Trauma Surgery & Acute Care Open

Firearm violence in the USA: a frank discussion on an American public health crisis—The Kansas City Firearm Violence Symposium

Robert D Winfield,[1] Marie Crandall ,[2] Brian H Williams,[3] Joseph Victor Sakran,[4] Kathy Shorr,[5] Tanya L Zakrison [3]

ABSTRACT

Kansas City is a microcosm for USA. Although Kansas City shows a relatively diverse population, it is one that is segregated along the lines of race and income. This is an inequity that is common to all cities across the country. With this inequity comes unequal opportunity to survive and to thrive. Firearm violence is a core component of this societal inequity. In this article, we present the proceedings of the 2019 Kansas City Firearm Violence Symposium, where distinguished experts in trauma convened to share their experience, evidence and voices of gun violence—directly and indirectly. There were discussions on topics such as the human toll of gun violence, the role of structural violence in its perpetuation, the intersectional nature of race with both violence and medical care, and guidance on measures that could be taken to advocate for the reduction and elimination of gun violence. This was a symposium that started a country-wide conversation between academia, healthcare, survivors and the community on the most pressing public health crisis facing USA today.

► Additional material is published online only. To view please visit the journal online (http://dx.doi.org/10.1136/tsaco-2019-000359).

[1]University of Kansas Medical Center, Kansas City, Kansas, USA
[2]Surgery, University of Florida College of Medicine - Jacksonville, Jacksonville, Florida, USA
[3]Department of Surgery, University of Chicago Division of Biological Sciences, Chicago, Illinois, USA
[4]Surgery, The Johns Hopkins University, Baltimore, Maryland, USA
[5]University of Kansas Medical Center, Department of Surgery, University of Kansas, Kansas City, KS, USA

Correspondence to
Dr Tanya L Zakrison, Department of Surgery, University of Chicago Division of Biological Sciences, Chicago, IL 60637, USA; tzakrison@icloud.com

Received 15 July 2019
Revised 6 October 2019
Accepted 8 October 2019

To cite: Winfield RD, Crandall M, Williams BH, *et al*. *Trauma Surg Acute Care Open* 2019;**4**:e000359.

THE 2019 KANSAS CITY FIREARM VIOLENCE SYMPOSIUM

Robert D. Winfield, MD, FACS

Kansas City is a community of 2.1 million people sitting on the border of Kansas and Missouri that mirrors the USA in terms of demographics makeup, and distribution of urban, suburban, and rural populations. When considering the most recent US census, Kansas City shows a relatively diverse population, but one that is segregated along the lines of race and income.

Kansas City, Missouri (the largest city in the metro) ranks fifth in the number of homicides per capita among major US cities. Some counties have firearm death rates (26 and 25 per 100 000 population, respectively) and homicide rates (18 and 17 per 100,000, respectively) that are well above the national rates for firearm fatalities (12/100,000) and homicide rates (6.2/100,000), making them among the most violent communities in America. Adding to the complexity is that these counties also have suicide rates above the national. These disparities in firearm fatalities, homicides, and suicides show variation based on geographic lines, to be sure, but lines that are marked also by differences in race and income.

These data suggested a need to have a frank discussion about the complex issues surrounding firearm violence in Kansas City, to promote greater understanding of the magnitude and multifactorial nature of the problem, and to begin thinking about how the community might come together to solve this problem. To do so though, required more than discussions of gun policy and Second Amendment rights and certainly more than discussions of firearms themselves. The 2019 Kansas City Firearm Violence Symposium (#KCFAVS19) brought together expert speakers on these issues, and included discussions on topics such as the human toll of gun violence, the role of structural violence in its perpetuation, the intersectional nature of race with both violence and medical care, and guidance on measures that could be taken to advocate for the reduction and elimination of gun violence. Because Kansas City reflects the USA in many ways, summaries of the proceedings are shared here, to promote understanding of the complexity of the topic of gun violence beyond the usual rhetoric. We hope this will help all interested in ending the scourge of American gun violence consider a humanistic, multifactorial approach to this devastating public health problem.

