

Estimated COVID-19 Behavioral Health Outcomes: Research in Perspective to Inform Action to Mitigate Morbidity and Mortality

Executive Summary

Living with the worry, traumatic stress, social isolation, and economic insecurity of the COVID-19 pandemic generated a mental health pandemic. The US population reports unprecedented levels of anxiety, depression, and post-traumatic stress, with more than one-third reporting clinically significant major depressive or generalized anxiety conditions. We project that the recession that we have entered because of COVID-19 social distancing efforts will increase “deaths of despair” (deaths from suicide and overdose) between 12% and 60% in Massachusetts. To prevent these deaths, we recommend supporting incomes, especially of low-income individuals and those with only a high school education; investing in behavioral health promotion, prevention, early intervention, treatment, and crisis services; and expanding substance use treatment including Medication-Assisted Treatment (MAT).

Introduction

As many as half the US population may experience anxiety, depression, and some post-traumatic stress symptoms in response to COVID-19-induced fear, economic instability, and social isolation.¹ The pandemic has illuminated longstanding disparities in economics, education, health and housing for communities of color, as people from these communities experienced disproportionately high rates of infection and death.² In April, the Kaiser Family Foundation published survey data indicating that 45% of us were already reporting negative impacts of the pandemic on our mental health, including 53% of women and 37% of men. While 19% of all survey respondents cited “major stress,” 24% reported a clinically significant major depressive disorder; and 30% reported a generalized anxiety disorder (nearly double pre-COVID-19 levels).³ In May, the Washington Post reported on a US Census survey indicating that 34% of us had clinically significant anxiety, depression or both attributed to social isolation and job loss.⁴ In June reporting on the latest figures from the Centers for Disease Control and Prevention (CDC) 2020 Household Pulse Survey, while the increased levels of clinically significant anxiety, depression or both held for Whites and Latinx populations, there was an uptick for Black Americans from 36% to 41% or 1.4M more people, and Asian people from 28% to 34% or 800K more people.⁵ Asian Americans reported increasing rates of discrimination during the pandemic, while Black Americans suffered the highest rates of death due to COVID-19, at more than twice the rate of White Americans, followed by

¹ Panchal, N., Kamal, R., Orgera, K., Cox, C., Garfield, R., Hamel, L., Muñana, C., and Chidambaram, P. (2020) The Implications of COVID-19 for Mental Health and Substance Use. *Kaiser Family Foundation*. Accessed at <https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/>

² <https://www.washingtonpost.com/graphics/2020/investigations/coronavirus-race-data-map/>

³ Panchal, N., Kamal, R., Orgera, K., Cox, C., Garfield, R., Hamel, L., Muñana, C., and Chidambaram, P. (2020) The Implications of COVID-19 for Mental Health and Substance Use. *Kaiser Family Foundation*. Accessed at <https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/>

⁴ Berger et al. (2020) *Washington Post*. Accessed at <https://www.washingtonpost.com/nation/2020/05/26/coronavirus-update-us/>

⁵ Fowers and Wan. (2020) *Washington Post*. Accessed at <https://www.washingtonpost.com/health/2020/06/12/mental-health-george-floyd-census/> and at <https://www.cdc.gov/nchs/covid19/pulse/mental-health.htm>

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the recent racial violence exacerbating centuries of race discrimination.⁶ For people who have preexisting mental health conditions, particularly anxiety, mood disorders, substance abuse, and obsessional or phobic disorders, there is high risk of an exacerbation of symptoms due to the pandemic.

In Massachusetts, COVID-19 has caused massive disruptions to our daily lives and our economy. The pandemic and our response have highlighted pre-existing disparities based on race, disability, income, and other factors. The necessary governmental response to the pandemic is reducing the transmission of the virus, and therefore deaths and sickness associated with it. The Massachusetts Association for Mental Health (MAMH) is concerned with the impact that the virus and our mitigation efforts will have on the mental health and substance addiction of our residents, and recognizes that we will need a second wave of governmental response to mitigate the predicted psychological morbidity and mortality impacts.

There is scientific evidence of a linkage between rapid increases in unemployment rates during recessions and deaths by suicide and overdose, as well as increased rates of substance addiction. Recent evidence ties rising rates of suicide and drug overdose to the Great Recession. Below, we present estimates of a range of possible growth in the incidence of depression, addiction, suicide, and overdose cases in Massachusetts attributable to COVID-19.

