

COVID-19 and Mental Health

Joshua Gordon, M.D., Ph.D.

Director, NIMH

53rd Advisory Committee on Research on
Women's Health (ACRWH)

April 14, 2021



National Institute
of Mental Health

Agenda

- Overview
- What We Know From Prior Disasters/Traumatic Events
- COVID-19 and Mental Health
- Responding to the COVID-19 Pandemic

Agenda

- **Overview**
- What We Know From Prior Disasters/Traumatic Events
- COVID-19 and Mental Health
- Responding to the COVID-19 Pandemic

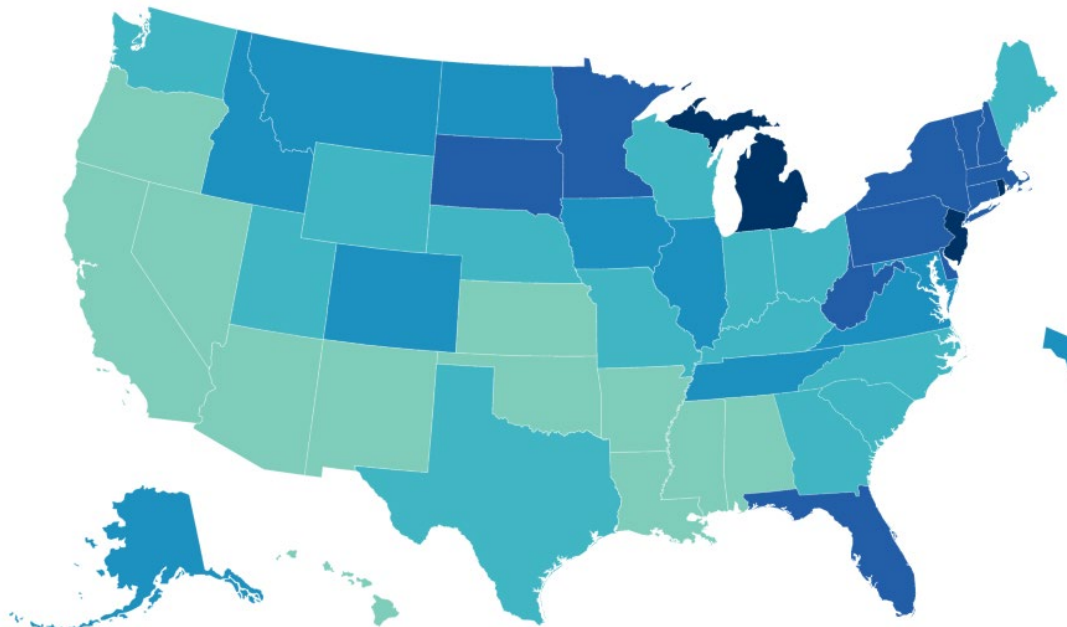
COVID-19 Pandemic

TOTAL CASES
30,038,363
+62,184 New Cases

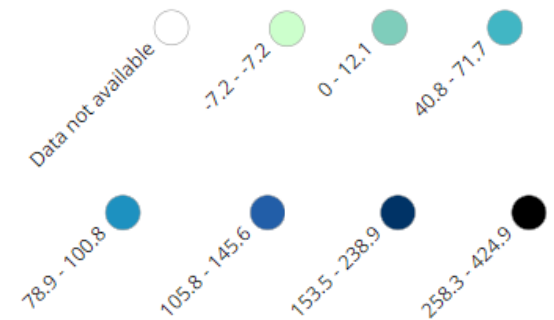
7-DAY CASE RATE PER 100,000
127.4

TOTAL DEATHS
546,144
+871 New Deaths

CDC | Updated: Mar 28 2021 12:26PM



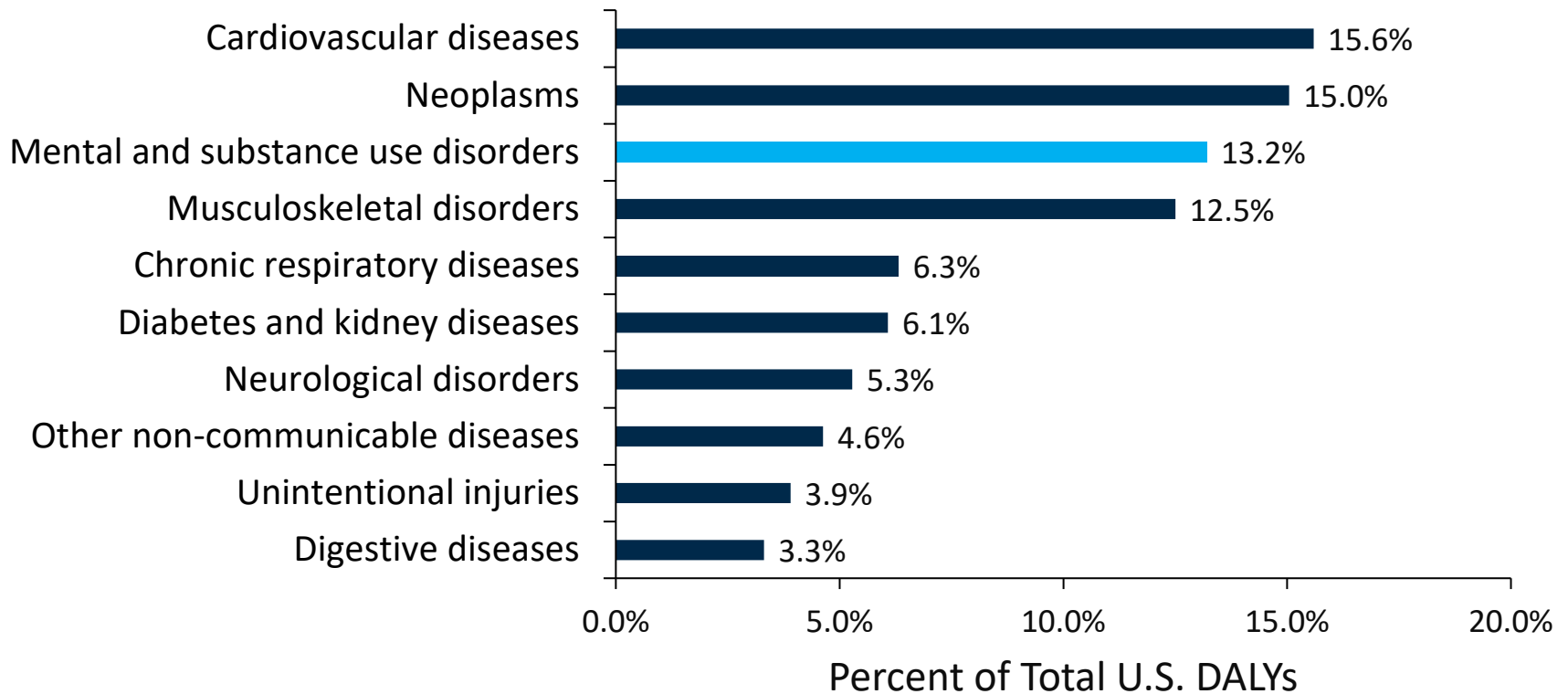
Cases in Past 7 Days
(per 100,000)



Burden of Mental Illness: U.S. Disability-Adjusted Life Years (DALYs)

Top Ten Leading Disease/Disorder Categories Contributing to all U.S. DALYs (2019)

Data Courtesy of IHME, GHDx

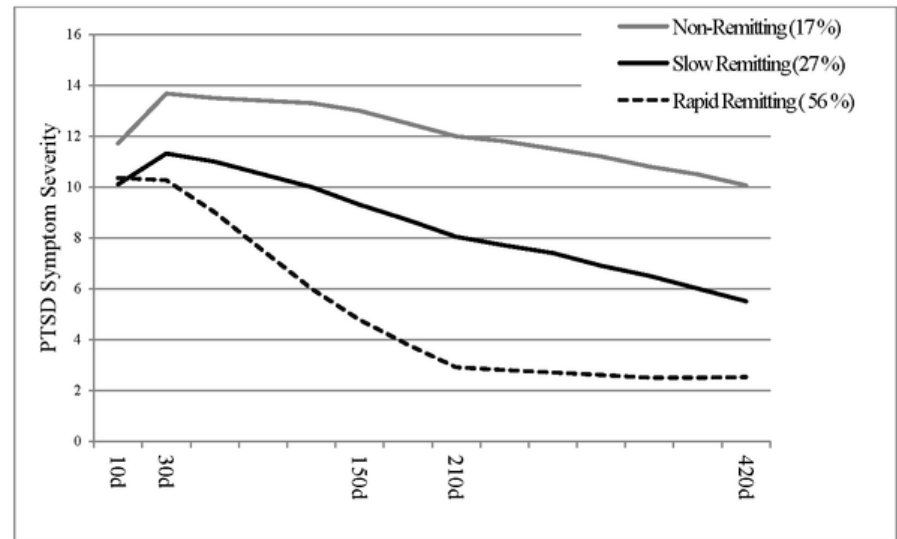


Agenda

- Overview
- **What We Know From Prior Disasters/Traumatic Events**
- COVID-19 and Mental Health
- Responding to the COVID-19 Pandemic

Lessons Learned: Previous Disasters/Traumatic Events

- Most who are exposed to trauma experience initial symptoms
- For most, symptoms improve with time
- Significant minority may have long-term or chronic experiences with mental illness
- Social inequities and health disparities increase trauma exposure as well as subsequent mental health vulnerability and care



Note: x-axis indicates number of PTSD symptoms reported on the PSS-I. Y-axis represents time from 10 days to roughly 420 days Trajectories represent estimated marginal means.

