PROJECTED DEATHS OF DESPAIR

from COVID-19

WELL BEING TRUST

ROBERT GRAHAM CENTER

Policy Studies in Family Medicine and Primary Care

AUTHORS

Stephen Petterson, PhD

Robert Graham Center
American Academy of Family Physicians

John M. Westfall, MD, MPH

Robert Graham Center
American Academy of Family Physicians

Benjamin F. Miller, PsyD

Well Being Trust

EXECUTIVE SUMMARY

More Americans could lose their lives to deaths of despair, deaths due to drug, alcohol, and suicide, if we do not do something immediately. Deaths of despair have been on the rise for the last decade, and in the context of COVID-19, deaths of despair should be seen as the epidemic within the pandemic. The goal of this report is to predict what deaths of despair we might see based on three assumptions during COVID-19: economic recovery, relationship between deaths of despair and unemployment, and geography. Across nine different scenarios, additional deaths of despair range from 27,644 (quick recovery, smallest impact of unemployment on deaths of despair) to 154,037 (slow recovery, greatest impact of unemployment on deaths of despair), with somewhere in the middle being around 68,000. However, these data are predictions. We can prevent these deaths by taking meaningful and comprehensive action as a nation.

SARS CoV-2 (COVID-19) is having an unprecedented impact on the world. No one alive can recall any infection or worldwide event of such magnitude and scale. Along with the tens of thousands of deaths in the United States from the virus, COVID-19 overlays the growing epidemic of deaths of despair threatening to make an already significant problem even worse (Case and Deaton, 2017). A preventable surge of avoidable deaths from drugs, alcohol, and suicide is ahead of us if the country does not begin to invest in solutions that can help heal the nation's isolation, pain, and suffering (Well Being Trust, 2020).

VIRTUAL COMMUNITY MAY NOT BE ENOUGH TO HOLD OFF THE IMPACT OF ISOLATION AND LONELINESS.

The collective impact of COVID-19 could be devastating. Three factors, already at work, include economic failure with massive unemployment, mandated social isolation for months and possible residual isolation for years, and uncertainty caused by the sudden emergence of a novel, previously unknown microbe. The economics of COVID-19 have already caused a massive jump in unemployment: job loss leading to personal and professional economic loss across all business sectors. Hourly workers as well as salaried professionals have been laid off and furloughed indefinitely. Isolation, whether called social isolation or physical distancing is leading to loss of social connection and cohesion. No groups over 10, no cinema (a mainstay of the Great Depression), no sports, no clubs or social organizations, no church services. Virtual community may not be enough to hold off the impact of isolation and loneliness. And finally, uncertainty. The stress of uncertainty has a serious impact on the emergence and worsening of mental illness (Wu et al, 2020; Grupe and Nitschke. 2013). This is a novel virus with new and unanticipated results. Every day scientists sheds light on new aspects and retracts initial ideas and hypotheses. These are unprecedented times, and uncertainty may lead to fear which may give way to dread.

We model the economic impact on mental health and deaths of despair based on similar situations in the past. Deaths of despair are defined as deaths to drug, alcohol, and suicide, and often associated with socioeconomic factors. Unemployment during the Great Recession (December 2007–June 2009) was associated with an increase in suicide deaths and drug overdose deaths. Our methods allow us to quantify the impact on suicide and drug overdose based on historical and scientific research. We can only estimate the impact of social isolation based on the impact of social isolation among smaller groups and individuals. The magnitude and scale of social isolation in COVID-19 is unprecedented, so the impact on mental health and illness is a prediction. And last, the uncertainty is, as described, uncertain. Scientific literature has reported on the negative impact of uncertainty on individuals and small groups. Given the uncertainty inherent in COVID-19 with incomplete science, emerging political ramifications, and no set timeline for stabilization, the impact on mental health cannot be fully calculated. We can only try and provide as much certainty as possible during uncertain times. We can try and make certain our relationships remain true and constant, regardless of the uncertain facts and figures of the day.
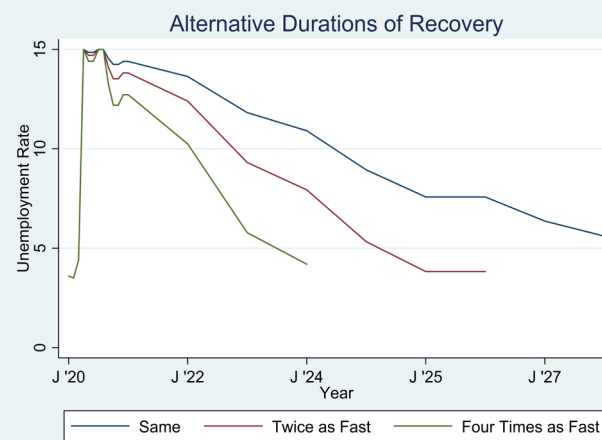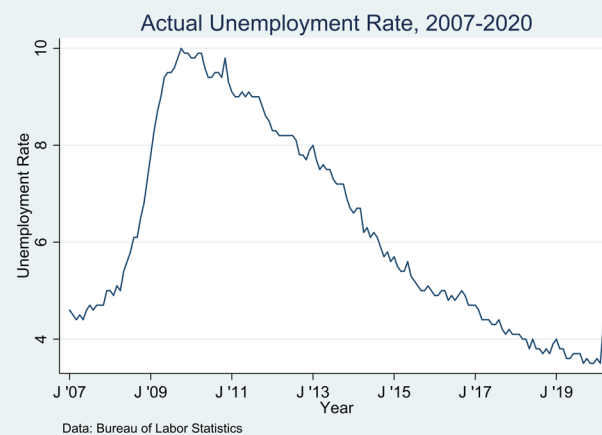
HOW MUCH IMPACT WILL COVID-19 HAVE ON DEATHS OF DESPAIR?

