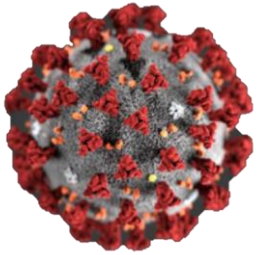
New Hampshire COVID-19 Healthcare Provider and Public Health Partner Call

April 14, 2022



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Healthcare Provider & Public Health Partner Calls

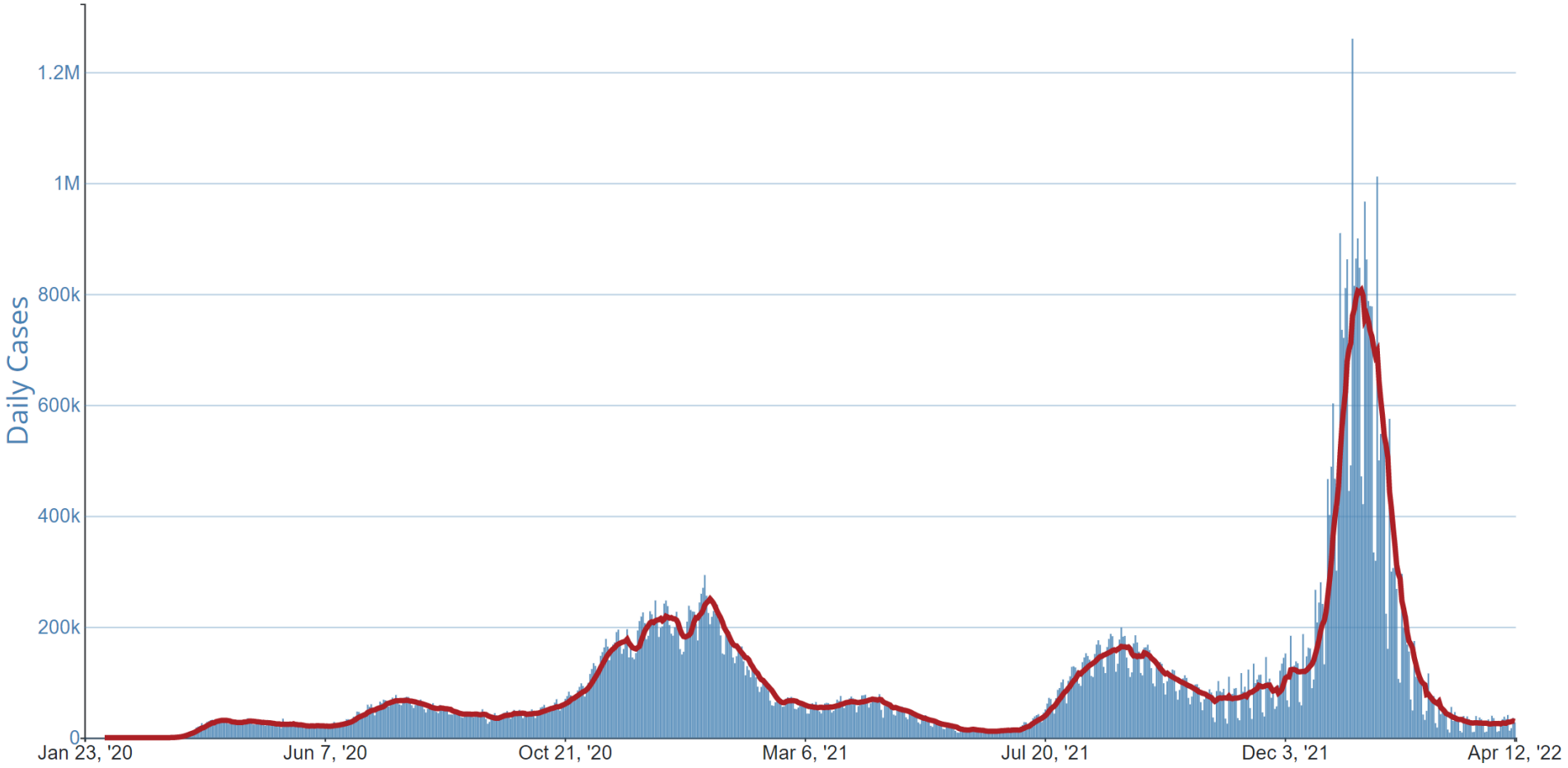
- **Changing to once a month on the 2nd Thursday** of each month from 12:00-1:00 pm (Next call will be May 12th)
- Webinar/call information (unchanged):
  - Zoom link: https://nh-dhhs.zoom.us/s/94059287404
  - Webinar ID: 940 5928 7404
  - Passcode: 353809
  - Telephone: 646-558-8656

Agenda

- Epidemiology update
- COVID-19 vaccination guidance update
- Changes to CARES Act test reporting requirements
- COVID-19 association with diabetes and neurological symptoms
- Q&A

Epidemiology Update

U.S. National Daily Incidence of COVID-19



https://covid.cdc.gov/covid-data-tracker/#trends_dailycases

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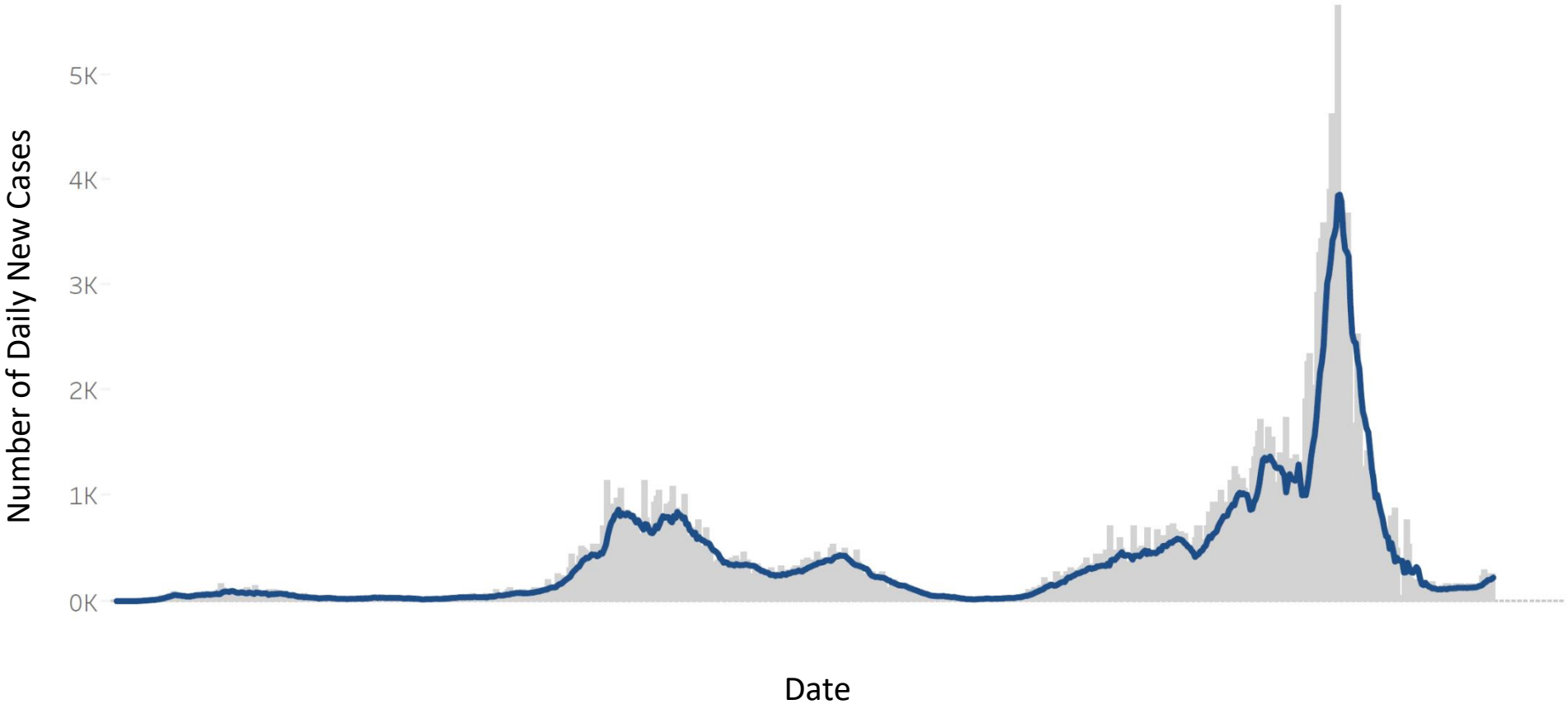
Number of New COVID-19 Cases per Day in NH