Risks for Poor Outcomes

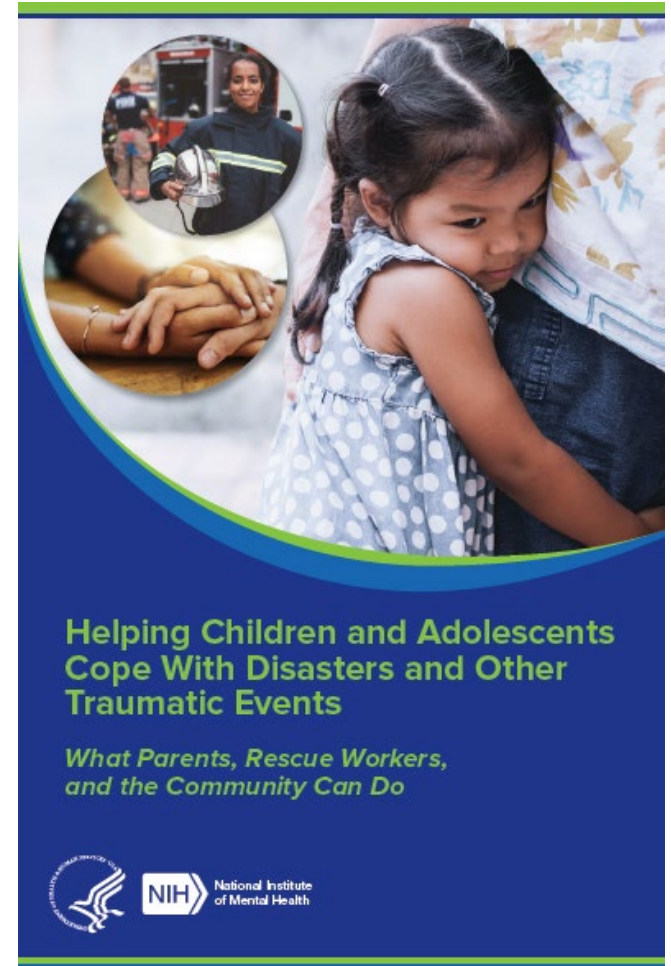
- Nature and severity of exposure
 - Exposed directly to death or injuries
 - Trauma type
- Individual differences
 - History of trauma or mental illness
 - Ongoing stressors, including occupational and financial strain
 - Substance use/abuse
 - Female
 - Non-white
- Environment
 - Few social supports



There is no single variable that determines individual outcomes

Supporting Long-Term Recovery

- Meet immediate needs
- Practice healthy coping strategies
- Treat new or worsening illness
- Find ways to help others
 - Promotes sense of efficacy
 - Promotes connectedness



Disasters May Exacerbate Disparities in Mental Health System Reach and Access

- Mental health in disaster context is challenge
 - 8 months after Hurricane Katrina

	Respondents With Preexisting Disorders		Respondents With New-Onset Disorders	
	New Orleans Metropolitan Area Residents	Alabama, Louisiana, and Mississippi Residents	New Orleans Metropolitan Area Residents	Alabama, Louisiana, and Mississippi Residents
		17.2%	22.4%	35.8%
Received posthurricane treatment	60.1%	45.9%	18.5%	18.5%
Did not receive posthurricane treatment	39.9%	54.1%	81.5%	81.5%
Reasons for not obtaining treatment				
Low perceived need	6.9%	4.2%	68.1%	89.1%
Enabling factors	84.0%	74.0%	28.2%	11.1%
Predisposing factors	4.2%	1.2%	4.5%	5.8%

Agenda

- Overview
- What We Know From Prior Disasters/Traumatic Events
- **COVID-19 and Mental Health**
 - **General Population**
 - Vulnerable Populations
- Responding to the COVID-19 Pandemic

COVID-19 Impacts on Mental Health

Centers for Disease Control and Prevention

MMWR

Morbidity and Mortality Weekly Report

Weekly / Vol. 69 / No. 32

August 14, 2020

Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic — United States, June 24–30, 2020

Mark É. Czeisler^{1,2}; Rashon I. Lane MA³; Emiko Petrosky, MD³; Joshua F. Wiley, PhD¹; Aleta Christensen, MPH³; Rashid Njai, PhD³; Matthew D. Weaver, PhD^{1,4,5}; Rebecca Robbins, PhD^{4,5}; Elise R. Facer-Childs, PhD¹; Laura K. Barger, PhD^{4,5}; Charles A. Czeisler, MD, PhD^{1,4,5}; Mark E. Howard, MBBS, PhD^{1,2,6}; Shantha M.W. Rajaratnam, PhD^{1,4,5}

During late June, 40% of U.S. adults reported struggling with mental health or substance use^{*}

ANXIETY/DEPRESSION SYMPTOMS



STARTED OR INCREASED SUBSTANCE USE



TRAUMA/STRESSOR-RELATED DISORDER SYMPTOMS



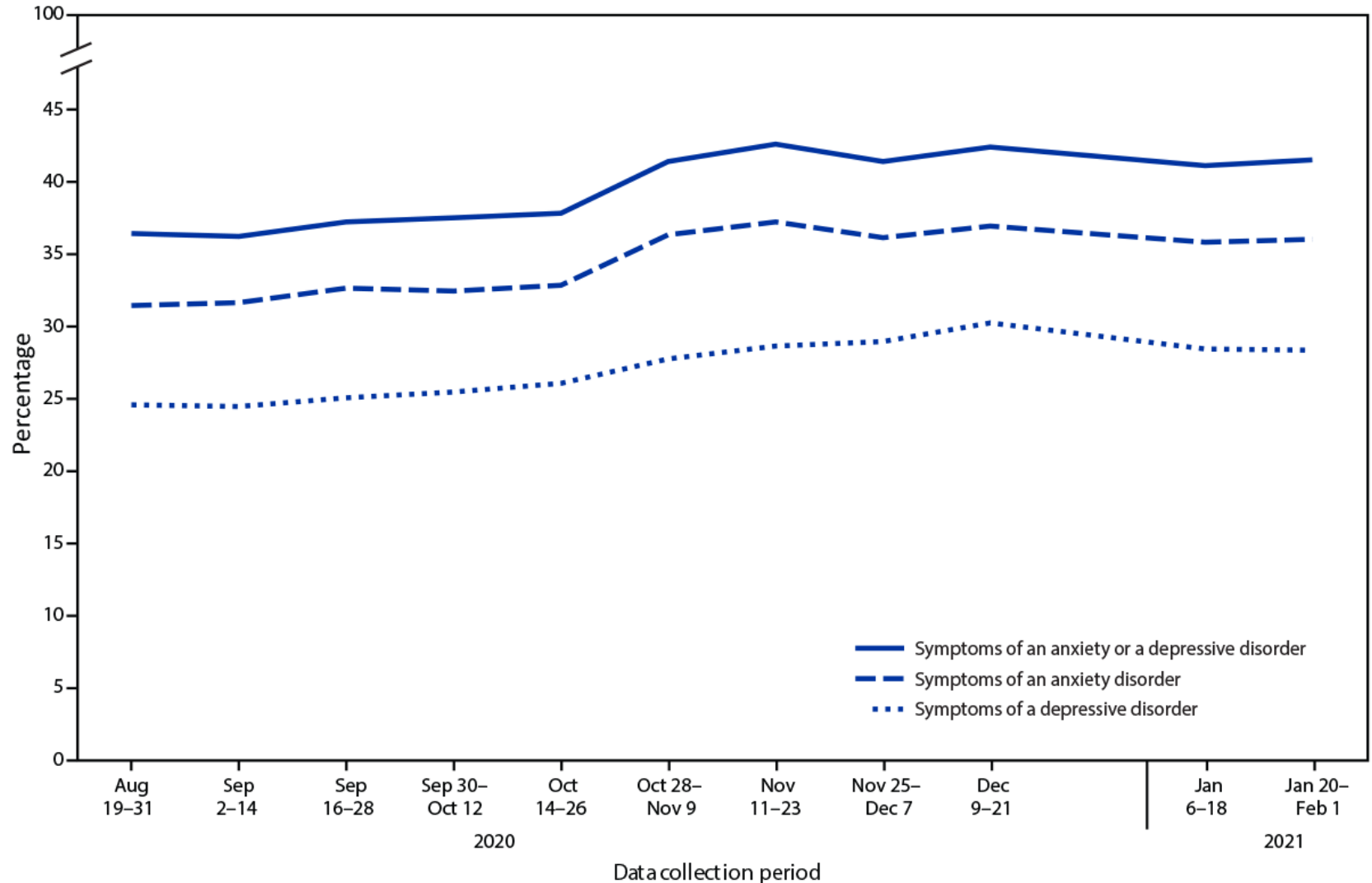
SERIOUSLY CONSIDERED SUICIDE[†]



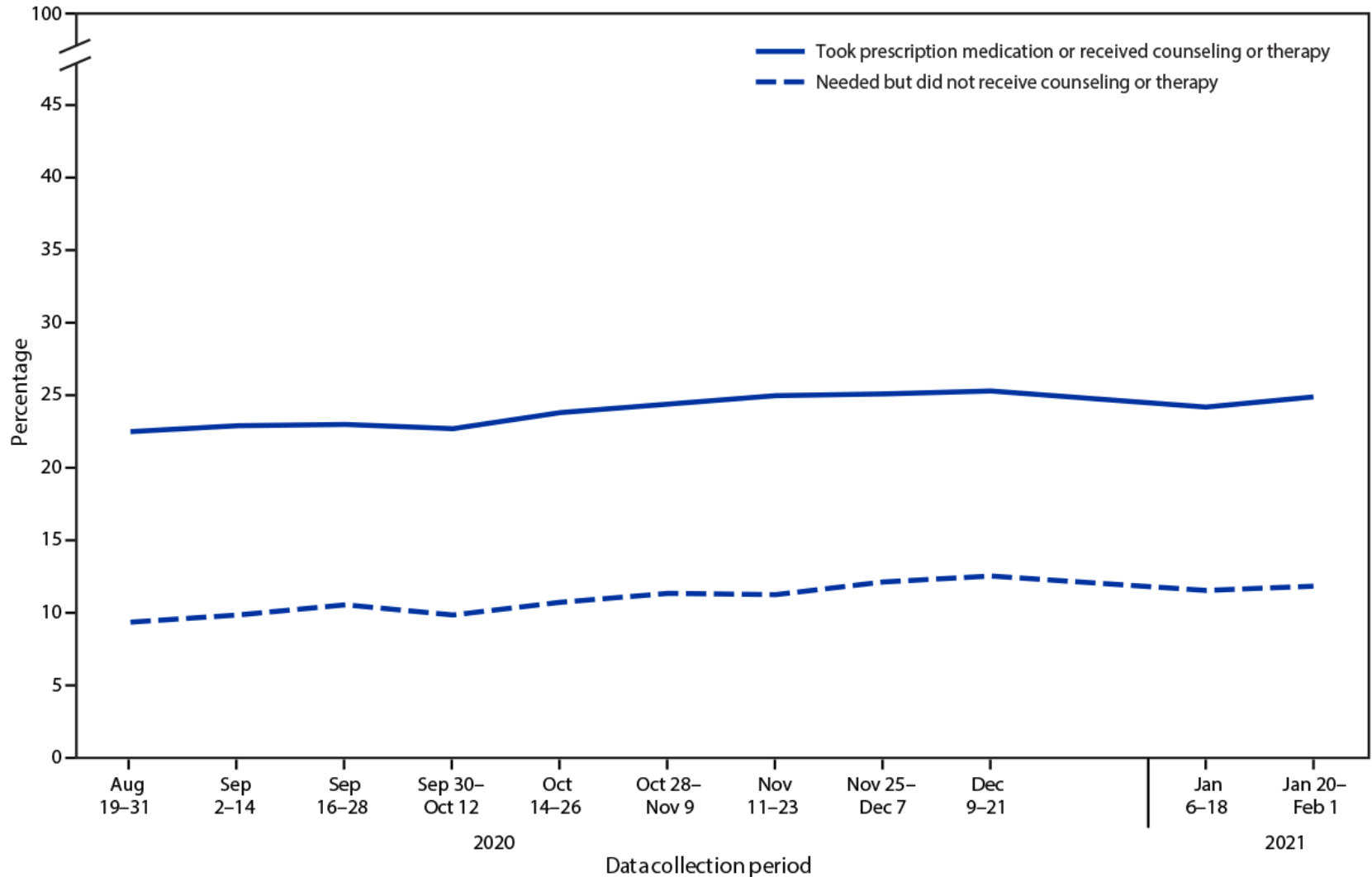
^{*}Based on a survey of U.S. adults aged ≥18 years during June 24–30, 2020

