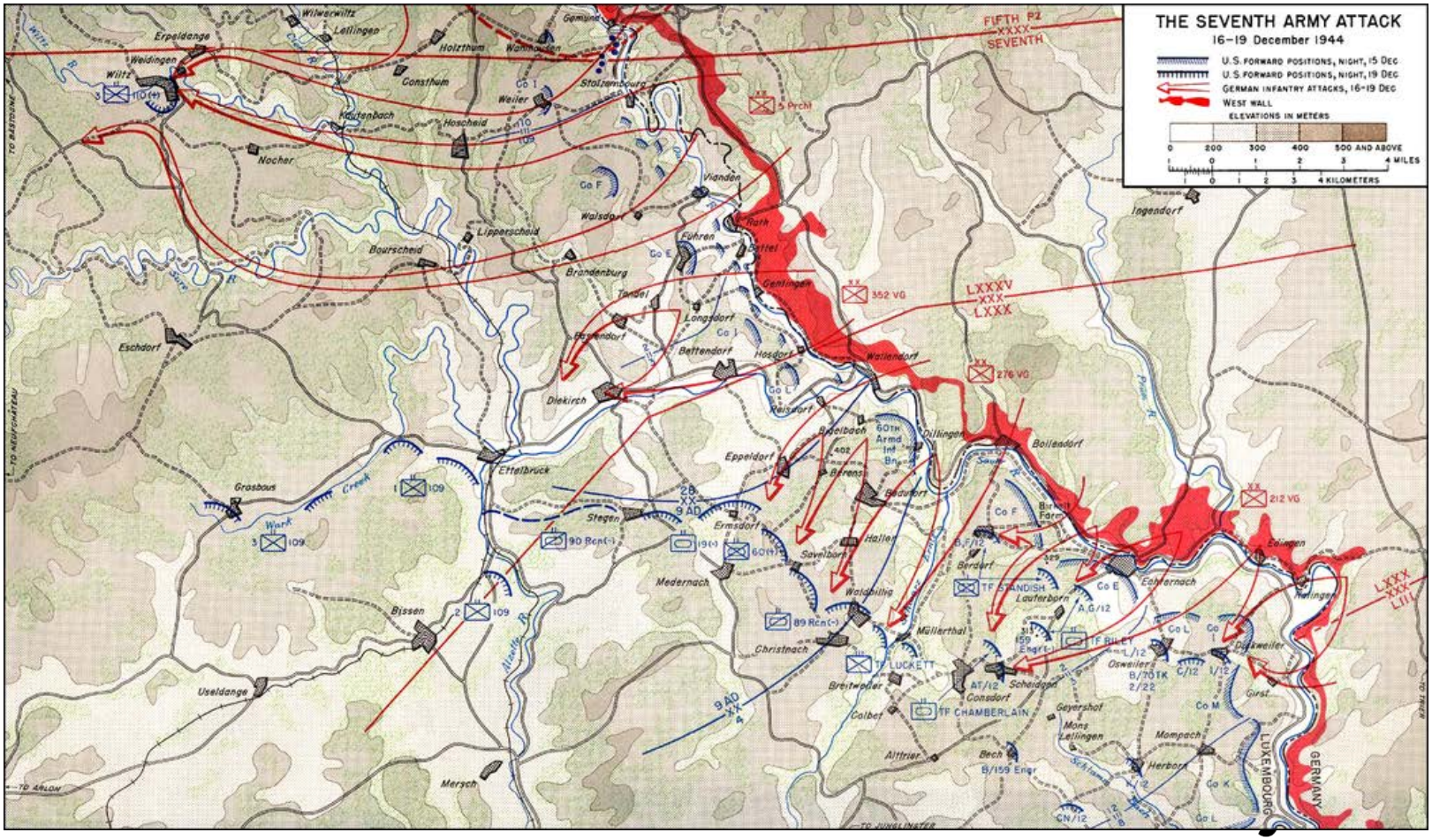
Maryland
DEPARTMENT OF HEALTH

Covid-19 Update

Maryland Department of Health
Maryland Primary Care Program
Program Management Office

20 January 2021

The Battle Lines are Drawn and we intend to win this war



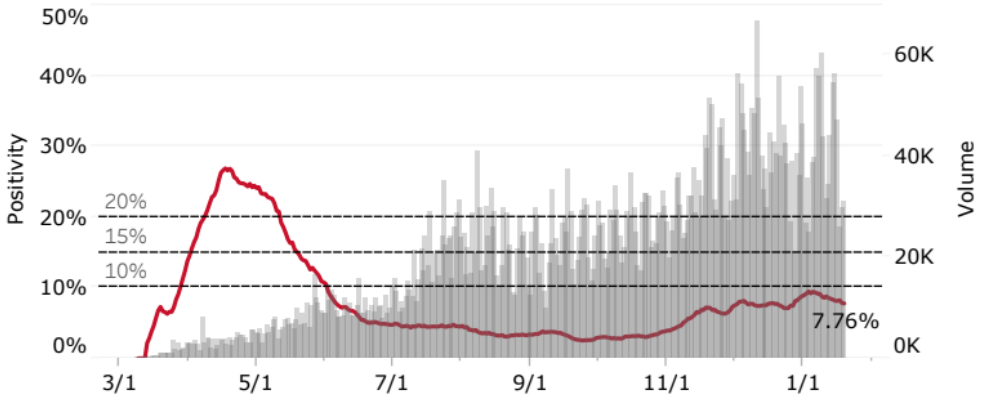
Daily COVID-19 Report

Data reported as of 1/20/2021 for data through 1/19/2021

332,353 cases cumulative	**6,541,052** tests cumulative	**41.3** 7-day avg. case rate	**7,324** total hospital census*	**6,514** deaths cumulative
+2,167 cases reported yesterday	**30,886** tests reported yesterday	**7.76%** 7-day avg. positivity	**148** change in total hospital census*	**+38** deaths reported yesterday

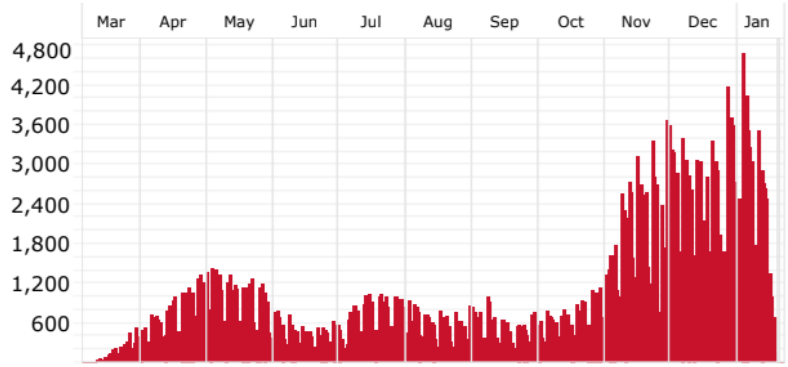
7-Day Avg. Percent Positivity and Total Testing Volume

Since 3/1/20

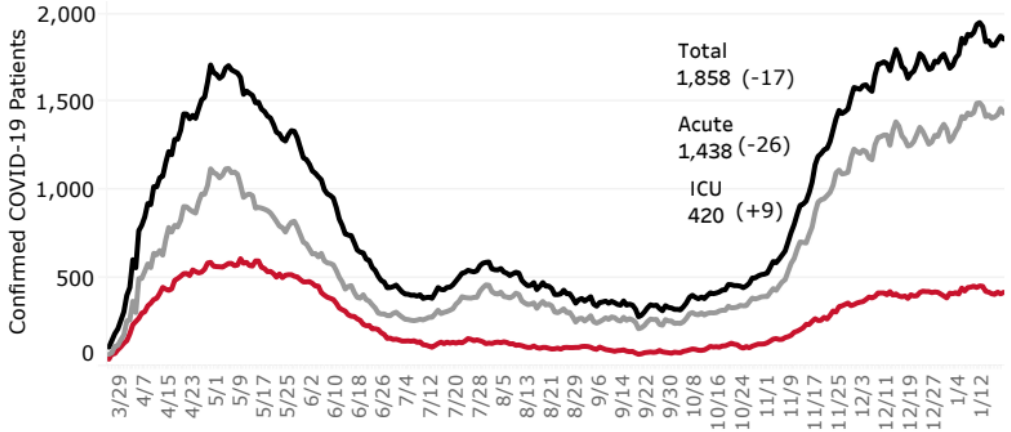


Daily Cases

by Specimen Collection Date

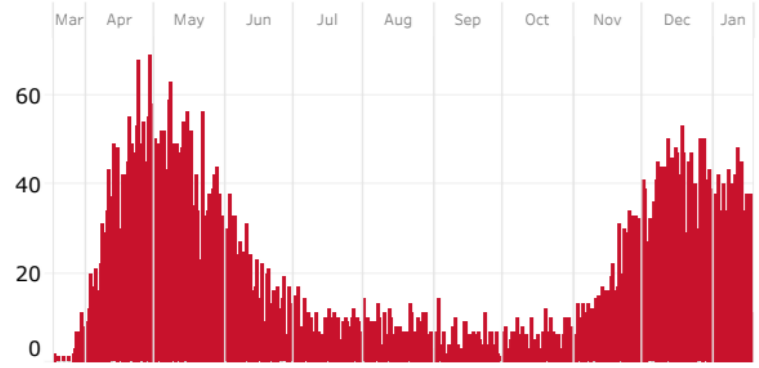


Statewide Acute/ICU Beds Occupied by COVID Patients



Daily Deaths

Confirmed and Probable



Rates calculated as total confirmed cases per 100,000 population using the 2019 Maryland Population estimates from the Maryland Department of Planning, March 2020.
**Includes occupied adult beds only, not pediatric beds.*

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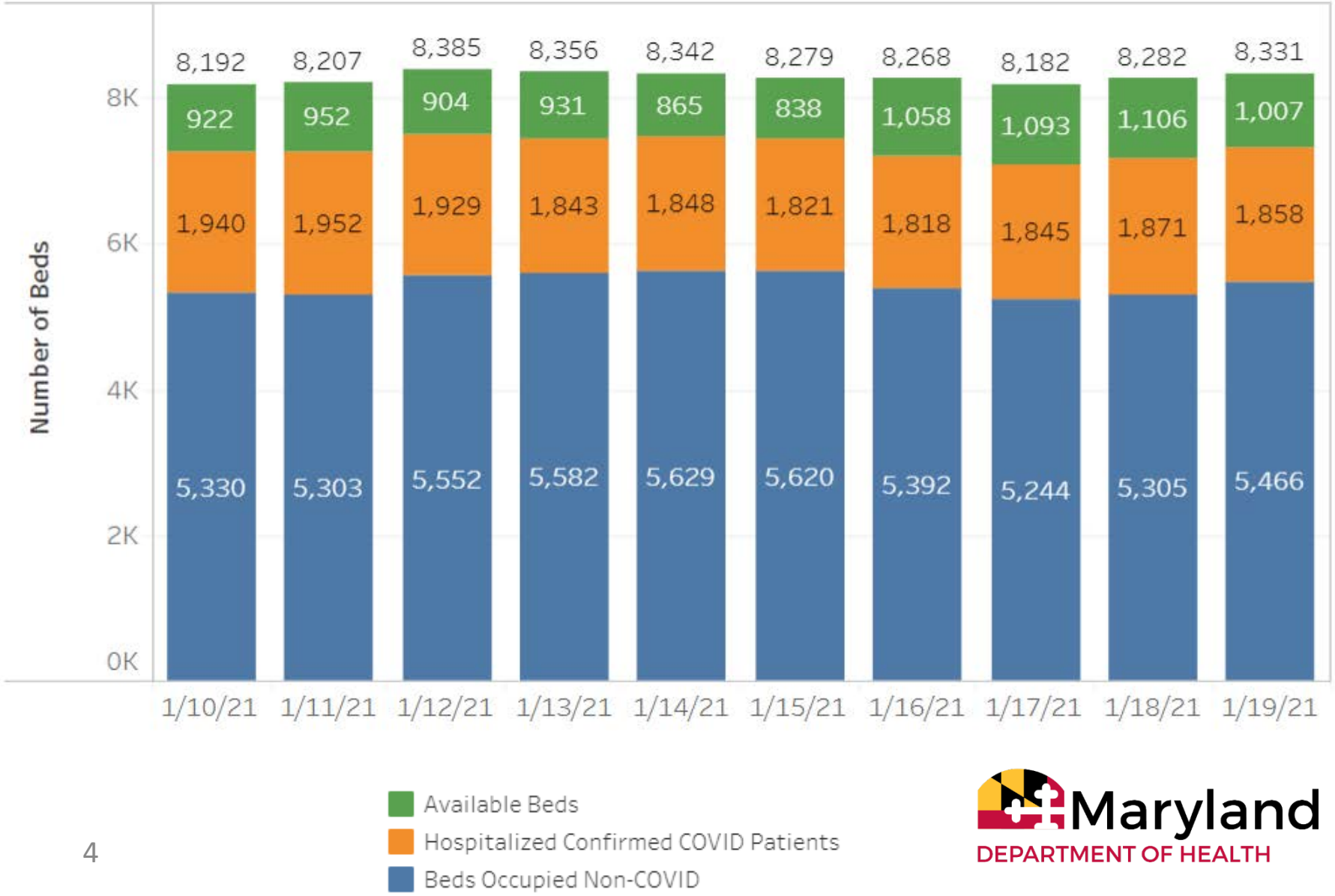
Statewide Occupied Staffed - Adult Acute Care and ICU - Last 10 Days



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Source: CRISP

Updated 1/20/21

Important Items This Week

- Anticipate more cases, hospitalization and deaths in weeks to come
- Hospitals near capacity
- Vaccines in Phase 1b; 1c next week but supply is short
- Opportunity to reduce hospitalization using monoclonal antibodies
  - Important to continue testing to identify candidates for mAbs
- Contact tracing is overwhelmed - inform positive patients to quarantine
- Continue using COVID-19-specific workflows to mitigate virus spread
- Health equity
- Vaccine and mAb hesitancy
- Volunteer for Maryland Medical Reserve

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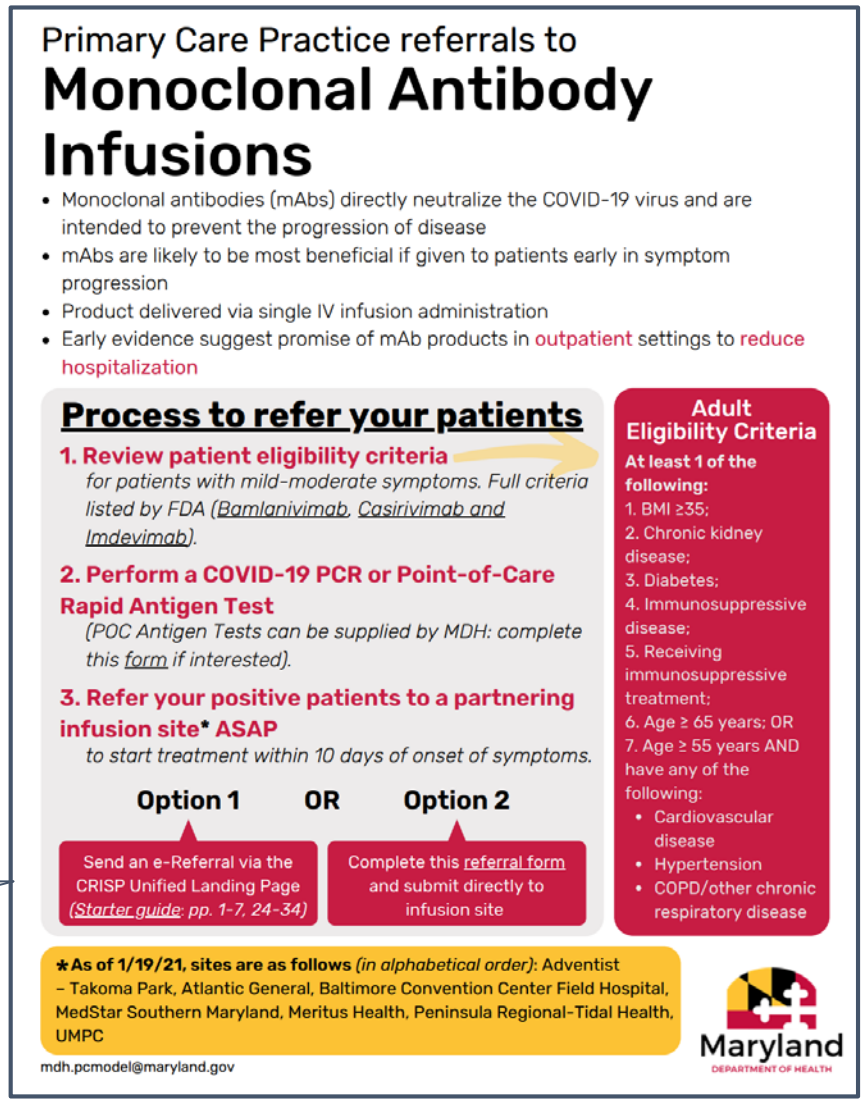
Monoclonal Antibody Referrals

- Early evidence suggests promise of mAb products in **OUTPATIENT** settings to **REDUCE HOSPITALIZATION**
- mAbs **likely to be most beneficial if given to patients early** in symptom progression

Keep this reference document handy for quick info on mAb referrals



Primary Care Practice referrals to

Monoclonal Antibody Infusions

- Monoclonal antibodies (mAbs) directly neutralize the COVID-19 virus and are intended to prevent the progression of disease
- mAbs are likely to be most beneficial if given to patients early in symptom progression
- Product delivered via single IV infusion administration
- Early evidence suggest promise of mAb products in outpatient settings to reduce hospitalization

Process to refer your patients

1. Review patient eligibility criteria
for patients with mild-moderate symptoms. Full criteria listed by FDA (Bamlanivimab, Casirivimab and Imdevimab).

2. Perform a COVID-19 PCR or Point-of-Care Rapid Antigen Test
(POC Antigen Tests can be supplied by MDH: complete this form if interested).