https://www.covid19.nh.gov/dashboard/trends

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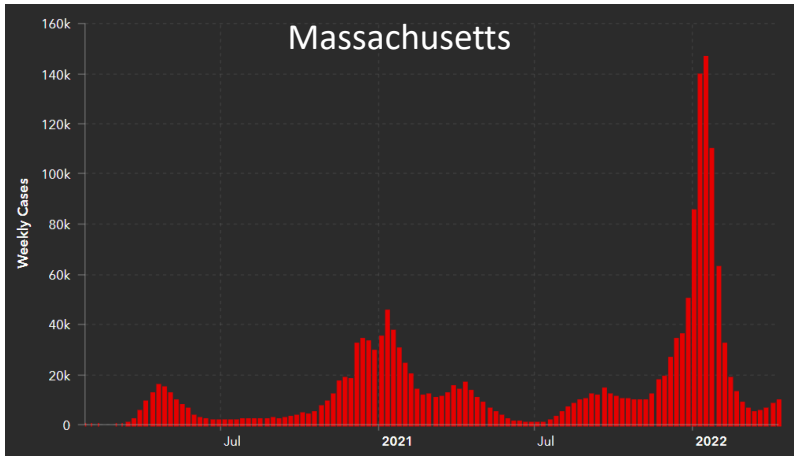
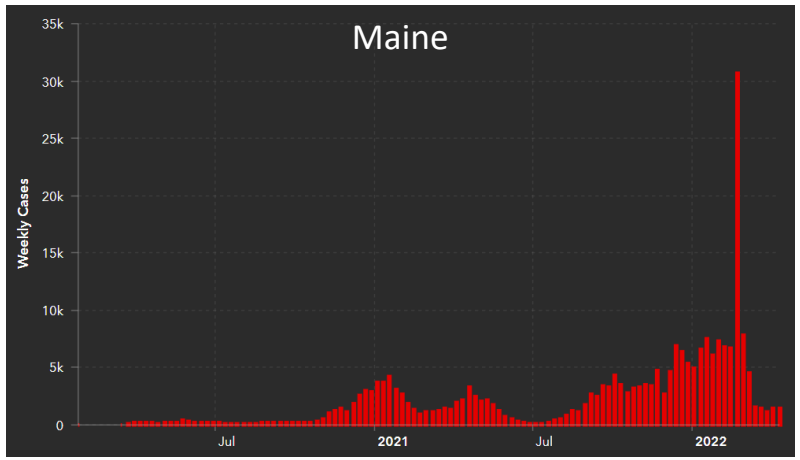
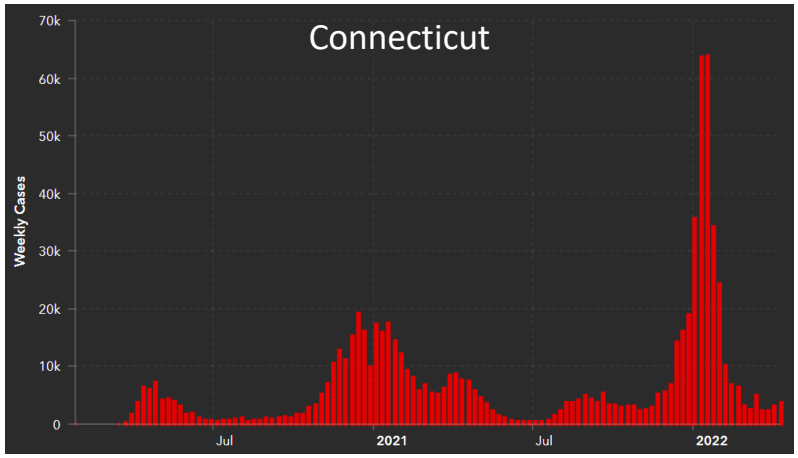
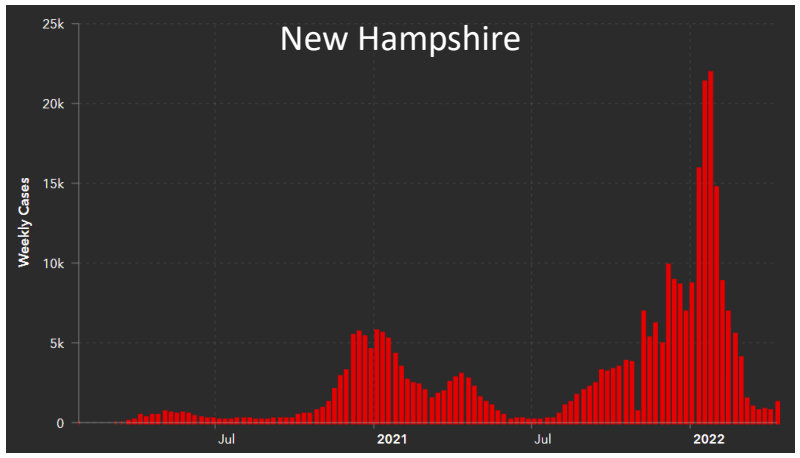
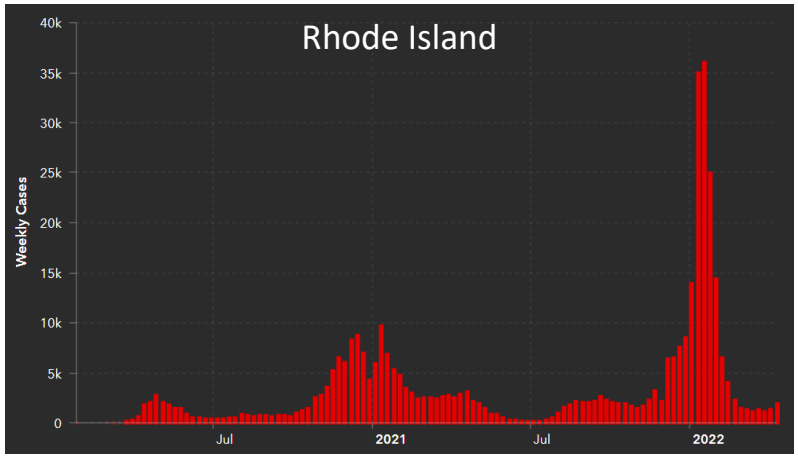
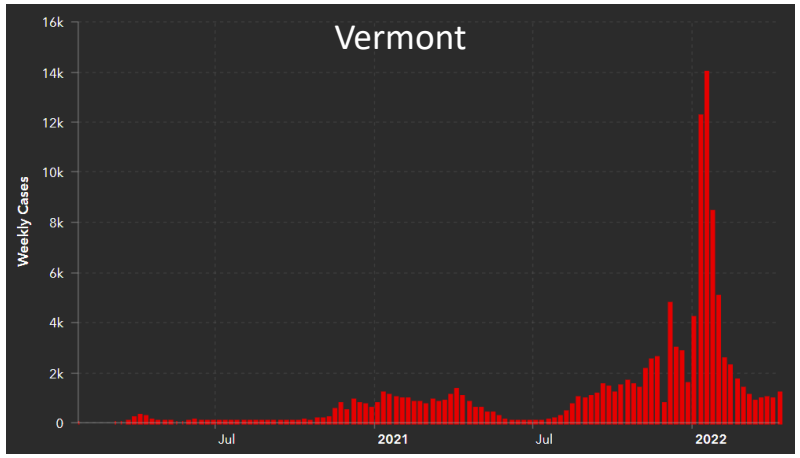

Massachusetts
Weekly Cases
160k
140k
120k
100k
80k
60k
40k
20k
0
Jul
2021
Jul
2022