Given the extraordinary uncertainty surrounding the pandemic and its effect on the economy, any projection is imprecise. The goal is to offer a range in the number of additional deaths of despair over the next decade attributable to the rise in unemployment, isolation, and uncertainty. The analysis builds on three sets of assumptions regarding (a) the economy, (b) the relationship between deaths of despair and unemployment, and (c) the geographic variation of the impact. Each will be discussed briefly.

The Coronavirus Recession

The current spike in job loss is unlike anything seen since the Great Depression of the last century. From March 15 to April 30, 2020, 30 million individuals have applied for jobless benefits; almost one-fifth of the workforce. This is comparable to what occurred after natural disasters such as in New Orleans after hurricane Katrina. What happened to one city is happening to the globe. At present, while there is growing talk about the gradual easing of stay-at-home orders, there is also concern about the resurgence of infections in the fall 2020, the availability of effective testing, and the time necessary to develop of a vaccine.

Experts are expressing strong warnings against decisions by some states to reopen the economy. There is considerable uncertainty about both the short- and long-term impact, reflecting in part the uncertainty regarding the spread of COVID-19 across the country over time. Optimistic forecasts anticipate that U.S. unemployment will peak around 15% and that the economy will recover quickly. Pessimistic forecasts anticipate a far higher peak (25-30%) and a slower recovery.

Actual Unemployment Rate, 2007-2020

Data: Bureau of Labor Statistics

Alternative Durations of Recovery

Same   Twice as Fast   Four Times as Fast

To model the possible effects of the recession on deaths of despair, the experience of the Great Recession was used as a baseline. During this recession, unemployment went from 4.6% in 2007 to a peak of 10% in October 2009 and declined steadily reaching 3.5% in early 2010. This baseline for our analysis relies on the April 24, 2020 Congressional Budget Office's (CBO) projection of 15-16% unemployment in Q3 2020 and an annual rate of 10% in 2021. For this projection of the COVID-19 recession, a peak unemployment rate of 15% in Q3 2020 is assumed and we modeled three possible recoveries either following (1) the same pattern, b) twice as fast, or c) four times as fast as the Great Recession (see charts on page 6). A quicker recovery implies, of course, fewer additional deaths.

Unemployment and Deaths of Despair

The original concept of deaths of despair (Case and Deaton, 2020) was meant to understand the rising mortality among less educated middle age non-Hispanic whites. Their argument was that despair was a product of the long-term social and economic decline. Rising joblessness and lower incomes were part of the story. So was the reality, for many whites, their fate may well be worse than that of their parents. The particulars of the recent rise of deaths of despair do not lead to simple predictions of the short-term effects of rising unemployment. The literature suggests that the short-run effect is cause specific and may vary across different populations. There is a relatively large body of literature examining the association between unemployment and all-cause mortality, as well as specific types of deaths. Work focused on suicides is the most established, showing that a one point increase in unemployment rates increases suicide rates by about 1 to 1.3% (Luo et al, 2011). This impact is shown to vary substantially with lower rates in countries with protective labor market policies (Norström and Grönqvist, 2015; Stuckler, et al, 2011; Reeves et al. 2012). Another study estimates that in the Great Recession a one point increase in unemployment increased suicides by 1.6% (Phillips and Nugent, 2014).

It's important to note that the underlying causes that drive "deaths of despair" for all in America are multifaceted. They include social and individual-level factors such as isolation and loneliness; systemic issues such as a fractured health care system and lack of culturally and linguistically competent care; and finally community conditions such as systemic racism and structural inequalities in education, income, transportation and housing. These are further undergirded by a consistent lack of economic opportunity, stigma, and a combination of opportunity-limiting cultural and environmental factors in communities. Sadly, these factors impact some communities more than others in significant and consequential ways, especially racial and ethnic minority populations, people who are lower-income, or people who live in rural areas. Without attention to these issues, our nation will continue to drive an increase in health disparities.