In keeping with the Commonwealth's objectives to prevent as many deaths as possible in this public health emergency and using data to guide infection prevention and economic recovery efforts, our aim is to prevent as many deaths as possible from all sources associated with COVID-19. We present this information in favor of investment in mental health and substance use treatment resources during this crisis, and in perpetuity thereafter.

Indicators from the Research Literature

Three aspects of the COVID-19 response are likely to lead to an increase in "deaths of despair"⁷ (deaths related to suicide, drugs, and alcohol), as well as an increase in substance use condition:

1. A **massive jump in unemployment**, which has been documented in prior recessions to be correlated with increases in deaths of despair and substance use condition (and, in fact, is correlated with deaths from all causes). Unemployment is disproportionately affecting individuals from African American, Latinx, and low-earning groups.

Researchers have consistently found a correlation between suicide and reduced per capita GDP and associated rises in unemployment rates using data across countries and states and across

⁶ Centers for Disease Control and Prevention (CDC) (2020). Accessed at <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html>

⁷ Case and Deaton (2020).

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multiple recessions.^{8, 9, 10} For each person who carries out a suicide, many more experience thoughts of suicide and associated depression.¹¹ The specific rate at which suicide increases varies substantially, with lower rates of correlation in countries with protective labor market policies.^{12, 13, 14} In the United States, increases in unemployment rates have also been found to be associated with increases in rates of substance addiction and death by overdose.^{15, 16}

2. **Mandated social isolation**, which has been linked in specific sub-populations to deaths of despair. However, social isolation of the current magnitude is unprecedented, and has not been studied.
3. The **widespread uncertainty and fear**, which has a serious impact on the emergence of new and worsening of pre-existing behavioral health conditions.^{17, 18}

We reviewed two different papers published in April 2020 producing estimates of excess deaths of despair that could result from the COVID-19 response, produced by the Meadows Mental Health Policy Institute (MMHPI) and the Well Being Trust (WBT), respectively. MMHPI estimates that Massachusetts will experience 160-800 additional deaths from the COVID-19 recession,¹⁹ while the Well Being Trust estimates that Massachusetts will experience 993-1,084 additional deaths between 2020 and 2029 (which is a 12 to 60 percent increase in deaths over that time period).²⁰

Estimated size of recession

The two estimates use two different methods to model the recession: the projected rate of unemployment and the speed of the recovery.

⁸ Reeves, A., Stuckler, D., McKee, M., Gunnell, D., Chang, S. S., and Basu, S. (2012)

⁹ Frasilho, D., Matos, M. G., Salonna, F., Guerreiro, D., Storti, C. C., Gaspar, T., and Caldas-de-Almeida, J. M. (2016) Mental health outcomes in times of economic recession: A systematic literature review. *BMC Public Health*, 16, 115.

¹⁰ Luo, et al. (2011).

¹¹ Han, B. et al. (2017) National trends in the prevalence of suicidal ideation and behavioral health among young adults and receipt of mental health care among suicidal young adults. *Journal of the American Academy of Child & Adolescent Psychiatry*, 57(1), 20-27.

¹² Norstrom and Gronqvist (2015).

¹³ Stuckler, et al. (2011).

¹⁴ Reeves et al. (2012).

¹⁵ Compton, W. M., Gfoerer, J., Conway, K. P., and Finger, M. S. (2014). Unemployment and substance outcomes in the United States 2002-2010. *Drug and Alcohol Dependence*, 142, 350-353.

¹⁶ Brown, E., and Wehby, G. L. (2019). Economic conditions and drug overdose deaths. *Medical Care Research and Review*, 76(4), 462-477.

¹⁷ Wu et al. (2020).

¹⁸ Grupe and Nitschke (2013).

¹⁹ Meadows Mental Health Policy Institute. (2020) *Projected COVID-19 MHSUD Impacts, Volume 1: Effects of COVID-Induced Economic Recession (COVID Recession)*.

²⁰ Petterson, S., Westfall, J.M., Miller, B.F. (2020) Projected Deaths of Despair from COVID-19. Well Being Trust and Robert Graham Center.

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While we do not yet know the magnitude of the recession post-COVID-19, estimates of a plausible range of unemployment outcomes fall between 5 and 20 percentage point increases in unemployment sustained over a period of one year. The lower boundary of this estimate represents the actual increase in unemployment during the Great Recession 2007-2009, while the upper boundary falls just short of unemployment levels seen during the Great Depression. MMHPI uses this range of potential unemployment rates in its estimates. Based on these ranges, MMHPI estimates that Massachusetts could see the following during the post-COVID-19 recession:²¹

- 60 to 300 additional deaths by suicide;
- 100 to 500 extra deaths by drug overdose; and
- 15,000 to 55,000 extra people with a substance use condition.

