

Trauma Caused by Injury or Abuse in Late Life: Experiences, Impacts, and the Federal Response

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January 7, 2019

Overview and Scope

In light of population estimates and projections—both in the United States and around the world—forecasting an increase in the decades to come in the number of individuals ages 65 and older, it has become increasingly important for scientists, policy makers, and state and federal governments to meet the needs—via research, services, and support—of this growing population segment. While these stakeholders continue to make great advances in our understanding of the aging process and in improving our capacity to provide the specific service and support needs for this population, comparatively little is known about the potentially deleterious impacts that the experience of traumatic events may have on older adults, and specifically on their ability to lead functionally independent and healthy lives. Given the increase of older adults in the decades to come, it is critical to advance understanding

and address the influence traumatic events may have on the mental health and functional independence of older adults.

This review attempts to provide a broad overview of select U.S. federal governmental programs—operated outside the Department of Veterans Affairs—that serve older adults who experienced or may experience a traumatic event. Our intention is to demonstrate both the breadth and depth of the role the federal government has in responding to the potential needs of these individuals.

Readers are asked to keep in mind the following considerations:

- This article is intended to serve as a resource for readers seeking better understanding of existing federal government programs, initiatives, and services for older adults who experienced or may experience a traumatic event in late life.

No policy or programmatic recommendations will be made by the authors.

- We adopted the Substance Abuse and Mental Health Administration (SAMHSA) definition of trauma: “an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual’s functioning and mental, physical, social, emotional, or spiritual well-being” [1]. We acknowledge here that not all traumatic events experienced by individuals may have lasting adverse effects.
- There are a number of experiences that can cause trauma in individuals of all ages: illness or medical procedures; community violence; school violence; bullying; natural or man-made disasters; forced displacement; war, terrorism, or political violence; and/or military trauma, as identified by SAMHSA [2]. However, given evidence in the geriatric trauma literature emphasizing that injury based trauma (for example, falls-related incidences) [3] and interpersonal trauma (for example, elder abuse) [4] are predominant mechanisms of injury within the older adult population, these two sources of trauma are the focus of this article. This allowed for a more circumscribed discussion of traumatic events experienced by individuals in late life and a focused discussion of programs, initiatives, and supports in place for these individuals.

Ultimately, our intention is for readers to come away from this review with the following:

- A heightened sense of the importance of addressing the needs of older adults who experienced or may experience a traumatic event and an understanding of the demographic and economic indicators that contribute to the urgency of programs, initiatives, services, and supports for this sub-population.
- An increased awareness of some of the federal government programs—and their component features—for older adults who experienced or may experience a traumatic event in late life.
- An understanding of the promising practices and challenges in service delivery and implementation that have been identified within current federal programs.

Living in an Increasingly Aging Society

Demographics

The United States is currently experiencing a significant demographic shift. For many years to come, the number and proportion of older adults in the United States will continue to increase. Between the years 2005 and 2015, the number of people ages 65 and older increased by 30 percent to 47.8 million; this number is projected to reach 98 million in the year 2060 [5]. Similar trend profiles are reported for persons ages 85 and older, with recent projections reporting that this population segment will triple in size by the year 2049 [6]. Global population projections parallel these trends. Specifically, as a percentage of the global population, the 65 and older population segment has been increasing since 1950 and is projected to increase through 2050 [7]. Conversely, during that same period (1950–2050), the under age 5 population, as a percentage of the global population, is projected to experience a steady decline.

Traumatic Events Experienced by Older Adults in Late Life

In the sections that follow, two types of events that could lead to experiencing trauma are discussed: *interpersonal trauma* and *injury-based trauma*. In this review, interpersonal trauma is defined as trauma resulting from violence perpetrated against an older person by someone in a position of trust, including *elder abuse* and *intimate partner and sexual violence*. Injury-based trauma is defined as trauma resulting from falls in the home and community, or traumatic brain injuries (TBIs). For each potential source of trauma, we will cover the available prevalence and demographic data, risk factors, and respective impact on the U.S. health care infrastructure.