Maine
Weekly Cases
35k
30k
25k
20k
15k
10k
5k
0
Jul
2021
Jul
2022

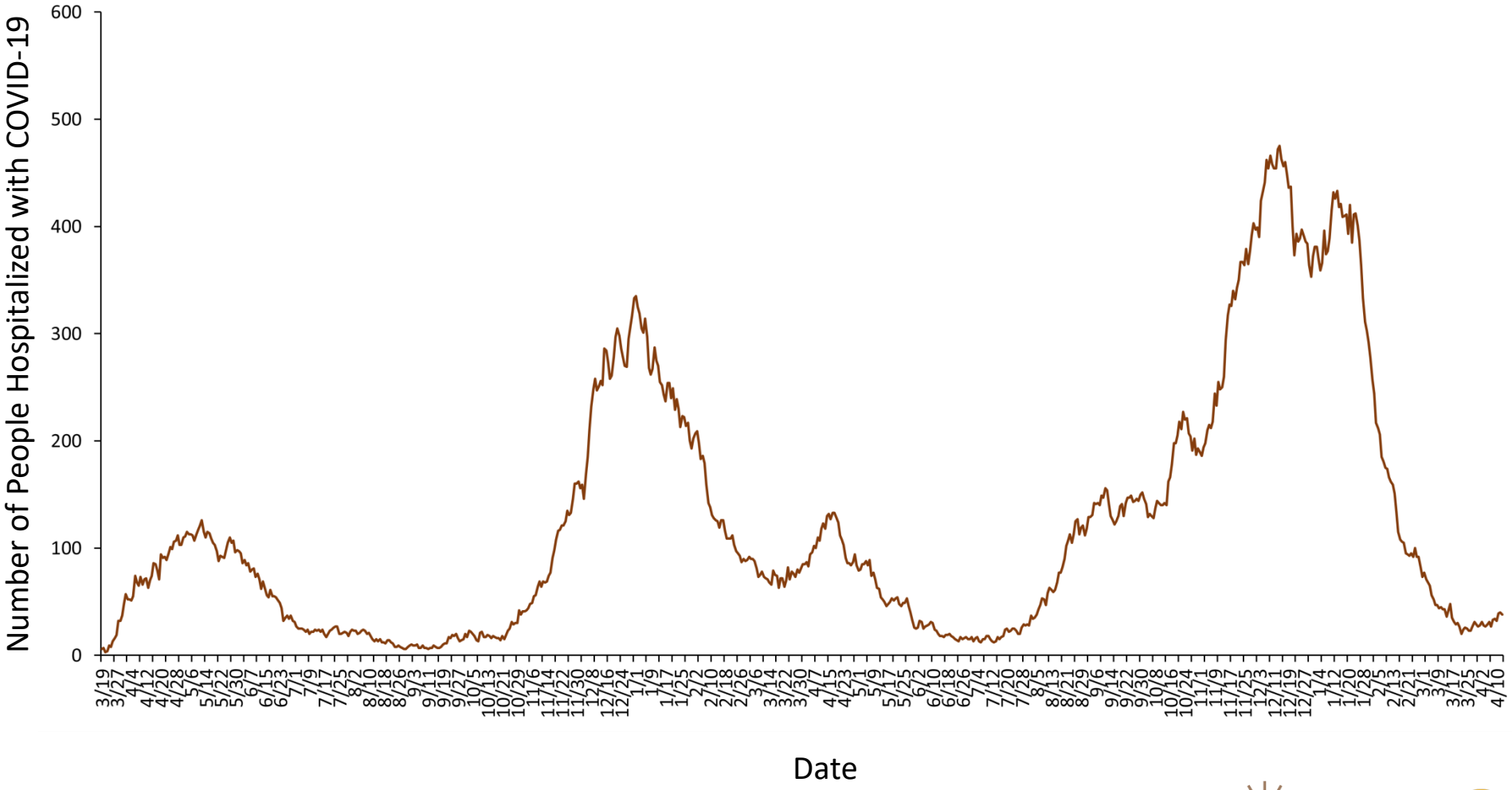

Connecticut
Weekly Cases
70k
60k
50k
40k
30k
20k
10k
0
Jul
2021
Jul
2022


New Hampshire
Weekly Cases
25k
20k
15k
10k
5k
0
Jul
2021
Jul
2022


Rhode Island
Weekly Cases
40k
35k
30k
25k
20k
15k
10k
5k
0
Jul
2021
Jul
2022


Vermont
Weekly Cases
16k
14k
12k
10k
8k
6k
4k
2k
0
Jul
2021
Jul
2022

Number of People Hospitalized with COVID-19 Each Day in NH (Hospital Census)



https://nhha.org/index.php/whats-new/1545-coronavirus-disease-2019-covid-19-outbreak

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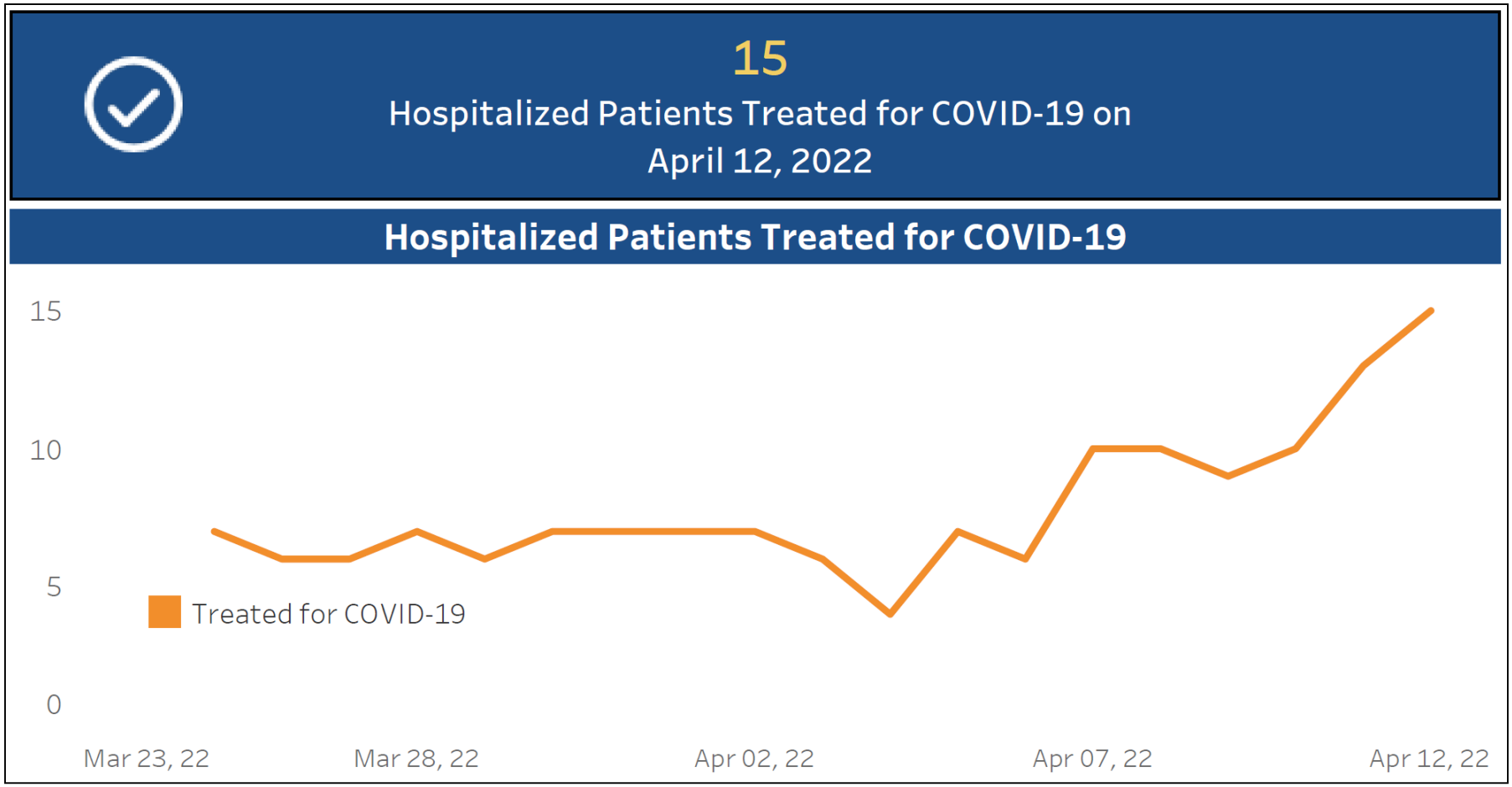
Number of People Hospitalized & Treated for COVID-19 in NH



https://www.covid19.nh.gov/dashboard/hospitals

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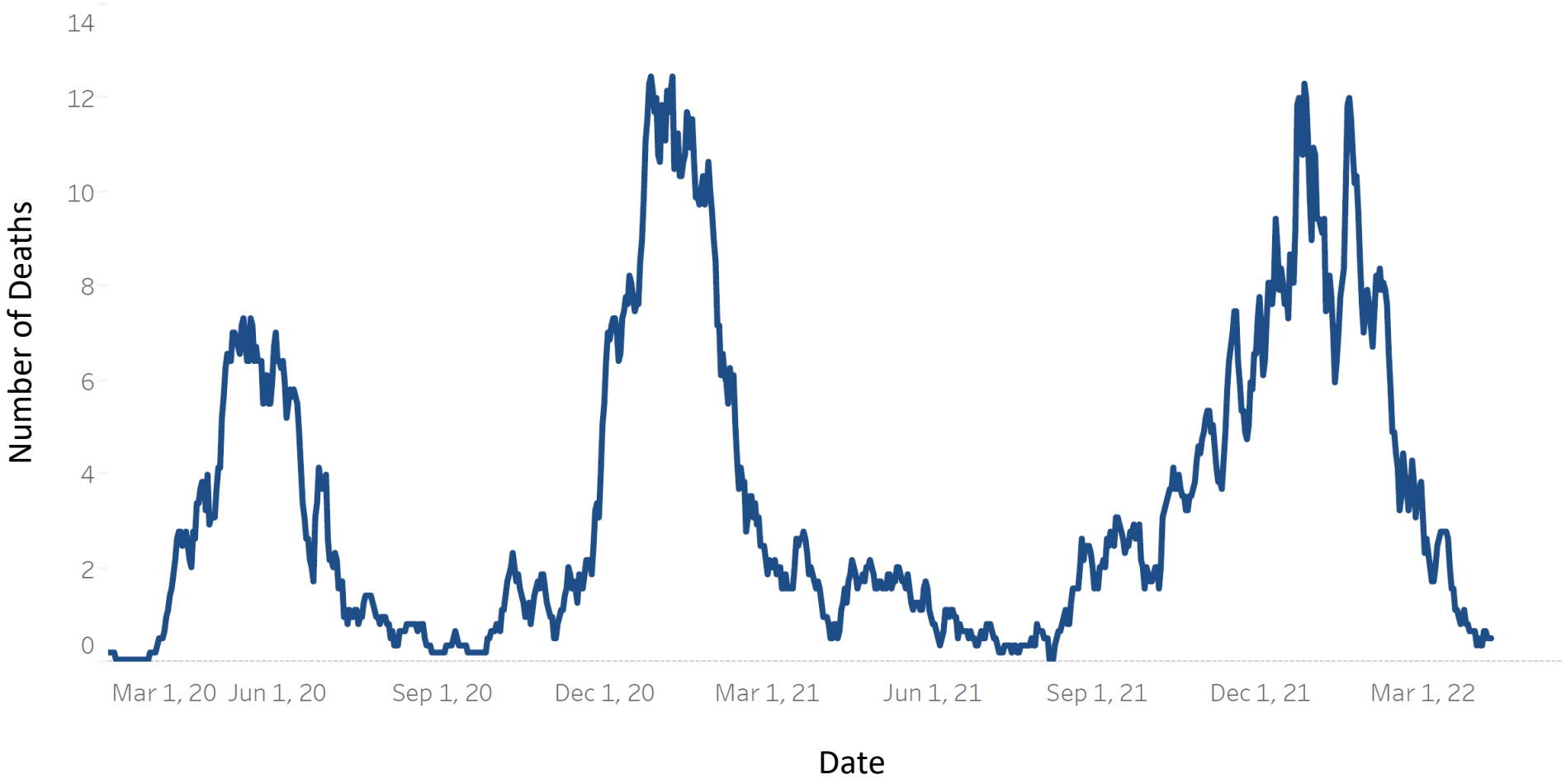
Average Number of COVID-19 Deaths per Day in NH (Based on Date of Death)



