

## Violence and Children

David Chen, MD, MPH and Iman Sharif, MD, MPH, MS

The guy who taught me how to read, he was shot and killed in his car and I think that's the earliest remembrance of someone getting shot, and then a friend of mine who lived behind me, his brother was shot and killed in front of him... Just recently, one of my old students, he was shot and killed. It's just like... it's kinda like a piece of you is missing, even if you didn't hang with this person every day, you don't consider him a close friend, it's still somebody you're used to seeing as part of your neighborhood.

They're no longer there anymore so it takes away whatever blessing God had that person being in that neighborhood, and it... it takes away a piece of someone else, cause that was someone's child, someone's family member, brother. It's just somebody gone from your neighborhood.<sup>1</sup>

There are few issues in healthcare as viscerally disturbing as that of violence and children, especially when the injuries are visible. Cigarette burns, broken bones, bruises and scars; these are the readily identifiable stigmata of child abuse and represent the most common context in which providers encounter violence in children. In such settings, we describe risk factors and etiologies in terms of specific relationships and environments. We imagine them to be modifiable through secondary and tertiary prevention: by removing the child from an abusive household or a violent environment while providing medical and psychological therapies to mitigate and heal the harm. But what does it mean to think of violence as a public health issue? Is it necessary or even possible to address violence in terms of primary prevention? In the past year alone, Delaware has experienced a number of high profile teenage violence-related deaths, including the beating and death of a high school girl by other students.<sup>2</sup>

The opening quote comes from an informal interview with Donovan, a young man who grew up in Wilmington. He describes a variety of violent encounters during childhood and adolescence ranging from whiffle ball bat fights with neighborhood kids to being robbed at gunpoint. Though he was never seriously injured and never exhibited signs of post-traumatic stress disorder, the already normative frequency of violent deaths experienced by Donovan and his neighbors has only increased since their childhood.

## The Local Data

The escalation in firearm related injuries in Wilmington prompted an epidemiologic investigation by the centers for Disease Control and Prevention (CDC), the first firearm related research by the institution in nearly twenty years.<sup>3</sup> Between 2011 and 2013, the number of shooting victims in Delaware has risen by 45% and since 1999 the overall rate of increase in homicides has outstripped that of every other state.<sup>4</sup> In its analysis of 569 individuals arrested for involvement with violent firearm crime from 2009 to 2014, the CDC found that 15.1% were under the age of 18 with the majority (54.5%) under age 25.<sup>4</sup>

The report also developed an analytical tool based on aggregated data from administrative sources such as criminal justice systems, health systems, and the department of education to highlight individual risk factors for firearm violence.

Notably, in this study population 48% had had a prior emergency Department visit for physical harm/suicidal ideation/police encounter; 29% had a child welfare investigation as a victim of

child maltreatment or out of home placement; 54% were involved with state juvenile services; 86% were currently unemployed; 73% had received social assistance programs related to schools; 42% had been suspended or expelled from school; and 58% had 10 or more school absences in the year preceding crime.<sup>4</sup>

The People's Report, an ethnographic participatory action research study conducted in Southbridge and eastside communities and published in 2013, found that 60% of participants had "seen a seriously injured person after an incident of violence," that 55% had at least one relative killed with a gun, and nearly 60% lost a friend to gun violence; the average age in which loss of a friend occurred was 18 years old.<sup>5</sup>

## Interpretations

What is notable beyond the novel roots in community research done by these studies is their description of the sheer volume of exposure to both violence and to concomitant risk factors before the age of 18. While it is easier in the clinical setting to characterize the impact of discrete violent episodes, the cumulative impact of chronic violence on childhood development and wellbeing can be difficult to extract from other chronic stressors such as poverty, food insecurity, housing insecurity, mood disorders, substance abuse, as well as the exposure to all of the above in the lives of other family members. Consequently, it can be challenging to discern exactly what the relevant relationships are between exposure to violence & risk factors and the subsequent development of violent behavior.

Is violence the consequence of poverty or a contributor? Which elements are correlative and which are causative? How much do age and degree of exposure matter? If violence is related to other broad and complex socioeconomic factors, what explains the recent trends towards escalation in gun violence in particular, and if that has increased rapidly can it be similarly reduced?