Interpersonal Trauma

Elder Abuse

The U.S. National Academies of Sciences, Engineering, and Medicine [8] defines elder abuse as: “(a) intentional actions that cause harm or create a serious risk of harm (whether or not harm is intended) to a vulnerable elder by a caregiver or other person who stands in a trust relationship, or (b) failure by a caregiver to satisfy the elder’s basic needs or to protect the elder from harm” [8]. Complementing this definition, the Centers for Disease Control and Prevention (CDC) mentions

various forms of elder abuse, including physical abuse, sexual abuse or abusive sexual contact, emotional or psychological abuse, neglect, and financial abuse or exploitation [9].

Prevalence and demographics. The most recent data available on the aggregated prevalence of elder abuse suggest that between 7.6 percent [10] and 9.5 percent of older Americans (ages 60 and older) experience emotional, physical, or sexual abuse and neglect each year with many of them experiencing abuse in multiple forms [11]. In the United States, prevalence rates for non-sexual physical abuse in the older adult population are 1.4 percent; 0.5 percent for sexual abuse; 4.5 percent for financial abuse; 1.5 percent for emotional/psychological abuse; and 1.1 percent for neglect [10]. While the focus of this article is not on persons with disabilities, noted here is that the abuse of older adults and younger adults with disabilities takes place in both institutional settings (nursing homes or assisted living facilities) and community settings (the victim's own home or adult day programs). In the area of elder abuse, the issue of abuse of younger adults with disabilities is often included, though few studies have focused exclusively on this population. This is troubling given that adults with disabilities are 4 to 10 times more likely to become victims of maltreatment than persons without disabilities [12]. In 2010, the age-adjusted serious violent crime (for example, rape, robbery, assault) victimization rate for persons with disabilities was three times the rate of adults without disabilities [13]. Available evidence does suggest, however, that there are no significant differences between violent crimes for older adults with a disability and older adults without a disability [14]. Furthermore, the trend is going in the wrong direction. For example, when compared to an analysis conducted from data in the year 2000, state data from Adult Protective Services (APS) agencies in 2004 revealed an increase in reports of adult maltreatment [15]. These increases are concerning as other research estimates that as few as 1 in 23 cases of maltreatment [8, 16] and 1 in 44 cases of financial exploitation [11] are reported to the appropriate authorities.

Risk factors. Before practitioners can craft effective intervention or prevention remedies, they must understand why elder abuse occurs. Risk factors can be organized by the strength of evidence as well as by factors primarily associated with the victim, the perpetrator, and their relationship. Factors related to the victim and based on strong evidence include functional de-

pendence; poor physical health; cognitive impairment and dementia; poor mental and emotional health; and low socioeconomic status [10]. Gender, age, race, and financial dependence also affect risk. For example, in the United States, when compared to their Caucasian counterparts, Hispanic older adults demonstrate a lower risk of emotional abuse, financial abuse, and neglect [17, 18] and African American older adults may have an increased risk of financial and psychological abuse [18, 19]. Risk factors related to the characteristics of the perpetrators and based on strong evidence include mental illness, substance abuse, and financial dependency on the victim. The most common perpetrators of elder abuse are relatives, primarily spouses/partners and adult children [10]. Protective factors found to reduce the risk of elder abuse that are validated by substantial evidence include higher levels of social support [10], family and community support and connectedness, and the coordination of resources and supports at community agencies.

Impact on the American health care infrastructure. Elder abuse has been identified as a risk factor for more intensive use and costs of health care services. Older adults who experience even modest forms of abuse or neglect have dramatically higher (300 percent) morbidity and mortality rates than those who have not experienced maltreatment [20]. Moreover, victims of elder abuse are four times more likely to be admitted to a nursing home [21] and three times more likely to be admitted to a hospital [22]. Elder abuse, neglect, and mistreatment are associated with \$5.3 billion of annual health care expenditures in the United States [23].

