Reducing the Impact of Violence on the Health Status of African-Americans: Literature Review and Recommendations from the Society of Black Academic Surgeons (SBAS) Advocacy Committee

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Introduction

In 1985, Heckler published a report on the status of African-Americans, noting that the health status of Blacks and minority populations was significantly worse than that of their White counterparts (1). Multiple studies have been published since that time describing the health disparities that exist in the United States. Violence has been recognized as an issue affecting the health status of any person who has been victimized, and there is some data suggesting that African-Americans are disproportionately affected by certain types of violence. The CDC estimates that ~50,000 people die each year due to violence. In the 2009 MMWR summary report, it was estimated that homicides occurred at higher rates among males and those aged 20-24; the highest rates were among African-American males (2). However, it is not clear that ethnicity is the primary factor affecting these phenomena. In two studies by Brian Centerwall (3, 4) examining homicide rates in Atlanta and later in New Orleans, it appeared that differences in intraracial domestic homicides were explained more by socioeconomic factors than by race. As more African-Americans tend to live in poverty than do their white counterparts (5), analyses of race-related data may be thus impacted.

The data on non-fatal injuries and violence is also alarming. In 2005, the Bureau of Justice Statistics estimated that African-Americans were victims of more than 800,000 violent crimes, and that those with lower annual incomes and living in urban areas were more likely to be victims (6). The effect of these incidents on the health system remains unclear. In 1999, Cook et al reported the cost of care for a gunshot injury to be roughly $17000; more recent reports have put the cost closer to $50000, with additional costs (insurance claims processing, work loss, quality of life costs, criminal justice costs, etc.) putting the number closer to $430000 (7). Even less well-studied are the long term costs to the health care system of chronic physical pain and post-traumatic stress (on both the individual and family). The effects of exposure to violence by indirect victimization, both acute and chronic, are also only recently beginning to be understood; data suggests that the impact is both psychological and physical.

This issue may have an impact on the healthcare system in yet another way. A recent AAMC report detailed the decrease in the numbers of African-American men being admitted to medical school (8). This has a direct impact on the workforce itself, and potentially on service provision to African-American patients as minority physicians are more likely to work in areas containing a larger minority population. As will be detailed later in this report, exposure to violence may affect the ability of youth to succeed academically; it may be extrapolated that violence may be affecting the healthcare workforce in this manner as well.

The Society of Black Academic Surgeons (SBAS) was initially assembled in 1989, with its primary mission including the encouragement of professional and intellectual exchange among surgeons and scientists and increasing the participation of minority surgeons and scientists in academic surgery. The Society charged its Advocacy Committee with the development of a position paper on the impact of violence on

the health status of African Americans. The Society concurs with other medical organizations that this is an important public health issue; it is also an issue affecting the care of surgical patients as well as the future of the surgical workforce. The purpose of the following document is therefore to describe what information exists on the impact of violence on the African-American community and to make recommendations for possible strategies to address this issue. The document examines and makes recommendations in the following areas, based on a review of the literature:

1. The Impact of Gun-related Violence
2. The Impact of Exposure to Violence on Development and Health
3. The Impact of Police/Law-Enforcement Related Violence

Recommendations are included in each section as well as summarized below.

Summary of Recommendations

Section 1. Recommendations Regarding Reducing the Impact of Gun-Related Violence

SBAS agrees with the Epidemic Intelligence Service of the CDC's approach to combating violence and supports the development and expansion of violence prevention strategies that can have an impact on multiple forms of violence. To that end, we recommend:

1. Make federal, state and local funding available to augment programs such as the Nurse-Family Partnership (NFP) program, parent management training programs and life skills training programs.

SBAS also agrees with a number of other medical organizations, including the American College of Surgeons, which have recommended the following:

2. Develop an evidence-informed national research agenda regarding gun-related violence that does not restrict the types of research questions explored. Provide federal resources to the Centers for Disease Control (CDC) and the National Institutes of Health (NIH) to coordinate this agenda.

3. Allow healthcare professionals to speak freely with their patients and clients regarding safe gun storage and prevention of gun-related injuries

4. Eliminate the gun show loophole and require mandatory background checks for all firearm purchases.

5. Enact legislation to prevent civilian access to military-style assault weapons and high capacity magazine/ammunition clips

Section 2. Recommendations Regarding Reducing the Impact of Exposure to Violence on Development and Health

SBAS recognizes the impact that exposure to violence can have on the physical, mental and spiritual health of our patients. To that end we recommend:

1. Develop a better-coordinated, national research agenda with standardized definitions and outcome measurements (including both physical and mental/emotional parameters) to determine the

independent and combined effects of exposure to different types of violence on children and youth at various stages of growth. This can then be used to design more effective interventions.

