being reported

(Becker's Hospital Review, 4/13/2023)

- XBB.1.16 may be causing conjunctivitis among children. Evidence is based on what physicians in India are seeing.
- *Vipin Vashishtha, MD* from India said that an infantile phenotype may be emerging, and that this is the first rise in cases in nearly six months.
- Symptoms include: high fever, cough, headache, and itchy, sticky conjunctivitis (or pinkeye) without pus.

Source: BHR

Biden Ends COVID National Emergency

- The U.S. PHE will still end May 11, 2023

(NPR, 4/11/23)

- US Senate passed a resolution on March 29 (68-23 vote) to end the COVID-19 national emergency immediately.
- President Joe Biden signed the resolution on April 10.
- The national emergency is one of several federal emergency declarations and is separate from the PHE, which is still set to expire May 11.

Source: NPR

End of COVID Public Health Emergency (PHE)

- Testing, treatment, and vaccine coverage by insurance

The U.S. PHE is still set to expire on May 11, 2023

Insurance	Testing	Treatment	Vaccine
Private	During PHE PCR/antigen tests covered After PHE May vary depending on plan	Both During & After PHE Depending on the Plan	During PHE Widely covered with no cost After PHE May vary depending on plan
Government (Medicare & Medicaid)	During PHE PCR/antigen tests covered After PHE May vary depending on plan	Both During & After PHE Depending on the Plan	During PHE Widely covered with no cost After PHE May vary depending on plan
Uninsured	Both During & After PHE Free (Provider Relief Fund)	Both During & After PHE Free (Provider Relief Fund)	Both During & After PHE Free (Provider Relief Fund)

Source: CMS; HHS; KFF

Project Next Gen: The New Operation Warp Speed

- **US investing $5 billion for new vaccines and treatment**

(Washington Post, 4/10/23)

- ***Project Next Gen*** **will function similarly to** ***Operation Warp Speed*** **– by partnering with private companies on new vaccines and therapies to protect against new viral threats.**

Notably, ***Project Next Gen*** **will focus efforts on creating:**

1. **Long-lasting monoclonal antibody treatments**
2. **Vaccines that boost mucosal immunity**
3. **Pan-coronavirus (universal) vaccine**

Source: Washington Post

FDA: 2nd Bivalent Booster Will Soon Be Authorized for High-Risk Groups

- **2nd bivalent booster can be had 4 months since last shot**

(Becker's Hospital Review, The Washington Post, 4/3/2023)

- **FDA is planning to make a 2nd bivalent booster dose available for high-risk individuals.**
- **People 65+ and those with weakened immune systems would be eligible to receive a 2nd booster 4 months after their last.**
- **The policy will be "permissive," meaning the agency will allow another booster but will not definitively recommend it.**
- **FDA is expected to announce the plan within several weeks, and CDC is expected to quickly endorse it.**

Source: BHR, The Washington Post

Q&A: LA County Ends COVID Emergency Declaration

(County of Los Angeles, 3/31/23)

Emergency declaration ended March 31, 2023

- **Can I still get free COVID-19 vaccines?**

  Yes. LA County will provide free vaccines (and boosters) to all county residents, regardless of immigration or insurance status.

  To find a location, visit: ph.lacounty.gov/howtogetvaccinated

- **Can I still get a free COVID-19 test?**

  Yes. Free tests will be provided at all public health hospitals and clinics to county residents who lack insurance, regardless of their immigration or insurance status.

  To find a location, visit: ph.lacounty.gov/covidtests/how

Source: County of Los Angeles

Q&A: LA County Ends COVID Emergency Declaration

(County of Los Angeles, 3/31/23)

Emergency declaration ended March 31, 2023

- **If I get COVID, can I still get free COVID treatment?**
  Yes. For county residents who are eligible, free therapeutics will be provided, regardless of immigration or insurance status.

  For more information: ph.lacounty.gov/covidmedicines

- **Do I have to isolate if I test positive for COVID-19?**
  Yes. Whoever tests positive needs to isolate for at least 5 days after the start of symptoms or after the first positive test.

- **Do I have to be vaccinated to work at adult care facilities?**
  No. Beginning April 3, the vaccination requirement for workers will no longer be in effect.

Source: County of Los Angeles

2. National & Global Trends

Earth Day (4/22/23)

US and California Cases/Deaths Are Decreasing

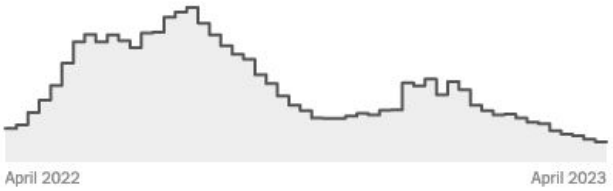
(NYT; CDC, 4/13/2023)

US:

Weekly cases

March 30 to April 5
120,530

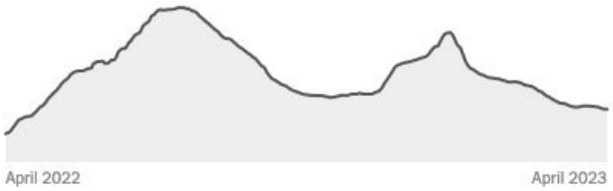
14-day change
−23%



Test positivity rate

Avg. on April 7
6.4%

14-day change
−6%



Weekly deaths

March 30 to April 5
1,773

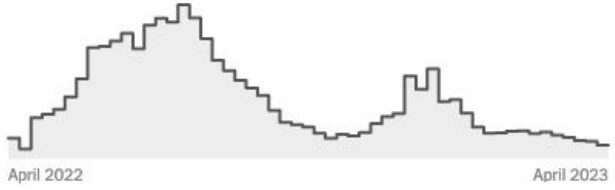
14-day change
−22%

California:

Weekly cases

March 30 to April 5
13,325

14-day change
−26%



Test positivity rate

Avg. on April 3
4.9%

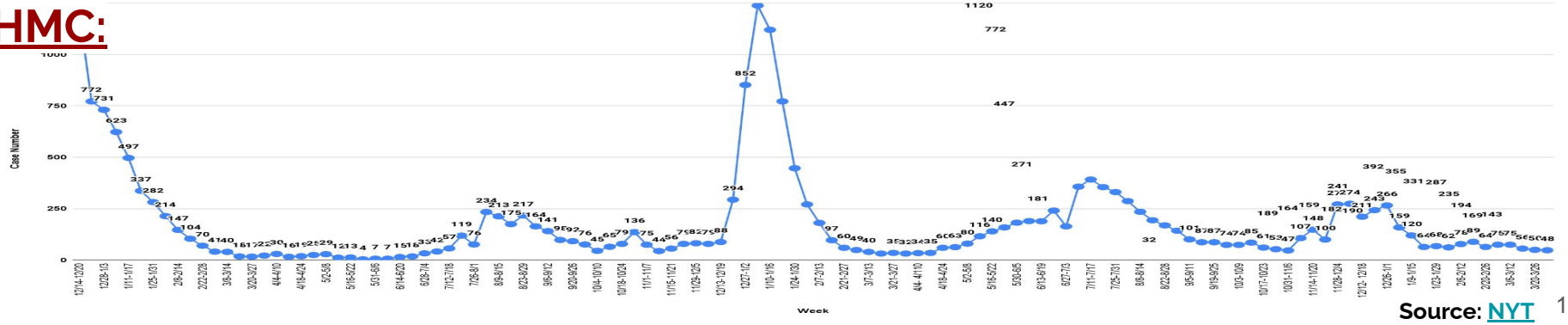
14-day change
−1%

Weekly deaths

March 30 to April 5
120

14-day change
−46%

AHMC:



Source: NYT

CDC: National Weekly Dashboard

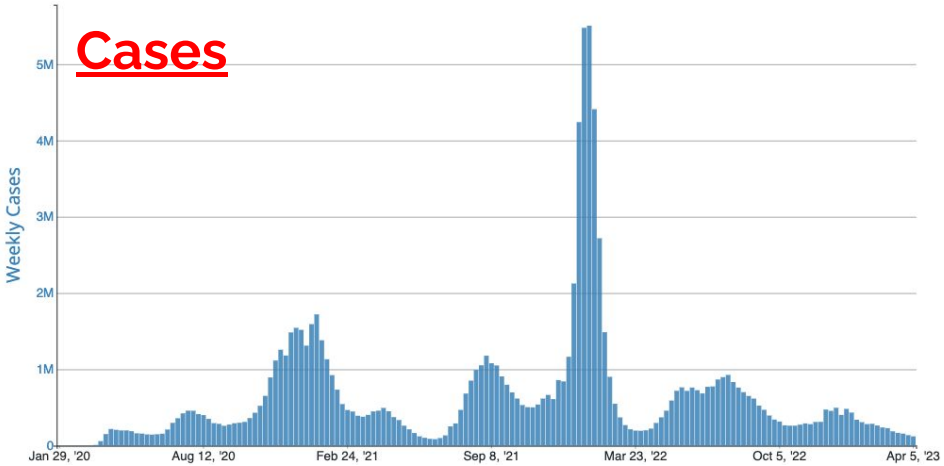
-Weekly cases, deaths, admissions, and positivity rate are trending down

(CDC, 4/13/23)

