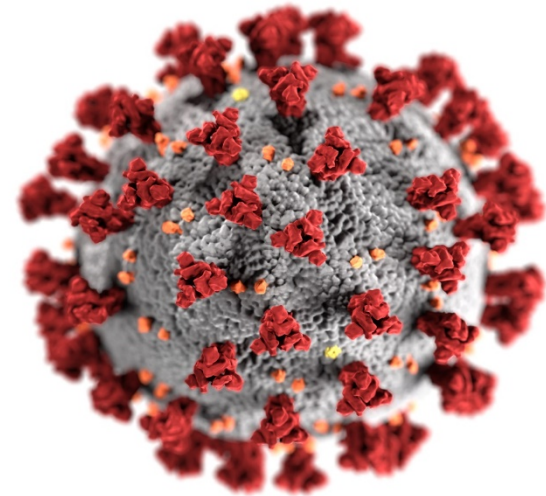
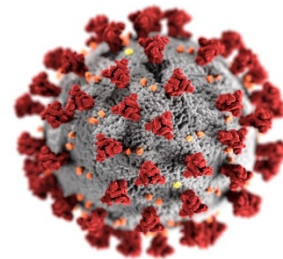
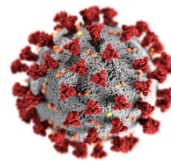
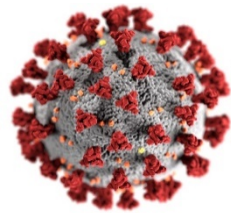
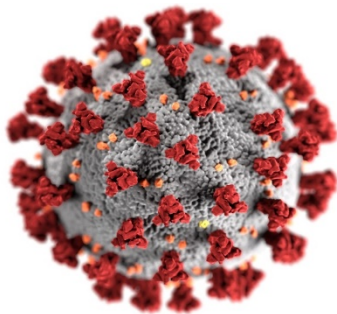




Viruses, Vaccines & Long-Term Consequences

Panel Perspectives



Meet our Panelists ...



Gaurava Agarwal, MD

- Associate Professor in the Department of Psychiatry and the Behavioral Sciences
- Associate Professor of the Department of Medical Education
- Director of Physician Well-Being for Northwestern Medicine's Medical Groups
- Director of Undergraduate Medical Student Education in Psychiatry at Northwestern University Feinberg School of Medicine in Chicago, IL
- PsychU MDD Section Advisor



Kathy Day, MPA, BA, AA

- Founder & President of Pro Caregiver Consultants
- Caregiver & Mental Health Advocate in Sacramento, CA
- Former member of Sacramento County Mental Health Board
- Active in Legislative reform at local and federal levels
- PsychU Patient & Caregiver Section Advisor



Mojgan Makki, MD, DFAACAP

- Child, Adolescent, and Adult Psychiatry Private Practice, Chicago & Northbrook, IL
- Solutions Northshore IOP (Intensive Outpatient Program)
- Psychiatric School Consultant, multiple locations, Illinois
- Distinguished Fellow AACAP
- Dr. Makki earned her medical degree at Washington University School of Medicine, St. Louis, MO



Gary L. Pattee, MD

- Clinical neurologist for Neurology Associates, P.C.
- Associate Professor & Clinical Instructor for Department of Neurology, University of Nebraska Medical Center (UNMC)
- Co-Medical Director for the Muscular Dystrophy Association Clinic within UNMC
- Clinical Instructor in Neurology for the Lincoln Family Practice Residency Program

