Updated May 15, 2020

Statewide High-Level Analysis of Forecasted Behavioral Health Impacts from COVID-19

SUMMARY

Purpose

This document provides a brief overview of the potential statewide, behavioral health impacts from COVID-19. The intent of this document is to communicate the potential impacts of the outbreak to response planners and behavioral health organizations, public and private, so they can adequately prepare.

Bottom Line Up Front

- The COVID-19 pandemic is considered a 'natural disaster' and as such, this document is heavily informed by research on disaster recovery and response.
- The behavioral health impacts from the COVID-19 outbreak and related government actions have to-date caused a surge in behavioral health symptoms across the state, which is a trend likely to continue. This surge will present differently based on the stage of the pandemic, the effectiveness of the overall response effort, and the populations being impacted. A second or third pandemic wave will dramatically change this forecast, as outlined in the scenarios that follow. This forecast will be updated monthly to reflect changes in baseline data.
- Ongoing behavioral health impacts in Washington will likely be seen in phases, peaking around 6-9 months post initial-outbreak.[1,2] This will likely coincide with a potential second wave of infections, in a pattern consistent with previous pandemics.

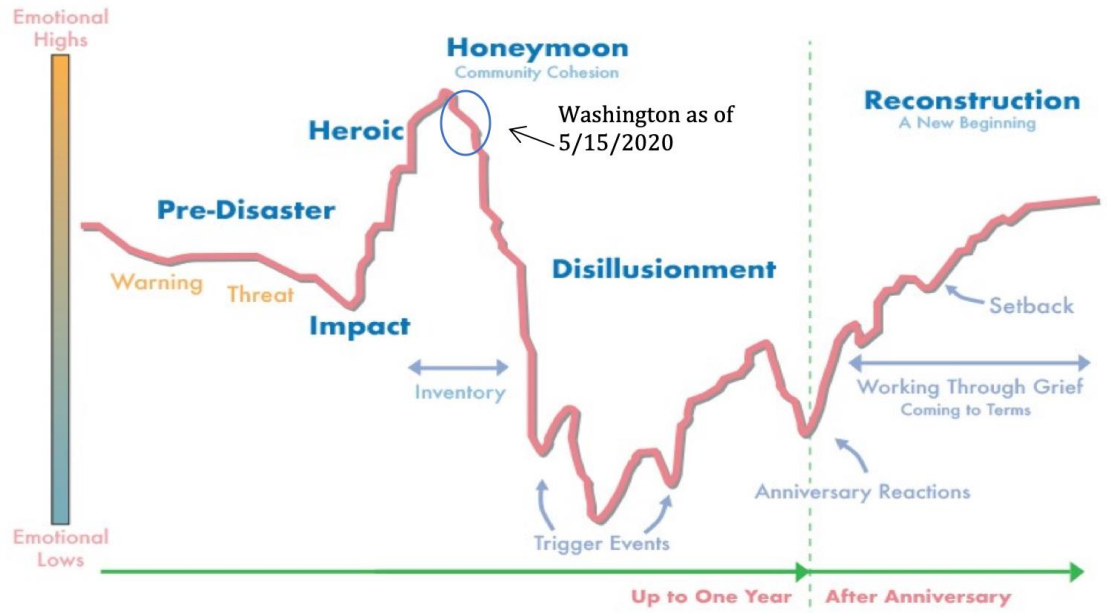
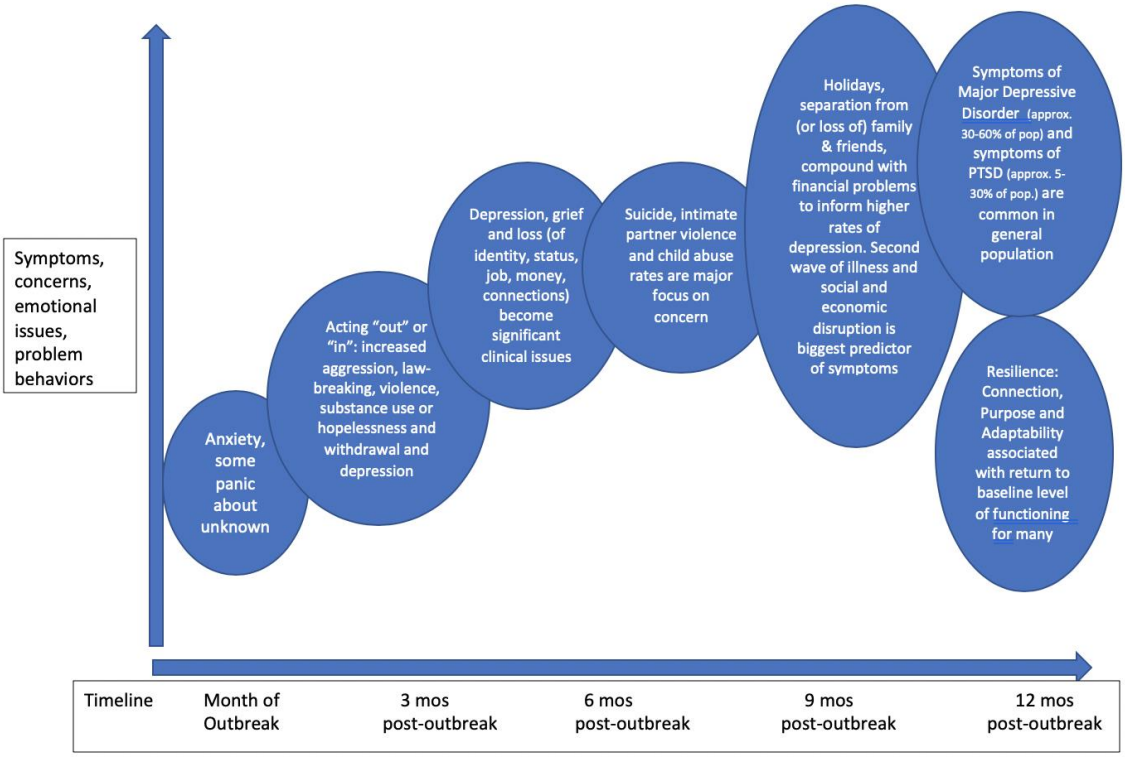