3. Refer your positive patients to a partnering infusion site* ASAP
to start treatment within 10 days of onset of symptoms.

Option 1 — Send an e-Referral via the CRISP Unified Landing Page *(Starter guide: pp. 1-7, 24-34)*

OR

Option 2 — Complete this referral form and submit directly to infusion site

Adult Eligibility Criteria

At least 1 of the following:
1. BMI ≥35;
2. Chronic kidney disease;
3. Diabetes;
4. Immunosuppressive disease;
5. Receiving immunosuppressive treatment;
6. Age ≥ 65 years; OR
7. Age ≥ 55 years AND have any of the following:
   - Cardiovascular disease
   - Hypertension
   - COPD/other chronic respiratory disease

***As of 1/19/21, sites are as follows** *(in alphabetical order)*: Adventist – Takoma Park, Atlantic General, Baltimore Convention Center Field Hospital, MedStar Southern Maryland, Meritus Health, Peninsula Regional-Tidal Health, UMPC

mdh.pcmodel@maryland.gov

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Source: Operation Warp Speed Therapeutics: Monoclonal Antibody Playbook for outpatient administration (Version 2.0)

Point-of-Care Rapid Antigen Tests to Identify Monoclonal Antibody Eligible Patients

- Tests provided to practices willing to test and refer symptomatic patients eligible for mAb therapy
- Interested practices should fill out this Google Form as soon as possible
  - After filling out the form, Maryland Department of Health staff will contact you with next steps
- More information is available here
- **Outreach has begun for the first practices to fill out the form**

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Monoclonal Antibodies Clinician Letter (Updated 12/16/20)

- Limited supplies - ~ 1500 doses/week
- **For ambulatory Covid positive at risk of hospitalization within 10 days on onset of symptoms**
- 7 infusion centers + SNFs open - more to follow
  - Baltimore Convention Center Field Hospital
  - Peninsula Regional- Tidal Health
  - Meritus Health
  - Adventist – Takoma Park
  - UPMC
  - Atlantic General
  - MedStar Southern Maryland
  - SNFs

Referrals are currently low. Refer your patients using this referral form (updated 12/16/20)

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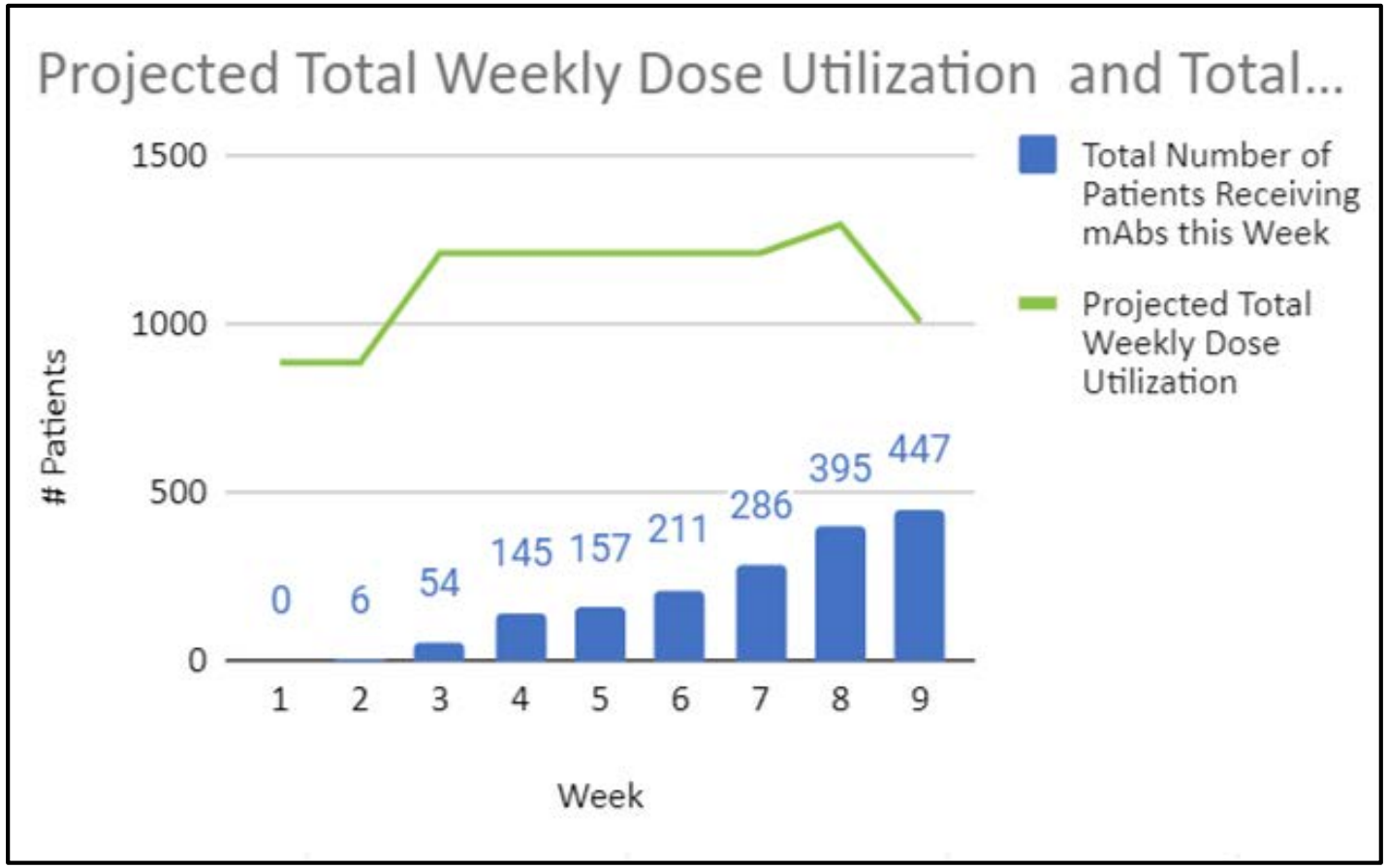
Current mAb Referral Volume



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Vaccines - Current

Current

Pfizer

mRNA

moderna

mRNA

On the horizon

Johnson & Johnson

Viral Vector
(around February)

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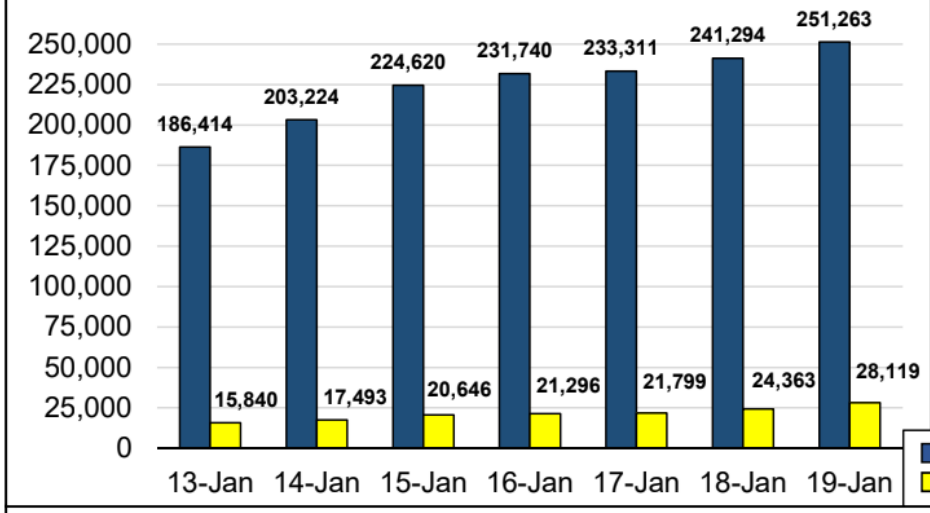
COVID Vaccine Summary

NUMBERS ARE PRELIMINARY AND SUBJECT TO CHANGE

Current as of: 01/20/2021

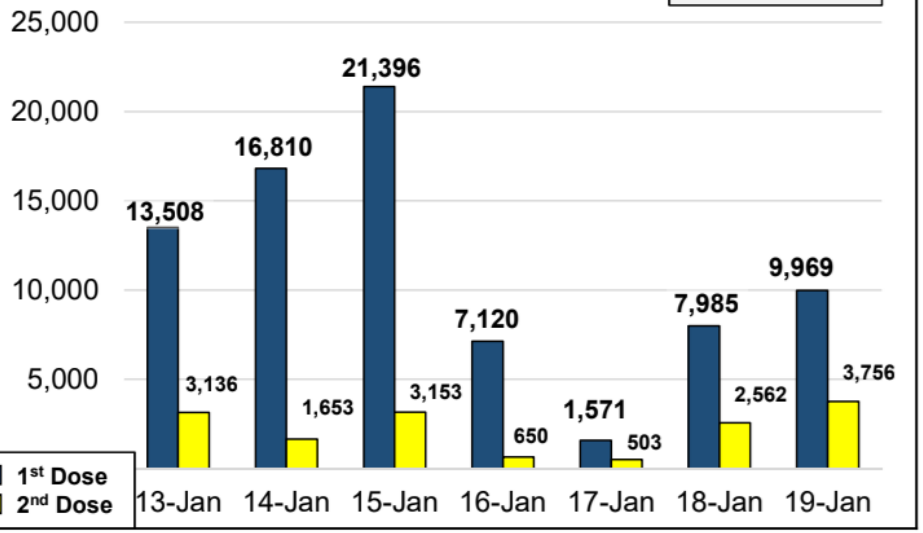
Vaccines Administered (Cumulative)

279,382 Total



Vaccines Administered (Last 7 Days)

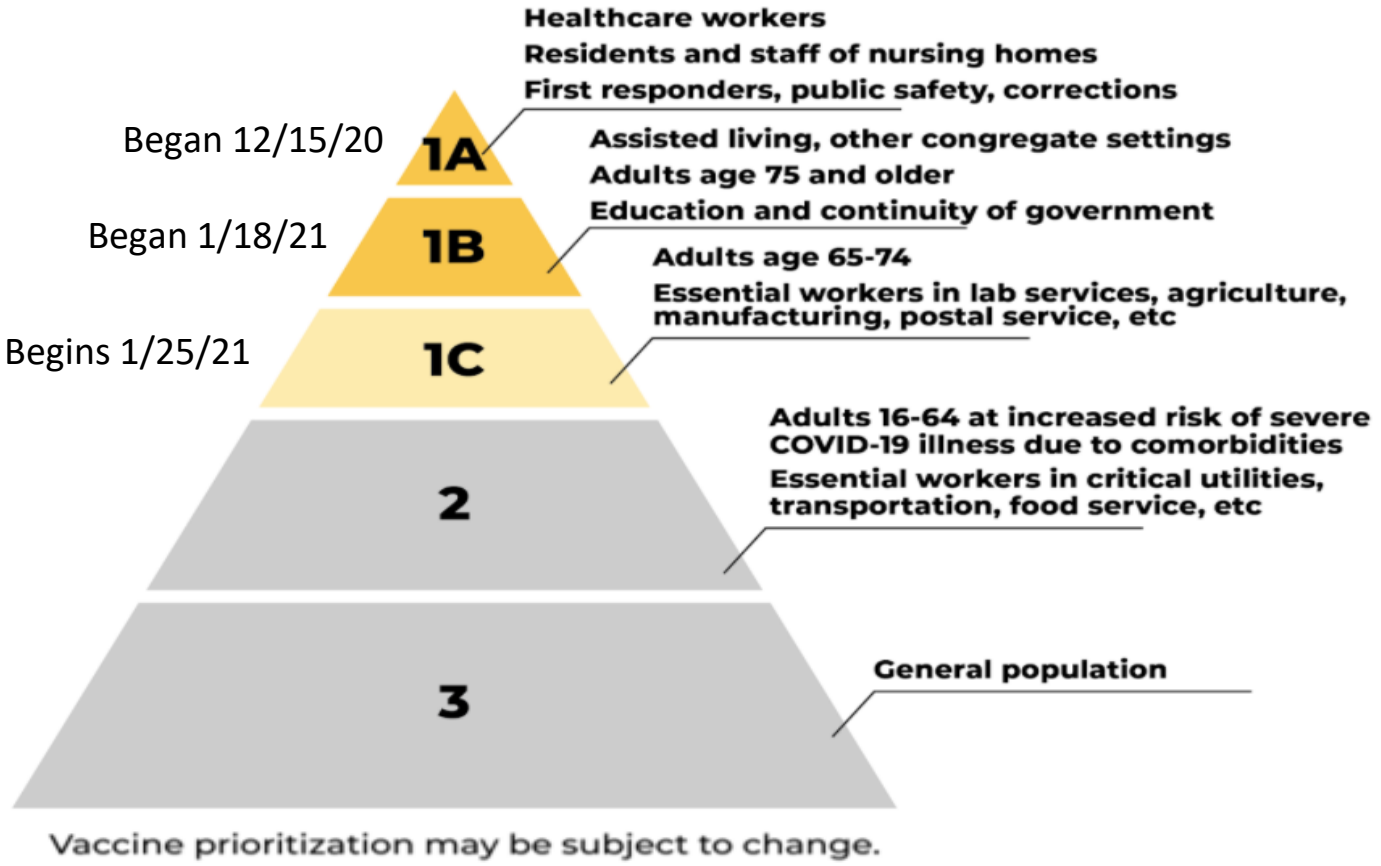
13,725 Total



Administrations as Percentage of Units Delivered

		1st Dose				2nd Dose				Combined 1st/2nd Doses			
Provider	Num.	Alloc.	Deliv.	Admin.	Admin./ Deliv. %	Alloc.	Deliv.	Admin.	Admin./ Deliv. %	Alloc.	Deliv.	Admin.	Admin./ Deliv. %
Hospitals	56	196,475	196,475	116,977	59.5%	163,225	163,225	23,979	14.7%	359,700	359,700	140,956	39.2%
Local Health Deps.	24	169,450	169,450	89,728	53.0%	35,200	35,200	36	0.1%	204,650	204,650	89,764	43.9%
LTCF Program	238	96,525	61,425	29,582	48.2%	0	0	4,051	N/A	96,525	61,425	33,633	54.8%
Other	114	31,200	31,200	14,976	48.0%	10,300	10,300	53	0.5%	41,500	41,500	15,029	36.2%
Total	**432**	**493,650**	**458,550**	**251,263**	**54.8%**	**208,725**	**208,725**	**28,119**	**13.5%**	**702,375**	**668,275**	**279,382**	**41.8%**

Priority Groups



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Source: Maryland Department of Health, Office of Governor Larry Hogan

Vaccine Signup Site: covidvax.maryland.gov

- **Direct your patients eligible in Phase 1B** to sign up for vaccination at this site
- Currently, the federal government is giving the state approximately 10,000 doses/day for over 1.5 million people who are eligible. **Supply is very limited.**

Phase 1B Eligibility

- **All** licensed, registered and certified health care providers
- Front line hospital staff
- Nursing home residents and staff
- Assisted living, independent living, and other congregate facilities
- Law enforcement and firefighters, EMS
- Education staff, including K-12 teachers, support staff and daycare providers
- Correctional health care staff and officers
- Front line judiciary staff
- Continuity of government
- Adults age 75 and older

Vaccination Phase

1B

Vaccination Phase Description

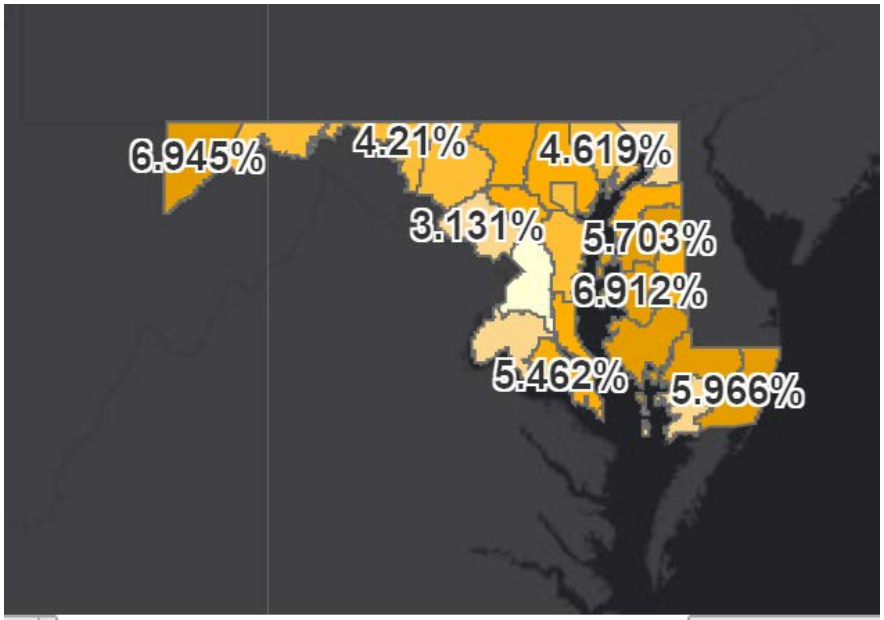
Doses Distributed

702,375

Doses Administered

279,412

All Doses Administered | Vaccinations by Dose



Proportion Vaccinated by County

Source: https://coronavirus.maryland.gov/#Vaccine

Updated 1/20/21

ImmuNet registration for Covid Vaccine now open

- More information is available at Quick Reference Guide: COVID-19 Vaccine Registration & Ordering
  (steps beginning page 2 for Non-VFC; page 5 for VFC)
- Please register as soon as possible if your practice plans to order vaccines
- Registration completion does not mean the vaccine will immediately be available for ordering
  - You will be notified by the State when vaccines are available for ordering in ImmuNet
  - This will take time! Vaccine needs to be widely available before ordering is opened up more widely
- This process is to become a Covid vaccinator for your patients. For vaccinating your staff, reach out to your Local Health Department

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Patient Information and Workflows

- Reinforce scheduled visits
- Separate sick and well to the extent possible
- Avoid waiting room crowds
- Outdoors screening and testing as possible
- Tailor staff and resources to need
- Telehealth, including testing, when applicable
- Quarantine period for positive tests shortened to 10 days for asymptomatic and 7 days based n negative test (after 5 days)

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Five things you can do to serve you patients

1. **Identify all your high risk patients** —use the Covid Vulnerability Index (CVI) in CRISP, your EHR, and your intuition and do outreach and communication
   - ➢ Advise patients to continue to use social distancing and wear masks
2. **Provide vulnerable patients with expanded care** through telemedicine and special accommodations if they need face-to-face care
3. **Offer testing for all patients, every visit – POC for those eligible for mAb therapy**
4. **Stay current, stay safe**—stay current by keeping up-to-date with CDC guidelines and case rates in your area. For up-to-date information, visit CDC, MDH, and MDPCP sites. Stay safe by taking all necessary infection control precautions when seeing patients
5. **Prepare for a vaccine** - address vaccine hesitancy with patients, enroll in ImmuNet and plan for administration

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Webinar Series:
Helping the Helpers and Those They Serve

The Maryland Department of Health (MDH) Behavioral Health Administration (BHA) and MedChi are pleased to announce the new webinar series, the BHA/MedChi Behavioral Health Webinar Series: Helping the Helpers and Those They Serve.