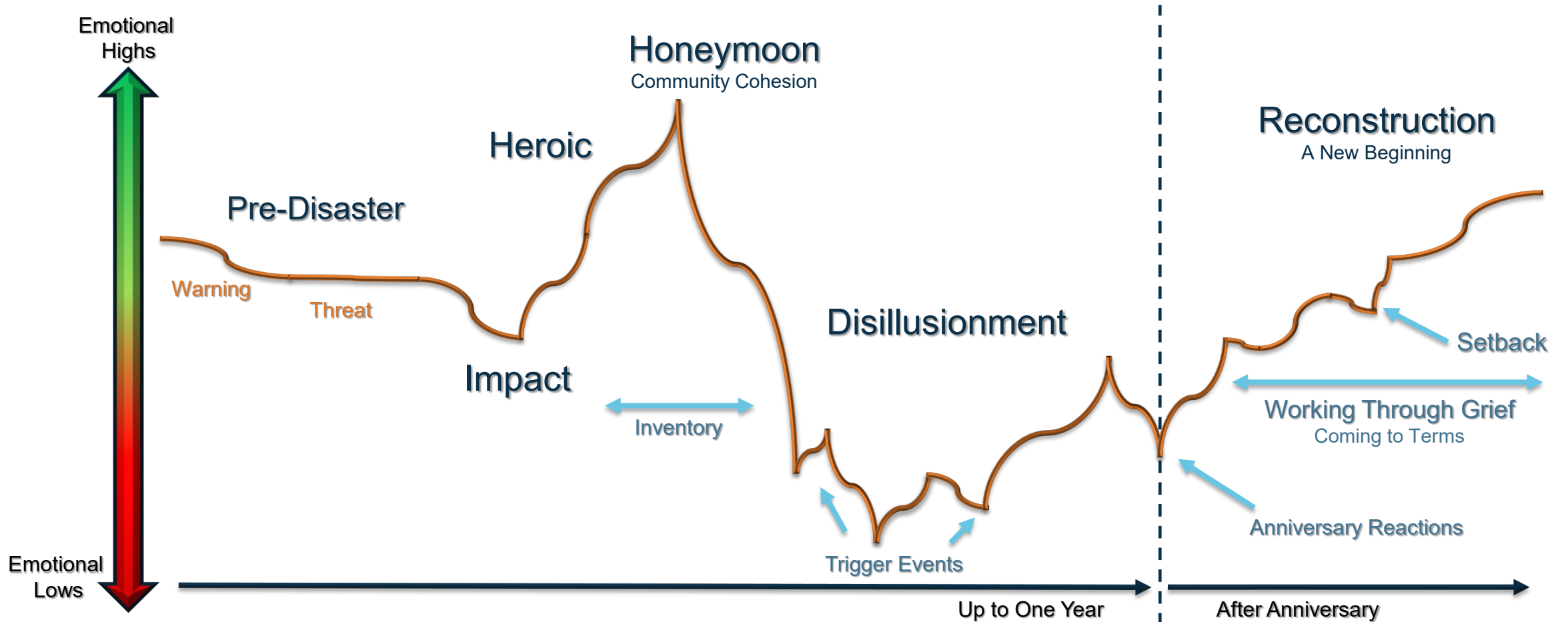
This program is paid for by Otsuka Pharmaceutical Development & Commercialization, Inc. (OPDC) and Lundbeck, LLC.

Speakers are employees and/or paid consultants for Otsuka Pharmaceutical Development & Commercialization, Inc.

