NORTHEAST
BUSINESS GROUP ON HEALTH

MONDAYS WITH DR MARK & DR MICHAEL

Monday, July 24, 2023 | 1:00 – 1:30PM

TOPIC #8
Doctor's Rounds – Updates on Hot Medical Topics

HP2030 HEALTHY PEOPLE 2030 CHAMPION


WORKING
IN THE
HEAT

Heat Stress

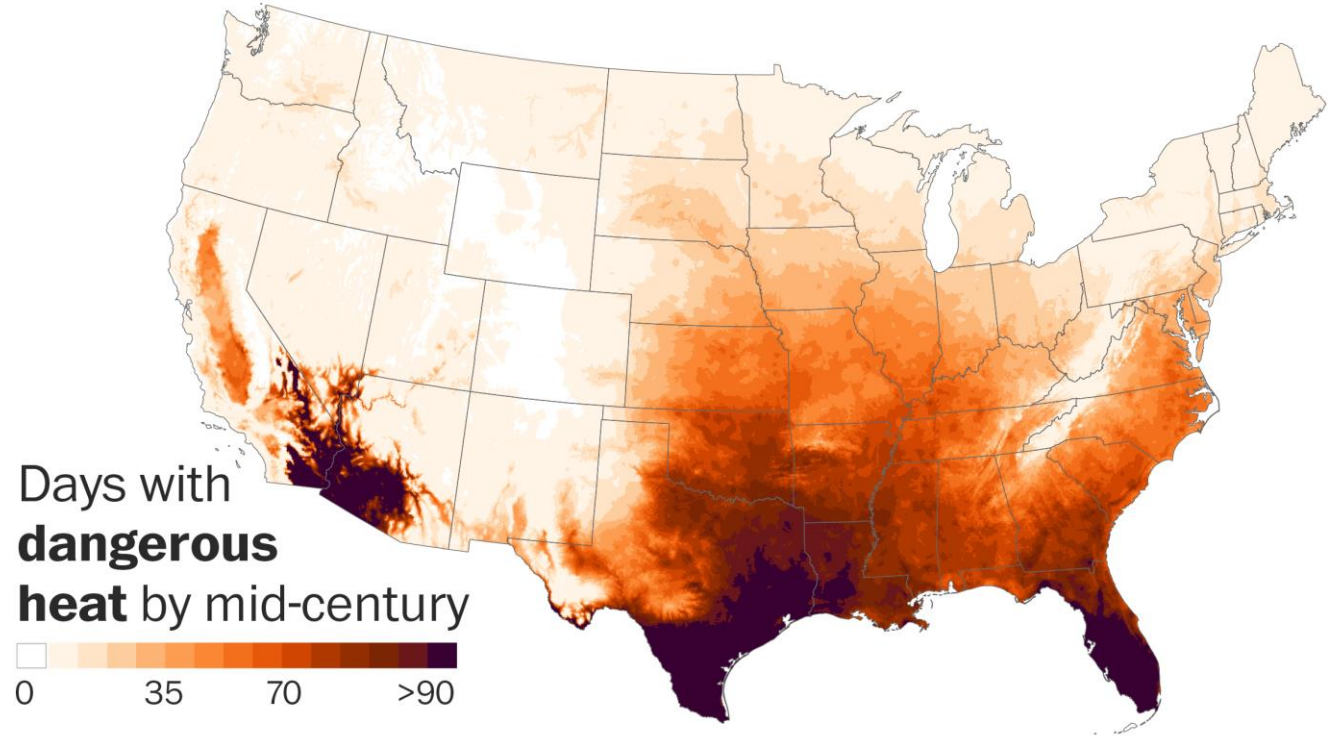
"More than 113 million Americans under extreme heat alerts as relentless temperatures continue"

- People at higher risk:
  - The elderly
  - Young children
  - Homeless people
  - Chronic conditions – obesity, diabetes, hypertension
  - Some drugs – diuretics, anti-hypertensives, drugs that block sweating (some epilepsy and Parkinson's drugs)

- Employees in high-risk jobs

- Preventative approach
- Understand the risk and who's at risk
  - Environment – temperature (wet bulb globe temperature (WBGT) meter, humidity, sunlight, and airflow
  - Job – level of physical activity or wearing protective gear
  - Worker - assessing common individual risk factors, such as age, pre-existing health conditions, and lifestyle
  - Not just outside work but inside work can also be a risk – ASHRAE recommends <80.5^{0}F
- Training of workers in high-risk jobs
- Acclimatization can help
- Plan for the future

Worker Safety



MONDAYS with DR MARK & DR MICHAEL

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Breast Cancer Screening

- The US Preventive Services Task Force (USPSTF) is currently finalizing an update to its recommendations on breast cancer screening:
  - Recommended start routine screening mammograms from age 50 to age 40
  - Every other year until age 74
- Rationale:
  - More women are being diagnosed with breast cancer in their 40s
  - Growing body of evidence showing that Black women get breast cancer younger, are more likely to die of breast cancer, and would benefit from earlier screening
- New recommendation comes with a B rating –
  - The USPSTF recommends that clinicians provide [the service] to eligible patients. The USPSTF found at least fair evidence that [the service] improves important health outcomes and concludes that benefits outweigh harms.
  - ACA requires insurers to cover A & B rated screenings at no cost to patient
  - Could save 20% more lives