And we are seeing many of these disparities play out in real time during COVID-19. Communities of color, specifically black America, are already dying

RECENT STUDIES FOUND

1 point increase

in unemployment rates increases suicide rates by about 1 – 1.6%

at higher rates due to the COVID-19 virus. Many have argued that this highlights the entrenched structural conditions that drive some communities to have more disparities than others. Unemployment is both a national and local community issue. We recognize that communities of color are most negatively impacted by financial stress and unemployment, and policy solutions will need to address the inequitable burden of unemployment across communities with particular attention to communities of color.

There are fewer studies that examine the association between unemployment on drug and alcohol deaths. A recent study (Hollingsworth et al, 2017) found that a 1 point increase in unemployment increased drug-related deaths by 3.3% (and 3.9% for opioid related deaths). Various studies show an association between joblessness and alcohol consumption (Booth and Feng, 2002; Mustard et al, 2013; Parsons and Barger, 2019; Browning and Heinesen, 2012), but the results are mixed. While overall alcohol consumption actually declined during the Great Recession (Cotti et al, 2012), binge drinking increased (Bor et al., 2013).

To account for the potential additive impact of isolation and uncertainty on deaths of despair, we calculate a range of increase using 1.0%, 1.3% or 1.6% increase in deaths of despair for each point increase in the unemployment rate. The higher the multiplier the higher the number of deaths of despair.

State and County Variation

In addition to estimates for the nation as a whole, we also present the state- and county-level estimates. These sub-national results should be interpreted cautiously given that there will be considerable variation across states. Early data on jobless claims show, for instance, that states most reliant on tourism (such as Hawaii) and states with high infection rates were initally the hardest hit. However, over time, it is almost certain the recession will be national in scope given the expected drop in consumer demand across all sectors. Likewise, there is every indication that the virus will spread widely over time. Another concern with state and county projections is that the available estimates of the effect of rising unemployment is the same across the nation. This is probably not the case given that some states and communities are better able to address the impact of economic downturns. Policies related to labor markets, unemployment compensation and mental health treatment vary widely. Also, there is considerable variation in economic and social factors that may buffer individuals from adversity. Baseline community connection and the ability to stay socially connected while physically distant should have a positive impact leading to fewer deaths of despair. To the extent that our projections are based on "baseline" levels of deaths of despair, some of this variation will be reflected in our estimates.

2018 NATIONWIDE DEATHS OF DESPAIR

Data: CDC Wonder

181,686
Deaths

327,167,434
Population

55.5
Rate per 100,000

NATIONAL DEATHS OF DESPAIR

Baseline Rates of Deaths of Despair

Publicly available cause of death data was obtained from Centers for Disease Control Wonder, (https://wonder.cdc.gov/ucd-icd10.html). The classification used by the United States Joint Economic Committee (2019) to identify suicides and alcohol- and drug-related deaths. (see Appendix). In 2018, there were 181,686 deaths of despair—55 per 100,000—with considerable variation between subgroups and type of death. Overall deaths of despair are most common among 55-64 year-olds, non-Hispanics, and American Indians or Alaskan Natives. Across ages, deaths of despair rise steadily to ages 55-64 (104.7 per 100,000) and then decline. This is due mainly to the rise and decline in alcohol-related deaths. Drug-related deaths are most common among 35-44 year-olds and suicide rates are relatively constant across ages. The pronounced differences in mortality across gender and Hispanic origin holds across the three types of death of despair. The high rate of deaths among American Indians or Alaskan Natives are mainly attributable to high rates of alcohol-related deaths. Suicide rates of African Americans are substantially lower than those of Whites, while Whites and African Americans have comparable drug-related death rates.

There is also considerable variation in deaths of despair across states, ranging from 37.5 per 100,000 in Mississippi to 99.0 per 100,000 in New Mexico (See below Figure, also Appendix).

Demographic Variation in Rates of Deaths of Despair, 2018

	RATES PER 100,000			
	All	Alcohol	Drug	Suicides
Age				
15-24 years	25.9	2.0	10.7	14.5
25-34 years	59.0	10.3	36.4	17.6
35-44 years	71.5	20.2	40.0	18.2
45-54 years	89.6	39.1	38.3	20.1
55-64 years	104.7	58.9	32.2	20.2
65-74 years	70.7	44.7	11.6	16.4
75-84 years	49.8	27.0	4.5	18.8
85+ years	38.1	14.5	4.6	19.1
Gender				
Female	29.3	11.2	13.7	6.4
Male	82.6	34.3	30.5	23.5
Hispanic Origin				
Hispanic or Latino	31.2	14.6	11.8	7.2
Not Hispanic or Latino	60.6	24.2	24.1	16.4
Race				
American Indian or Alaska Native	77.5	48.9	19.6	14.1
Asian or Pacific Islander	15.2	4.4	4.1	7.2
Black or African American	44.6	18.0	24.4	7.0
White	60.5	24.5	23.1	16.9