PsychU Webinar Rules Of Engagement

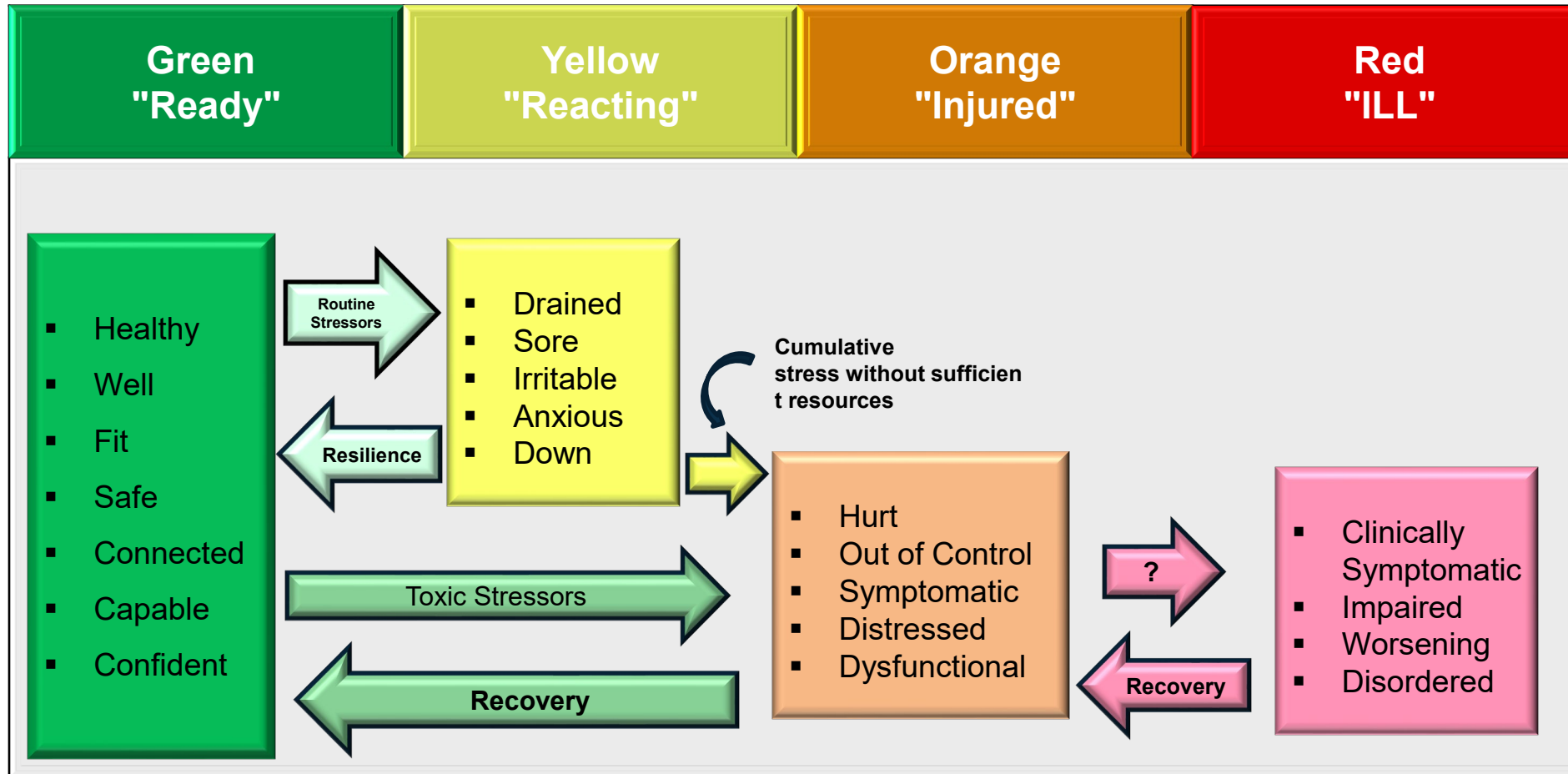
- Otsuka Pharmaceutical Development & Commercialization, Inc. (OPDC) and Lundbeck, LLC. have entered into collaboration with *OPEN MINDS*, to explore new ways of bringing/increasing awareness around serious mental illness.
- OPDC/Lundbeck's interaction with *OPEN MINDS* is through PsychU, an online, non-branded portal dedicated to providing information and resources on important disease state and care delivery topics related to mental illness. One of the methods employed for the sharing of information will be the hosting of webinars. Webinars conducted by OPDC/Lundbeck are based on the following parameters:
- When conducting medical dialogue, whether by presentation or debate, OPDC/Lundbeck and/or its paid consultants aim to provide the viewer with information that is accurate, not misleading, scientifically rigorous, and does not promote OPDC/Lundbeck products. No continuing medical education (CME) credits are available for any PsychU program.
- OPDC/Lundbeck and/or their paid consultants do not expect to be able to answer every question or comment during a PsychU webinar; however, they will do their best to address important topics and themes that arise.
- OPDC/Lundbeck and/or their paid consultants are not able to provide clinical advice or answer questions relating to specific patient's condition.
- Otsuka and Lundbeck employees and contractors should not participate in this program (e.g., submit questions or comments) unless they have received express approval to do so from Otsuka Legal Affairs.
- OPDC/Lundbeck operate in a highly regulated and scrutinized industry. Therefore, we may not be able to discuss every issue or topic that you are interested in, but we will do our best to communicate openly and directly. The lack of response to certain questions or comments should not be taken as an agreement with the view posed or an admission of any kind.

