

THE SECOND PANDEMIC:

COVID-19 Impact on Mental Health
and Substance Use Disorders

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President, Arizona Psychiatric Society

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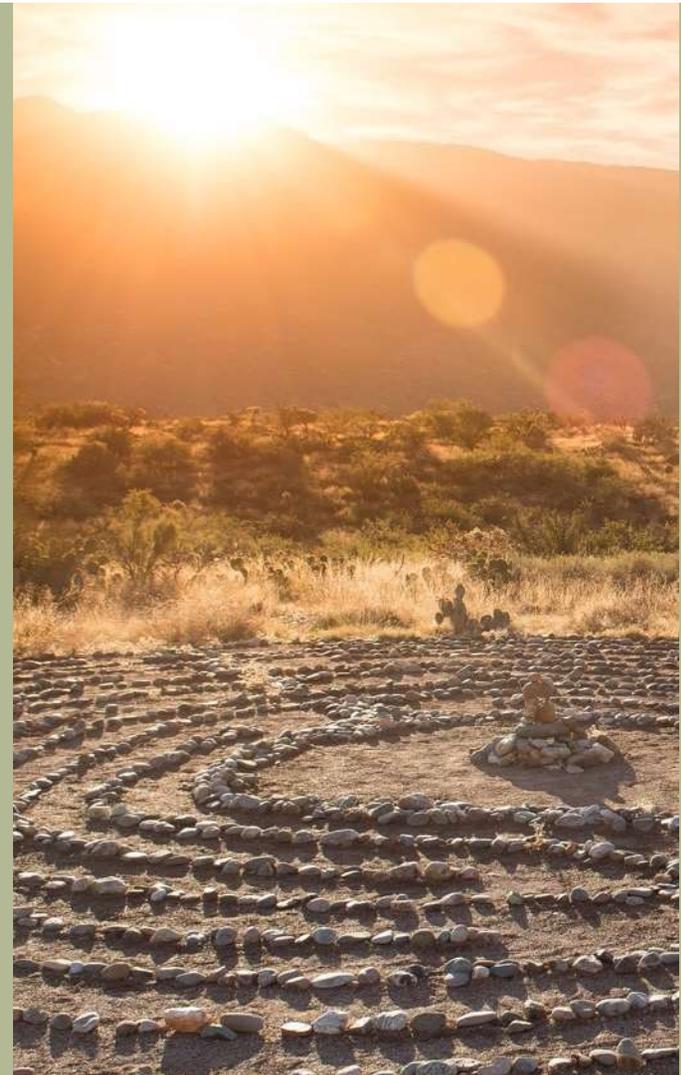
Date – October 8, 2021

Arizona Psychological Association Annual Meeting



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Disclosures

- I do not have any financial disclosures.

Objectives

1. Identify 3 psychological impacts of the Covid-19 pandemic.
2. Describe 2 impacts of psychological stress on substance use disorders.
3. Identify the changes in opiate use disorders and overdose deaths during the pandemic.
4. Discuss at least 2 intersectional risks highlighted by the dual pandemic of COVID-19 and mental health.
5. Describe at least 1 successful intervention that resulted in mitigation of the negative impact of the COVID-19 pandemic.

A woman with long, dark hair is seen from behind, looking out over a field at sunset. The sky is a mix of orange, yellow, and grey, with the sun low on the horizon. The foreground shows some grass and plants. The woman is wearing a light-colored, long-sleeved top with a decorative pattern on the sleeve.

My Objective(s):

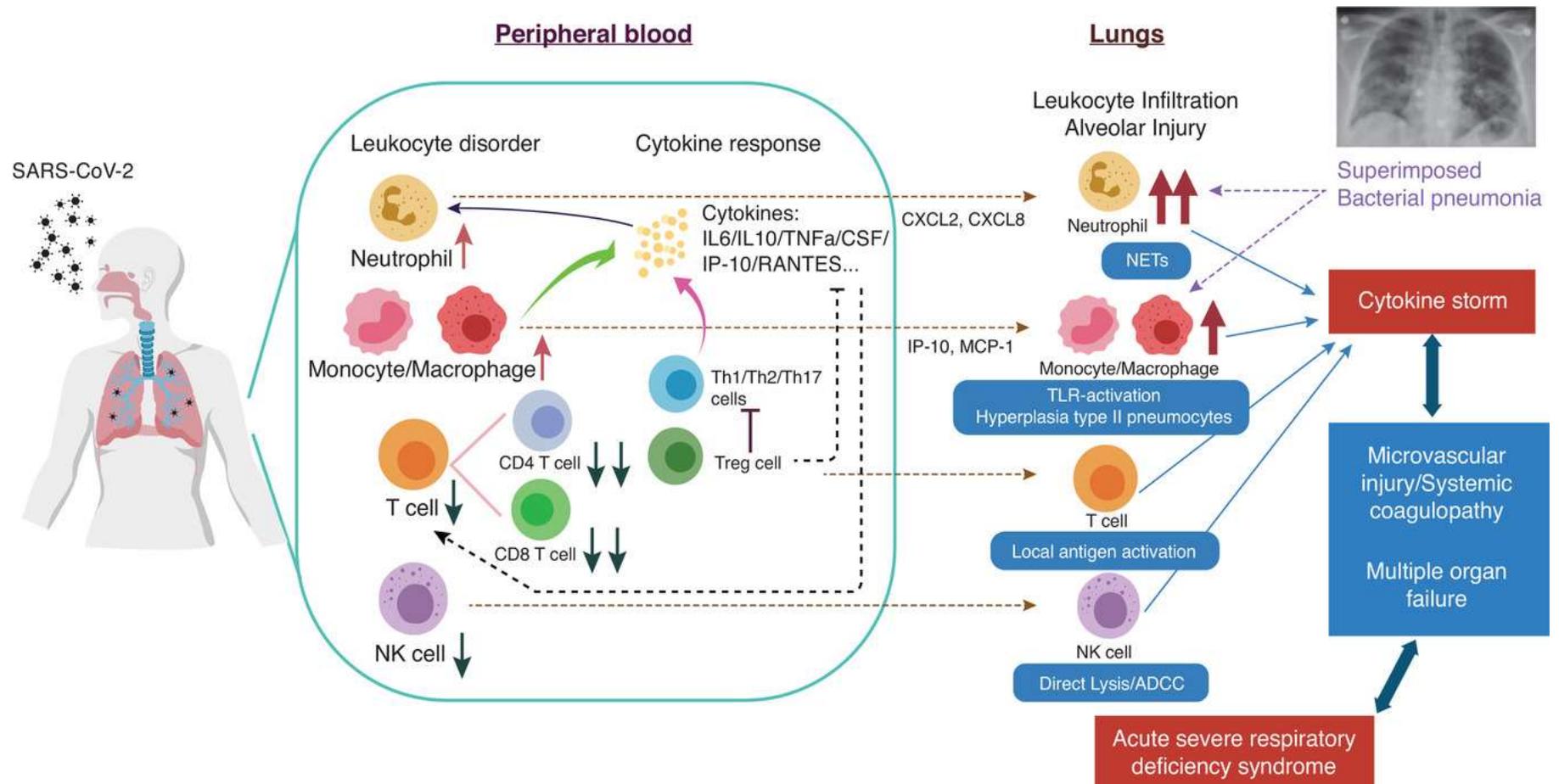
INTENTIONAL EVOLUTION

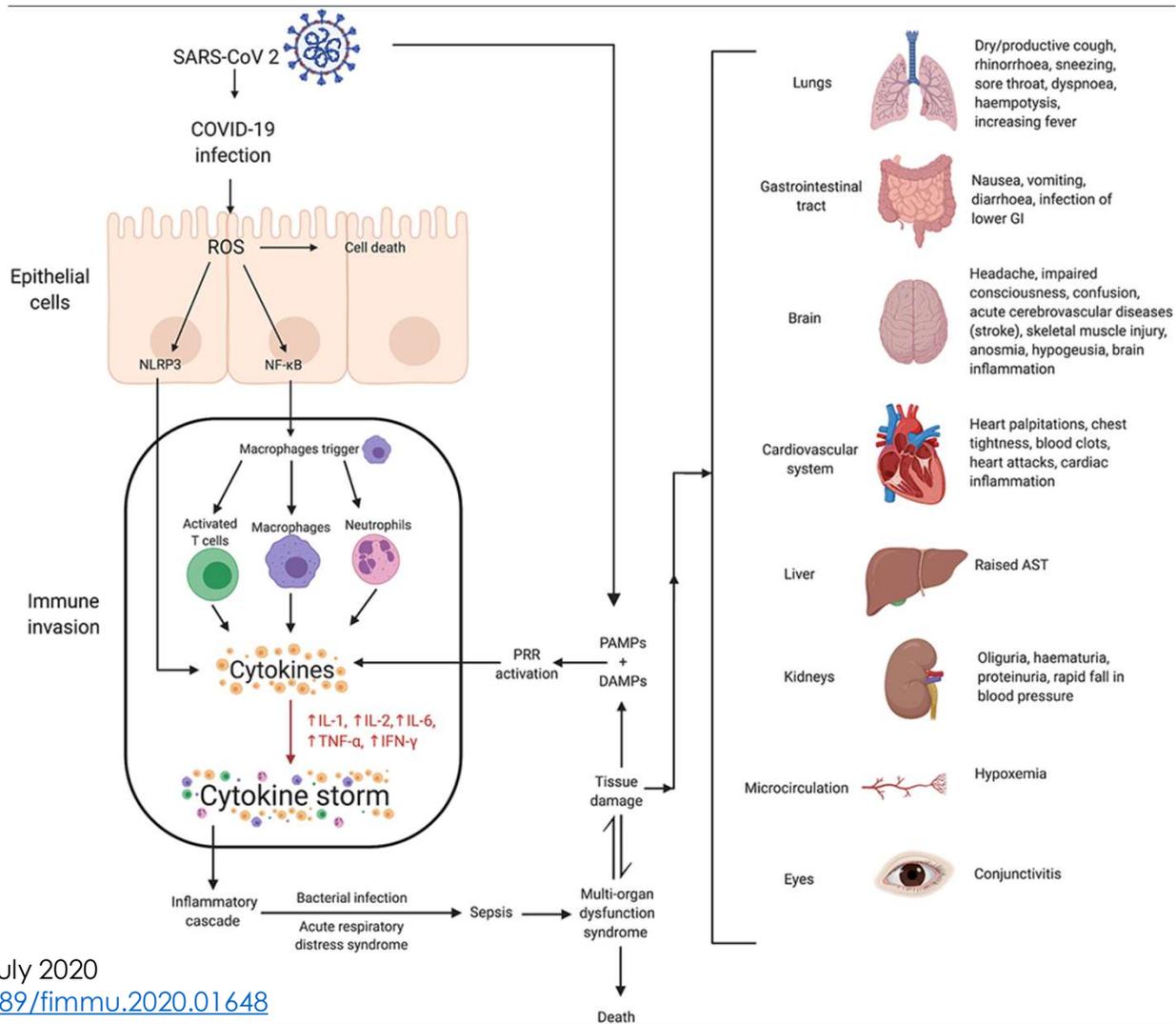
- Increasing awareness.
- Reducing stigma.
- Building community & connection.