Source: CDC Multiple Causes of Death, 1999-2018

ESTIMATED RATES OF DEATHS OF DESPAIR ACROSS STATES, 2018

Crude Rate per 100,000   ■ (72.5,99]   ■ (67.5,72.5]   ■ (61.8,67.5]   ■ (56.5,61.8]   ■ (47.1,56.5]   ■ [37.5,47.1]
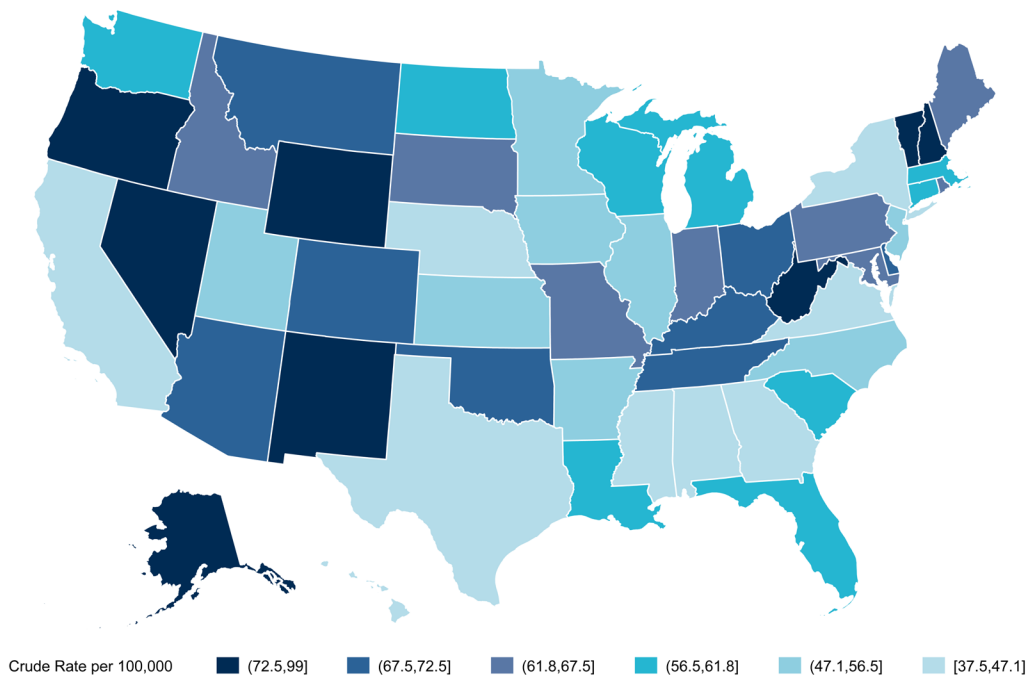
National Estimates of Additional Deaths of Despair

We combined information about a) 2018 baseline deaths of despair (n=181,686) projected levels of unemployment from 2020 to 2029 and c) we estimate the annual number of deaths based on the three selected multipliers and three recovery rate estimates. Across the nine different scenarios, the additional deaths of despair range from 27,644 (quick recovery, smallest impact of unemployment on deaths of despair) to 154,037 (slow recovery, greatest impact of unemployment on deaths of despair). If recovery is four times as fast as that of the Great Recession, additional deaths will accumulate over four years compared to 10 years if recovery is the same as that of the Great Recession. When considering the negative impact of isolation and uncertainty the 1.6% multiplier may be more accurate.

Table. Possible Additional Deaths of COVID-19 Recession on Deaths of Despair, Alternative Scenarios

	Percent Change in Mortality with One Point Increase in Unemployment								
	1% increase			1.3% increase			1.6% increase		
	Slow	Medium	Fast	Slow	Medium	Fast	Slow	Medium	Fast
2020	9,859	9,333	8,343	12,817	12,133	10,846	15,774	14,932	13,349
2021	18,347	16,103	12,209	23,851	20,934	15,871	29,355	25,765	19,534
2022	15,879	11,840	5,832	20,642	15,392	7,581	25,406	18,944	9,331
2023	13,410	8,025	1,261	17,434	10,433	1,639	21,457	12,841	2,017
2024	10,394	3,973	-	13,512	5,164	-	16,630	6,356	-
2025	7,651	870	-	9,947	1,131	-	12,242	1,392	-
2026	7,103	316	-	9,234	411	-	11,365	506	-
2027	5,732	-	-	7,451	-	-	9,171	-	-
2028	4,086	-	-	5,312	-	-	6,538	-	-
2029	3,812	-	-	4,956	-	-	6,099	-	-
Total	96,273	50,460	27,644	125,155	65,598	35,937	154,037	80,735	44,230

Types of Recovery: Slow—Same as Great Recession; Medium—Twice as Fast; Fast—Four Times as fast.