Emotional Phases of Disaster Response



1. Substance Abuse and Mental Health Services Administration website: <https://www.samhsa.gov/dtac/recovering-disasters> accessed April 28, 2020.

Stress Continuum Model

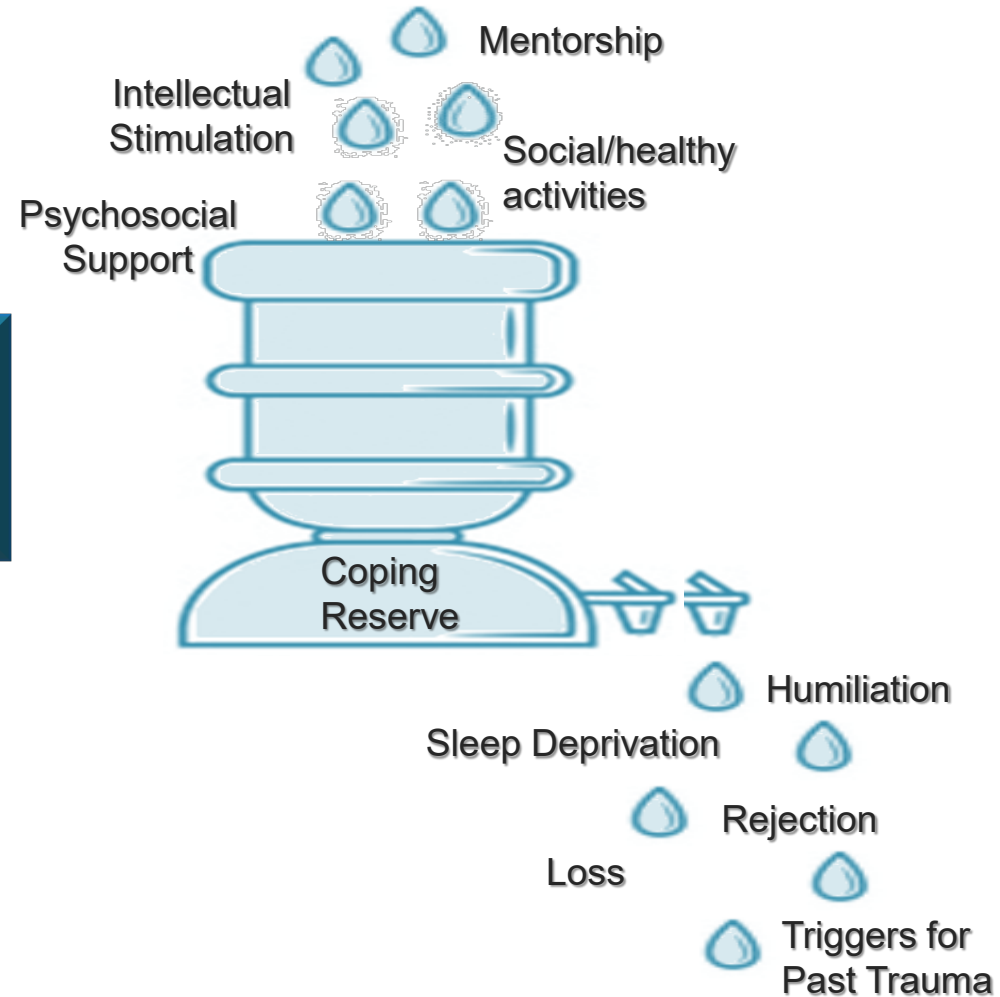


Recognize
Stress
 Zone
 Transition:
 Demand-
 Resource
Balance

1. Watson et al. (2013). Stress First Aid for Firefighters and Emergency Medical Service Personnel. *Nat Fallen Firefighters Foundation* 1-42.