2. Include in that research agenda emphasis on defining relevant protective factors and how nurturing these may mitigate the effects of exposure to violence

3. Develop a template for medical organizations and societies to encourage screening for childhood violence exposure as part of the routine practice of their members. Medical schools should include information on the impact of childhood violence exposure as part of the standard curriculum (e.g., in the pediatric and psychiatric rotations/educational endeavors).

Section 3. Recommendations Regarding Reducing the Impact of Police/Law Enforcement-Related Violence

SBAS recognizes and applauds the efforts of law enforcement to preserve the safety of our communities and is cognizant of the personal risks that officers take on a daily basis. We decry violence against police officers; however, we are equally concerned about recently reported incidents involving the use of lethal force by police/law enforcement personnel against unarmed citizens of under-represented minority communities. We recommend the following:

1. Assure that The Bureau of Justice Statistics will require timely, accurate, and comprehensive reporting on all law-enforcement involved deaths. This reporting should be mandatory, not voluntary, and enforcement should be clearly defined rather than discretionary. Penalties for non-compliance should be transparent and consistent.

2. Make federal, state, and local funding available to develop programs to accomplish the following:

a) Provide education for law enforcement agencies and personnel regarding unconscious bias, conflict de-escalation, and cultural competency
b) Provide for independent review of law enforcement agencies' policies and procedures that might reflect conscious or unconscious bias as well as a process to revise/eliminate them
c) Pilot new and evaluate existing programs that encourage cooperation and engagement between communities and law enforcement agencies

Discussion

Section 1. The Impact of Gun-Related Violence

According to 2014 CDC data, homicide remains the leading cause of death among African-Americans aged 15-24 years (9). Most homicides occur in urban locales and result from discharge of a firearm. More alarming is the high rate of suicide deaths resulting from firearms. According to the 2014 National Vital statistics, homicide by discharge of firearms was highest in Non-Hispanic black males at 26.8 per 100,000 compared with 4.8 per 100,000 in Hispanic males and 2.0 per 100,000 in Non-Hispanic whites. On the other hand, intentional self-harm by discharge of firearms was highest in Non-Hispanic white males at 14.6 per 100,000 compared with 4.1 per 100,000 in Hispanic males and 5.3 per 100,000 in Non-Hispanic black males (10). Eighty-five percent of suicide attempts with a gun are fatal, while only 2% of

attempts via overdose result in death. These data underscore that access to firearms tends to lead to more lethal outcomes, whether the use is against oneself or someone else.

Although some data has demonstrated that limiting access to firearms leads to fewer deaths, strategies that address the etiology of gun violence may prove even more effective. Multiple factors have been attributed to the prevalence of gun violence including: the spread of drug abuse; the proliferation of firearms as well as changes in family structures, cultural norms and societal dynamics (11). Seen as a significant public health issue that affects individuals and then their families and communities, Sumner et al describe preventive strategies aimed at changing the individual mindset (12). Such preventative measures include: early childhood visitation, parenting training, school-based social emotional learning approaches, early childhood education, public policy and therapeutic approaches. These, in combination with addressing issues involving the access to and use of firearms represent a true public health approach to the problem.

Incidents involving "assault weapons" garner significant media attention, but the approach to preventing these multiple/mass shootings remains controversial; even the characterization of what constitutes an assault weapon is not universally agreed upon. The majority of mass shootings since the Columbine incident in 1999 have involved at least semi-automatic weapons, including the Sandy Hook shooting which took the lives of nearly 2 dozen children and involved the use of an XM-15 Bushmaster rifle. What is common to any of these weapons is their ability to rapidly fire a large number of rounds or bullets, allowing for multiple sites of injury to multiple individuals in a short period of time. A study out of Australia demonstrated that a ban of such weapons was associated with a decrease in the occurrence of mass shootings over the decade studied (13). This legislation, known as the National Firearms Agreement, was passed in response to the "Port Arthur massacre" which resulted in the deaths of 35 people in 1996. Although the authors acknowledged that causality could not be proved, there were no mass shootings in the decade following the passage of the legislation. Similar data are not available for the U.S.; the assault weapon ban enacted in 1994 was repealed in 2004, and the ability to collect scientific/medical data regarding its impact was also limited by legislation prohibiting the CDC to engage in federally-funded gun-related research in 1996. This remains a research question worth pursuing, but in order to do that national databases need to be updated and standardized; moreover, data sharing between law enforcement, health care organizations, and other agencies needs to be unencumbered.

A dialogue, intervention strategy, and research agenda that focuses on the health impact of firearms must be allowed to proceed with as little political influence as possible. For that reason, SBAS recommends:

1. Make federal, state and local funding available to augment programs such as the Nurse-Family partnership program, parent management training program and life skills training.

2. Develop an evidence-informed national research agenda regarding gun-related violence that does not restrict the types of research questions explored. Provide federal resources to the Centers for Disease Control (CDC) and the National Institutes of Health (NIH) to coordinate this agenda.