PUTTING FACES TO FIREARM VIOLENCE IN THE USA

Shot: 101 survivors of gun violence in America (Shotproject.org)

Kathy Shorr

The ubiquity of gun violence has become the norm in the USA. We hear repeated horrors so much that it now produces a numbing effect. It is a helplessness that allows us to hear the news and say, ‘here we go again’ and put it out of our mind. Gun violence is now something we expect to happen (but not to us).

I have been asked why I chose to photograph survivors. The project came about, as with any creative idea, because of a few different conditions. Years before when I was living in Greenwich Village with my husband and toddler, two men dressed as postmen came to the door of our home with a package. Suddenly, the ‘postmen’ pushed in and when I recovered I had a gun pointing at me as the man holding it proclaimed “I’m not kidding, get inside”. There is a terror that comes when it dawns on you that you are completely at the mercy of a person with gun. If he wants to kill you he will, if he wants to hurt you he can and if he wants to be merciful to you, maybe he will. Adding to my fear was the fact that it was not just me but that he

was controlling the fates of three of us. Luckily on that day the intruders were more interested in robbing us and our cooperation with them kept us physically safe.

The second thought to do the project came from my experiences as a New York City Teaching Fellow in the public schools in crisis. At school, many students wore laminated memorial cards around their necks with the photos of relatives and friends, usually young men, who were killed by gun violence. I started to think that all of those killed had achieved a 'folk hero' kind of status in their communities. But I never heard anyone speak about those who were shot and survived. I thought that these survivors would be a very interesting group of people to speak with and to unite in their 'survivorhood'.

Lastly, I thought that our country was extremely polarized (now even more so) and I thought that if I could look at gun violence as a human problem with real survivors from all walks of life that we might be able to talk minus the politics about this public health crisis.

To complete the book, I traveled over 100 000 miles in a little over 2 years (2013 to 2015) to photograph 101 people from every race, many ethnicities and ages (8 years to 80 years) from across USA including high-profile and low-profile shootings (online supplementary appendix 1).

The majority of portraits were taken at the physical location of the shootings. This adds another layer to SHOT as most of the locations are banal and 'normal' places we all visit in our daily lives: shopping centers, places of entertainment, church, neighborhood streets, movie theaters, the gym, and so on. Many of the shootings occurred in the survivors' homes and cars. Gun violence can happen to anyone, anywhere in America.

Those who die from gun violence can only address the issue as statistics and memories of lives that were. The SHOT project focused on the living whose lives have been forever changed by the emotional and physical trauma of gun violence. The abstract concept of who gets shot was no longer a mystery. Through the project, we are confronted with flesh and blood survivors who are just like us. We are all vulnerable.

SHOT enables us to explore a dialogue about gun violence. A number of the survivors in SHOT are responsible gun owners including a National Rifle Association (NRA) member. It is meant to connect us to each other and how much we have in common, giving us the opportunity to begin to take an unbiased look at guns in American society. Most Americans want responsible gun laws.

Although there are many forms of gun violence, the intention is not to categorize and divide when speaking about the broader issue. In doing so, we will just spin around in a quagmire that pits 'us against them'. I have seen first-hand that no one is immune from gun violence. We should focus on preventative measures that both responsible gun owners and those against guns can agree on. Compromise is the only way that we can move forward on this national health crisis that so greatly divides our country.

EPIDEMIOLOGY OF FIREARM VIOLENCE IN THE USA

Joseph V. Sakran, MD, MPH, MPA, FACS

Laying semiconscious on the gurney, I sensed the frantic commotion of healthcare workers bustling around me in the trauma bay. Donned in protective equipment from head to toe, like a man on the moon, all I could see were the eyes of the trauma surgeon as he hovered over me. Those eyes reflected both intense concentration and fierce determination to save my life. They say a picture is worth a thousand words, but my memory of that face is worth a million.

Hours before, I was a healthy 17-year-old student at a high school football game. Then I became collateral damage as a violent fight broke out after the game and a 38-caliber bullet ripped through my throat. Nearly unconscious, I still can vividly see the expressions on the faces of the many people trying to help me. The chaos around me in the trauma bay filled me both with fear and awe—fear that I might die and awe at the fearless purpose of the medical personnel fighting to save my life. A prolonged hospital stay, and many operations, gave me a second chance. As a trauma surgeon today, I work to not only give others that same second chance that I received; however, with a goal of working beyond simply the trauma center or operating room as we collectively work on reducing firearm injury and death in America.