Some public health approaches treat violence as a contagious disease. The Institute of Medicine forum on Global Violence Prevention held a workshop to explore this concept: that exposure to interpersonal violence is a risk factor for perpetration of violence, that there appears to be a dose-response effect, that incidents cluster, and that different individuals have risk factors to make them more susceptible or resilient.<sup>6</sup> Key contributor Dr. Gary Slutkin founded Cure Violence, an organization in Chicago that used these concepts to develop a "violence interrupter" program that employs those formerly affected by violence as community health workers to actively mediate local and ongoing conflicts and change community norms.<sup>7</sup>

Most other approaches have characterized negative effects on childhood wellbeing more comprehensively through the impact of Adverse Childhood Events (ACEs) on lifelong health. The original ACE study in 1998 was a retrospective analysis of over 17,000 participants in San Diego and examined exposure to abuse (psychological, physical, and sexual) and household dysfunction (substance abuse, mental illness, mother treated violently, and criminal behavior); it determined a graded dose-response relationship between the number of adverse events experienced and negative health outcomes in adulthood.<sup>8</sup>

The hypothesis behind the contribution of ACES to these negative outcomes is complex and extends beyond simply behavioral conditioning or socioeconomic factors. The American Academy of Pediatrics (AAP) issued a technical report in 2012 detailing the mounting evidence suggesting that "toxic levels" of environmental stress may impact neurodevelopment and the

hypothalamic-pituitary-adrenocortical axis in such a way that fundamentally changes, in a biologic fashion, perceptions and responses to stress, fear, mood regulation, executive function, and impulse control.<sup>9</sup> In other words, children exposed to high levels of chronic stress are vulnerable to dysregulation, the phenomenon in which they develop impaired coping mechanisms to stressful situations while simultaneously becoming more likely to behave in risky and impulsive ways.

Subsequent studies on ACES and children have not only confirmed associations between ACES and negative health outcomes for both children and adults<sup>10</sup> but specifically for adolescent violence perpetration as well. A large cross-sectional study in 2010 of high school students found significant correlation between ACES and actions such as bullying, physical fighting, dating violence, weapon carrying, self-harm, and suicidal ideation and attempts.<sup>11</sup> Moreover, it found a dose-dependent effect with each additional Ace increasing risk of violence perpetration by 35% - 144%.<sup>11</sup>

This is significant in its determination that even risk factors that are not inherently or necessarily violent can still create vulnerabilities to violence and that this risk is both cumulative and potentially modifiable. Consequently, the AAP has taken the strong stance that:

The growing availability of evidence based interventions that have been shown to improve outcomes for children in the child welfare system underscores the compelling need to transform “child protection” from its traditional concern with physical safety and custody to a broader focus on the emotional, social, and cognitive costs of maltreatment. The centers for Disease control and Prevention has taken an important step forward by promoting the prevention of child maltreatment as a public health concern.<sup>9</sup>

## **The Trauma Informed Approach**

But even if exposure to ACES over the course of a lifetime is both cumulative and measurable, it is still challenging to develop effective and responsive models of care. How can a provider begin to engage a statistical entity describing a myriad of deeply disruptive and often shame-filled events that span the life spectrum?

The response to this question parallels the development of the Patient Centered Medical Home (PCMH), which was initially developed for pediatric primary care to address health disparities in children with complex and special health care needs. The PCMH suggested that though this subpopulation was selectively disadvantaged, disparities were reduced when a comprehensive set of interventions restructured the way care was delivered throughout the entire practice or health system rather than as interventions limited to specific vulnerable individuals alone.<sup>12</sup> By developing ways to improve access and coordination of care for all patients, practices provided “better effectiveness of services as well as fewer disparities and more equity in health across population subgroups.”<sup>12</sup>

The success of this model within pediatrics prompted expansion, inclusion, and standardization of the model in other fields of primary care.

Likewise, addressing ACES implies a fundamental alteration to our methods of care delivery will be necessary. One popular model is the “Trauma Informed Approach”. As operationalized by

SAMHSA, the Trauma Informed Approach to care refers to “a program, organization, or system that...