3. Allow healthcare professionals to speak freely with their patients and clients regarding safe gun storage and prevention of gun-related injuries

4. Eliminate the gun show loophole and require mandatory background checks for all firearm purchases.

5. Enact legislation to prevent civilian access to military-style assault weapons and high capacity magazine/ammunition clips

Section 2. The Impact of Exposure to Violence on Development and Health

Impact of "Traditional" and "Expanded" Adverse Childhood Experiences (ACE) on Physical Health Outcomes

In 1998, Felitti et al published what has become known as the "ACE study" (14); this study examined the link between childhood exposure to abuse/household dysfunction and risk factors for poor health outcomes in adults. A strong dose-response relationship was found between these Adverse Childhood Experience (ACE) exposures and disease conditions such as ischemic heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease. There appears to be a link between ACEs and violent behavior. In 2010, Duke et al noted an association between ACEs and adolescent interpersonal violence perpetration (as characterized by delinquency, bullying, physical fighting, dating violence, and weapon-carrying at school) as well as self-directed violence (self-mutilation, suicidal ideation/attempts) (15).

One limitation of the original ACE study was that it only included a population enrolled in a particular HMO, and that the sample was not considered very diverse. Concern had been expressed that the list of ACEs did not sufficiently cover the types of adversity that might affect children of different socioeconomic and ethnic situations. Cronholm et al (16) used an "Expanded ACEs" list which included experiencing racism, witnessing violence, living in an unsafe neighborhood, experiencing bullying, and having a history of living in foster care. In a predominantly African-American, urban, community-based sample, higher rates were found for six of the nine conventional ACEs compared to the initial Felitti study population. Furthermore, their data also suggested that limiting evaluation to the conventional ACEs might be inadequate: the levels of adversity experienced by men, African-Americans, Hispanics, Asian/Pacific Islanders, and those at or below 150% of the poverty line would have been underestimated if only conventional ACEs been used. The World Health Organization (WHO) has included in its Adverse Childhood Experiences International Questionnaire (ACE-IQ) items related to "Peer Violence" (e.g., bullying), witnessing "Community Violence", and exposure to war or "Collective Violence"-the latter including displacement due to war, experiencing being beaten up by soldiers/police, or witnessing a family member being beaten up or killed by soldiers/police. This version of the questionnaire is undergoing validation (17).

Impact of Community Violence Exposure on Mental Health and Academic Achievement

Community Violence has been defined by the National Child Traumatic Stress Network and other sources as "exposure to intentional acts of interpersonal violence committed in public areas by individuals who are not intimately related to the victim" (18). Cooley-Strickland et al emphasize that this exposure may be via direct witnessing of a violent event, but may also occur via media or hearsay, and thus can cross neighborhood, ethnic, and social boundaries(19). African-American children and children living in stressed economic circumstances do appear to be disproportionately affected, although it is possible that the findings regarding ethnicity may be reflective of larger numbers of African American children living in poverty rather than a cultural phenomenon per se. One difficulty with the literature in

this area is that, despite the above definition, different studies have used different characteristics of community violence, different definitions of what constitutes exposure, and may or may not include other forms of violence exposure in the analysis.

There has been some literature suggesting that, as with ACEs, community violence exposure may have effects on physical health. Wright in 2004 noted a positive association between exposure to community violence and asthma symptoms (20). In a sample of 268 African American children, Bailey et al found an increase in somatic complaints associated with community violence exposure (21). In a similar study (22), Hart et al used both child and parent reporting. They also noted a significant increase in somatic complaints associated with violence exposure as reported by the children who participate; however, the parental reporting of somatic complaints with these exposures differed, suggesting that the important element was the children's perception of violence. In this study, when community violence was measured using specific objective crime data, the association between that and temporal somatic complaints disappeared. The findings do not negate the impact of community violence on physical symptoms in children, but they do suggest that in order to better elucidate its effects the criteria for measurement may need further refinement.

Several studies have suggested that exposure to community violence is associated with worse mental health outcomes; in a meta-analysis performed by Fowler et al (23), the data suggested that hearing about and witnessing community violence predicted PTSD symptoms to the same extent as did direct victimization. Other studies note a desensitization to violence with ongoing exposure (24). Multiple studies have been done suggesting that exposure to community violence has a negative impact on mental development and adaptive functioning (25-27) and that children growing up in environments with high levels of violence and poverty are more likely to have internalizing symptoms such as depression, anxiety, and post-traumatic stress symptoms. There has also been noted an association between such situations and a lack of academic achievement as well as declines in cognitive performance (25, 28, 29). In an era in which fewer and fewer African-American men are becoming physicians (AAMC report), these findings may have significant implications not just for the individuals affected, but for the future of the healthcare system itself.