This Photo by Unknown Author is licensed under [CC BY](#)

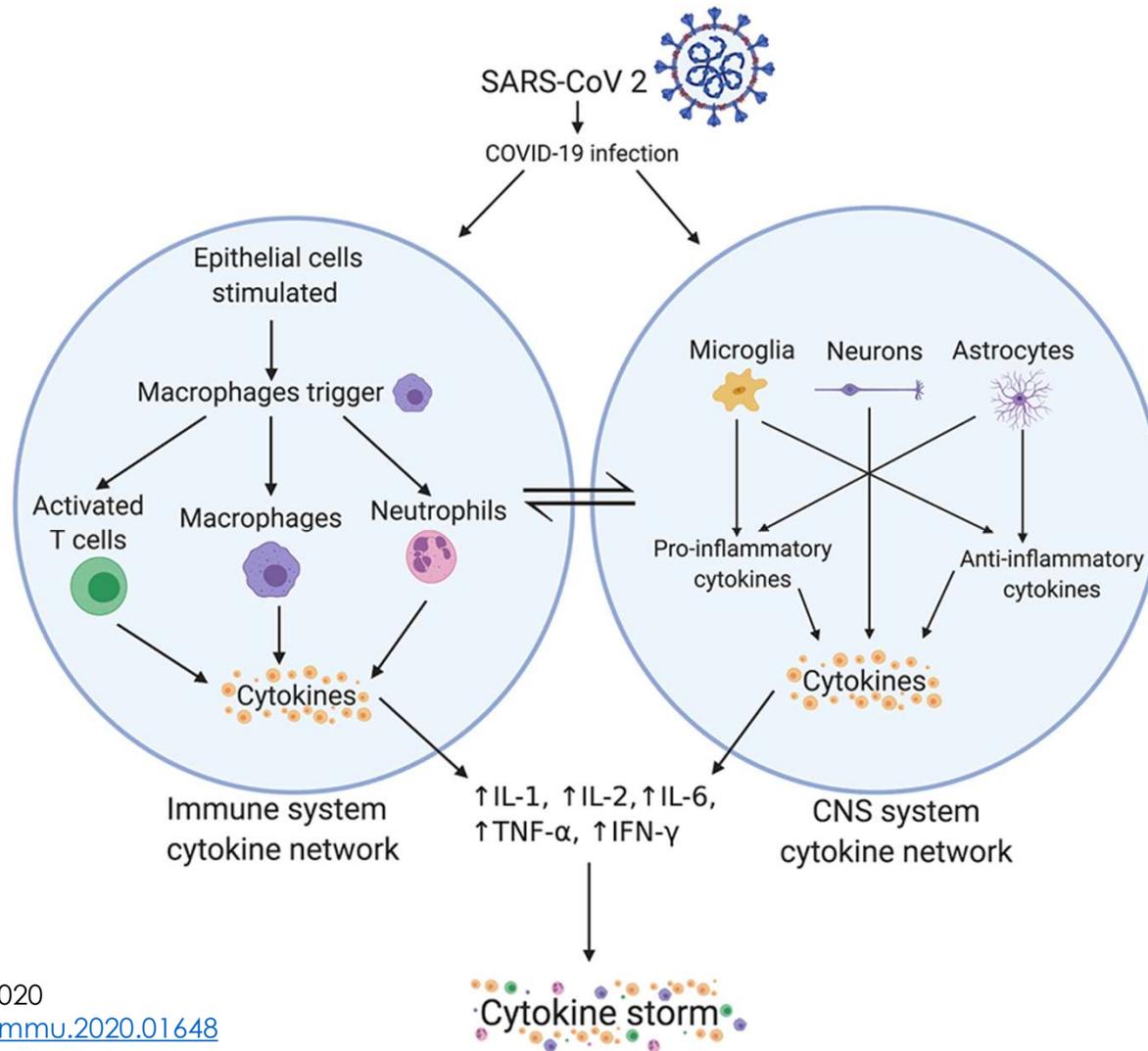
Cytokine Storm And Leukocyte Changes In SARS-CoV-2 Infection





Front. Immunol., 10 July 2020

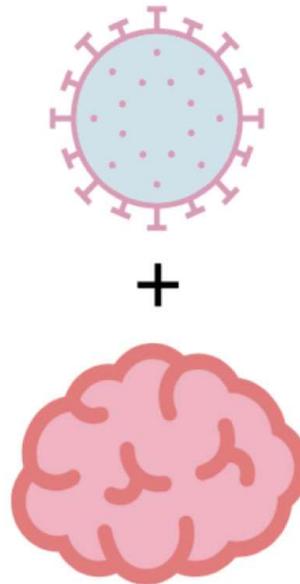
<https://doi.org/10.3389/fimmu.2020.01648>



COVID-19 Neurologic Complications

Pathophysiology

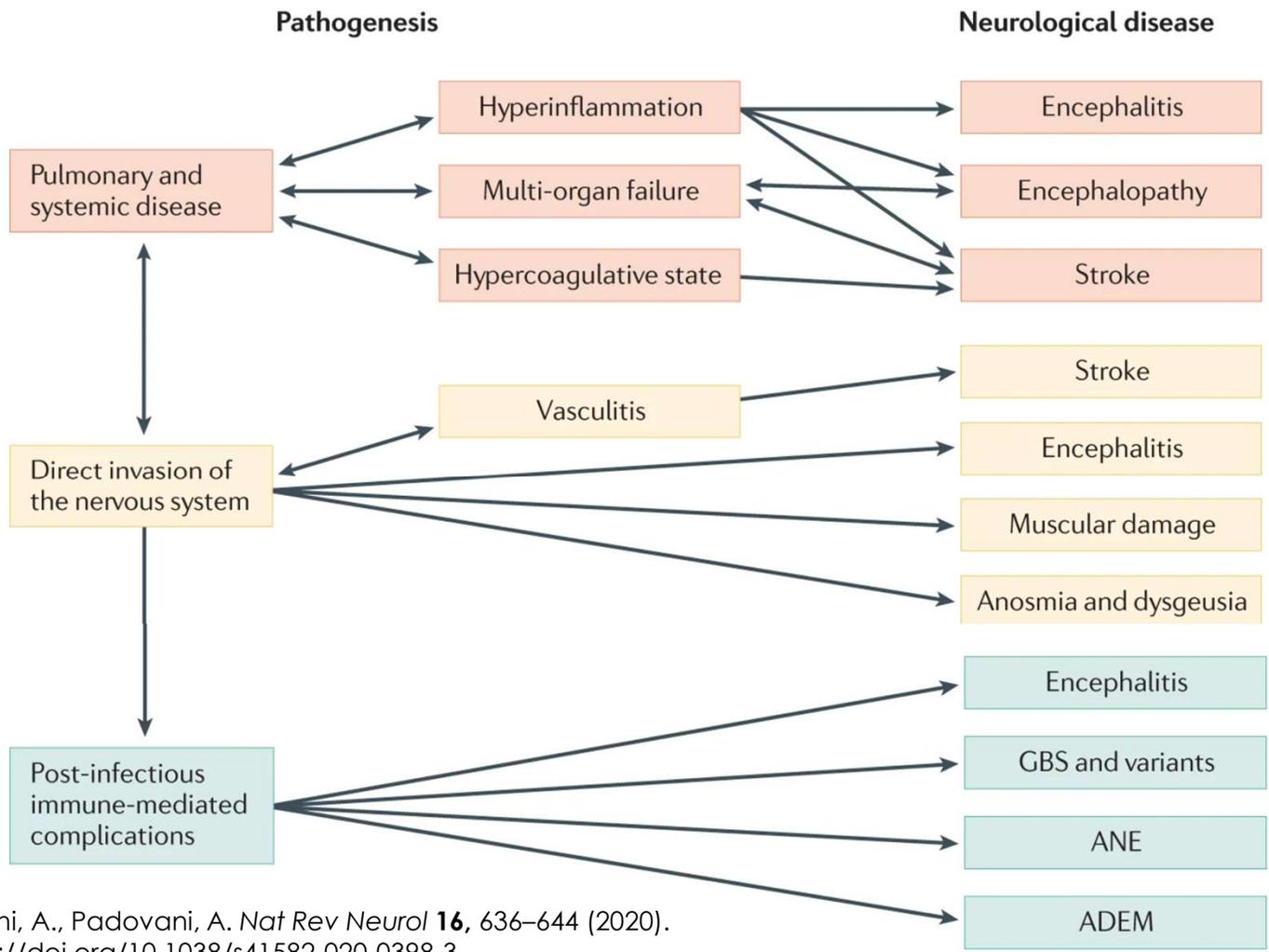
- Direct damage to receptors
- Cytokine-related injury
- Secondary to hypoxia
- Retrograde travel along nerve fibers



Major complications

- Acute cerebrovascular disease
- Encephalitis and encephalopathy
- Guillain-Barré Syndrome
- Hemophagocytic Lymphohistiocytosis
- Medication interactions

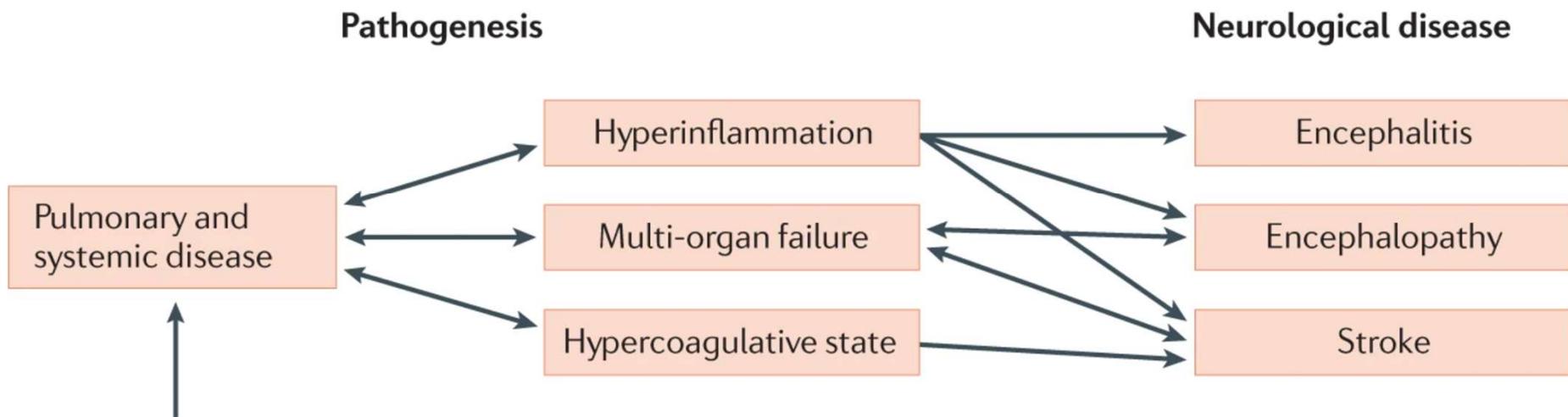


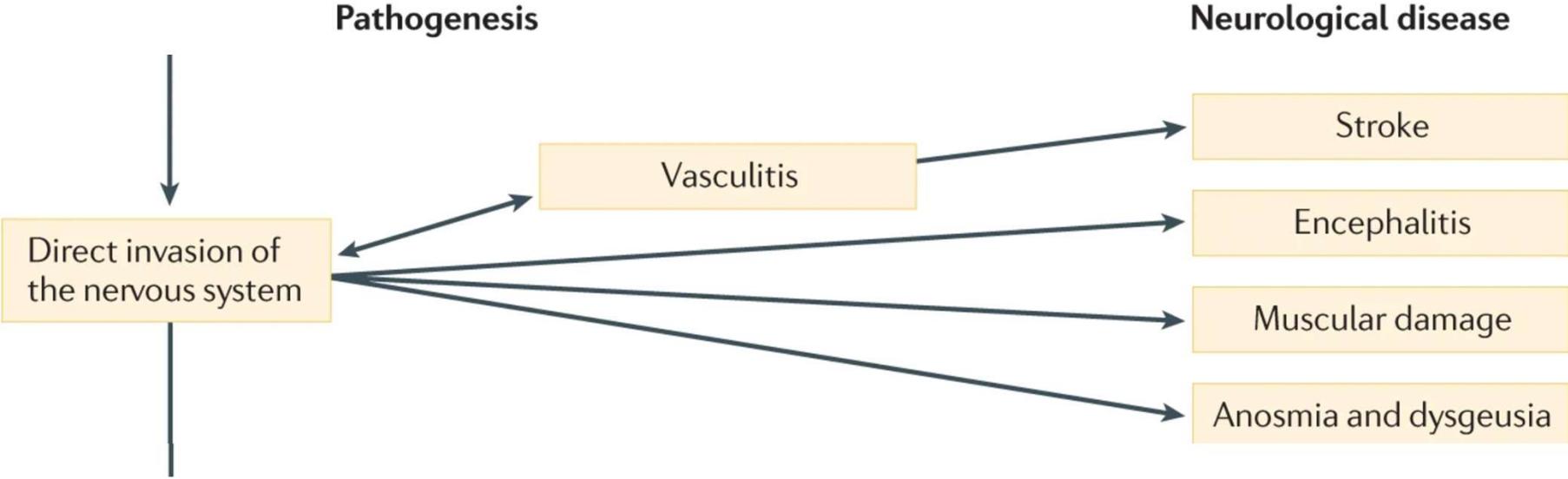


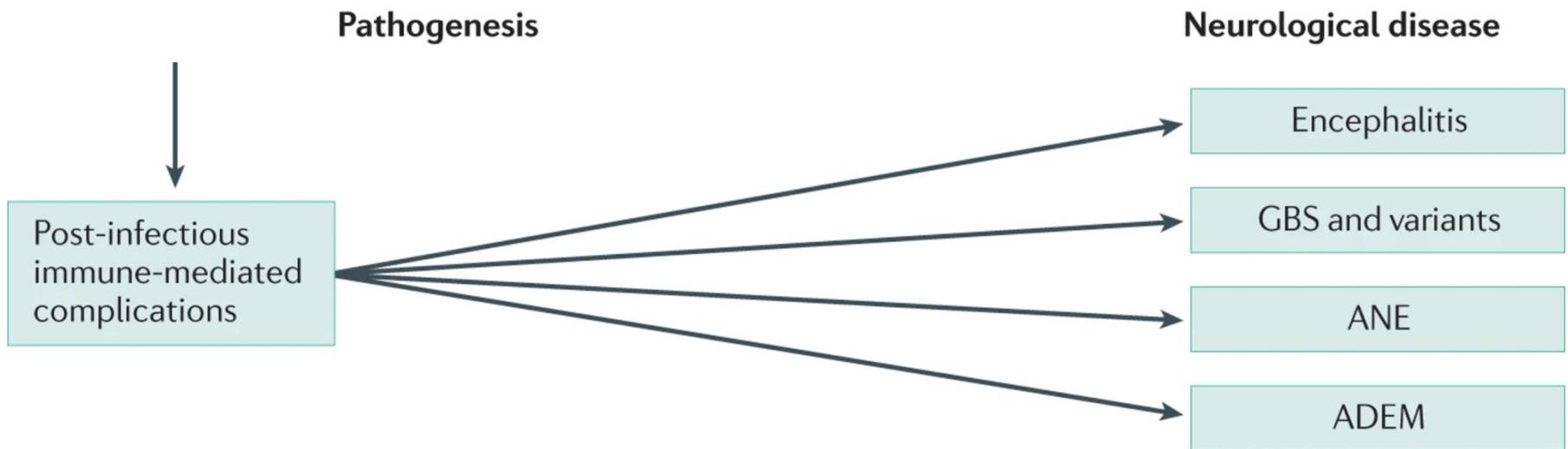
Possible Mechanisms Underlying Neurological Manifestations In Patients With SARS-CoV-2 Infection

