

# Wellforce Clinically Integrated Network COVID-19 Update

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**Ben Kruskal, MD and Adam Weston, MD**

September 14, 2021

# Zoom Participation and Etiquette



# This webinar is brought to you by the Wellforce Clinically Integrated Network

*A distinctively different population health and  
value-based care contracting entity that builds upon  
the best of **Lowell General PHO** and  
**New England Quality Care Alliance (NEQCA)**.*

*Please visit [wellforce.org/physicians](https://wellforce.org/physicians) to learn more.*

# Agenda

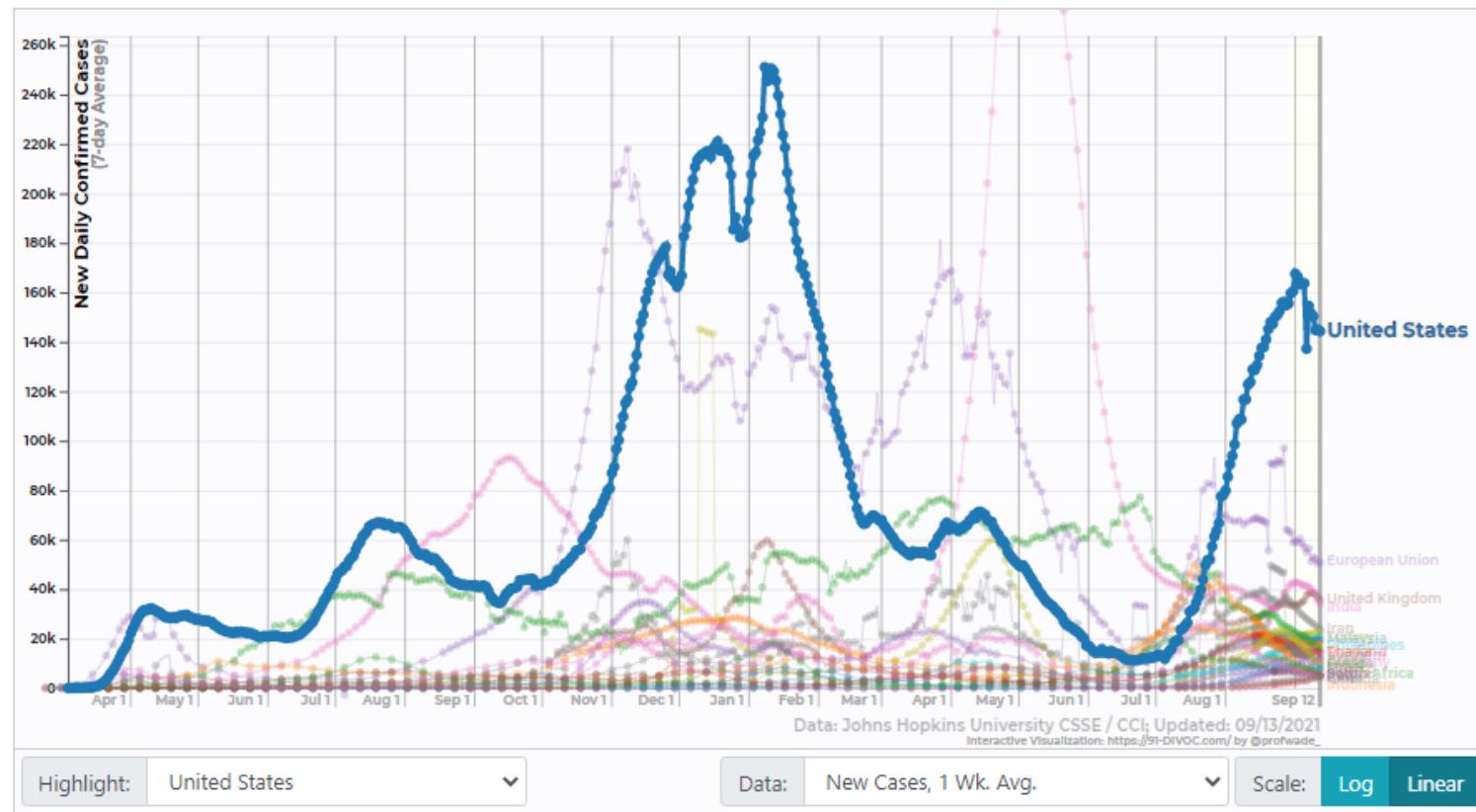
- **Situational Update:** The Numbers
- **Epidemiology:** Pediatrics, masks, deferred care
- **Diagnostic testing:** Validation of rapid antigen test
- **Treatment:** Ivermectin
- **Sequelae:** Long COVID-19, long term outcome of MIS-C
- **Vaccines:** Mandates, boosters
- **Questions and Answers**
- **Helpful Resources**

