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## Invited Commentary

### COVID-19 and Firearm Injury: A Uniquely American Problem



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The COVID-19 pandemic has impacted the healthcare sector in many ways. One of the unfortunate outcomes that appears to be associated with the pandemic, or perhaps with our response to the pandemic, is a substantial rise in firearm-related injury. This end point is unique to the US compared with Western European countries. Although many countries and cities quickly reported a considerable and sustained decrease in trauma volume,<sup>1-3</sup> only the US reported a net decrease in blunt mechanism of injury trauma volume and a concomitant, substantial increase in firearm-related injuries in many large cities.<sup>4</sup> The current study by Abdallah and colleagues<sup>5</sup> validates these reports. The authors found a 23% relative decrease in falls from standing but a near 100% relative increase in intentional firearm-related injuries in Philadelphia, PA, before and after implementation of stay-at-home orders (SAHO) due to COVID-19. Similar observations have been made in the Washington, DC area (personal communication, M. Chodos MD, September 2020), as well as in Chicago, IL and Los Angeles, CA.<sup>4</sup> Yet neither Abdallah's report nor reports from other trauma centers noted a concomitant increase in blunt-force assault, suggesting no change in the incidence of domestic abuse/non-firearm-related interpersonal violence. It appears too simplistic to blame SAHO alone for the isolated rise in firearm-related injury post-COVID-19.

Firearm sales hit all-time records shortly after the spread of COVID-19 within the US. For example, there were 1.2 million more background check requests related

to firearm purchases in March 2020 compared with March 2019. The number of firearms sold legally in the US doubled from March 2020 to August 2020 compared with the same time period in 2019 (12,233,000 vs 6,386,000 sales).<sup>6</sup> Because of the many ways to obtain a firearm without a background check and because of the lack of a national registry of firearms in the US, it is almost a certainty that the actual number of firearm-related transactions that occurred within this time frame is much higher than reported. One has to concede that ready availability of firearms is a key distinguishing characteristic that can underlie the difference in penetrating trauma volume between the US and other Western countries and the substantial increase in penetrating trauma post-COVID-19. Supporting this is the finding that there was no change in the incidence of stabbings in Philadelphia before and after COVID-19.

Abdallah and colleagues<sup>5</sup> suggest that duration of SAHO and its resultant social and financial impact may be a large contributor to the incidence of interpersonal violence. Although this is certainly plausible, the fact that it impacted firearm-related injury only presents a key finding that should not be overlooked by policy-makers, public health officials, and disaster management personnel in anticipation of future events. In short, in areas that already have a predilection for firearm-related violence (such as large, urban settings), an additional, prolonged stressor can disproportionately impact the at-risk population and should serve as a target for early outreach and mitigation efforts.

One key shortcoming of this article, along with all other reports related to the incidence of firearm-related injury before and after COVID-19, is a lack of focus on suicide. Given that approximately 66% of all firearm-related deaths are due to suicide and not homicide, one might conjecture that the incidence of suicide would increase as a function of SAHO, social distancing, poor access to mental health services, and ready availability of firearms. Unfortunately, this is a difficult area to investigate because suicide is far more prevalent in rural and suburban settings where there are fewer trauma centers. Because there is no registry of firearm-related injury outside of the National Trauma Databank, which only contains data submitted by trauma centers, it is extremely difficult to determine the incidence of suicide due to firearm injury. A registry to identify both cases that were pronounced dead on-scene (and never entered into a hospital registry) and cases that were treated at either a trauma or nontrauma center is needed to provide an understanding of the impact of SAHO, sense of social isolation, fear of contagion, and prevalence of firearms on suicide.

In conclusion, Abdallah and colleagues have validated a finding that appears to be common in many large, urban centers in the US. Given that gun violence is an acknowledged public health epidemic that long predated the COVID-19 pandemic,<sup>7</sup> their results should be used to highlight the ongoing need for policies and procedures aimed at mitigating violence as a part of all hazard preparedness for our country. However, dedicated registries and research infrastructure for firearm injury are first needed to inform such policies and procedures.

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