

ACS COT Residents Trauma Papers Competition Title Page

Principal Author's Information

Name and degree(s): William B. Risinger, M.D.

Title of the Abstract: A New Pandemic and an Old Epidemic – The Impact of COVID-19 and Gun Violence as Measured by Years of Potential Life Lost in a US City

Institution: University of Louisville School of Medicine

Preferred Mailing Address: University of Louisville School of Medicine, Department of Surgery, 550 South Jackson Street, Louisville, KY, 40202

Preferred Phone Number: 317-809-9799

Email Address: wbrisi01@louisville.edu

Please check the category of the paper below:

Basic Laboratory Science

Clinical Research/Investigation

Please check the box after reading each statement below:

It is understood that the primary author is a surgery resident, surgical subspecialty resident or trauma fellow.

It is also understood that although the abstract can be presented elsewhere, it cannot be published prior to **March 30, 2022.**

Specifications for abstracts

Abstracts cannot be more than three pages (this title page is not included in that count). Winners of regional paper competitions that require one-page abstracts are allowed to submit a **three-page** (maximum) version for review by the ACS COT judges in the national competition.

Abstracts must be submitted to the ACS Trauma Programs office as Word documents. Single spacing is permitted. Charts and graphs may be embedded in the document as .jpeg files.

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Begin abstract here:

Introduction: The COVID-19 pandemic has altered daily life on a global scale and resulted in significant mortality with over 600,000 lives lost in the United States alone. Given the magnitude of the pandemic, substantial resources were directed to combat the disease. Superimposed on the COVID-19 pandemic has been a concurrent worsening of longstanding urban gun violence. We sought to evaluate the impact attributable to these two major public health issues on the greater Louisville region, as determined by years of potential life lost (YPLL).

Methods: Utilizing the Collaborative Jefferson County Firearm Injury Database, all firearm injuries from January 1, 2011 to March 30, 2021 were examined. COVID-19 data was compiled from the Louisville Metro Department of Public Health and Wellness. Pre-COVID (March 1, 2019 to February 29, 2020) and COVID (March 1, 2020 to February 28, 2021) time intervals were examined. Demographics, outcomes data, and YPLL were determined for the groups and injury locations were geocoded.

Results: From 2011 to 2021, there were 5,275 firearm injuries in Jefferson County, Kentucky of which 82% were interpersonal, 8.9% unintentional, and 7.5% intentional self-inflicted (1.6% other). Interpersonal and unintentional firearm injuries increased concurrently with the COVID pandemic. During the COVID time interval, there were 4,574 years of potential life lost to the SARS-CoV-2 virus, 9,722 YPLL to all cause

firearm fatalities, and 7,898 YPLL due to interpersonal firearm fatalities (Figure 1). In the pre-COVID interval, there were 5,723 and 3,862 YPLL in Jefferson County as a result of all cause firearm fatalities and interpersonal firearm fatalities respectively (Figure 2).

Conclusion: In Louisville, greater YPLL were attributable to firearm fatalities than the SARS-CoV-2 virus. Given the impact of COVID-19 on our country and region, the robust response has been proportionate and appropriate and has decreased the overall burden of disease. The lack of response to firearm injury and fatality is striking in comparison. Additional resources to combat the sequelae of gun violence are needed.