Breast Cancer Screening

Some concerns that have been raised:

- Should it be all women at age 40 or just Black women?
- Zero OOP coverage does not necessarily apply to follow-up testing
- Note: The American College of Radiology (ACR):
  - Already recommends yearly mammograms for average risk women starting at age 40.
  - Its latest guidelines call for women at higher-than-average risk for breast cancer to undergo a risk assessment by age 25 to determine if screening before age 40 is needed

MONDAYS WITH DR MARK & DR MICHAEL

Private equity ownership of medical practices

- PE acquisitions of physician practices are increasing 6-fold - 75 deals in 2012 to 484 deals in 2021
- PE firms are amassing high market shares in local physician practice markets
- PE acquisitions are associated with price and expenditure increases – 4-16%
- Price increases associated with PE acquisitions are exceptionally high where a PE firm controls a competitively significant share of the local market

Figure 6: Physician Prices for 10 Specialties, 2012-2021

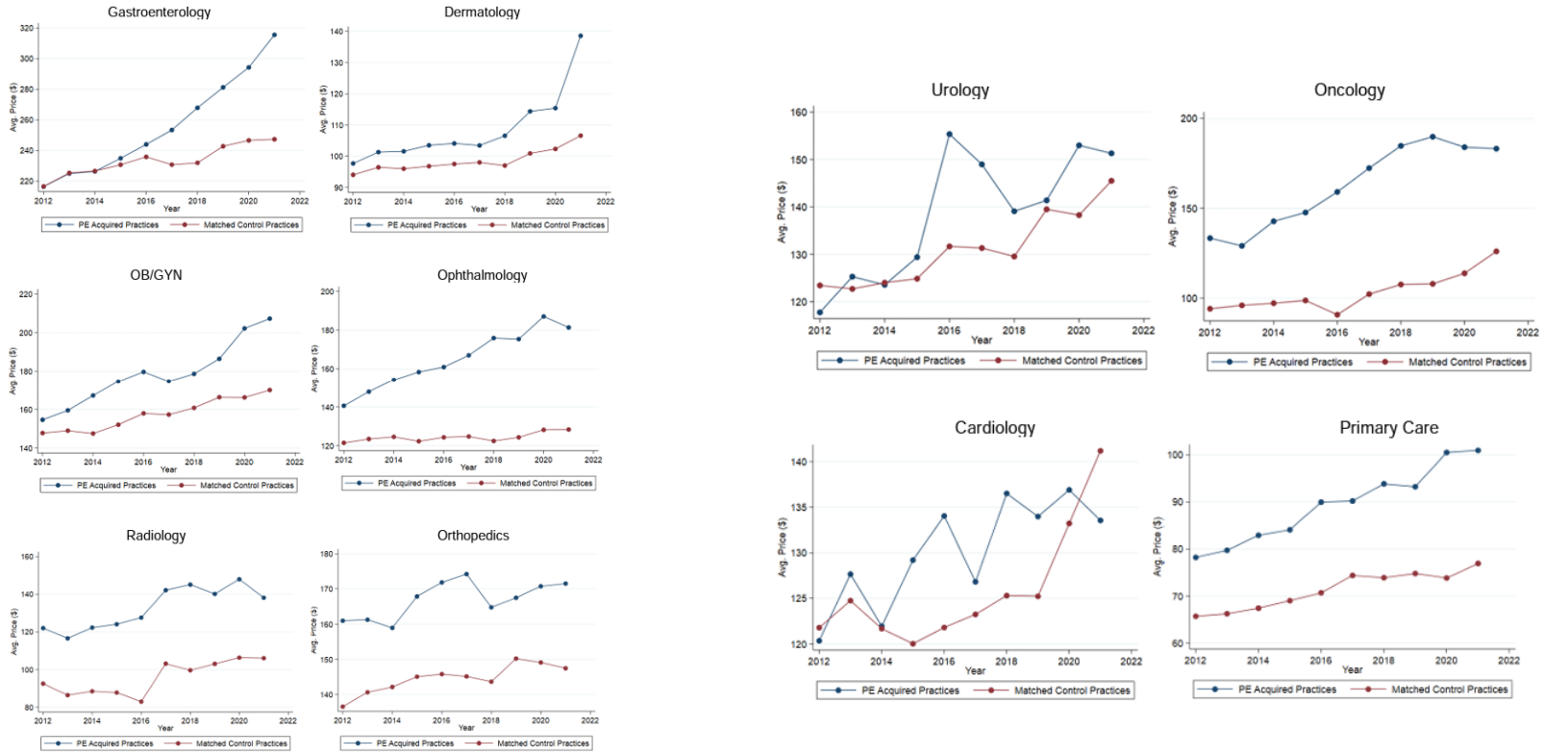
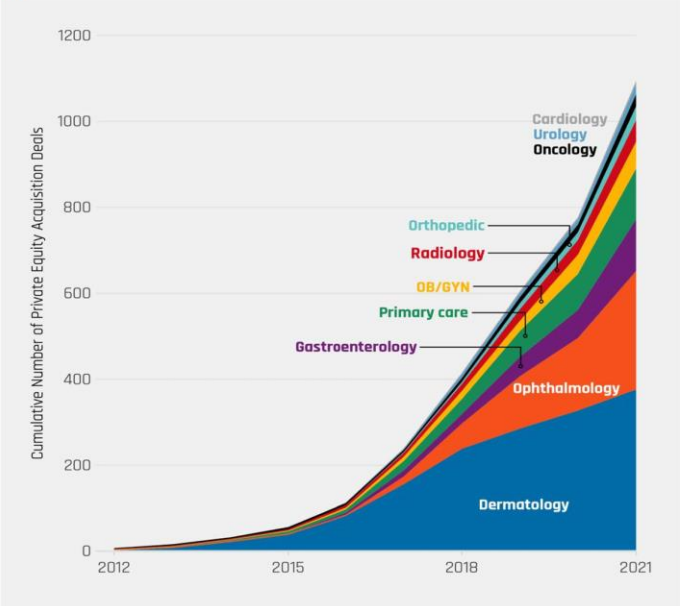