Source: CDC

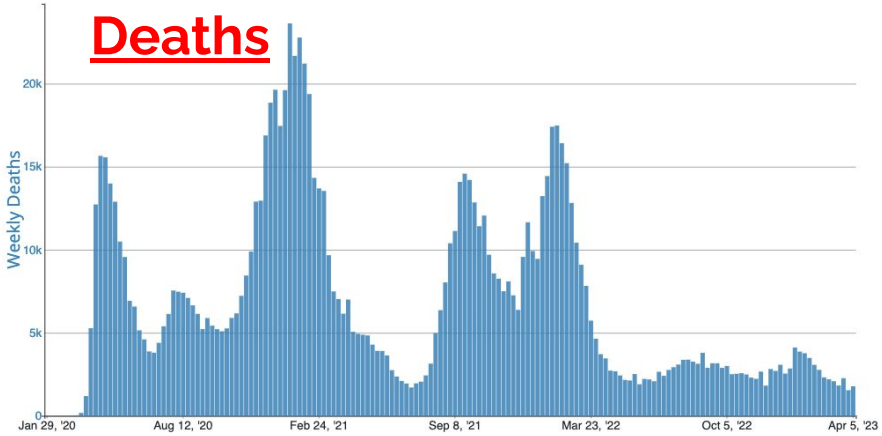
Weekly Trends in Number of COVID-19 Cases in The United States Reported to CDC

Cases



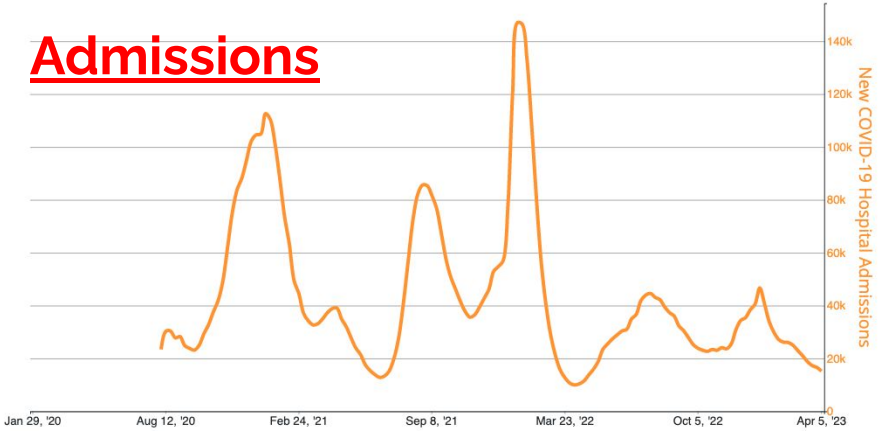
Weekly Trends in Number of COVID-19 Deaths in The United States Reported to CDC

Deaths



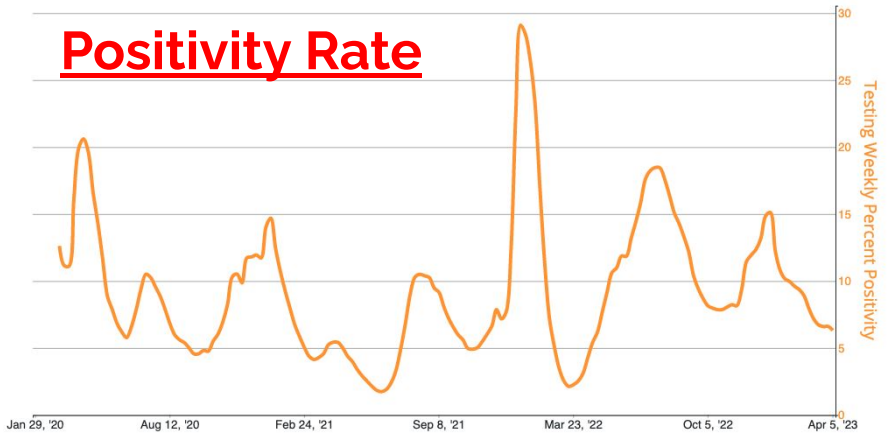
Number of New Patients Admitted to Hospital with Confirmed COVID-19 per Week in The United States Reported to CDC

Admissions



COVID-19 Nucleic Acid Amplification Tests (NAATs) 7-day Percent Positivity in The United States Reported to CDC

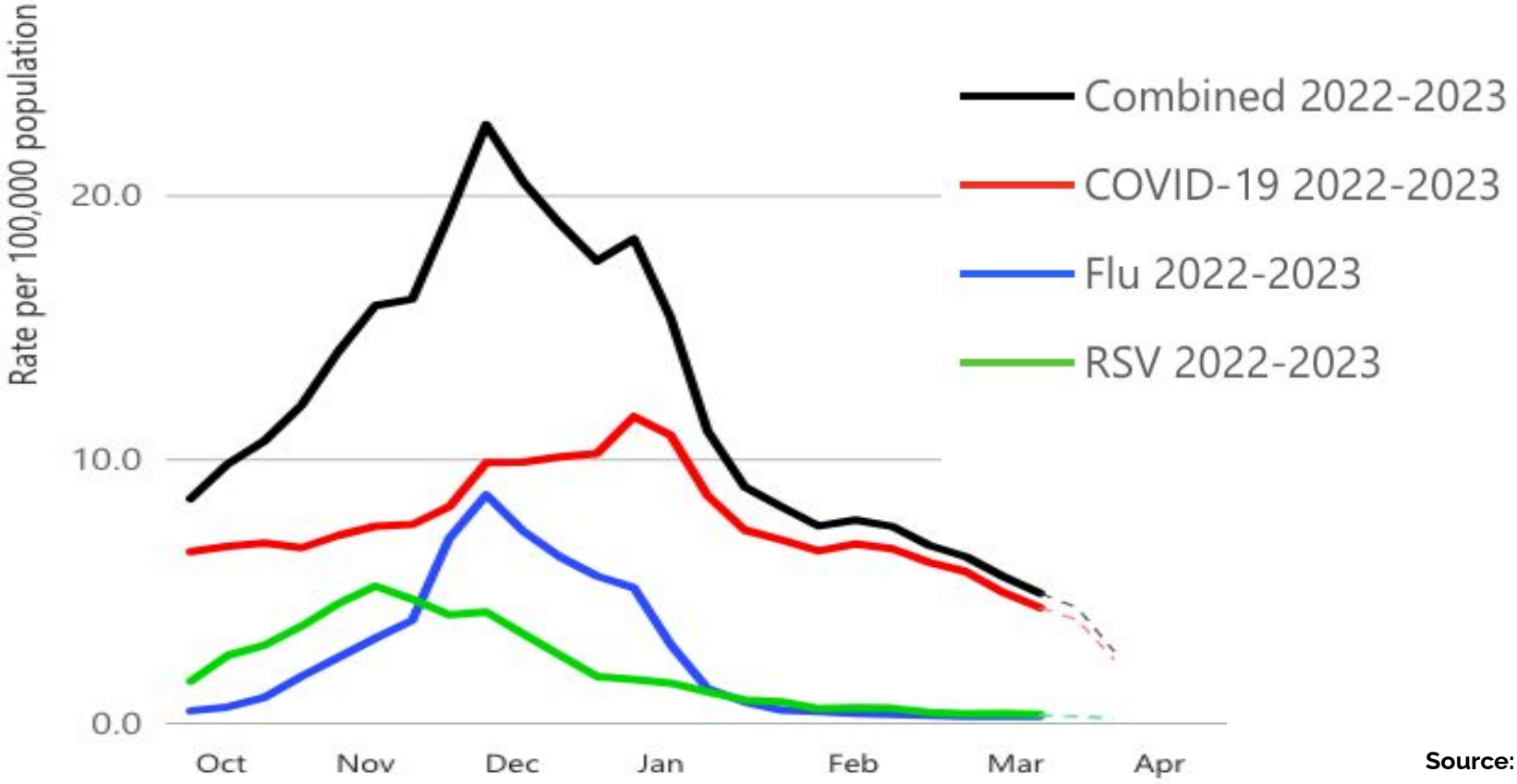
Positivity Rate



CDC: Weekly Rates of Respiratory Virus-Associated Hospitalizations

- Respiratory-associated hospitalizations trending down
- COVID (decreasing), Flu (no change), RSV (decreasing)

(CDC, 4/13/23)