Key:
ADEM: Acute Disseminated Encephalomyelitis
ANE: Acute Necrotizing Encephalopathy
GBS: Guillain-Barré Syndrome

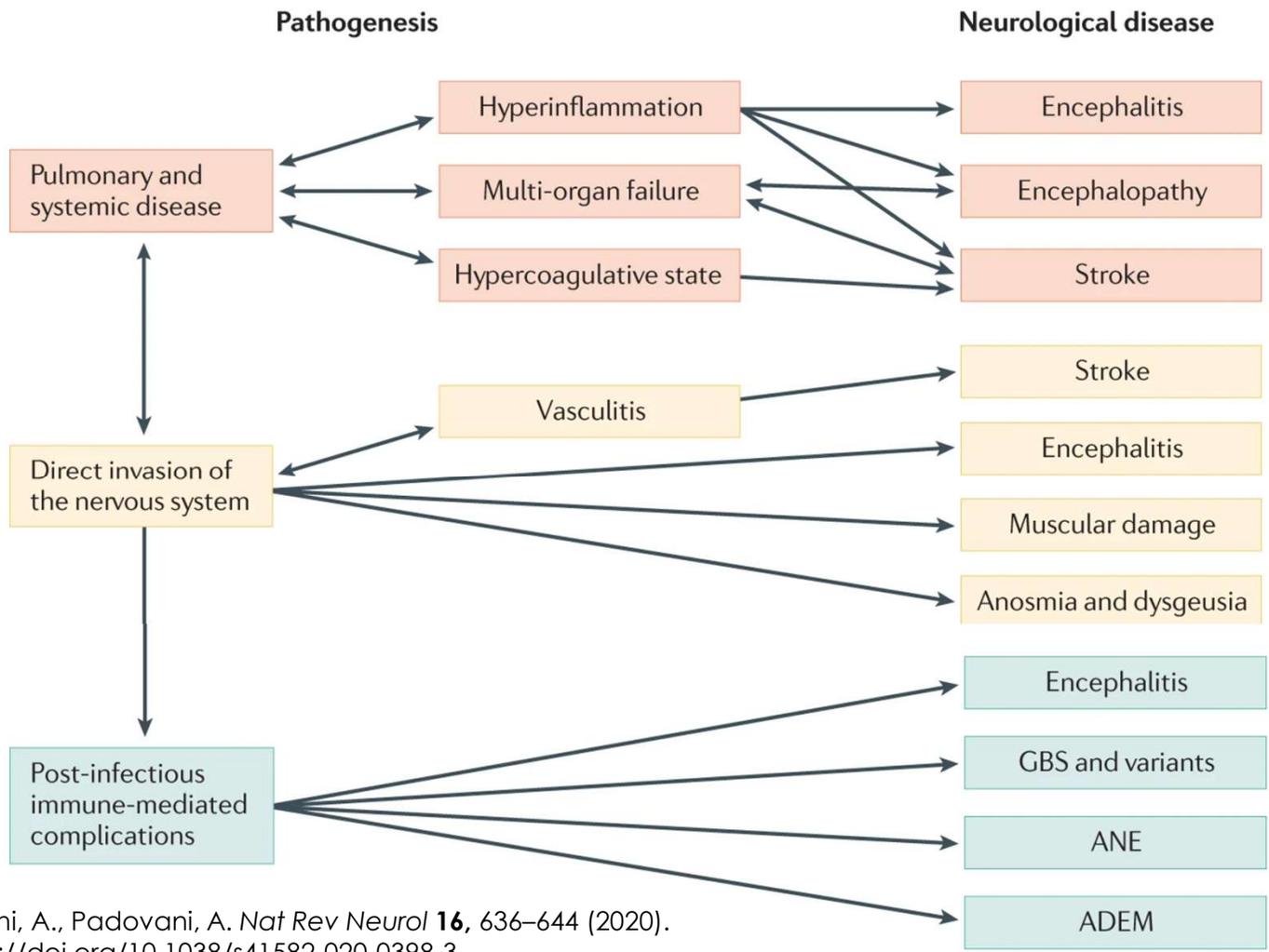
Pezzini, A., Padovani, A. *Nat Rev Neurol* **16**, 636–644 (2020).
<https://doi.org/10.1038/s41582-020-0398-3>







Encephalitis, GBS and variants, ANE, ADEM



Possible Mechanisms Underlying Neurological Manifestations In Patients With SARS-CoV-2 Infection

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Pezzini, A., Padovani, A. *Nat Rev Neurol* **16**, 636–644 (2020).
<https://doi.org/10.1038/s41582-020-0398-3>



REACTIONS TO THE PANDEMIC



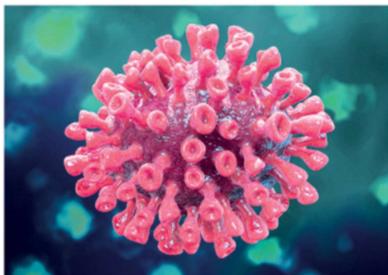
REACTIONS TO THE PANDEMIC



“The Psychological Impact Of Quarantine And How To Reduce It: Rapid Review Of The Evidence”

THE LANCET

Volume 395, Number 10221, Pages 912-920, February 27, 2020 www.thelancet.com



2019 novel coronavirus: early lessons

Editorial	Articles	Articles	Articles	Therapeutics
Eliminating cervical cancer see page 107	Electrical versus pharmacological cardioversion for acute atrial fibrillation see page 108	Deep learning for prediction of colorectal cancer outcome see page 109	Compliance with legal requirements to report clinical trial results on ClinicalTrials.gov see page 110	Type 2 targeted therapeutics for adult asthma see page 111

£5.00 Registered as a newspaper ISSN 0140-6736
Founded 1821 - Published weekly

Review

Review of 24 papers - psychological effects from past quarantines.

Negative psychological effects:

During quarantine, immediately after and up to several years post.

During quarantine:

Fear, nervousness, confusion, grief, numbness and anxiety-induced insomnia.

After quarantine:

Increased alcohol abuse, PTSD, depression, anger, self reports of increased stress, insomnia, irritability, and avoidance behaviors.



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March 2020: Amer Psychiatric Assn Poll

- 48% are anxious about the possibility of getting COVID-19
- 40% are anxious about becoming seriously ill or dying
- 62% are anxious about the possibility of family and loved ones getting coronavirus
- 36% say coronavirus is having a serious impact on their mental health
- 59% feel coronavirus is having a serious impact on their day-to-day lives
- 57% concerned that the coronavirus will have a serious negative impact on their finances
- 50% are worried about running out of food, medicine, and/or supplies
- 68% fear that the coronavirus will have a long-lasting impact on the economy

American Psychiatric Association. (2020, March 25) New Poll: COVID-19 Impacting Mental Well-Being: Americans Feeling Anxious, Especially for Loved Ones; Older Adults are Less Anxious. Retrieved from <https://www.psychiatry.org/newsroom/news-releases/new-poll-covid-19-impacting-mental-well-being-americans-feeling-anxious-especially-for-loved-ones-older-adults-are-less-anxious>

September 2020: Amer Psychiatric Assn Poll

- 62% of Americans feel more anxious than they did at this time last year
 - 80% Keeping themselves and their family safe, 75% COVID-19, 73% their health 73%
 - 20% having trouble sleeping, 24% having trouble concentrating due to this anxiety
- More had been fighting with loved ones (12% in March vs. 17% in September)
- Consuming more substances or alcohol (8% in March versus 14% in September)
- 76% strongly or somewhat agreed that systemic racism impacts mental health
- 37% the pandemic is having a serious impact on my mental health

American Psychiatric Association. (2020, October 21). New APA Poll Shows Surge in Anxiety Among Americans Top Causes Are Safety, COVID-19, Health, Gun Violence, and the Upcoming Election. Retrieved from www.psychiatry.org/newsroom/news-releases/anxiety-poll-2020.

Stress in America™ 2020: A National Mental Health Crisis

- 78% say the coronavirus pandemic is a significant source of stress in their lives
- 19% say their mental health is worse than it was at this time last year
- 81% teens (13-17) have experienced negative impacts of pandemic-related school closures
- 61% adults could have used more emotional support than they received
- 82% Gen-Z adults (18-23) could have used more emotional support than they received
- 67% Gen Z adults in college say the pandemic makes planning for their future feel impossible

Stress



Stress: Acute Vs Chronic

- ACUTE:
 - Stress resulting from specific events or situations that involve novelty, unpredictability, a threat to the ego, and leave us with a poor sense of control.

- CHRONIC:
 - Stress resulting from repeated exposure to situations that lead to the release of stress hormones. This type of stress can cause wear and tear on your mind and body.

A photograph of a woman with dark hair, wearing a blue shirt, with her eyes closed and hands clasped in a prayer-like gesture. The image is partially obscured by a dark purple diagonal shape on the left side of the slide.

Trauma is...

...the response to a deeply distressing or disturbing event that overwhelms your capacity to cope, or integrate the emotions involved with that experience.

Traumatic Stress

- The concept emerged in the field of mental health at least four decades ago.
- The 3 “E’S” of TRAUMA:
 - Event(s)
 - Experience of events(s), and
 - Effect