[†]In the 30 days prior to survey

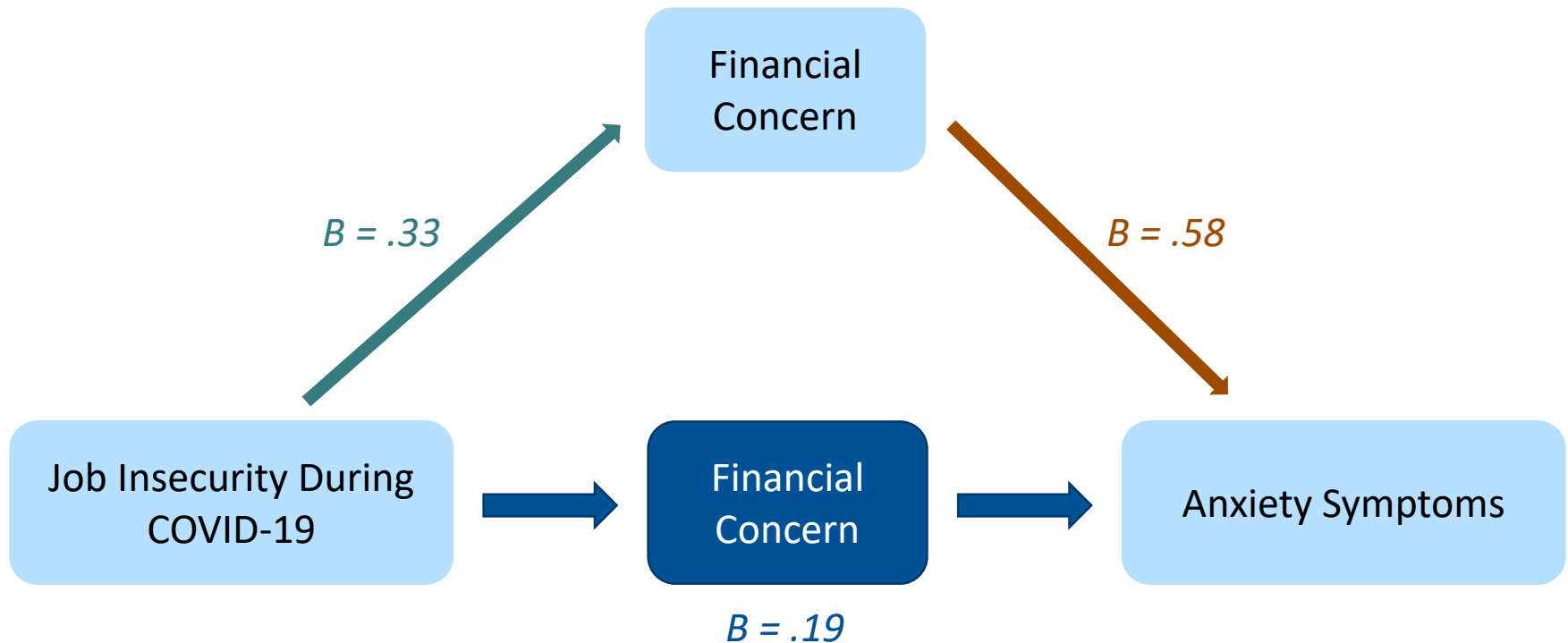
COVID-19 Impacts on Mental Health



COVID-19 Impacts on Mental Health



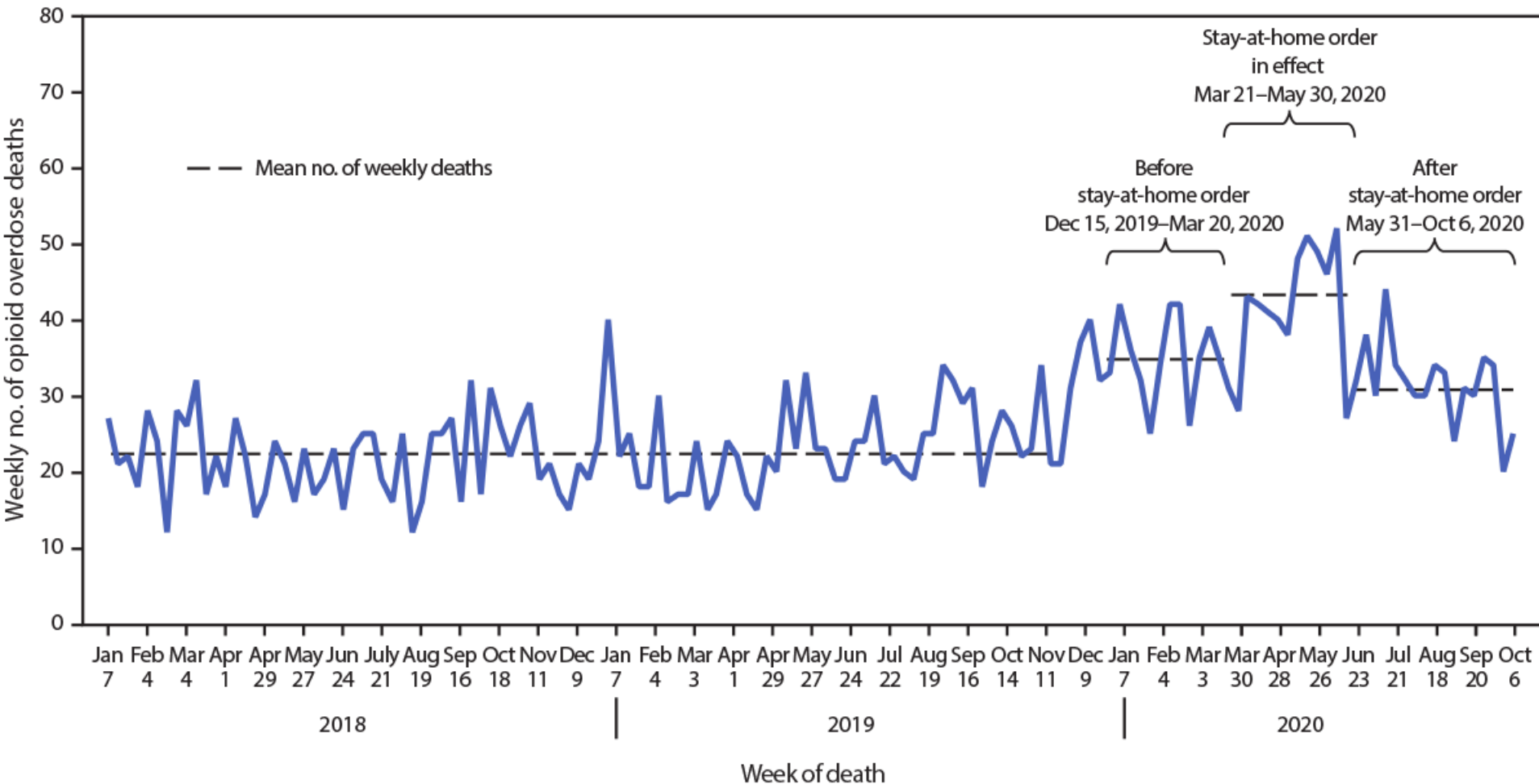
Greater Financial Concern Partly Explains Link Between Job Insecurity and Anxiety During Pandemic



Model explains 74.6% of the variance

COVID-19 and Opioid Overdose Deaths

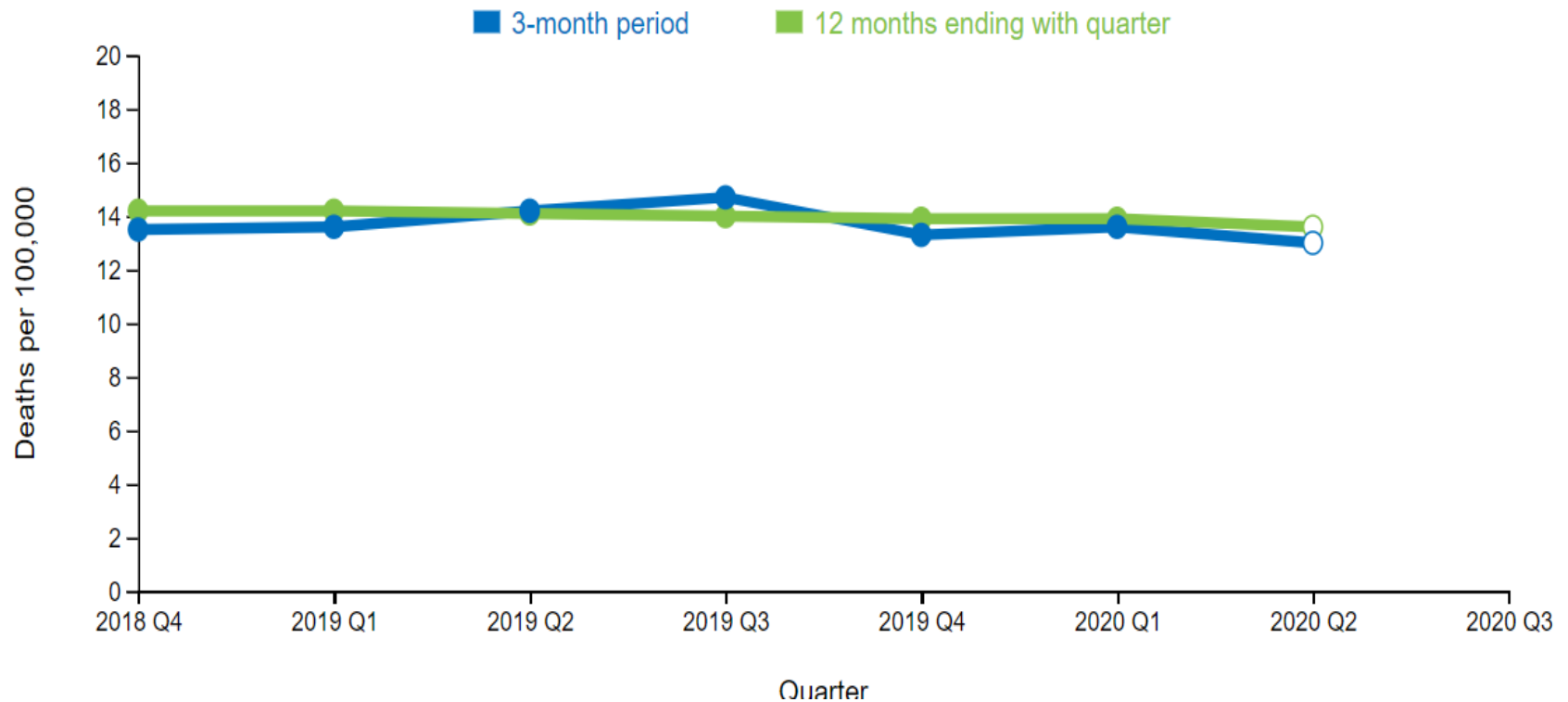
Cook County, IL



CDC Suicide Rate Quarterly Data 2020 Q2

Mortality Dashboard

Age-adjusted death rates for Suicide:
United States, 2018-Quarter 3, 2020



Agenda

- Overview
- What We Know From Prior Disasters/Traumatic Events
- **COVID-19 and Mental Health**
 - General Population
 - **Vulnerable Populations**
- Responding to the COVID-19 Pandemic