# Situational Update

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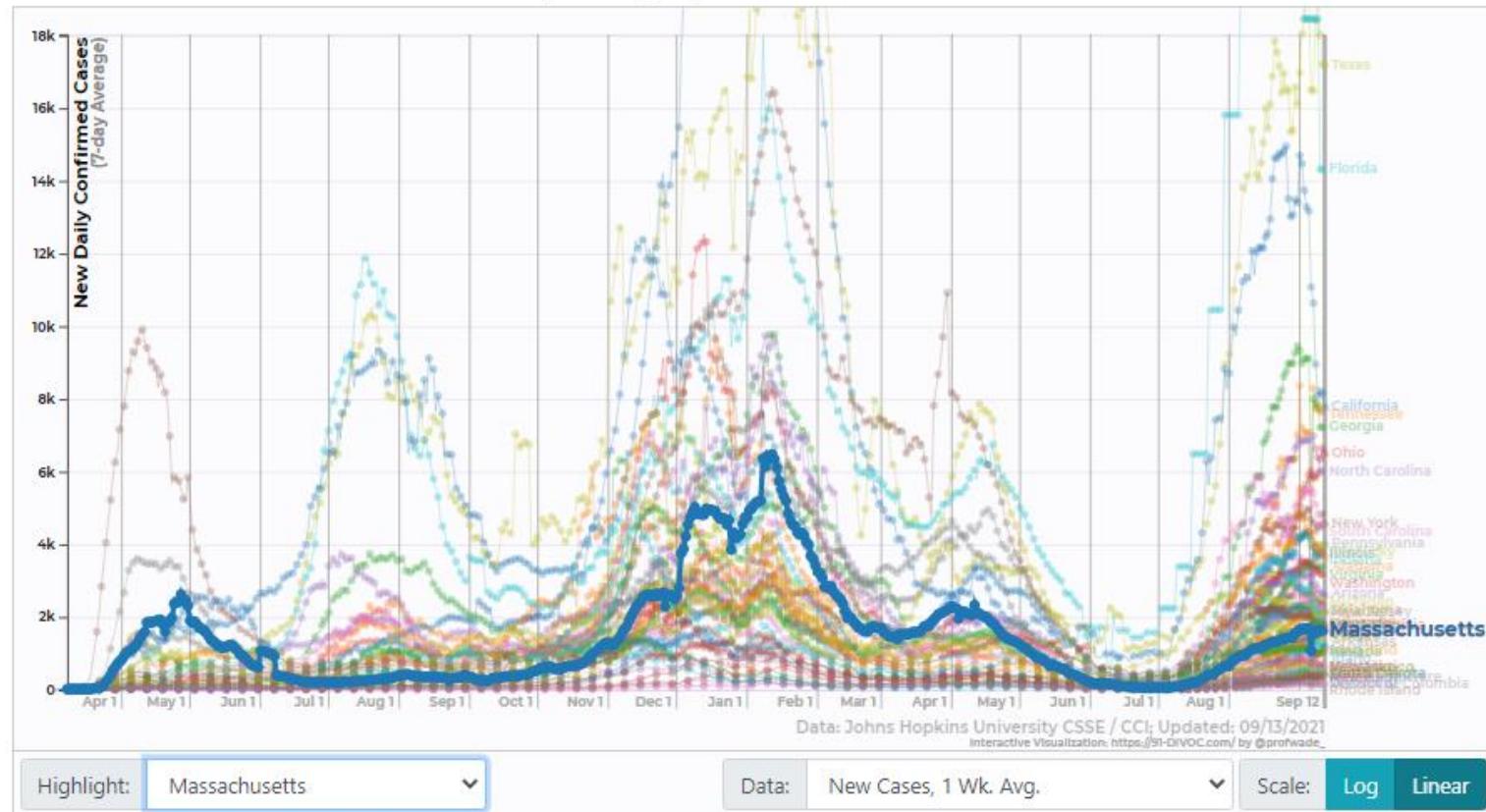
The Numbers

## New Confirmed COVID-19 Cases per Day



<http://91-divoc.com/pages/covid-visualization/>

## New Confirmed COVID-19 Cases per Day by States/Territories

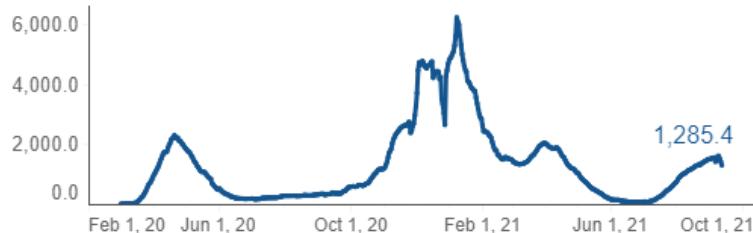


<http://91-divoc.com/pages/covid-visualization/>



### Cases

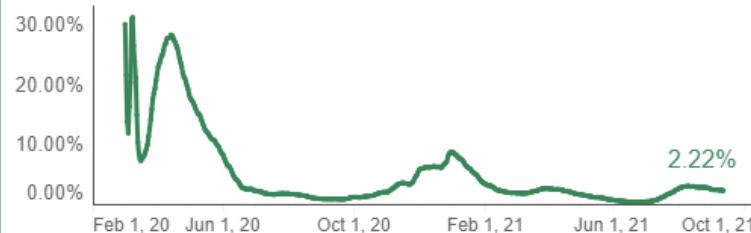
7-day average of COVID-19 confirmed cases



The lowest observed value was 64.0 on 6/25/2021.

### Testing

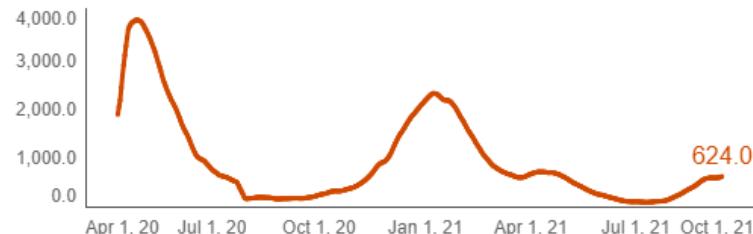
7-day weighted average percent positivity



The lowest observed value was 0.31% on 6/25/2021.

