

Psychological distress as a systemic economic risk in the USA

Received: 12 September 2022

Accepted: 11 October 2023

Published online: 27 November 2023

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During the first two decades of the twenty-first century, the USA experienced a crisis of increasing psychological distress that was associated with rising morbidity and mortality, especially among young people. The increasing distress probably arose from changing economic, social, technological and political conditions that, unabated, may continue to progress in coming years. The increasing psychological distress may lead to cascading social and economic consequences that further compound suffering, analogous to the spreading impacts of climate change. To address climate change, the USA is beginning to pursue a multisectoral set of policy interventions that include several novel economic strategies. Learning from climate policy, the USA can further address rising psychological distress through: (1) the building of planning, data and regulatory capabilities across agencies; (2) investing in solutions that target root causes and mitigate effects; (3) requiring relevant public disclosures from corporations; and (4) updating policies to reflect potential impacts from psychological distress.

The USA is facing a growing crisis of rising psychological distress. Between 2000 and 2019, rates of depression, anxiety, self-harm and mortality associated with deaths of despair more than doubled in some populations, with the greatest impacts concentrated in childhood and adolescence^{1,2}. Not only is this a burden for those who suffer from this distress and for the families who care for them, but it also impacts schoolmates, work colleagues and neighbors, with spillovers across society.

As psychological distress rises, it poses substantial risks to the health and stability of the US economy, in much the same way that climate change does, depleting human capital and creating new barriers to long-term economic growth and productivity. For both climate change and rising psychological distress, economic models indicate that each may lead to trillions of dollars of lost economic output in the coming decades^{3,4}. To mobilize an appropriate response and mitigate the possible far-reaching human and economic consequences of increasing psychological distress, the US government should consider pursuing innovative, anticipatory and corrective fiscal, regulatory and monetary actions with the same urgency as for climate change.

Action to mitigate the effects of climate change on the economy

In 2022, the Biden–Harris Administration (hereafter referred to as the Administration) issued economic and federal budget projections that accounted for the anticipated impacts of climate change, along with a policy agenda to mitigate those impacts⁵. The projections demonstrated that, in the absence of intervention, the country risks a reduction in gross domestic product (GDP) of 3–10% and federal revenue losses of US\$2 trillion annually by the end of the century. On the basis of these projections, the Administration proposed almost US\$45 billion in investments to mitigate climate change, along with a suite of regulatory actions. This built on a series of related initiatives, such as the report of the Financial Stability Oversight Council on steps that member agencies (including the Department of Treasury, the Federal Reserve System and the Securities and Exchange Commission) will take to address climate change as a systemic risk to US financial stability⁵. Although the principal motivation for addressing climate change is to prevent human suffering and protect the natural world, the Administration and many other national governments use an economic framing

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to engage more agencies and stakeholders that otherwise may find issues around climate to be outside scope of their mission and purpose.

Building on broader work in climate economics, the Administration identified two primary economic risks posed by climate change: physical risks and transition risks⁵. Physical risks, such as the increasing severity of natural disasters, can create cascading economic impacts and instability. Transition risks include “stresses to certain institutions or sectors arising from the shifts in policy, consumer and business sentiment, or technologies associated with the changes necessary to limit climate change”⁵. In general, transition risks are mitigated when stakeholders act quickly on climate change and in a coordinated fashion, because this limits the disruptive effects of more aggressive actions needed later to ‘catch up’ or market distortions from stakeholders acting at different times.

To address these risks, the Administration proposed an interlocking set of actions across agencies. These included: building the internal capacity to assess and address climate risks, identifying and filling data and methodological gaps, ensuring that public disclosure requirements support stakeholder decision-making on climate risks, aligning regulation with the data and evidence for mitigating climate risk, and investing in key areas that can address causes or buffer against the effects of climate change. Table 1 shows specific details of the actions taken by the Administration in these areas.

Notably, regulatory alignment includes revising existing regulations and oversight programs to enhance the requirements of climate risk management related to “credit risks, market risks, counterparty risks, and other financial and operational risks” for regulated entities⁵. For example, the Federal Reserve System is already working with major banks on a pilot to explore the risk posed by several plausible climate change scenarios, such as a substantial short-term physical risk event or a long-term set of transition risks. This pilot will serve as the foundation for a future regulatory program focused on enhancing risk management by major financial institutions. Over time, this could change lending and investment practices to disfavor actors that accelerate climate change and redirect resources towards actors that demonstrate climate resilience or serve roles in slowing or buffering climate-related impacts.