Mental Health Symptoms in Vulnerable Populations

- Pre-pandemic:
 - Striking disparities in the prevalence and outcomes of mental illnesses



41.8%
**89,000 AFRICAN AMERICAN
YOUNG ADULTS WITH SMI
RECEIVED TREATMENT IN
2018**

58.2% got NO treatment

49.9%
**285,000 African American
adults (26-49 y.o.) with SMI
received treatment;**

50.1% got NO treatment

- During the pandemic:
 - Women, particularly during pregnancy
 - People with pre-existing mental health and substance use problems, including youth
 - Health disparities populations
 - Health care workforce

The Impact of the Coronavirus Lockdown on Mental Health: Evidence from the US



Institute for
New Economic Thinking

Cambridge-INET Institute

Cambridge-INET Working Paper Series No: 2020/21

Cambridge Working Papers in Economics: 2037

Pregnancy and Intimate Partner Violence Increase Risk for Mental Health Problems


Archives of Women's Mental Health

<https://doi.org/10.1007/s00737-020-01092-2>

REVIEW ARTICLE



The impact of the COVID-19 pandemic on women's mental health

Marcela Almeida^{1,2}  • Angela D. Shrestha³ • Danijela Stojanac³ • Laura J. Miller^{4,5}

Received: 9 June 2020 / Accepted: 4 November 2020

© Springer-Verlag GmbH Austria, part of Springer Nature 2020

Addressing Perinatal Mental Health During COVID-19

COVID-19: BEYOND TOMORROW

Meeting Maternal Mental Health Needs During the COVID-19 Pandemic

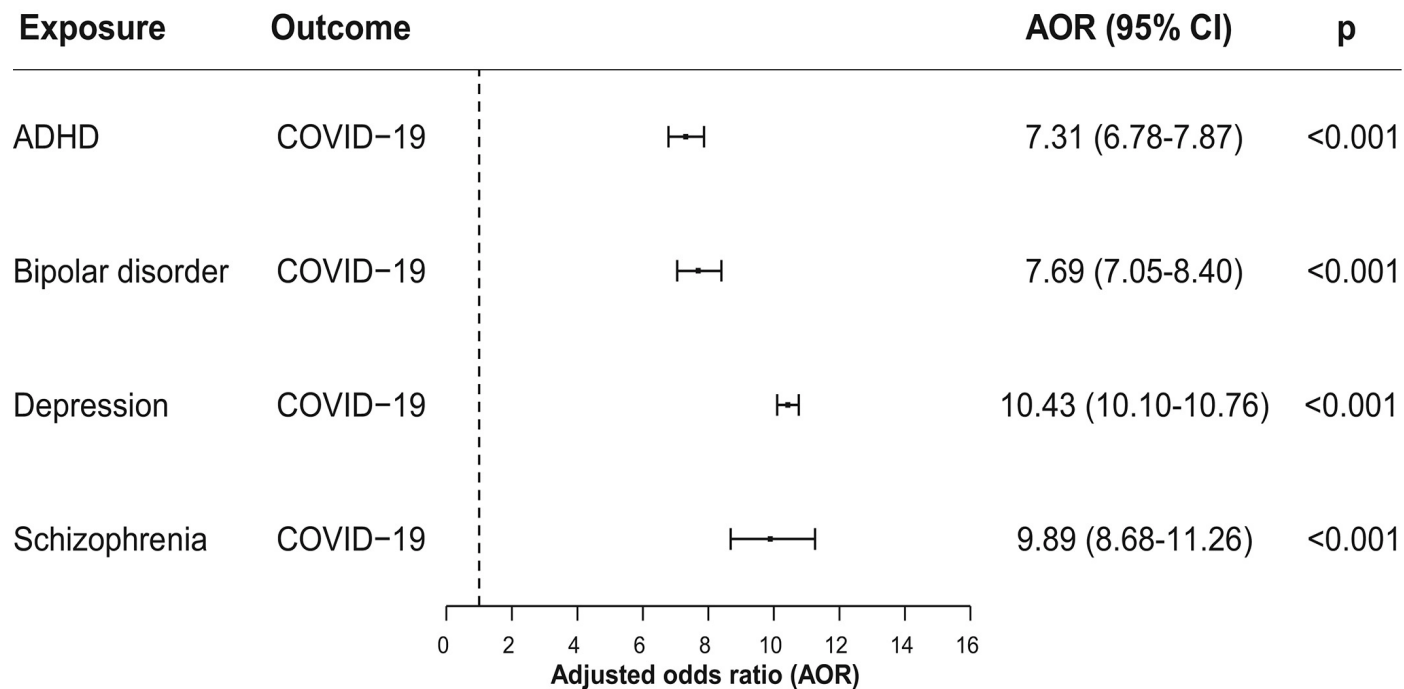
Alison Hermann, MD¹; Elizabeth M. Fitelson, MD²; Veerle Bergink, MD, PhD^{3,4}

COVID-19 Mother and Baby Outcomes (COMBO) Brain Behavior Functioning Study

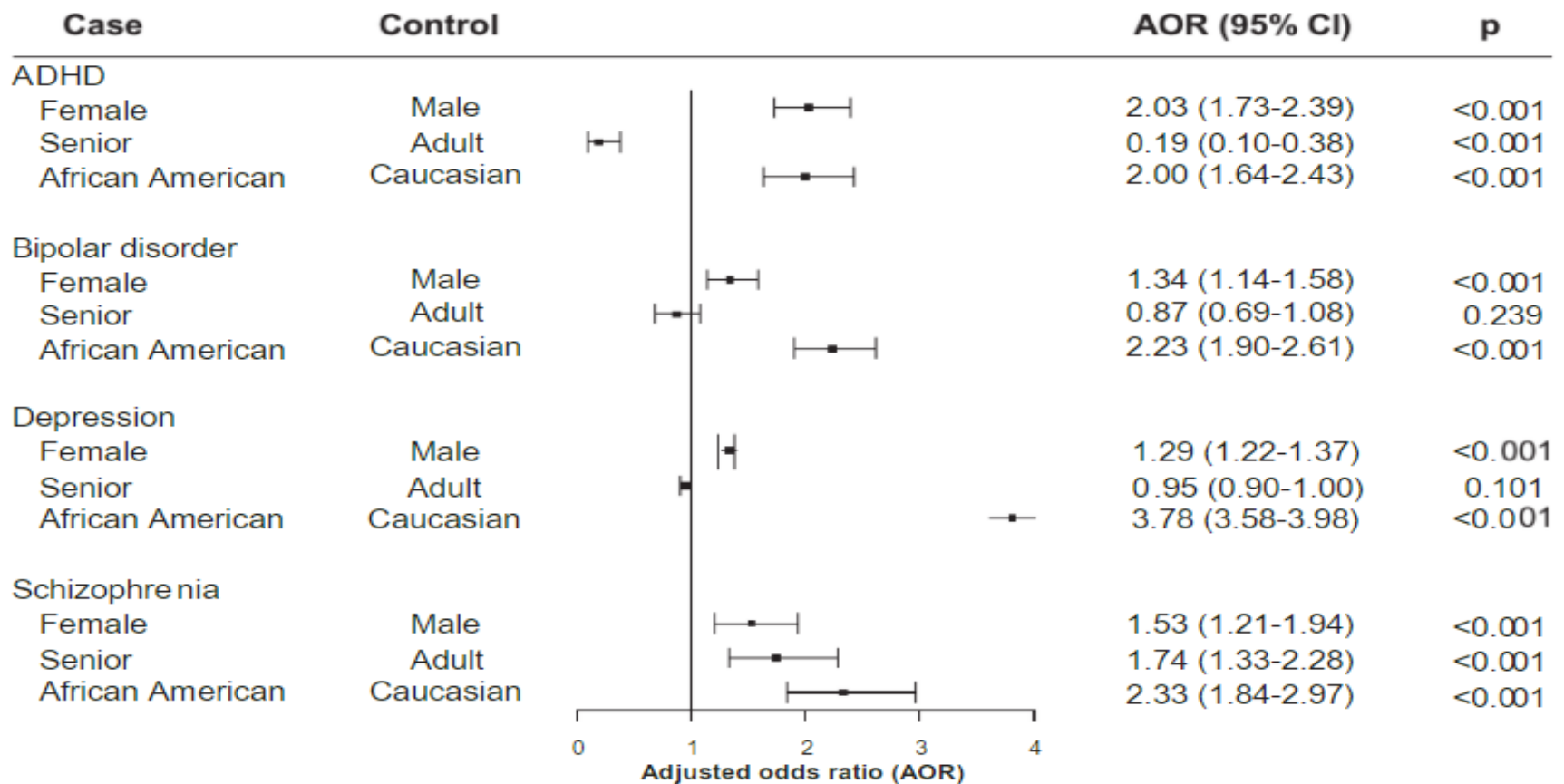
- Principal Investigators: Dani Dumitriu, M.D., Ph.D., Catherine Monk, Ph.D., and Rachel Marsh, Ph.D.
 - Columbia University (R01MH126531)



Increased Risk of COVID-19 Infection for People With Recent Mental Disorders



Disparity of Risk of COVID-19 Infection Among Minorities with Mental Disorders



Higher Mortality among Those with Serious Mental Illness

Table 4. Odds and Rates of 45-Day Case Fatality by Recent Psychiatric Diagnosis

SARS-CoV-2-Positive	Mortality or hospice, No. (%)	OR (95% CI)		
		Unadjusted	Demographically adjusted ^a	Fully adjusted ^b
All patients (n = 7003)	822 (11.7)			
Schizophrenia spectrum (n = 46)	12 (26.1)	2.84 (1.47-5.52)	3.13 (1.50-6.54)	2.67 (1.26-5.69)
Mood disorders (n = 374)	80 (21.4)	2.19 (1.69-2.84)	1.52 (1.13-2.03)	1.27 (0.94-1.73)
Anxiety disorders (n = 234)	29 (12.4)	1.14 (0.77-1.70)	1.24 (0.80-1.93)	1.21 (0.77-1.90)
Reference ^c (n = 6349)	701 (11.0)	1 [Reference]	1 [Reference]	1 [Reference]