These webinars are for Maryland's behavioral health and medical health care workers of all disciplines, whether working in community or hospital settings. **They are designed to enhance both health care worker self-care and resultantly the care they provide, as health care workers combat numerous stressors including the COVID-19 pandemic, social justice issues, and other stressors that can potentially impact delivered care.** The below webinars are open for registration. All webinars are from 5-6 p.m.

BHA/MedChi Behavioral Health Webinars Series will be held on:

- **January 28: Vicarious Trauma and Self-Care for Health Care Workers During COVID-19**
  - Register: https://zoom.us/webinar/register/WN_R0s2GTkWRgqGD45VkFAeSQ
- **February 11: Balancing Work and Parenting During the COVID-19 Pandemic.**
  - Register: https://zoom.us/webinar/register/WN_i6hcmCcVSxer7Nj-1SJtuA

CMEs and Participant Certificates will be available at no cost.

For information and to register, visit: bha.health.maryland.gov

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CME Accreditation and Designation

- This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of MedChi, The Maryland State Medical Society, and The Maryland Department of Health. MedChi is accredited by the ACCME to provide continuing medical education for physicians.
- MedChi designates this live webinar educational activity for a maximum of 1 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity. Contact Frank Berry at **fberry@medchi.org**

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CME Disclosures and Evaluation

- Presenters and Planners: Howard Haft, MD, has reported no relevant financial relationships to disclose.
- MedChi CME Reviewers: The reviewers from the MedChi Committee On Scientific Activities (COSA) for this activity have reported no relevant financial relationships to disclose.
- Please complete an evaluation at: Covid-19 Update Evaluation

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Announcements

- Learn from our Frequently Asked Questions page
- Monday Covid-19 Surge: Flash Briefing and Q&A
  - Monday, 1/25/21 (5:30 – 6 PM)
  - Monday, 2/1/21 (5:30 - 6 PM)
- Wednesday Covid-19 Updates
  - Wednesday, 1/27/21 (5 – 6:30 PM)
  - Wednesday, 2/2/21 (5 - 6:30 PM)
- Guest Speaker
  - Today
    1. Mandy Williams, CRISP Project Manager for Referral Workflow
    2. Adam Kaplin, MD, PhD, Johns Hopkins University, Departments of Psychiatry and Neurology, MyMD Pharmaceuticals

Mandy Williams

CRISP Project Manager

CRISP Referral to Monoclonal Antibody Infusion Sites Workflow

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Adam Kaplin, MD, PhD

Johns Hopkins University, Departments of Psychiatry and Neurology
MyMD Pharmaceuticals

Behavioral Health Symptoms in Those with COVID-19

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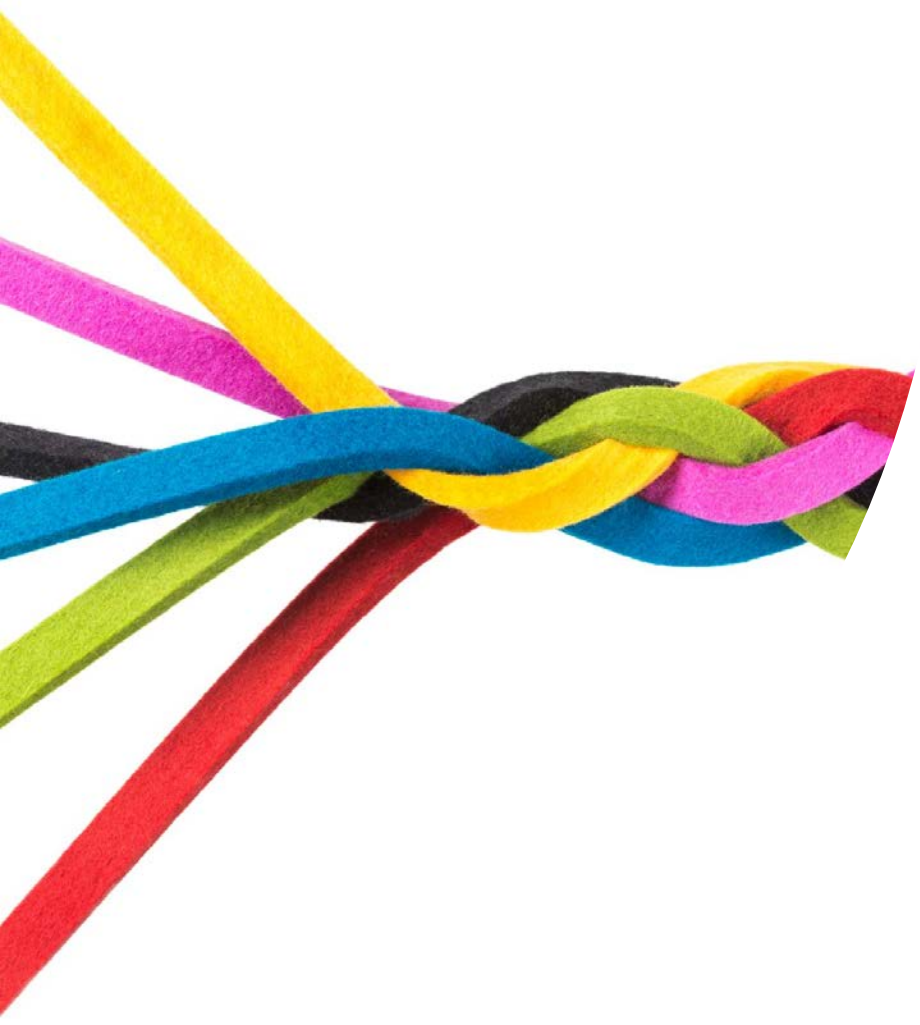


MDPCP Webinar:

Behavioral Health Symptoms in Those with COVID-19

Adam Kaplin, MD, PhD

Johns Hopkins University , Departments of Psychiatry and Neurology

MyMD Pharaceuticals

MAGA: We're Number One!

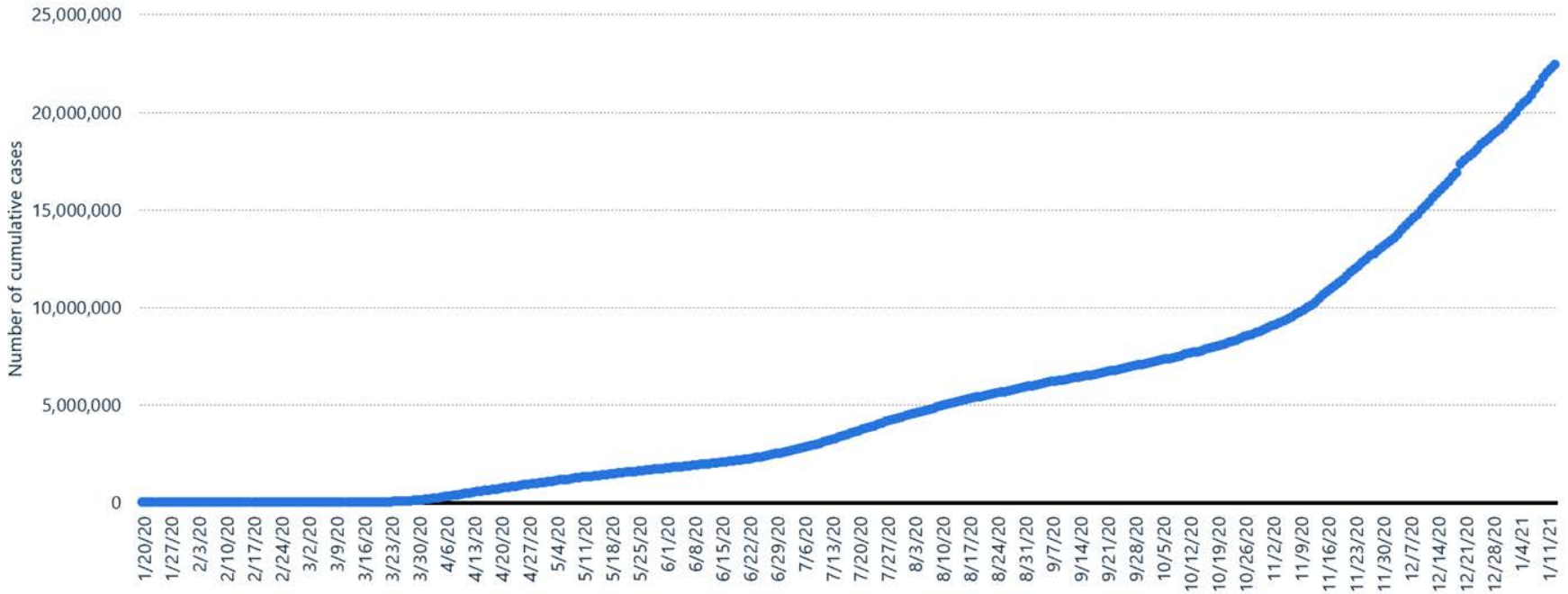
	Cases	Deaths	% Cases	% Deaths	% Population
Global	95,938,177	2,050,154	100%	100%	100%
US	24,186,358	400,292	**25%**	**20%**	**4.25%**
US FOLD INCREASE vs WORLD:			**6**	**5**	

1/19/21

COVID-19 Dashboard CSSE at JHU

Number of cumulative cases of coronavirus (COVID-19) in the United States from January 20, 2020 to January 13, 2021, by day

Cumulative cases of COVID-19 in the U.S. from Jan. 20, 2020 to Jan. 13, 2021, by day



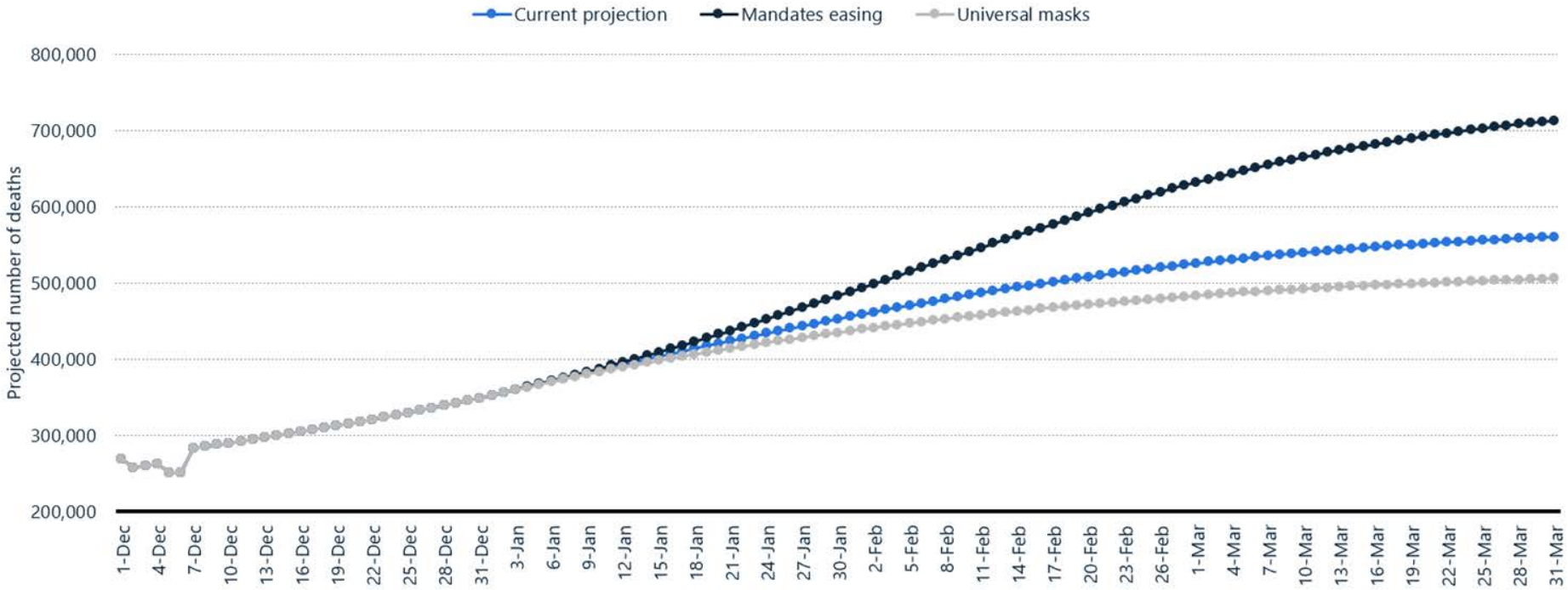
Note(s): United States; January 20, 2020 to January 13, 2021

Further information regarding this statistic can be found on page 67.

Source(s): WHO; ID 1103185

Projected number of COVID-19 deaths in the United States from Dec. 1, 2020 to Mar. 31, 2021, by scenario*

Projected COVID-19 deaths in the U.S. from Dec. 1, 2020 to Mar. 31, 2021, by scenario



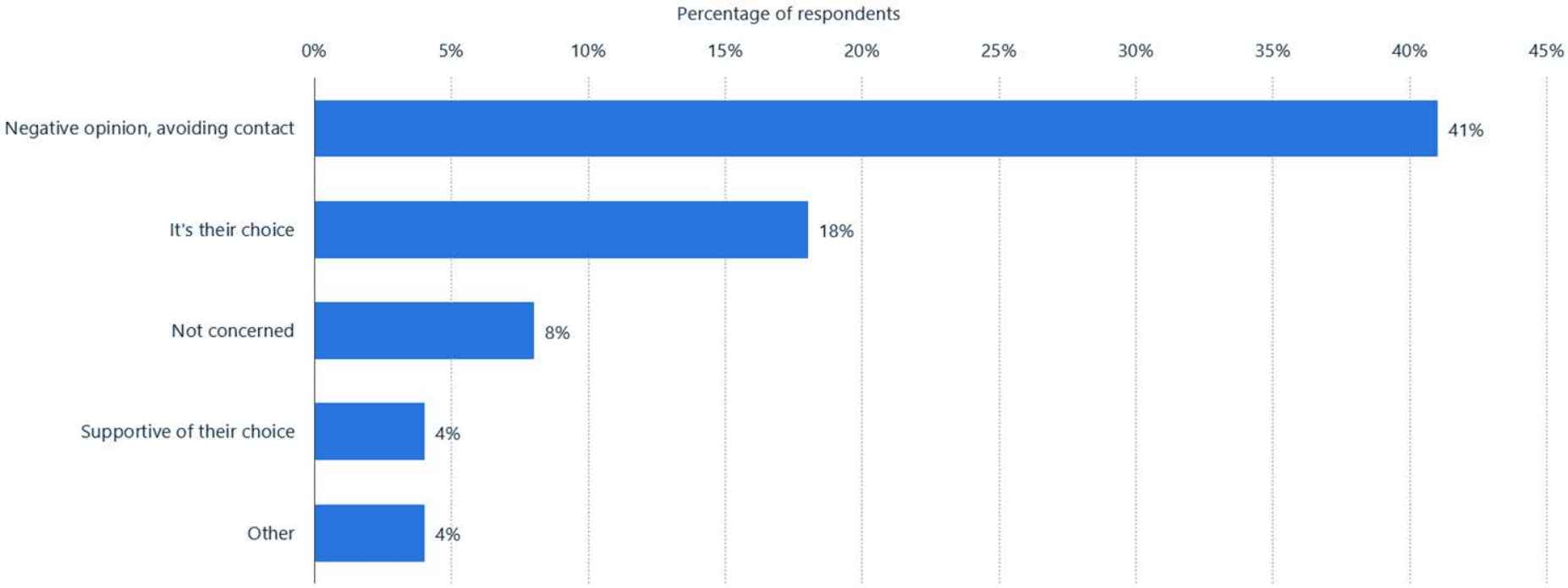
Note(s): United States; as of December 17, 2020

Further information regarding this statistic can be found on page 76.