- realizes the widespread impact of trauma and understands potential paths for recovery;
- recognizes the signs and symptoms of trauma in clients, families, staff, and others involved with the system;
- responds by fully integrating knowledge about trauma into policies, procedures, and practices; and
- seeks to actively resist re-traumatization.”<sup>13</sup>

Like the PCMH, a Trauma Informed Approach relies on a change in the way care is delivered. While specific interventions, such as using trauma-oriented screening tools and assessments, can highlight vulnerable individuals & families, the success of this model depends on sensitizing staff and operations at all levels to detecting and responding to traumatic narratives such as those caused by ACES. Most toolkits recommend training of all personnel, from the reception desk to the provider and administrators, in methods for harm reduction as well as care. For example, nursing assessments can proceed beyond Airway, Breathing, and Circulation (ABCs) to include Distress, Emotional support, and Family circumstances (DEFs).<sup>14</sup> Interviewers can change the clinical approach from “What’s wrong with you?” to “What happened to you?”<sup>13</sup> Patient autonomy can be expanded in ways as simple as allowing greater privacy and choices regarding physical exam clothing/ gowns and maneuvers.<sup>13</sup> Narrative Exposure Therapy, a structured set of eight therapy sessions developed for those in conflict zones and refugee populations, can be used in modified form (KIDNET) by clinical psychologists for children and adolescents to reduce PTSD symptoms.<sup>15</sup> The concepts of the Trauma Informed Approach and Adverse childhood events are still in the process of dissemination throughout practice communities, but are gaining popularity in a variety of contexts: school systems, health care systems, correctional facilities, and other points of human services and contact.

## Next Steps

Based on the available evidence, the primary prevention of violence in children, adolescents, and adults is possible but will only be successfully optimized with multiple tiers of intervention: ones that operate at both the verge of violence as well as the early childhood roots. Delaware has already begun to mobilize resources on multiple levels, many of which implement a Trauma Informed Approach.

Targeted interventions for firearm-related violence:

- CDC community Advisory Board: created following the report to operationalize the risk-assessment tool by coordinating services across healthcare, social services, education departments, and the justice system to continuously identify and connect high risk individuals with services.<sup>16</sup>
- You Only Live Once: re-enactment in a simulated trauma bay of care for a shooting victim at Christiana Hospital, demonstrated for school and youth groups.<sup>17</sup> The Trauma Department also sponsors other programs as part of its Violence Prevention initiative (<http://www.christianacare.org/violenceprevention>).

- Cease Violence: founded by the City of Wilmington (based on Chicago’s Cure Violence program) to employ violence interrupters as community based workers to prevent retaliatory attacks when firearm injuries do occur.<sup>18</sup>

## Global Interventions:

- Trauma Matters Workgroup: Meetings sponsored by children’s Department of Delaware’s Division of Prevention and Behavioral Health services for facilitation of public and private partnerships in addressing Aces through Trauma Informed care.
- Building community resilience: established by Nemours, Building community resilience is a collaborative funded by the Kresge foundation in 5 communities across the country, including Delaware. Participants develop, share, and test strategies to address toxic stress across health care institutions and community partners.
- Change in Mind Initiative: Children & Families First (Wilmington, De) is one of 10 members of the Alliance for strong families and communities chosen as a site to use advances in brain science to impact practice and policy.
- Delaware Project LAUNCH: funded by SAMHSA, aims to promote the wellness of young children from birth to 8 years by coordinating child-serving systems and the integration of behavioral and physical health services for school readiness.

As we proceed, the work around the Trauma Informed Approach must also align with the work of the Delaware state Innovation Models Initiatives, particularly “Healthy Neighborhoods” which is the implementation of national grants via the center for Medicare & Medicaid Innovation (CMMI) for specific value-based payment models and population health goals.<sup>19</sup> These interventions represent some of the many efforts to improve the safety and wellbeing of children in Delaware. Collaborative efforts to dovetail and connect the separate efforts over the past couple of years have been and will continue to be vigorous.

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