Abbreviations: OR, odds ratio; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

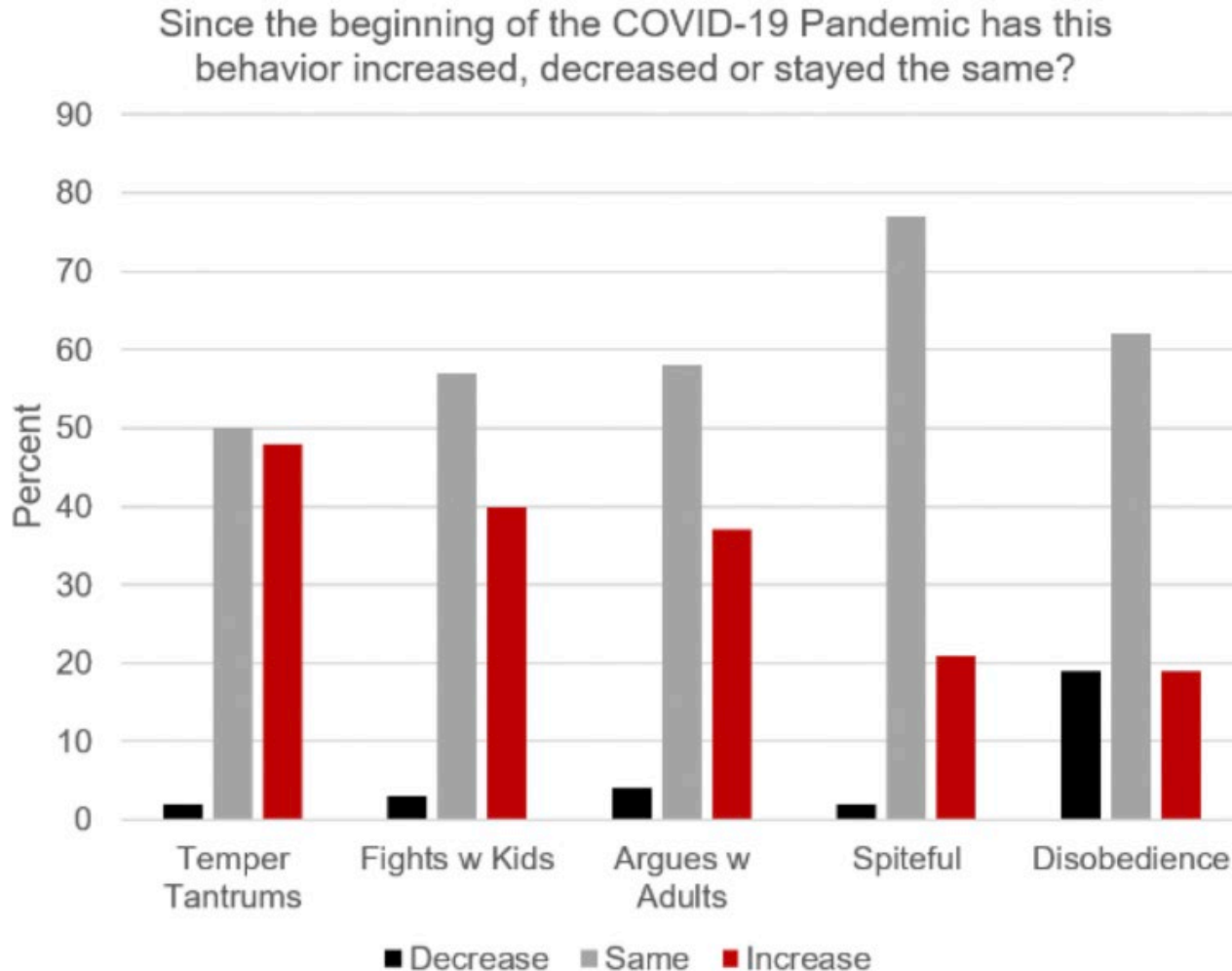
^a The demographically adjusted OR included age, race, and sex.

^b The fully adjusted model included demographic variables in addition to smoking status, hypertension, heart failure, myocardial infarction, diabetes,

chronic kidney disease, chronic obstructive pulmonary disease, and cancer.

^c The reference group excluded patients without any history of a schizophrenia spectrum, mood, or anxiety disorder diagnosis or other psychiatric diagnoses listed in eTable 1 of the [Supplement](#).

Home Environment May Protect Child Mental Health During COVID-19 Pandemic



Home Environment May Protect Child Mental Health During COVID-19 Pandemic

Table 3

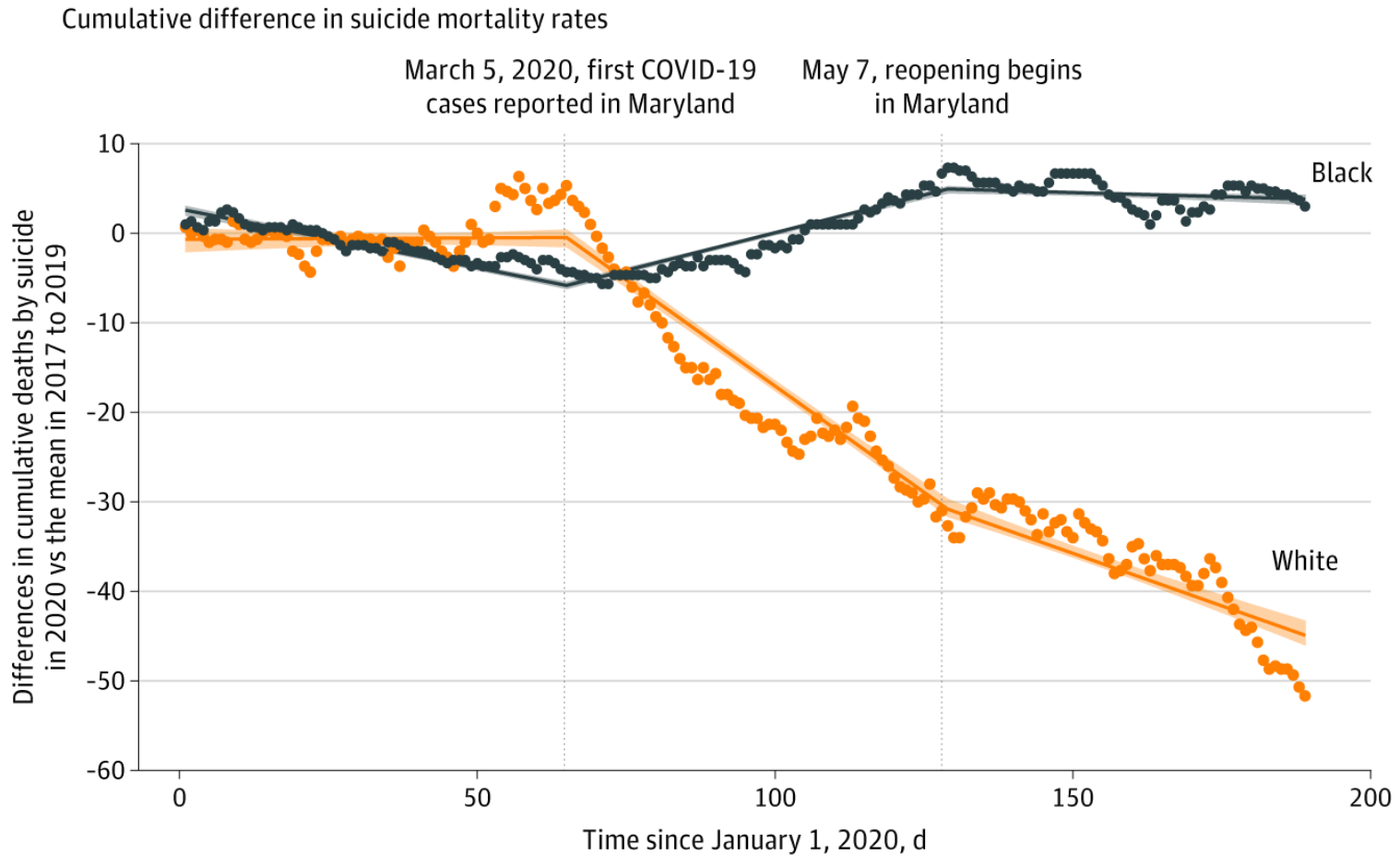
Linear regressions testing associations between family routines and child mental health.

	Child Depressive Symptoms									Child Externalizing Symptoms								
	Model 1a			Model 1b			Model 1c			Model 2a			Model 2b			Model 2c		
	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β
→ Family Routines	-0.16	.06	-0.22**	-0.12	.05	-0.17*	-0.11	.05	-0.15*	-0.12	.06	-0.18**	-0.09	.05	-0.13 [¥]	-0.08	.05	-0.11
Child Agerowhead	-0.02	.19	-0.01	-0.04	.18	-0.02	-0.02	.18	-0.01	.06	.19	.03	.05	.18	.02	.06	.17	.03
Child Sex	.07	.34	.02	-0.01	.33	-0.00	-0.09	.33	-0.02	.21	.35	.05	.17	.33	.04	.12	.33	.03
Dual Parent Household	-0.71	.49	-0.12	-0.73	.46	-0.12	-0.91	.45	-0.15*	.47	.48	.08	.46	.46	.08	.28	.45	.05
Household Income	.00	.00	.13	.00	.00	.09	.00	.00	.10	.00	.00	-0.05	.00	.00	-0.09	.00	.00	-0.07
Food Insecurity	.27	.13	.17*	.15	.13	.09	.10	.13	.06	.16	.13	.10	.06	.13	.04	.00	.13	.00
→ Maternal Depressive Symptoms	-	-	-	.32	.07	.34**	-	-	-	-	-	-	.29	.07	.32**	-	-	-
→ Maternal Perceived Stress	-	-	-	-	-	-	.13	.03	.38**	-	-	-	-	-	-	.82	.17	.37**