Figure 1. Reactions and Behavioral Symptoms in Disasters: SAMHSA
https://www.samhsa.gov/dtac/recovering-disasters/phases-disaster

Initial Forecast of Behavioral Health Symptoms (Without Additional Waves)



NOTE: Where people start on this chart is strongly predicted by their baseline level of functioning BEFORE the outbreak / pandemic

Figure 2.

- In Washington, the highest risk of suicide will likely occur between October and December 2020. This is consistent with known cycles of disaster response patterns. Seasonal affective disorder exacerbates mental health challenges at that time of year due to increased hours of darkness and inclement weather, as does the occurrence of winter holidays, which are often an emotionally and financially difficult time of year for many people.
- Outreach and support strategies need to be tailored based on the current phase of the incident and the target population. Resources exist to inform outreach and support strategies. Additional resources to support these efforts are currently under development.
- Efforts should focus on activating/augmenting existing community supports to increase social connections, which reduces behavioral health symptoms, and encouraging active coping skills among target audiences.
- An eventual return to baseline levels of functioning for **many** people should occur around 12-14 months post-initial outbreak, ***assuming that the potential second wave of the pandemic is stabilized by that time, in terms of both social and economic disruptions, and a sense of the "new normal" is underway.***

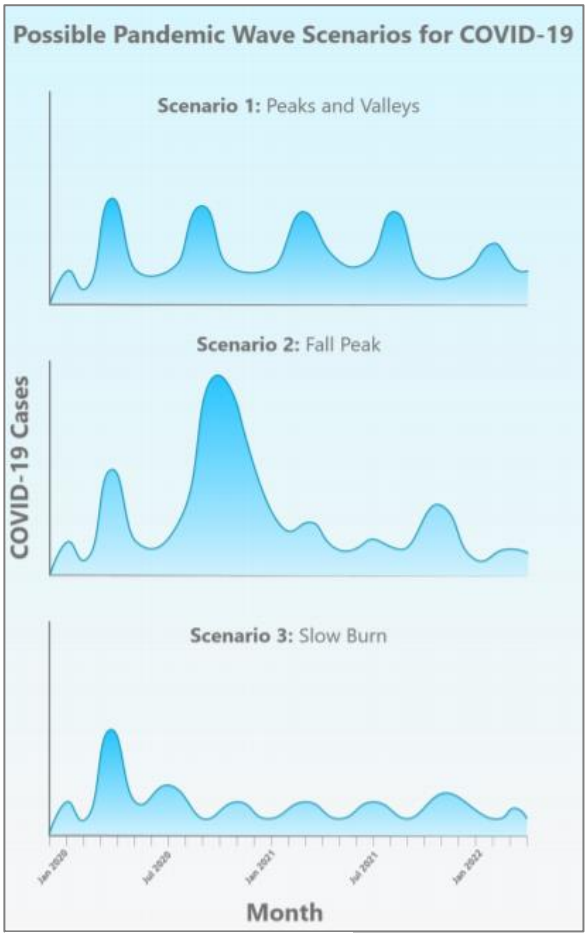
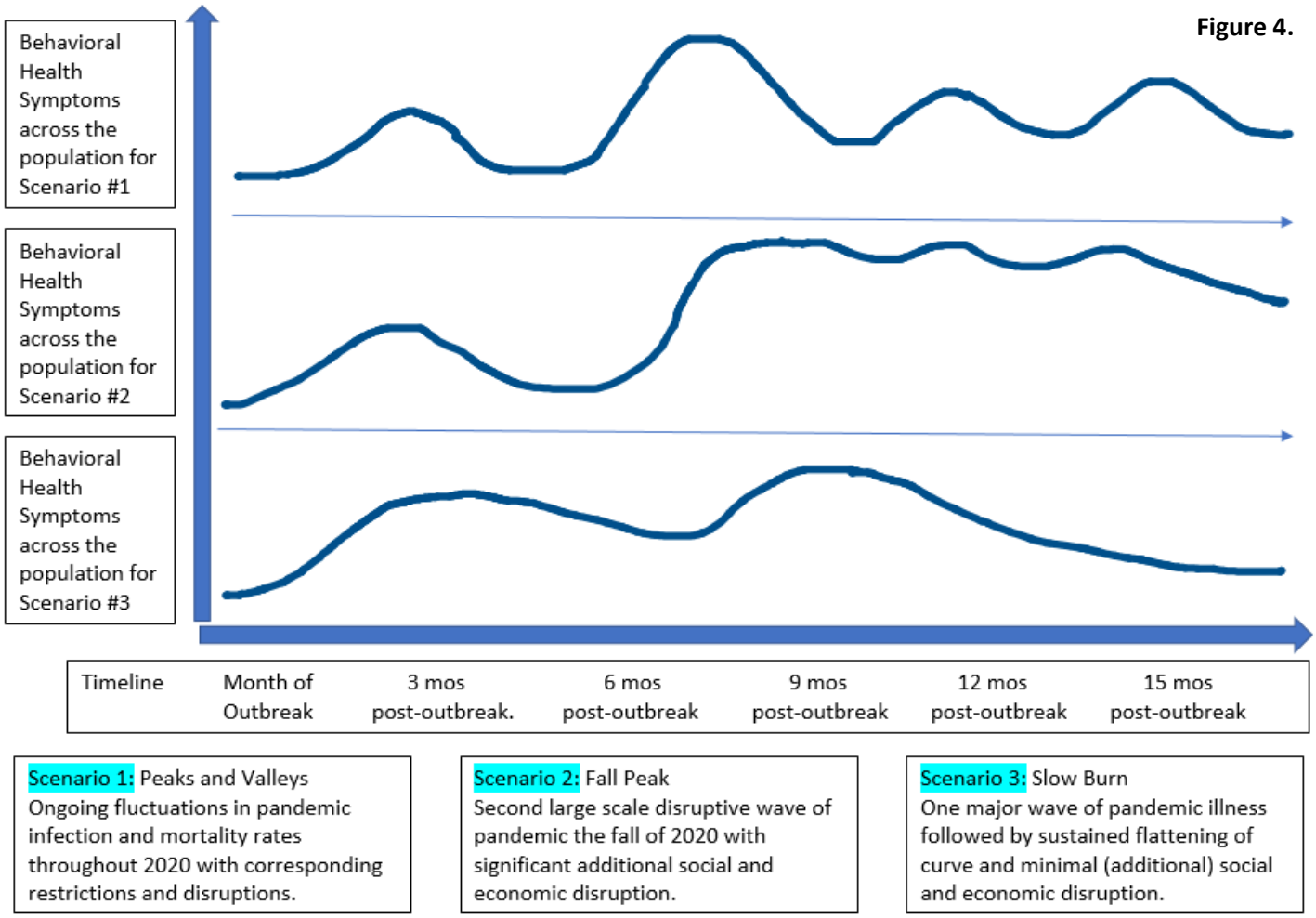


Figure 3.