https://www.covid19.nh.gov/dashboard/trends

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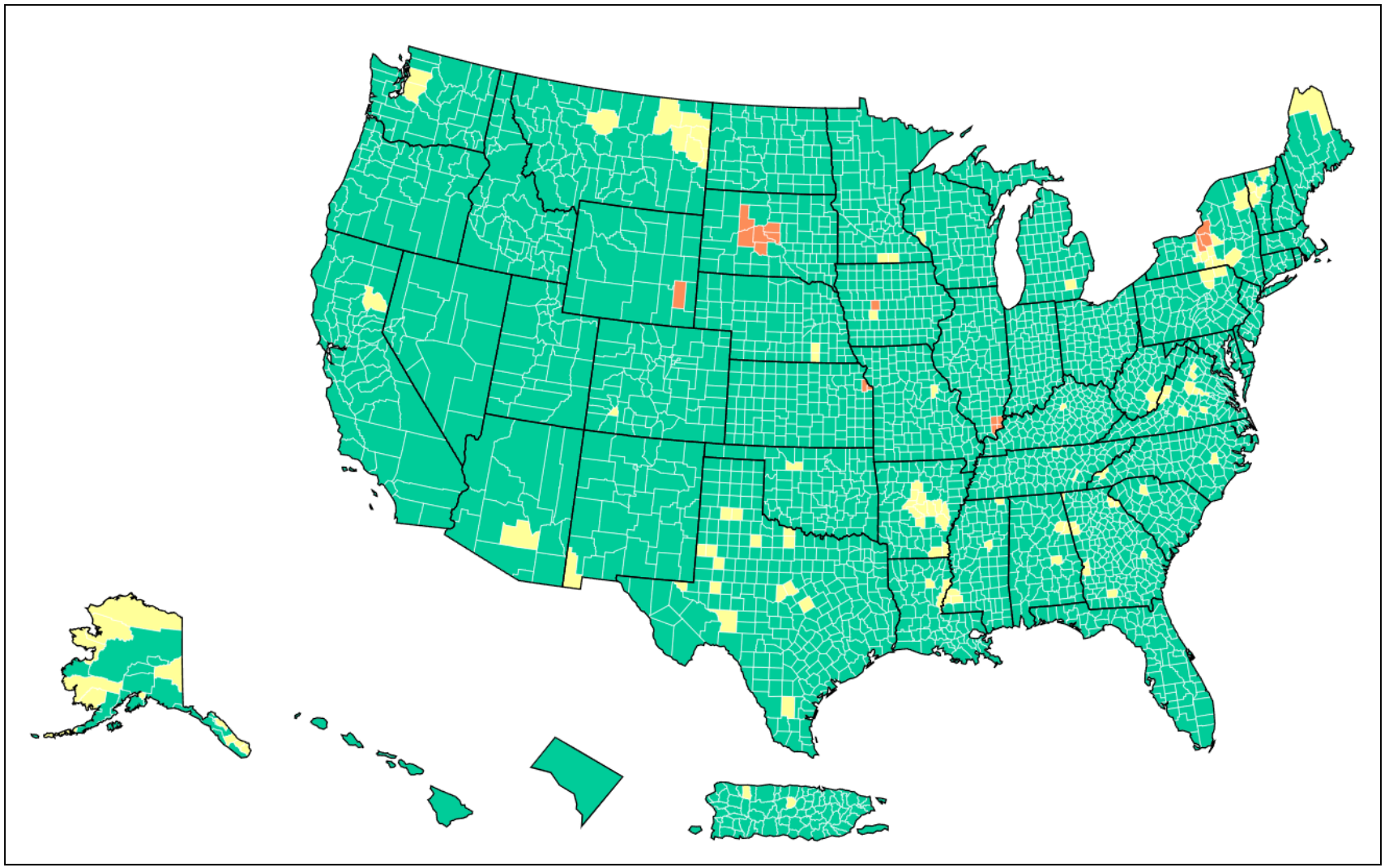
CDC’s COVID-19 Community Levels



https://www.cdc.gov/coronavirus/2019-ncov/your-health/covid-by-county.html

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COVID-19 Vaccination Guidance Update

THIS IS AN OFFICIAL NH DHHS HEALTH ALERT

Distributed by the NH Health Alert Network
DHHS.Health.Alert@dhhs.nh.gov
March 31, 2022 Time 1700 (5:00PM EDT)
NH-HAN 20220331

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COVID-19 Pandemic, Update # 59

Updated Vaccine Recommendations and Test Reporting Requirements

Key Points and Recommendations:

- The CDC has updated their Interim Clinical Considerations for Use of COVID-19 Vaccines to allow for a 2nd booster dose in certain persons (in addition to other updates):
  - Persons 12 years of age or older who are moderately or severely immunocompromised may choose to receive a 2nd mRNA booster at least 4 months after their 1st booster
  - All persons 50 years of age or older (regardless of immunocompromised status) may choose to receive a 2nd mRNA booster at least 4 months after their 1st booster
  - Persons 18-49 years of age (regardless of immunocompromised status) who received the Janssen COVID-19 vaccine for both their primary series and 1st booster may receive a 2nd mRNA booster at least 4 months after their Janssen booster
  - Providers should note that time intervals differ depending on the vaccine product a person received for primary vaccination, their immunocompromised status, and booster dose number (see COVID-19 vaccination schedules, and Table 2 & Table 3)
  - Review updated guidance when vaccinating people with a history of Multisystem Inflammatory Syndrome in children (MIS-C) or adults (MIS-A)
  - Review CDC's updated table of vaccine Contraindications and Precautions
  - Review Appendix D (Tables D1 and D2) for additional guidance on primary series and additional dose vaccination in people moderately or severely immunocompromised
  - There will soon be a new multi-dose vial presentation of the Moderna vaccine with a blue cap (see new FDA Fact Sheet) which is authorized for use ONLY as a 50 mcg booster dose (not for primary series vaccination); however, it is administered at a different volume then a 50 mcg booster dose given from a Moderna vial with a red cap (see separate FDA Fact Sheet)
- The federal CARES Act has updated COVID-19 test reporting requirements (see also CDC Lab Advisory). Beginning April 4th:
  - All Nucleic Acid Amplification Test (NAAT) results (positive, negative, inconclusive, etc.) which are performed in a facility certified by CLIA must continue to be reported
  - Only positive antigen (or other rapid non-NAAT) test results must be reported from providers and testing locations operating under a CLIA certificate; negative antigen tests do NOT need to be reported
  - At-home or self-administered tests do NOT need to be reported
  - Antibody test results do NOT need to be reported
  - See NH DPHS guidance for reporting point of care test results

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2nd Booster Doses with an mRNA Vaccine Are Allowed ("May Choose") for Certain Persons

- Any person 50 years of age or older (regardless of immunocompromised status or which primary series vaccine a person received)
- Persons 12-49 years of age who are moderately-severely immunocompromised
- Persons 18-49 years of age (regardless of immunocompromised status) who received the Janssen COVID-19 vaccine for BOTH their primary series and 1st booster
  - Note: persons who received the Janssen vaccine for their primary vaccination followed by an mRNA booster do NOT qualify for a 2nd booster