Late life intimate partner and sexual violence

A subset of elder abuse is intimate partner violence (IPV), which includes physical violence, sexual violence, stalking and psychological aggression (including coercive acts) by a current or former intimate partner [24]. Sexual violence describes a range of sexual acts committed against someone without that person's consent, including rape or attempted rape, and unwanted sexual contact of any kind [25]. Perpetrators of sexual violence against an older person may be an acquaintance, a current or former intimate partner, caregivers (both in and outside of institutional settings), or a member of the community. The majority of victims are abused by a person they already know [26]. The most extensive national study on elder abuse to date revealed that the majority of cases of physical violence involved female victims with their spouses as perpetrators [11].

Prevalence and demographics. In the United States, as well as globally, the primary distinction between measurements of late life IPV and sexual violence and elder abuse is that elder abuse definitions specify victims as ages 60 and older [27]. Meanwhile, the majority of research and clinical guidelines on IPV and sexual violence is centered on women of childbearing age (generally, from ages 15–49) [28]. The U.S. Preventive Services Task Force acknowledged this serious gap in both data collection and health system responses to middle-aged victims [28]. For this reason, the growing body of research on late life IPV and sexual violence encourages a focus on victims ages 50 and older. In the United States, this is a significant age cohort, representing 40 percent of the total female population and 30 percent of the total male population [29]. Although older victims report lower rates of physical and sexual forms of IPV than those below age 50, research suggests that the prevalence of non-physical IPV (including verbal, emotional, and psychological abuse and coercive, controlling behavior) does not abate as women and men age [30, 31]. Several studies by women’s health researchers have demonstrated that women who remain in abusive partnerships over their life course into older age are at greater risk for non-physical IPV than younger women due to the changing tactics of aging abusers, who reduce the frequency of physical violence, perhaps due to their own disability or health problems, and instead control their partners through economic coercion, psychological abuse, and verbal threats that take a mental and physiological toll on older women’s health [31, 32]. Older women in abusive relationships are also at risk for the most lethal form of IPV: partner homicide. Data from seven U.S. states show that more than one in five women (23 percent) killed by their partners were above age 50 [33]. Furthermore, more than one-third (35.5 percent) of all homicides among women ages 50 and older were IPV related, as were just under one-third (31 percent) of all homicides among women ages 65 and older [33]. Sexual violence experienced by older women and men is mostly hidden. Reliable, comprehensive prevalence data on sexual violence are lacking, in part due to underreporting. For example, data from the Bureau of Justice Statistics show non-partner sexual assaults committed against adults ages 65 and older are reported 15.5 percent less frequently than sexual assaults committed against individuals ages 25–49 [14]. One estimate from researchers at the National Institute of Justice (NIJ) describes 0.7 percent of community-residing older adults ages 70 and older as reporting

sexual abuse in the previous 12 months [34]. It should be noted that, like physical violence from an intimate partner in late life, sexual violence has been shown to affect older women at significantly higher rates than older men [35].

Risk factors. Older women and men who experience IPV or sexual violence share many of the same characteristics as younger victims [36], but have an elevated risk profile due to health and economic circumstances associated with aging, such as the onset of disease, disability, and poverty [34]. Common risk factors for IPV and sexual violence over 50 years include dependence on a caregiver (as a result of lifelong disability or age-related health decline, including dementia); social isolation (either greater risk for stranger or community violence as a result of living alone or heightened risk for abuse inside the home stemming from restricted contact with outside family and friends by a controlling partner or family member); and experiencing IPV or sexual violence earlier in the life course [37]. For example, of the older adults ages 70 and older surveyed by NIJ researchers, those who were romantically involved, had poor access to health care, and physical limitations had significantly increased odds of experiencing abuse in the past year [34]. Furthermore, a significant proportion of respondents reporting abuse shared the following risk profile: 64 percent are women with 51 percent also being in a relationship; 58 percent lived at or below the poverty line; 37 percent reported housing insecurity; 22 percent reported food insecurity; and more than 20 percent reported health problems that required a specialized form of equipment, such as a wheelchair [34].