STATE AND COUNTY DEATHS OF DESPAIR

To obtain state- and county-level estimates, we again used the Great Recession as a reference point. However, because of the heterogeneity in the experience of states and counties during the recession, we first estimated the relative impact of the recession in states and counties by determining the annual excess unemployment from 2008 to 2018 relative to unemployment in 2007. For example, in Alabama there were 86,483 persons unemployed in 2007, this number increased by 36,529 to 123,012 in 2008. Summing across years, the total excess unemployed was 771,970. Across all states, the 2008-2018 excess unemployed was 39,360,814 (see Appendix). Alabama's share of this national total was 2.0% (=771,970/39,360,814).
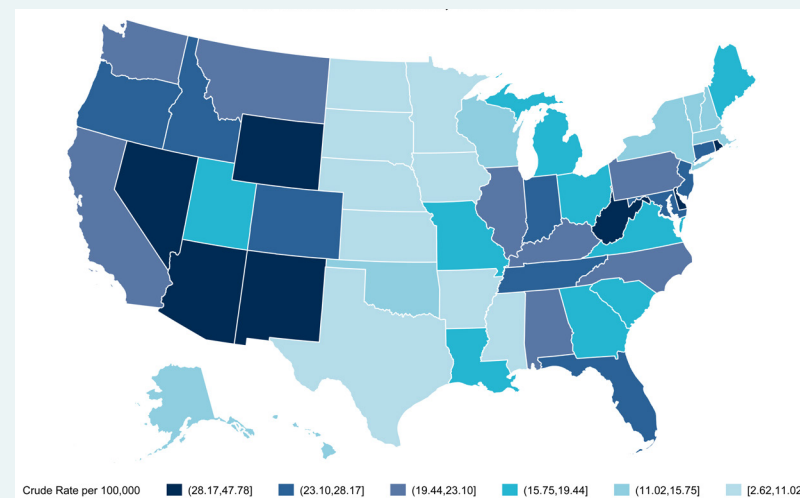
Adjusted by baseline rates of deaths of despair, this percentage for each state was used to allocate the projected national deaths of despair reported above. Specifically, the number of additional deaths is equal to the additional deaths multiplied by the state's share of excess unemployment multiplied by the ratio of the state mortality rate and the national rate (and then recalibrated so the adjusted total for all states is equal to the projected national total). For instance, in the middle scenario (medium recovery, 1.3% impact, N=65,598) we estimated that the unadjusted additional deaths in Alabama would be 1,287 (=65,598*.02) and the adjusted rate is 1,066 (=1,287*(45.9/55.5)*(65,598/65,434). Finally, expressed on a per capita basis, in this scenario, Alabama would have an additional 21.8 deaths per 100,000. The map below shows varying rates of additional deaths across states.
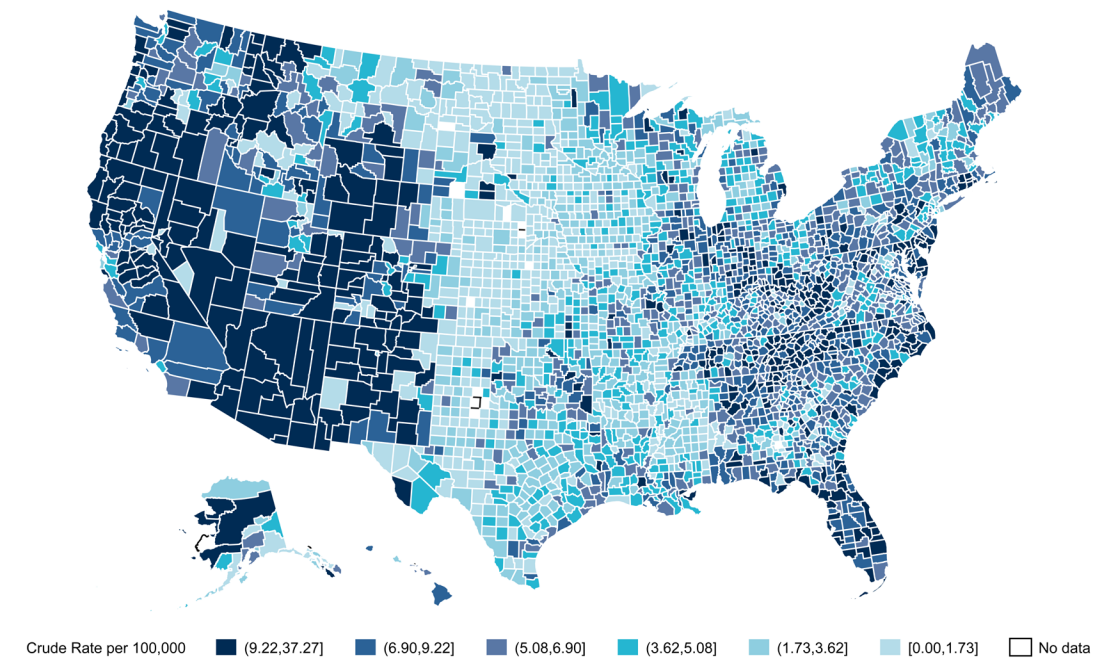
Calculation of Excess Unemployment in Alabama, 2008-2018		
Year	Number Unemployed	Δ Unemployed - Unemployed (2007)
2007	86,483	-
2008	123,012	36,529
2009	238,254	151,771
2010	231,492	145,009
2011	212,258	125,775
2012	173,051	86,568
2013	156,961	70,478
2014	146,555	60,072
2015	131,400	44,917
2016	127,239	40,756
2017	96,568	10,085
2018	86,493	10
TOTAL	**-**	**771,970**