- There are three different scenarios for the future of the COVID-19 pandemic as we move into summer and fall, some of which are consistent with what occurred during past influenza pandemics (see Figure 3).[3] The behavioral health symptom projections that follow are based on the different scenarios and their corresponding behavioral health impacts.

Forecasted Behavioral Health Symptoms, Based on COVID-19 Wave Scenarios



Key Things to Know

What sort of impacts are we expecting?

- Approximately 650,000 Washingtonians were receiving treatment for behavioral health needs prior to the COVID19 outbreak.
- Approximately 700,000 Washingtonians have mental health concerns, but were NOT receiving services prior to the outbreak.
- Approximately 10% to 33% of individuals experience symptoms of acute stress (such as negative thoughts, sadness, intrusive dreams or memories, avoidance, insomnia or hypersomnia, headaches & stomach aches) within one month after the impact phase of a disaster or critical incident. In Washington, for the Puget Sound area specifically, that timeline begins mid-March 2020.[4,5,6]
- While Only 4% to 6% of people typically develop symptoms of PTSD after a disaster (equivalent to 380,000 individuals in Washington), *this number can vary quite a bit depending on the type of disaster*, and is often higher amongst first responders and medical personnel if the disaster is more chronic, widespread, children are hurt or injured, and burnout is likely.[5,6,6]

- Rates of PTSD have been much higher (10-35%) in some places more directly impacted by a critical incident (NYC on 9/11).[7] We are anticipating that although rates of PTSD may not reach such critical levels in Washington State, **rates of depression are likely to be much higher (perhaps 30-60% of the general population, which is equivalent to 2.25 million to 4.5 million people in Washington State[7]) due to the chronic and ongoing social and economic disruption in people's lives as a result of the COVID-19 pandemic.** This is a much higher rate than is typical after a 'natural disaster' where there is a single impact point in time.
- A significant number of COVID-19 positive individuals require critical care, a trend consistent across China (7-26% of cases), Italy (5-12%), and the United States (5-12%).[8] Of those individual receiving critical care, up to 75% also require mechanical ventilation.[9,10] Current literature reports the prevalence rate of PTSD in patients post-mechanical ventilation is 10% to 30%.[11,12,13]
- For Washington State, where mortality rates are so strongly related to nursing homes, and the vast majority of people in the general population have not been directly threatened by the illness itself, behavioral health concerns are much more anchored in changes in lifestyle, fears about the unknown, financial worries, loss of income or livelihood, and loss of connection with others.
- **Impact of Unemployment:** Suicide rates are highly influenced by unemployment rates.[14,15,16] For every percentage point increase in unemployment rates (i.e., 1%), there is a 1.6% increase in suicide rates.[15] In Washington, approximately 1,283 people die from suicide annually. If unemployment rates increase by 5% (rates similar to the Great Recession in the late 2000's), that means we will see approximately 103 additional people die by suicide.[16] If unemployment increases by 20% (rates similar to the Great Depression in the 1930's), that's approximately 412 additional people who will die by suicide in Washington.
- **Approximately half of the individuals who experience a behavioral health diagnosis will develop a substance-related disorder, and vice versa.[17]**
    - As a result, we can expect substance-related symptoms and disorders to increase as behavioral health symptoms and disorders increase.
- During disasters, individuals may have difficulty accessing their prescribed medication, which could lead them to seek alternatives. Relatedly, quarantine policies mean that peer support groups for both substance-related disorders and behavioral health disorders are inaccessible via traditional means.
    - Healthcare providers should anticipate an increase in substance-use as a possible disaster reaction, and should suggest both healthy alternatives for coping, and sources of support.
- Based on population data for Washington, and known cycles of common psychological responses to disasters, **we can reasonably expect that between TWO to THREE MILLION Washingtonians will experience behavioral health symptoms over the next three to six months. Symptoms of depression will likely be the most common, followed by anxiety and acute stress.** These symptoms will likely be strong enough to cause significant distress or impairment for most people in this group.