By framing climate change in terms of economic risks, the Administration is placing the issue within the statutory authority of more agencies and is leveraging a fuller array of economic policy tools for addressing climate change. Without this framing, the Administration would need to rely on a few agencies with more limited regulatory authority, and the USA would probably be in even greater danger of missing climate targets and experiencing further human suffering. Although these efforts are only a start, and further reforms will be needed to mitigate climate impacts fully, the Administration’s strategy offers more comprehensive innovations to begin addressing an impending crisis⁶.

The recent rise in psychological distress and related morbidity

Similar to climate change, rising psychological distress will not only have an enormous human toll but will also pose a threat to the US economy and financial system. Psychological distress refers to the experiences of emotional suffering that arise from the detrimental mental, physical and behavioral health consequences of toxic stress and adversity experienced and accumulated over the life course, interacting with vulnerabilities such as genetic risk factors or social inequities^{7–9}. Self-reported psychological distress in the US working-age population increased by 40% between 1999–2000 and 2017–2018, as measured using a validated instrument in a national survey¹⁰.

In addition to direct suffering, psychological distress also increases the risk for and severity of: mental health conditions; substance use conditions; health problems that result from health-related behaviors; and cardiovascular disease, diabetes and other conditions that result from chronic inflammation and cardiometabolic dysregulation^{11,12}.

Table 1 | Analogous federal strategies for addressing climate change and psychological distress risks

Federal strategy	Climate change risks	Psychological distress risks
Build internal capacity	Hired new staff, implemented new trainings and instituted climate-related Financial Risk Committee for interagency coordination	Ensure appropriate staffing, training, information technology infrastructure and interagency support
Fill data and methodological gaps	Launched a Climate Data and Analytics Hub; Federal Reserve developing scenario analysis tools for climate change outcomes	Integrate data systems across agencies to identify root causes and forecast the potential effects of different policy options
Promote transparency and disclosures	Securities and Exchange Commission promoting greenhouse gas emission disclosures for public companies	Streamline accounting and disclosure of potential mental health harms for public companies
Align regulations with evidence	For example, Comptroller of the Currency published principles for large banks in managing climate-related risks	For example, guidelines for banks in managing risks related to rising psychological distress
Invest efficiently in key areas	Billions of dollars proposed for clean energy innovation and climate resiliency and adaptation	Billions of dollars for promoting healthy social and emotional development from the start

Notably, between 2009 and 2019, the prevalence of adults identified as having any mental health condition increased by 13%, and those identified as having a serious mental illness increased by more than 40%¹³. Mortality that is associated with the consequences of elevated psychological distress, such as suicide, overdose and death arising from stress-coping mechanisms such as drinking, smoking and unhealthy eating, is sometimes referred to using ‘deaths of despair’¹⁴. The rise in psychological distress may in part explain the concerning the 6% increase in age-adjusted all-cause mortality rates in mid-life in the USA between 2010 and 2017, primarily driven by suicide, substance use and cardiometabolic conditions¹⁵. Populations that face systemic discrimination or additional socioeconomic barriers, such as American Indian or native Alaskan individuals or individuals without a post-high school education, experienced particularly high rates of morbidity and mortality from these causes during this time¹⁵. The rise in these deaths may also offer evidence that the observed increases in psychological distress do not result solely from increased awareness and willingness to report, but from actual increases in distress with severe consequences.

The burden of psychological distress on children is especially notable, leading the US Surgeon General to issue an advisory on the children’s mental health crisis in 2021¹⁶. The rate at which adolescents reported feeling so sad or hopeless that they stopped doing usual activities increased by 40% between 2009 and 2019—rising even before the start of the COVID-19 pandemic¹⁷. Perhaps even more ominous are the rapidly rising rates of suicide attempts and reports of self-harm, with visits to the emergency department by adolescents for deliberate self-harm increasing by 239% between 2007 and 2016^{18,19}. During the past 20 years, children also experienced increasing morbidity from conditions that signal potential long-term cardiometabolic challenges, such as obesity²⁰.