Source: CDC

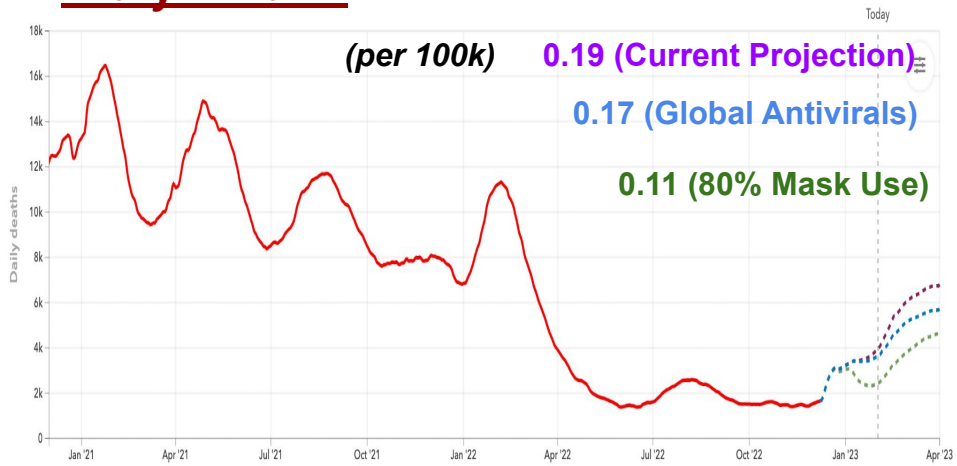
IHME: 3-Month Global Forecast

- Daily deaths projected to increase

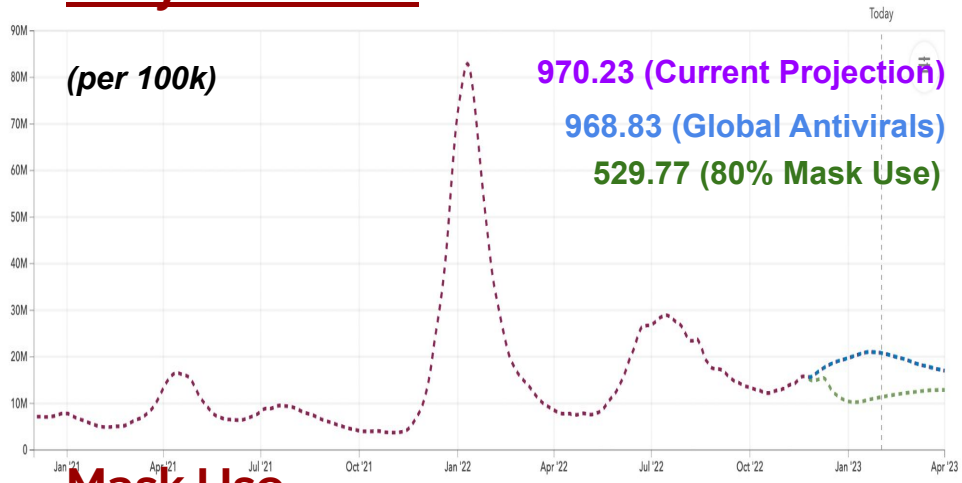
(IHME/University of Washington, 4/13/2023)

Source: IHME

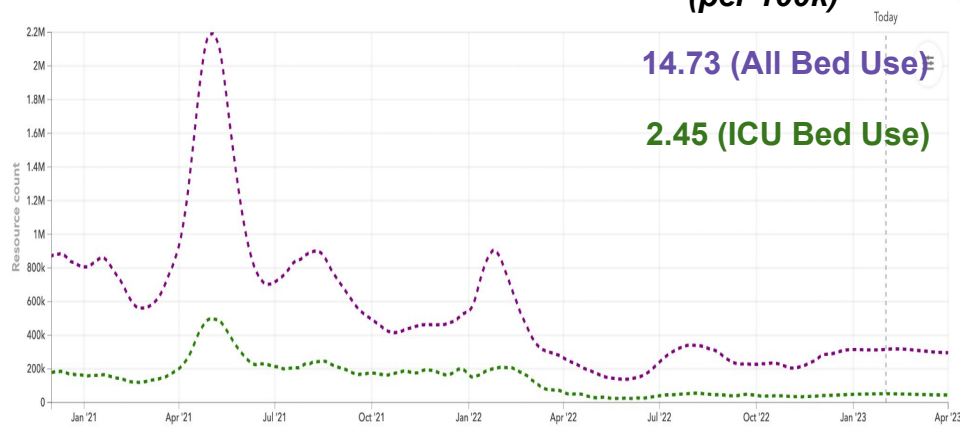
Daily Deaths



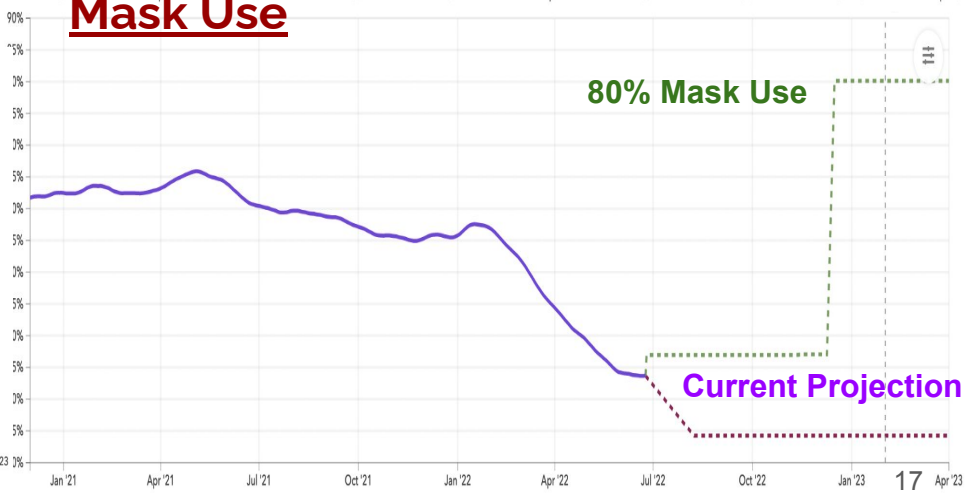
Daily Infections



Hospital Resource Use



Mask Use



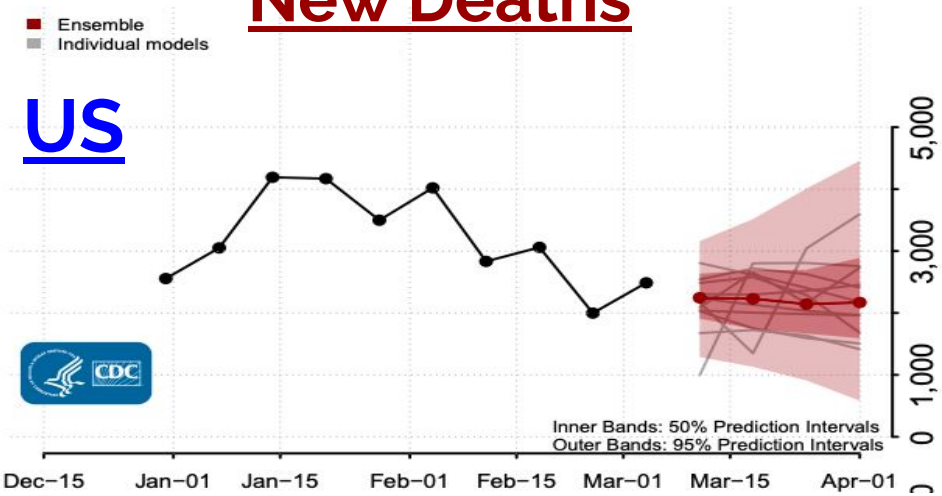
Source: CDC

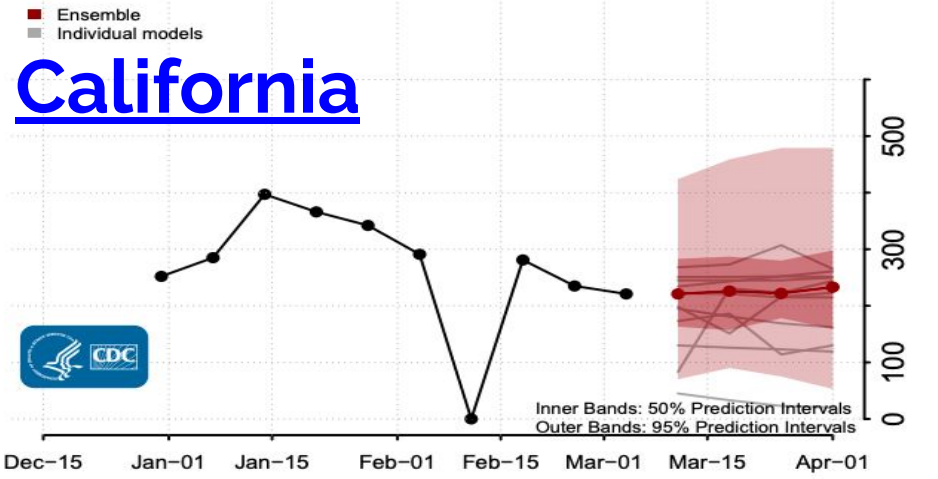
CDC: U.S. & California Forecasts of New Deaths and Hospitalizations

- No significant change projected

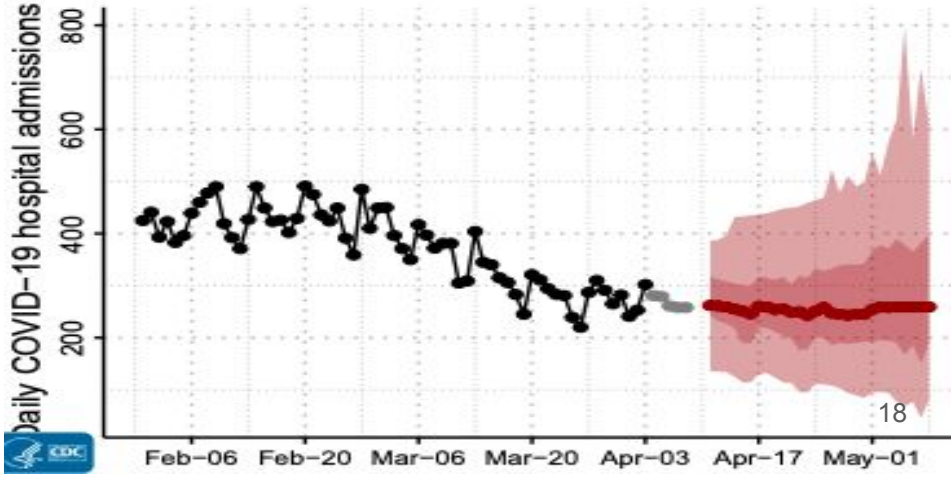
(CDC, 4/13/2022)

New Deaths





Hospitalization



3. Variants, Vaccines & Treatments

CDC: Variant Proportions

- XBB.1.5 remains dominant throughout the US
  - XBB.1.16 is beginning to displace XBB.1.5

(CDC, 4/14/23)

- XBB.1.16 is displacing XBB.1.5 at a quick pace. It currently accounts for 7.2% of all US cases.