What does this look like over time?

- **Behavioral health symptoms will likely present in phases:[1,2]**
    - We can reasonably expect that behavioral health symptoms including anxiety, trouble sleeping, stomach aches, and headaches will be consistent in the general population in the summer months of 2020.
    - Behavioral symptoms associated with "acting out" (aggression, law breaking, significantly increased domestic child abuse, intimate partner violence, and substance use) or "acting in" (voluntary isolation, non-participation, blunted emotional expression) are likely to increase from three to six months post-outbreak. Weekly surveys of state law enforcement agencies indicate that domestic violence offenses were up 17%, while other select offenses were down

25% (see Figure 5).*[18] However, these data only represent approximately 29% of law enforcement agencies and, based on data from previous disasters, it is likely that – even among reporting agencies – the true number of domestic violence cases is significantly higher.

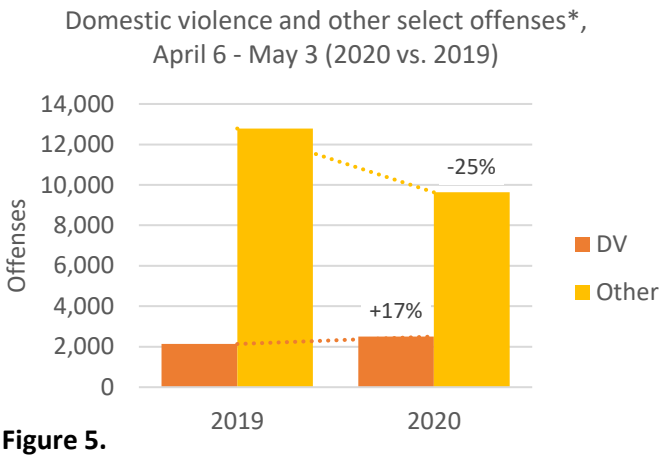


Figure 5.

- Depression rates and symptoms, along with suicides, are increasing dramatically at the current time with the potential of peaking in the fall and winter of 2020. For the general population, this is due to a particularly hard combination of:
    - The Disillusionment phase of disaster recovery (when people recognize that things will not be returning to the way they once were)
    - The season (holidays as well as limited daily sunlight)
    - Long term effects of financial losses or concerns on sense of hope
    - A second wave of illness resulting in large-scale social and economic disruption
- An eventual return to premorbid baseline levels of functioning by February or March 2021 is anticipated for many people, depending on the level of disruption caused by the potential for a second wave of illness in the fall of 2020 or winter of 2021.[1,2]

- In scenarios where multiple waves of pandemic occur (see scenarios 1 and 2 above), a "Trauma Cascade" is likely. For behavioral health, this means that the recurrence of a traumatic event (in this case, a second or third wave of significant illness and/or restriction) inhibits the natural ability of people to recover to baseline levels of functioning. Symptoms increase and are compounded rather than having an opportunity to be actively managed.

How do we begin preparing?

- Behavioral health systems, providers, and public messaging teams should be mindful of the following strategies to maximize the impact of their efforts:
    - Primary efforts for the next 3-6 months should be focused on activating community supports to increase social connections (and thus reducing behavioral health symptoms) and encouraging the development of ACTIVE coping skills amongst the general public to reduce symptoms of depression.
    - Communication about ***preparation*** necessary for multiple phases or waves of pandemic (the potential for additional school closures, social distancing measures, and restrictions in the fall) will help to reduce acute behavioral health symptoms for people when a second wave of illness occurs.
    - There should be a psychoeducational emphasis on the disaster response cycle so that people are informed about what they may expect, and they do not pathologize a normal response to an abnormal situation.
- The typical response to disaster is RESILIENCE, rather than disorder.[1,4] Resiliency can be increased by:[19]

---

*The number of law enforcement agencies submitting offense counts varies from week to week: April 6-12 (n=84), April 13-19 (n=80), April 20-26 (n=78), April 27-May 3 (n=80); among the 85 agencies that submitted counts for at least one week, 74 agencies submitted counts for all four weeks. In addition to counts of domestic violence, law enforcement agencies were only asked to submit counts of the following (select) offenses: Murder, assault, robbery, burglary, theft, destruction of property, weapons offenses, and animal cruelty.