Source(s): IHME; ID 1176649

Percentage of U.S. adults who had a negative opinion of people who choose not to wear a face mask during the COVID-19 pandemic as of June 12, 2020

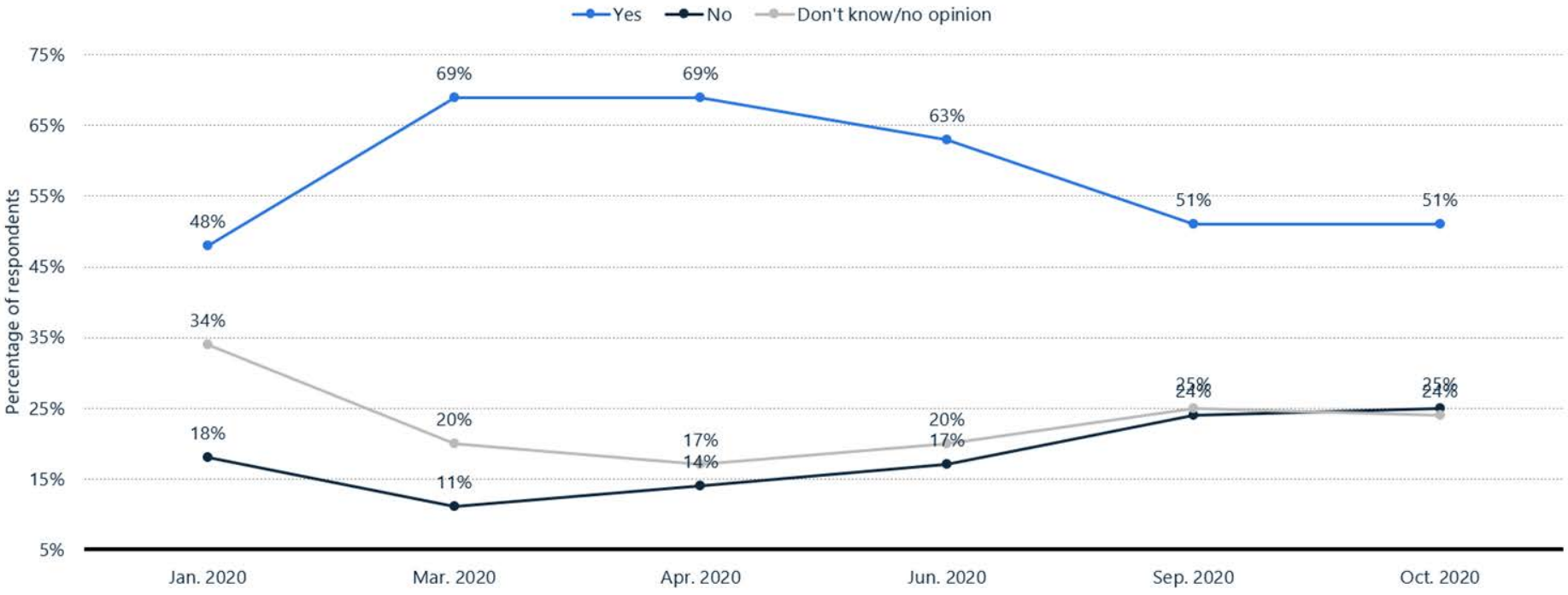
Opinions on people who choose not to use a face mask during COVID pandemic, June 2020



Note(s): United States; June 9 to 12, 2020; 18 years and older; 2,197
Further information regarding this statistic can be found on page 86.
Source(s): Morning Consult; ID 1130802

Proportion of adults in the U.S. who would get a coronavirus vaccine if it became available from January to October 2020*

U.S. adults who would hypothetically get a coronavirus vaccine, Jan. to Oct. 2020



Note(s): United States; January to October 2020; 18 years and older; around 2,000

Further information regarding this statistic can be found on page 87.

Source(s): Morning Consult; ID 1094746

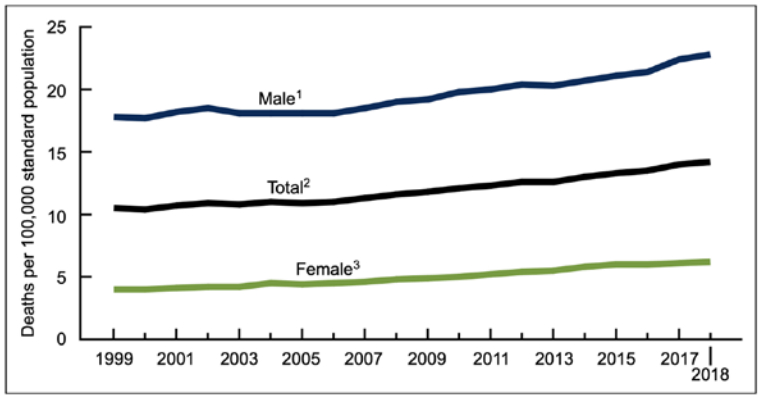
Leading Causes of Death in the United States (2016)

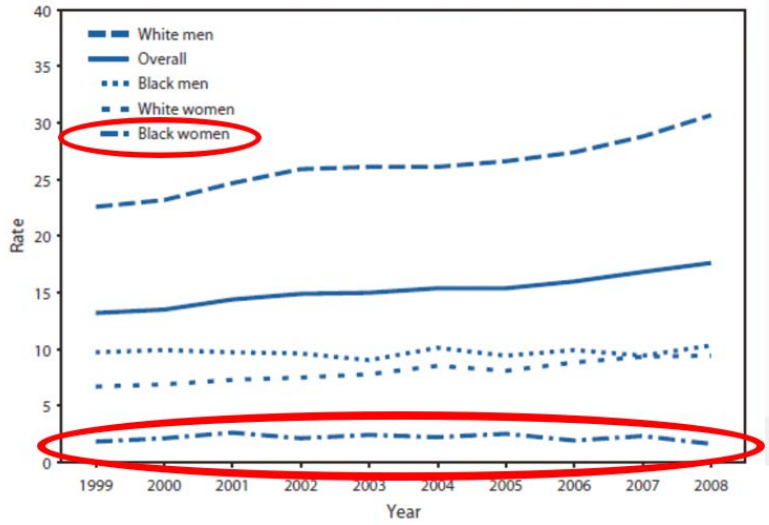
Data Courtesy of CDC

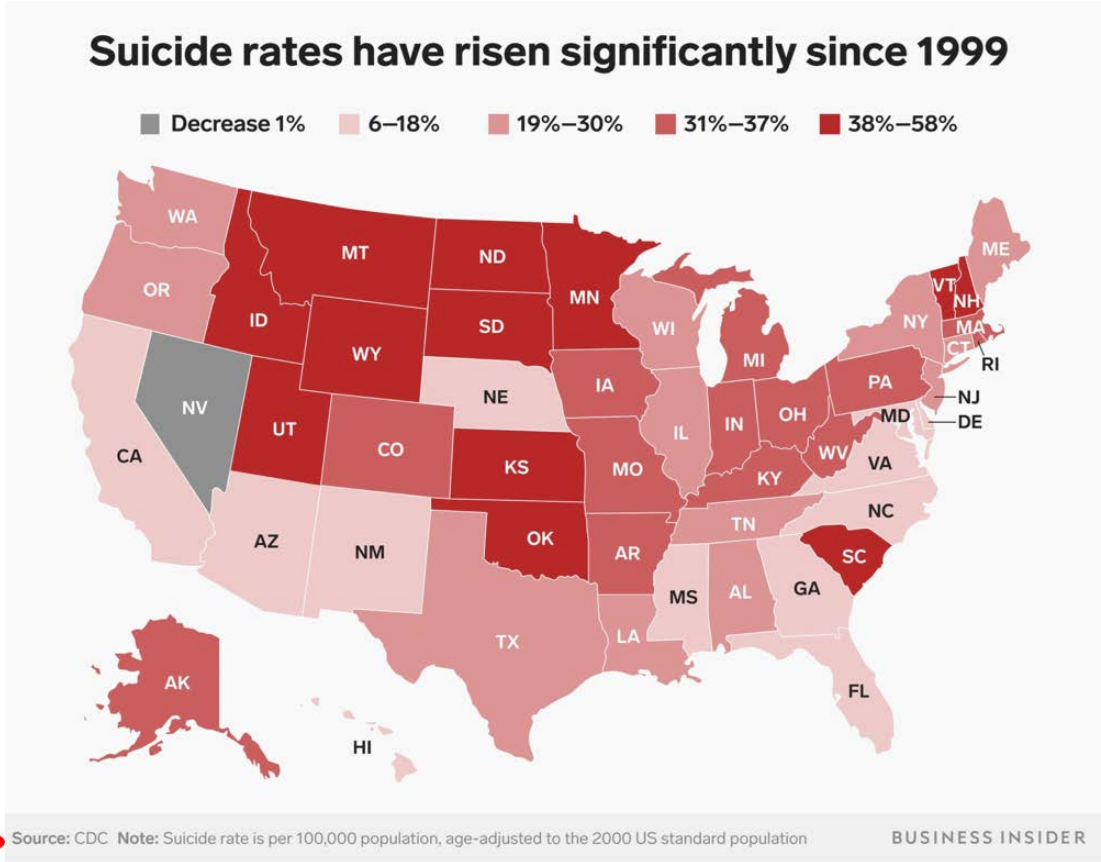
	Select Age Groups							
Rank	**10-14**	**15-24**	**25-34**	**35-44**	**45-54**	**55-64**	**65+**	**All Ages**
1	Unintentional Injury 847	Unintentional Injury 13,895	Unintentional Injury 22,984	Unintentional Injury 20,975	Malignant Neoplasms 41,291	Malignant Neoplasms 116,364	Heart Disease 507,118	Heart Disease 635,260
2	**Suicide 436**	**Suicide 5,723**	**Suicide 7,366**	Malignant Neoplasms 10,903	Heart Disease 34,027	Heart Disease 78,610	Malignant Neoplasms 422,927	Malignant Neoplasms 598,038
3	Malignant Neoplasms 431	Homicide 5,172	Homicide 5,376	Heart Disease 10,477	Unintentional Injury 23,377	Unintentional Injury 21,860	CLRD 131,002	Unintentional Injury 161,374
4	Homicide 147	Malignant Neoplasms 1,431	Malignant Neoplasms 3,791	**Suicide 7,030**	**Suicide 8,437**	CLRD 17,810	Cerebro-vascular 121,630	CLRD 154,596
5	Congenital Anomalies 146	Heart Disease 949	Heart Disease 3,445	Homicide 3,369	Liver Disease 8,364	Diabetes Mellitus 14,251	Alzheimer's Disease 114,883	Cerebro-vascular 142,142
6	Heart Disease 111	Congenital Anomalies 388	Liver Disease 925	Liver Disease 2,851	Diabetes Mellitus 6,267	Liver Disease 13,448	Diabetes Mellitus 56,452	Alzheimer's Disease 116,103
7	CLRD 75	Diabetes Mellitus 211	Diabetes Mellitus 792	Diabetes Mellitus 2,049	Cerebro-vascular 5,353	Cerebro-vascular 12,310	Unintentional Injury 53,141	Diabetes Mellitus 80,058
8	Cerebro-vascular 50	CLRD 206	Cerebro-vascular 575	Cerebro-vascular 1,851	CLRD 4,307	**Suicide 7,759**	Influenza & Pneumonia 42,479	Influenza & Pneumonia 51,537
9	Influenza & Pneumonia 39	Influenza & Pneumonia 189	HIV 546	HIV 971	Septicemia 2,472	Septicemia 5,941	Nephritis 41,095	Nephritis 50,046
10	Septicemia 31	Complicated Pregnancy 184	Complicated Pregnancy 472	Septicemia 897	Homicide 2,152	Nephritis 5,650	Septicemia 30,405	**Suicide 44,965**

From 1999-2018, the Age-Adjusted Suicide Rate Increased 35%

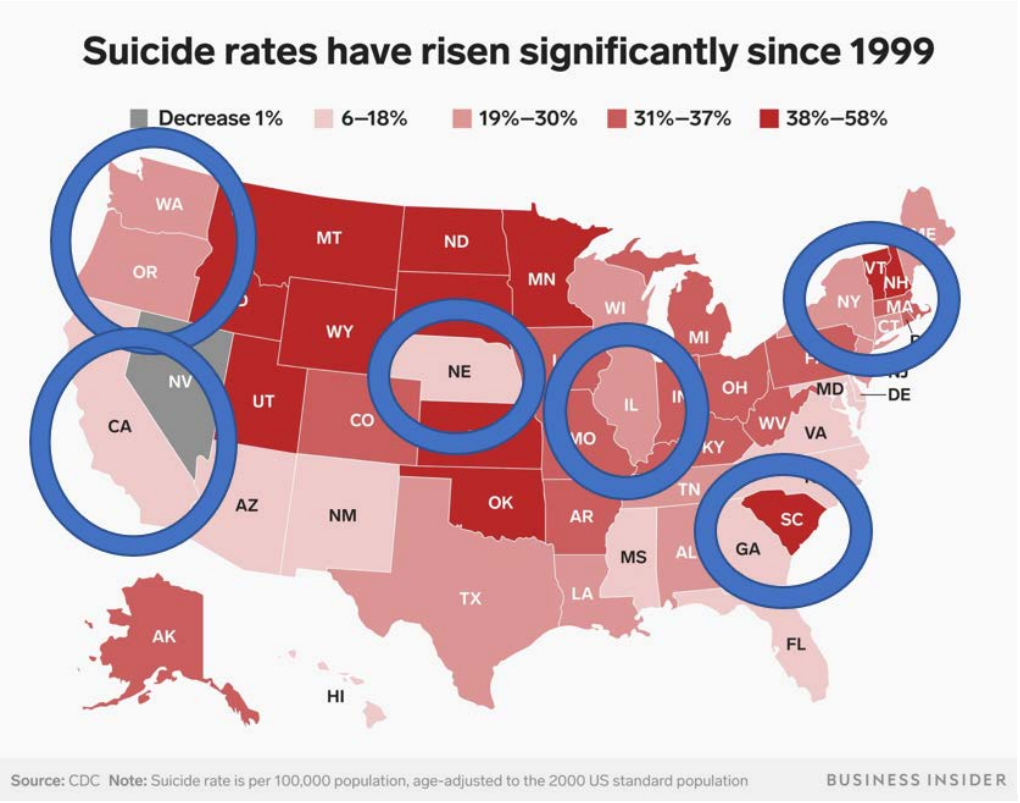
Figure 1. Age-adjusted suicide rates, by sex: United States, 1999–2018

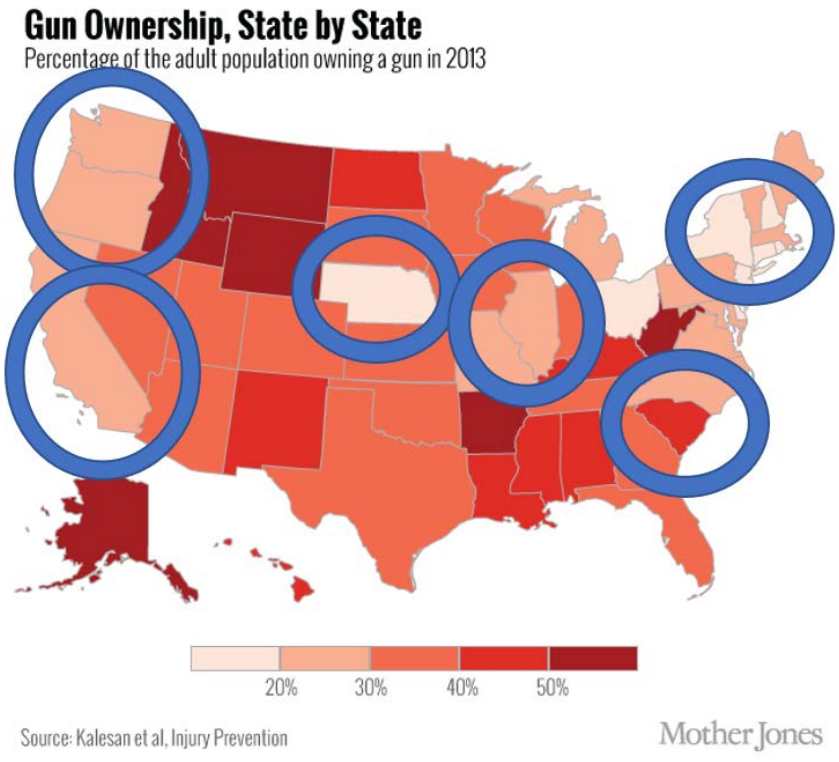






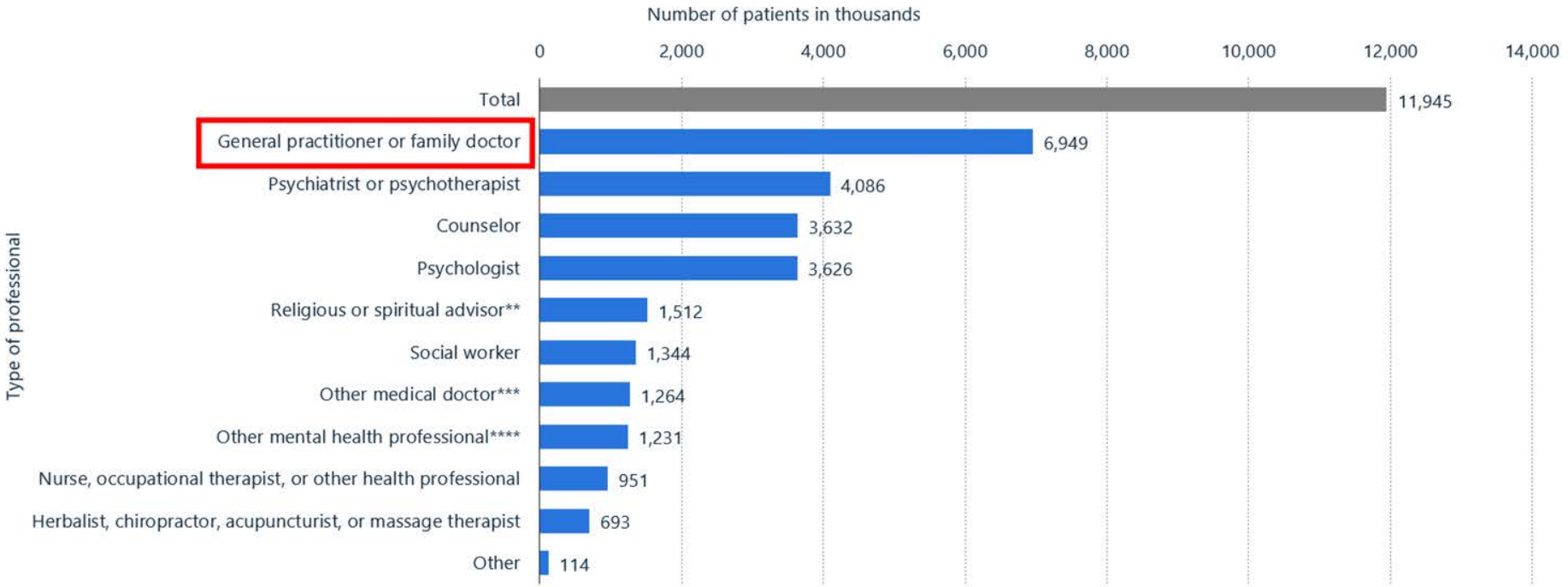
Guns Kill People Who Have Guns





Number of U.S. adults with a major depressive episode who received treatment in 2019, by type of professional (in 1,000s)*