There is also the factor of the speed of recovery from a recession. WBT uses three potential speeds of recovery, based on the speed of the recovery from the Great Recession, to benchmark. A slow recovery is defined as equal to the length of the recovery from the Great Recession; a medium recovery would be twice as fast as the Great Recession recovery; and a fast recovery would be four times as fast as the Great Recession.

Types of Deaths

The Meadows Mental Health Policy Institute (MMHPI) estimates that, for every additional percentage point increase in the unemployment rate, there would be 10 additional deaths by suicide in Massachusetts. Compared to other states, MMHPI estimates that Massachusetts ranks 47th out of 50 states for most deaths per 100,000 in population, meaning our state has a comparatively low burden of additional suicide deaths due to increases in unemployment.

For every percentage point increase in unemployment, MMHPI estimates that an additional 20 people will die in Massachusetts of overdose, and 3,000 people will become addicted to a substance or alcohol. Compared to other states, MMHPI estimates that Massachusetts ranks 9th out of 50 states in terms of the number of additional deaths per 100,000 residents attributable to overdose per percentage point increase in unemployment, and 6th out of 50 states for the impact of unemployment on the prevalence of substance use condition per 100,000 in population.

WBT lumps suicide and drug overdose deaths together, but adds variation in terms of multipliers for the impact of social isolation and uncertainty, which MMHPI does not account for. For every percentage point increase in unemployment, WBT estimates that deaths of despair will increase between 1 and 1.6%. The rate over 1% accounts for isolation and uncertainty. They then calibrate the application of these rates to individual states by adjusting for the state's specific unemployment rate compared to the national rate, and the state's specific baseline mortality rate.²²

²¹ Meadows Mental Health Policy Institute. (2020) *Projected COVID-19 MHSUD Impacts, Volume 1: Effects of COVID-Induced Economic Recession (COVID Recession)*.

²² Petterson, S., Westfall, J.M., Miller, B.F. (2020) *Projected Deaths of Despair from COVID-19*. Well Being Trust and Robert Graham Center.

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Recommended Response

These estimates create quite a range of potential numbers of excess deaths of despair in Massachusetts attributable to COVID-19 and our response. Even at the low end, MAMH strongly recommends that the Commonwealth recognize the urgent nature of the emerging behavioral health pandemic, as it arises on the tail of the COVID-19 pandemic and in the context of an already strained behavioral health care system. We urge investment in prevention and treatment of behavioral health conditions as follows:

- Ensure adequate stimulus and unemployment funding for the full length of not only social distancing guidelines, but the recovery from the recession, to ensure that people maintain income and therefore reduce potential suicidal ideation. There is also evidence that raising the minimum wage could reduce suicide rates among individuals with a high school education or less.^{23, 24}
- Preserve core promotion, prevention, early intervention, and recovery support services to enable timely response to those with pre-existing conditions.
- Perpetuate gains made in use of flexible outreach, engagement and tele behavioral health treatment, using telepsychiatry as a frontline response to address timely any acute exacerbations of pre-existing conditions and the emerging mental health and substance use conditions arising as a result of this public health crisis.
- Promote and advance adoption of urgent care services to meet emerging needs and avoid crises that necessitate emergency department and hospital interventions – sites we will continue to need to reserve for emergency response to the pandemic.
- Prepare for 3,000 additional substance use condition cases by expanding access to detoxification and outpatient services (including Medication-Assisted Treatment (MAT) for opioid addiction), particularly those which address co-occurring mental health and substance use conditions.
- Increase funding for suicide prevention services at the Departments of Public and Mental Health.
- Implement universal mental wellness and suicide prevention curricula in schools.

Resources

In line with reporting guidelines for suicide, we include here resources for individuals in crisis or at risk of suicide:

- National Suicide Prevention Lifeline: (800) 273-8255
- Samaritans Statewide Helpline: (877) 870-4673

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²³ Dow, W.H., Godøy, A., Lowenstein, C.A., Reich, M. (2019) *Can Economic Policies Reduce Deaths of Despair?* NBER Working Paper No. 25787.

²⁴ Gertner, A.K., Rotter, J.S., Shafer, P.R. (2019) *Association between state minimum wage and suicide rates in the U.S.* American Journal of Preventative Medicine 56(5):648:654.