Potential causes of the rise in psychological distress

Although it is an ongoing area of research, psychological distress may have increased in the USA because of interrelated changes in economic,

technological, social and political conditions that caused stress and adversity for many^{15,21}.

Economically, wage growth stagnated and socioeconomic inequality grew, with relative shares of income and wealth becoming increasingly concentrated in the hands of a few individuals²². The rise in automation and computing also led to greater polarization in the skill demands of the labor market, displacing jobs and creating greater gaps in pay between jobs at different skill levels²³. Markets also became more concentrated as a smaller number of large firms became increasingly dominant, undermining labor power and opportunities for mobility through small business and entrepreneurship²⁴. Globalization and immigration brought perceived and some potentially real economic threats, leading to labor impacts and social backlash^{25,26}. Financial insecurity, socioeconomic inequality as well as disempowerment and loss of agency resulting from these forces may all contribute to experiences of greater toxic stress and adversity, increasing the risk of psychological distress^{27–31}.

Technologically, the proliferation of consumer technologies and platforms changed the flow of information to individuals and their terms of access to one another, affecting everything from political polarization to brain development^{32,33}. The design of the technologies also promoted consistent engagement with them, which produced new stressors that may have affected sedentariness and sleep^{34,35}. The impact of automation and computing in the workplace also changed the nature and experience of work for many jobs, making some more stressful³⁶.

Socially, the opioid crisis emerged, precipitating addiction and loss and further accelerating a rise in incarceration, especially among people of color as a result of racist policies^{37–40}. Progress in civil rights and social justice brought greater animosity from those who felt they were losing power—particularly white men—which was focused on those already discriminated against^{41,42}. Furthermore, the nature of social connection and social ties across generations and with friends and romantic partners changed, and rates of marriage fell^{43–47}. These trends may increase loneliness and decrease social support, which in turn may lead to greater psychological distress⁴⁸.

Children and young adults are especially vulnerable to rapid and disruptive changes in their environment, potentially leading to the greater burden in psychological distress they experienced⁴⁹. As societal changes affect families, young people may face new stressors or disruptions during their development. Some of these changes may also affect young people in unique ways, such as a potential increase in academic pressure as the nature of work evolves or a deeper exposure to disruptive, extractive and menacing technology as they grow up as digital natives.

Climate change resulted from interrelated technological, economic and social changes that led to a greater production of greenhouse gases. The increase in psychological distress probably arose from a similar set of interrelated changes, which led to the greater transmission of toxic stress and traumatic adversity across the population. In both cases, the underlying forces began to evolve decades ago and are only now becoming apparent. These forces will also probably continue their progression into the coming decades unless halted.

Measurable physical mechanisms reveal the processes of climate change. Similarly, more research can begin to specify the processes underlying the social, developmental and cultural determinants of mental health, ultimately connecting macro-level forces to individual-level experiences. As the drivers and mechanisms underlying increasing psychological distress become better understood, salient policy intervention points may emerge, despite the complexity of the system, as has been the case with climate change.

The risks of increasing psychological distress for the US economy

As with climate change, economic risks from increasing psychological distress come in two forms: human capital risks and transition risks. Human capital risks arise as growing psychological distress reduces an

individual's ability to supply labor, innovate to increase productivity and contribute to the development of valuable physical and intellectual capital, ultimately undermining economic growth and the health of financial markets^{4,50}. Just as climate change can damage physical structures and reduce potential output, rising psychological distress can harm human development and similarly reduce potential output. Although additional research is needed to specify the magnitude of the potential impacts, one study estimated that mental health conditions could lead to US\$18.1 trillion (2010 USD) in lost GDP between 2015 and 2050⁴. Notably, this study used data from before the more recent rise in mental health conditions, so the lost GDP may be even greater if measured today. These human capital risks are particularly salient as the USA seeks to compete globally and the economy shifts toward jobs with higher skill demands.