Number of U.S. adults with major depressive episode who received treatment 2019



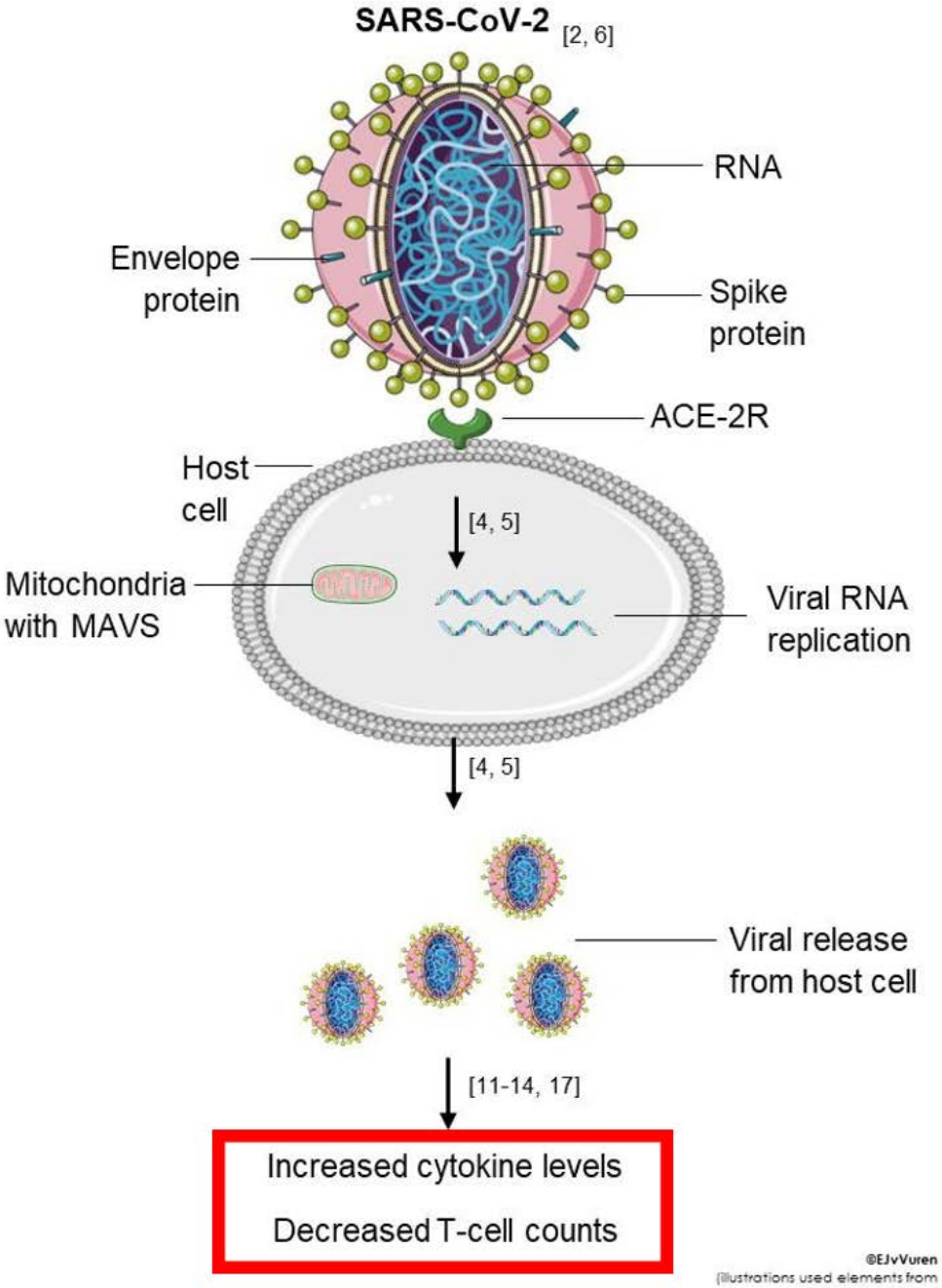
Note: United States; 18 years and older; base: around 70,000
Further information regarding this statistic can be found on page 53.
Source(s): SAMHSA; NSDUH; ID 607387

DSM V Inventory: SIGEMCAPS

- Sleep (⇓/⇑)
- **Interest** (or pleasure)
- Guilt (or worthlessness)
- Energy (fatigue)
- **Mood**
- Concentration
- Appetite (⇓/⇑ or weight loss or gain)
- Psychomotor retardation (or agitation)
- Suicidal ideation (or thoughts of death)
- ≥5/9 Sx for ≥2 weeks

What do We Know About Depression in People with MS?

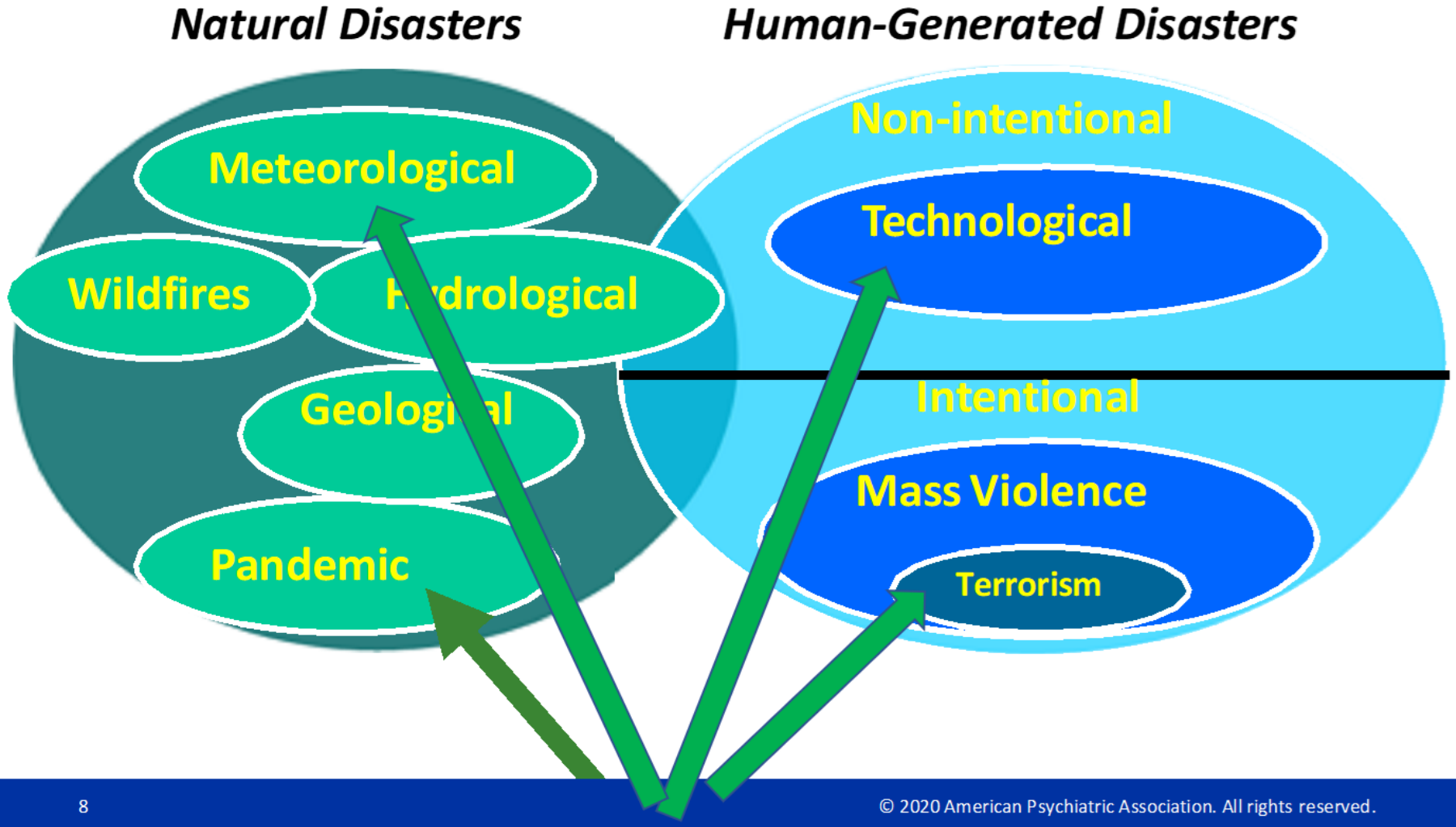
- MS depression is the **primary correlate of QOL** in **patients and their family members,** and accounts for considerable **morbidity and mortality** if left untreated.
- **MS causes Depression**: Depression in MS is due mainly to the **overactivation of the immune system** designed to fight off viruses, bacteria and fungi but mistakenly views the CNS as a foreign invaders.
  - **No correlation with disability or gender**. **Not a weakness or personality flaw**.
  - **If you block the inflammation** in MS patients CNS it has an **antidepressant effect**.
  - Immune signaling molecules by themselves have been shown to cause depression.
- **Depression Contributes to and worsens MS:**
  - Depression is a **risk factor for getting MS** (and SLE, IBD, RA).
  - MS patients who are depressed have **worse MS outcomes** that improves with Tx.
- **Depression in MS is treatable** and **can restore people** back to their old selves.
  - Treatment involves a combination of **antidepressants and talk therapy**.



Jansen van Vuren et al. 2020

BIOPHA-D-20-04216_R1

CATEGORIES OF DISASTERS



COMMUNITY PHASES

https://www.samhsa.gov/programs-campaigns/dtac/recovering-disasters/phases-disaster

Developed on behalf of the Office of Well-Being by George S. Everly, Jr., PhD;
Carolyn J. Fowler, PhD, MPH; Albert W. Wu, MD, MPH and Deborah Dang, PhD, RN

Disaster of Uncertainty:

Misinformation & Missing Message

X

Morbidity & Lethality & Grief

X

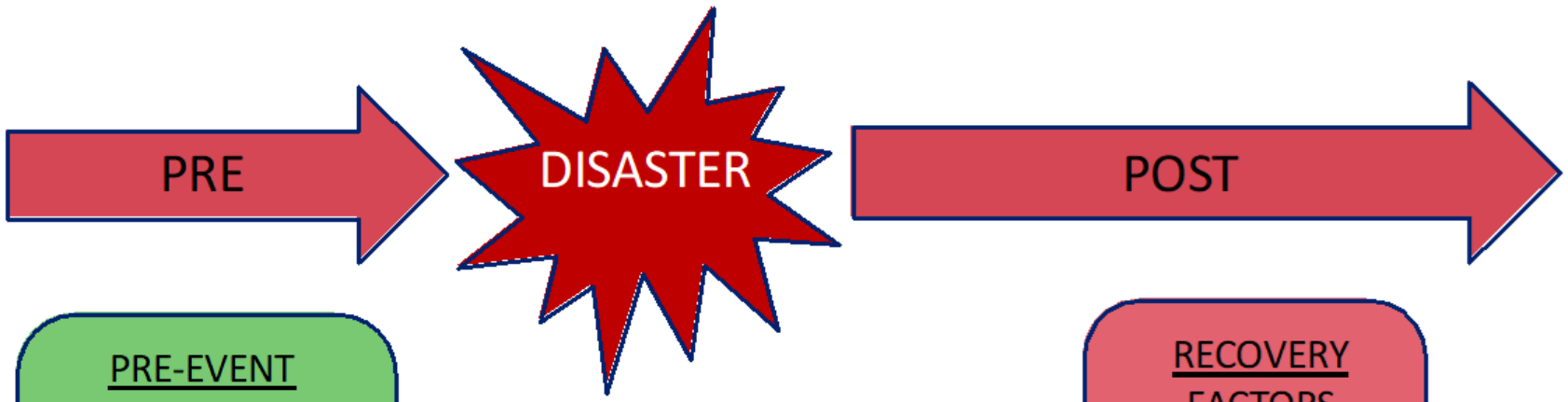
Duration

X

Ambiguity

George S. Everly, Jr., PhD, Disasters of Uncertainty, *Psychology Today*, 2020

VULNERABILITY TO DISASTERS DUE TO…



PRE-EVENT DEMOGRAPHICS

- SES
- Age
- Culture
- Social support

Somasundaram and van de Put (2006). Management of Trauma in Special Populations after a Disaster. J Clin Psychiatry;67(suppl 2):64-73

EVENT IMPACT

- Duration & Severity of Exposure
- Injury
- Home loss
- Displacement
- Bereavement

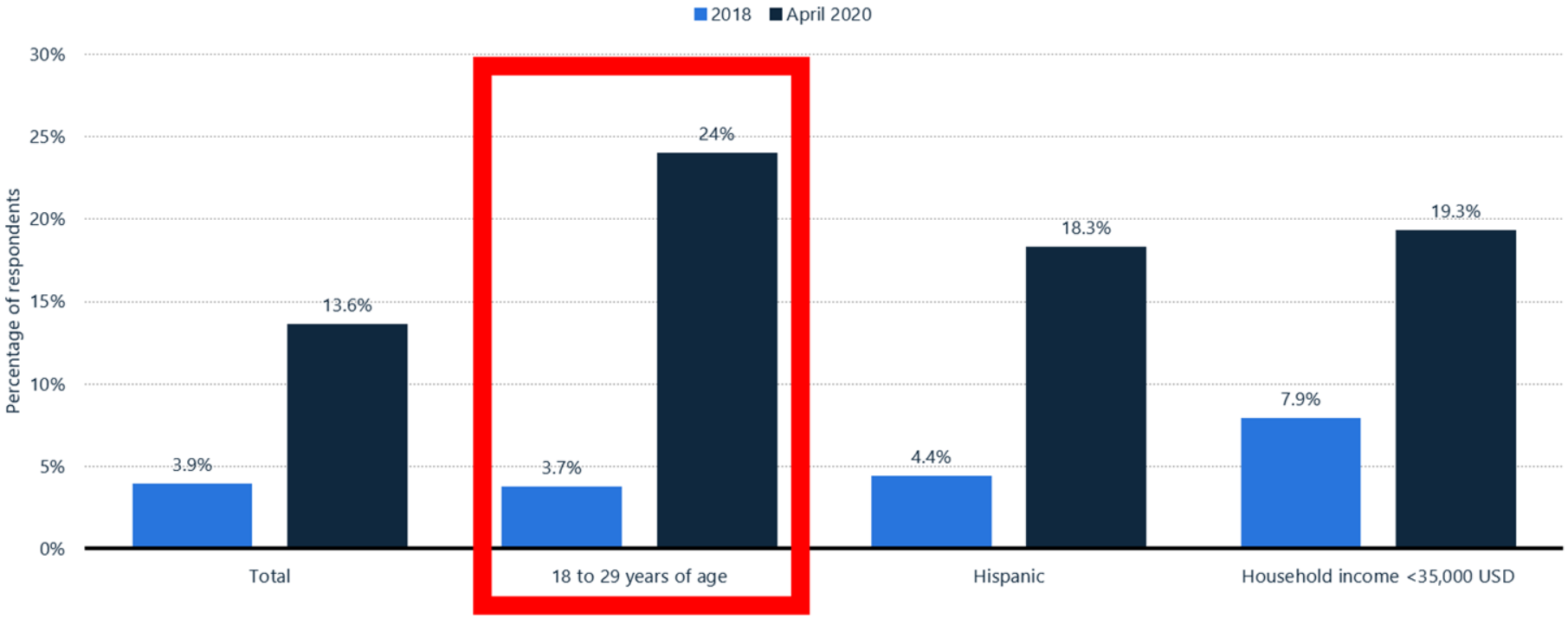
RECOVERY FACTORS

- Relocation
- Job loss
- Social support loss

Norris, F. H., Friedman, M. J., Watson, P. J., Byrne, C. M., Diaz, E., & Kaniasty, K. (2002). 60,000 disaster victims speak: Part I. An empirical review of the empirical literature, 1981-2001. *Psychiatry*, *65*(3), 207–239.

Percentage of select U.S. demographic groups who reported symptoms of serious psychological distress in 2018 and during COVID-19 pandemic*

Share of U.S. adults with psychological distress before and during COVID-19 by group



Note(s): United States; April 7 to 13, 2020; 18 years and older

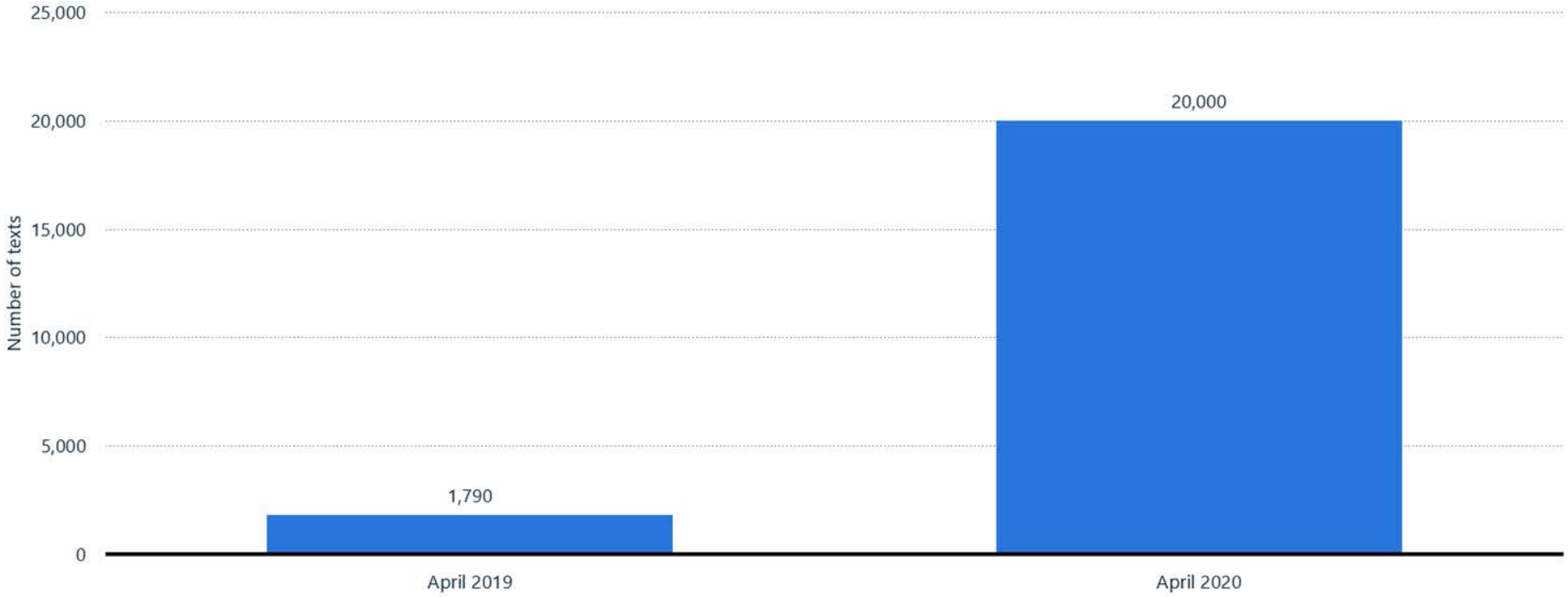
Further information regarding this statistic can be found on page 63.