### Hospitalizations

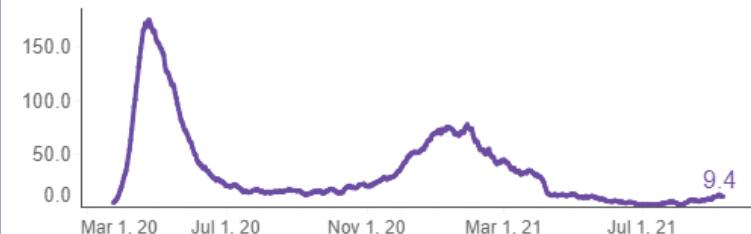
7-day average of hospitalizations



The lowest observed value was 84.8 on 7/9/2021.

### Deaths

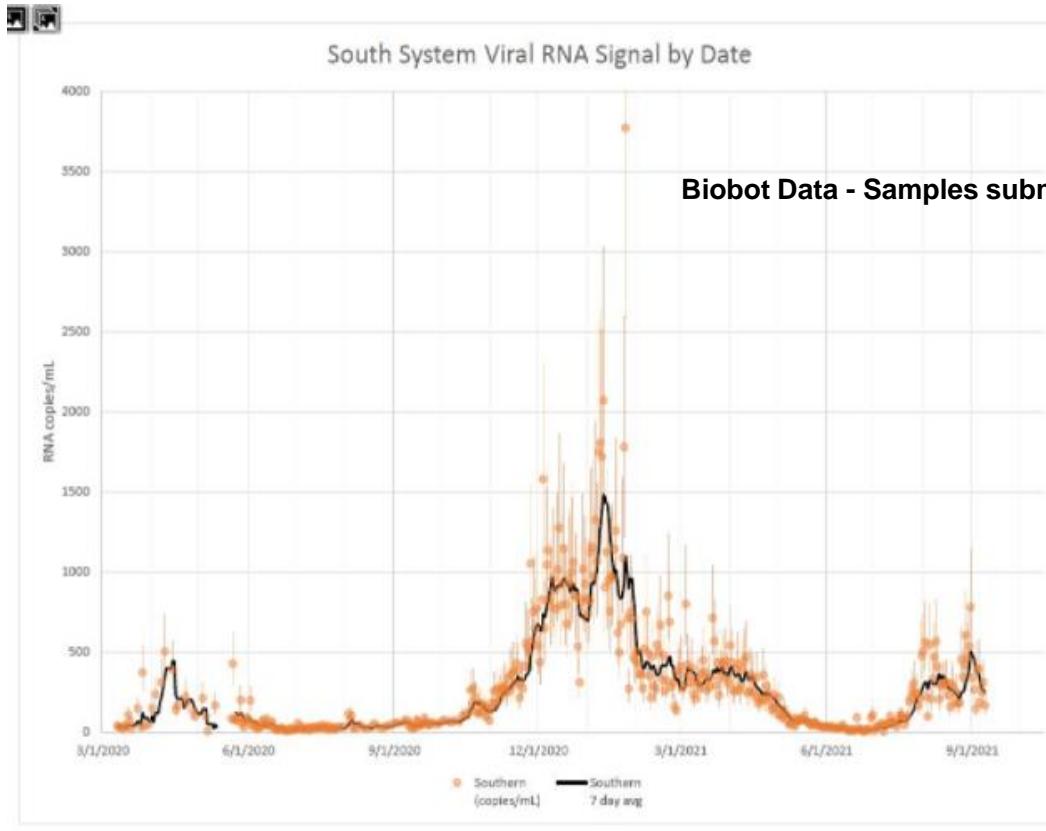
7-day average of confirmed deaths



The lowest observed value was 1.3 on 7/11/2021.

## Wastewater COVID-19 Tracking

Massachusetts Water Resources Authority



[mwra.com/biobot/biobotdata.htm](http://mwra.com/biobot/biobotdata.htm)

# Epidemiology and Transmission

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Pediatrics, masks, deferred care

# Alabama man dies after being turned away from 43 hospitals as covid packs ICUs, family says

September 12, 2021 at 5:01 p.m. EDT

It was so difficult, his family wrote this month, that the hospital in his hometown of Cullman, Ala., contacted 43 others in three states — and all were unable to give him the care he needed.

DeMonia, who was eventually transferred to a Mississippi hospital about 200 miles away, died at 73 on Sept. 1 — three days shy of his birthday.

# Idaho moves to start rationing medical care amid surge in covid hospitalizations

**The Washington Post**  
*Democracy Dies in Darkness*

- 9/7/2021: ‘Officials activated Idaho’s “crisis standards of care” for at least 10 hospitals in two public health districts, saying in a statement that a “massive increase in patients with COVID-19 who require hospitalization” had led to a shortage of staff and beds.
- Idaho has one of the lowest vaccination rates in the country, with less than 40 percent of the population fully vaccinated.’

# Masks

## JAMA Pediatrics

### Experimental Assessment of Carbon Dioxide Content in Inhaled Air With or Without Face Masks in Healthy Children: A Randomized Clinical Trial

- CO2 accumulation in kids wearing surgical masks? **RETRACTED**
  - Retracted report suggested CO2 accumulated in surgical masks and elevated inspired CO2 concentration, causing parent-reported subjective symptoms
  - The Research Letter, "Experimental Assessment of Carbon Dioxide Content in Inhaled Air With or Without Face Masks in Healthy Children: A Randomized Clinical Trial," by Harald Walach, PhD, and colleagues published online in JAMA Pediatrics on June 30, 2021, is hereby retracted. Following publication, numerous scientific issues were raised regarding the study methodology, including concerns about the applicability of the device used for assessment of carbon dioxide levels in this study setting, and whether the measurements obtained accurately represented carbon dioxide content in inhaled air, as well as issues related to the validity of the study conclusions. In their invited responses to these and other concerns, the authors did not provide sufficiently convincing evidence to resolve these issues, as determined by editorial evaluation and additional scientific review. Given fundamental concerns about the study methodology, uncertainty regarding the validity of the findings and conclusions, and the potential public health implications, the editors have retracted this Research Letter.
- Published Online: July 16, 2021.doi: 10.1001/jamapediatrics.2021.3252

RETRACTED

### SARS-CoV-2 Transmission to Masked and Unmasked Close Contacts of University Students with COVID-19 — St. Louis, Missouri, January–May 2021

- St Louis Univ. Jan-May 2021; college students had 40% increase in odds of +PCR for each unmasked exposure, none with masked exposures
- MMWR / September 10, 2021 / Vol. 70 / No. 36



# Pediatric Volume

Trends in COVID-19 Cases, Emergency Department Visits, and Hospital Admissions Among Children and Adolescents Aged 0–17 Years — United States, August 2020–August 2021

In August, hospitalizations among children and adolescents increased 4x in...