Figure 2: Cumulative Number of Private Equity Acquisition Deals of Physician Practices by Specialty, 2012-2021



Source: Authors' analysis of PitchBook Data, Inc., as of June 15, 2022. PitchBook data has not been reviewed by PitchBook analysts.

Figure 3: MSAs in which a Single Private Equity Firm Possesses More Than 30% or 50% Market Share of One or More Physician Specialties, 2012 and 2021

Figure 3A: >30%, 2012

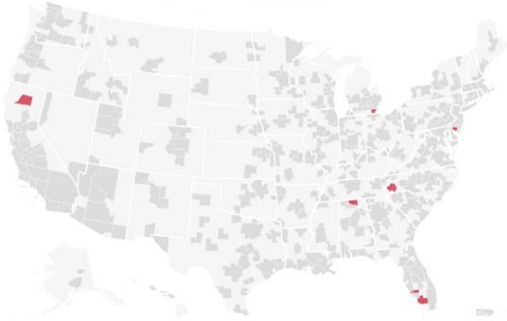
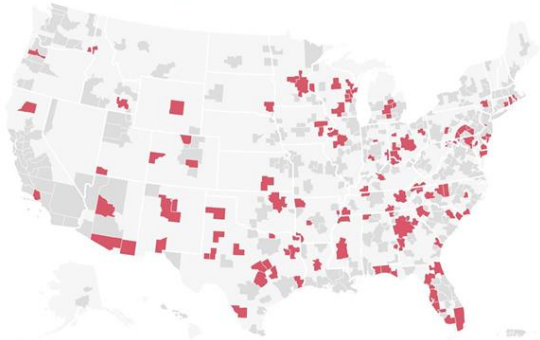
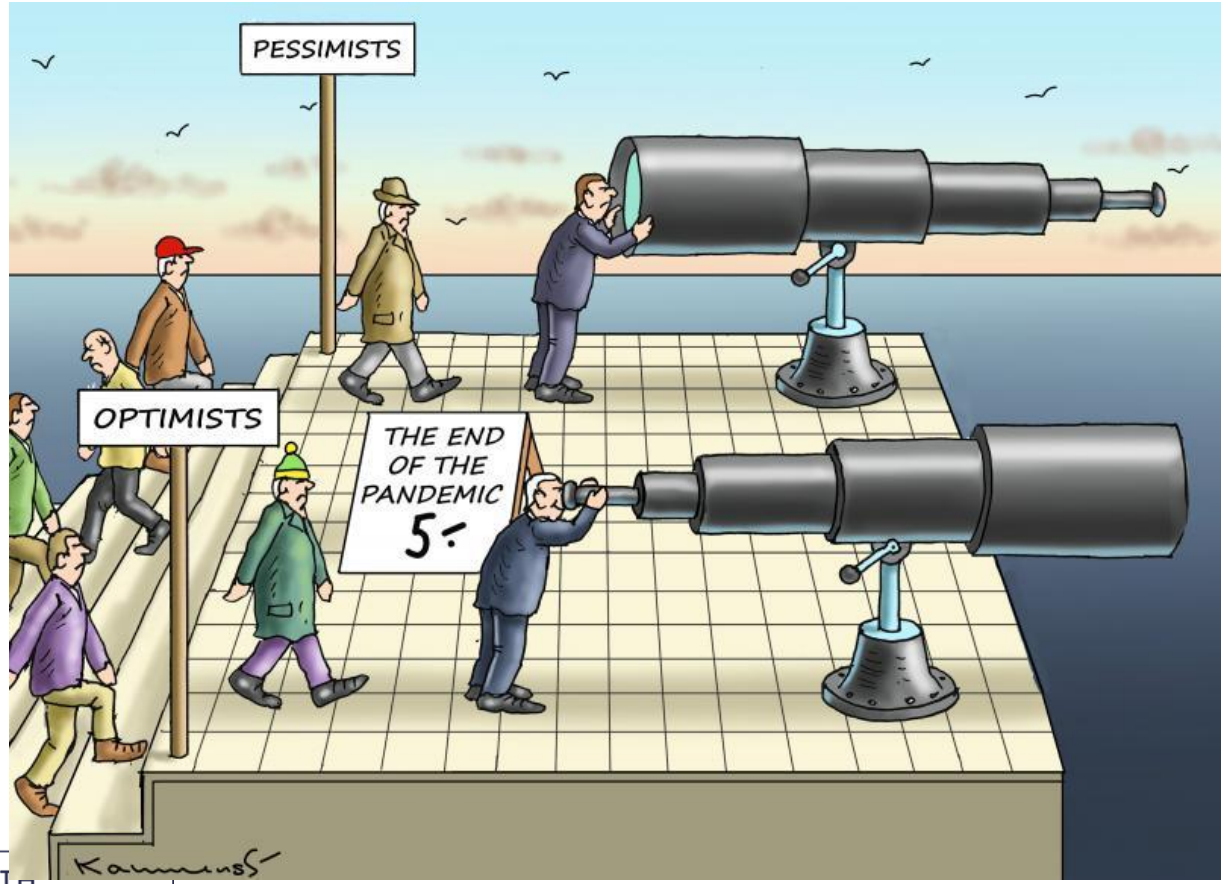