It is important to emphasize that older adults are not a homogenous group. Those from marginalized populations continue to be at greater or unique risk for violence throughout their lifespan. As a result, the experiences of older victims of IPV or sexual violence (including access to health and justice services) may differ based on race, ethnicity, sexual identity or gender expression, or disability. Furthermore, it has been discussed that the social, economic, and health-related disadvantages associated with aging may intersect with other social determinants and identities, exacerbating risk and impact of late life IPV and sexual violence, as well as interfering with help seeking, for some older survivors [38].

Impact on the American health care infrastructure. According to CDC, the combined costs from emergency department (ED) visits, mental health services, and lost productivity related to IPV and sexual violence among

victims of all ages exceed \$8 billion each year; this includes \$460 million for rape [39]. For older survivors of sexual assault, the health consequences can be devastating. Studies show that older adults are more likely to be admitted to a hospital following an assault than younger individuals or other older adults who have not experienced sexual violence [40]. Post-menopausal women experience more frequent and acute genital injuries from sexual assault than younger women, and older women with a history of repeated experiences of sexual assault demonstrated a two- to three-fold risk of arthritis and breast cancer compared to older women without a history of assault [40]. Older victims of IPV also report greater health service utilization, a decline in overall health status, and reduced life expectancy than older adults who have not experienced abuse [31, 41, 42].

Injury-Based Trauma

Falls in the home and community

Older adult falls are a common source of injury, trauma, and loss of functional independence in the United States, and as a result, this will likely become ever more important to address as the population continues to age.

Prevalence and demographics. In 2014, 28.7 percent of individuals ages 65 and older reported falling [43], which resulted in 2.8 million trips to an ED for a fall-related injury and approximately 800,000 hospitalizations [43]. Furthermore, falls are the leading cause of fatal and non-fatal injuries for older adults [43]—in 2015, 28,486 older adults died from a fall incident [44]. The health consequences of a fall vary, but can include bone fractures and breaks, lacerations and wounds, head injuries [45], and posttraumatic stress disorder [46]. With respect to head injuries, falls are the most common cause of TBIs in the United States [47] and among adults ages 65 and older, 79 percent of TBI-related ED visits, hospitalizations, and deaths were caused by falls [48]. When assessing where falls occur in the natural environment, slightly more than half of older adult falls (55 percent) occur in the home, 23 percent occur outside but near the home, and the remaining 22 percent occur somewhere away from the home and in the community [49].

Age contributes significantly to fall risk: 26.7 percent of people ages 65–74 reported a fall compared to 36.5 percent of those 85 and older [43]. Moreover, older women are more likely to report falls than older men (30.3 percent versus 26.5 percent, respectively) [43]. These last two points are significant to the issue of

prevalence, as the U.S. population is currently undergoing unprecedented aging, and the fastest growing demographic in the United States is women over age 85 [50]. Underscoring this trend, by 2060 there will be approximately 98 million Americans ages 65 and older, making up 24 percent of the population [51].

Risk factors. There are a number of demographic factors that impact the risk of falling. As previously mentioned, age and gender are both risk factors for experiencing and reporting a fall [43]. Annual household income also factors into the fall risk for an individual who is 65 and older. A 2016 *Morbidity and Mortality Weekly Report* (MMWR) examining falls and fall injuries among adults ages 65 and older revealed that 34.9 percent of Americans with an annual income of less than \$15,000 reported incidents of falling, while 24.8 percent of those with an annual income of more than \$75,000 reported a fall [43]. In fact, the same report showed that individuals in each increasing income bracket were less likely to report a fall than the individuals in the previous income bracket [43]. Health status also correlates with the likelihood of reporting a fall. To this end, the MMWR analysis showed that those with poor health status were far more likely (47.3 percent) to report a fall than those with excellent or very good status (19.2 percent and 23.7 percent, respectively) [43].