Week Ending: 4/8

XBB.1.5: 82.6%

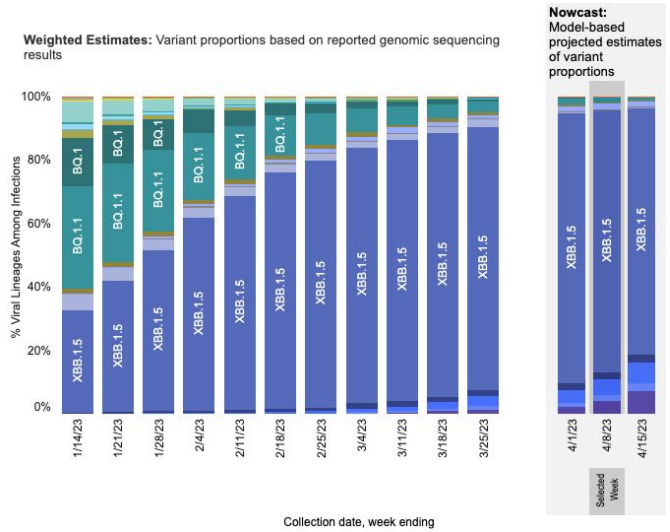
XBB.1.9.1	5.1%
XBB.1.16	3.9%
XBB.1.5.1	2.3%

Week Ending: 4/15

XBB.1.5: 78.0%

XBB.1.16	7.2%
XBB.1.9.1	6.5%
XBB.1.9.2	2.5%

Variant Proportion (US)*



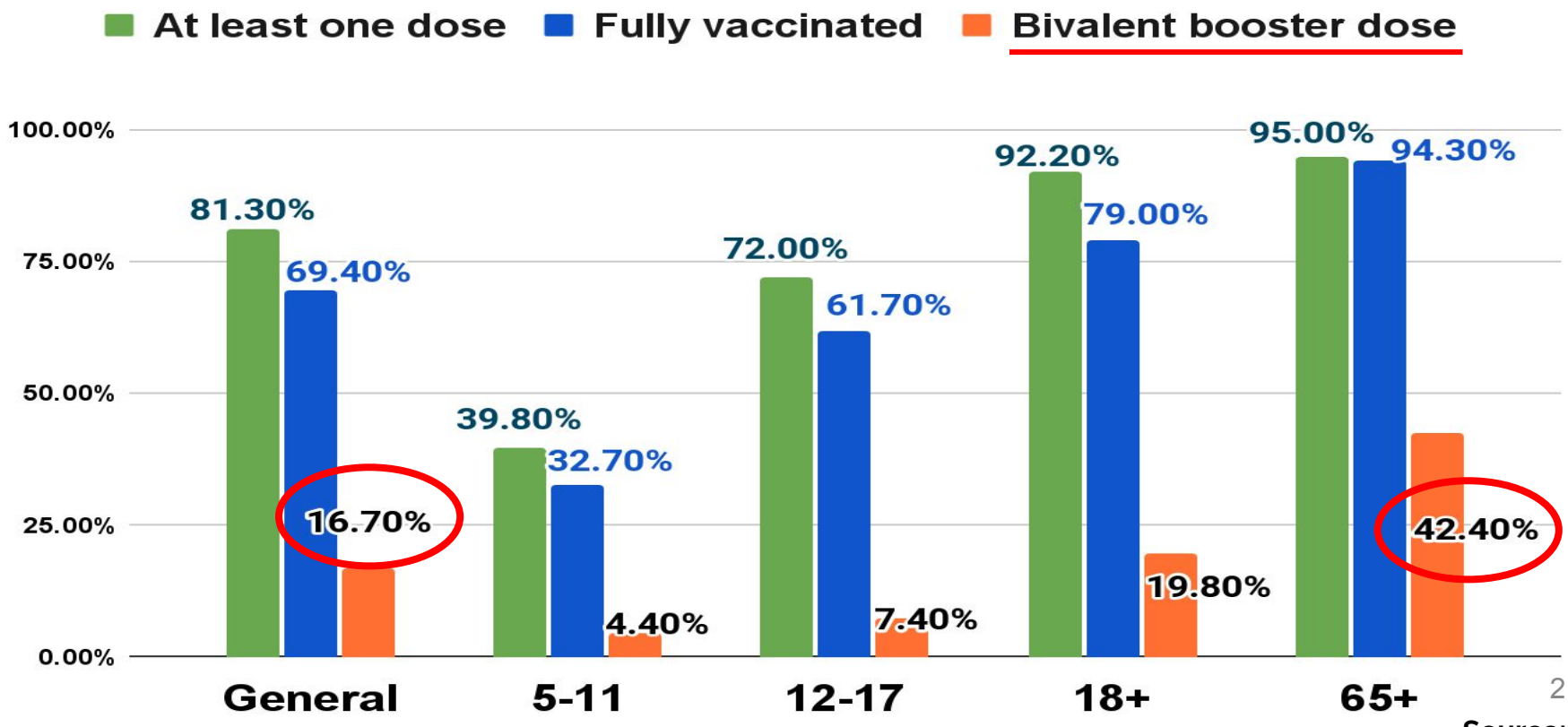
*Variant proportion data is routinely updated and is subject to daily change.

Source: CDC

COVID-19 Vaccinations in the US

- 69.4% are fully vaccinated
- 55 million people (16.7%) have gotten bivalent boosters
- 42.4% of 65+ y/o received bivalent boosters

(CDC, 4/13/2023)



Source: CDC

Important guidelines for physicians to administer COVID vaccines
- COVID Vaccines Approved or Authorized for EUA by the FDA

(CDC, 3/16/2023)

Source: CDC

Age	Primary Series (timing of vaccination)		Bivalent Dose
	For most persons	Immunocompromised	
6m–4y	2-dose Moderna (0, 4–8 wks) or	3-dose Moderna (0, 4, 8 wks) or	Moderna or Pfizer
	3-dose Pfizer (0, 3–8, 11–16 wks)	3-dose Pfizer (0, 3, 11 wks)	
5y	2-dose Moderna (0, 4–8 wks) or	3-dose Moderna (0, 4, 8 wks) or	Pfizer
	2-dose Pfizer (0, 3–8 wks)	3-dose Pfizer (0, 3, 7 wks)	
6–11y	2-dose Moderna (0, 4–8 wks) or	3-dose Moderna (0, 4, 8 wks) or	Moderna or Pfizer
	2-dose Pfizer (0, 3–8 wks)	3-dose Pfizer (0, 3, 7 wks)	
12–17y	2-dose Moderna (0, 4–8 wks) or	3-dose Moderna (0, 4, 8 wks) or	Moderna or Pfizer
	2-dose Novavax (0, 3–8 wks) or	2-dose Novavax (0, 3 wks) or	
	2-dose Pfizer (0, 3–8 wks)	3-dose Pfizer (0, 3, 7 wks)	
≥18y	2-dose Moderna (0, 4–8 wks) or	3-dose Moderna (0, 4, 8 wks) or	Moderna or Pfizer Novavax (limited)
	2-dose Novavax (0, 3–8 wks) or	2-dose Novavax (0, 3 wks) or	
	2-dose Pfizer (0, 3–8 wks)	3-dose Pfizer (0, 3, 7 wks)	

Some COVID Variants Are Resistant to Paxlovid's Main Ingredient (Nirmatrelvir)

- All mutants displayed drug resistance, esp w/ P132

(Science Advances, 3/29/2023)

- The clinical protease inhibitors resistant to Paxlovid's active drug, nirmatrelvir, are ΔP168, A173V, A173T, T45I and D48Y.
- Largest nirmatrelvir resistance from ΔP168 and A173V. The ΔP168/A173V double mutant shows a 51-fold increase in resistance to nirmatrelvir.
- Viral genomes containing ΔP168 have risen multiple times independently, mostly in the Delta variant but also in one Omicron case.
- All mutants displayed drug resistance characteristics when combined with P132.