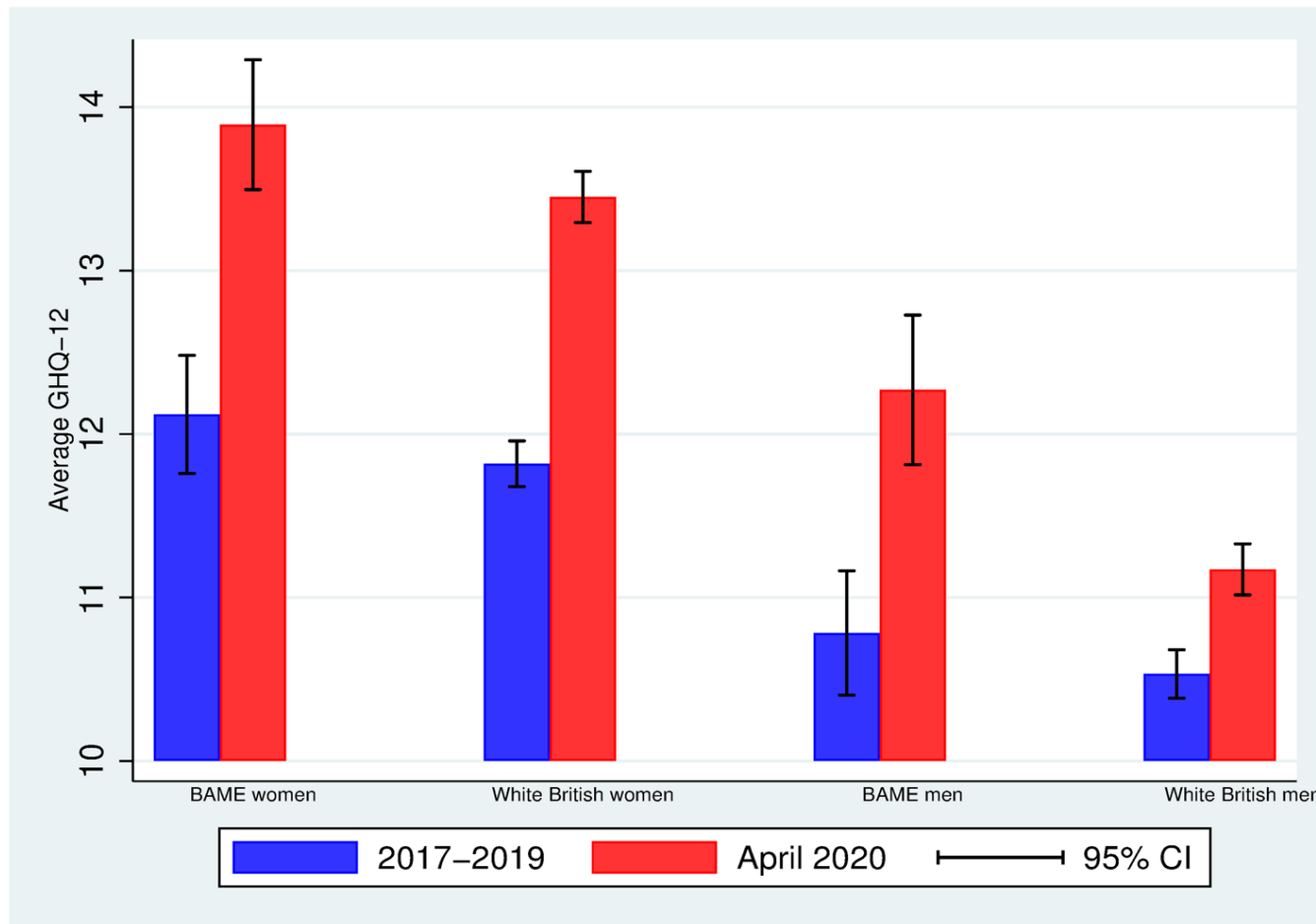
**p < .01, *p < .05.