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Early Release / Vol. 71
March 29, 2022

Effectiveness of Homologous and Heterologous COVID-19 Booster Doses Following 1 Ad.26.COV2.S (Janssen [Johnson & Johnson]) Vaccine Dose Against COVID-19–Associated Emergency Department and Urgent Care Encounters and Hospitalizations Among Adults — VISION Network, 10 States, December 2021–March 2022

- The VISION Network: studied real-world vaccine effectiveness (VE) for the following groups:
  - Janssen primary + Janssen booster (2 Janssen)
  - Janssen primary + mRNA booster (1 Janssen/1 mRNA)
  - mRNA primary + mRNA booster (3 mRNA)
- Evaluated VE during time period of 12/16/21 – 3/7/22 (Omicron)
- Evaluated VE at preventing lab-confirmed COVID-19 associated ED/UC encounters and hospitalizations

https://www.cdc.gov/mmwr/volumes/71/wr/mm7113e2.htm

Study Results

TABLE 2. Vaccine effectiveness* of 1 primary Janssen vaccine dose, homologous and heterologous boosters following primary Janssen vaccination, and 3 mRNA COVID-19 vaccine doses† against laboratory-confirmed COVID-19–associated emergency department and urgent care encounters and hospitalizations among adults aged ≥18 years§ — VISION Network, 10 states, December 2021–March 2022¶

Medical event, vaccination status (days since most recent dose)	Total	Positive SARS-CoV-2 result, no. (%)	VE %* (95% CI)
ED/UC events (N = 80,287)			
Unvaccinated (Ref)	**52,025**	23,560 (45.3)	Ref
1 Janssen dose ≥14 days earlier (median = 262 days [range = 196–293])	**4,514**	1,652 (36.6)	24 (18–29)
2 Janssen doses (7–120 days)	**467**	135 (28.9)	54 (43–63)
1 Janssen/1 mRNA dose (7–120 days)	**1,271**	166 (13.1)	79 (74–82)
3 mRNA doses (7–120 days)	**22,010**	2,614 (11.9)	83 (82–84)
Hospitalizations (N = 25,244)			
Unvaccinated (Ref)	**15,424**	7,271 (47.1)	Ref
1 Janssen dose ≥14 days earlier (median = 264 days [range = 199–294])	**1,451**	518 (35.7)	31 (21–40)
2 Janssen doses (7–120 days)	**164**	47 (28.7)	67 (52–77)
1 Janssen/1 mRNA dose (7–120 days)	**373**	59 (15.8)	78 (70–84)
3 mRNA doses (7–120 days)	**7,832**	775 (9.9)	90 (88–91)

Abbreviations: ED = emergency department; UC = urgent care; Ref = referent group; VE = vaccine effectiveness.

https://www.cdc.gov/mmwr/volumes/71/wr/mm7113e2.htm

COVID-19 vaccination schedule for people who are **not** moderately or severely immunocompromised*

Vaccine	0 month	1 month	2 month	3 month	4 month	5 month	6 month	7 month	8 month	9 month	10 month	11 month
Pfizer-BioNTech (ages 5–11 years)	**1st dose**	**2nd dose** (3 weeks after 1st dose)										
Pfizer-BioNTech (ages 12 years and older)	**1st dose**	**2nd dose†** (3-8 weeks after 1st dose)					**Booster dose‡** (at least 5 months after 2nd dose)				See footnote§	
Moderna (ages 18 years and older)	**1st dose**	**2nd dose†** (4-8 weeks after 1st dose)					**Booster dose‡** (at least 5 months after 2nd dose)				See footnote§	
Janssen (ages 18 years and older)	**1st dose**		**Booster dose‡** (at least 2 months after 1st dose)				See footnote§					

COVID-19 vaccination schedule for people who are moderately or severely immunocompromised

Vaccine	0 month	1 month	2 month	3 month	4 month	5 month	6 month	7 month	8 month	9 month
Pfizer-BioNTech (ages 5–11 years)	**1st dose**	**2nd dose** (3 weeks after 1st dose)	**3rd dose** (at least 4 weeks after 2nd dose)							
Pfizer-BioNTech (ages 12 years and older)	**1st dose**	**2nd dose** (3 weeks after 1st dose)	**3rd dose** (at least 4 weeks after 2nd dose)			**Booster dose*** (at least 3 months after 3rd dose)				See footnote§
Moderna (ages 18 years and older)	**1st dose**	**2nd dose** (4 weeks after 1st dose)	**3rd dose** (at least 4 weeks after 2nd dose)			**Booster dose*** (at least 3 months after 3rd dose)				See footnote§
Janssen (ages 18 years and older)	**1st dose**	**2nd** (additional) dose† using an mRNA COVID-19 vaccine (at least 4 weeks after 1st dose)		**Booster dose*** (at least 2 months after additional dose)				See footnote§		

D1. People who are moderately or severely immunocompromised and initiate a Janssen COVID-19 Vaccine primary series

COVID-19 vaccination history	And	Then	Next dose due
1 dose	The dose was Janssen COVID-19 Vaccine	Administer a second (additional) dose using an mRNA vaccine at least 28 days after the 1st dose. • Pfizer: 0.3mL, or • Moderna 0.5mL (red cap)	Administer a booster dose at least 2 months after the 2nd dose.*† • Pfizer: 0.3mL, or • Moderna: 0.25mL (red cap) or 0.5 mL (blue cap), or • Janssen: 0.5mL (mRNA is preferred over Janssen)
2 doses	Both doses are Janssen COVID-19 Vaccine	Administer a third (additional) dose using an mRNA vaccine at least 2 months after the 2nd dose. • Pfizer: 0.3mL, or • Moderna: 0.5mL (red cap)	No additional vaccinations needed.†
	1 dose of Janssen COVID-19 Vaccine and 1 dose of an mRNA COVID-19 vaccine (given as booster dose, i.e., Pfizer 0.3mL or Moderna 0.25mL [red cap], or Moderna 0.5mL [blue cap]) ‡	Administer a third (additional) dose using an mRNA vaccine at least 2 months after the 2nd dose. • Pfizer: 0.3mL, or • Moderna: 0.5mL (red cap)	No additional vaccinations needed.†
	1 dose of Janssen COVID-19 Vaccine and 1 dose of an mRNA COVID-19 vaccine (given as additional dose, i.e., Pfizer 0.3mL or Moderna 0.5mL [red cap]) ‡	Administer a booster dose of any COVID-19 vaccine 2 months after the 2nd dose. • Pfizer: 0.3mL, or • Moderna: 0.25mL (red cap) or 0.5mL (blue cap), or • Janssen: 0.5mL (mRNA is preferred over Janssen)	No additional vaccinations needed.†

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#appendix-d

D2. People who are moderately or severely immunocompromised and initiate an mRNA COVID-19 vaccine primary series

COVID-19 vaccination history	And	Then	Next dose due
1 dose	The dose was an mRNA vaccine	Administer a second primary series dose of the same mRNA vaccine • 3 weeks after the first dose, if Pfizer-BioNTech • 4 weeks after the first dose, if Moderna	Administer a third primary series dose of the same mRNA vaccine at least 4 weeks after the second dose. Then, administer a booster dose at least 3 months after the third dose.*†
2 doses	The 2 doses are the same mRNA vaccine (both Pfizer-BioNTech or both Moderna)	Administer a third primary series dose of the same mRNA vaccine at least 28 days after the second dose.	Administer a booster dose at least 3 months after the third primary series dose.*†
	The 2 doses are different mRNA vaccines (1 dose Pfizer-BioNTech and 1 dose Moderna)	Administer a third primary series dose of either mRNA vaccine at least 28 days after the second dose.	Administer a booster dose at least 3 months after the third primary series dose.*†
	The 2 doses are different types of vaccines (1 dose of an mRNA vaccine and 1 dose of Janssen)	This is considered a Janssen COVID-19 Vaccine primary series. Administer an additional dose of Pfizer-BioNTech or Moderna at least 28 days after the Janssen COVID-19 Vaccine.	Administer a booster dose at least 2 months after the additional mRNA vaccine dose.*†
3 doses	3 primary series doses of an mRNA vaccine (includes 3 doses of the same mRNA vaccine or a mixed mRNA vaccine series)	Administer a booster dose of any vaccine (mRNA preferred) at least 3 months after the last dose given. • Pfizer: 0.3 mL, or • Moderna 0.25 mL (red cap) or 0.5 mL (blue cap), or • Janssen: 0.5 mL (mRNA is preferred over Janssen)	No additional vaccinations needed.†
	2 primary series doses of an mRNA vaccine and 1 booster dose of any vaccine	Administer a fourth dose of an mRNA vaccine at least 3 months after the last dose given. • Pfizer: 0.3 mL, or • Moderna 0.5 mL (red cap)	No additional vaccinations needed.†

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#appendix-d

New Moderna Presentation/Vial (Blue Cap)