Complementing these demographic factors, the likelihood that an older adult will experience a fall is influenced most acutely by individual-level factors, both environmental and intrinsic [52]. Additionally, elder abuse may potentially be a risk factor of falls. It is recommended to health care providers to spot indications of “unexplained falls and injuries” [53]. Environmental factors include the safety of individual’s homes and communities (for example, maneuverability, visibility, and presence of obstacles and dangers), use of assistive or medical equipment, and types of footwear. Medication is also an important external factor in fall risk [52], as many common medications, such as antihypertensive agents, diuretics, antidepressants, and benzodiazepines, can increase fall risk [54]. However, many of these risk factors are modifiable. Medications can be adjusted and homes can be assessed and changed to address and reduce risk factors. Intrinsic risk factors include physical factors like gait, balance, and strength; sensory factors like vision; and overall cognition [52]. Balance and gait are particularly important; older adults with poor balance and/or poorly controlled gait are much more likely to fall [52]. Ultimately, the single most predictive risk factor for a fall is a previous fall in the past 12 months [55].

Impact on the American health care infrastructure. Fall incidence among older adults is a multi-billion dollar cost to the American health care system [56]. CDC's Web-based Injury Statistics Query and Reporting System reports that in 2010—the most recent year for which comprehensive data are available—the total medical cost associated with falls (for all ages) was approximately \$59.8 billion, and \$31 billion of that was from adults ages 65 and older [57]. The majority of the costs are associated with non-fatal falls; of \$31 billion in medical costs in 2010, only \$530 million was in relation to the 21,759 deaths from a fall that year [57]. The remaining costs came from ED visits and hospitalizations following a non-fatal fall [57]. A 2016 analysis estimated that by 2015, the cost of fatal falls had risen to \$637.5 million and the cost of non-fatal falls had risen to \$31.3 billion [58]. Providers, payors, older individuals, and families and caregivers of older adults all bear the cost of falls. For older adults ages 65 and older, the average cost of a hospitalization is more than \$30,000 [58], but this can range significantly based on the length of the stay and the consequences of the fall. Additionally, upon discharge, many older adults do not go home, but instead to rehabilitation facilities, assisted living facilities, the homes of family caregivers, or other clinical or community settings. Any of these outcomes are associated with widely variable but substantial costs—both direct costs to the health care system and indirect costs for families and institutions.

TBIs. One particularly serious consequence of falls is TBI, which is defined as damage to the brain caused by an external physical force such as a car accident, a gunshot wound, or a fall [59]. CDC defines a TBI as a disruption in the normal function of the brain that can be caused by a bump, blow, or jolt to the head or a penetrating head injury [60]. Commonly accepted criteria that indicate the presence of a TBI include a documented loss of consciousness, inability to recall the traumatic event that led to the injury, skull fracture, posttraumatic seizure, or abnormal brain scan due to the trauma [59].

Prevalence and demographics. Individuals ages 65 and older are disproportionately represented among Americans who experience a TBI each year. In particular, the rate of hospitalization or death due to TBI is highest for Americans who are ages 75 or older [47, 61]. When examining the sources of TBIs, intentional interpersonal violence (for example, assault or homicide) accounts for less than 1 percent of TBIs experienced by people over age 65 [47], while falls account for approximately

47 percent of all TBIs in the United States [47], although this number increases to 78 percent among individuals over age 65 [47].

Risk factors. Individuals over age 65 who are admitted to rehabilitation for TBI are significantly more likely than their younger counterparts to have comorbid health conditions such as hypertension, diabetes, and coronary artery disease [62, 63, 64]. The association between comorbid medical conditions and TBI could indicate that older people who have a functional or health decline may be more likely to incur a TBI—most likely as a result of a fall [64]. At the same time, a TBI may be the trigger for poor health and functional outcomes among older people—even those who were previously in good health [62]. Further research is needed to generate new knowledge about how health and social factors are related to the incidence and outcomes of TBI among the population of Americans ages 65 and older. Findings from future studies may help to reduce TBI among older adults and to target medical and rehabilitation interventions to promote better functional and community living outcomes among older Americans who sustained a TBI [65].