In 1993, Dr. C. William Schwab gave the presidential address at the Eastern Association for the Surgery of Trauma 'Violence: America's Uncivil War'.[1] In his opening remarks, he noted that "Today we enjoy less risk of full-scale international war than ever before. Yet at a time when Americans have never been as safe from nuclear war than ever before, we are at the greatest threat of harming each other". Not much has changed around firearm violence since then and perhaps in certain aspects the story is getting worse. In the USA, over 300 individuals are shot daily, and nearly 40 000 killed by firearms annually, the majority of which come from suicide.[2] This does not to capture the non-fatal injuries, which conservative estimates are around two to three per death. This public health crisis also affects young people, where 17 000 children and adolescents are shot a year. Considering that we have over 300 million firearms in this country, it may not surprise most that one in three children have guns in their home.[3] However, what should surprise all of us is that 4.6 million children live in homes with unlocked and loaded guns.

How we look at the data actually makes a difference. We know that young African American men are disproportionately affected by firearm homicide whereas older white men are affected by firearm-related suicide. Of all homicides in the USA, 60% were firearm-related, making the USA an aberration compared with other high-income countries. The USA also stands alone statistically for the number of mass shootings that occur on an almost daily basis. Prior to 2011 we would see the media highlight mass shootings every 6 months, after 2011 the frequency has increased to every 2 months, increasing 16% between 2000 and 2013.[4] It is critical to understand that mass shootings constitute less than 2% of this epidemic we are facing. And in fact there are young men from communities of color that are being killed in cities like Baltimore, Philadelphia, Chicago—and their stories often go untold. Within society there is also this 'myth of mental health' being labeled as the reason behind the violence we see. In fact only 4% of firearm-related violence is related to mental illness.[5] Firearm violence is also the number one mechanism of intimate partner homicide.[6] In fact, when the abuser has a gun, the risk of death increases by 500%. One woman is shot by her intimate partner every 16 hours.[7 8]

When we try to capture the impact that firearm-related violence has had on our country, one can look at the death toll in the USA between 1968 and 2011 and they would find that it eclipses all wars ever fought by the country. According to research by Politifact, there were about 1.4 million firearm deaths in that period, compared with 1.2 million US deaths in every conflict from the War of Independence to Operation Iraqi Freedom.[9] If the human toll is not enough, we also have seen a significant economic burden that is related to firearm injury and death in America. Using large databases, such as the National

Emergency Department Sample, the charges calculated for the annual cost of emergency department visits including admission due to firearms-related injury exceed $2.8 billion.[10] This does not even begin to capture the societal cost of firearm violence, which has been estimated to exceed $174 billion.[11] Readmission to hospital due to firearm injury is poorly tracked and also costs over $791 million yearly, with the largest fraction paid for by the public.[12]

While research remains an important part of developing data-driven solutions to reduce firearm-related violence, there are several common sense gun safety reform bills that we can pass now to reduce preventable death. These include, expanding universal background checks, limiting sales to individuals with mental illness or previous history of convictions for violent offenses, empowering families and law enforcement to be part of the solution by passing extreme risk protection orders, and a variety of others. It is incumbent on trauma surgeons, given our work with survivors and victims of firearm violence daily, to ensure that our voice is heard and we are part of the solution to ending this public health crisis.

STRUCTURAL VIOLENCE AND FIREARM VIOLENCE IN THE USA

Tanya Liv Zakrison, MD, MHSc, MPH, FRCSC, FACS

At trauma centers across the USA, our patients present with the same familiar stories. It is the story of another 19-year-old African American man who presents after multiple gunshot wounds from a high powered weapon on a random Tuesday night. He survives, the surgeon is congratulated for a 'great save' and eventually, the patient is discharged home. This story will repeat itself again the next night, all throughout the country. Our 19-year-old patient has previously been shot, self-treats his symptoms of post-traumatic stress disorder with marijuana, and has difficulty finding employment where drug screening is the norm. His mother is overemployed, works three jobs which pay minimum wage, and is rarely at home. His older brother is currently incarcerated for a non-violent crime, a younger brother has been expelled from school and his father was shot and killed 2 years prior, four blocks from home. Are our surgical interventions enough to break the cycle of preventable and premature death from firearms in our country?