	Primary Series and Booster Dose Presentation	Booster Dose Only Presentation
Age Group	18 years of age and older	18 years of age and older
Vial Cap Color	Red 	Blue 
Dose Volume	Primary Series Dose: **Each 0.5 mL** Booster Dose: **0.25 mL**	Booster Dose: **0.5 mL**
Dose Per Vial	Primary series doses only: **maximum of 11 doses (range: 10-11 doses)** Booster doses only: **maximum of 20 doses** Combination of primary series doses and booster doses: **maximum of 20 doses**	Booster doses: **5 doses**
Vial Label	 NDC 80777-273-10	 NDC 80777-275-05
Carton	 NDC 80777-273-99	 NDC 80777-275-99

FDA Fact Sheet Red Cap Vial: https://www.fda.gov/media/157233/download
FDA Fact Sheet Blue Cap Vial: https://www.fda.gov/media/157232/download

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Nuanced Aspects of COVID-19 Vaccination

- Terminology: Primary series *vs.* "additional dose" *vs.* booster dose
  - The "additional dose" is for people who are moderately-severely immunocompromised
  - In certain situations the "additional dose" can be given after a "booster dose" (see Appendix D)
  - A single booster dose is recommended for everybody 12 years of age and older and now certain people are permitted ("may choose") to receive a 2nd booster dose
- Permissive vaccine recommendations ("may choose") for a 2nd booster dose for certain people
- "Self-attestation" process is recommended for people who are moderately-severely immunocompromised
- Number of doses permitted ranges from 2 doses up to 5 doses – dependent on primary vaccine series product and immunocompromised status
- Moderna booster is a different dose compared to the primary series or "additional dose" (50 mcg booster vs. 100 mcg)

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html

Nuanced Aspects of COVID-19 Vaccination

- Multiple vaccine presentations/formulations for the Pfizer-BioNTech COVID-19 vaccine (purple cap and gray cap vials for persons 12 years of age or older, and an orange cap vial pediatric formulation for children 5-11 years of age)
- Moderna has a new "presentation" (blue cap vial) which is only authorized for booster dose vaccination (50 mcg dose), but that dose is given as a different volume than when giving a booster dose from a red cap vial (0.5 mL from blue cap vial vs. 0.25 mL from red cap vial)
- Time interval for the 2nd dose in a primary series dose is a range: 3-8 weeks after first dose for Pfizer, 4-8 weeks after first dose for Moderna primary series (general public)
- Booster dose time intervals vary from 2-5 months depending on primary series vaccine received, immunocompromised status, and booster dose number
- Complicated list of medical screening questions and vaccine contraindications and precautions
- Emergency Use Instructions (EUI) for people who got vaccinated in another country with a non-FDA authorized COVID-19 vaccine (e.g., AstraZeneca COVID-19 vaccine)

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html

Changes to CARES Act COVID-19 Test Reporting Requirements

CARES Act COVID-19 Test Reporting Updates

- All Nucleic Acid Amplification Test (NAAT) results which are performed at a CLIA-certified facility must continue to be reported to NH DPHS
- Only positive antigen tests (or other rapid non-NAAT) test results need to be reported from providers and testing locations operating under a CLIA certificate
  - Negative antigen tests do NOT need to be reported
- At-home or self-administered tests do NOT need to be reported
- See NH DPHS guidance for reporting point-of-care test results

https://www.cdc.gov/coronavirus/2019-ncov/downloads/lab/HHS-Laboratory-Reporting-Guidance-508.pdf

Additional Information for Laboratories

How to Report COVID-19 Laboratory Data

Updated Apr. 4, 2022 Print

Summary of Recent Changes

Updates as of April 4, 2022

- Effective April 4, 2022, HHS and CDC announced revisions to COVID-19 laboratory reporting guidance [287 KB, 9 pages]. Reporting of negative results for non-NAAT tests (rapid or antigen test results) is no longer required. However, testing sites must still report data for all positive diagnostic and screening testing completed for each individual test.

https://www.cdc.gov/coronavirus/2019-ncov/lab/reporting-lab-data.html

COVID-19 Association with Diabetes and Neurological Symptoms

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Table. Patient Characteristics During the Year of the COVID-19 Pandemic[a] Compared With Prior Years

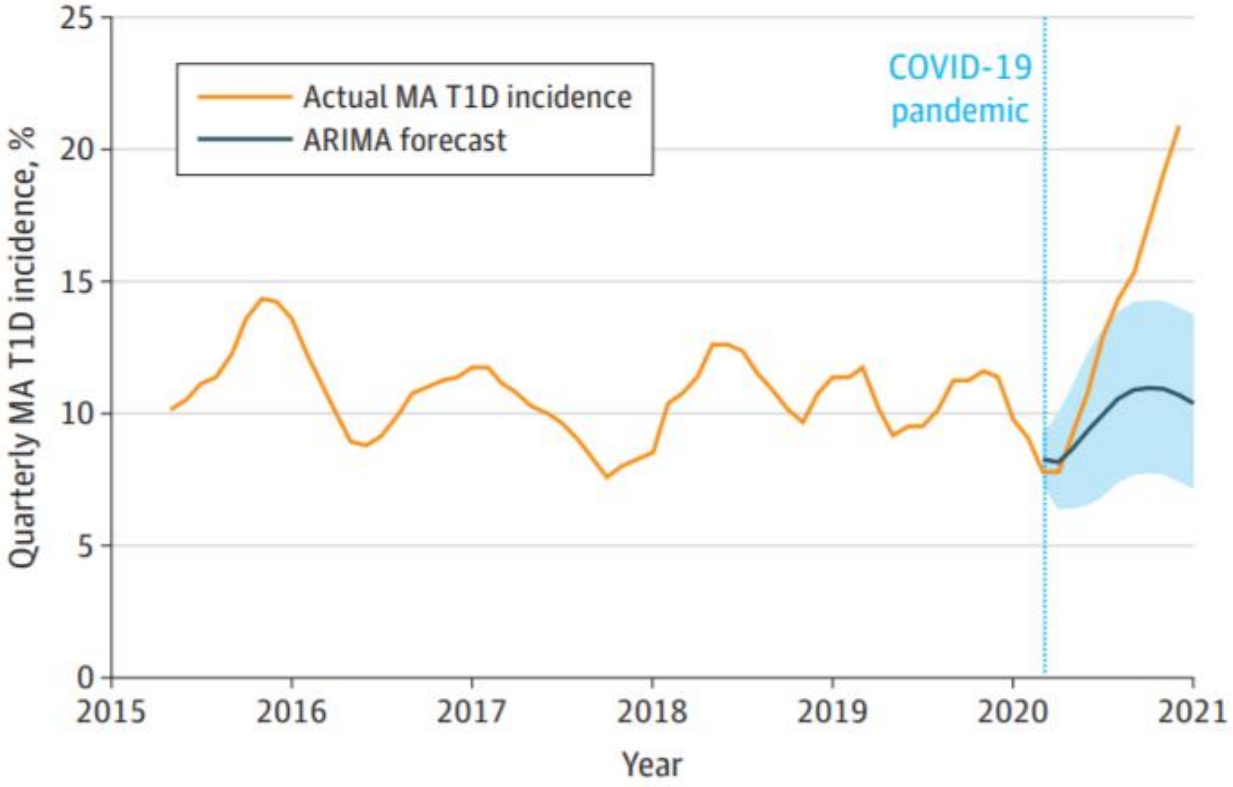
Characteristic	COVID-19 Year[a]	Pre-COVID-19 by 5 years[a]	*P* value
Total children, No.	187	641	NA
Age, mean (SD), y	9.6 (4.2)	9.7 (4.2)	.82
HbA_{1c} at presentation, mean (SD), %	11.6 (1.8)	11.7 (1.9)	.52
Body mass index *z* score, mean (SD)	−0.4 (1.8)	−0.4 (1.6)	.72
Children requiring insulin infusion, % (95% CI)	49.7 (42.6-56.8)	40.7[b]	.01
Children requiring PICU admission, % (95% CI)	8.6 (5.3-13.4)	6.4[b]	.39

JAMA Pediatrics. Jan 24, 2022. doi:10.1001/jamapediatrics.2021.5801

Incidence of New-Onset Type 1 Diabetes Among US Children During the COVID-19 Global Pandemic

- Four studies higher rate of presenting with T1D in DKA during pandemic, reflective of delayed health-seeking
- San Diego Children's Hospital observed increase in T1D, conducted 6y retrospective incidence review
  - T1D Ab, HA1c, +/- DKA, +/- PICU adm, COVID test
- Mar 2020-2021, 57% increase in T1D; inc DKA
  - Only 4 had active COVID by PCR (no Ab)