Data: Bureau of Labor Statistics

ESTIMATED ADDITIONAL DEATHS, 2020-2029

Note: The additional death rates are based on middle scenario (medium recover, 1.3% impact, N=65,598)

Crude Rate per 100,000 ■ (28.17,47.78] ■ (23.10,28.17] ■ (19.44,23.10] ■ (15.75,19.44] ■ (11.02,15.75] ■ [2.62,11.02]

COUNTY DEATHS OF DESPAIR

A similar approach was used at the county-level. That is, using U.S. Bureau of Labor Statistics county unemployment data from 2007 to 2018, we first calculated the 2008-2018 excess unemployment for each county. Then, we determined each county's share of the national excess unemployment. We then calculated unadjusted and adjusted deaths based on the middle scenario. Because of the suppression of data for counties with fewer than 10 deaths in publicly available CDC mortality data, we could not calculate the number of deaths of despair for about 400 counties. For these counties, mortality rates were imputed using information from adjacent counties. The map below show rates for the middle scenario.

ESTIMATED ADDITIONAL DEATHS OF DESPAIR, COUNTIES 2020-2029

Crude Rate per 100,000 ■ (9.22,37.27] ■ (6.90,9.22] ■ (5.08,6.90] ■ (3.62,5.08] ■ (1.73,3.62] ■ [0.00,1.73] □ No data

DISCUSSION

We used the quantifiable factors identified from prior economic downturns to estimate the number of additional deaths of despair due to COVID-19 impact on unemployment, isolation, and uncertainty. We shifted our interpretation slightly as we predict social isolation will have an additional negative impact on the lives of those suffering economic downturn. For the uncertainty, while we predict it may have a negative impact, it is not included in our calculations and is intended to be used to encourage social connection in the face of physical distancing, and for policies that mitigate the economic loss and unemployment we are witnessing. Ideally, local communities and even states can implement measures to mitigate isolation, creating local solutions for their neighbors and friends. While high unemployment may be a national fact, social connection and the impact of uncertainty may be a local phenomenon, amenable to community and local policy solutions. As science sheds light on the novel COVID-19 virus, uncertainty may give rise to confidence and rigorous education.

Policy solutions

This report is not a call to suddenly reopen the country. Some might use this report to argue that this is why our economy needs to open up fast. But that's NOT what we are saying. We need to abide by good science, and make sure that testing and contact tracing is occurring at adequate levels to assure that it is safe to open up. Even as of today parts of the country are opening, data suggest that this is premature due to a lack of consistent testing, which allows local public health authorities to trace, treat, and isolate to prevent further spread. A range of efforts at containing the COVID-19 pandemic must be rigorously applied to minimize deaths from infection. Policies that maintain infection control while addressing the mental health and addiction needs of the people will balance the impact of COVID-19 across all sectors.

Deaths of despair were a problem before COVID-19, just as health disparities were also a problem prior to COVID-19. What COVID-19 has done, is highlight yet again that the United States has not addressed underlying structural flaws in our systems. Issues of disparities are perpetuated by not addressing structural inequalities like employment, transportation, and income, making those at highest risk for losing their job or being exposed to COVID-19 communities who were already at a higher risk of a death of despair and now at even higher risk of dying to COVID-19.

To fully address the issues that surround deaths of despair, our policy solutions must be comprehensive and attempt to tackle the social, economic, and health related factors all at once. This begins with a recognition of the complex interplay between employment status and our overall health and well-being. With the profound uncertainty surrounding our economy from COVID-19, it is not clear the full extent unemployment may have on our nation as well as other nations. This brief is not intended to offer up all the solutions to each of these complex problems, but rather draw attention to them so our government, at every level, can begin to realize the connections. We offer a few examples of policies that may help stem the tide of deaths of despair in the time of COVID-19.

GET PEOPLE WORKING:

Central to many of the problems in our communities will be the need to find employment. The literature is clear that unemployment is a risk factor for suicide and drug overdose as well as a decrease in overall health status. To this end, policy solutions must focus on providing meaningful work to those who are unemployed. Service can be a powerful antidote to isolation and despair, and COVID-19 offers new and unique opportunities to employ a new workforce – whether that be through contact tracing – helping local public health department track the virus – or through community health services where a new corps of community members are employed to provide help to those in the most need. Let us make sure that we provide additional training to these front-line workers to assure that they are capable of also addressing issues of mental health and addiction as they will likely encounter them as well. In fact, this work may be identifying mental health needs or connecting people to care when appropriate.