Impact on the American health care infrastructure. For individuals with TBI ages 65–74, the average cost of care is \$76,903 and for individuals ages 75–84, the average cost of care is \$72,733. However, utilization patterns differ significantly between those in the 65–74 and 75 and older age groups. First-year TBI survivors ages 65–74 have higher expenditures for initial acute hospitalization and inpatient rehabilitation, while those who are 75 or older have higher expenditures for acute re-hospitalizations and for skilled nursing home facility use [66]. Acute care and inpatient rehabilitation hospitals have seen a significant increase in the number of older adults with TBIs over the course of the past two decades [67]. As recently as 2000, people over age 75 accounted for about 18 percent of admissions to inpatient rehabilitation for TBI. This oldest age group now accounts for more than 35 percent of TBI inpatient rehabilitation admissions. The increase in the incidence of brain injury among the older population can be attributed in part to the overall aging of the population, a more active older adult population [68], and the continuing success of EDs and acute care hospitals in reducing TBI mortality [62].

The Federal Response to Common Sources of Trauma in Older Adults

Federal Programs, Initiatives, and Services

The sections that follow cover select federal governmental programs, initiatives, and services that are relevant to individuals who experienced or will experience these sources of trauma during late life. It is important to note here that the focus is centered on programs, initiatives, and services with a role in meeting the needs of individuals who have been or may be impacted by trauma. Given the scope of this review, the research funded by these programs, initiatives, or services was not discussed.

Interpersonal trauma

Elder abuse. Through the enactment of the Elder Justice Act of 2010 [69], the Elder Justice Coordinating Council (EJCC) [69] was established to coordinate activities across the federal government related to elder abuse, neglect, and exploitation. The EJCC, led by the Administration for Community Living (ACL), represents a collaborative effort among federal departments with a stake in elder justice to identify gaps, make recommendations, and coordinate activities. The EJCC members include the Consumer Financial Protection Bureau; Department of Health and Human Services (HHS); Department of Housing and Urban Development; Department of Justice (DOJ); Department of Labor; Department of the Treasury; Department of Veterans Affairs; Federal Trade Commission; Securities and Exchange Commission; Social Security Administration; and U.S. Postal Service. Activities at each agency include education, training, prevention programs, research, and enforcement of laws and policies aimed at protecting older adults from abuse, maltreatment, and exploitation. Input solicited by the EJCC from stakeholders resulted in the development of eight recommendations [69] for increased federal involvement to address elder maltreatment. The eight recommendations include increasing the rates of prosecution, enhancing the services to victims, building a robust APS system, providing training for professionals, educating the public about elder abuse, developing a federal research agenda, combatting financial elder abuse (especially that which is perpetrated by fiduciaries), and improving screening for diminished capacity, financial capacity, and financial exploitation. In 2014, DOJ, in partnership with HHS, released the results of a stakeholder engagement process with the purpose of finding consensus around the most important issues for the elder justice field. The

results found in the Elder Justice Roadmap report [70] identified priority action items on which the federal government should focus. Among the needs of highest significance were strategic investment of resources in services, education, research, and expanding knowledge to reduce elder abuse; and increased public awareness of elder abuse. With this in mind, in the sections that follow, we will discuss specific programs targeting the areas identified above. In 2014, ACL established the Office of Elder Justice and Adult Protective Services (OEJAPS) [71]. Through OEJAPS, ACL leads and supports the development and implementation of a comprehensive, national infrastructure for preventing, detecting, and responding to adult maltreatment.

Adult maltreatment. ACL programs such as the National Center on Elder Abuse (NCEA) [72], the National Indigenous Elder Justice Initiative (NIEJI) [73], and the Elder Justice Innovation Grants (EJIG) program [74] promote and support a robust, evidence-based national elder justice infrastructure to mitigate all types of adult maltreatment. NCEA serves as a national resource center dedicated to the prevention of elder maltreatment through information dissemination and technical assistance to states and to community-based organizations. NCEA disseminates research findings, identifies and shares promising practices and interventions to reduce the incidence of elder maltreatment, creates educational curricula, and spearheads public awareness efforts related to elder abuse. Established in 2011, NIEJI addresses the lack of culturally appropriate information and community education on elder abuse, neglect, and exploitation in American Indian communities. Efforts to deliver services in these communities is critical in light of findings such as higher rates of adverse childhood experiences among American Indians compared to non-American Indians, which are attributable to incidences of emotional and physical abuse and neglect [75]. EJIG contributes to the improvement of the field of elder maltreatment at large by developing materials, interventions, or programs that can be widely disseminated and/or replicated and by establishing and/or contributing to the evidence base of knowledge.