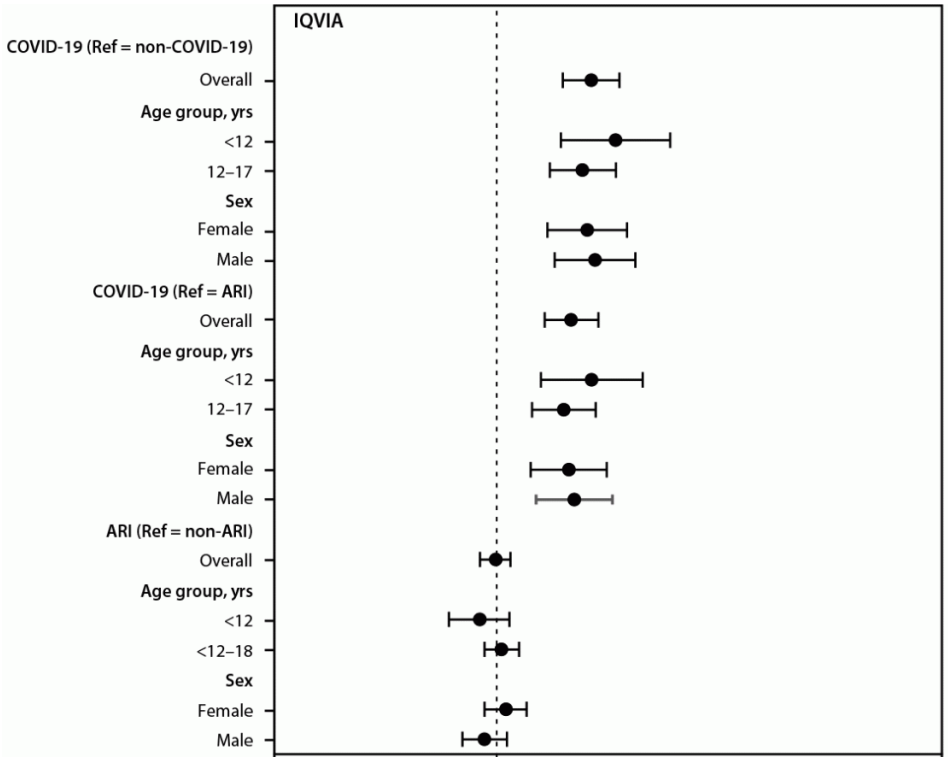
Figure. Autoregressive Integrated Moving Average (ARIMA) Forecast and Quarterly Moving Average (MA) of New Type 1 Diabetes (T1D) Cases



Another reason to vaccinate young children?

New CDC Study

- Analysis of 2 national medical claim databases with info for >2.5M patients <18y Mar 1 2020 – Feb 26 2021
- Compared to those without COVID and those with AURI, children diagnosed with COVID-19 were 2.66 times more likely to receive new diabetes diagnosis ≥1mo after infection

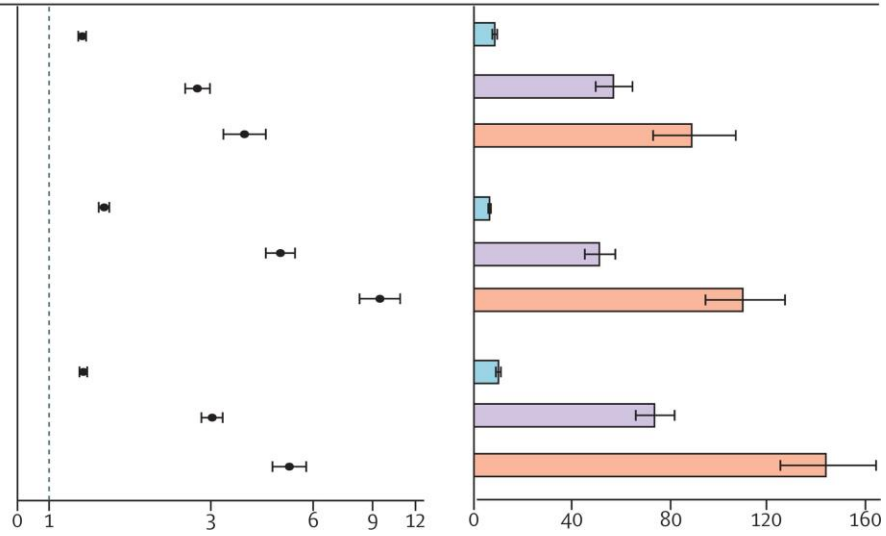


Type 2 Diabetes

- >181,000 US VA patients who survived for >1mo after COVID-19 were compared to >4.1M contemporary controls and >4.2M historic controls without infection
  - Predominantly white, male population with high rate of other comorbidities
- Patients with COVID were ~40% more likely to develop T2D or be on antihyperglycemic within a year
- HR 1.46, 95% 1.43-1.50
- Risk increased with increased severity
  - Severe cases 3X increased risk c/w persons without COVID

Lancet Diabetes and Endocrinology

	Care setting	Burden per 1000 people at 12 months (95% CI)		Hazard ratio (95% CI)	Excess burden per 1000 people at 12 months (95% CI)
		COVID-19	Contemporary control		
Diabetes	Non-hospitalised	42·70 (41·39–44·05)			
	Hospitalised	91·35 (83·80–99·54)	34·42 (34·24–34·61)		
	Intensive care	123·48 (107·31–141·89)			
Antihyperglycaemic use	Non-hospitalised	20·10 (19·25–20·98)			
	Hospitalised	65·10 (58·82–72·02)	13·93 (13·82–14·05)		
	Intensive care	123·93 (108·32–141·61)			
Composite outcome	Non-hospitalised	48·63 (47·27–50·01)			
	Hospitalised	112·63 (104·61–121·22)	38·84 (38·65–39·03)		
	Intensive care	182·92 (163·92–203·84)			



Lancet Diabetes and Endocrinology

- Retrospective cohort analysis of Disease Analyzer
  - Representative panel of 1171 physicians' practices in Germany
  - March 2020 to Jan 2021: 8.8M patients
- Newly diagnosed T1D, T2D, and ?prediabetes was defined based on ICD-10 codes during follow-up until July 2021
- Identified >35k COVID-19 patients (med 119 days) and >35k AURI controls (med 161 days)
  - Propensity score matching (1:1) for sex, age, health insurance, index month for Covid-19/AURI and comorbidity (obesity, hypertension, hyperlipidaemia, myocardial infarction, stroke)
  - Excluded patients using corticosteroids within 30d after

Diabetologia
https://doi.org/10.1007/s00125-022-05670-0

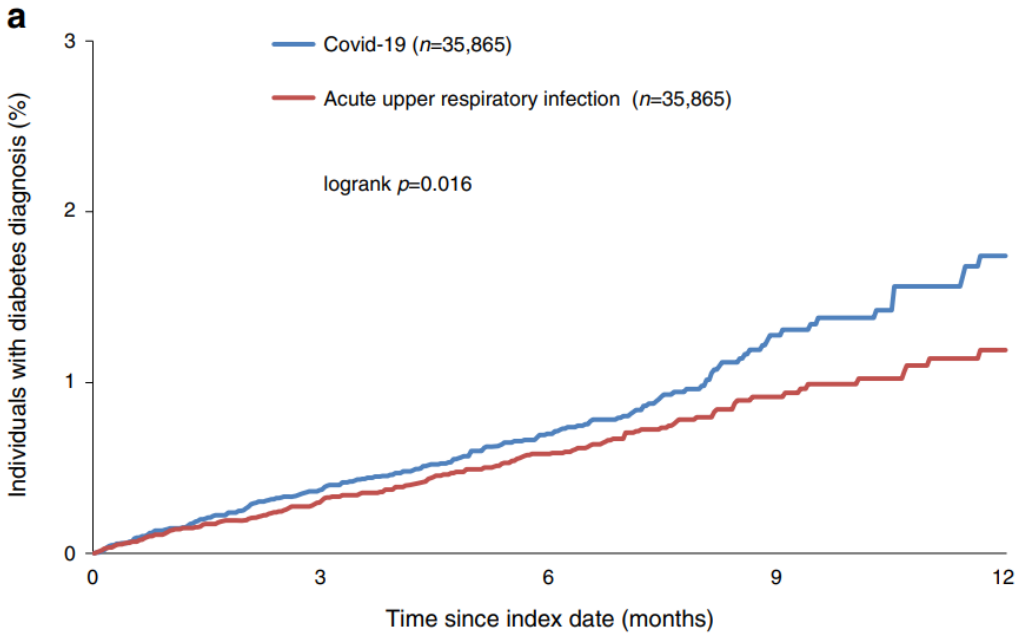
SHORT COMMUNICATION

Incidence of newly diagnosed diabetes after Covid-19

Wolfgang Rathmann[1,2] · Oliver Kuss[1,2,3] · Karel Kostev[4]

Increased Incidence of T2D After COVID-19

- T2D risk 15.8 vs 12.3 per 1000 person-years so estimated incident rate ratio 1.28 (95% CI 1.05, 1.57)
- May support active monitoring for glucose dysregulation after recovery even from mild COVID-19
- Pathophysiology, reversibility, remain to be proven, but theories are direct infection of beta cells resulting in acute cell death and trans-differentiation resulting in changed endocrine function; pandemic-associated weight gain and inactivity; stress hyperglycemia and use of steroids for severe disease



Neuro Symptoms in PACS Well-Known

80% of patients recovering from hospitalized COVID-19 report neurologic symptoms including memory impairment

Viral neurotropism? Virus-induced neuroinflammation? Neurovascular pathology? Hypoxia?