What *drains* your tank and what *replenishes* it?

Resilience Reservoir



1. Dunn et al. A Conceptual Model of Medical Student Well-Being: Promoting Resilience and Preventing Burnout. *Academic Psychiatry* 2008; 32:44–53.

Negative Impact of COVID-19 on Mood



- In children, self-report rates of emotional distress:¹
 - 16.9-22.8% suffer from depression
 - 24.9% suffer from anxiety
 - 15.2% reported stress
- In older adults, increased emotional distress and avoidance behaviors²
 - 52.6% of women and 34.3% of men had probable emotional distress
 - Rates lower than that found in younger adults
- 13% of Americans report starting or increasing substance use as a way of coping with stress or emotions related to COVID-19³
- Recent survey finds ~1 in 5 Americans report 'heavy' drinking since the pandemic started
 - Frequency of alcohol consumption in US rose 14% compared to pre-pandemic times⁴
- Express Scripts showed prescriptions have risen for anti-anxiety medications (34.1%), antidepressants (18.6%), and anti-insomnia medications (14.8%)⁵
 - Anti-anxiety medication increases were much higher for women (39.6%) than men (22.7%)

1. Tang, S. (2021). *Journal of Affective Disorders*; 279: 353-360.

2. Garcia-Portilla, P. et al. (2020). *Aging & Mental Health*, doi.org/10.1080/13607863.1805723.

3. American Psychological Association (2021): Substance use during the pandemic (apa.org).

4. USA Today 2021: COVID pandemic fuels spike in heavy drinking, alcohol use, survey says (usatoday.com).

5. AMERICA'S STATE OF MIND: U.S. trends in medication use for depression, anxiety and insomnia. An Express Scripts Report April 2020.

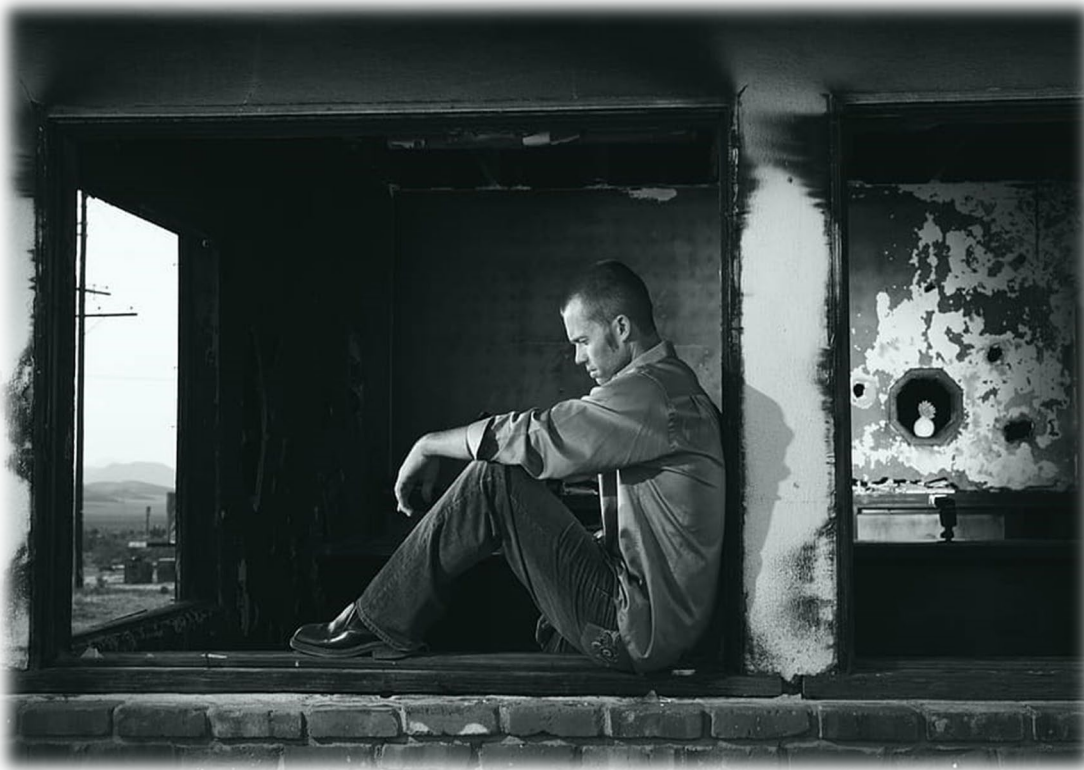
Psychiatric Conditions: Bi-directional impact with SARS-CoV-2