Transition risks arise from policies that respond to the consequences of increasing psychological distress, such as rising health-care costs or dwindling human capital, which also affect the broader economy and financial markets. For example, the USA has already seen necessary efforts to finance the growing need for healthcare and a social safety net due to rising psychological distress. Some potential drivers of rising psychological distress (such as growing socioeconomic inequalities) may also reinforce the risks, as those experiencing increasing distress also experience a relative decline in resources—potentially creating a negative feedback loop or 'despairing cycle' as socioeconomic inequality and psychological distress continually exacerbate one another, requiring increasing levels of policy intervention⁵⁰. Rising psychological distress may also partially explain people's changing preferences for candidates and policies, posing further transition risks when these policies do not align with long-term stability. Both political philosophy and empirical psychology describe a phenomenon in which people experience feelings of shame or hopelessness when they believe they have failed or may fail to meet social role expectations^{51–53}. This psychological distress may then transition to anger with outgroups (that is, groups that differ in ways that are relevant to identity construction in a community, such as race, ethnicity, religion or perceived cultural values) that they believe threaten their role enactment (for example, fulfilling the requirements of 'manhood' in their community). For example, studies show that when men in the USA experience a threat to the performance of dominant constructions of masculinity (for example, being able to provide for one's family), they are both more likely to vote for candidates with policies that are hostile to certain outgroups, such as immigrants or those from sexual and gender minorities (LGBT+ people), and to die by suicide^{54,55}. As psychological distress continues to influence policy preferences, these transition risks could further undermine the health of the nation's economy and its populace.

As with climate change, the progression of rising psychological distress and related mental health problems also risks reaching a threshold where further mitigation becomes more difficult, as declining population health and socioeconomic functioning impede a response. For example, the increasing needs of children have life-course implications, as early distress can, if not addressed, result in later-life adverse health, economic and social impacts⁵⁶. Distress also leads to spillovers across families and communities, as events such as suicide and overdose precipitate further distress in others. As these effects spread and compound and reach crisis levels of impact and influence, policy responses may become less effective if human capital becomes so depleted that widescale deployment of highly skilled and healthy workers becomes difficult, compounding existing workforce shortages and making policies challenging to implement. This could hamper, for example, pursuing strategies that rely on training a substantial number of mental health paraprofessionals to perform specialized tasks to attend to the growing need for individualized attention, as distress becomes more severe across the population and the professional pipeline continues to be insufficient⁵⁷. If the potential labor force for this strategy is

experiencing too much psychological distress, policy implementation may be compromised as people are so in need of help themselves that they cannot succeed in these roles.

This raises another similarity to climate change: both affect everyone, but a few may benefit while many are harmed. The spillover effects of rising psychological distress will probably touch everyone, either directly or indirectly, in the same way as rising temperatures. However, some may benefit. For example, revenue will grow across healthcare and related sectors, and those who own valuable sources of capital may see even greater relative profits from processes such as automation while gains from labor fall, deepening the existing wealth inequities that may be contributing to psychological distress. The benefits to those in positions of power may undermine the collective action of mitigating the harms to most. For example, those who are experiencing the increased rates of return from capital and are partially contributing to the growing socioeconomic inequalities may oppose policy changes that either more fairly distribute resources or enhance the bargaining position of labor. To the extent that these policies would have addressed rising psychological distress, the USA will be further hampered in its response.

Opportunities to mitigate risks from psychological distress

As with climate change, the USA can address the growing risks by integrating considerations of psychological distress into economic, financial and policy planning, with a balance of efforts to address the root causes and mitigate the effects. Analogous to the actions pursued for climate change, the USA should (1) build planning and regulatory capabilities, (2) invest in potential solutions, (3) require public disclosures, and (4) update policies to reflect risk from psychological distress.

Build planning and regulatory capabilities

Agencies could build staff expertise on the risks of psychological distress, address methodological and data issues, and incorporate key variables into the models, measures and processes that guide their work. As with climate change, agencies could hire experts in the intersection between mental health and the work of that agency and implement widespread methodological training so that staff understand how to incorporate these considerations into their day-to-day activities. The Administration could also convene an interagency working group, analogous to the Climate-related Financial Risk Advisory Committee, that builds towards a shared understanding of how increasing toxic stress and adversity are being transmitted nationally, what their economic impacts are and how agencies can prevent or buffer the transmission. For example, entities such as the Federal Reserve Board of Governors, the Bureau of Labor Statistics and the Council of Economic Advisers all model forces that impact the US macroeconomy and the potential effects of different policy options on growth. If these bodies were supported to more systematically include variables related to changing psychological distress (or mental well-being in a positive frame) in their analyses, they would be better equipped to recognize growing risks and to identify the most effective potential solutions to mitigate them, ultimately supporting a national response to rising psychological distress. In some peer nations, such as Australia, efforts have begun to build an analogous data architecture, which can enable them to better understand potential drivers and determine the most effective intervention strategies for reducing psychological distress in the population^{58,59}. To the extent that the phenomena underlying the rise in psychological distress cannot be comprehensively captured using existing data, agencies could also partner directly with the public, and especially youth, whose needs may be less well understood, through advisory councils or similar public engagement efforts to enable a mixed-methods approach.