    - Focus on developing social CONNECTIONS big or small
    - Reorienting and developing a sense of PURPOSE
    - Becoming adaptive and psychologically FLEXIBLE
    - Focusing on HOPE
- Resilience is something that can be intentionally taught, practiced, and developed for people across all age groups.
- Community support groups, lay volunteers, law enforcement, first responders, and all manner of social organizations and clubs are resources that can be developed to help reduce behavioral health symptoms for the general population, and should be leveraged to take pressure off depleted or unavailable professional medical and therapeutic resources throughout 2020.

Background Data and Analysis

Mental Illness, Behavioral Health Diagnoses, and Demographics
National prevalence rates for mental and behavioral health diagnoses[20,21]
Generalized Anxiety Disorder = approximately 1% of adolescents, 2.9% adults (6.06 million nationally)
Panic Attacks = 11.2% of adults (23.40 million)
Panic Disorder = approximately 2-3% of adolescents and adults (4.18 million)
Mood Disorders = approximately 9.7% of adults[21] (20.27 million)
Depression = 12.7% in WA, 41.1% of whom received mental health services[22]
Annual suicide rates = approximately 17 per 100,000[23]
Post-Traumatic Stress Disorder: 3.5% of adults nationally[20]

Substance-Related Disorder prevalence
National prevalence rates for substance-related disorders[20,21,24]
Alcohol Use Disorder = approximately 4.6% of adolescents, 8.5% of adults
Cannabis Use Disorder = approximately 2.3% of adolescents, 5% of young adults, and 0.8% of adults
Opioid Use Disorder = approximately 0.6% of adolescents, 1.1% of young adults, and 0.8% of adults

Population of WA: Approx. 7.5488 Million
Percentages with baseline Serious Mental Illness (2017 most recent):
Adults 18 and over = 5.3%[22] (or 400,044 people)
Young adults from 18-25 = 6.2%22 (or 29,014)
Percentage of adults 18 and over with ANY mental illness who received treatment in Washington (2017 most recent) = 45.6% (approximately 650,000 people or 8% of the total population of WA)[22]

Developed by Washington State Department of Health's Behavioral Health Strike Team, authored by:
Kira Mauseth, Ph.D.; Stacy Cecchet, Ph.D., ABPP., Matt Brickell, Psy.D, and Tona McGuire, Ph.D.