Impact of Protective Factors

One other area that requires more research is the impact of protective factors in children who are exposed to community and other forms of violence. A study by Miller-Graf suggested that spirituality, support from friends outside the family, and greater emotional intelligence were positively associated with resilience in children who were exposed to various forms of direct victimization and/or community violence (30). Carl Bell has also advocated for Seven Field Principles for Behavioral Change- rebuilding the village, access to modern and ancient technology, connectedness, building self-esteem, cultivating social and emotional skills, re-establishing the adult protective shield and minimizing trauma- as a framework for building resilience in children that may overcome significant adverse exposures (31). Children's perceptions of themselves and their value likely also contributes to their ability to manage adversity. The oft-cited "doll experiments" conducted by Kenneth and Mamie Clark in the late 1930s exposed internalized racism in African-American children and self-hatred that was more acute among

children attending segregated schools. Filmmaker Kiri Davis repeated the experiment in 2005, with similar findings. This suggests that there remains a need to develop and implement methods to improve self-esteem in African-American youth. In 2015, a study by Jackman (32) among more than 800 12-14 year olds (54% female and 53% ethnic minority) suggested that healthy self-esteem and future orientation may serve as protective factors that might decrease engagement in risky behaviors.

SBAS believes that childhood exposure to community and other forms of violence has a deleterious effect on mental and physical functioning both in the immediate and long term; it also has implications for the healthcare system both in terms of service utilization and workforce development. For these reasons we recommend:

1. Develop a better-coordinated, national research agenda with standardized definitions and outcome measurements (including both physical and mental/emotional parameters) is needed to determine the independent and combined effects of exposure to different types of violence on children and youth at various stages of growth. This can then be used to design more effective interventions.

2. Include in that research agenda emphasis on defining relevant protective factors and how developing these protective factors in children and youth may mitigate the effects of exposure to violence.

3. Develop a template for medical organizations and societies should encourage screening for childhood violence exposure as part of routine practice for their members. Medical schools should include information on the impact of childhood violence exposure as part of the standard curriculum (e.g., in the pediatric and psychiatric rotations/educational endeavors).

Section 3. The Impact of Police/Law Enforcement-Related Violence

There has been a great deal of coverage in the media recently regarding police-involved shootings, particularly those involving African-Americans. However, there is a paucity of objective data regarding these incidents. The Bureau of Justice Statistics (BJS) implemented the Arrest-Related Death (ARD) program in 2000 to comply with the requirements of the Death in Custody Reporting Act of the same year. This law required the collection of data on deaths that occurred in the process of arrest, during transfer, or during detention in jail or prison. However, there have been concerns that data collection for this program has not been complete; the original law apparently lacked any real enforcement authority, and the BJS at one point estimated it was receiving only 49% of reports on arrest-related deaths (33). In 2014, Congress granted the Attorney General discretionary authority to penalize states which did not provide complete information by reducing their federal criminal justice funding. The BJS recently conducted a review of the ARD program, accepting comments through October 2016; a new methodology for collecting and reporting data is in development (source: Federal Register Volume 81 Number 150). There appears to be a rise in the number of police officers being shot in 2016, although many of these reports have been analyzed only in the mainstream media. There does not appear to be an independent, reliable means of collecting, analyzing, and reporting data regarding both law

enforcement officers injured on duty as well as injuries of civilians caused by law enforcement officers. Given the lack of replicable and reliable data in this area, SBAS recommends the following:

1. Assure that The Bureau of Justice Statistics will require timely, accurate, and comprehensive reporting on all law-enforcement involved deaths. This reporting should be mandatory, not voluntary, and enforcement should be clearly defined rather than discretionary. Penalties for non-compliance should be transparent and consistent.

2. Make federal, state, and local funding available to develop programs to accomplish the following:

- ***a) Provide education for law enforcement agencies and personnel regarding unconscious bias, conflict de-escalation, and cultural competency***
- ***b) Provide for independent review of law enforcement agencies' policies and procedures that might reflect conscious or unconscious bias as well as a process to revise/eliminate them***
- ***c) Pilot new and evaluate existing programs that encourage cooperation and engagement between communities and law enforcement agencies***

Summary

There are many forms of violence that have not been explored in this document, including family/domestic violence, sexual violence, bullying, etc. It is not an overreach to postulate that many of the issues described regarding gun-related interpersonal violence, law enforcement-related violence, and exposure to community violence likely apply to some degree in these other areas. What is certain is that, although there are interventions that already exist that show promise, our information base about the impact of violence on ethnic minority and other underrepresented communities must be expanded. SBAS remains an organization committed to research and to the expansion of the knowledge base in surgery and medicine as well as to increasing the participation of underrepresented minorities in the health care fields. As such we strongly encourage public and private efforts on the national, state, and local level to address the issue of violence in all its forms.

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