Source: Science Advances

FDA: Authorizes New COVID-19 Drug (Gohibic)

-Gohibic is an anti-inflammatory drug for severe COVID

(FDA, 4/4/23)

- Gohibic (vilobelimab) received EUA for hospitalized adults within 48 hours of receiving invasive mechanical ventilation or ECMO.
- Administer 800 mg by IV for 30-60 minutes for up to 6 doses. Additional doses should be taken on day 2, 4, 8, 15, and 22.
- Gohibic in clinical trials had a lower risk of death after one month and two months than control.
- The five most common adverse reactions (< 3%) were pneumonia, sepsis, delirium, pulmonary embolism, and hypertension.

Source: FDA

Experimental Treatment Aims to Treat Long COVID Smell Disorders

- **Stellate ganglion block may improve smell and taste disorders**

(Becker's Hospital Review; NBC, 3/31/2023)

- A stellate ganglion block involves a temporary, local anesthetic injected into the bundle of nerves on both sides of the neck
- 30 long COVID patients were treated with the block. About half improved in smell or taste between **25%-90%** (Cleveland Clinic)
- Of 20 patients with smelling troubles, half **slight to moderate improvement** from the block (Washington University)
- Some experts are skeptical of the treatment

Source: Becker's, NBC

Source: NIH

Updated NIH Guidelines for Non-Hospitalized Adults

- Order of preference: paxlovid, remdesivir, molnupiravir

(NIH, 12/28/2022)

Patient Disposition	NIH Panel Recommendation
All Patients	• All patients should be offered symptom management (AIII). • Recommends against the use of dexamethasone or other corticosteroids in the absence of another indication (AIIb).
Patients Who Are at High Risk of Progressing to Severe COVID-19	***Preferred therapies. Listed in order of preference:*** • Ritonavir-boosted nirmatrelvir (Paxlovid) (AIIa) • Remdesivir (BIIa) ***Alternative therapy. For use when the preferred therapies are not available, feasible to use, or clinically appropriate:*** • Molnupiravir (CIIa)

Source: NIH

Updated NIH Guidelines for Non-Hospitalized Children

- Options for high-risk nonhospitalized children: paxlovid OR remdesivir

(NIH, 12/28/2022)

	Age 12-17 years	Age < 12 years
Symptomatic, Regardless of Risk Factors	• Provide supportive care (AIII).	• Provide supportive care (AIII).
High Risk	• Use 1 of the following options: Paxlovid within 5 days of symptom onset (BIII) • Remdesivir within 7 days of symptom onset (CIII)	• Paxlovid is not authorized by FDA for children aged <12 years. • Insufficient evidence to recommend remdesivir.
Intermediate Risk	• Insufficient evidence to recommend antiviral therapy.	• Insufficient evidence to recommend remdesivir.
Low Risk	• Supportive care (BIII).	• Supportive care (BIII).

Source: NIH

Updated NIH Guidelines for Hospitalized Adults [1]

- For hospitalized & requiring oxygen: dexamethasone + remdesivir
- PO baricitinib or IV tocilizumab also recommended

ULN = upper limit of normal

(NIH, 12/28/2022)

Patient Disposition	Recommendations for Antiviral or Immunomodulator Therapy		Recommendations for Anticoagulant Therapy
	Clinical Scenario	Recommendation	
Hospitalized for Non-COVID Reasons	Mild/moderate or high risk for severe COVID	See Therapeutic Management of Nonhospitalized Adults With COVID.	For patients without an indication for therapeutic anticoagulation: • Prophylactic dose of heparin, unless contraindicated (AI); (BIII) for pregnant pts
Hospitalized but Does Not Require O2 Supplement	All patients	Recommends against the use of dexamethasone (AIIa) or other systemic corticosteroids (AIII)	
	High risk for severe COVID	Remdesivir (BIII)	
Hospitalized & Requires Conventional O2	Requiring minimal oxygen	Remdesivir (BIIa)	For nonpregnant patients with D-dimer levels above the ULN who do not have an increased bleeding risk: • Therapeutic dose of heparin (CIIa) For other patients: • Prophylactic dose of heparin, unless contraindicated (AI); (BIII) for pregnant pts
	Most patients	Use dexamethasone plus remdesivir (BIIa). If remdesivir cannot be obtained, use dexamethasone (BI).	
	Receiving dexamethasone and have rapidly increasing oxygen needs and systemic inflammation	Add PO baricitinib or IV tocilizumab to 1 of the options above (BIIa).	

Updated NIH Guidelines for Hospitalized Adults [2]

- For hospitalized & requiring HFNC, NIV, MV or ECMO: dexamethasone + PO baricitinib + IV tocilizumab.

(NIH, 12/28/2022)

HFNC = high-flow nasal cannula; NIV = noninvasive ventilation; MV = mechanical ventilation; ECMO = extracorporeal membrane oxygenation

Patient Disposition	Recommendations for Antiviral or Immunomodulator Therapy		Recommendations for Anticoagulant Therapy
	Clinical Scenario	Recommendation	
Hospitalized & Requires HFNC O2 or NIV	Most patients	Promptly start 1 of the following: • Dexamethasone plus PO baricitinib(AI) • Dexamethasone plus IV tocilizumab (BIIa) If baricitinib, tofacitinib, tocilizumab, or sarilumab cannot be obtained: • Dexamethasone (AI) Add remdesivir to 1 of the options above in certain patients (CIIa).	For patients without an indication for therapeutic anticoagulation: • Prophylactic dose of heparin, unless contraindicated (AI); (BIII) for pregnant patients For patients who are started on a therapeutic dose of heparin in a non-ICU setting and then transferred to the ICU, recommend switching to a prophylactic dose of heparin, unless there is another indication for therapeutic anticoagulation (BIII).
Hospitalized & Requires MV or ECMO	Most patients	Promptly start 1 of the following: • Dexamethasone plus PO baricitinib (BIIa) • Dexamethasone plus IV tocilizumab (BIIa) If baricitinib, tofacitinib, tocilizumab, or sarilumab cannot be obtained: • Dexamethasone (AI)	

CDPH: New Mask Guidance

- New guidance in effect since April 3, 2023

(CDPH, 4/3/23)

- **CDPH recommends following new mask guidance based on the CDC COVID-19 Community Levels dashboard.**
- **Regardless of the level, CDPH recommends the following:**
  - ➢ **Wear a mask around others if you have respiratory symptoms**
  - ➢ **Consider wearing a mask in indoor areas of public transportation or transportation hubs**
  - ➢ **Ensure your mask provides the best fit and filtration (ie: N95, KN95, and KN94)**
  - ➢ **If significantly exposed to someone who tested positive for COVID, wear a mask for 10 days**

Source: CDPH

CDPH: New Mask Guidance

- Masking recommendations based on community levels

(CDPH, 4/3/23)

Community Level	CDPH Individual Recommendation	CDPH High-Risk Setting Recommendation
LOW	EVERYONE Personal preference VULNERABLE Consider wearing a mask for public indoors	ALL STAFF/PATIENTS Wearing a mask should be considered
MEDIUM	EVERYONE Consider wearing a mask for public indoors VULNERABLE Masks for public indoors recommended	ALL STAFF/PATIENTS Wearing a mask is recommended
HIGH	EVERYONE Masks for public indoors recommended VULNERABLE Masks for public indoors strongly recommended	ALL STAFF/PATIENTS Wearing a mask is strongly recommended

Source: CDPH

CDPH: HCW Vaccination Requirement

-California immunization requirements for covered workers

(CDPH, 4/3/23)

COVID-19 Vaccine	Primary Series	Booster Time	Booster Recommendation
Moderna, Pfizer, Novavax, or WHO-authorized	1st and 2nd doses	2-6 months after primary	Pfizer or Moderna preferred. Novavax not authorized.
Janssen	1st dose	2-6 months after primary	Pfizer or Moderna preferred. Novavax not authorized.
WHO emergency use vaccines	All recommended doses	2-6 months after primary	Single booster dose of Pfizer or Moderna. No Novavax.
Mix & Match (FDA-approved FDA-authorized, and WHO-EUL)	All recommended doses	2-6 months after primary	Single booster dose of Pfizer or Moderna. No Novavax.