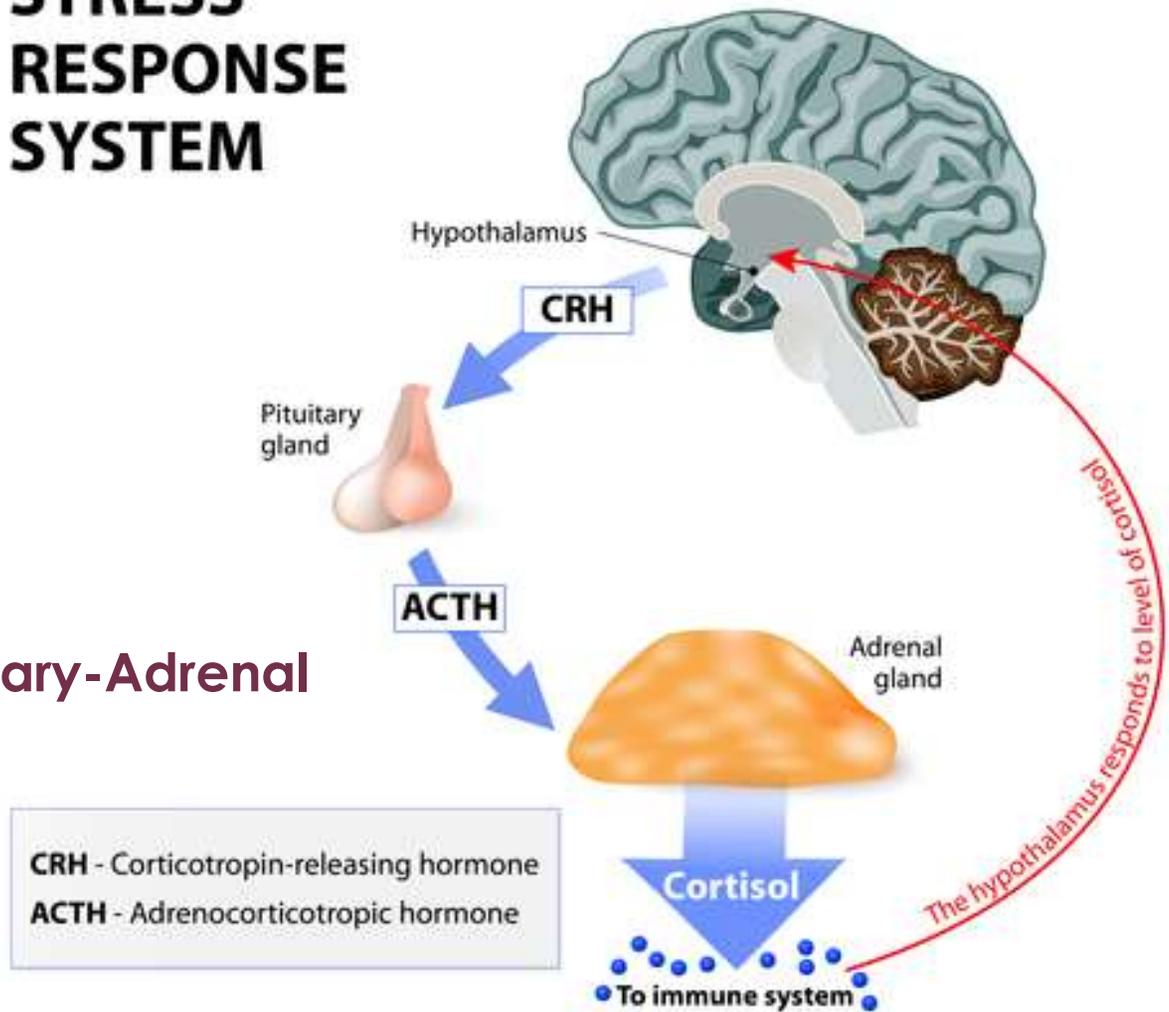
Impact Of Traumatic Stress

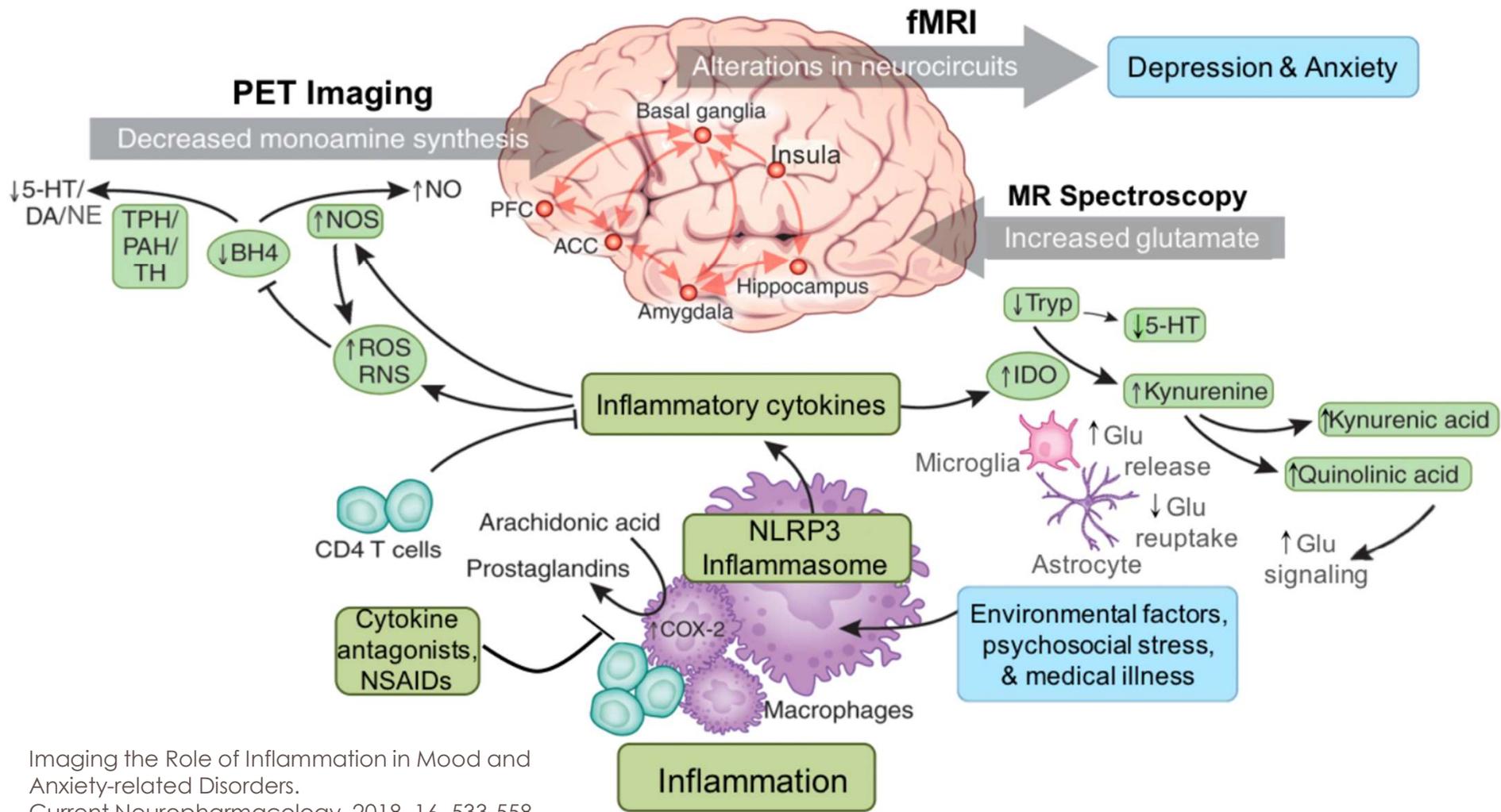
- Ability to cope
- Trust and benefit from relationships
- Manage cognitive processes: memory, attention, thinking
- Regulate behavior
- Control the expression of emotions
- Physiologic homeostasis

STRESS RESPONSE SYSTEM

HPA Axis

HPA: Hypothalamo-Pituitary-Adrenal





Imaging the Role of Inflammation in Mood and Anxiety-related Disorders.
 Current Neuropharmacology, 2018, 16, 533-558

Grief

The anguish experienced after significant loss, usually the death of a beloved person.

Often includes physiological distress, separation anxiety, confusion, yearning, obsessive dwelling on the past, and apprehension about the future.

Stages of Grief

Denial

Anger

Bargaining

Depression

Acceptance



Complicated Grief ~ Prolonged Grief Disorder

A response to death (or other significant loss or trauma) that deviates significantly from normal expectations.

The immediate response to the loss is exceptionally devastating and the passage of time does not moderate the emotional pain or restore competent functioning.



Risk Factors for Complicated Stress Response/PTSD

- Childhood trauma
- Repeat trauma experience
- Comorbid chronic mental health and physical medical problems
- Physiological findings (low HRV, low cortisol response, etc)
- Genetics and family history of trauma
- Social determinants of health

PANDEMIC SURVEY

1 in 4 Essential Workers (25%) Diagnosed With Mental Health Disorder Since Start of Pandemic

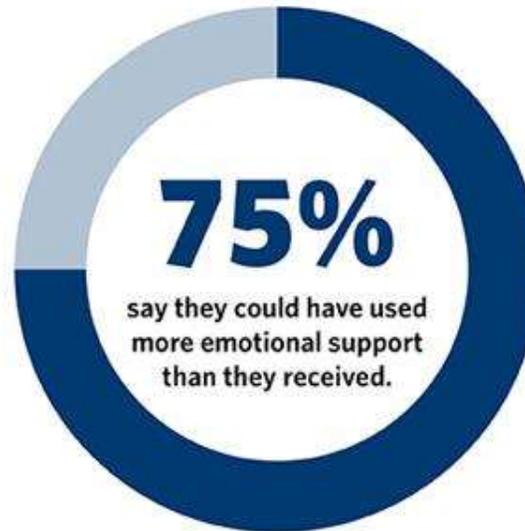
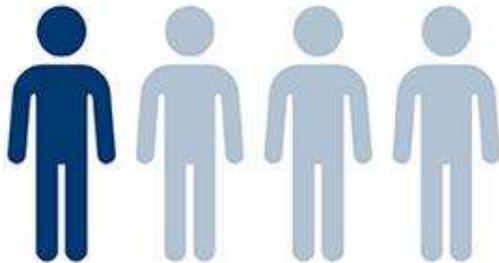
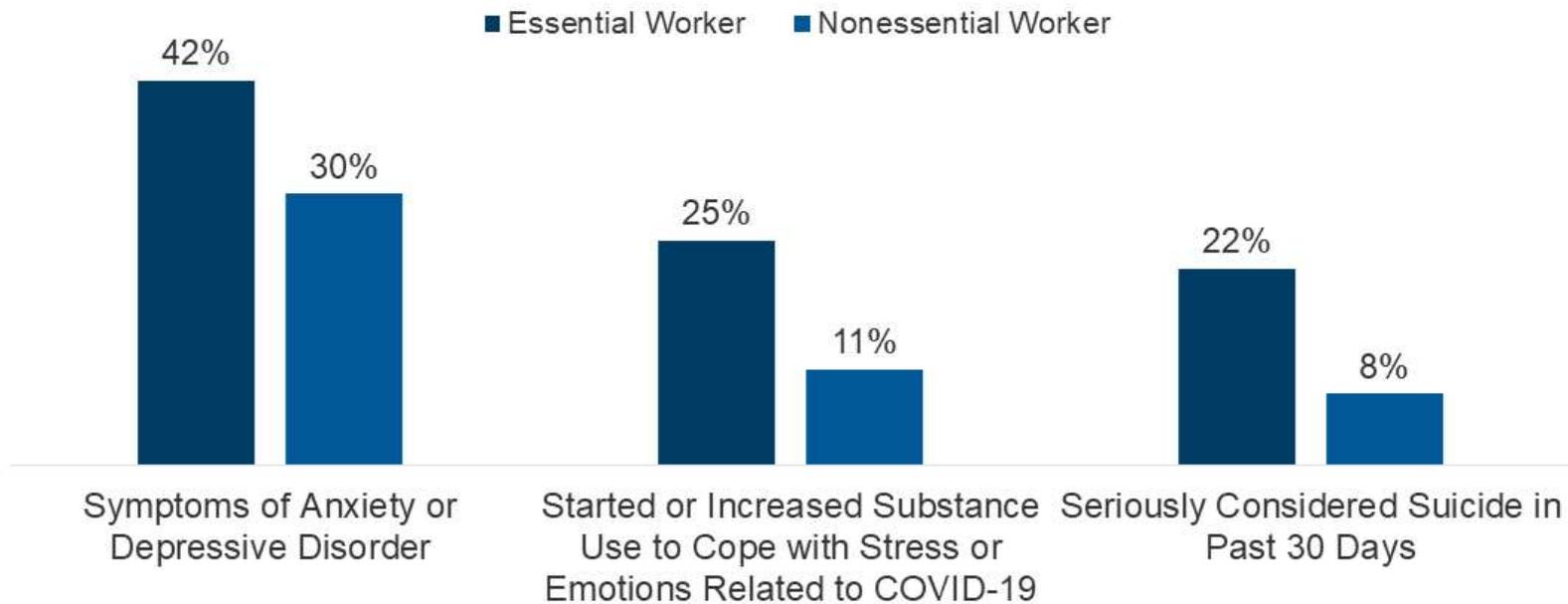


Figure 8

Among Essential and Nonessential Workers, Share of Adults Reporting Mental Distress and Substance Use, June 2020



NOTES: Data is among adults ages 18 and above. Essential worker status was self-reported.