Figure 3B: >30%, 2021

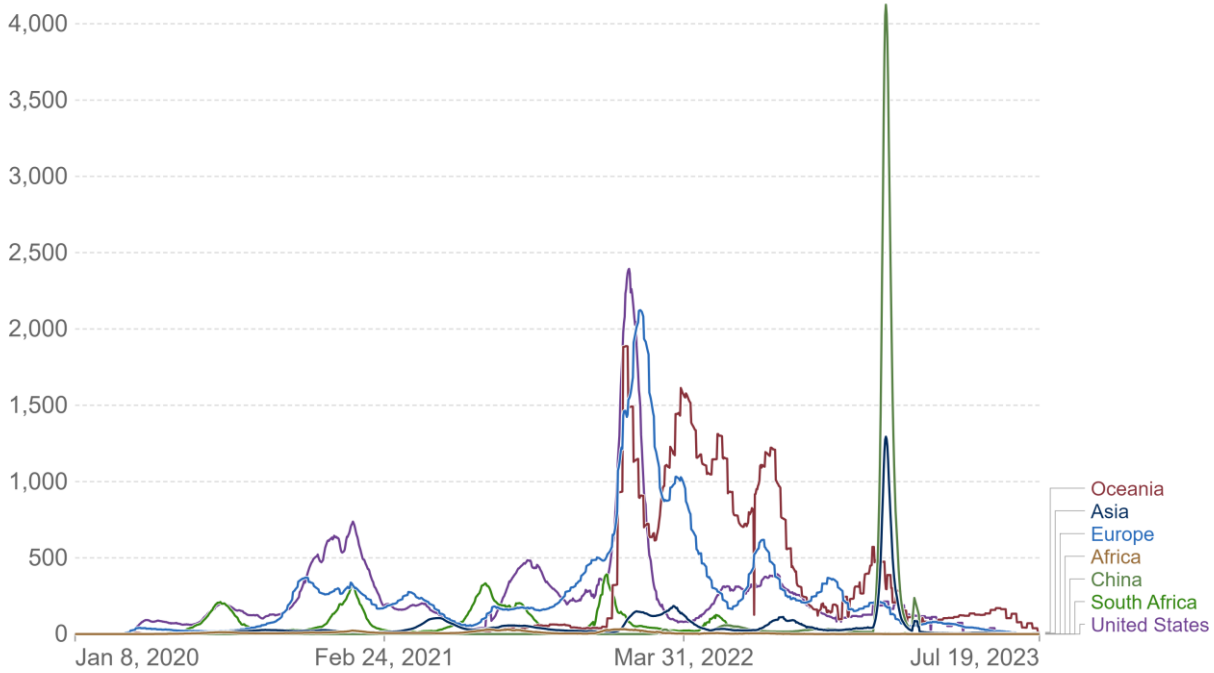



PESSIMISTS
OPTIMISTS
THE END OF THE PANDEMIC
5:-

Daily new confirmed COVID-19 cases per million people

7-day rolling average. Due to limited testing, the number of confirmed cases is lower than the true number of infections.

Our World in Data



Source: WHO COVID-19 Dashboard

Estimates of weekly deaths above normal in the U.S.