Source(s): Journal of the American Medical Association; Expert(s) (E. McGinty et al.); ID 1174188

statista

Number of texts to SAMHSA's Disaster Distress Helpline in April 2019 and April 2020

Texts to U.S. Disaster Distress Helpline with COVID-19 effect 2019 vs. 2020



Note(s): United States; April 2019 to April 2020

Further information regarding this statistic can be found on page 64.

Source(s): IHPL; SAMHSA; ID 1169615

COVID-19 has Resulted in an Increase in Known Risk Factors for Mental Health Problems.

- **Unpredictability**, Uncertainty and Fear
- **Emotional toll**: Anxiety, Loneliness, Grief, Sadness, Demoralization.
- **Economic Breakdown** with Loss of income and Financial Stress
  - unemployment, financial, insecurity, and poverty
- Exposure to **Racial Disparity**
- **Stigma**
- **Isolation**
  - Lockdown and physical distancing might lead to social isolation,
  - Decreased family and social support, especially in older and vulnerable people.
- **Forced, prolonged exposure to the same family/friends.**
- **Increased responsibilities**
  - Home schooling
- **Adapting to change** with **loss of purpose driven opportunities**
- **Decreased attention to normal health maintenance concerns**.
  - Inactivity with increased access to food, alcohol, and online gambling
  - Skipping regular maintenance healthcare visits
- **Binging on Catastrophic News**

The Main Things Contributing to Mental Health Problems Right Now?

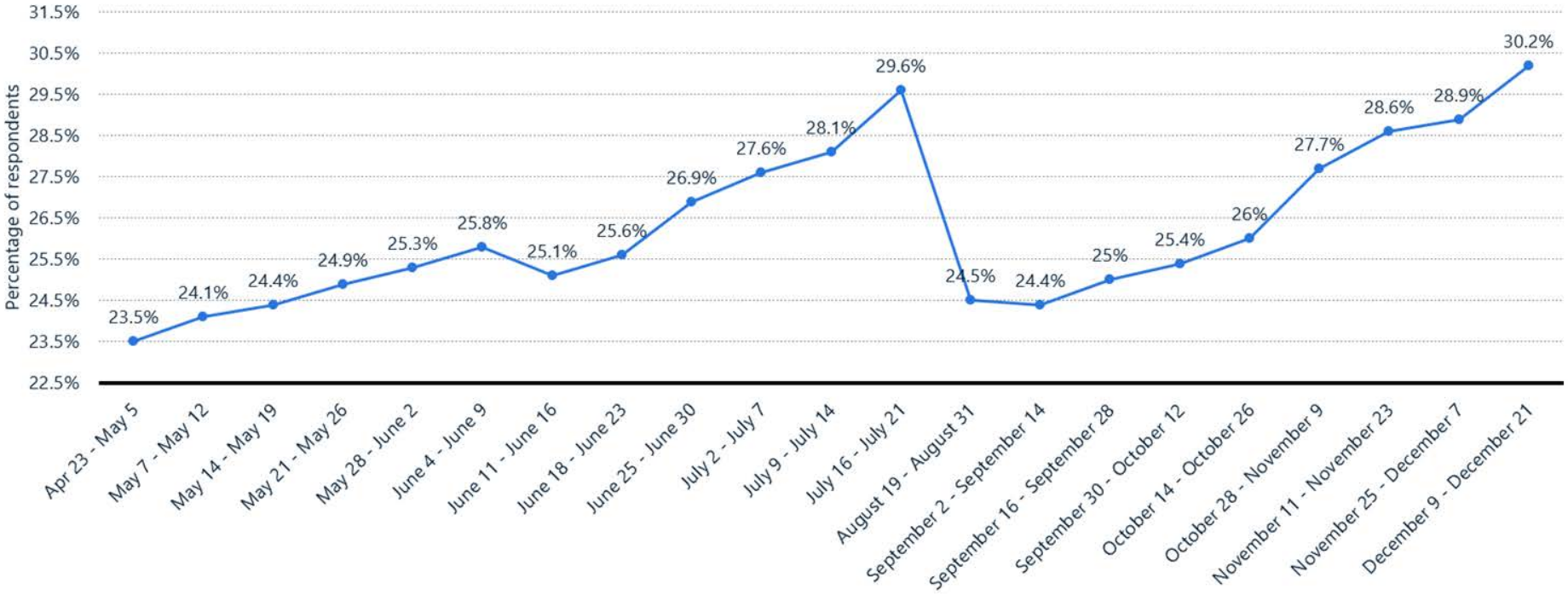
Loneliness/Isolation #1

Reason	Number of Responses	Percent of Respondents
Loneliness/Isolation	6492	72%
Past Trauma	4230	47%
Relationship Probs.	3885	43%
COVID-19	2874	32%
Grief	2453	27%
Financial Probs.	2128	24%
Current Events	1906	21%

N=8,989 scoring moderate to severe, collected 4/13-4/30, "Choose up to 3"

Percentage of respondents in the U.S. who reported symptoms of **DEPRESSIVE DISORDER** in the last seven days from April to December 2020

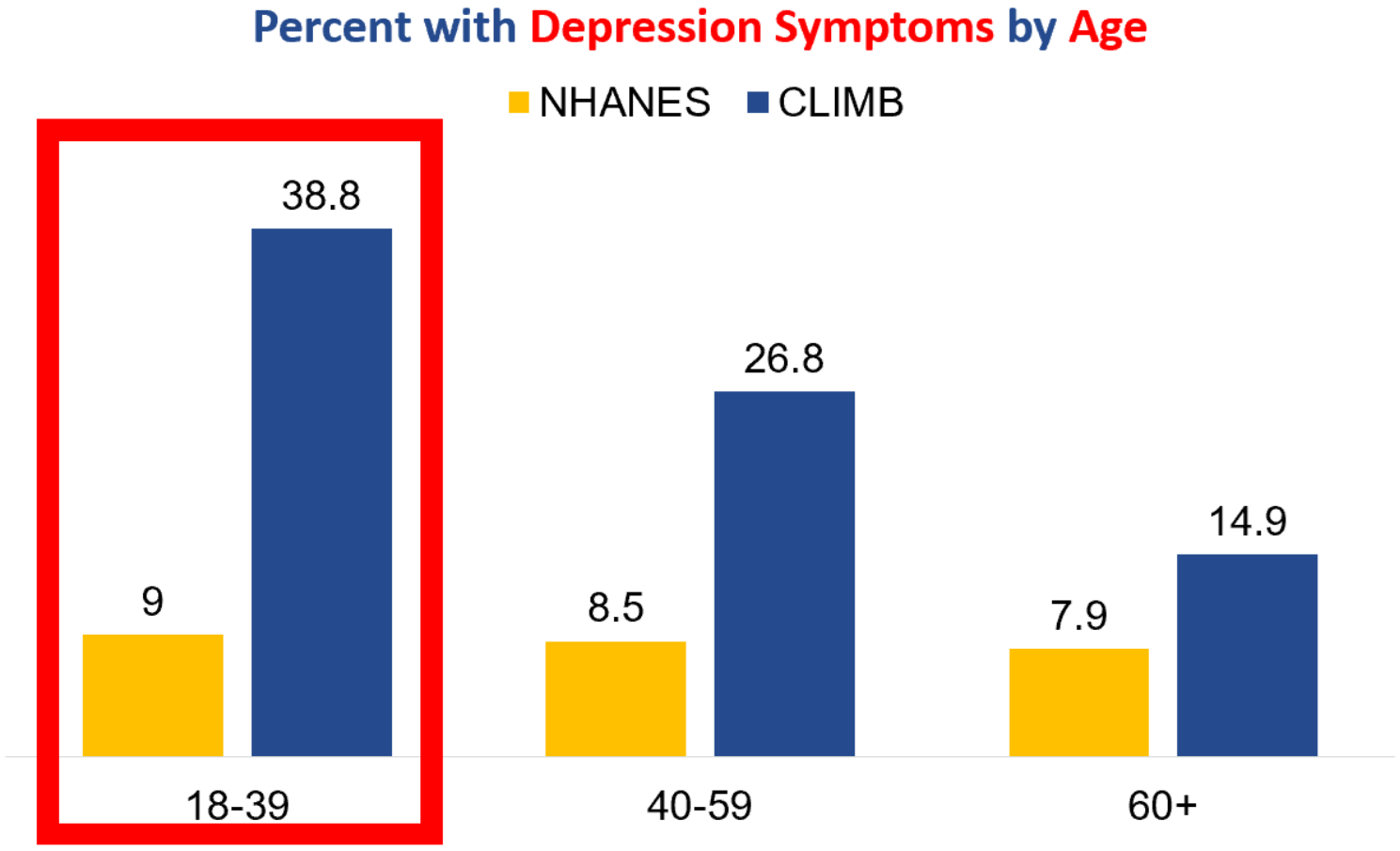
Share of U.S. adults who reported depressive symptoms in the last week Apr.-Dec. 2020



Note(s): United States; April 23 to December 21, 2020; 18 years and older; 60,063
Further information regarding this statistic can be found on page 66.
Source(s): CDC (NHIS); NCHS; ID 1132438

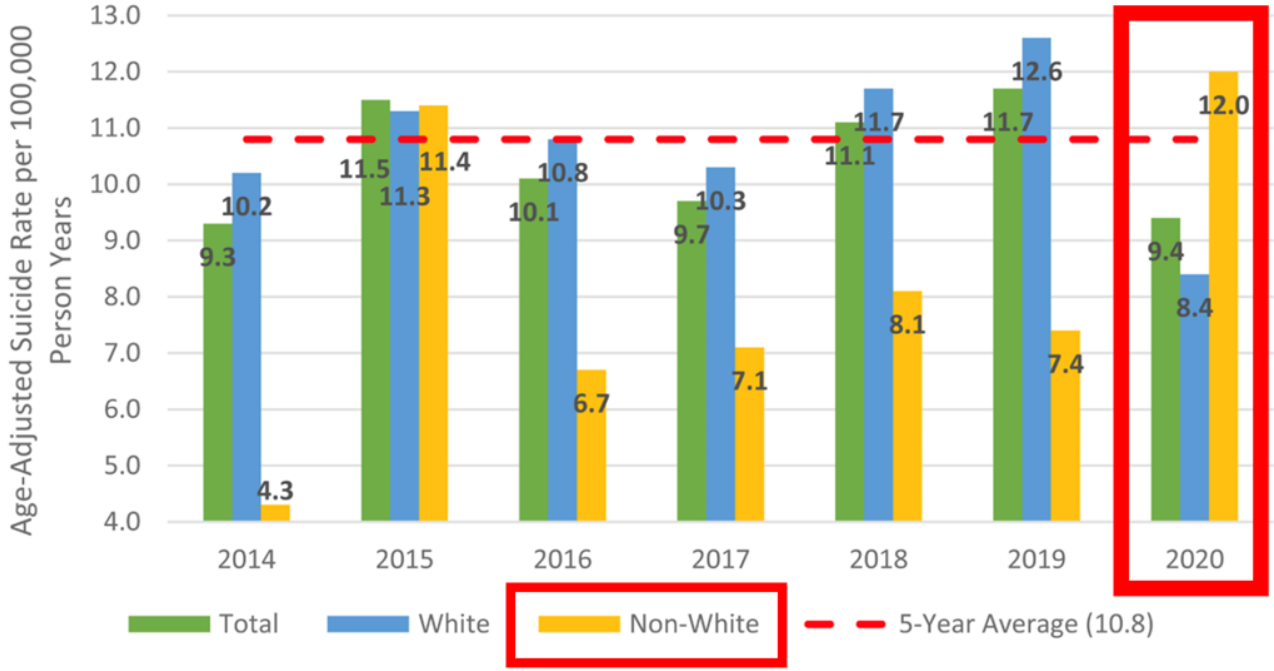
Generously lent by Karen Swartz, MD, MPH

Pre Pandemic (NHANES) vs. Post Pandemic (CLIMB)



Ettman et al., *JAMA Open Network*, 2020

Suicide Rates During Lockdown

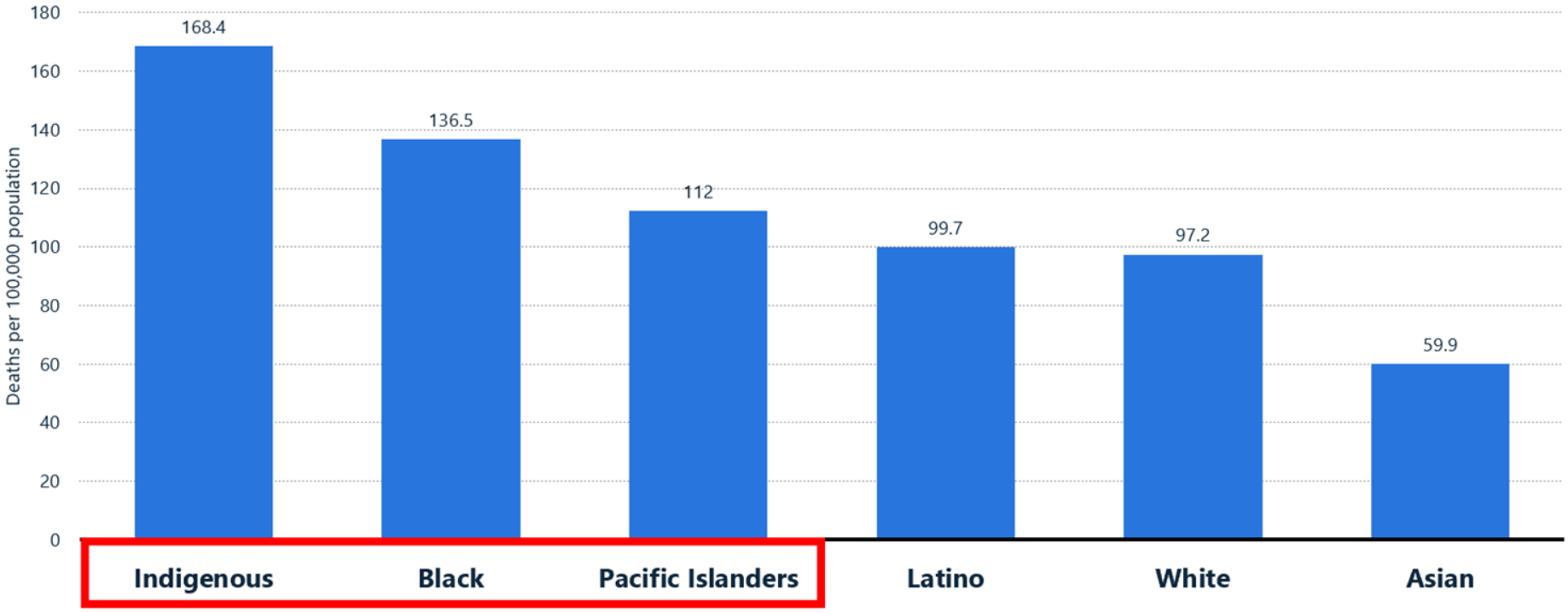


- Study done in CT 3/10-5/20/2020.
- Suicide rates **overall went down by 20%** from previous year.
- **Suicide rates for non-whites went up 62%.**
- **Non-whites** were 23%
  - Black 11%
  - Hispanic 8%
  - Asian 3%
  - Other 1%

Psychiatry Research 295 (2021) 113629

Coronavirus (COVID-19) death rate in the United States as of January 5, 2021**, by race** (per 100,000 population)

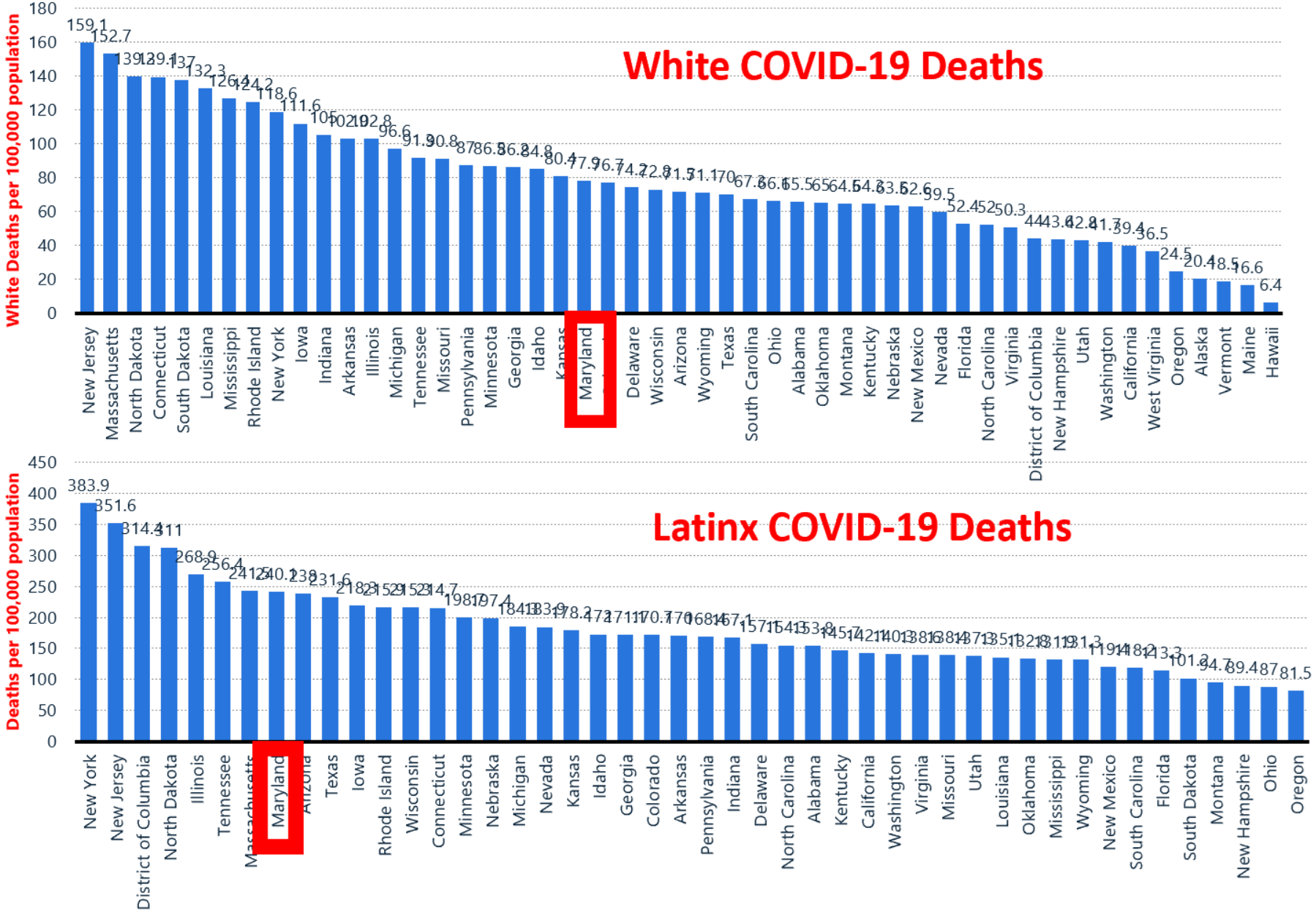
Coronavirus (COVID-19) death rate in the U.S. as of January 5, 2021, by race



Note(s): United States; as of January 5, 2021

Further information regarding this statistic can be found on page 74.