Source: CDPH

4. Health Impacts of COVID

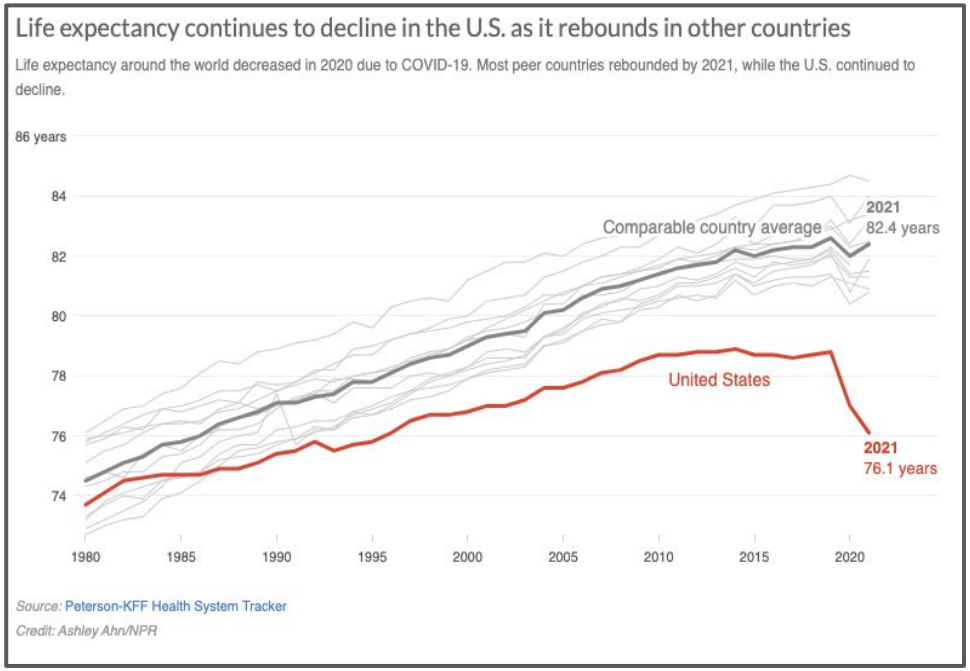
Earth Day (4/22/23)

FDA: Medical Misinformation is Hurting U.S. Life Expectancy

- U.S. life expectancy is 3-5 years lower than peer countries

(NPR, 3/30/23; Becker's Hospital Review, 4/11/23)

- **FDA Commissioner (*Robert Califf, MD*) says medical misinformation is contributing to lowered life expectancies in the U.S.**
- **As life expectancy in other countries rebounded after the pandemic, it has continued to decline in the U.S. (by 3-5 years).**



- **Researchers found that social media and low digital health literacy can complicate issues and further the spread of misinformation.**

Source: NPR, BHR

Risk of Death in Hospitalized COVID vs. Flu

- COVID risk of death vs. flu was nearly 5x in early pandemic

- COVID risk of death vs. flu is now less than 2x

(JAMA, 4/6/23)

- Early COVID had **nearly 5x the risk of 30-day mortality** compared with those hospitalized for seasonal flu.
- VA analysis (8,996 hospitalizations) found that the 30-day death rate was **5.97% for COVID** and **3.75% for flu**, with an excess death rate of **2.23%**.
- COVID was associated with a higher risk of death vs. flu (**HR=1.61**).
- Variant evolution, clinical care, and population immunity altered COVID's impact, but mortality from flu may have also changed.

Source: JAMA

Sleep Disturbances Are Highly Prevalent Among People With Long COVID

- At least 40% reported moderate/severe sleep disturbances

(Cleveland Clinic/Journal of Internal Medicine, 4/4/23)

- 962 patients with PASC; predominantly female (74.9%); mean age of 49.6 years; 81.9% white, 13.0% Black and 5.1% other races.
- 41% reported moderate sleep disturbances and 8% severe.
- 67% reported moderate fatigue and 22% severe.
- Compared with patients with mild/no sleep disturbances, those with moderate/severe disturbances were more likely to be Black, hospitalized for COVID, and to have fatigue and mood disorders.

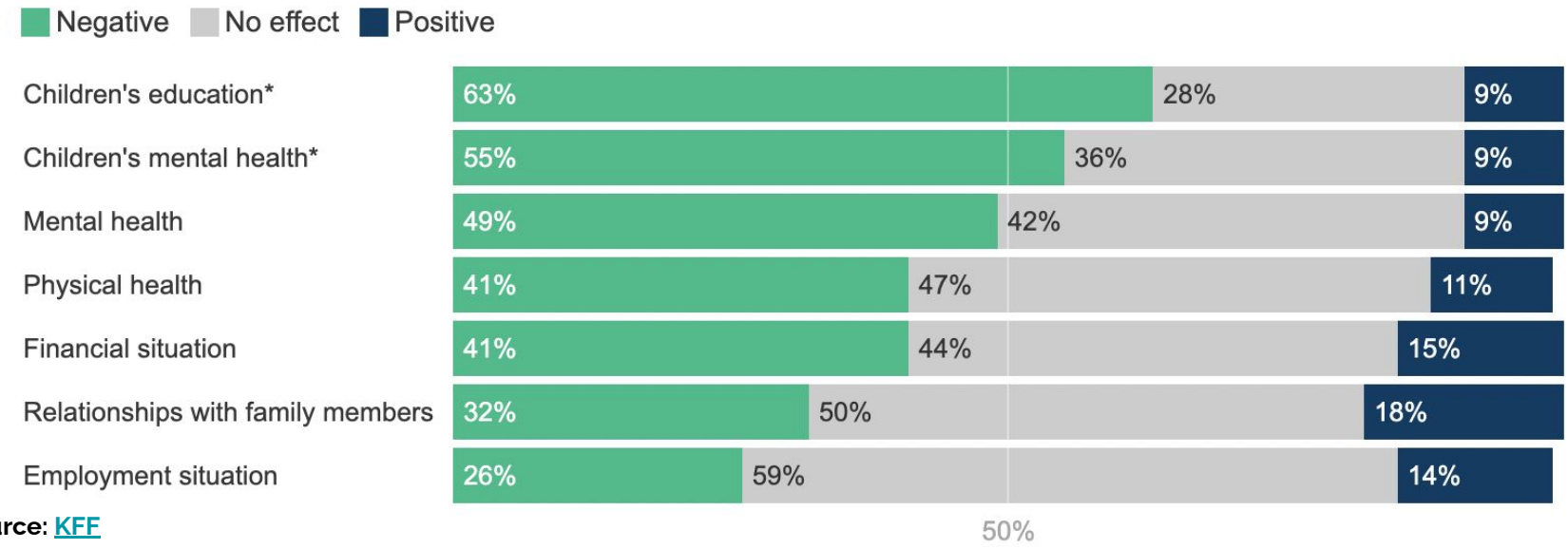
Source: Journal of Internal Medicine

KFF: COVID Had Broad Impacts Beyond Health

- Children: education (63%), mental health (55%)
- Adults: mental (49%), physical (41%), financial health (41%)

(KFF, 3/7/2023)

- Parents say there has been a negative impact on their children's education (63%) and mental health (55%).
- About 50% adults say that the pandemic has had a negative effect on their own mental health.



Source: KFF

Maternal COVID Infection, Placental Changes and Brain Injury in 2 Neonates

- First direct evidence that COVID can cross placenta

(Pediatrics, 4/6/23)

- Miami study found two infants born to infected mothers suffered brain damage and offers the first direct evidence that COVID can cross the placenta.
- Mothers tested positive during 2nd trimester in 2020. Neither infant tested positive at birth, but had detectable virus antibodies and increased blood inflammatory markers.
- Both babies had seizures during birth and MRIs showed severe brain damage. Viral RNA found in the placenta from both mothers.
- One of the infants died at 13 months, and an autopsy showed evidence of the virus in the child's brain.

Source: Pediatrics

Developmental Screening of 16-18 Month Old Infants After In-Utero Exposure to Maternal COVID

-Infants born to COVID mothers increased risk of neurodevelopmental delays

(JOP, 3/17/2023)

- Prospective descriptive cohort study of full-term infants born to mothers with confirmed COVID infection in NYC
- Increased risk of neurodevelopmental delays of infants born to mother with COVID at 16 to 18 months of age
- No difference in outcomes between infants born to asymptomatic/mildly symptomatic mothers with COVID

Source: Journal of Perinatology

Accelerated Longitudinal Weight Gain Among Infants With In Utero COVID Exposure

-Infants with utero COVID shows cardiometabolic pathology

(JCEM, 3/29/2023)