SOURCE: Czeisler ME, Lane RI, Petrosky E, et al. Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic — United States, June 24–30, 2020. MMWR Morb Mortal Wkly Rep 2020;69:1049–1057. DOI: <http://dx.doi.org/10.15585/mmwr.mm6932a1>



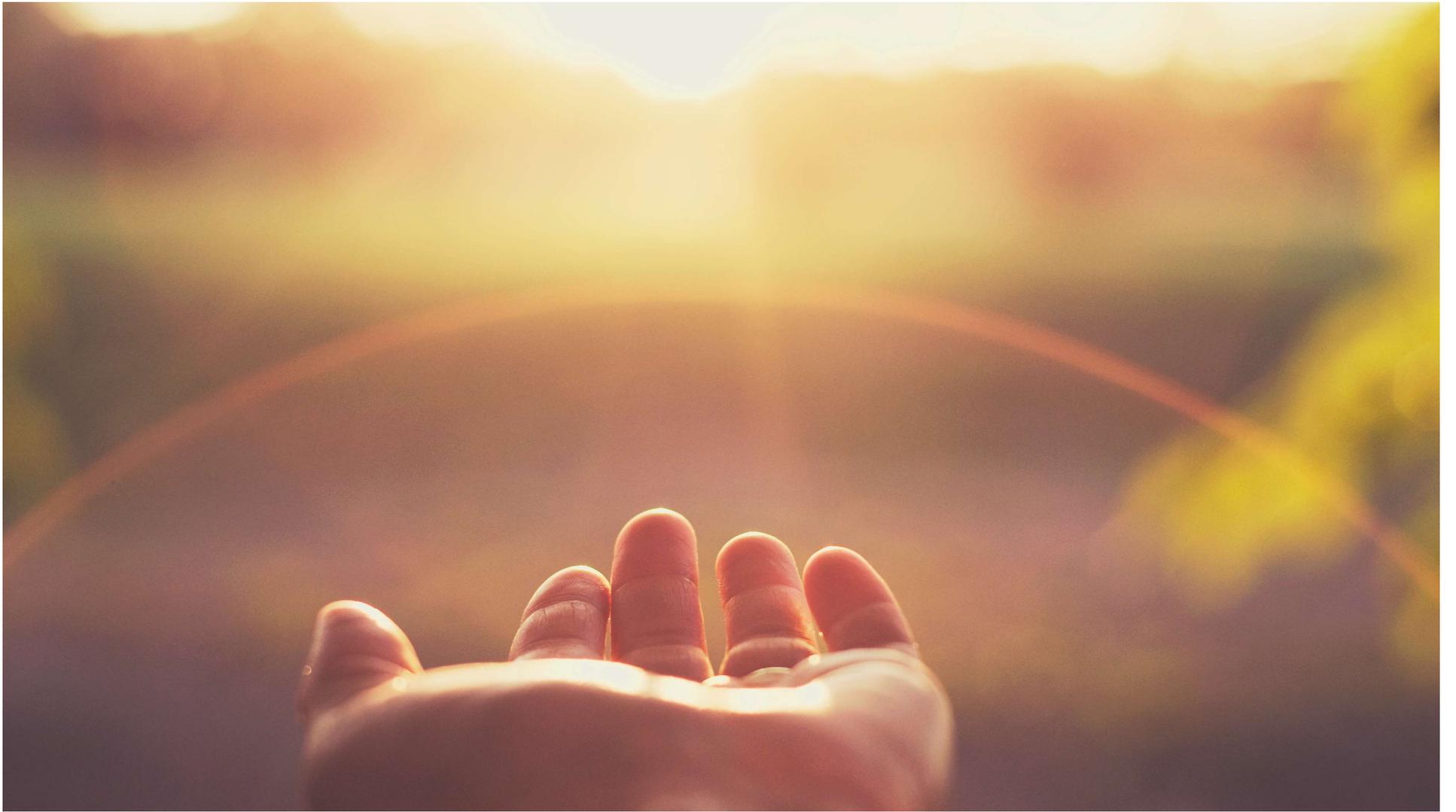


Table. Number of Deaths for Leading Causes of Death, US, 2015-2020^a

Cause of death	No. of deaths by year					
	2015	2016	2017	2018	2019	2020
Total deaths	2 712 630	2 744 248	2 813 503	2 839 205	2 854 838	3 358 814
Heart disease	633 842	635 260	647 457	655 381	659 041	690 882
Cancer	595 930	598 038	599 108	599 274	599 601	598 932
COVID-19 ^b						345 323
Unintentional injuries	146 571	161 374	169 936	167 127	173 040	192 176
Stroke	140 323	142 142	146 383	147 810	150 005	159 050
Chronic lower respiratory diseases	155 041	154 596	160 201	159 486	156 979	151 637
Alzheimer disease	110 561	116 103	121 404	122 019	121 499	133 382
Diabetes	79 535	80 058	83 564	84 946	87 647	101 106
Influenza and pneumonia	57 062	51 537	55 672	59 120	49 783	53 495
Kidney disease	49 959	50 046	50 633	51 386	51 565	52 260
Suicide	44 193	44 965	47 173	48 344	47 511	44 834

^a Leading causes are classified according to underlying cause and presented according to the number of deaths among US residents. For more information, see the article by Heron.⁴ Source: National Center for Health Statistics. National Vital Statistics System: mortality statistics (<http://www.cdc.gov/nchs/deaths.htm>). Data for 2015-2019 are final; data for 2020 are provisional.

^b Deaths with confirmed or presumed COVID-19, coded to *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* code U07.1 as the underlying cause of death.

December 16, 2020

Racial Differences in Statewide Suicide Mortality Trends in Maryland During the Coronavirus Disease 2019 (COVID-19) Pandemic

Michael Johnathan Charles Bray, MS¹; Nicholas Omid Daneshvari, BA¹;

Indu Radhakrishnan, BA²; et al

» [Author Affiliations](#) | [Article Information](#)

JAMA Psychiatry. 2021;78(4):444-447. doi:10.1001/jamapsychiatry.2020.3938

Table. Suicide Mortality During Periods of Interest by Race/Ethnicity^a

Race/ethnicity	No.				2020	Change, %	P value
	2017	2018	2019	2017-2019 Mean			
All periods (January 1-July 7)							
Total	289	305	249	281	236	-16.0	.02
Black	42	52	47	47.0	50	6.4	.25
White	232	227	179	212.7	161	-24.3	.002
Hispanic	5	11	6	7.3	7	NA	NA
Asian	5	10	9	8.0	8	NA	NA
Other	3	3	3	3.0	3	NA	NA
Unknown	2	2	5	3.0	7	NA	NA

Abbreviation: NA, not applicable.

^a Differences between daily suicide counts in 2020 compared with the mean daily counts in 2017 to 2019 for paired dates are assessed by Wilcoxon signed rank test. Percentage change and significance of difference not assessed for race/ethnicity with fewer than 10 suicide mortalities per year. Regarding periods for comparison (2017 to 2019), counts among both Black and White Maryland residents were relatively stable over time and did not differ significantly between years for 2017 to 2018, 2018 to 2019, or 2017 to 2019 for any period reported within either racial group with the exception of White residents during the period from May 8, 2020, to July 7, 2020, which differed from both 2017 and 2018.



A makeshift memorial for George Floyd at the Cup Foods in Minneapolis last week.
Joshua Rashaad McFadden for The New York Times

PANDEMIC SURVEY

Black Adults Most Likely to Report Concerns About the Future



I do not feel comfortable going back to living life liked I used to before the pandemic

I feel uneasy about adjusting to in-person interaction once the pandemic ends

% STRONGLY/SOMEWHAT AGREE

54% Black



48% Hispanic



45% Asian



44% White



% STRONGLY/SOMEWHAT AGREE

57% Black



50% Hispanic



51% Asian



47% White



REACTIONS TO THE PANDEMIC



REACTIONS TO THE PANDEMIC



JAMA Survey Results 2020



More drinks were consumed monthly during the pandemic as compared to 2019 by 75% of the participants in both men and women.

For women, there was also a significant increase of heavy drinking each month compared to 2019 representing an increase of 41% over baseline.

Likewise, women had a self report of increased alcohol related problems representing a 39% increase from 2019.



International Journal of
*Environmental Research
and Public Health*



Article

Alcohol Consumption during the COVID-19 Pandemic: A Cross-Sectional Survey of US Adults

Elyse R. Grossman ^{1,2,*} , Sara E. Benjamin-Neelon ¹  and Susan Sonnenschein ³

¹ Department of Health, Behavior and Society, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD 21205, USA; sara.neelon@jhu.edu

² Advancement Strategy Consulting, LLC, Columbia, MD 21046, USA

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* Correspondence: egrossman@jhu.edu; Tel.: +1-301-758-0409

Received: 22 October 2020; Accepted: 8 December 2020; Published: 9 December 2020



check for
updates

Four Outcome Measures

1) Number of days
in past month
alcohol was
consumed

2) Total number of
drinks consumed In
past month

3) How many
engaged in binge
drinking during past
month

4) How many
engaged in extreme
binge drinking past
month

Source: Grossman, et. al., Alcohol Consumption during the COVID-19 Pandemic: A Cross-Sectional Survey of US Adults, [Int J Environ Res Public Health](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7763183/).17(24); 2020 Dec PMC7763183.
Retrieved from:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7763183/>

Pre-pandemic Vs Pandemic Alcohol Use



Pandemic Survey Results

- Consuming on average of 12.2 days during past month
- 26.8 drinks during past month
- 34.1 % reported binge drinking
- 7% reported extreme binging behavior

Context: 2018 NDSUH Pre-Pandemic Data

- Consuming on average of 4.8 days during past month
- 12.0 drinks during past month
- 31.8 % reported binge drinking
- 3.7% reported extreme binging behavior

Source: Grossman, et. al., Alcohol Consumption during the COVID-19 Pandemic: A Cross-Sectional Survey of US Adults, [Int.J Environ Res Public Health v.17\(24\); 2020 Dec](https://doi.org/10.3390/ijerph172402020) PMC7763183, Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7763183/>

Participants who reported experiencing “very much” or “extreme” stress due to COVID-19 also reported consuming significantly more alcohol than participants who did not report these high levels of stress.”



Cigarette And ENDS Use Increased



Study Done At Columbia University School Of Public Health In The Early Pandemic

- Anxiety
- Boredom
- Irregular Routines
- Cigarettes were more readily available than ENDS causing users to increase cigarette use

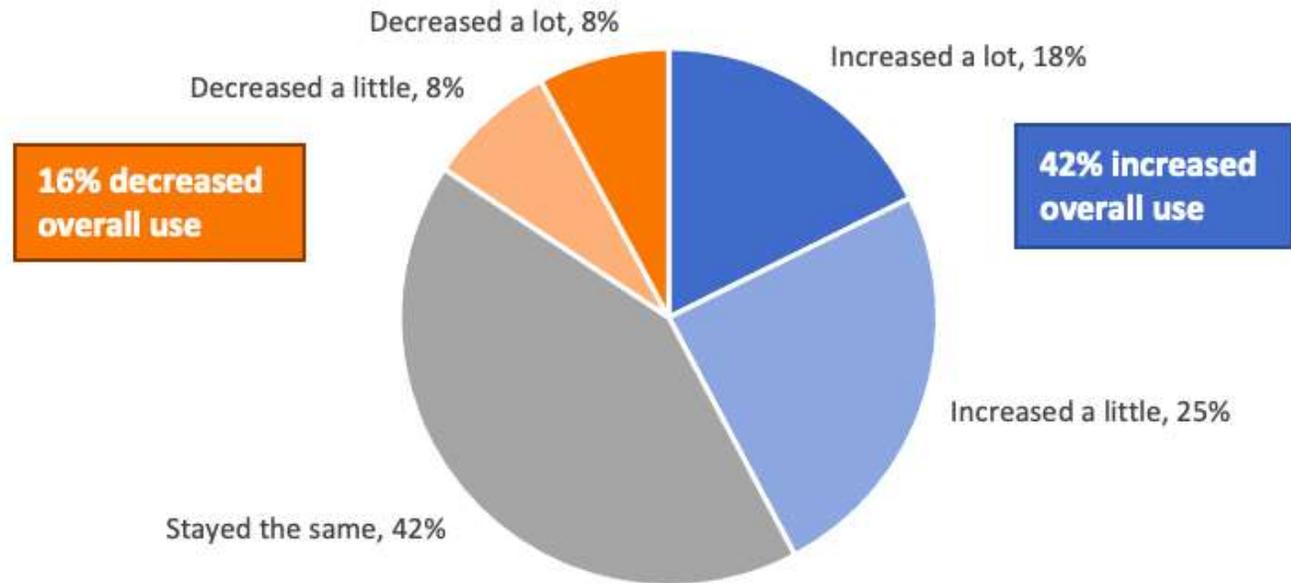
Giovenco, D. P., et al. (2020) Multi-level drivers of tobacco use and purchasing behaviors during COVID-19 "lockdown": A qualitative study in the United States. *International Journal of Drug Policy*. doi.org/10.1016/j.drugpo.2021.103175.