- Individuals with psychiatric disorders are 50% more likely to succumb to COVID-19, regardless of age, race, or other comorbidities¹
- Individuals with schizophrenia are ~3X more likely to die from SARS-CoV2 infection than those without a psychiatric disorder¹
 - Schizophrenia is the 2nd greatest risk factor, behind being 75+yrs of age, for contracting COVID
- Studies indicate that a diagnosis of COVID-19 is associated with increased incidence of a first psychiatric diagnosis in the following 14 to 90 days compared to other health events such as: influenza, respiratory tract infections, skin infections, cholestasis, urolithiasis, and bone fracture²
- Mounting evidence suggests a bidirectional association between psychiatric diagnosis and COVID²



1. Nemani et al. (2021). *JAMA Psychiatry* 78(4):380-386. doi:10.1001/jamapsychiatry.2020.4442.
2. Taquet et al. (2021). *Lancet Psychiatry* (8): 130-140.

Impact from Social Isolation and Loneliness



- Social isolation recommendations that are mandated engender and amplify stress, but also decrease the resiliency afforded by social connectedness¹
- Across the lifespan, the pandemic has been associated with higher loneliness^{2,3}
 - Social isolation and loneliness increases the risk of depression, during and after forced isolation ends
- Technology can be leveraged to promote healthy online social connections, rather than increase isolation⁴

1. Vinkers, C. H., et al. (2020). *Stress resilience during the coronavirus pandemic*. European Neuropsychopharmacology Vol. 35, pg. 12-16.
2. Loades, M. A. et al. (2020). *J Am Acad Child Adolesc Psychiatry*; 59(11): 1218-1239.
3. Krendi AC & Perry, BL.(2021). *Journals of Gerontology*; 76(2): e53-e58.
4. Bruce, L. D., et al. (2019). Loneliness in the United States: A 2018 National Panel Survey of Demographic, Structural, Cognitive, and Behavioral Characteristics. *Quantitative Research*; Vo. 33(8), 1123-1133.

There is Hope

- Programs to support unemployed and financial insecurity¹
- Proactive public-private partnerships:¹
 - Focus on psychological first aid
 - Psychiatric emergency service
- American Psychological Association Self-care Strategies for Healthcare Professionals²
- Individual enhancement strategies:¹
 - Sleep
 - Exercise
 - Better diet
 - Structured daily schedule
 - Social connectedness
- Interpersonal relationships create powerful resiliency³



1. McIntyre, R. et al. (2022). *World Psychiatry*;19(2): 250-251.

2. Coons et al. (2020). Self-care advice for healthcare professionals during COVID-19. American Psychological Association. 1-4.

3. Southwick, S. M. et al. (2016). Why some individuals more resilient than others: the role of social support. *World Psychiatry*. Doi:10.1002/wps.20282.



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