Current evidence from the Centers for Disease Control and Prevention (CDC) demonstrates that the rate of firearm deaths in USA in increasing again, and is now 40 000 deaths a year.[2] This is still less than the number of Americans who died yearly from a lack of healthcare insurance (prior to the Affordable Care Act).[13] Since 2015, it is now more than the number of Americans who die in motor vehicle collisions.[14] Two-thirds of firearm deaths are suicides, except in children, and homicides disproportionately affect young men of color. The USA is a global outlier in the number of weapons owned by its citizens and, in parallel, the firearm homicide rate, being the highest for both compared with other high-income countries. As highlighted during previous mass shootings, media focus tends to be on these events (which affect anyone in society, including affluent individuals or neighborhoods), and not on poor, marginalized communities of color, such as in Baltimore or Chicago, that contend with this violence daily.[15]

After the Sandy Hook massacre of 2012, where 20 children lost their lives in a mass shooting, Barack Obama issued 23 executive orders to liberate funding for research into firearm violence. Models have emerged that view such violence through a public health lens, using an infectious disease model of community risk and spread. Researchers have suggested that firearm violence should be treated like a contagious disease.[16] Although short-term successes have been demonstrated in a reduction of community-level mortality, some models of interrupting the spread of violence at times have been criticized for focusing on individuals who lack access to the social determinants of health.[17 18] Addressing socioeconomic factors associated with violence has the largest impact on a population level, and could be a complementary approach to programmes that focus on individual behavioral change.[19] Specifically addressing the social determinants of health inequalities has identified avoidable causes of ill-health or death, such as the close to 900 000 excess deaths of African Americans that occurred in the USA between 1991 and 2000, simply due to inequities.[20 21] This contrasts to 176 633 lives saved in the USA by medical advances in the same period.[22] Whereas individual behavior modification is important in harm reduction, larger societal-level forces are clearly impacting the health of populations on a grand scale.

Why does this occur? Professor Johan Galtung described this phenomenon as 'structural violence'.[23] This is a form of violence where social structures or institutions harm people by preventing them from meeting their basic needs. Classism, racism, sexism, heterocentrism, islamophobia, or any form of discrimination that leads to the avoidable impairment of fundamental human needs is structural violence. This form of invisible violence leads to direct violence and is supported, as a syndromic triad, by cultural violence.[24] By using aspects of culture (ideology, religion, education, art, language, etc) to justify or legitimize structural violence, it becomes invisible by *normalizing the abnormal*. Cultural violence is used to subconsciously justify implicit bias, hate, or even genocide. An example of structural violence would be the longitudinal study of Alexander and Entwistle which followed close to 800 inner-city children in Baltimore during 25 years. Only 4% of poor children escaped poverty, in the richest country in the world, with a clear discrepancy in privilege and opportunities between white and black children and young adults.[25] This type of discrepancy leads to premature morbidity and mortality of African Americans. An example of cultural violence is the negative response by some individuals to Colin Kaepernick's non-violent kneeling protest against law enforcement killings of African Americans, accompanied by a more muted response to the death of, for example, Eric Garner and many others. The history of structural and cultural violence in the USA is long-standing, specifically against indigenous and postslavery populations. Torture was commonplace as violence was legally authorized against men, women, and children used as slaves in the USA. Images of tortured, maimed, and burned lynched men and women, mostly African American, were sold as postcards by the US postal service during a period of 50 years, until the late 1920s,[26] an example of normalization of the abnormal, or cultural violence. The transgenerational transmission of trauma that exists today leads to telomere shortening and epigenetic changes of the DNA of populations perpetually exposed to all forms of violence.[27]