Cannabis



According To Cannabis Industry Data Sources Marijuana Usage Is Up Dramatically

Compared to the beginning of the 2020 calendar year, how has your overall cannabis consumption changed? (September 2020)



Source: New Frontier Data

Cannabis



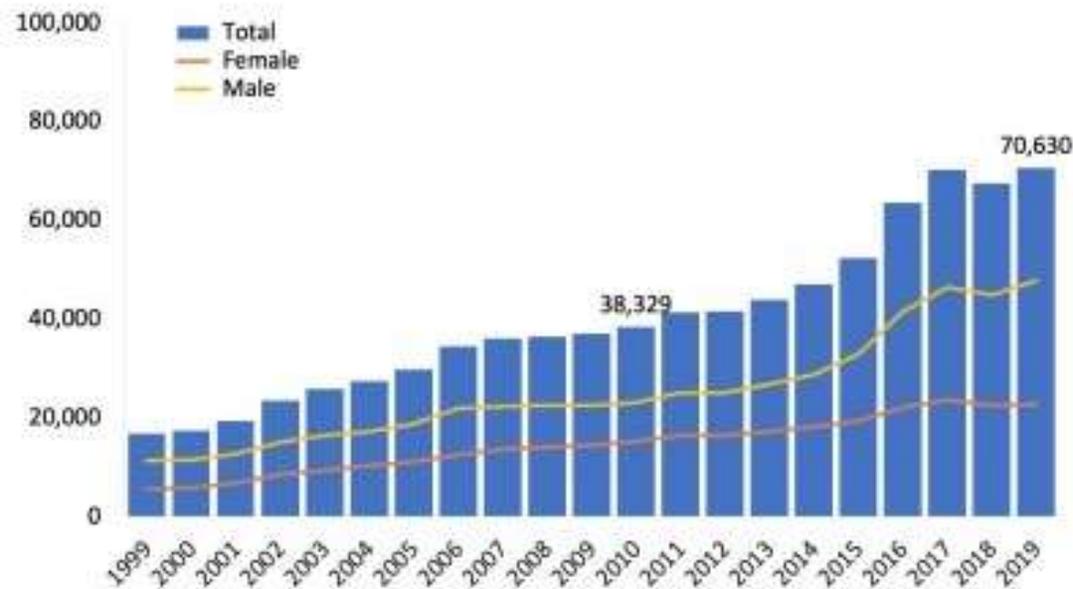
Multiple Surveys Revealed Increased Cannabis Use During The Pandemic



- “Because it attacks the lungs, the coronavirus that causes COVID-19 could be an especially serious threat to those who smoke tobacco or marijuana or who vape.”

–Dr. Nora Volkow, Director National Institute of Drug Abuse

**Figure 1. National Drug-Involved Overdose Deaths*
Number Among All Ages, by Gender, 1999-2019**

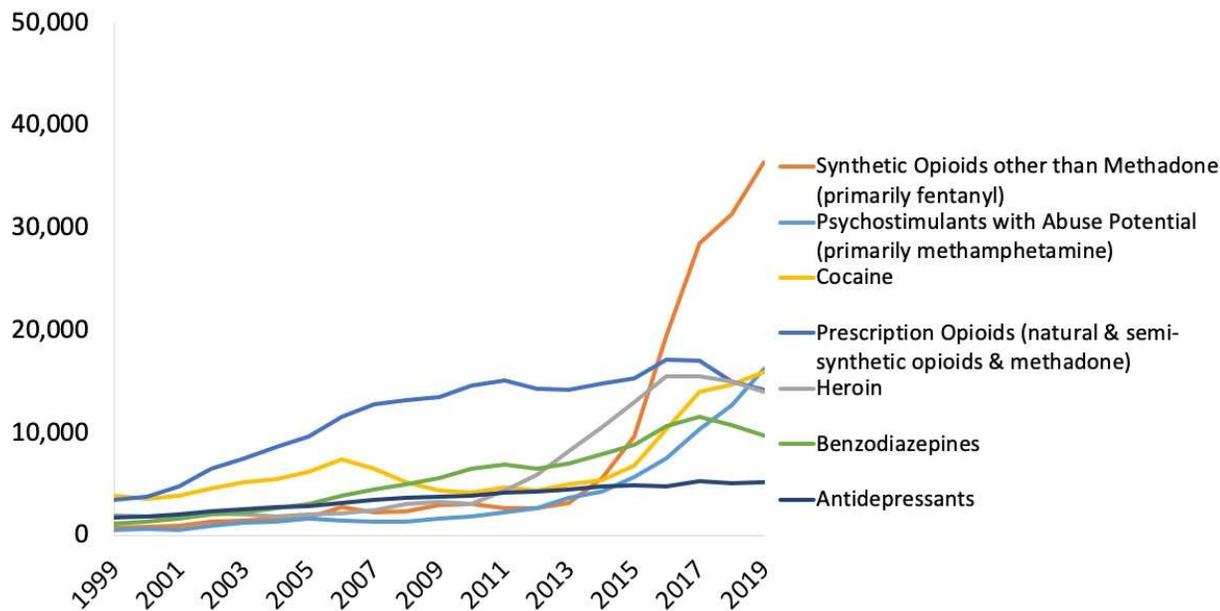


*Includes deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug poisoning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision.
Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999–2019 on CDC WONDER Online Database, released 12/2020.

Increase In ALL Overdose Deaths Pre-Pandemic

- Latest data shows an increase in drug overdose deaths
- As of 2019: over 70,000 overdose deaths
- Represented a disturbing upward trajectory in deaths from overdoses from all drug overdoses

Figure 2. National Drug-Involved Overdose Deaths*, Number Among All Ages, 1999-2019

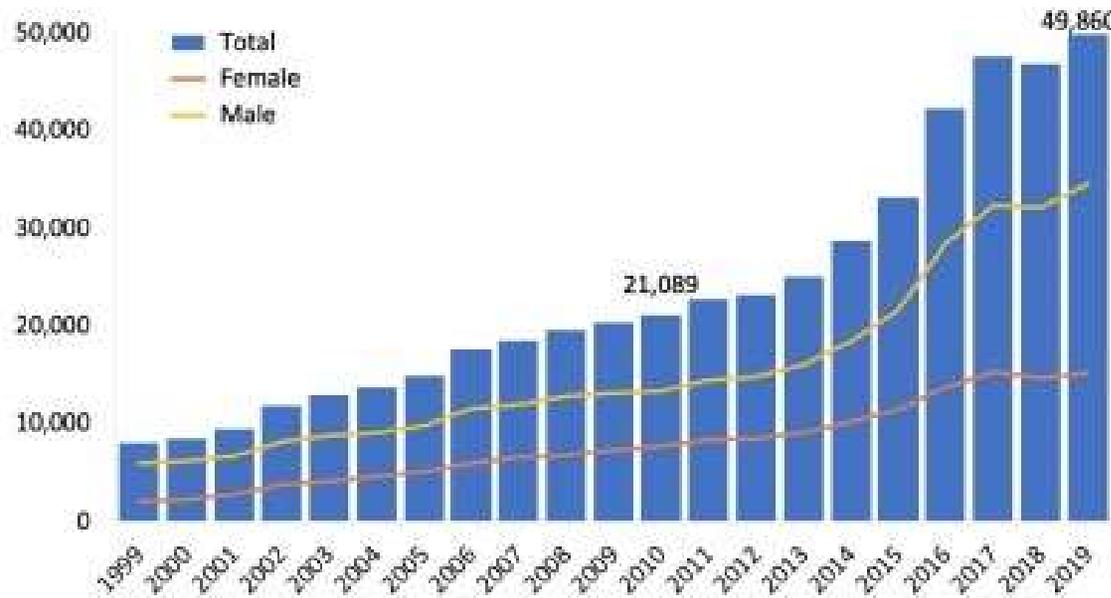


- Heroin Overdoses Pre-Pandemic are slightly down
- Fentanyl overdoses are significantly increased
- Stimulant overdoses have increasing significantly over the past 5 years
- Prescription opioid overdoses have been declining
- Cocaine use and overdoses have made a significant resurgence

*Includes deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug poisoning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2019 on CDC WONDER Online Database, released 12/2020.

Source: National Institutes of Health Website; Overdose Death Rates retrieved from: <https://www.drugabuse.gov/drug-topics/trends-statistics/overdose-death-rates>

Figure 3. National Drug Overdose Deaths Involving Any Opioid, Number Among All Ages, by Gender, 1999-2019



*Among deaths with drug overdose as the underlying cause, the any opioid subcategory was determined by the following ICD-10 multiple cause-of-death codes: natural and semi-synthetic opioids (T40.2), methadone (T40.3), other synthetic opioids (other than methadone) (T40.4), or heroin (T40.1). Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death 1999-2019 on CDC WONDER Online Database, released 12/2020.

Opioid Epidemic

- The opioid crisis has driven much of the news cycle regarding Substance Use Disorder for years now
- 136 people die daily in the US from opioid overdose
- 5.7 persons an hour

Source: National Institutes of Health Website: Overdose Death Rates retrieved from: <https://www.drugabuse.gov/drug-topics/trends-statistics/overdose-death-rates>

According To CDC Geographic Shift In Fentanyl Deaths

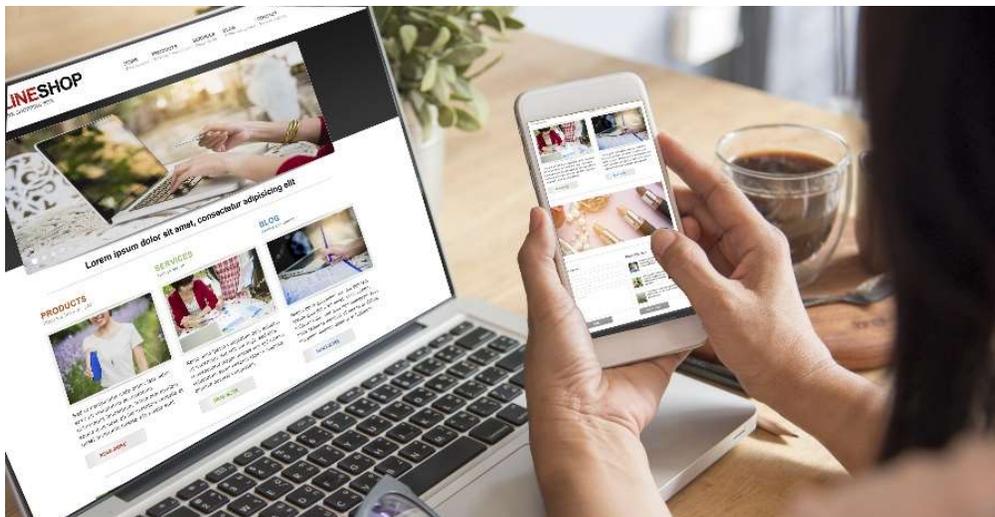
10 Western States have seen surges over past several years, and by all indications worsening during pandemic....

Arkansas, Arizona, California, Colorado, Hawaii, New Mexico, Nevada, Oregon, Utah and Washington.



Internet Related Addictive Behaviors

- A March 2021 review published in the *Journal of Addictive Diseases* revealed increase in several internet-based process addiction.



Internet addiction

Online gaming disorder

Pornography use

Smartphone use disorder

Online gambling disorder

Nassim Masaeli & Hadi Farhadi (2021) Prevalence of Internet-based addictive behaviors during COVID-19 pandemic: a systematic review, *Journal of Addictive Diseases*, DOI: [10.1080/10550887.2021.1895962](https://doi.org/10.1080/10550887.2021.1895962)

Cannabis & Smoking

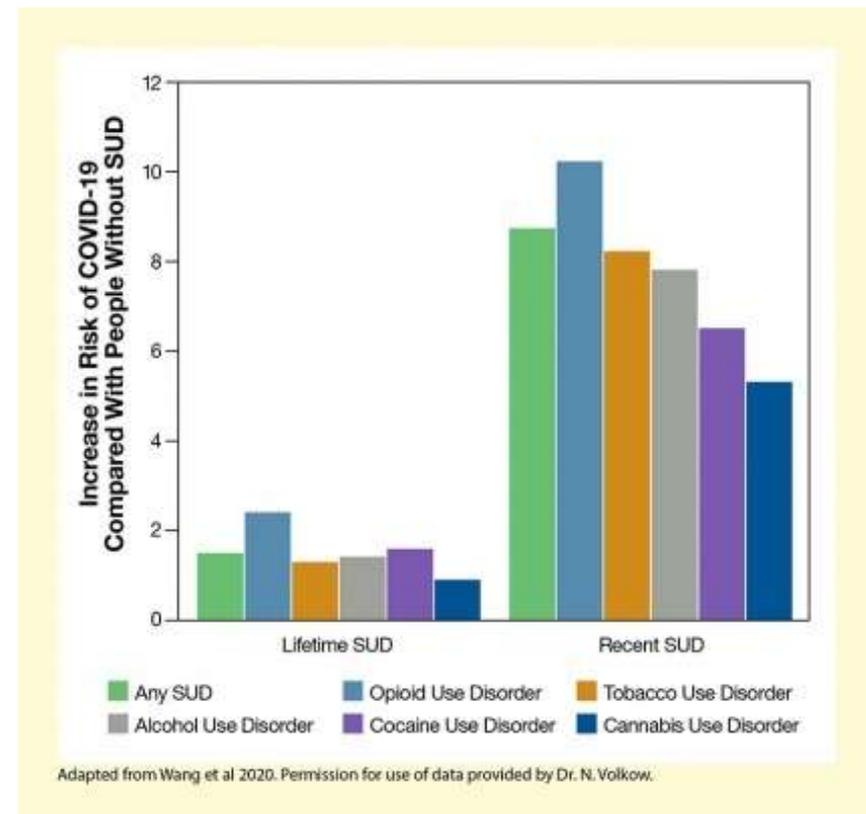


Substance Use Disorder and COVID Risk

“COVID-19 risk was particularly high among those with a recent SUD diagnosis (i.e., within the past year); their risk was more than 8 times higher than that of people without a recent SUD.”

