

## 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 is generating a mental health pandemic. The United States 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. The Massachusetts Association for Mental Health (MAMH) projects that the recession we have entered because of COVID-19 social distancing efforts will increase “deaths of despair” (deaths from suicide and overdose) between 12 and 60 percent in Massachusetts. To prevent increased episodes and deaths and to support effective economic recovery in the Commonwealth, MAMH recommends: maintaining pre-COVID-19 levels of income, especially for low-income individuals and those with only a high school education; protecting and investing in behavioral health promotion, prevention, early intervention, treatment, and crisis services; expanding behavioral health urgent care and timely substance use treatment including Medication Assisted Treatment (MAT); and implementing universal well being curricula and evidence based suicide prevention in our schools.

### Introduction and Findings of Recent Surveys on Psychological Distress and Clinical Condition Rates

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.<sup>1</sup> 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.<sup>2</sup> In April, the Kaiser Family Foundation published survey data indicating that 45 percent of us were already reporting negative impacts of the pandemic on our mental health, including 53 percent of women and 37 percent of men. While 19 percent of all survey respondents cited “major stress;” 24 percent reported a clinically significant major depressive disorder; and 30 percent reported a generalized anxiety disorder (nearly double pre-COVID-19 levels).<sup>3</sup> In May, the Washington Post reported on a US Census survey indicating that 34 percent of us had clinically significant anxiety, depression or both attributed to social isolation and job loss.<sup>4</sup> A Johns Hopkins Bloomberg School of Public Health research team published April survey results in JAMA in early June underscoring these increases in reported psychological distress. Young adults ages 18-29 reported six-fold increases in

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<sup>1</sup> 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/>

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

<sup>3</sup> 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/>

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

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psychological distress over that measured in 2018, and researchers cited a doubling of reported levels over that same period for older adults age 55 and up; while adults with annual household incomes less than \$35,000 reported nearly triple the rate of psychological distress in April 2020.<sup>5</sup>

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 at prior month levels for white and Latinx populations, there was an uptick for Black Americans from 36 percent to 41 percent or 1.4M more people, and the Asian population from 28 percent to 34 percent or 800K more people.<sup>6</sup> In related developments, Asian Americans reported increasing rates of discrimination during the pandemic, while African Americans suffered the highest rates of death due to COVID-19, at more than twice the rate of white Americans; this coincided with the recent racially motivated violence against black people, exacerbating centuries of race discrimination and increasing their traumatic stress.<sup>7</sup>

In summary, numerous surveys conducted by reliable institutions find significant increases in psychological distress and clinically significant traumatic stress, anxiety, and depression among people of all ages in the United States as a result of the COVID-29 pandemic. For people who have preexisting mental health conditions, particularly anxiety, mood, substance misuse, and obsessional or phobic conditions, 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 laudable governmental response to the pandemic is reducing the transmission of the virus, and therefore deaths and sickness associated with it. MAMH is concerned with the impact that the virus and our necessary mitigation efforts are having on the mental health and substance misuse of our residents. The Commonwealth will need a second wave of governmental response to mitigate the predicted psychological morbidity and mortality impacts of the COVID-19 pandemic.

Our timely and targeted response to the wave of psychological distress and clinically significant behavioral health conditions will play a crucial role in the economic recovery of the Commonwealth. 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.

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<sup>5</sup> Emma E. McGinty, Rachel Presskreischer, Hahrie Han, Colleen L. Barry. Psychological Distress and Loneliness Reported by US Adults in 2018 and April 2020. *JAMA*, 2020; DOI: [10.1001/jama.2020.9740](https://doi.org/10.1001/jama.2020.9740)

<sup>6</sup> 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>

<sup>7</sup> Centers for Disease Control and Prevention (CDC) (2020). Accessed at <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html>

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MAMH supports the Commonwealth's objectives to prevent as much morbidity and as many deaths as possible in this public health emergency. To ensure individual, community and economic recovery, using data to guide infection prevention and business re-opening efforts, MAMH's goal is to prevent as much disability associated with acute behavioral health conditions and as many deaths as possible from all sources associated with COVID-19. MAMH presents this information in favor of investment in economic security, mental health and substance use treatment, suicide and overdose prevention, and well being promotion - during this crisis and in perpetuity thereafter.

### Indicators from the Research Literature on Morbidity and Mortality Risks following the Pandemic

Three aspects of the COVID-19 response are likely to lead to an increase in "deaths of despair"<sup>8</sup> (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 conditions (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 multiple recessions.<sup>9, 10, 11</sup> For each person who carries out a suicide, many more experience thoughts of suicide and associated depression.<sup>12</sup> The specific rate at which suicide increases varies substantially, with lower rates of correlation in countries with protective labor market policies.<sup>13, 14, 15</sup> 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.<sup>16, 17</sup>

2. **Mandated social isolation**, which has been linked in specific groups to deaths of despair. However, social isolation of the current magnitude is unprecedented, and has not been studied.

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<sup>8</sup> Case and Deaton (2020).