Invest in potential solutions

As better data lead to deeper insights into increasing psychological distress, policymakers will have more information on the causes,

consequences and possible solutions. With more data, the US Congress and the Administration could forecast the budgetary consequences of rising psychological distress for the country, absent further policy intervention. Policymakers would then be set up to 'invest' in the most effective policy options, as the policies with the greatest humanitarian benefits would also avert the greatest economic losses for the country—offering returns on the investment. This would promote political consensus even among those who would otherwise find deficit increases disqualifying. For example, enhanced data analytics may find that monopolistic corporate power is a driver of rising psychological distress, as well as associated budget losses. Policymakers may then allocate substantial funding towards bolstering antitrust enforcement and supporting small businesses, on the basis of both the public health impacts and the expected economic returns on the investment to the federal budget.

Require public disclosures

A growing literature identifies how corporations affect health and well-being through supply-chain, investment, human resource, product and public-affairs choices⁶⁰. In the same way that climate accounting created a straightforward method for corporate reporting of greenhouse gas emissions⁶¹, regulators could support the development of simplified accounting protocols for corporate contributions to toxic stress and adversity in some of the most critical domains of corporate behavior. Regulators could then work with corporations to advance systematic public disclosure of activities that may increase psychological distress and pose economic risks, better equipping investors to minimize their exposure to these long-term risks. For example, social media companies, which have already identified that their products increase psychological distress among some children, could more systematically measure and disclose these risks to investors under a standard accounting protocol^{62,63}. This, in turn, could drive changes in both investment and corporate decision-making as it relates to mental health impacts on children.

Update policies to reflect risk

Federal agencies could update regulatory approaches and policies to account for the risks posed by increasing psychological distress in everything from insurance and credit to the responsibilities of fiduciaries and harms that may be pursued in antitrust enforcement. For example, agencies could implement policies that enable fiduciaries to consider the impacts of corporations on psychological distress when making investment decisions, such as corporate labor practices that harm the mental health of employees and communities, allowing the fiduciaries to avoid exposure to the long-term financial risks posed by these companies. Similar to climate change, regulators could also work with banks to understand the risks associated with different future scenarios related to increasing psychological distress, and ensure that the banks are mitigating the potential risks—including changes to their lending practices. If further research identifies that widening socioeconomic inequalities are a primary driver of psychological distress and this poses risks, then banks could consider how their lending and investment practices impact these inequalities and how redirecting capital towards greater equity could promote long-term financial stability.

The proposed actions engage a broader set of public and private actors that otherwise may not be involved in alleviating psychological distress—and may even exacerbate it—towards addressing the growing crisis of psychological distress in the USA. This can build on important work to address rising psychological distress that is already underway in domains such as healthcare, public health, education and community development.

Conclusion

By recognizing and addressing the systemic economic risks associated with rising psychological distress, the USA can engage more sectors and deploy more innovative policy tools for improving human health and

well-being. These actions can mark a start to the deeper reforms needed to reverse the impending threat, which must focus on addressing the upstream, structural drivers while also developing stronger mechanisms for buffering the effects. Although action on the scale needed involves short-term trade-offs that threaten collective action, such as additional regulation of certain corporations, the rebalancing of risk exposure related to psychological distress will promote the health of the population and the US economy in the long term.

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Acknowledgements

No funding was received for the completion of this work.

Author contributions

All authors contributed to the conceptualization of the manuscript. N.Z.C. led the initial drafting, and D.E.B. and N.H. revised it for important intellectual content.

Competing interests

The authors declare no competing interests.

Additional information

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Peer review information *Nature Mental Health* thanks Claire Benny, Anna Zeira and the other, anonymous, reviewer(s) for their contribution to the peer review of this work.

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