Note: Data is through the week ending June 17, 2023. • Source: C.D.C. • By The New York Times

Genetics of No Symptoms to Long-COVID

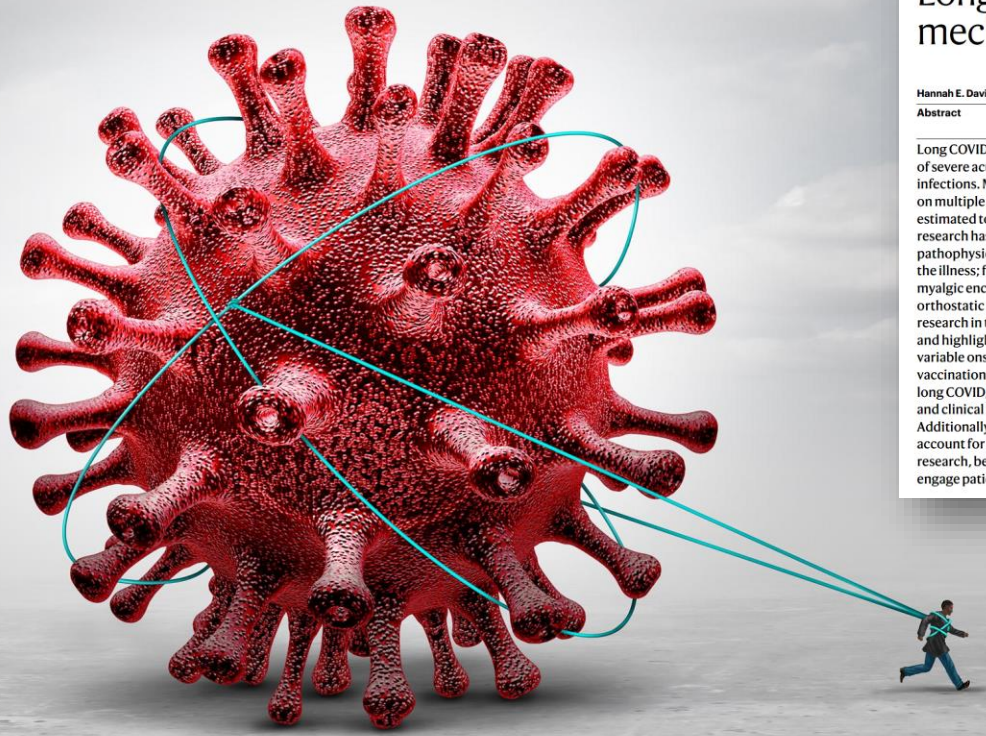
Asymptomatic COVID

- May occur in 20% of infections
- Examination of ~30K people who tested positive but didn't develop symptoms[1]
- Presence of human leukocyte antigen (HLA) locus—HLA-B*15:01 was 2.5X more likely to be associated with no symptoms (8x if 2 copies of the HLA-B*15:01 allele were present)
- HLA-B*15:01 linked to increased T-Cell function from past exposures to other coronaviruses

Long COVID

- FOXP4 gene locus on chromosome 6 was associated with 1.6x increased likelihood of developing long-COVID[2]
- FOXP4 has been associated with severe COVID and lung function
- Findings further support the role of pulmonary dysfunction and COVID-19 severity in the development of Long COVID

1. https://www.nature.com/articles/s41586-023-06331-x
2. https://www.medrxiv.org/content/10.1101/2023.06.29.23292056v1



nature reviews microbiology

https://doi.org/10.1038/s41579-022-00846-2

Review article

Check for updates

Long COVID: major findings, mechanisms and recommendations

Hannah E. Davis[1], Lisa McCorkell[2], Julia Moore Vogel[3] & Eric J. Topol[3]

Abstract

Long COVID is an often debilitating illness that occurs in at least 10% of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections. More than 200 symptoms have been identified with impacts on multiple organ systems. At least 65 million individuals worldwide are estimated to have long COVID, with cases increasing daily. Biomedical research has made substantial progress in identifying various pathophysiological changes and risk factors and in characterizing the illness; further, similarities with other viral-onset illnesses such as myalgic encephalomyelitis/chronic fatigue syndrome and postural orthostatic tachycardia syndrome have laid the groundwork for research in the field. In this Review, we explore the current literature and highlight key findings, the overlap with other conditions, the variable onset of symptoms, long COVID in children and the impact of vaccinations. Although these key findings are critical to understanding long COVID, current diagnostic and treatment options are insufficient, and clinical trials must be prioritized that address leading hypotheses. Additionally, to strengthen long COVID research, future studies must account for biases and SARS-CoV-2 testing issues, build on viral-onset research, be inclusive of marginalized populations and meaningfully engage patients throughout the research process.