<sup>9</sup> Reeves, A., Stuckler, D., McKee, M., Gunnell, D., Chang, S. S., and Basu, S. (2012)

<sup>10</sup> Frاسquilho, 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.

<sup>11</sup> Luo, et al. (2011).

<sup>12</sup> 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.

<sup>13</sup> Norstrom and Gronqvist (2015).

<sup>14</sup> Stuckler, et al. (2011).

<sup>15</sup> Reeves et al. (2012).

<sup>16</sup> 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.

<sup>17</sup> Brown, E., and Wehby, G. L. (2019). Economic conditions and drug overdose deaths. *Medical Care Research and Review*, 76(4), 462-477.

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3. The **widespread uncertainty and fear**, which has a serious impact on the emergence of new and worsening of pre-existing behavioral health conditions.<sup>18, 19</sup>

MAMH 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 in a single year; those deaths may continue annually depending on the lingering high unemployment rate.<sup>20</sup> The Well Being Trust estimates that Massachusetts will experience 993-1,084 additional deaths between 2020 and 2029. These ranges indicate a 12 to 60 percent increase in deaths resulting from the COVID-19-induced recession.<sup>21</sup>

### ***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.

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 in a single year during the post-COVID-19 recession:<sup>22</sup>

- 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.

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<sup>18</sup> Wu et al. (2020).

<sup>19</sup> Grupe and Nitschke (2013).

<sup>20</sup> Meadows Mental Health Policy Institute. (2020) *Projected COVID-19 MHSUD Impacts, Volume 1: Effects of COVID-Induced Economic Recession (COVID Recession)*.

<sup>21</sup> Petterson, S., Westfall, J.M., Miller, B.F. (2020) *Projected Deaths of Despair from COVID-19*. Well Being Trust and Robert Graham Center.

<sup>22</sup> Meadows Mental Health Policy Institute. (2020) *Projected COVID-19 MHSUD Impacts, Volume 1: Effects of COVID-Induced Economic Recession (COVID Recession)*.

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### ***Types of Deaths***

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 47<sup>th</sup> 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 9<sup>th</sup> 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 6<sup>th</sup> 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 are factors not addressed in the MMHPI analysis. For every percentage point increase in unemployment, WBT estimates that deaths of despair will increase between 1 and 1.6 percent. The rate over 1 percent 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.<sup>23</sup>

### **Recommended Response to Mitigate Morbidity and Mortality Arising from the COVID-19 Pandemic**

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.

Sound health and well being in the ranks of Massachusetts workers, students, their families, and individuals of all ages is critical to effective community and economic recovery in the Commonwealth. Businesses have long identified challenges with lost productivity due to presenteeism and absenteeism from underlying behavioral health conditions of employees or their family members.<sup>24</sup> As cited above, the rates of psychological distress and clinically significant behavioral health conditions are on the rise for all age groups. Similarly, our community life and future economy depend on students' well being to enable their active participation in the social and emotional development and academic learning curricula of our schools. For children and adults with pre-existing and/or disabling behavioral health

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<sup>23</sup> Petterson, S., Westfall, J.M., Miller, B.F. (2020) Projected Deaths of Despair from COVID-19. Well Being Trust and Robert Graham Center.

<sup>24</sup> Evans-Lacko, S., & Knapp, M. (2016). Global patterns of workplace productivity for people with depression: absenteeism and presenteeism costs across eight diverse countries. *Social psychiatry and psychiatric epidemiology*, 51(11), 1525–1537. <https://doi.org/10.1007/s00127-016-1278-4>

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conditions, demand is on the rise pursuant to effects of school closures, program suspensions, and lost work.

### ***Steps to Mitigate Morbidity and Mortality Associated with Post COVID-19 Behavioral Health Needs***

To support Massachusetts' economic recovery and ensure the mental health and well being of our people and communities, MAMH urges investment in prevention and treatment of behavioral health conditions:

- **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 severe psychological distress, potential suicidal ideation, suicide completion and drug overdose. There is also evidence that raising the minimum wage could reduce suicide rates among individuals with a high school education or less.<sup>25, 26</sup>
- **Preserve core promotion, prevention, early intervention, treatment, and recovery support services** to enable timely response to those with pre-existing conditions.
- **Perpetuate recent gains** made in 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 adoption of urgent care services** to timely treat emerging mental health and substance use conditions to avoid crises that necessitate emergency department and hospital interventions – sites we need to reserve for emergency response to the pandemic.
- **Prepare for several thousand additional substance use condition cases** by expanding access to detoxification and outpatient services (including Medication-Assisted Treatment (MAT) for opioid addiction), with a goal of overdose prevention and care integration to address co-occurring mental health and substance use conditions.
- **Increase funding for evidence-based suicide prevention services** at the Departments of Public Health and Mental Health.
- **Implement universal mental wellness and suicide prevention curricula in schools** to respond to growing needs of students and educators.

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<sup>25</sup> Dow, W.H., Godøy, A., Lowenstein, C.A., Reich, M. (2019) *Can Economic Policies Reduce Deaths of Despair?* NBER Working Paper No. 25787.

<sup>26</sup> 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.