Source(s): APM Research Lab; ID 1122431


White COVID-19 Deaths
White Deaths per 100,000 population
Latinx COVID-19 Deaths
Deaths per 100,000 population

PCP Psychosocial Assessment And Monitoring Should Include:

- **Queries about Covid-19–related stressors**
  - Exposures to infected sources,
  - Infected family members,
  - Loss of friends, family and loved ones,
  - Physical distancing,
- **Secondary adversities (e.g. economic loss, stigma)**
- **Psychosocial effects**
  - Depression, anxiety,
  - Psychosomatic preoccupations,
  - Insomnia,
  - Increased substance use, and
  - Domestic violence
- **Indicators of vulnerability**
  - Preexisting physical conditions
  - Psychological conditions
  - Prior Trauma

N Engl J Med 383;6 nejm.org August 6, 2020

COVID-19 Is Associated With Multiple Neuro-psychiatric Conditions.

- **Neuro**: Delirium, encephalopathy, olfactory disturbances, acute behavioral changes, headache and cerebrovascular accidents are its common neuropsychiatric complications.
- **Psychiatric**: Significantly increased incidence of depression, anxiety, adjustment disorders, acute stress reaction, somatization and obsessive-compulsive disorders.
- **Neuropsychiatric symptoms** are directly related to increase in peripheral immunological markers, severity of infection and case fatality rates (Li, Bai, & Hashikawa, 2020).

People with pre-existing mental health disorders

- **Higher risk of SARS-CoV-2 infection in those with mental health disorders.**
  - **Risk factors for infection with SARS-CoV-2 and a severe course of COVID-19** include **severe mental illness, alcohol or drug misuse, and homelessness**, all of which are associated with other risk factors such as comorbid physical conditions.
  - **People with mental disorders at increased risk of infections** in general (e.g. influenza, etc),
- **Quarantine & lockdown particularly affect people with pre-existing mental health problems:**
  - **Increased symptoms of anxiety and depression**, and high rates of post-traumatic stress disorder and insomnia have been reported.
  - Simultaneously, physical distancing has **reduced the availability of social/familial support**.
- **SARS-CoV-2 also causes dysregulation of the HPA Axis and Immune Systems, which contribute to the development or exacerbation of psychiatric disorders.**

Lancet Psychiatry **2020; 7: 813–24,** July 16, 2020 https://doi.org/10.1016/ S2215-0366(20)30307-2

Long Term Psychiatric Impact of SARS-CoV Infection

- Not enough time to know the long-term impact of SARS-CoV-2.
- SARS-CoV-1 is 80% genetically identical to SARS-CoV-2
- Survivors of infection with SARS-CoV-1 at 31 to 50 months post-infection were clinically diagnosed with persistent:
  - PTSD → 54.5%,
  - Depression → 39%,
  - Pain disorder → 36.4%,
  - Panic disorder → 32.5%
  - OCD → 15.6%

(Lam et al., 2009)

High Rates of Associated Psychiatric Comorbidity with SARS-CoV-2

- **Dramatically high rates of psychiatric comorbidity** in patients infected with **SARS-CoV-2**, which **correlated with their levels of inflammation.**
- Mazza et al evaluated over 400 COVID-19 patients one month after discharge from the hospital:
  - **28% screened positive for PTSD**
  - **31% for Depression**
  - **42% for Anxiety**
  - **56% of patients scoring in the pathological range on at least one clinical mental illness dimension** (Mazza et al., 2020).
- **Baseline levels of systemic inflammation positively correlated with scores of depression and anxiety** at follow-up in the COVID-19 positive patients.

Health-care workers

- **Health-care workers**, especially those **working on the frontline**, have reported negative consequences as a result of stress exposure and fear of infecting themselves or their loved ones.
- In a cross-sectional study of 1257 health-care workers in 34 hospitals in China,
  - **50% reported symptoms of depression**,
  - **45% reported anxiety**,
  - 34% reported insomnia, and
  - 72% reported distress.
- **Risk Factors**: these symptoms were more common in
  - **Women** than in men, in
  - **Nurses** than in physicians,
  - **Frontline workers** directly engaged in diagnosis and treatment of COVID-19 or providing nursing care for affected patients than in those fulfilling other health-care roles.
- Common **additional risk factors** included a
  - **Lack of social support and communication**,
  - **Maladaptive coping** strategies,
  - **Lack of training** (usually a lack of disaster training).
  - **Moral injury** results when people are forced to take action—or, conversely, are unable to take action—that violates their moral code when they are exposed to trauma for which they are unprepared.

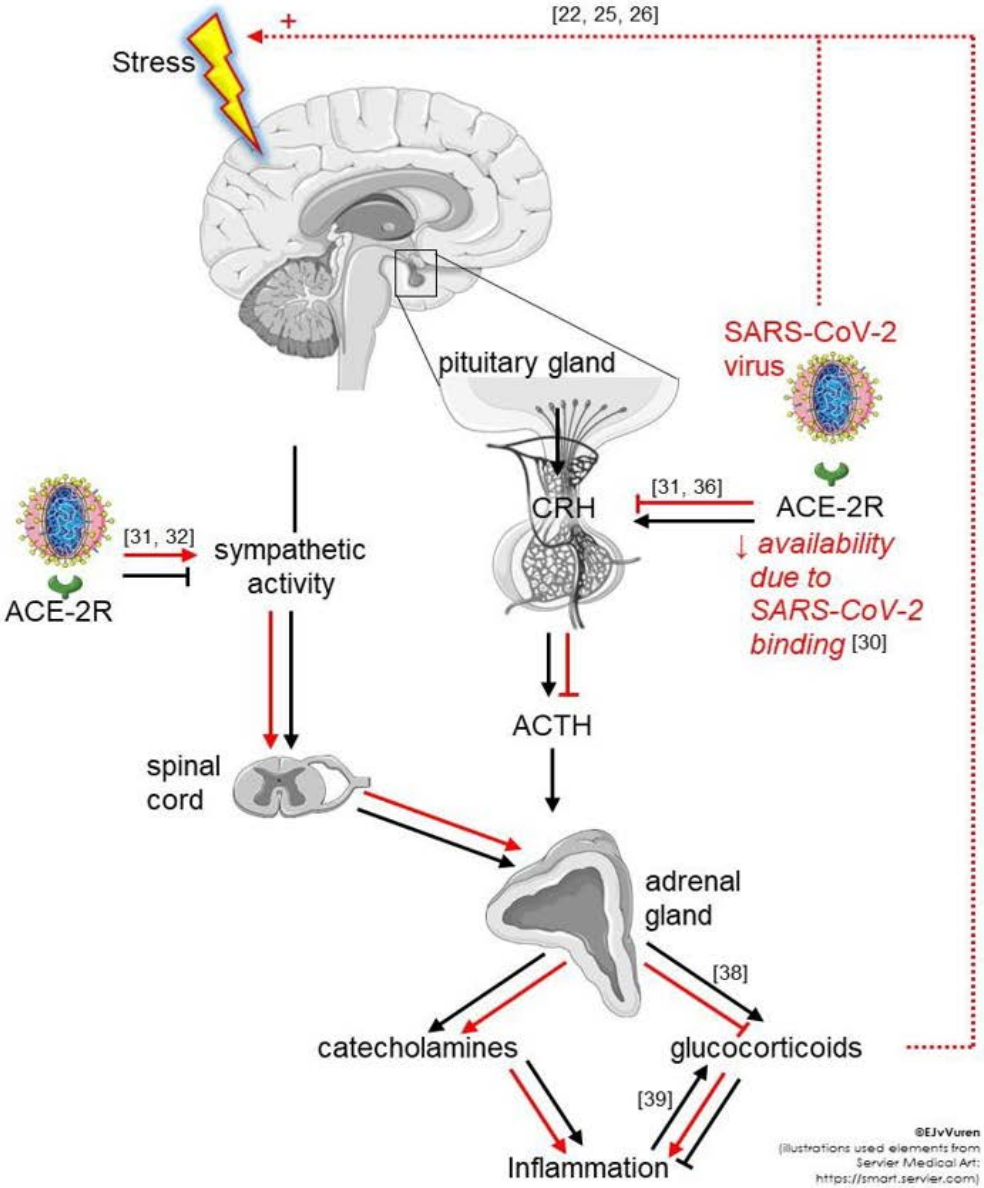
Lancet Psychiatry 2020; 7: 813–24, July 16, 2020 https://doi.org/10.1016/S2215-0366(20)30307-2

COVID-19 Induced Inflammation & Depression

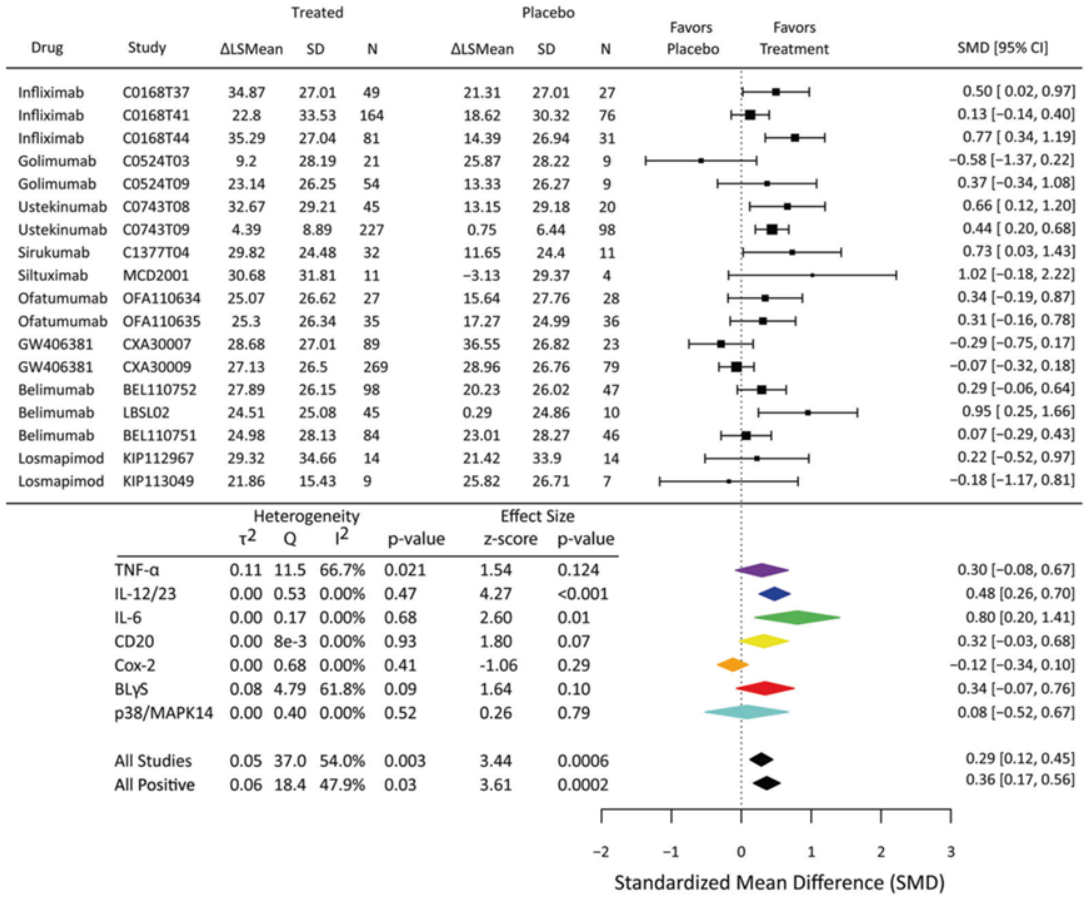
- **Hospitalized COVID-19 patients** (vs matched non-COVID-19 controls) exhibited significantly **highe**r levels of **depression, anxiety, and PTSD.**
- Positive **association between depression and CRP** (R = 0.28, P = 0.028) after controlling for age and duration of hospitalization.
- **Increased CRP levels correlated with levels of depression** (R = -0.31, P = 0.002),
- Levels of depression seemed to be highly influenced by **previous changes of inflammatory markers**.
- This implies that the fluctuation of inflammation can dynamically influence depression among COVID-19 patients.

(Guo et al., 2020)

Fig 2


+
[22, 25, 26]
Stress
pituitary gland
SARS-CoV-2
virus
ACE-2R
[31, 36]
CRH
ACE-2R
↓ availability
due to
SARS-CoV-2
binding [30]
[31, 32]
sympathetic
activity
ACE-2R
ACTH
spinal
cord
adrenal
gland
[38]
catecholamines
glucocorticoids
[39]
Inflammation
©EJvVuren
(illustrations used elements from
Servier Medical Art:
https://smart.servier.com)

Anti-Inflammatory Drugs & Antidepressant Effects



- **Positive Antidepressant Activity**
- Anti-IL-12/23 Ab vs placebo:
  - SMD = 0.48;
    - 95% CI [0.26, 0.70]
- Anti-IL-6 Ab: vs. placebo:
  - SMD = 0.80;
    - 95% CI [0.20, 1.41]

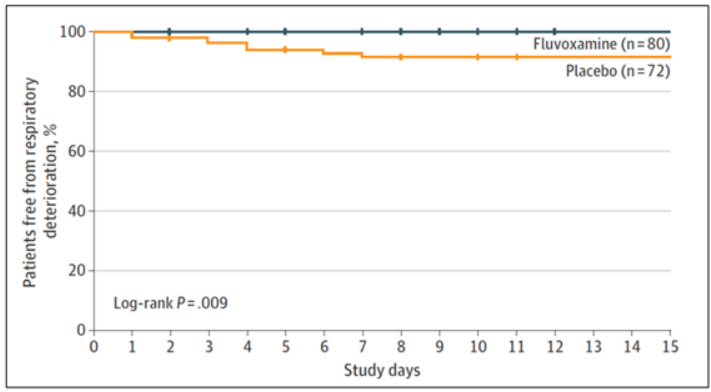
- **Trend for Antidepressant Activity**
- Anti- TNFα Ab vs Placebo
  - SMD = 0.30;
    - 95% CI [−0.08, 0.67]
- Standardized Mean Difference = SMD

Table 1: The anti-and pro-inflammatory actions of psychotropic drugs.