National Institute on Drug Abuse Website, January 13, 2021

By Susanne Hiller-Sturmhoefel, Ph.D., NIDA Notes Science Editor,
Retrieved from: <https://d14rmgtrwzf5a.cloudfront.net/news-events/nida-notes/2021/01/people-with-suds-have-increased-risk-for-covid-19-worse-outcomes>



REACTIONS TO THE PANDEMIC



REACTIONS TO THE PANDEMIC



Resilience

“The process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress.”



Neuroplasticity

- “NEURONAL PLASTICITY”
 - Non-pathological changes in the structure of adult brains
 - Term used by “father of neuroscience” Santiago Ramón y Cajal (1852-1934)
- “NEUROPLASTICITY”
 - Term introduced in 1960s for morphological changes in neurons of adult brains.

The brain continually reorganizes itself by forming **new neural connections** throughout life.

This phenomenon is known as **neuroplasticity**.



Neuroplasticity

- The brain's **natural ability** to form new connections in order to make up for injury or changes in the environment.
- The ability of the brain to **reorganize pathways between neurons** as a result of new experiences.

Summary: Stress - good and bad
Role in synaptic function, adaptive plasticity and damage



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Synaptic functions: enhanced

- Synaptic transmission
- Long-term potentiation
- Learning- re: self present

Synaptic functions: suppression

- Synaptic transmission
- Long-term potentiation
- Learning - less important things

Adaptive plasticity***

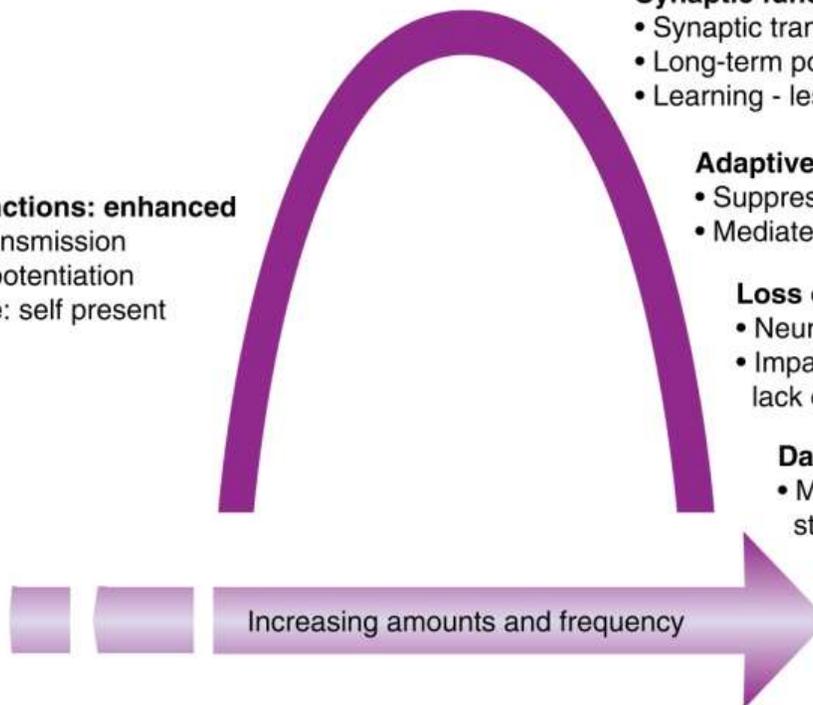
- Suppression of neurogenesis
- Mediates dendritic remodeling

Loss of resilience

- Neurochemical distortion
- Impaired remodeling and lack of recovery from stroke

Damage potentiation

- Mediates excitotoxicity in seizures, stroke and head trauma



Adrenal steroids and excitatory amino acids modulate both limbs of inverted U

***Chronic stress: how much protection vs. destabilization

Neuropsychopharmacology

Stress and Neuro-Plasticity

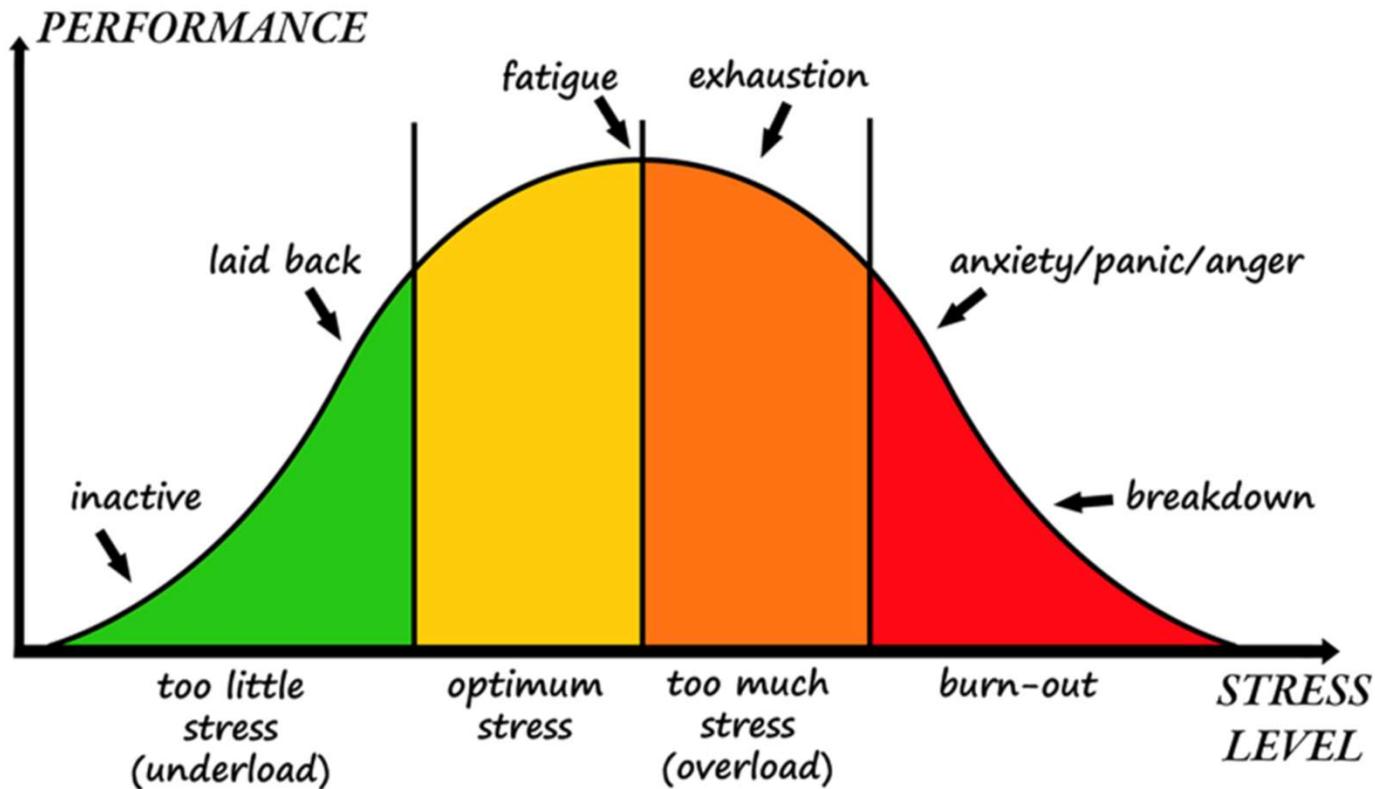
Neuropsychopharmacology Reviews (2016) **41**, 3-23;
doi:10.1038/npp.2015.171

Stress Resilience & Stress Inoculation

- **Stress inoculation** is experiencing more moderate levels of stress, combined with techniques that reduce physiological and psychological perception of the trauma, thus promoting positive coping responses (i.e. resilience).
- Enhanced in specific populations, such as military personnel and rescue workers, through controlled exposure to stress-related stimuli.