Incidentally, consistent with SARS and MERS Co-V

Patients with nonhospitalized COVID-19 may also report persistent neurologic symptoms

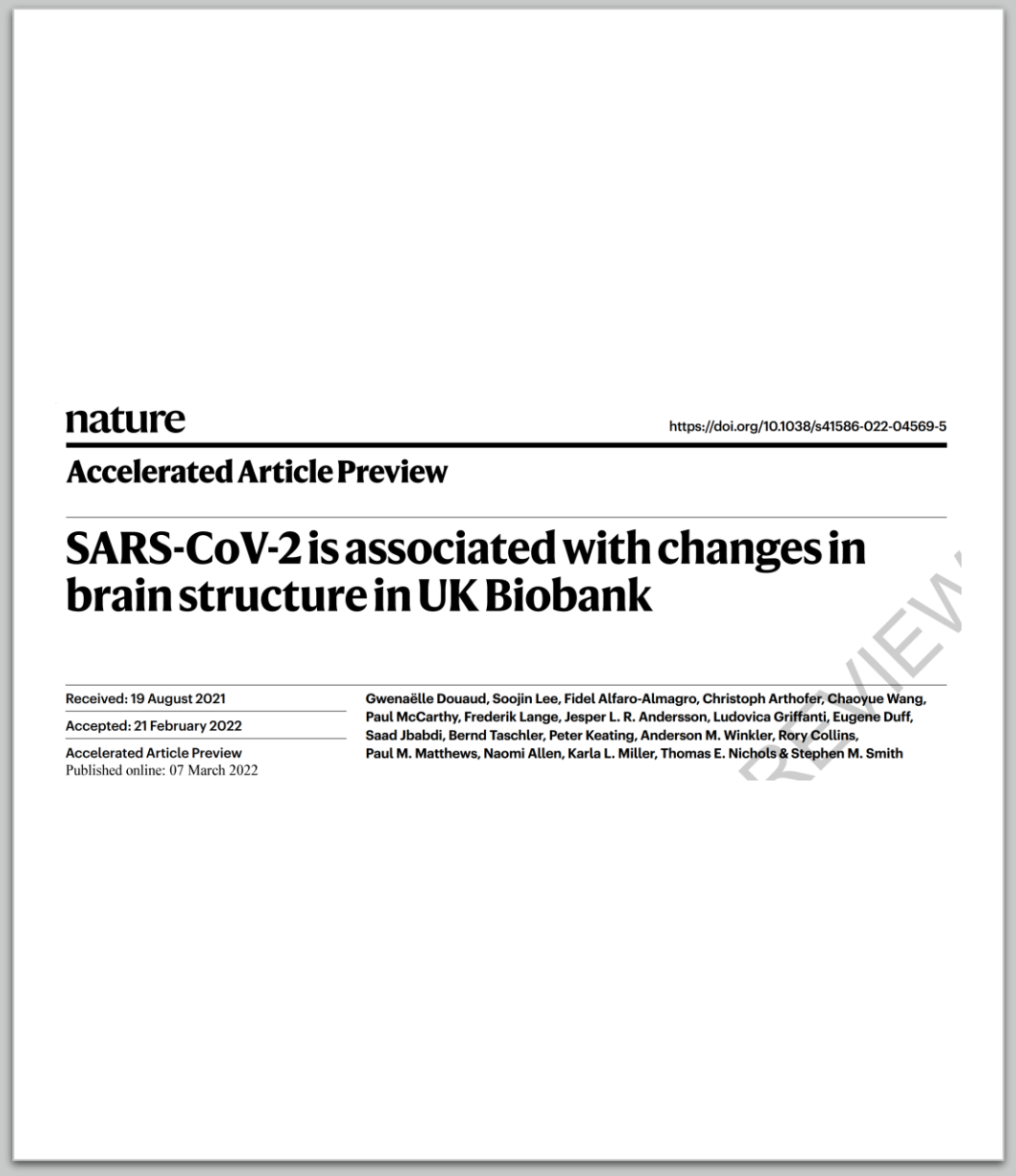
In survey of 180 nonhospitalized patients, >50% have at least one symptom at mean of 125 days after symptom onset. Fatigue and anosmia 24%

In prospective study of 100 nonhospitalized patients with neuro symptoms that persisted for ≥6w, reported brain fog 81%, HA 68%, numbness/tingling 60%, dysgeusia 59%, anosmia 55% with demonstrated impairments in QOL domains, attention and working memory c/w nonCOVID controls

What is the Pathophysiology?

- Among 785 UK patients aged 51-81y with baseline and f/u imaging (mean 141d after infx), 401 tested positive between scans
- COVID patients had
  - Greater reductions (0.2-2%) in gray matter thickness in orbitofrontal and parahippocampal cortices
  - Greater changes in markers of tissue damage in regions functionally connected primary olfactory cortex
  - Greater reduction in brain size
- COVID patients showed larger cognitive decline
- Findings held if excluded 15 hospitalized patients

Nature Ref



nature

https://doi.org/10.1038/s41586-022-04569-5

Accelerated Article Preview

SARS-CoV-2 is associated with changes in brain structure in UK Biobank

Received: 19 August 2021

Accepted: 21 February 2022

Accelerated Article Preview
Published online: 07 March 2022

Gwenaëlle Douaud, Soojin Lee, Fidel Alfaro-Almagro, Christoph Arthofer, Chaoyue Wang, Paul McCarthy, Frederik Lange, Jesper L. R. Andersson, Ludovica Griffanti, Eugene Duff, Saad Jbabdi, Bernd Taschler, Peter Keating, Anderson M. Winkler, Rory Collins, Paul M. Matthews, Naomi Allen, Karla L. Miller, Thomas E. Nichols & Stephen M. Smith

Original Investigation

ONLINE FIRST FREE

March 8, 2022

One-Year Trajectory of Cognitive Changes in Older Survivors of COVID-19 in Wuhan, China

A Longitudinal Cohort Study

Yu-Hui Liu, MD, PhD[1]; Yang Chen, MD[1]; Qing-Hua Wang, MD, PhD[1]; et al

JAMA Neurology

- 1,438 COVID-19 patients ≥60y 12m after discharge from Wuhan's 3 COVID hospitals
- At 6 and 12m assessed using the Informant Questionnaire on Cognitive Decline in the Elderly and the Telephone Interview of Cognitive Status-40
- Cognitive trajectories were classified into 4 categories: stable cognition, early-onset cognitive decline, late-onset cognitive decline, and progressive cognitive decline

Table 2. Cognitive Trajectory of COVID-19 Survivors and Uninfected Control Individuals

	Changes in cognition[a]		No. (%) of participants			*P* value[b]		
Category	0-6 mo	6-12 mo	Severe	Nonsevere	Control	Severe vs nonsevere	Severe vs control	Nonsevere vs control
Stable cognitive function	Stable	Stable	77 (29.62)	796 (67.57)	335 (76.48)	<.001	<.001	<.001
Early-onset cognitive decline	Declined	Stable	103 (39.62)	326 (27.67)	81 (18.49)	<.001	<.001	<.001
Late-onset cognitive decline	Stable	Declined	25 (9.62)	42 (3.57)	12 (2.74)	<.001	<.001	.53
Progressive cognitive decline	Declined	Declined	55 (21.15)	14 (1.19)	10 (2.28)	<.001	<.001	.11

[a] Change in cognition from SARS-CoV-2 infection to 6 months of recovery was determined by the Chinese version of the short form of the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE). An IQCODE score ≥ 3.5 indicates decreased cognition. An IQCODE score <3.5 indicates stable or improved cognition. Change in cognition from 6 months to 12 months of recovery was determined by the IQCODE and the Telephone Interview of Cognitive Status-40 (TICS-40). A decreased TICS-40 score indicates decreased cognition. An unchanged or increased TICS-40 score indicates stable and improved cognition, respectively.

[b] Comparisons between groups: Pearson χ^2 test.

Adjusting for age, sex, education level, BMI, and comorbidities

- Nonsevere COVID-19 was associated with higher risk of early-onset cognitive decline (OR 1.71; 95% CI, 1.30-2.27)
- Severe COVID-19 was associated with higher risk of early-onset cognitive decline (OR 4.87; 95% CI 3.30-7.20), late-onset cognitive decline (OR 7.58; 95% CI 3.58-16.03), and progressive cognitive decline (OR 19.00; 95% CI 9.14-39.51)

JAMA Neurology

Q&A

Healthcare Provider & Public Health Partner Calls

- **Changing to once a month on the 2nd Thursday** of each month from 12:00-1:00 pm (Next call will be May 12th)
- Webinar/call information (unchanged):
  - Zoom link: https://nh-dhhs.zoom.us/s/94059287404
  - Webinar ID: 940 5928 7404
  - Passcode: 353809
  - Telephone: 646-558-8656