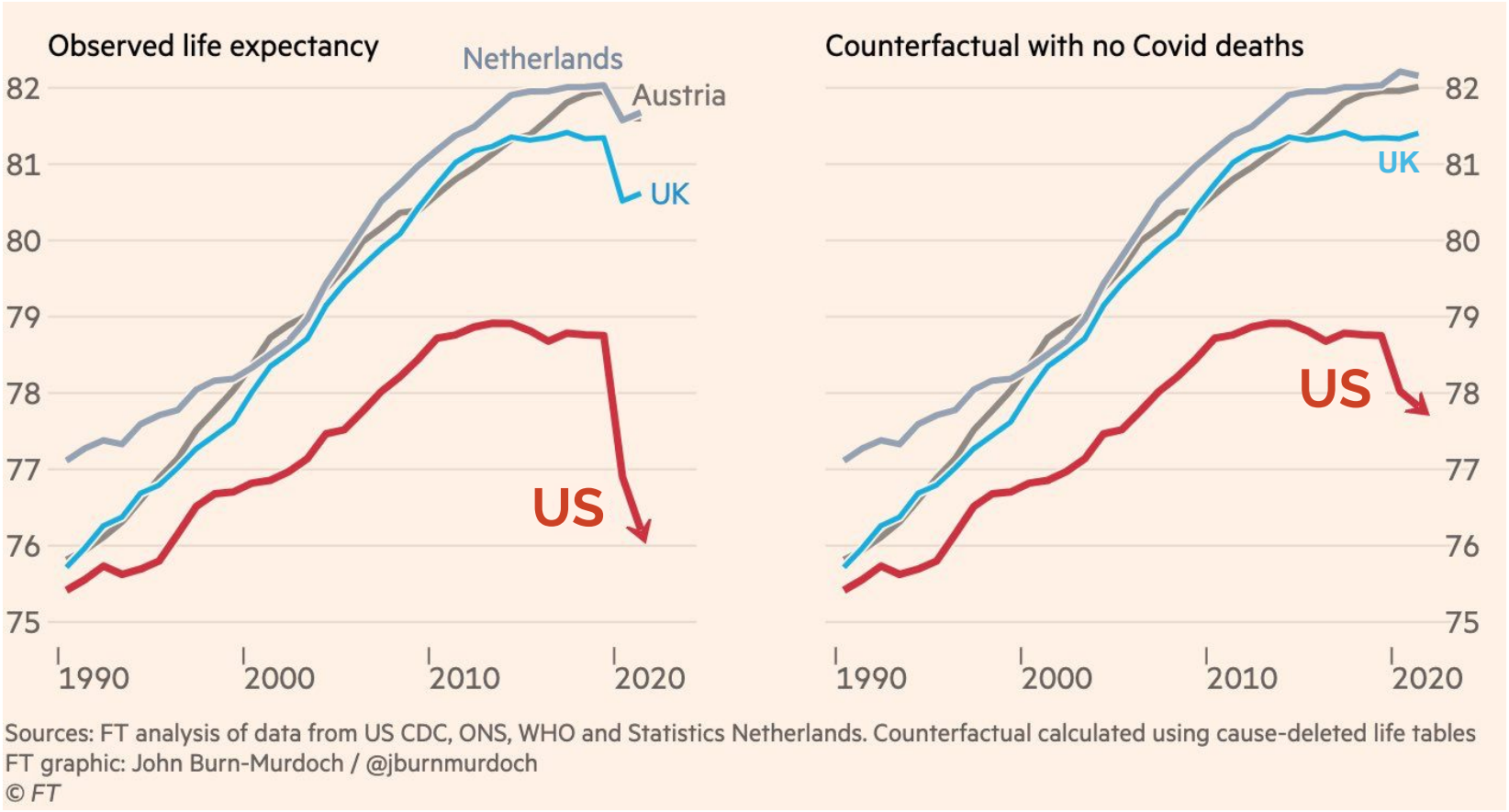
- A longitudinal cohort study among 149 infants with in utero COVID exposure and 127 unexposed controls
- Infants born to mothers with prenatal COVID had lower BMI z-score at birth (effect size: −0.35) and greater gain in BMI z-score from birth to 12 months (effect size: 0.53)
- Infants with in utero COVID exposure exhibited lower birth weight and accelerated weight gain in the first year of life, which may be signs of downstream cardiometabolic pathology

Source: JCEM

Why Are Americans Dying So Young? [1]

- **US is the only developed country where if you remove all COVID death, life expectancy still fell by 1 year since 2019**

(Financial Times, 3/30/23)



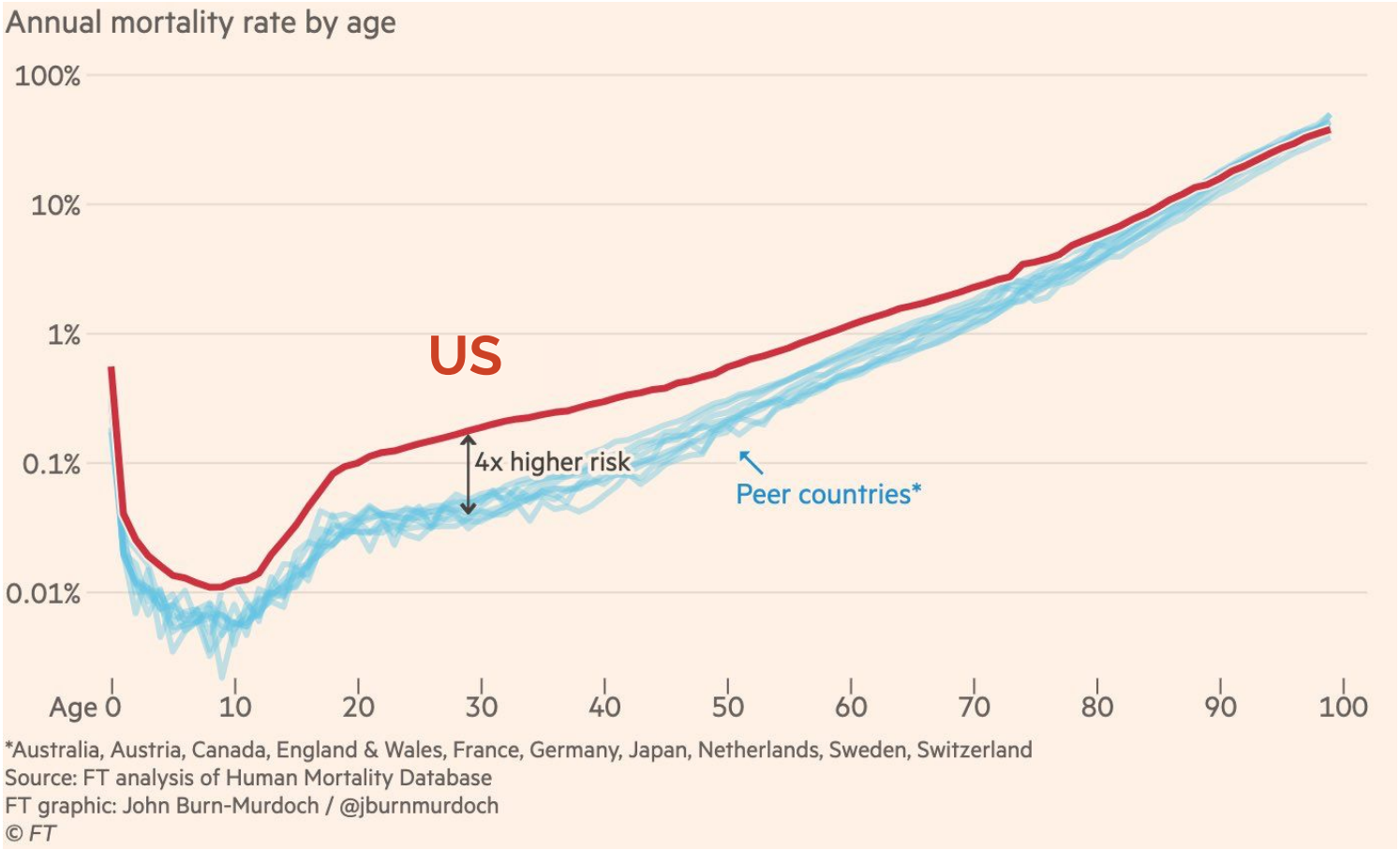
Sources: FT analysis of data from US CDC, ONS, WHO and Statistics Netherlands. Counterfactual calculated using cause-deleted life tables
FT graphic: John Burn-Murdoch / @jburnmurdoch
© *FT*

Source: FT

Why Are Americans Dying So Young? [2]

- Young adulthood accounts for the largest mortality difference, where Americans are 4x likely to die compared to peer countries

(Financial Times, 3/30/23)