States with low levels of vaccination



Compared with states with high levels of vaccination



Hospitalizations Associated with COVID-19 Among Children and Adolescents — COVID-NET, 14 States, March 1, 2020–August 14, 2021

Increasing COVID-19 hospitalizations among U.S. children and adolescents since the rise of the Delta variant\*

Hospitalizations among ages 0–4



10x increase

Hospitalizations among unvaccinated adolescents

10x higher

than fully vaccinated

**MMWR**  
Morbidity and Mortality Weekly Report

## Association of COVID-19 Lockdown With the Tumor Burden in Patients With Newly Diagnosed Metastatic Colorectal Cancer

- CRC pts dx *before* (11/11/19-3/9/20) vs *after* (5/14/20-9/3/20) lockdown in France
- 80 pts with metastatic colon ca; 40 each *before* and *after*.
- Measured circulating tumor DNA as indicator of tumor burden
  - Median tumor DNA in *after* pts 119 vs 17 in *before* pts
- Median survival after dx 14m in *after* pts vs 20 mos in *before* pts

# Diagnostic Testing

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Validation of rapid antigen test

# Validation of an At-Home Direct Antigen Rapid Test for COVID-19

JAMA  
Network | **Open**™

- 257 healthy lab workers; 2x/week self swab x 6 mo
- Total of almost 3000 specimens tested by both PCR and RADT
- 15/257 developed COVID-19. All 15 detected by RADT.
- Compared to PCR
  - 87% sensitive on days 0-12 of sxs
  - 96% sensitive days 0-3 of sxs
  - 97% specific
- JAMA Network Open. 2021;4(8):e2126931. doi:10.1001/jamanetworkopen.2021.26931

# Treatment

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Ivermectin

# Madness!

A hospital refused to give ivermectin to a covid patient. Then a judge ordered doctors to administer it.



September 2, 2021 at 3:56 p.m. EDT

**Ohio judge reverses colleague's decision on covid patient's ivermectin treatment: 'Judges are not doctors'**

September 7, 2021 at 7:22 a.m. EDT

# Just say no to ivermectin

- **Authors' conclusions**
- “Based on the current very low-to low-certainty evidence, we are uncertain about the efficacy and safety of ivermectin used to treat or prevent COVID-19. The completed studies are small and few are considered high quality. Several studies are underway that may produce clearer answers in review updates. Overall, the reliable evidence available **does not support** the use of ivermectin for treatment or prevention of COVID-19 outside of well-designed randomized trials.”

- Cochrane Database of Systematic Reviews 2021, Issue 7.  
Art. No.: CD015017.
- DOI: [10.1002/14651858.CD015017.pub2](https://doi.org/10.1002/14651858.CD015017.pub2)



Ivermectin for preventing and treating COVID-19 (Review)

# Sequelae

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Long COVID-19, long-term outcome of MIS-C

# More than 50 long-term effects of COVID-19: a systematic review and meta-analysis

scientific reports

- prevalence of 55 sxs 14-100d post sx onset
- 50K pts, in studies with >100 pts, CY 2020
- fatigue (58%), headache, inattention, hair loss, dyspnea (24%)

Scientific Reports | (2021) 11:16144 | <https://doi.org/10.1038/s41598-021-95565-8>

## Long-Term Symptoms Among Adults Tested for SARS-CoV-2 — United States, January 2020–April 2021

**MMWR**  
Morbidity and Mortality Weekly Report

- Jan 2020-April 2021, randomly selected pts with PCR tests for COVID-19
- Asked about sxs at varying intervals later
  - 65% of PCR+ vs 43% of PCR neg had some sxs lasting >4 wk
  - MMWR / September 10, 2021 / Vol. 70 / No. 36

## 1-year outcomes in hospital survivors with COVID-19: a longitudinal cohort study

THE LANCET

- Wuhan
- 68% had at least one sx at 6mo vs 49% at 12mo
- Dyspnea 26% at 6mo, 30% at 12mo
- Anx/Depr 23% at 6mo, vs 26% at 12mo
- F>M: Fatigue, anx/depr, decreased lung diffusion capacity
- 88% of those working pre-COVID-19 had returned to work by 12 mo

Lancet 2021; 398: 747–58

# Outcome of MIS-C at one year

**One-Year Outcomes of Critical Care Patients Post-COVID-19 Multisystem Inflammatory Syndrome in Children**

**JAMA Pediatrics**

- During acute MIS-C illness, 19 of 76 had coronary aneurysms
- At 12m, 6 (9%) had coronary aneurysms by echo
- 2 pts (3%) had ICU readmissions for unrelated reasons
- No deaths

Published Online: August 30, 2021. doi:10.1001/jamapediatrics.2021.2993

# Vaccines

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Mandates, boosters

# Adverse Events Following Immunization

- **Bells Palsy after Inactivated COVID-19 Vax**

- Feb-May 2021, 451K pts CoronaVac vs 537K Pfizer mRNA
- Bell's Palsy significantly higher than background rate with CoronaVac, but not with Pfizer