Sections

Introduction

Major findings

Diagnostic tools and treatments

Impact of vaccines, variants and reinfections

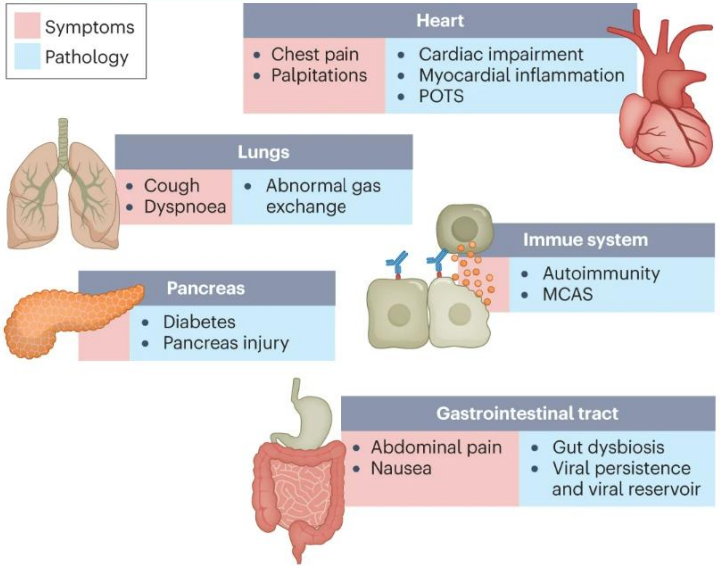
Challenges and recommendations

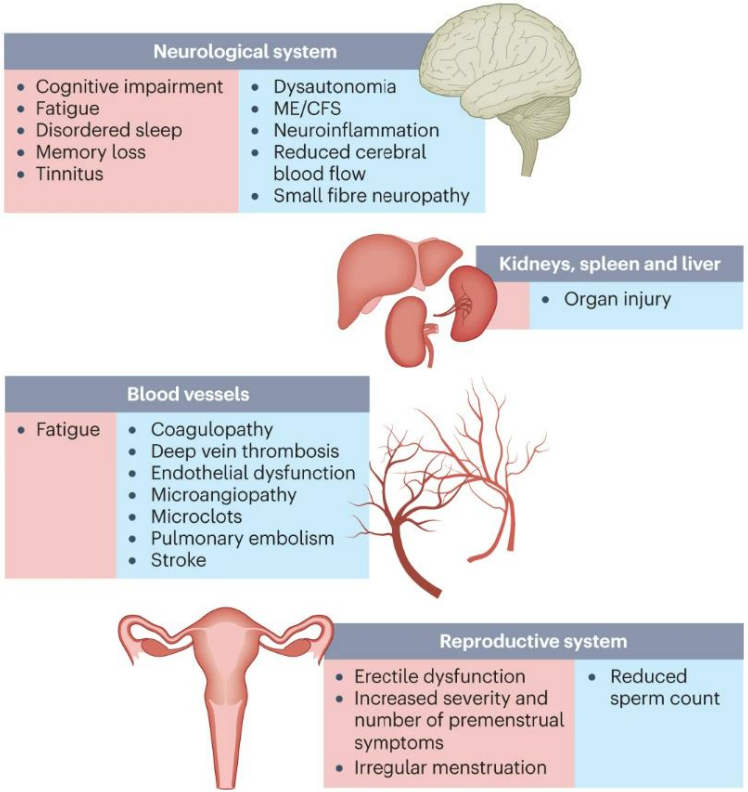
Conclusions

https://www.nature.com/articles/s41579-022-00846-2

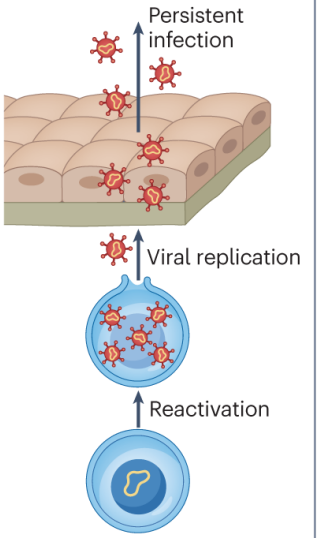
Fig. 1: Long COVID symptoms and the impacts on numerous organs with differing pathology.

From: Long COVID: major findings, mechanisms and recommendations



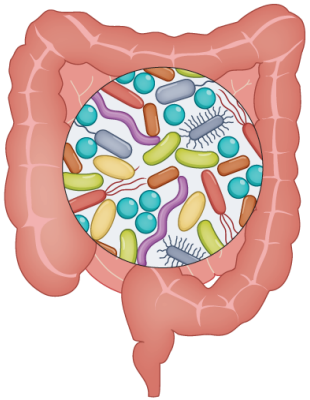


Immune dysregulation



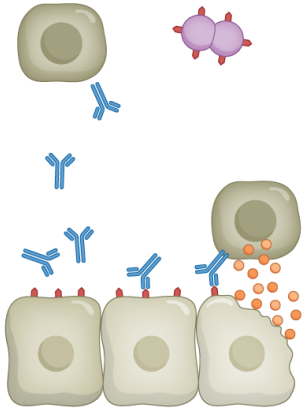
Immune dysregulation, with or without reactivation of underlying pathogens, including herpesviruses such as EBV and HHV-6

Microbiota dysbiosis



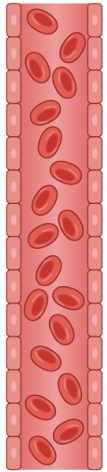
Impacts of SARS-CoV-2 on the microbiota and virome (including SARS-CoV-2 persistence)