Both structural and cultural violence persists today. Inequities caused by invisible or indifferent systemic discrimination is the leading cause of death of vulnerable populations in the USA. Firearm violence is no exception. This class-based discrimination affects communities born into poverty across USA, including those that are poor and white. For example, poor communities of working class whites have rejected government support of public education (leading to a higher rate of their children dropping out of school) and Medicare expansion (reducing their life expectancy by 4 weeks), while ensuring easy access to

guns (increasing the suicide rate for whites).[28] The "reward of whiteness' or the sense of psychological prestige over equally struggling communities of color, can be abrogated through equal government support for all, which is why it is rejected.[28]

The complex interplay between societal exclusion, historic trauma, and violence cannot be ignored when considering firearm violence in the USA. Critical recommendations and guidelines on the subject have been released by surgical organizations including the Society for Black Academic Surgeons.[29] Trauma surgeons are joining societal members and leaders, such as the youth of the country, in calling for a deeper solution to not only firearm violence, but to the structural and cultural violence that facilitates this avoidable bloodshed which is unique to our country.

ADVOCACY AND RESEARCH TO END FIREARM VIOLENCE IN THE USA

Marie Crandall, MD, MPH

The Dickey Amendment was a rider inserted into the 1996 US tax spending bill that stated, 'none of the funds made available for injury prevention and control at the CDC may be used to advocate or promote gun control'. This amendment was a direct product of active pro-gun lobbying at the federal level, particularly by the NRA. Since that time, little to no tax dollars have been allocated to fund firearm injury research, at the CDC, and at the National Institutes of Health, and other federal agencies. The Dickey Amendment had the effect of defunding research at a critical time, when firearm-related injuries and deaths had hit record highs in the early 1990s. This starkly demonstrates the interplay between politics, advocacy, and research in the area of gun violence prevention.

To many researchers and trauma surgeons, the issue seems a simple one; science is simply the systematic observation of the physical environment, and elucidation of facts through hypothesis testing. It should be impartial and unbiased. When a preponderance of evidence suggests that, say, tobacco exposure can lead to cancer, actions to limit harmful consequences and improve public health are undertaken by society. However, it seems that many topics have become so politicized that actions are impeded by politics. Examples would be a woman's right to choose to have an abortion, funding for health insurance, and, of course, the constitutional right to carry a firearm. The population has become so polarized with respect to these topics, science has lost its ability to govern policy without advocacy on the part of informed professionals.

Despite the Dickey Amendment and other lobbying-related active efforts to suppress research, there has been much solid science in the area of gun violence prevention. Research has clearly demonstrated that more guns do not make people safer, and are in fact a risk factor for increased injuries and deaths. This has been shown in several ways: (1) States with higher per capita firearm ownership rates have higher firearm suicide and homicide rates.[30 31] (2) Firearm ownership is a strong risk factor for firearm suicide and homicide in the home.[32 33] More importantly, research has also shown us that more stringent firearm licencing laws, and safer storage of firearms, are both associated with lower risks of firearm suicides and homicides.[34 35] These findings have been confirmed for youth-focused firearm access laws and suicide, and for perpetrator firearm access and intimate partner homicide.[35–38]

So how can we translate these research findings to action and advocacy? First, on the personal level, firearm owners should store their weapons unloaded and locked, with ammunition stored separately. Second, as trauma surgeons, we can care for our patients and their families with respect, and work with community efforts to decrease violence and other health disparities. Simultaneous efforts to address urban blight, invest in communities, and ensure a strong public educational system are also essential. Finally, as responsible citizens, we should vote for sensible licencing and purchasing restrictions for firearms.

THE INTERSECTION OF RACE, CLASS, VIOLENCE, AND MEDICINE IN THE USA

Brian H. Williams, MD, FACS

The #KCFAVS19 was an important step to change the narrative on gun violence. Absent any politics, it was a day focusing on science, personal experience, and humanity. A documentary photographer shared stories of survivors of gun violence. A trauma surgeon talked about the triangulation of structural, cultural, and direct violence. Another bridged evidence-based medicine with his experience as a gun violence survivor. Yet another outlined practical solutions to make our communities safer. And there was me, highlighting the intersection of gun violence and medicine through the prism of race.