THE LANCET  
Infectious Diseases

Lancet Infectious Diseases. Published online August 16, 2021 [https://doi.org/10.1016/S1473-3099\(21\)00451-5](https://doi.org/10.1016/S1473-3099(21)00451-5)

- **Thrombosis and thrombocytopenia after vaccination against and infection with SARS-CoV-2: a population-based cohort analysis**

- Pulmonary embolism: AZ=Pfizer 1.2x, vs Covid infection 15x compared to background rates
- Thrombocytopenia 1.2x AZ vs 0.99x Pfizer
- DVT and arterial clots: no difference

medRxiv preprint doi: <https://doi.org/10.1101/2021.07.29.21261348>

# Vaccine Mandates

- Health care systems: employees
  - **Local:** Wellforce, MGB, BILH, DFCI, Atrius, Southcoast and more locally
  - **Across the US:** Kaiser Permanente, Trinity Health, Banner Health, Atrium Health, Geisinger, Mayo, NYC Health and Hospitals
  - **National:** Veterans Health Administration
- CMS: as of October, staff must be vaccinated for facilities to receive Medicare and Medicaid reimbursement
- US Military: All active duty personnel
- Federal mandate
  - Federal employees and government contractors
  - OSHA ruling
    - Employers >100 employees, employees must be vaccinated or test weekly
    - State and local government workers including educators and school staff in 26 states

# Immunity from natural infection? (compared with vaccine) *PREPRINT, NOT YET PEER REVIEWED*

- Israel, HMO with 2.5M covered lives
- Compared
  - Uninfected pts with 2 dose regimen of Pfizer mRNA vaccine
  - Prev infected pts with NO vaccine
  - Prev infected pts with one dose of vaccine
  - During 6/1-8/14 of 2021—Delta was dominant
- When vaccine or prior infection was confined to Jan-Feb 2021
  - Vaccine recipients 13X higher risk of breakthrough infection, for symptomatic ds and for admission vs prev infected pts
  - When prior infection was examined back to March 2020, protection decreased with interval from prior infection to reinfection

Comparing SARS-CoV-2 natural immunity to vaccine-induced immunity: reinfections versus breakthrough infections

# Prior literature on immunity from natural infection

## **Assessment of the Risk of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Reinfection in an Intense Reexposure Setting**

- Qatar: 133K confirmed cases, 243 with recurrent +PCR >45 d later, 54 likely reinfections median 65 d later, →reinfection rate of 0.02%, of which about half were symptomatic; only 1 admission, no deaths
- Clinical Infectious Disease DOI: 10.1093/cid/ciaa1846

Clinical Infectious Diseases

## **Assessment of protection against reinfection with SARS-CoV-2 among 4 million PCR-tested individuals in Denmark in 2020: a population-level observational study**

- 11K confirmed cases during first wave, 72 likely reinfections during second wave vs 514K neg during first wave, of whom 17K were infected during 2<sup>nd</sup> wave →80% protection against reinfection (only 50% in >65 y/o).
- No difference in risk of reinfection 3-6 mos vs >7 mos interval

THE LANCET

[www.thelancet.com](http://www.thelancet.com) Published online March 17, 2021 [https://doi.org/10.1016/S0140-6736\(21\)00575-4](https://doi.org/10.1016/S0140-6736(21)00575-4)

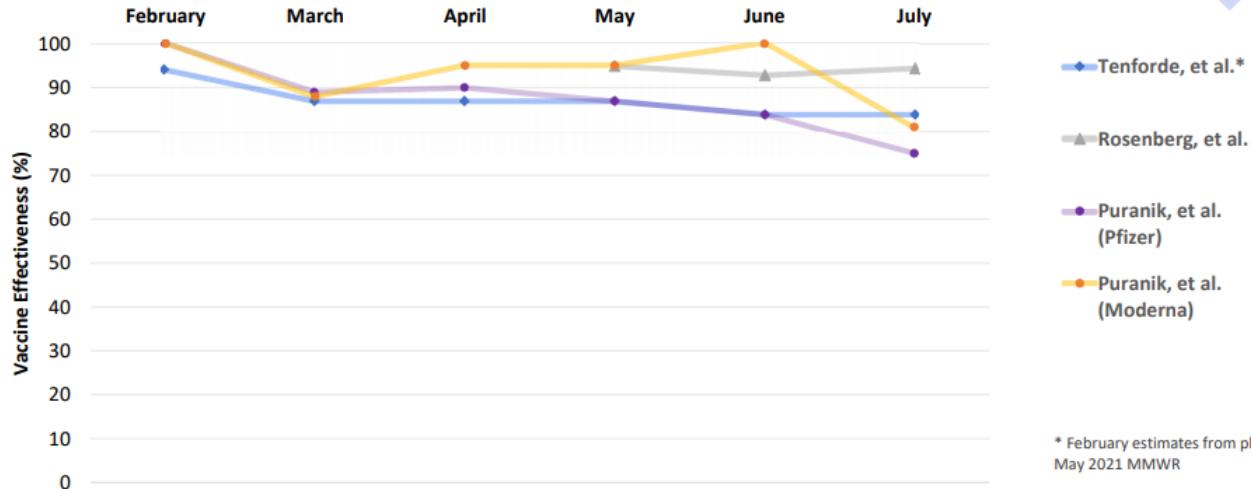
## Reduced Risk of Reinfection with SARS-CoV-2 After COVID-19 Vaccination — Kentucky, May–June 2021

- Previously infected patients who were RE-infected at least 6 months later were 2.3x less likely to be vaccinated  
i.e. vaccine boosts immunity from prior infection substantially