Drug class	Anti-inflammatory	Pro-inflammatory
Antidepressants		
SNRIs		
Duloxetine	↓ IL-6, TNF-α [357, 358]	-
Venlafaxine	↓ IL-1β, IL-6, IL-18, TNF-α; ↑ IL-10 [359-362]	-
SSRIs		
Citalopram	↓ CRP, IL-6, IL-7, IL-8, IFN-γ, TNF-α, TLR's [158, 350, 363]	-
Escitalopram	↓ TNF-α [349]	-
Fluoxetine	↓ TLR's [350]	-
Fluvoxamine	↓ COX2; iNOS, ICAM1, VCAM1 [146, 363]	-
Paroxetine	-	↑ IL-6, IFN-γ, TNF-α [363]
Sertraline	↓ CRP, IL-1β mRNA, IL-6, IL-7, IL-8, IFN-γ, TNF-α [145, 158, 363]	-
Tricyclic and tetracyclic		
Amitriptyline	↑ IL-10; ↓ IL-1β, IL-18, ICAM-1, MIP-2, MCP-1, TNF-α [364-366]	-
Desipramine	↑ IL-10 [364, 366]	↑ IL-1 [363]
Imipramine	↓ IL-1β, IL-18 [367]	-
Mirtazapine	↓ IL-6, IL-7, IL-8, IFN-γ, TNF-α [158]	-

Fluvoxamine vs Placebo and Clinical Deterioration in Outpatients With Symptomatic COVID-19: A Randomized Clinical Trial

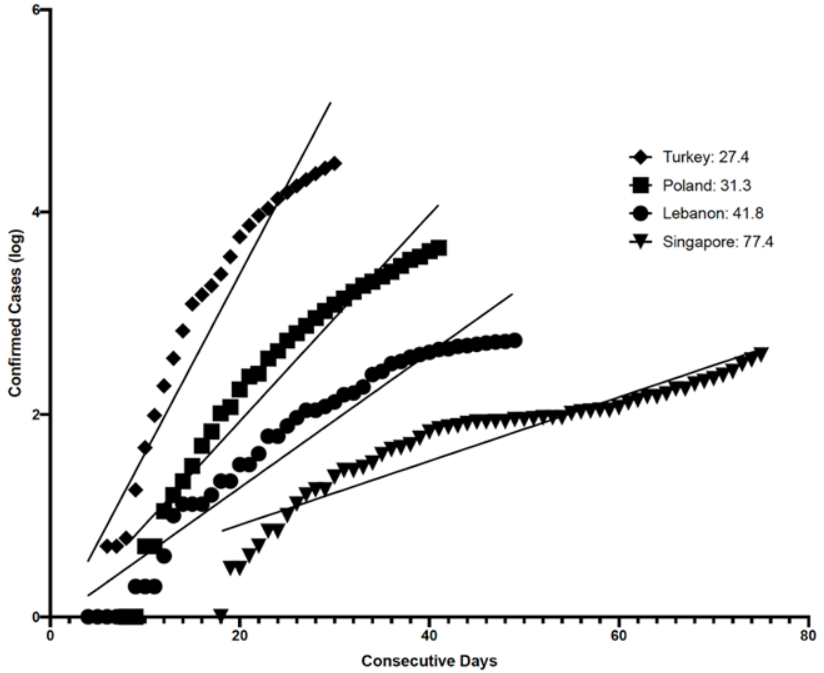
- **Double-blind, randomized clinical trial of fluvoxamine vs placebo.**
  - Participants were community-living, non-hospitalized adults
  - Confirmed SARS-CoV-2 with symptom onset within 7 days
  - Oxygen saturation of 92%or greater.
- Participants were randomly assigned to receive
  - 100mg of fluvoxamine 3 times daily for 15 days.
  - Drug (n = 80) vs Placebo (n = 72)
- Results:
  - 152 patients who were randomized with mean age 46, 72% Women, 76% completed trial.
  - **In Fluvoxamine Group:**
    - Clinical deterioration occurred in 0 of 80 patients
    - 1 serious adverse event and 11 other adverse events
  - **In Placebo Group:**
    - Clinical deterioration occurred in 6 of 72 patients
    - 6 serious adverse events and 12 other adverse events
  - Clinical deterioration absolute difference was 8.7% [95%CI, 1.8%-16.4%], log-rank P = .009). events.

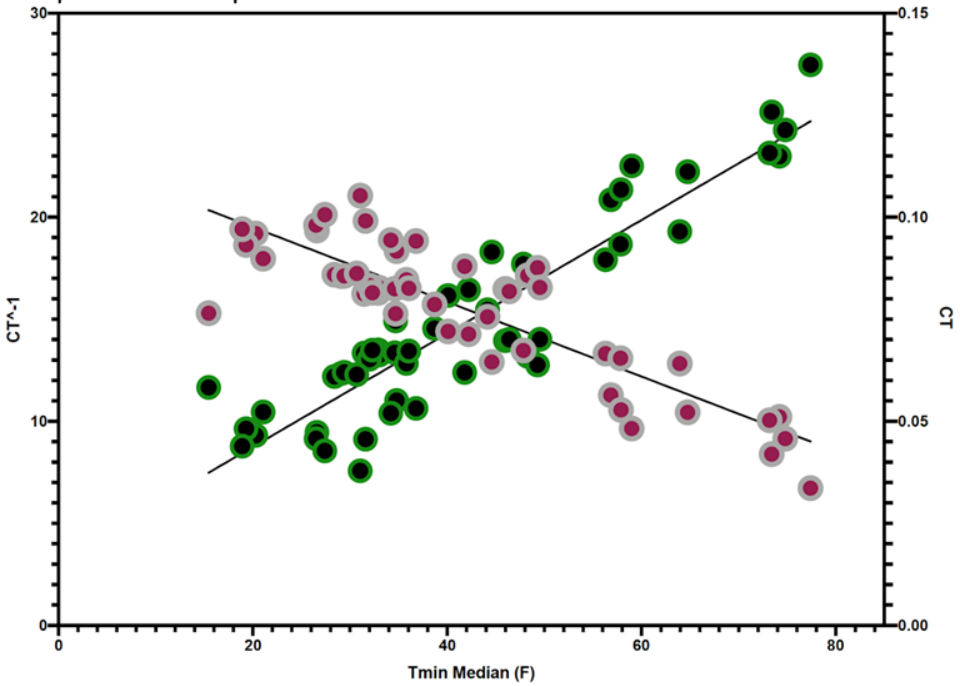


JAMA. doi:10.1001/jama.2020.22760 Published online November 12, 2020

Winter Has Come: Seasonality and SARS-CoV-2

Kaplin et al, PLOS ONE, accepted but not published





Case Type	Dependent Variable	Independent Variables	Regression Coefficients	P value	Adjusted R^2
Confirmed	CT^{-1}	Tmin	0.247	1.45×10^{-6}	0.610
		Days Cases (DC)	0.150	**	
		Land Area Per Capita (LAPC)	21.244		
		Median Age	0.151		

Recipe for Resiliency and Recovery

- **Getting through a Pandemic.**
  - **COMPASSION – for yourself and others**
  - **CONNECTION – with others, self, nature**
  - **CONSISTENCY – maintain a routine of habits and activities**
  - **CONTROL– what you can, and what you can't—control whether you care about it.**
- **Mastering (Health Related) Adversity: Luby Kronemer**
  - **Accept**
  - **Adapt**
  - **Achieve**
- **We are connected to others and we all form a patchwork quilt.**
  - **Forgiveness:** Strengthens connections to ourselves.
  - **Gratitude:** Strengthens connections to others.
  - **Purpose:** Strengthen connections from others.

Discussion and Q/A

Maryland
DEPARTMENT OF HEALTH

Appendix

Resources and Links

Maryland
DEPARTMENT OF HEALTH

Maryland Covid-19 Vaccination Plan

- Maryland has developed a Covid-19 vaccination plan to vaccinate all Marylanders interested in receiving vaccine
- Plan was released on Tuesday, October 20, 2020
- This is a working plan and subject to change as new information is received and the Covid-19 pandemic continues to evolve
- Copy of the plan can be found here:

https://phpa.health.maryland.gov/Documents/10.19.2020_Maryland_Covid-19_Vaccination_Plan_CDCwm.pdf

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Current Vaccines

	BIONTECH Pfizer	moderna messenger therapeutics
Schedule	• Two dose regimen • 17-21 days apart (can extend)	• Two dose regimen • 28 days apart (can extend)
Indications	• 16 years and older • Pregnant and lactating can be considered • Caution with those with h/o anaphylaxis	• 18 years and older • Pregnant and lactating can be considered • Caution with those with h/o anaphylaxis
Administration and Distribution	• Ultracold storage, 5 days in refrigeration • 985 doses per box • 15 and 30 minute observation periods	• Up to 30 days in refrigerator • 100 doses per box • 15 and 30 minute observation periods

Johnson and Johnson to follow (Likely February)

Source: CDC

Phased Approach

	Phase 1	Phase 2
Vaccine availability	Limited	Widespread
Approach	Targeted	Universal
Vaccine available to:	• Frontline healthcare workers • Other essential workers • Those at highest risk of developing complications from Covid-19 (ACIP high risk conditions)	• General public
Vaccine distribution by:	• Local health departments • Hospitals • Vaccination clinics (through LHDs) • Essential employer work sites	• Local health departments • Hospitals • Pharmacies • Primary care practices • Urgent care centers • School vaccination clinics

Allergy considerations for mRNA vaccines - information from ACIP meeting

Contraindications to vaccination

- Prescribing information for both Pfizer-BioNTech and Moderna COVID-19 vaccines:
  - Severe allergic reaction (e.g., anaphylaxis) to **any component of the vaccine** is a contraindication to vaccination
  - Appropriate medical treatment used to manage immediate allergic reactions must be immediately available in the event an acute anaphylactic reaction occurs following administration of the vaccine

Key messages

Preparing for the potential management of anaphylaxis at COVID-19 vaccination sites

Early recognition of anaphylaxis symptoms

Prompt treatment with epinephrine

Activate emergency medical services

Source: CDC

Covid-19 Vaccines/Immunization Information

- Maryland Covid-19 Vaccination Plan
- New York Times Coronavirus Vaccine Tracker
- ImmuNet Information
  - ImmuNet enrollment form
  - ImmuNet helpdesk contact information
  - Guidance for practices how about reporting to ImmuNet
  - Technical specifications for the EHR interface with ImmuNet
  - ImmuNet log-in information portal
- Summary of vaccines under development

Maryland
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Covid-19 Testing Information

- Maryland Department of Health testing announcements and accessibility information and resources
- CDC Covid-19 testing overview
- MDPCP Roadmap to Recovery – Covid-19 testing guidelines
- Maryland Department of Health guidance regarding point of Care rapid antigen Covid testing
- myLAB Box - Covid-19 testing program for Maryland clinicians
- FDA letter to clinical laboratory staff and health care providers about the potential for false positive results with rapid antigen tests for Covid-19

Maryland
DEPARTMENT OF HEALTH

Primary Care Involvement

- Continue to encourage and vaccinate your patients with the flu shot
- Ensure that you are onboarded (connected) with ImmuNet to report vaccinations administered
- Once available, register to become a Covid vaccine provider
- Use the CVI tool to begin to identify your patients that are at a higher risk for Covid

Maryland
DEPARTMENT OF HEALTH

Covid-19 mAb Treatment Criteria

- Patient Criteria
  - Have BMI >= 35
  - Have chronic kidney disease
  - Have diabetes
  - Are currently receiving immunosuppressive treatment
  - Are >= 65 years old
  - Are >=55 years old and have
    - ✓ Cardiovascular disease, or
    - ✓ Hypertension, or
    - ✓ Chronic obstructive pulmonary disease/other chronic respiratory disease
  - Are 12 – 17 years old AND have
    - ✓ BMI >=85th percentile for their age and gender based on CDC growth charts, or
    - ✓ Sickle cell disease, or
    - ✓ Congenital or acquired heart disease, or
    - ✓ Neurodevelopmental disorders, or
    - ✓ A medical-related technological dependence, or
    - ✓ Asthma

Maryland DEPARTMENT OF HEALTH

Source: FDA

Vaccine Resources

- CDC Covid-19 Vaccination Communication Toolkit - ready made materials, how to build vaccine confidence, social media messages
- New York Times Vaccine Tracker - information on every Covid vaccine in development
- New York Times Vaccine Distribution Tracker – information on the distribution of Covid vaccines in the United States
- MDH Covidlink Vaccine Page - information on vaccine priority groups in Maryland
- CDC Vaccine Storage and Handling Toolkit
- Project ECHO Webinar - webinar on vaccines and Long Term Care Facilities, relevant for primary care

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Scheduling In-Office Appointments

- Patient calls in for an appointment
  - Reception screens patient on the phone using the pre-visit screening template
  - Schedule in-office visits for different groups: At-risk and vulnerable patients on certain days, healthier patients on other days
  - Schedule telehealth and non-office-based care for other patients including follow-ups and patients uncomfortable with office visits
- Check In
  - Practice remote check in and limited front-desk contact
  - Consider using a triage zone outside of office or main area;
  - Or use a barrier at the front desk
  - Design your office to accommodate patients who come in specifically for Covid testing and triage, separate from patients who arrive for non-Covid related and elective procedures
    - ✓ Ensure patients and staff do not cross between Covid and non-Covid areas
    - ✓ Set aside a specific area for patients who come in for testing to wait and be triaged

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Scheduling In-Office Appointments

- Checking out
  - Practice remote check out, limit front desk exposure;
  - Or use a barrier at the front desk

- If patient is paying co-pays, etc., set up credit card reader outside of the barrier

- Other workflow resources
  - Care management workflows
  - BMJ telemedicine workflow graphics
  - CDC flowchart to identify and assess 2019 novel Coronavirus
  - CDC telephone evaluation flow chart for flu
  - CDC guidance for potential Covid-19 exposure associated with international or domestic travel

CDC Guidelines for Covid Patient Management

- Healthy people can be monitored, self-isolated at home
- People at higher risk should contact healthcare providers early, even if illness is mild
- Older adults and people with severe underlying chronic medical conditions are at higher risk, need closer contact
- Emergency Department and Hospitals only when needed - not for screening or low risk/minimal disease

- **Guidelines are important and powerful tools, but remember providers' clinical experience and judgment are key to care**

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Prepare Safe Workflows and Stock Sufficient PPE

- Ensure your practice has 30 days of PPE immediately available
- Consult usual suppliers and order PPE well in advance of anticipated need
  - There may be PPE shortages in the future
- Continue using PPE according to CDC guidelines
- Ensure safe workflows for all patients, particularly vulnerable patients

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Sources: Washington Post, Nature

Personal Protective Equipment (PPE) Sources and Requests

- Practices should initially request PPE through their usual vendors
- Practices should make their PPE requests through their local health departments
- Maryland PPE Manufacturers List – next slide
- National and international PPE supplier list
- PPE request form

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Personal Protective Equipment (PPE) Sources and Requests

- Increasing Maryland's supply of PPE – one of the 4 building blocks on the Road to Recovery
- Maryland has launched the Maryland Manufacturing Network Supplier Portal, an online platform that helps connect Maryland suppliers with buyers in need of critical resources
- For additional business resources during Covid-19, visit businessexpress.maryland.gov/coronavirus
- Providers may also request PPE from the non-profit 'Get Us PPE'

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MD COVID Alert App

- New opt-in cell phone app that notifies users if they have been exposed to somebody who is Covid-19 positive
- Mimics CDC close contact definition (6-feet or less for >15 minutes) with bluetooth
- Individuals who receive exposure notifications:
  - Receive advice to get tested
  - Receive information about possible exposure date
  - COVID-19 positive users may receive a call from a contact tracer
- More information is available here

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Sources: The Baltimore Sun, MDH

Emerging Virus Variant

- Known as B.1.1.17
- Was first noticed in Britain. The number of B.1.1.17 cases have grown significantly there and in South Africa
- Has appeared in more than 30 countries, including the United States and Maryland
- B.1.1.17 variant seems to be between 10 percent and 60 percent more transmissible than the original virus

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Source: New York Times

Provider/Patient Mental Health Resources

- Providers
  - "Helping the Helpers and Those They Serve," a webinar series from the Maryland Department of Health Behavioral Health Administration and MedChi (on the 2nd and 4th Thursdays of every month starting 11/12/2020)
  - Heroes Health Initiative
- Patients
  - Ask Suicide-Screening Questions toolkit
  - CDC list of resources for coping with stress

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Health Equity Resources

- Maryland Department of Health Office of Minority Health and Health Disparities (MHHD)
- Maryland Department of Health Minority Outreach and Technical Assistance Program overview
- MHHD fiscal year 2020 minority outreach and technical assistance program information
- Description of the term “health disparity”
- Implicit bias test
- “Hundreds of Days of Action as a Start to Address Hundreds of Years of Inequality” – New England Journal of Medicine article by Maulik Joshi, DrPH
- “Discussion Draft of the Preliminary Framework for Equitable Allocation of COVID-19 Vaccine” – discussion draft for public comment by Committee on Equitable Allocation of Vaccine for the Novel Coronavirus, The National Academies of Science, Engineering, Medicine

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Telehealth Resources

- Maryland Health Care Commission Telehealth
- Maryland Health Care Commission Telehealth Readiness Assessment Tool
- U.S. Department of Health and Human Services Health Insurance Portability and Accountability Act (HIPAA) for Professionals
- American Telehealth Association
- Maryland Telehealth Alliance
- National Consortium of Telehealth Resource Centers

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Support for Patients at Home

- Food
  - Meals on Wheels
- Caregivers
  - Visiting nurses and caregivers
- Emotional support
  - Support from family
  - Phone calls and videochat to fight loneliness
  - MD Department of Aging Senior Call Check Program

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Staying Current - Sources

- CDC
- MDH Covid-19 information page
- MDPCP Covid-19 webpage
- Local Health Departments
- CONNECT
- Clinician Letters
- Multiple Resource Links in Appendix

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Food Resources

- Nutrition: Inform patients that children can receive three free meals/day at sites listed on:
  - Maryland Summer Meals
  - Montgomery County
  - Prince Georges County
  - Charles County
  - Frederick County
  - Howard County
  - Anne Arundel County
  - St. Mary's County
  - Harford County
  - Calvert County
- Free meals available from 42 rec centers in Baltimore
  - Call 311 for locations and to schedule pickup time

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Resources for Specific Groups

- Community- and Faith-Based Organizations (https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-community-faith-organizations.html)
- Mass Gatherings and Large Community Events (https://www.cdc.gov/coronavirus/2019-ncov/community/mass-gatherings-ready-for-covid-19.html)
- Non-Pharmaceutical Interventions for Specific Groups (https://www.cdc.gov/nonpharmaceutical-interventions/index.html)

Resources and References

- Maryland Department of Health Coronavirus Website (https://coronavirus.maryland.gov)
- CDC Coronavirus Website (https://www.cdc.gov/coronavirus/2019-nCoV/index.html)
- CDC National data on Covid-19 infection and mortality (https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html)
- CDC Interim Guidance for Homes and Communities (https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-prevent-spread.html)
- CDC Interim Guidance for Businesses (https://www.cdc.gov/coronavirus/2019-ncov/specific-groups/guidance-business-response.html)
- CDC Interim Guidance for Childcare and Schools (https://www.cdc.gov/coronavirus/2019-ncov/specific-groups/guidance-for-schools.html)
- CDC Travel Website (https://wwwnc.cdc.gov/travel/)

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