As a country, I fear the damage we are doing to our children who are growing up in a culture where gun violence is normalized. I fear the transgenerational impact on communities of color who carry the unseen burden of gun violence, yet remain a footnote in the discussion. I fear—actually I know—as a trauma surgeon, I have not done enough. I must do more work toward ending the violence endemic in the communities I choose to serve. For too long, I measured success by patching up victims and getting them out of the hospital, with little thought to where I was sending them.

What can make a difference is to lower the drawbridge which separates the institution where I care for patients from the communities where they reside. It is rolling up my sleeves, sitting across from them and asking, 'What do you need, and how can I help?'. I know I don't have all the answers, but I am willing to listen to anyone who might. This is the collaboration needed to address the root causes of gun violence—the seeds of which were planted at #KCFAVS19.

Contributors All authors contributed equally.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available in a public, open access repository.

ORCID iDs
Marie Crandall http://orcid.org/0000-0002-6536-3123
Tanya L Zakrison http://orcid.org/0000-0001-6061-431X

REFERENCES

1 Schwab CW. Violence: America's uncivil war--presidential address, Sixth Scientific Assembly of the Eastern Association for the Surgery of Trauma. *J Trauma* 1993;35:657–65.
2 Centers for Disease Control and Prevention. Underlying Cause of Death, 1999-2017 Results Form. https://wonder.cdc.gov/controller/datarequest/D76;jsessionid=6586 8A96E8FFC2D1B3D80F77A9709212 (Accessed 3 Apr 2019).