# Do we need vaccine boosters?

- Distinction: Later boosters for waning immunity vs third doses in a primary series for poor initial immune response (e.g. immunocompromised patients)
- Empirically, less protection by vaccine against infection than earlier; protection against severe disease less affected
  - Is immunity waning over time or are vaccines less effective against Delta variant? OR both?
- Data is available for mRNA vaccines, not much for J&J Ad.26 vaccine

## Booster doses of COVID-19 vaccines: Vaccine effectiveness against hospitalization



Tenforde, et al.\*

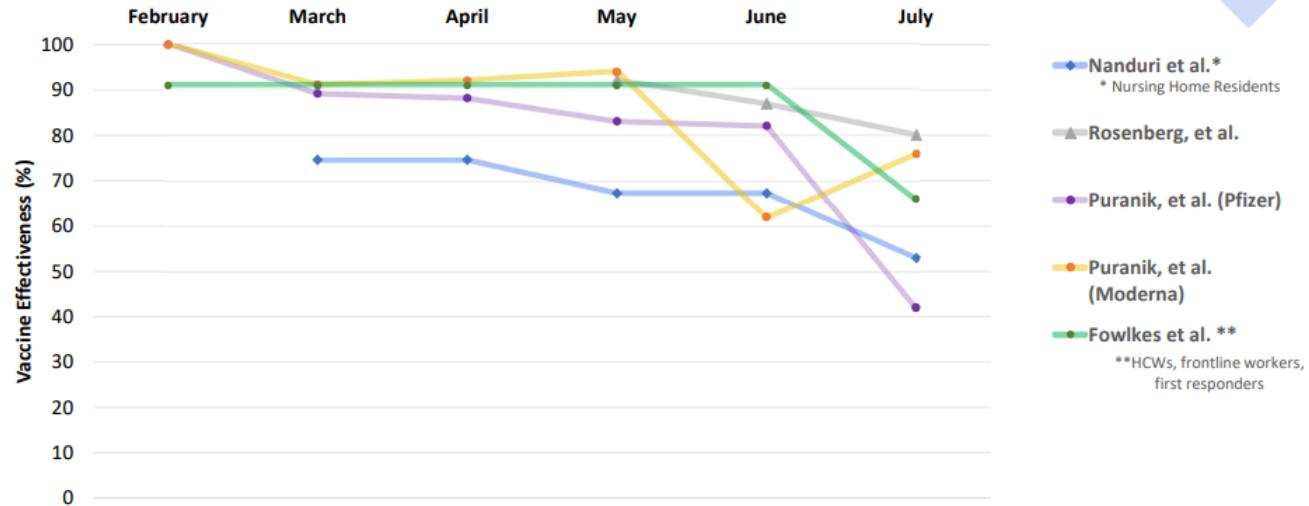
Rosenberg, et al.

Puranik, et al.  
(Pfizer)

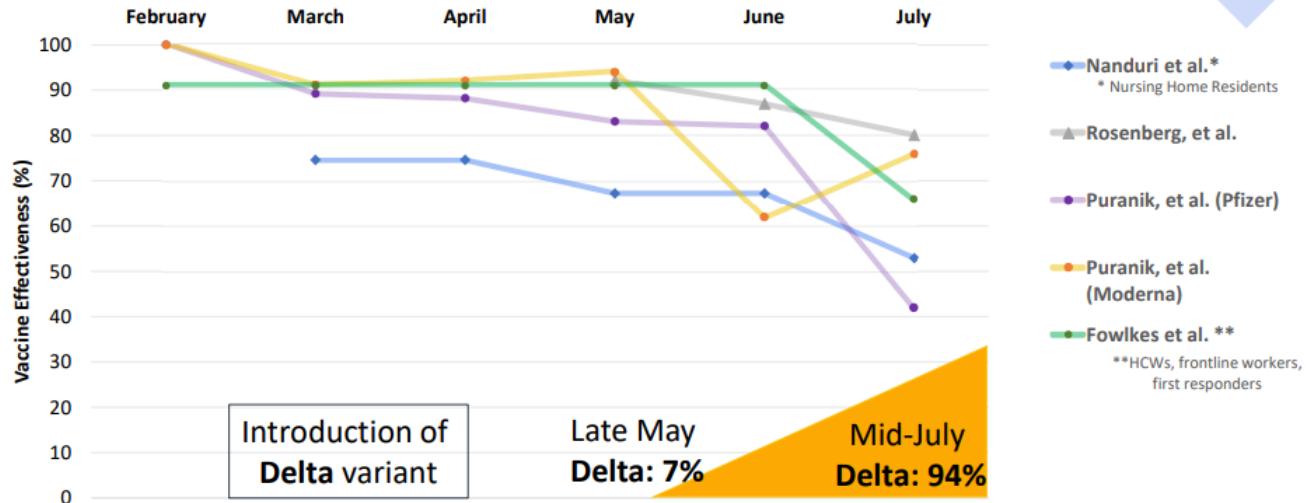
Puranik, et al.  
(Moderna)

