Tallying the Ancillary Consequences of COVID-19

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See also Roberts et al., p. 1504, Zhu et al., p. 1518, and Sims et al., p. 1533.

The COVID-19 pandemic has been the defining public health crisis of this generation. At this writing, almost 600 000 Americans and more than 3 million people worldwide have died of COVID-19. In the United States, COVID-19 was the third leading cause of death in 2020, which is remarkable for a disease first diagnosed the last day of 2019. In parallel with the direct consequences of the virus itself, in the United States efforts to control the spread of COVID-19 occasioned a wholesale transformation of how the country operated, which has its own health implications.

Unemployment rose in early 2020 to the highest levels that the United States had recorded since 1948, when data collection started, and by April 2020 every state had reached unemployment rates higher than those experienced during the Great Depression of the 1930s.[1] More than 45 million people filed for unemployment during the pandemic, or nearly as many people as live in half of US states.[2] As K–12 schools closed to in-person learning, nearly all US schoolchildren had disrupted learning during the pandemic,[3] resulting in substantial potential learning loss among a generation of children.[4]

We anticipate that there will be emerging science from which we can learn much in the coming months and years that documents the long-term health consequences of these economic and educational losses. As the science slowly advances this understanding, three articles in this issue of *AJPH* begin to better quantify the health losses ancillary to COVID-19, pointing the way to both where health burdens will accrue in coming years and how we can better act to mitigate similar consequences of future outbreaks.

Taking a big picture view, Zhu et al. (p. 1518) document disease-specific excess mortality throughout 2020. Using data from the National Center for Health Statistics, they find higher mortality from a range of other diseases that started soon after the outbreak of the COVID-19 pandemic and continued throughout 2020. Interestingly, the number of excess deaths from cardiovascular disease mirrored increases in COVID-19 cases, offering hints about the reasons for these excess deaths. Zhu et al. suggest that essential health service disruption—worse when the pandemic was worse—may account for the concurrent increase in deaths. We suggest that changes in anxiety and other mood disorders that accompanied the worsening of the pandemic might also explain this observation, building on well-established observations both of worsening mental health during the pandemic[5] and that poor mental health and social isolation are linked to greater cardiovascular disease risk.[6]

In quite a different analysis, Roberts et al. (p. 1504) echo the theme of service disruption affecting mortality well beyond the direct impact of the virus itself. The authors used monthly service data from abortion clinics in Louisiana and neighboring states and showed that the number of abortions per month among Louisiana residents decreased by 31% after the pandemic and that the odds of having a second trimester abortion increased. These findings, largely consistent with previous work in Texas,[7] show how service disruptions during COVID-19 extended well beyond the services that we may typically think of as being related to the virus itself. Importantly in this case, an ambiguously worded directive from the Louisiana health department about whether abortion was an essential service may have contributed to clinic closures in Louisiana, reinforcing the importance of attention to service provision changes in the context of a pandemic that can have substantial implications for population health.

The third article following this theme in this issue of *AJPH* looks at a different aspect of the pandemic's impact (Sims et al., p. 1533). Merging data collected by the Department of Homeland Security on the location of all federal prisons, state prisons, and local jails with COVID-19 case and death counts collected by Johns Hopkins University, they show that the presence of a state or federal prison

was associated with increased county-level COVID-19 cases. This suggests that public health needs in US counties may be greater in areas where there are larger prison facilities and may point to the need for more services focused on such counties. This article, taken together with the other two articles discussed here, suggests that areas where there may be high viral spread—as in where there are prisons—may go on to have a higher burden of need during a pandemic, in terms of both viral infection itself and its ancillary health consequences.

These articles, and the science that we expect to see emerge in coming months, contribute to our understanding of the pervasive influence of the COVID-19 pandemic on our health across several domains. They also point to our need to anticipate the pervasive direct and indirect influence of pandemics on health, so we can mitigate the consequences of such events. Fundamentally, our response to COVID-19 nationally has been marked by efforts to mitigate viral spread, centering on efforts at limiting mobility and social contact. Those efforts were indeed essential early in the pandemic. However, as we are now learning, those efforts came with substantial ancillary costs. This includes the limitation of other services that paved the way for poor health in multiple other domains. In addition, even as we moved to limit contact in the general population, we did far less than we should have to reduce the risk of acute spread in areas where we had enforced congregate living, such as in the prison system, which has long been growing as part of the US system of mass incarceration. This added an undue burden, not only on those incarcerated but also on the communities that surround these prisons.

These observations push us to examine the scope of our thinking when we consider the risks and benefits to particular approaches to pandemic control in future outbreaks. A fuller exploration of the pros and cons will require more definitive accounting of the direct and indirect costs of the pandemic and of how the costs could have been lowered with different approaches to the pandemic in 2020. We look forward to the science evolving and learning from it to improve how we think about—and act in—future pandemics. AJPH

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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