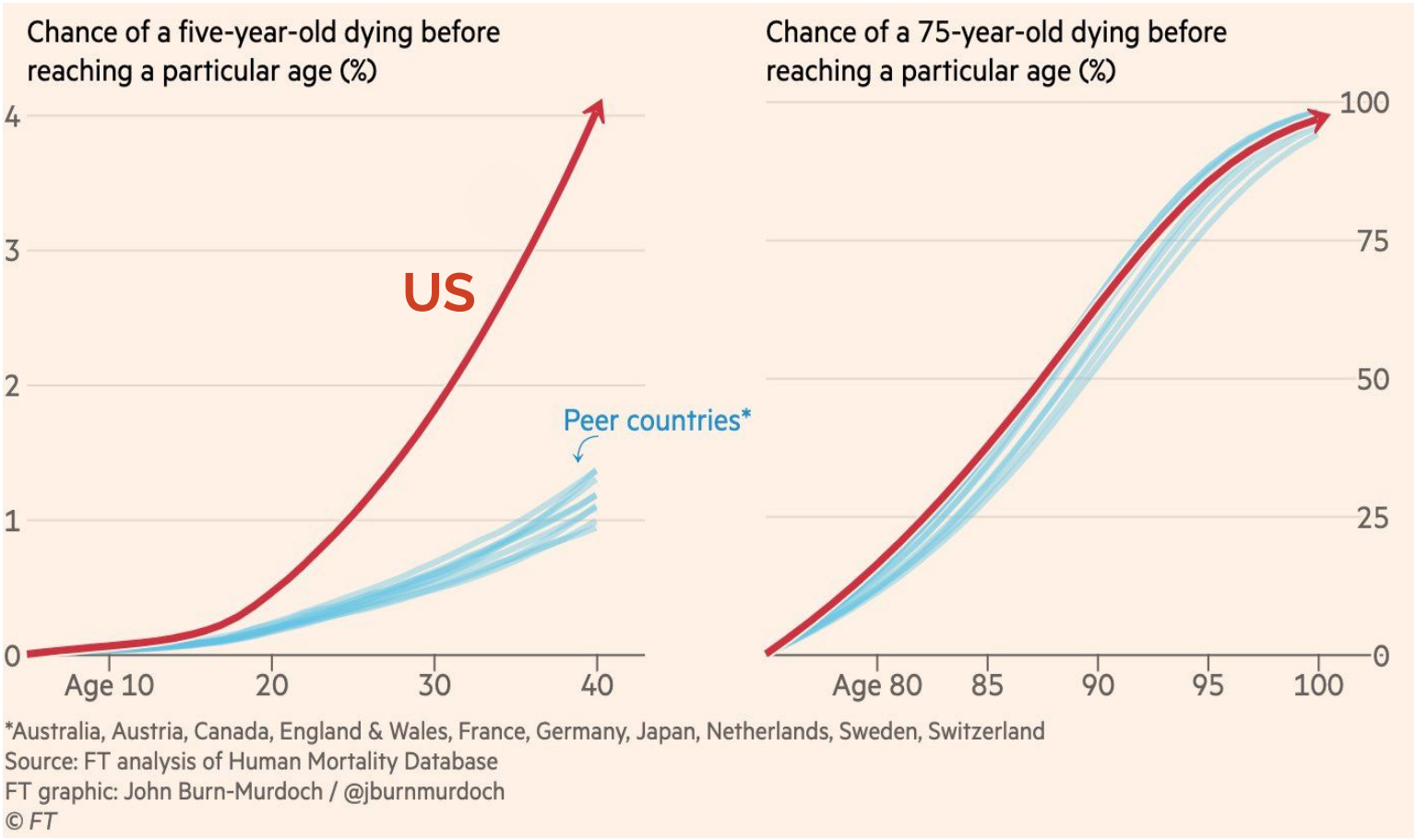


Source: FT

Why Are Americans Dying So Young? [3]

- 1 in 25 American 5-year-olds today will not live to see their 40th birthday; this contrast levels off in older age groups

(Financial Times, 3/30/23)



Source: FT

Why Are Americans Dying So Young? [4]

- Americans have lost more years of life to external causes in 2021 alone vs. entire pandemic

(Financial Times, 3/30/23)

- The mortality gaps between the US and its European peers is being driven mostly by deaths among the young.
- These young deaths are caused overwhelmingly by external causes — overdoses, gun violence, dangerous driving, and other social problems.
- Without COVID, life expectancy in other peer countries would have remained flat or increased, but the US would still have lost 1 year.
- Altogether, Americans lost 9.4 million years of life* to external causes in 2021 alone, more than the 9.1 million lost to COVID for entire pandemic.

Source: FT

** Years of life lost to external causes and to COVID-19 were calculated using deaths by single year of age from CDC Wonder, using period life expectancy for 2019 as a reference point.*

Half of Healthcare Workers with COVID May Still Show Up to Work for Patient Care

- **Nearly 50% of HCWs with COVID still go to work**

(Infection Control & Hospital Epidemiology, 4/11/23)

- VA study (Boston Healthcare System) of 255 HCWs who tested positive and had symptomatic infection.
- Nearly 50% of HCWs – many of which are directly involved in patient care – reported in to work at the time of diagnosis.
- For all respondents, concerns for workload burden on coworkers (66%) and personal responsibility (45%) were the most common reasons for why they still went to work.

Source: IC & HE

5. Healthcare & Artificial Intelligence (AI)

How AI Can Help Primary Care Doctors and Their Patients

- AI can help doctors in diagnosing, monitoring, administration, and automation

(Medical Economics, 4/10/2023)

- **Analytics and machine learning can be used to provide personal plans for patients, monitor progress, and alert health risks.**
- **Already-in-use AI applications in primary care settings:**
  - **Care urgency prioritization**
  - **Patient condition tracking/alerts**
  - **Disease detection**
  - **Administrative/eligibility/prior authorization assistance**

Source: Medical Economics

What Does ChatGPT Mean for COVID & Healthcare?

- For pandemics, ChatGPT can help with healthcare by developing virtual assistants

(News Medical, 3/28/2023)

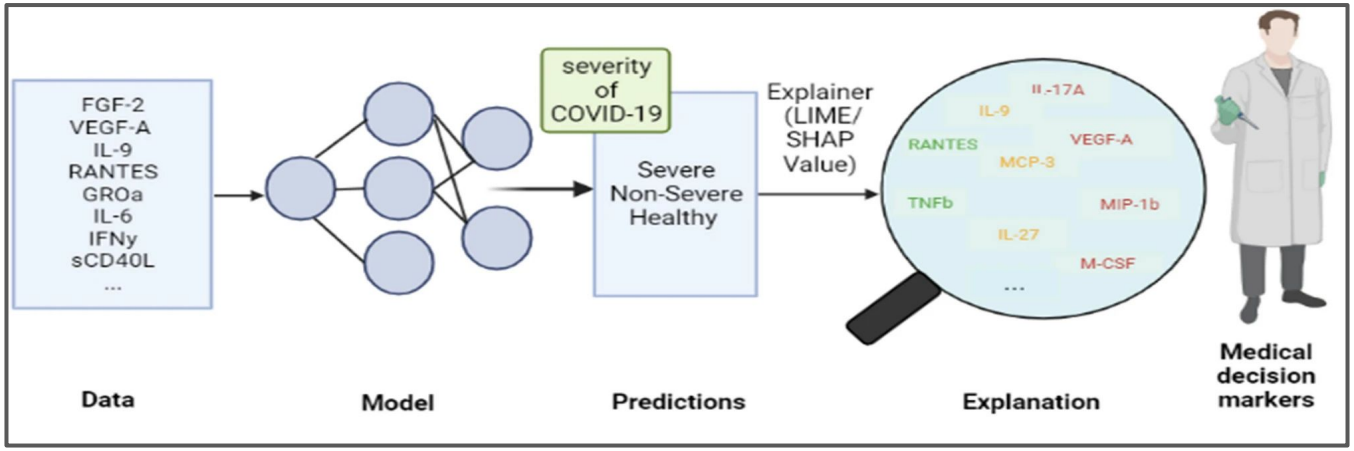
- Clinical Decision Support : Provide real-time, evidence-based recommendations
- Medical Records : Summarize patient's medical histories, effectively streamlining the record-keeping process
- Real-time translation : Quickly and accurately translate technical terms and medical jargon
- Clinical Trials : Identify patients that meet inclusion criteria, helping researchers connect with patients willing to participate in trials

Source: News Medical

Nature: Machine Learning (ML) Shows How Cytokines Influence COVID Severity

(Nature, 4/4/2023)

- Study measured plasma levels of 48 cytokines in the blood (n=87) to determine how cytokines influence COVID severity.
- AI could identify the cytokines responsible for severe COVID, and aid treatment decision-making and vaccine development.



Source: Nature

AI Cough-Monitoring Can Change the Way We Diagnose Disease

- AI can track coughing sounds as a potential COVID-diagnostic health monitoring tool

(TIME, 4/3/2023)

- AI algorithms can analyze coughing sounds to identify patterns associated with different health conditions, such as respiratory illness or COVID-19.
- Google AI is aiming to use cough monitoring in 3 ways:
  1. Analyzing environmental factors
  2. Providing alerts for potential infectious disease risk
  3. Notifying people with chronic disease when cough patterns change

Source: TIME

Almost Half of Health Systems Use AI for Workforce Issues

- 47.5% of health systems currently use AI

(HealthITAnalytics, 3/16/2023)

- **78%** of executives claim that their health systems are either actively using or considering AI for revenue management.
- Conversational AI is currently being used by **27.5%** of health systems and **72.5%** are considering using it.
- **15%** of executives indicated that their health system is using AI for nursing.
- **85%** of health leaders noted that they had an AI strategy at the time of survey, with **48%** already starting one.

Source: HealthITAnalytics

Mayo is Using AI to Advance Patient Care

- Mayo Clinic uses AI for heart failure and primary care

(CB Insights, 4/5/2023)

Six AI investments Mayo has made:

1. K Health: reduce time between diagnosis and treatment for patients suffering from hypertension, diabetes, and asthma.
2. Vuno: create AI/ML tools for oncology to help improve diagnosis, prognosis and treatment stratifications.
3. Diagnostic Robotics: automate its patient triage system.
4. Eko: develop a ML algorithm that can aid clinicians with earlier detection of heart disease.
5. Theator: improve education and training for its surgeons.
6. Ultonomics: create an AI tool that can alert clinicians of potential heart failure in patients.

Source: CB Insights

Summary Report

- *Global, U.S. national, and California cases continue to decline.*
- *The public health emergency is still set to expire on 5/11/23. The LA County public health emergency for COVID ended on 3/31/23.*
- *XBB.1.5 is the dominant U.S. variant (78.0%). XBB.1.16 (7.2%) is growing.*
- *WHO is concerned about XBB.1.16 and is closely monitoring.*
- *FDA will soon authorize 2nd bivalent boosters for high-risk groups.*
- *FDA has given EUA for a new drug (Gohibic) for severe COVID infection.*
- *AI integration in healthcare continues to advance. Most health leaders have an AI strategy ready, with nearly 50% already utilizing AI.*


Thank You!
Earth Day (4/22/23)