\* February estimates from platform's  
May 2021 MMWR

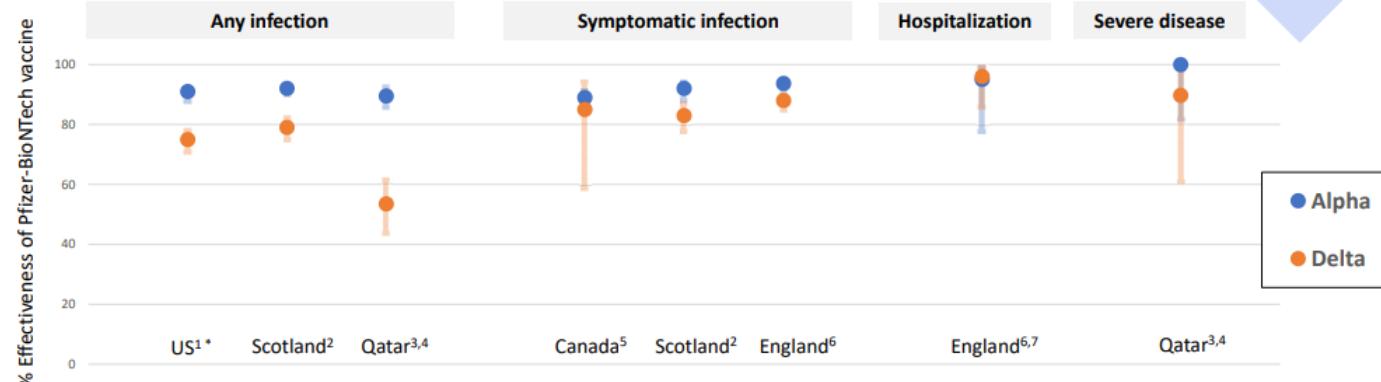
## Booster doses of COVID-19 vaccines: Vaccine effectiveness against infection



## Booster doses of COVID-19 vaccines: Vaccine effectiveness against infection



## Booster doses of COVID-19 vaccines: Is effectiveness reduced because of the Delta variant?



- Globally, among studies assessing infections with Alpha vs Delta: mild decrease in Delta VE<sup>1-7</sup>
- Other factors may include study methods, **interval** between doses, and **timing** with vaccination and variant increases

# Decisions re mRNA vaccine boosters

- FDA must decide whether to authorize (EUA) first
  - VRBPAC meeting 9/17
- If it does, ACIP then makes recommendation for HOW to use
  - Met 8/13 and 8/30 to discuss framework for booster decisions, and is meeting again on 9/29 to review further data in light of FDA decision
- Ethics : boosters vs first doses
  - Esp with regard to global vax supply

**Considerations in boosting COVID-19 vaccine immune responses** **THE LANCET**

- Lancet Published Online September 13, 2021 [https://doi.org/10.1016/S0140-6736\(21\)02046-8](https://doi.org/10.1016/S0140-6736(21)02046-8)

# Questions and Answers

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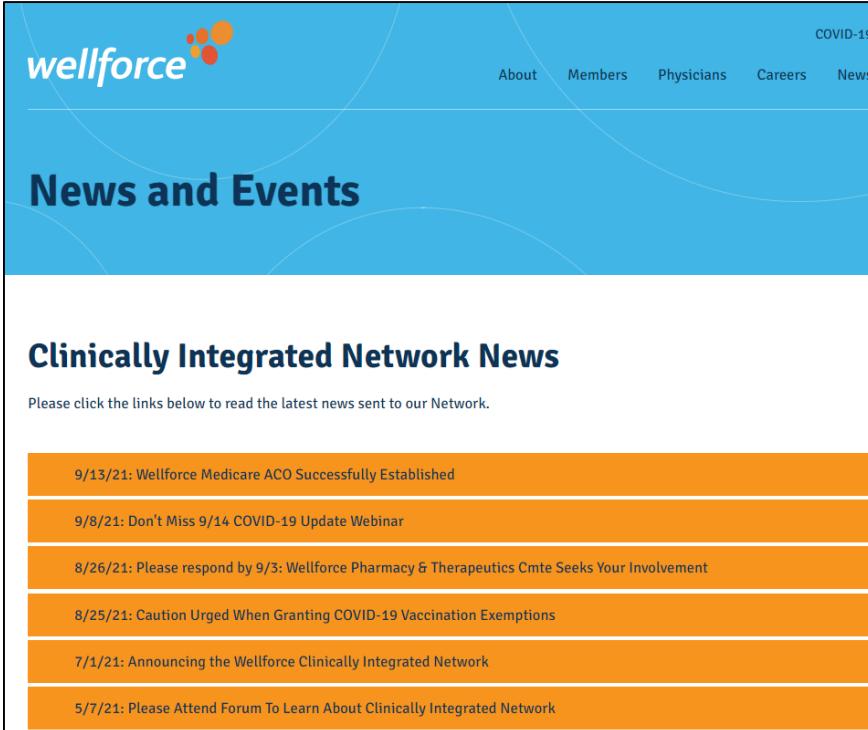
Adam Weston, MD and Ben Kruskal, MD

# Helpful Resources

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# Learn About The Latest Network Developments

<https://www.wellforce.org/physicians/clinically-integrated-network/news>



The screenshot shows the Wellforce website's news section. The header features the Wellforce logo with three colored dots (blue, orange, yellow) to the right of the word 'wellforce'. The top navigation bar includes links for 'About', 'Members', 'Physicians', 'Careers', 'News', and 'COVID-19'. A large blue header banner contains the text 'News and Events'. Below this, a section titled 'Clinically Integrated Network News' is displayed. A sub-instruction 'Please click the links below to read the latest news sent to our Network.' is followed by a list of news items, each with a date and a brief description. The news items are presented in a vertical list with orange horizontal bars behind them.

## News and Events

### Clinically Integrated Network News

Please click the links below to read the latest news sent to our Network.

- 9/13/21: Wellforce Medicare ACO Successfully Established
- 9/8/21: Don't Miss 9/14 COVID-19 Update Webinar
- 8/26/21: Please respond by 9/3: Wellforce Pharmacy & Therapeutics Cmte Seeks Your Involvement
- 8/25/21: Caution Urged When Granting COVID-19 Vaccination Exemptions
- 7/1/21: Announcing the Wellforce Clinically Integrated Network
- 5/7/21: Please Attend Forum To Learn About Clinically Integrated Network

# Missed a Webinar?

<https://www.wellforce.org/physicians/webinar-series>

## COVID-19 Update Webinars

Expand the accordion to get details about each webinar, including the presenters and links to the recordings and presentations.