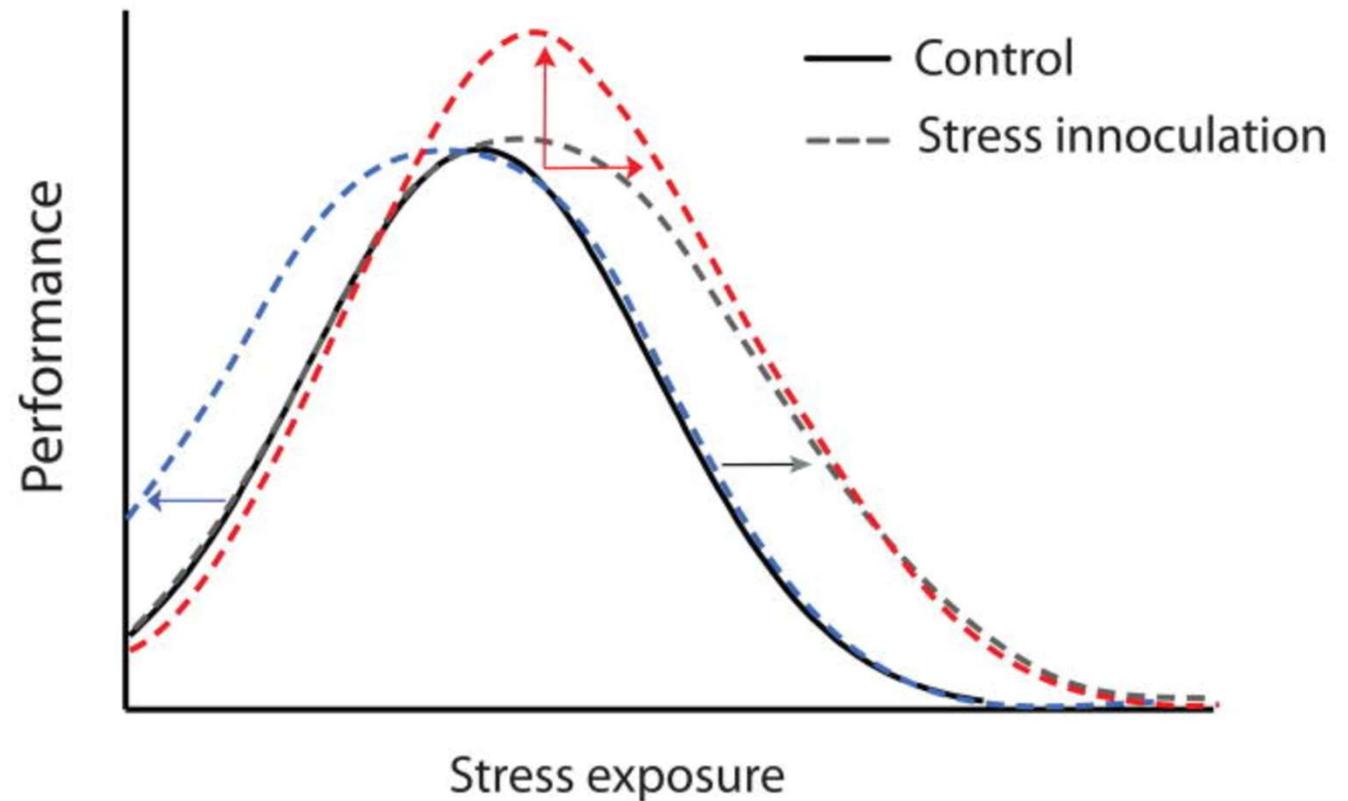
Inverted U Shape Curve & Stress



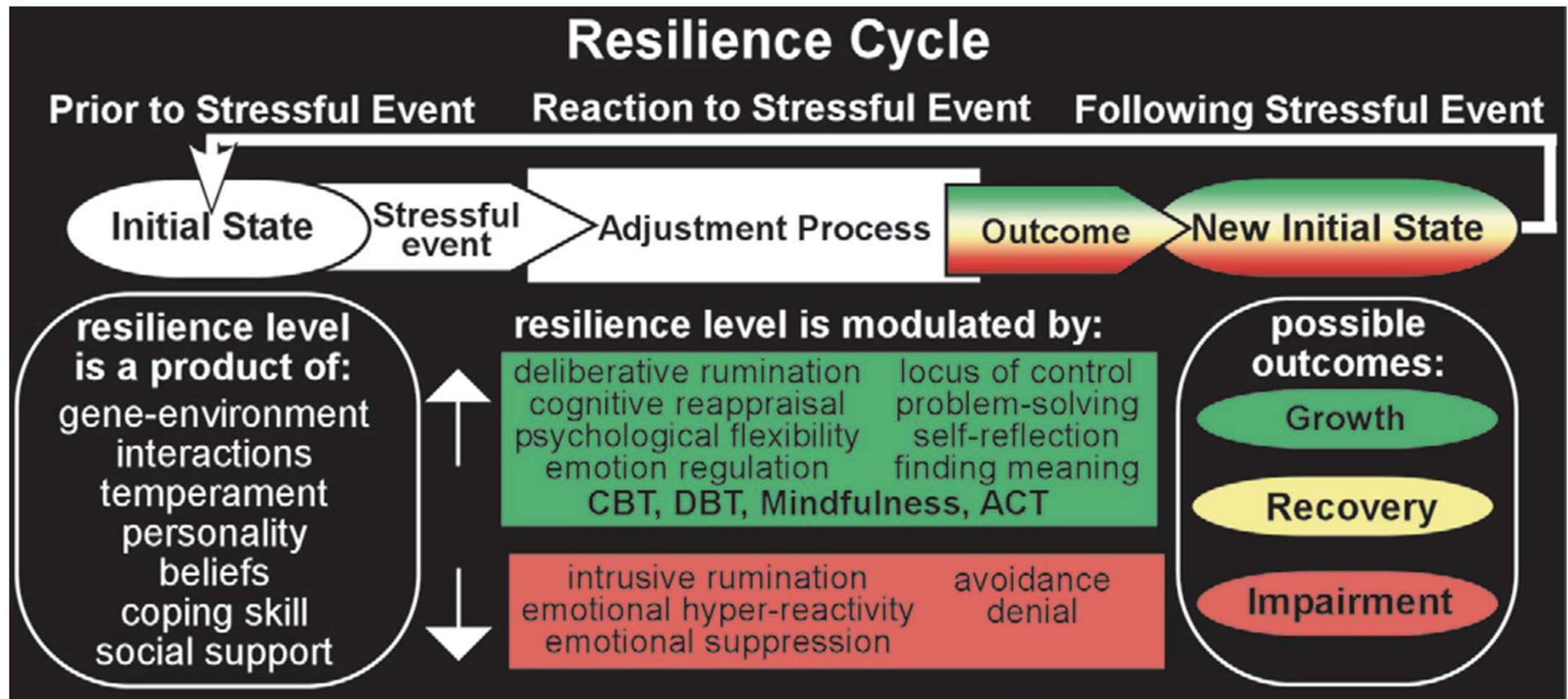


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Stress Inoculation Shifts The Inverted U Shape Curve To Promote Resilience



Russo, S. J., Murrough, J. W., Han, M., Charney, D. S., & Nestler, E. J. (2012). Neurobiology of resilience. *Nature Neuroscience*, 15(11), 1475-1484. doi:10.1038/nn.3234



Ord, A. S., Stranahan, K. R., Hurley, R. A., & Taber, K. H. (2020). Stress-Related Growth: Building a More Resilient Brain. *The Journal of Neuropsychiatry and Clinical Neurosciences*, 32(3). doi:10.1176/appi.neuropsych.20050111

Social Context For Resiliency

- For individuals who are coping with **highly adverse family and community contexts**, individually focused interventions are less likely to foster well-being.
- **Interventions** may need to first mitigate exposure to risk factors like violence, poverty, and social marginalization resulting from immigration, homophobia, and racism.



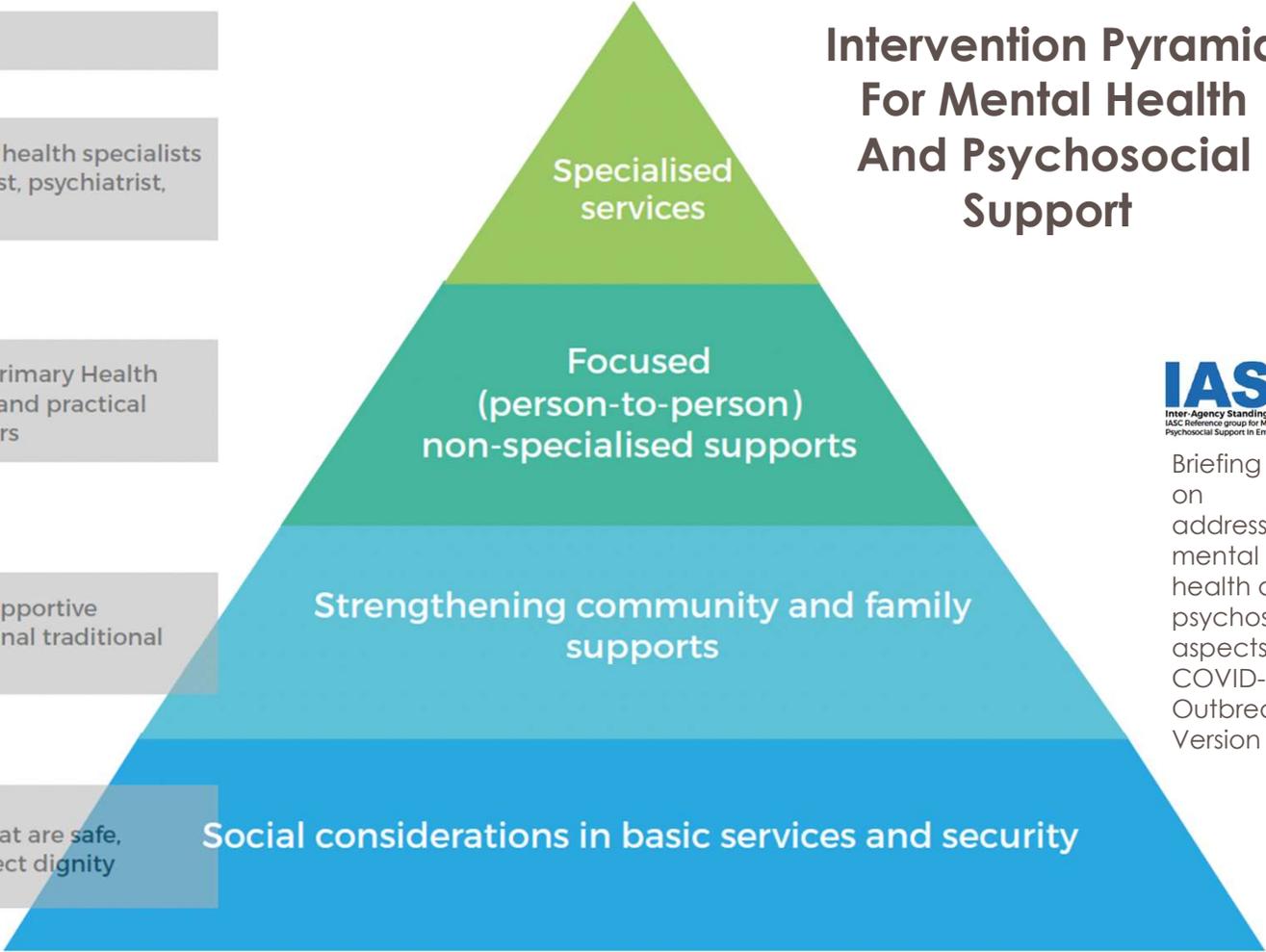
Examples:

Mental health care by mental health specialists (psychiatric nurse, psychologist, psychiatrist, etc).

Basic mental health care by Primary Health Care doctor. Basic emotional and practical support by community workers

Activating social networks. Supportive child-friendly spaces. Communal traditional supports

Advocacy for basic services that are safe, socially appropriate and protect dignity



Intervention Pyramid For Mental Health And Psychosocial Support



Briefing note on addressing mental health and psychosocial aspects of COVID-19 Outbreak- Version 1.0



You may not control all the events
that happen to you, but you can
decide not to be reduced by them.

Maya Angelou

“ quote fancy



Interventions to Harness Neuroplasticity & Resilience

REGULAR PHYSICAL ACTIVITY

Increased hippocampal volume and PFC blood flow and improved executive function and memory.

MINDFULNESS-BASED STRESS REDUCTION

Reducing anxiety decreases amygdala volume in those individuals who responded to a mindfulness-based stress reduction therapy.

LOVING KINDNESS MEDITATION

Found changes in positive affect and social relationships and helping behavior that may derive from both automatic and controlled affective processes.

Interventions to Harness Neuroplasticity & Resilience

SOCIAL SUPPORT AND INTEGRATION

Experience Corps for elderly volunteers, who showed improved executive function, increased blood flow in PFC, and better overall health with slower decline.

Meaning and purpose (eudaimonia) are a likely component along with social support and increased physical activity.

PSYCHOTHERAPY: Exposure, CBT

Exposure therapy and cognitive behavioral therapy can aid individuals with PTSD through cognitive restructuring and relaxation techniques following a traumatic event to promote recovery.

These treatments are seen to reverse hyperactivity of PFC–amygdala microcircuits shown to be overactive in PTSD.



Interventions to Harness Neuroplasticity & Resilience

BIOLOGIC TREATMENTS: Antidepressants, Neuromodulation

Antidepressant medications, some mood stabilizers and neuromodulation techniques are known to increase BDNF and hence neuroplasticity.

Plasticity-facilitating treatments should be given within the framework of a positive behavioral or physical therapy intervention.

SKILL DEVELOPMENT

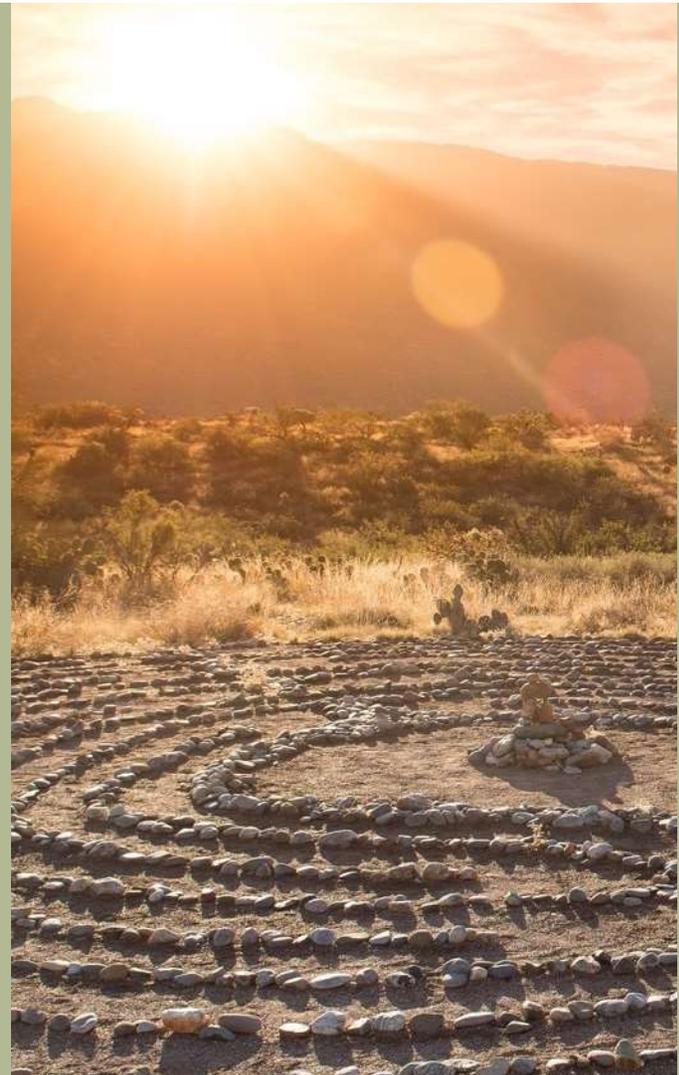
Develop some realistic goals or hobbies - even if it is a small accomplishment - that enables you to move toward the things you want to accomplish.

Volunteer or simply support a friend in their own time of need - you can garner a sense of purpose, foster self-worth, connect with other people and tangibly help others, all of which can empower you to grow in resilience.

QUESTIONS?



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Thank you for attending!

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