INTRODUCTION

Sociopolitical reaction to the COVID-19 pandemic has ushered in a dramatic level of social/physical distancing to limit the spread of the virus. Prevention and mitigation strategies have included closure of schools, churches, and businesses, as well as bans on gatherings and quarantine for test positives. Such social distancing is assumed to contribute to suicide to the extent that it reduces social interaction and support (Gunnell et al., 2020; Reger et al., 2020; Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992). There have been investigations reporting links between the number of influenza deaths in the 1918 Spanish influenza pandemic and the national suicide rate (Wasserman, 1992).
state reports on the pandemic. Prevailing distancing policies comprised three categories: (1) public school (grade school through high school) closures by city officials; (2) public gathering bans (e.g., closure of saloons and cancelation of sporting events and parades); and (3) mandatory quarantine of persons suspected of having had contact with ill persons. Markel et al.’s (2007) index operationalized distancing in terms of the total number of cumulative days of social distancing interventions implemented for the three major categories. Cumulative days ranged from 33 in Newark, New Jersey, to 170 in Kansas City, Missouri. The data on social distancing are considered valid and reliable and have been used in studies of the impact of social distancing on the rate of mortality from influenza (e.g., Correia et al., 2020).

Employed as a control variable in the evaluation of our distancing/suicide rate hypothesis, influenza deaths per 100,000 in 1918 (U.S. Bureau of the Census, 1923) served as a proxy measure for social distancing in prior suicide studies (Cheung et al., 2008; Wasserman, 1992). We used ordinary least-squares regression for the statistical analysis.

RESULTS

Adjusting for the influenza mortality rate, the index of social distancing significantly predicts the city suicide rate in 2018 ($b = 0.043$, SE = 0.019, $p = 0.016$) (Table 1). A ten-unit change in the social distancing index is associated with a 2.9% increase in the suicide rate, a rise of 0.43 cases per 100,000 population. Shifting focus, the influenza death rate is not a significant predictor of city suicide rates, with adjustment for social distancing ($b = 0.014$, SE = 0.01, $p = 0.086$). Our distancing model explains 12.6% of the variance in suicide rates, as indicated by the $r^2$ statistic.

CONCLUSION

With substantial national, state, and community reliance on social/physical distancing for prevention and mitigation, the COVID-19 pandemic looms as a “perfect storm” for an ensuing acceleration of the suicide epidemic (Reger et al., 2020). Central to this argument is a decline in social integration from social distancing, with shuttering of “non-essential” businesses augmenting the types of social distancing interventions previously specified for confronting the 1918 pandemic. Affirming our hypothesis, the present study provides preliminary evidence that increasing social distancing elevates suicide rates.

Some caution needs to be exercised in generalizing our findings. The context of the 1918 Flu pandemic differs socioculturally, demographically, economically, medically, and technologically from the 2020 COVID-19 pandemic. Killing over 600,000 people in the United States, the pandemic in 1918 currently appears to have been more lethal than its 2020 counterpart (Barro et al., 2020; Correia et al., 2020), given a population of 104 million than versus an estimated 331 million today. Nevertheless, continuance of the first wave of COVID-19, together with possible or probable second and third waves, could profoundly increase its death toll. While both pandemics occurred proximal to a recession – GDP declined by 6%-8% during the 1918 pandemic – the COVID-19 pandemic may ultimately induce greater economic strain (Correia et al., 2020). Although the 1918 Spanish flu pandemic began near the end of World War I, that war did not independently impact the suicide rate (Wasserman, 1992).

There is critical demographic heterogeneity between people living in the United States in 1918 versus 2020. In 1918, social distancing, or sheltering in place, frequently involved crowded housing within an era when the extended family was still ascendant. We speculate this crowding increased the probability individuals would contract the influenza virus, while simultaneously expanding their internal social interactions. In 2020, the nuclear family predominates, and a higher proportion of people live alone than in 1918, a confluence of social and physical isolation that predictably increases suicide susceptibility and consequence rates, in concert with COVID-19 social distancing policy (Reger et al., 2020). This joint impact may be psychologically offset, in whole or part, by the ongoing communications revolution, which embraces social media, cell phones, and streaming video – technology unavailable in 1918. On the other hand, variable economic hardship will plausibly impinge on the relative utilization of this technology. In due course, compilation and release of 2020 data by the National Center for Health Statistics and other sources will enable in-depth research on the relationships among COVID-19, social/physical distancing, social/physical isolation, and suicide.

Subsequent release of the 2020 and 2021 mortality data will enable research on COVID-19 and suicide that controls for possible covariates of social distancing and/or constructs that might cushion the impact of such distancing; for example, to the extent, a viral pandemic likely the Spanish flu and COVID-19 – against the background of an economic recession/depression—promote fear, including fear of others who may be carrying the virus (e.g., Barry, 2018), sales of firearms may increase. If so, the increased access to these

1https://www.census.gov/population/estimates/nation/popclockest.txt#
2https://www.census.gov/newsroom/stories/2020/pop-clock-hits-330-millions.html, accessed July 17, 2020.
lethal means of suicide may increase rates beyond any negative effects of social distancing (e.g., Reger et al., 2020). For example, after the COVID-19 pandemic was declared a national emergency on March 13, 2020, firearm sales soared by 700,000 by the end of that month (Levine & McKnight, 2020). Firearm availability generally increases suicide risk (Anglemyer et al., 2014). Cities that are nested in states with stronger gun control laws may be relatively protected from social distancing. Telemental health treatments for individuals with suicidal tendencies need further development (Reger, et al., 2020) and evaluation. Nevertheless, heterogeneity in the effectiveness of local telehealth systems might explain some variation in the impact of social distancing on city suicide rates during the pandemic.

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