3 Center for Injury Research and Prevention. Gun Violence: Facts and Statistics. 2014. https://injury.research.chop.edu/violence-prevention-initiative/types-violence-involving-youth/gun-violence/gun-violence-facts-and (Accessed 5 Jul 2019).
4 RAND. Mass Shootings: Definitions and Trends. https://www.rand.org/research/gun-policy/analysis/essays/mass-shootings.html (Accessed 5 Jul 2019).
5 Metzl JM, MacLeish KT. Mental illness, mass shootings, and the politics of American firearms. *Am J Public Health* 2015;105:240–9.
6 Velopulos CG, Carmichael H, Zakrison TL. Comparison of male and female victims of intimate partner homicide and bidirectionality- an analysis of the National violent death reporting system. *J Trauma Acute Care Surg* 2019. [Epub ahead of print: 1 Apr 2019].
7 Campbell JC, Webster D, Koziol-McLain J, Block C, Campbell D, Curry MA, Gary F, Glass N, McFarlane J, Sachs C, *et al*. Risk factors for Femicide in abusive relationships: results from a multisite case control study. *Am J Public Health* 2003;93:1089–97.
8 FBI. Expanded Homicide Data. https://ucr.fbi.gov/crime-in-the-u.s/2010/crime-in-the-u.s.-2010/offenses-known-to-law-enforcement/expanded/expandhomicidemain (Accessed 7 Jul 2019).
9 PunditFact. More Americans killed by guns since 1968 than in all U.S. wars, columnist Nicholas Kristof writes. https://www.politifact.com/punditfact/statements/2015/aug/27/nicholas-kristof/more-americans-killed-guns-1968-all-wars-says-colu/ (7 Jul 2019).
10 Gani F, Sakran JV, Canner JK. Emergency department visits for firearm-related injuries in the United States, 2006–14. *Health Aff* 2017;36:1729–38.
11 Lee J, Quraishi SA, Bhatnagar S, Zafonte RD, Masiakos PT. The economic cost of firearm-related injuries in the United States from 2006 to 2010. *Surgery* 2014;155:894–8.
12 Rattan R, Parreco J, Namias N, Pust GD, Yeh DD, Zakrison TL. Hidden costs of hospitalization after firearm injury: national analysis of different Hospital readmission. *Ann Surg* 2018;267:810–5.
13 Wilper AP, Woolhandler S, Lasser KE, McCormick D, Bor DH, Himmelstein DU. Health insurance and mortality in US adults. *Am J Public Health* 2009;99:2289–95.
14 The Washington Post. Guns are now killing as many people as cars in the U.S. https://www.washingtonpost.com/ (Accessed 7 Jul 2019).
15 Shultz JM, Cohen AM, Muschert GW, Flores de Apodaca R. Fatal school shootings and the epidemiological context of firearm mortality in the United States. *Disaster Health* 2013;1:84–101.
16 Slutkin G, Ransford C, Zvetina D. How the health sector can reduce violence by treating it as a contagion. *AMA J Ethics* 2018;20:47–55.
17 Whitehill JM, Webster DW, Frattaroli S, Parker EM. Interrupting violence: how the CeaseFire program prevents imminent gun violence through conflict mediation. *Journal of Urban Health* 2014;91:84–95.
18 Greene MB. Metaphorically or not, violence is not a contagious disease. *AMA J Ethics* 2018;20:513–5.
19 Frieden TR. A framework for public health action: the health impact pyramid. *Am J Public Health* 2010;100:590–5.
20 Woolf SH, Johnson RE, Fryer GE, Rust G, Satcher D. The health impact of resolving racial disparities: an analysis of US mortality data. *Am J Public Health* 2004;94:2078–81.
21 Marmot M, Bell R. Fair Society, healthy lives. *Public Health* 2012;126:S4–10.
22 Marmot M. Commission on social determinants of health. achieving health equity: from root causes to fair outcomes. *Lancet* 2007;370:1153–63.
23 Galtung J. Violence, peace, and peace research. *J Peace Res* 1969;6:167–91.
24 Galtung J. Cultural violence. *J Peace Res* 1990;27:291–305.
25 RSF. The Long Shadow. https://www.russellsage.org/publications/long-shadow (Accessed 7 Jul 2019).
26 Lacayo R. Blood At The Root. Time. http://content.time.com/time/magazine/article/0,9171,42301,00.html (Accessed 7 Jul 2019).
27 Theall KP, Shirtcliff EA, Dismukes AR, Wallace M, Drury SS. Association between neighborhood violence and biological stress in children. *JAMA Pediatr* 2017;171:53–60.
28 Basic Books. Dying of Whiteness by Jonathan M. Metzl. https://www.basicbooks.com/titles/jonathan-m-metzl/dying-of-whiteness/9781541644984/ (Accessed 7 Jul 2019).
29 Joseph K, Turner P, Barry L, Cooper C, Danner O, Enumah S, Hayanga JA, James I, Oppong B, Gibson CQ, *et al*. Reducing the impact of violence on the health status of African-Americans: literature review and recommendations from the Society of black academic surgeons. *Am J Surg* 2018;216:393–400.
30 Miller M, Barber C, White RA, Azrael D. Firearms and suicide in the United States: is risk independent of underlying suicidal behavior? *Am J Epidemiol* 2013;178:946–55.
31 Miller M, Hemenway D, Azrael D. State-level homicide victimization rates in the US in relation to survey measures of household firearm ownership, 2001-2003. *Soc Sci Med* 2007;64:656–64.
32 Kellermann AL, Rivara FP, Rushforth NB, Banton JG, Reay DT, Francisco JT, Locci AB, Prodzinski J, Hackman BB, Somes G, *et al*. Gun ownership as a risk factor for homicide in the home. *N Engl J Med* 1993;329:1084–91.
33 Bailey JE, Kellermann AL, Somes GW, Banton JG, Rivara FP, Rushforth NP. Risk factors for violent death of women in the home. *Arch Intern Med* 1997;157:777–82.
34 Santaella-Tenorio J, Cerdá M, Villaveces A, Galea S. What do we know about the association between firearm legislation and firearm-related injuries? *Epidemiol Rev* 2016;38:140–57.
35 Webster DW, Vernick JS, Zeoli AM, Manganello JA. Association between youth-focused firearm laws and youth suicides. *JAMA* 2004;292:594–601.
36 Grossman DC*et al*. Gun storage practices and risk of youth suicide and unintentional firearm injuries. *JAMA* 2005;293:707–14.
37 Brent DA, Perper JA, Allman CJ, Moritz GM, Wartella ME, Zelenak JP. The presence and accessibility of firearms in the homes of adolescent suicides. *JAMA* 1991;266:2989–95.
38 Zeoli AM, McCourt A, Buggs S, Frattaroli S, Lilley D, Webster DW. Analysis of the strength of legal firearms restrictions for perpetrators of domestic violence and their associations with intimate partner homicide. *Am J Epidemiol* 2018;187:2365–71.