Autoimmunity and immune priming



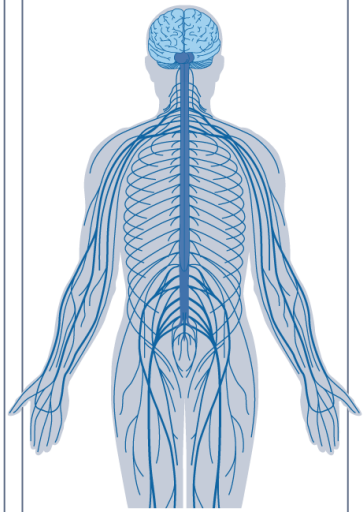
Autoimmunity and primed immune cells from molecular mimicry

Blood clotting and endothelial abnormalities

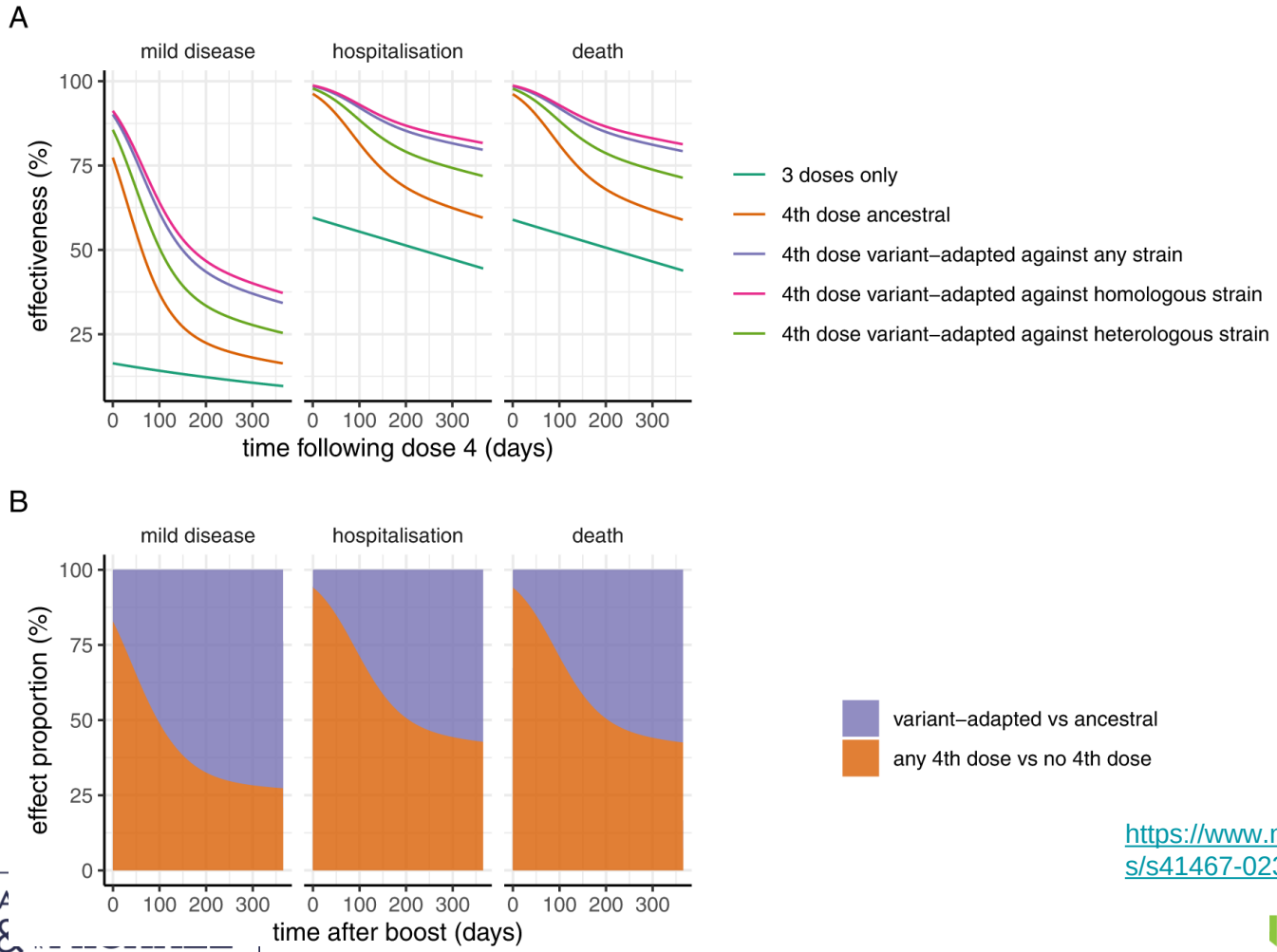


Microvascular blood clotting with endothelial dysfunction

Dysfunctional neurological signalling



Dysfunctional signalling in the brainstem and/or vagus nerve

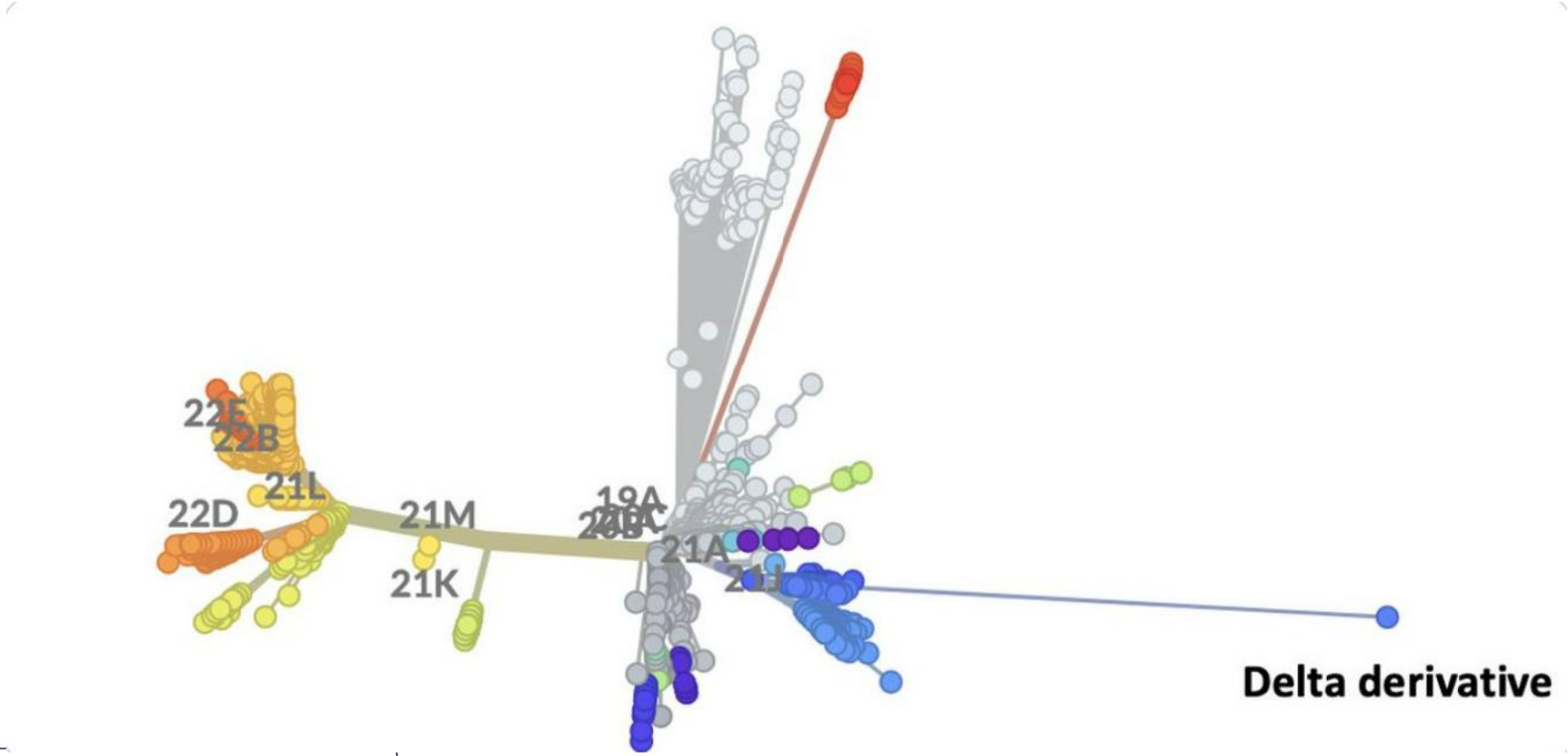


https://www.nature.com/articles/s41467-023-39736-3

Fall COVID Booster

- Changing from current bi-valent booster to a monovalent booster XBB.1.5
- Rationale:
  - Waning protecting against infection with bivalent booster (but reasonably good at protecting against severe disease)
  - Targeted vaccine against expected XBB variants that will be dominant in the fall
  - Less risk of ‘immune imprinting’
- Who:
  - Elderly and at risk can get bivalent now (note likely need a 4-month gap between second bivalent and new XBB booster)
  - Others eligible when available in September
  - No information yet on babies, children and pregnant women

% Viral Lineages Among Infections
100%
80%
60%
40%
20%
0%
XBB.1.5
XBB.1.5
XBB.1.5
XBB.1.5
XBB.1.5
XBB.1.5
9/23
3/23
7/23
0/23
4/23
XBB.1.5
EG.5
8/23
2/23


22E
22B
21L
22D
21M
21K
19A
21A
Delta derivative

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Questions

Upcoming NEBGH virtual events

- **July 26** – Colon Cancer and Your Workforce: What You Need to Know Now
- **August 7** – Mondays with Dr. Mark & Dr. Michael
- **September 14** - Mental Health: Addressing the Needs of Young People
- **September 21** – Pharmacy Benefits 2023