Racial Differences in Suicide Mortality Trends During the Pandemic

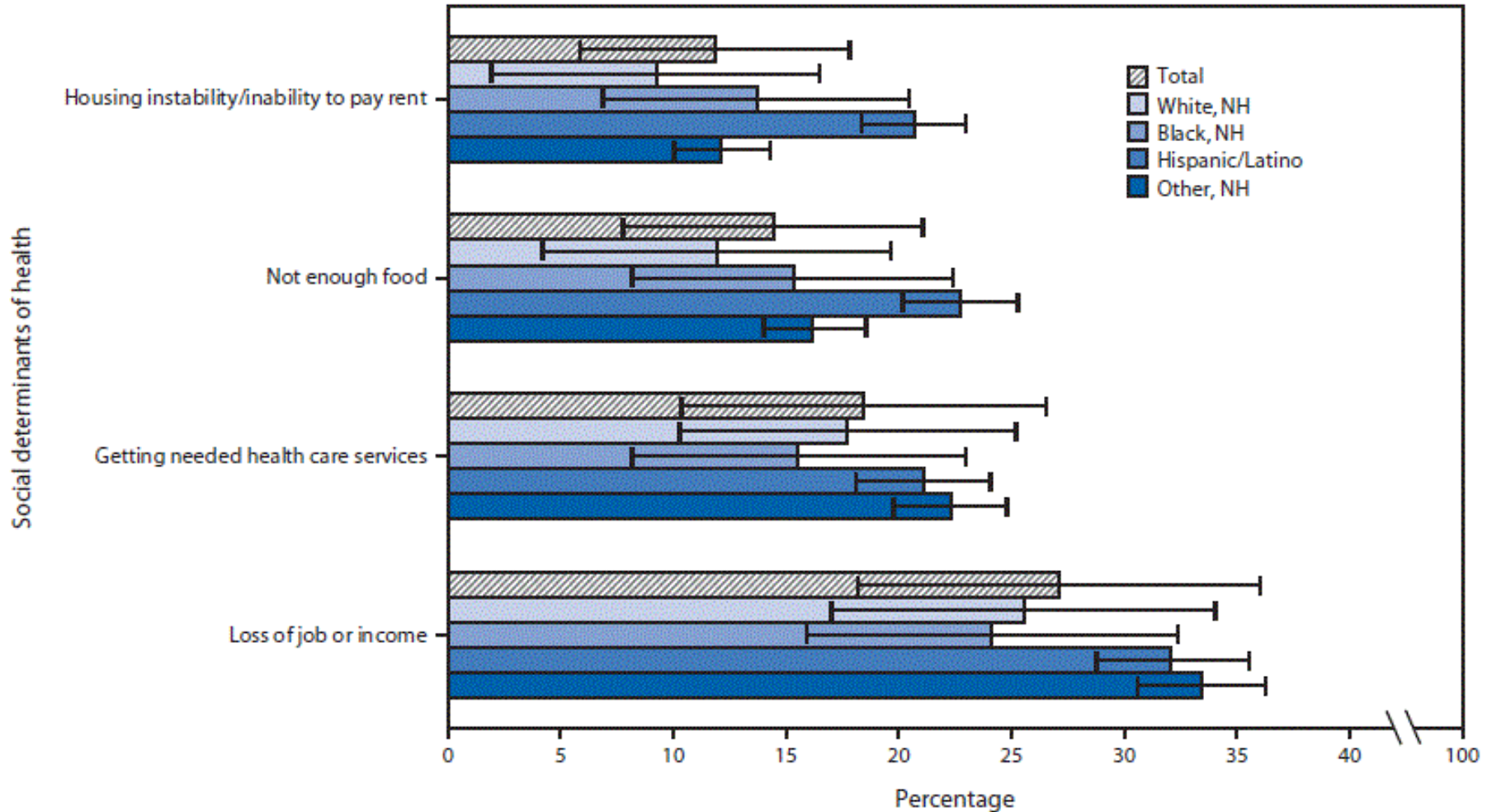


Mental Distress Varies by Ethnicity and Gender

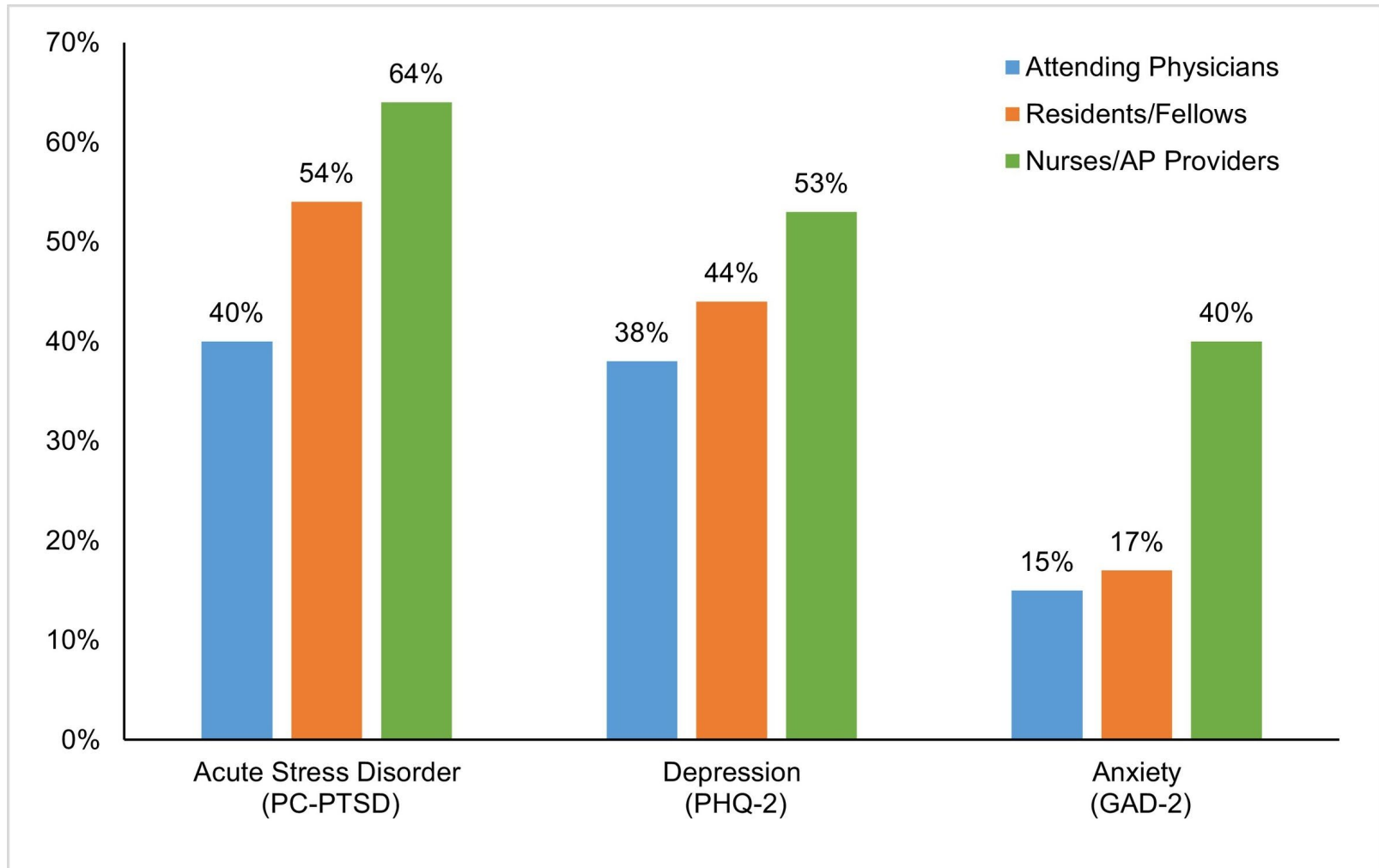


Acronym BAME defined as Black, Asian and minority ethnic

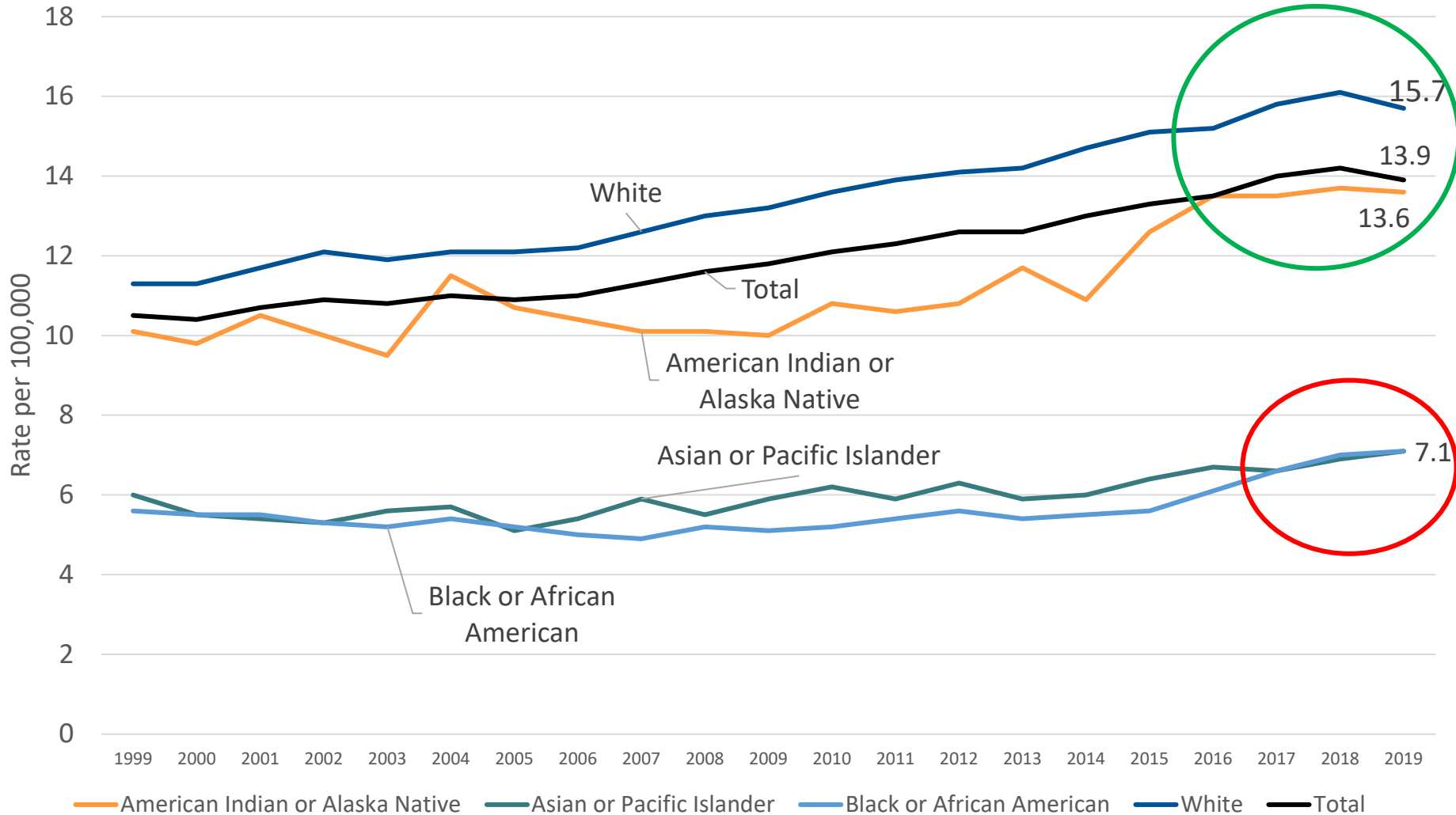
Racial and Ethnic Disparities in Reports of Stress and Worry During COVID-19 Pandemic



Increased Reports of Psychological Symptoms among Frontline Healthcare Workers



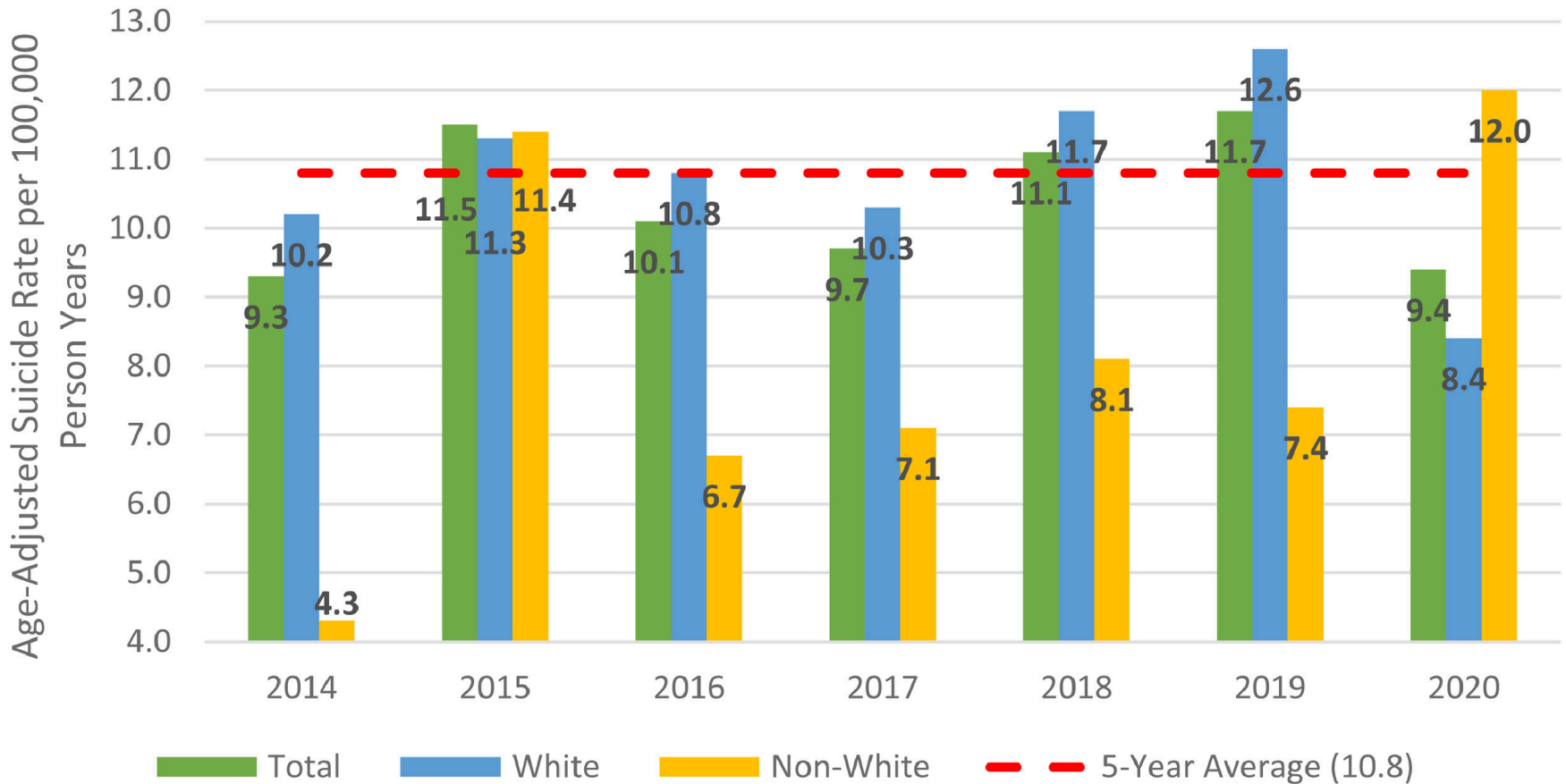
Racial Patterns in National Suicide Rates (1999-2019)



Maryland Suicide Rates in 2020 Compared to Previous Three Years

	2017	2018	2019	2020	% change	p
Jan 1 – Mar 4 (Beginning of year to emergency declaration)						
Total	95	92	84	95	5.2	0.98
Black	16	20	18	14	-22.2	0.70
White	75	65	61	70	6.6	0.78
Mar 5 – May 7 (Emergency declaration to opening of public spaces)						
Total	100	94	92	71	-25.5	.04
Black	8	14	12	22	94.1	.01
White	89	74	72	43	-45.1	<0.001
May 8 – Jul 7 (Opening of public spaces to study end)						
Total	94	119	73	70	-26.6	.04
Black	18	18	17	14	-20.8	.69
White	72	88	46	48	-30.1	.03

Connecticut Suicide Rates in 2020 Compared to Previous Six Years



Agenda

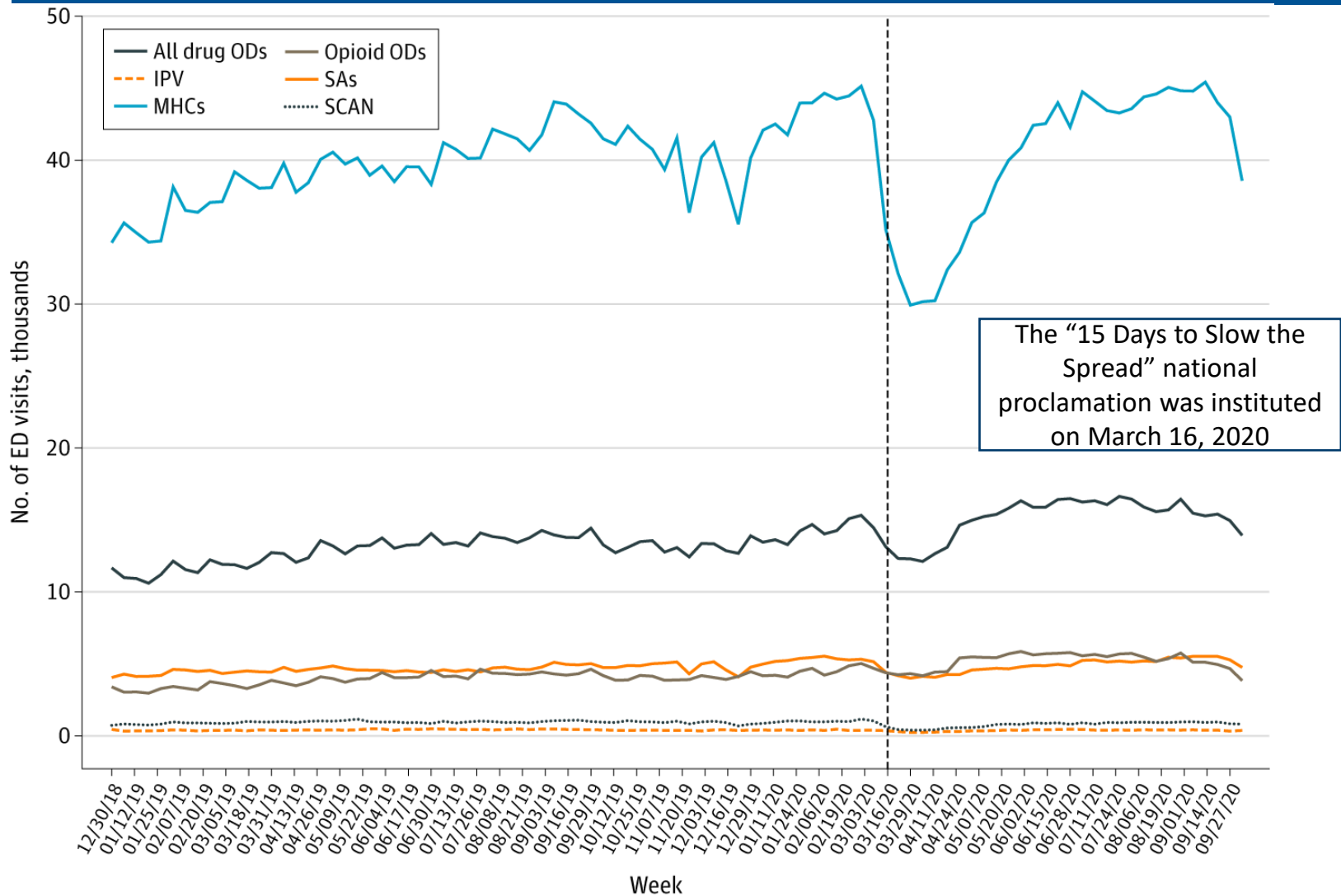
- Overview
- What We Know From Prior Disasters/Traumatic Events
- COVID-19 and Mental Health
- **Responding to the COVID-19 Pandemic**