References

1. Substance Abuse and Mental Health Services Administration. (2015, August). Supplemental research bulletin - Issue 5: Traumatic stress and suicide after disasters. SAMHSA. https://www.samhsa.gov/sites/default/files/dtac/srb_sept2015.pdf
2. Centers for Disease Control and Prevention. (2018, December 6). The continuum of pandemic phases. CDC. https://www.cdc.gov/flu/pandemic-resources/planning-preparedness/global-planning-508.html
3. Moore, K.A., Lipstich, D. P., Barry, J.M., and Osterholm, M.T. (2020) COVID-19: The CIDRAP Viewpoint Part 1: The Future of the COVID-19 Pandemic: Lessons Learned from Pandemic Influenza
4. Bonanno, G. A. (2004). Loss, Trauma, and Human Resilience: Have We Underestimated the Human Capacity to Thrive After Extremely Aversive Events? American Psychologist, 59(1), 20–28. https://doi.org/10.1037/0003-066X.59.1.20
5. Fran H., Norris, Matthew J., Friedman & Patricia J., Watson (2002) 60,000 Disaster Victims Speak: Part II. Summary and Implications of the Disaster Mental Health Research, Psychiatry, 65:3, 240-260, DOI: 10.1521/psyc.65.3.240.20169
6. Makwana N. (2019). Disaster and its impact on mental health: A narrative review. Journal of family medicine and primary care, 8(10), 3090–3095. https://doi.org/10.4103/jfmpc.jfmpc_893_19
7. Bonnanno, G.A., Galea, S., Bucciarielli, A., & Vlahov, D. (2006). Psychological Resilience after disaster: New York City in the aftermath of the September 11th terrorist attack. Psychological Science, 17(3): 181-6.
8. Anesi, G.L. & Manaker, S. (2020) Coronavirus disease 2019 (COVID-19): Critical care issues. Retrieved from: https://www.uptodate.com/contents/coronavirus-disease-2019-covid-19-critical-care-issues?source=related_link
9. Bhatraju, P.K., Ghassemieh, B.J., Nichols, M., Kim, R., Jerome, K.R., Nalla, A.K., Greninger, A.L., Pipavath, S., Wurfel, M.M., Evans, L., Kritek, P.A., West, R.E., et al. (2020). Covid-19 in Critically Ill Patients in the Seattle Region. *New England Journal of Medicine*. doi: 10.1056/NEJMoa2004500 Retrieved from: https://www.nejm.org/doi/pdf/10.1056/NEJMoa2004500?articleTools=true
10. Namendys-Silva SA (202). Respiratory support for patients with COVID-19 infection. The Lancet, 8. doi: 10.1016/ S2213-2600(20)30110-7
11. Battle, C. E., James, K., Bromfield, T., & Temblett, P. (2017). Predictors of post-traumatic stress disorder following critical illness: A mixed methods study. *Journal of the Intensive Care Society*, *18*(4), 289–293. doi: 10.1177/1751143717713853
12. Girard, T. D., Shintani, A. K., Jackson, J. C., Gordon, S. M., Pun, B. T., Henderson, M. S., Dittus, R. S., Bernard, G. R., & Ely, E. W. (2007). Risk factors for post-traumatic stress disorder symptoms following critical illness requiring mechanical ventilation: a prospective cohort study. *Critical care (London, England)*, *11*(1), R28. doi: 10.1186/cc5708
13. Jubran, A., Lawm, G., Duffner, L. A., Collins, E. G., Lanuza, D. M., Hoffman, L. A., & Tobin, M. J. (2010). Post-traumatic stress disorder after weaning from prolonged mechanical ventilation. Intensive care medicine, 36(12), 2030–2037. doi: 10.1007/s00134-010-1972-8
14. Pew Research Center, April 2020, “About Half of Lower-Income Americans Report Household Job or Wage Loss Due to COVID-19”
15. Phillips, Julie A. "Suicide and the Great Recession of 2007–2009: The Role of Economic Factors in the 50 U.S. States." Social Science & Medicine. 116 (2014): 22-31.

16. Meadows Mental Health Policy Institute (2020). COVID-19 Response Briefing: Mental Health and Substance Use Disorder Impacts of a COVID-19 Economic Recession. Retrieved from: https://www.texasstateofmind.org/uploads/whitepapers/COVID-MHSUDImpacts.pdf
17. Kelly T.M, Daley D.C. Integrated Treatment of Substance Use and Psychiatric Disorders. Soc Work Public Health. 2013; 28(0): 388-406. Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3753025/
18. 2019-2020 Comparison of Criminal Offense Reports for the Weeks of April 6-12, April 13-19, April 20-26, and April 27-May 3. Washington Association of Sheriffs and Police Chiefs. Obtained directly via email correspondence.
19. Hobfoll, S. E., Watson, P. J., Bell, C. C., Bryant, R., Brymer, M. J., Friedman, M. J., Ursano, R. J. (2007). Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. Psychiatry Interpersonal & Biological Processes, 70(4), 283-315.
20. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA: American Psychiatric Association, 2013
21. Harvard Medical School, 2007. National Comorbidity Survey (NCS). (2017, August 21). Retrieved from https://www.hcp.med.harvard.edu/ncs/index.php. Data Table 2: 12-month prevalence DSM-IV/WMH-CIDI disorders by sex and cohort.
22. Substance Abuse and Mental Health Services Administration. Behavioral Health Barometer: Washington, Volume 5: Indicators as measured through the 2017 National Survey on Drug Use and Health and the National Survey of Substance Abuse Treatment Services. HHS Publication No. SMA-19-Baro-17-WA. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2019.
23. Center for Disease Control and Prevention. National Center for Health Statistics, Stats of the State of Washington. Retrieved from: https://www.cdc.gov/nchs/pressroom/states/washington/washington.htm
24. Center for Disease Control and Prevention. 2018 Annual Surveillance Report of Drug-Related Risks and Outcomes. Retrieved from: https://www.cdc.gov/drugoverdose/pdf/pubs/2018-cdc-drug-surveillance-report.pdf