GET PEOPLE CONNECTED:

The pandemic has created the greatest forced isolation in our modern history. We are physically distant but must socially connect (Bergman et al, 2020). Communities have created innovative solutions for connecting with their neighbors like singing (or howling) from their balconies and porches. Faith communities are reinventing how their members can get together through online and virtual platforms; however, many small organizations, civic clubs, and community groups do not have the resources to build robust virtual platforms. Many communities may not have the bandwidth or internet access to support video connections. Policies that support small non-profit organizations, faith communities, and community solutions can provide opportunities to get people connected to their neighbors (Felzien et al., 2018).

GET MENTAL HEALTH INTEGRATED:

We must immediately engage all COVID-19 response and recovery efforts in mental health screening and treatment. It is not just the job of mental health clinicians, or even primary care, to find and treat all those suffering from the mental health impacts of unemployment, social isolation, and the fear of uncertainty. As we create teams to test, track and trace COVID-19 infections, we must also test, track, trace, and treat patients suffering from mental health and substance use disorders.

GET PEOPLE FACTS:

Uncertainty leads to fear and fear may give way to dread. And dread negatively impacts our health and well-being. People need science and calm facts. This is not a time for partisan positioning; it is a time, as President George Bush said recently, to stand together while apart. Every leader offering a briefing on the topic should provide informative leadership on the topic of mental health by describing its impact, ways people can get help, and what to expect from the pandemic.

OFFER A VISION FOR THE FUTURE:

COVID-19 opens up the door to offer a new vision for the future of health care in this country. Mental health should be central to that vision. Care that is fragmented only creates roadblocks for patients and families. Referrals, prior authorizations, and other administrative barriers have historically led to frustration by all parties, including clinicians. It is essential to bring mental health and addiction care into the fabric of a redesigned vision of clinical care, as well as across community settings. This requires vision, alignment with a framework, and a method for holding key stakeholders accountable for person-centered outcomes (Well Being Trust, 2020).
Any policy plan brought forward that does not consider ways to better integrate mental health and addiction services will likely have a much less significant impact.

GET PEOPLE CARE:

Care, especially primary and mental health care, has historically been fragmented. Individuals have had to work harder to get the care they need, and often that care is not delivered in a timely or evidence-based fashion. If COVID-19 has highlighted anything about our current delivery system, it's that asking people to come to a clinic or a hospital is not always the best approach. Policies that support creative opportunities for care delivered at home, virtually or in-person will provide comfort and safety. The idea of a home visit or a house call is not new, and for professions like primary care, it can be a major benefit for countless. The artificial walls we have created around who can be seen where, by whom, and for what, have not been proven to work effectively for mental health. Its time to consider policies that bring care to people as one avenue for mitigating despair and providing help to those who need it most.

The models we have created rely on the way things happened before — when our communities were faced with rising unemployment, social isolation, and individual uncertainty the people suffered, to increased deaths of despair. But things could be different. By taking stock of the current crisis, predicting potential loss of life, and creatively deploying local community solutions, it may be possible to prevent impending deaths of despair. We should not sit idly by, waiting for more deaths of despair to occur but move aggressively towards solutions that bring mental health into the center of all our discussions on COVID-19 response and recovery.

For more information about what to do to address many of the issues outline in this report, visit paininthenation.org and healingthenation.wellbeingtrust.org to get specific policy and programmatic recommendations for advancing mental health and addiction in this country, as one avenue to help decrease deaths of despair in our country.