Telehealth Expansion

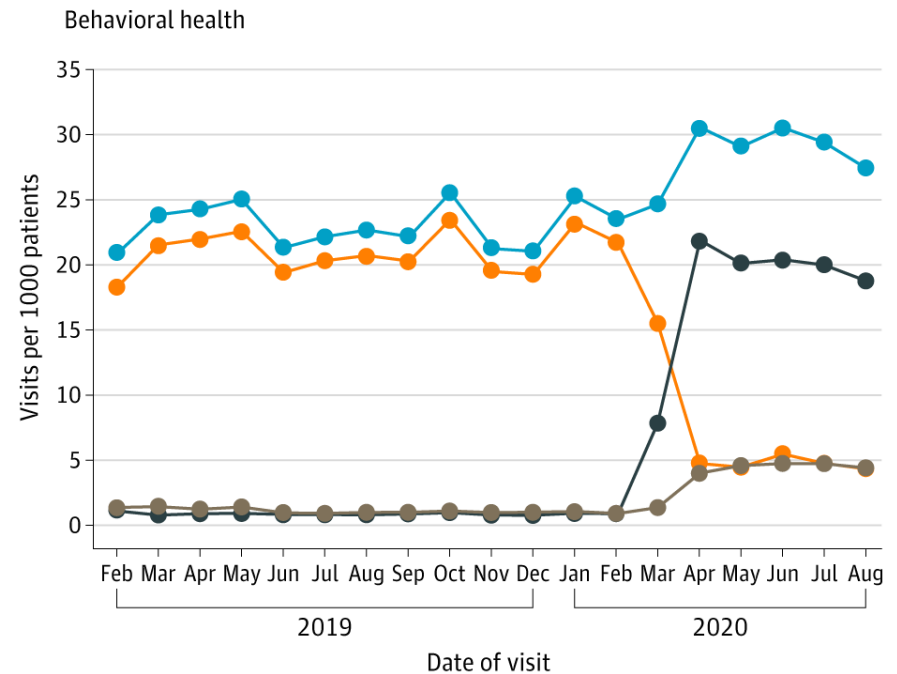
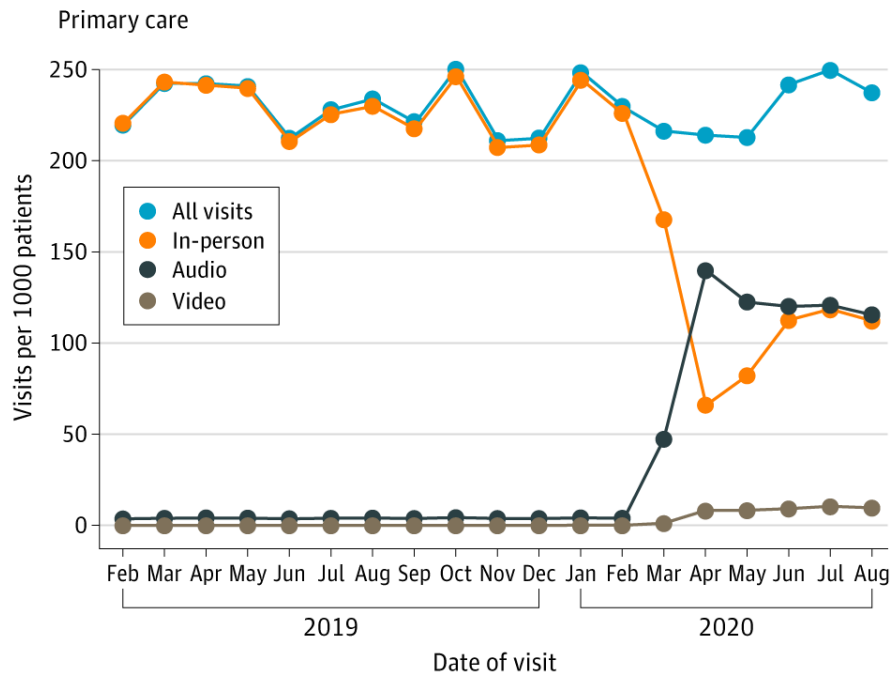
- Prior to pandemic, telehealth had been expanding and states with commercial payer laws saw tremendous variability
- Federal and state legislation and regulation quickly changed to improve access



Total Emergency Department Visits Decreased After COVID-19 Mitigation Measures Take Effect



Differences in Telehealth Modalities May Indicate Barriers for Low-Income Patients



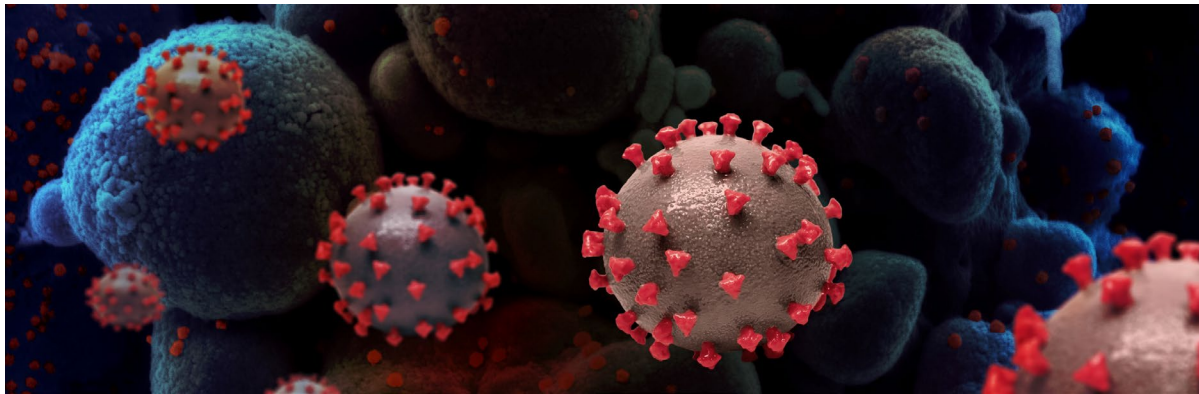
Identifying Risk and Promoting Resilience

- All people affected by pandemic, even those who have not been infected
 - Those with mental illness have higher risk of COVID-19 infection
 - General public still at increased risk of mental illness, particularly vulnerable populations (e.g., racial/ethnic minorities, front line workers, those with preexisting mental illness, unemployed, and food and/or housing insecure)
- Promoting resilience
 - Hope for the future
 - Sense of control
 - Meeting immediate needs
 - Practicing healthy coping habits



NIMH COVID-19 Research

- **Mental Health Impact of COVID-19 Pandemic on NIMH Research Participants and Volunteers (PI: Chung)**
- **Mental Health Impact of COVID-19 Pandemic on Health Care Workers (PIs: Zarate/Park)**
- **Impact on Anxiety and Motivation of COVID-19 and Predictors of Individual Responses (PIs: Grillon/Ernst)**



NIMH COVID-19 Funding Opportunities

- Featured NIMH-sponsored Notices of Special Interest (NOSIs)
 - Availability of Administrative Supplements and Urgent Competitive Revisions for Mental Health Research on the 2019 Novel Coronavirus ([NOT-MH-20-047](#))
 - Administrative Supplements and Urgent Competitive Revisions for NIH Grants to Add or Expand Research Focused on Maternal Health, Structural Racism and Discrimination, and COVID-19 ([NOT-OD-21-071](#)) - related to Implementing a Maternal health and PRegnancy Outcomes Vision for Everyone (IMPROVE)
- NIMH is participating in additional FOAs:
 - NIMHD NOSI: **Impact of COVID-19 on Minority Health and Health Disparities** ([NOT-MD-20-019](#))
 - NIA NOSI: **Admin and Revision Supplements on COVID-19** ([NOT-AG-20-022](#))
 - NIMHD NOSI: **Research to Address Vaccine Hesitancy, Uptake, and Implementation among Populations that Experience Health Disparities** ([NOT-MD-21-008](#))
 - NIMHD NOSI: **Simulation Modeling and Systems Science to Address Health Disparities** ([NOT-MD-20-025](#))

Social, Behavioral & Economic Impacts Research

OVER 60 WG MEMBERS



- Social, Behavioral, and Economic Impacts of COVID-19 initiative engaged NIH members with representation from 21 ICOs



FY20 FUNDED 52 SUPPLEMENTS

- 28 Longitudinal Studies
- 15 Digital Health Studies
- 9 Community Health Studies

DIVERSE POPULATION



- Many health disparity populations (e.g., racial and ethnic minorities, less privileged SES, rural residents)
- Vulnerable populations included community older adults, frontline workers, children

IMPACTFUL RESEARCH



Research focus areas included but not limited to:

- Alcohol, substance abuse, mental health outcomes
- Public health mitigation impact and adherence
- Chronic health conditions

NIMH Vision and Mission

VISION



NIMH envisions a world in which mental illnesses are prevented and cured.

MISSION



To transform the understanding and treatment of mental illnesses through basic and clinical research, paving the way for prevention, recovery, and cure.