August 11, 2021: NEQCA COVID-19 Update

July 15, 2021: NEQCA COVID-19 Update

May 20, 2021: NEQCA COVID-19 Update

April 7, 2021: NEQCA COVID-19 Update

December 16, 2020: Understanding the role of vaccines

September 9, 2020: COVID-19 Update: Testing, Re-infection, Protecting Health Care Workers in the Ambulatory Setting, and More

Private Practice Recession Survival Guide

## Coding Webinars

Expand the accordion to get details about each webinar, including the presenters and links to the recordings and presentations.

July 22, 2021: Risk Adjustment Coding Mid-Year Check-In

March 18, 2021: The Medicare Annual Wellness Visit

February 18, 2021: It's a New Year: Top 10 Areas of Focus for Risk Adjustment Coding for 2021

January 6, 2021: Coding Changes Now in Effect

December 12, 2020: Preparing for 2021 E/M Office Visit Coding Changes

Joining Amwell Medical Group

Insights into the CARES Act – Employer and Employment Considerations

## Telehealth Webinars

Expand the accordion to get details about each webinar, including the presenters and links to the recordings and presentations.

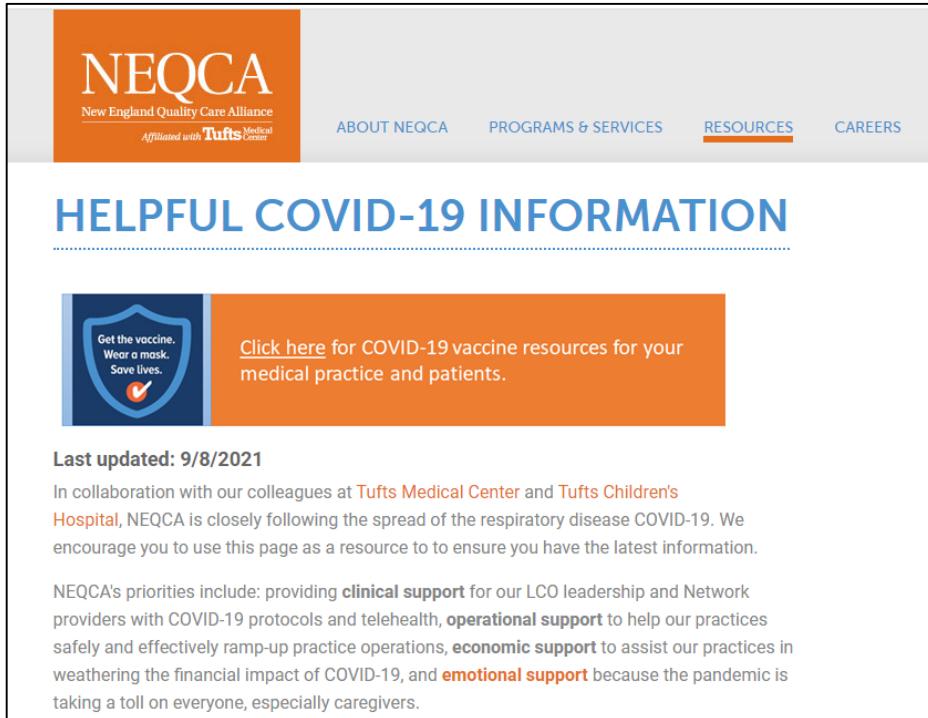
July 22, 2021: Telehealth Laws and Regulations: What You Need to Know

October 12, 2020: Telehealth: Innovative Approaches to Physical Exams, Best Practices and Common Coding Issues

Tips for Telehealth Success

# Looking for COVID-19 Practice Resources?

<https://www.neqca.org/Resources/COVID-19>



The screenshot shows the NEQCA website with a header in orange and grey. The header includes the NEQCA logo, a Tufts Medical Center affiliation, and navigation links for About, Programs & Services, Resources (which is underlined in orange), and Careers. Below the header, a large blue section header reads "HELPFUL COVID-19 INFORMATION". Underneath, there is a blue shield icon with the text "Get the vaccine. Wear a mask. Save lives." and a red checkmark. To the right of the icon is a call-to-action button: "Click here for COVID-19 vaccine resources for your medical practice and patients." Below this section, a "Last updated: 9/8/2021" note is followed by a paragraph about collaboration with Tufts Medical Center and Tufts Children's Hospital. The final section discusses NEQCA's priorities, mentioning clinical support, operational support, economic support, and emotional support.

NEQCA  
New England Quality Care Alliance  
Affiliated with Tufts Medical Center

ABOUT NEQCA PROGRAMS & SERVICES RESOURCES CAREERS

## HELPFUL COVID-19 INFORMATION

 Click here for COVID-19 vaccine resources for your medical practice and patients.

Last updated: 9/8/2021

In collaboration with our colleagues at [Tufts Medical Center](#) and [Tufts Children's Hospital](#), NEQCA is closely following the spread of the respiratory disease COVID-19. We encourage you to use this page as a resource to ensure you have the latest information.

NEQCA's priorities include: providing **clinical support** for our LCO leadership and Network providers with COVID-19 protocols and telehealth, **operational support** to help our practices safely and effectively ramp-up practice operations, **economic support** to assist our practices in weathering the financial impact of COVID-19, and **emotional support** because the pandemic is taking a toll on everyone, especially caregivers.