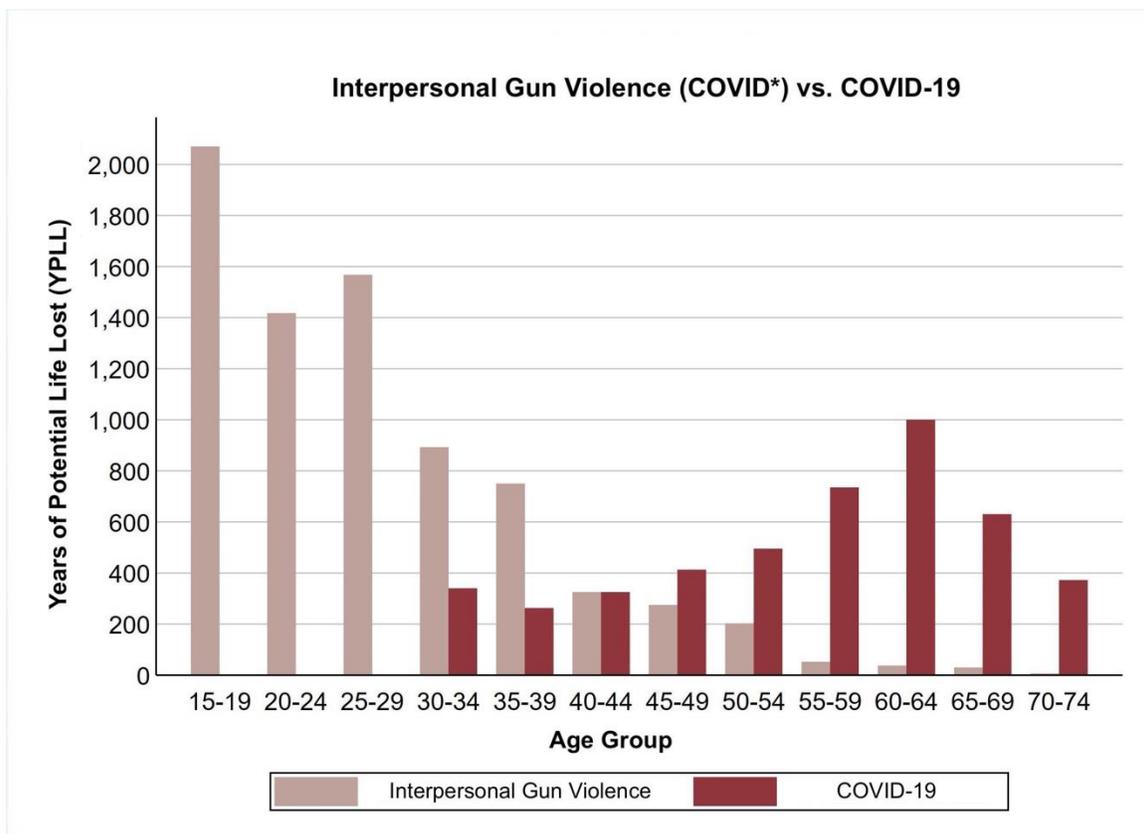


Figure 1. Years of potential life lost (YPLL) from interpersonal gun violence during the previously defined COVID time period compared to the YPLL from COVID-19.

* COVID time period refers to 03/01/2020 to 02/28/2021

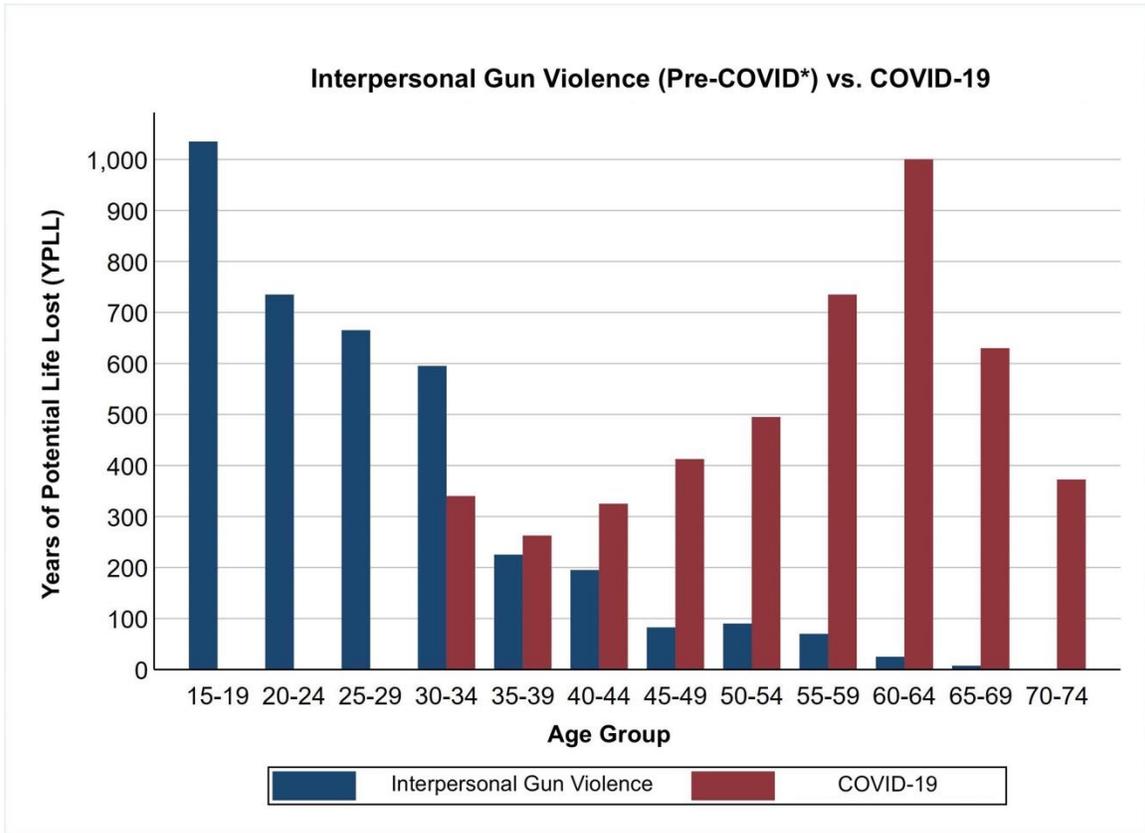


Figure 2. Years of potential life lost (YPLL) from interpersonal gun violence during the previously defined Pre-COVID time period compared to the YPLL from COVID-19.

* Pre-COVID time period refers to 03/01/2019 to 02/29/2020