APPENDIX

State-Level Estimates of Additional Deaths of Despair, 2020-2029

	Deaths of Despair, 2018			Excess Unemployment, 2008-2018		Additional Deaths, 2020-2029		
	Deaths	Population	Rate per 100,000	Excess	%	Economy Only	Adjusted for Baseline Mortality	Rate per 100,000
Alabama	2,244	4,887,871	45.9	771,970	2.0	1,287	1,066	21.8
Alaska	625	737,438	84.8	37,398	0.1	62	95	12.9
Arizona	5,056	7,171,646	70.5	1,217,848	3.1	2,030	2,583	35.9
Arkansas	1,556	3,013,825	51.6	173,373	0.4	289	269	8.9
California	18,638	39,557,045	47.1	6,305,781	16.0	10,509	8,939	22.5
Colorado	4,128	5,695,564	72.5	659,595	1.7	1,099	1,438	25.2
Connecticut	2,049	3,572,665	57.4	492,380	1.3	821	850	23.7
Delaware	693	967,171	71.7	131,289	0.3	219	283	29.2
District of Columbia	465	702,455	66.2	117,246	0.3	195	234	33.2
Florida	12,916	21,299,325	60.6	3,297,058	8.4	5,495	6,015	28.2
Georgia	4,528	10,519,475	43.0	1,528,193	3.9	2,547	1,979	18.8
Hawaii	571	1,420,491	40.2	145,816	0.4	243	176	12.4
Idaho	1,125	1,754,208	64.1	237,893	0.6	396	459	26.1
Illinois	6,131	12,741,080	48.1	1,850,665	4.7	3,084	2,679	21.0
Indiana	4,211	6,691,878	62.9	824,588	2.1	1,374	1,561	23.3
Iowa	1,516	3,156,145	48.0	180,008	0.5	300	260	8.2
Kansas	1,546	2,911,505	53.1	166,672	0.4	278	266	9.1
Kentucky	3,082	4,468,402	69.0	439,223	1.1	732	911	20.3
Louisiana	2,696	4,659,978	57.9	521,885	1.3	870	908	19.4
Maine	903	1,338,404	67.5	116,348	0.3	194	236	17.6
Maryland	3,976	6,042,718	65.8	835,692	2.1	1,393	1,654	27.3
Massachusetts	4,170	6,902,149	60.4	596,109	1.5	993	1,084	15.7
Michigan	5,978	9,995,915	59.8	882,539	2.2	1,471	1,588	15.8
Minnesota	2,908	5,611,179	51.8	311,848	0.8	520	486	8.6
Mississippi	1,120	2,986,530	37.5	242,097	0.6	403	273	9.1
Missouri	3,926	6,126,452	64.1	535,650	1.4	893	1,033	16.8
Montana	743	1,062,305	69.9	100,302	0.3	167	211	19.8

	Deaths of Despair, 2018			Excess Unemployment, 2008-2018		Additional Deaths, 2020-2029		
	Deaths	Population	Rate per 100,000	Excess	%	Economy Only	Adjusted for Baseline Mortality	Rate per 100,000
Nebraska	858	1,929,268	44.5	78,991	0.2	132	106	5.5
Nevada	2,207	3,034,392	72.7	664,194	1.7	1,107	1,453	47.8
New Hampshire	1,092	1,356,458	80.5	86,742	0.2	145	210	15.4
New Jersey	4,845	8,908,520	54.4	1,408,125	3.6	2,347	2,304	25.8
New Mexico	2,074	2,095,428	99.0	290,357	0.7	484	865	41.2
New York	8,348	19,542,209	42.7	2,188,827	5.6	3,648	2,813	14.4
North Carolina	5,641	10,383,620	54.3	1,460,135	3.7	2,433	2,387	22.9
North Dakota	449	760,077	59.1	11,242	0.0	19	20	2.6
Ohio	8,144	11,689,442	69.7	956,341	2.4	1,594	2,005	17.1
Oklahoma	2,792	3,943,079	70.8	217,250	0.6	362	463	11.7
Oregon	3,061	4,190,713	73.0	524,417	1.3	874	1,152	27.4
Pennsylvania	8,045	12,807,060	62.8	1,469,952	3.7	2,450	2,778	21.6
Rhode Island	714	1,057,315	67.5	179,484	0.5	299	365	34.4
South Carolina	3,038	5,084,127	59.8	544,280	1.4	907	978	19.2
South Dakota	556	882,235	63.0	48,080	0.1	80	91	10.3
Tennessee	4,664	6,770,010	68.9	810,319	2.1	1,350	1,680	24.7
Texas	11,298	28,701,845	39.4	2,676,961	6.8	4,461	3,170	11.0
Utah	1,759	3,161,105	55.6	357,659	0.9	596	599	18.9
Vermont	517	626,299	82.5	29,927	0.1	50	74	11.8
Virginia	3,715	8,517,685	43.6	1,032,174	2.6	1,720	1,354	15.9
Washington	4,654	7,535,591	61.8	903,177	2.3	1,505	1,678	22.2
West Virginia	1,769	1,805,832	98.0	175,551	0.4	293	517	28.6
Wisconsin	3,469	5,813,568	59.7	454,044	1.2	757	815	14.0
Wyoming	477	577,737	82.6	73,119	0.2	122	182	31.4
Total	181,686	327,167,434	55.5	39,360,814	100	65,598	65,598	20.0

Note: Based on "middle" scenario (Peak unemployment of 15%, medium length recovery, 1.3% increase in deaths for each point increase in unemployment), assuming 65,598 deaths nationally. Excess unemployment is the cumulative sum of persons unemployed from 2008-2018 in excess of 2017 count.

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Well Being Trust is a national foundation dedicated to advancing the mental, social and spiritual health of the nation. Led by clinical, community, and policy innovators, Well Being Trust brings an ecosystem approach to prevention, treatment, and recovery for mental health and substance misuse issues, while prioritizing an upstream focus on resilience and well-being in communities.

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