State and tribal APS programs. ACL is developing a national APS system infrastructure to improve the coordination of the prevention, intervention, and response to adult maltreatment. This national APS system is one component of ACL's vision to design a strategic framework that brings together a comprehensive and holistic system that promotes the rights of, and justice for, older adults, including older adults from diverse racial, ethnic, and cultural backgrounds and adults with

disabilities. Programs such as the National Adult Maltreatment Reporting System (NAMRS) [76], the Adult Protective Services Enhancement grant program [77], and the National APS Technical Assistance Resource Center (APS-TARC) [78] all contribute to the protection and support of adults who experience maltreatment. However, it is critical to underscore that there is no national APS program and the federal government does not have any investigatory or enforcement authority with respect to elder abuse. In partnership with the HHS Office of the Assistant Secretary for Planning and Evaluation, ACL developed NAMRS in 2012. In light of the fact that absence of data for research and best practice development is cited by numerous entities, including the U.S. Government Accountability Office, as a significant barrier to improving APS programs [79], NAMRS collects quantitative and qualitative data on the practices and policies of APS agencies and the outcomes of investigations into the maltreatment of older adults and adults with disabilities. The goal of NAMRS is to provide consistent and accurate national data on the exploitation and abuse of older adults and adults with disabilities, as voluntarily reported by state APS agencies on an annual basis. As of August 2017, 54 of 56 states and territories have voluntarily contributed data to NAMRS in its first year of operation [76]. Policy makers, APS programs, and researchers will be able to use these data to evaluate and improve relevant programs. However, within the American Indian and Alaskan Native communities the situation is far more challenging. Gathering tribal APS data is challenged by the sovereignty of tribal nations and by subsequent jurisdictional issues [80]. In addition, research and data pertaining to American Indian/Alaskan Native APS are extremely limited due to these same reasons.

The APS Enhancement grant program was launched in 2015 to help address gaps and challenges in state APS systems. The program is designed to provide funding to states to enhance APS systems statewide, including innovations and improvements in practice, services, data collection, and reporting. The anticipated long-term impact of this program is to improve the experiences, health, well-being, and outcomes of the individuals served by APS and to document improvements accurately and in a manner that is consistent with national data collection efforts, including NAMRS. APS-TARC serves to enhance the effectiveness of APS programs. Funded in 2011, APS-TARC has the primary responsibility for implementing NAMRS and laying the groundwork for future programmatic technical assistance. Such technical assistance focuses on best

practices and innovative strategies developed through stakeholder feedback, an APS process evaluation, and the collection of NAMRS data.

Legal services programs. ACL works with various state and local legal assistance programs to empower older persons to remain independent, healthy, and safe within their homes and communities. Legal assistance can be provided in many ways, including (a) access to public benefits such as Medicaid, Medicare, and unemployment compensation; (b) issues related to supported decision-making alternatives to guardianship; (c) access to available housing options, including low-income housing programs; (d) assistance during foreclosure or eviction proceedings; (e) maintenance of long-term financial solvency and economic security; and (f) mitigation of elder abuse, among others [81]. ACL funds the National Center on Law & Elder Rights (NCLER) [82], which empowers aging adults and legal professionals with the tools and resources to provide older clients and consumers with high-quality legal assistance in areas of critical importance to their independence, health, and financial security. NCLER is a streamlined point of entry supporting the leadership, knowledge, and systems capacity of legal and aging service providers across the country. It serves to enhance the quality, cost-effectiveness, and accessibility of legal assistance and elder rights protections available to older persons with social or economic needs. NCLER provides resource support to a broad range of legal, elder rights, and aging services professionals and advocates through a strategic combination of case consultation, training, and technical assistance on a broad range of legal issues and systems development issues.

Combating financial exploitation. Losses from financial exploitation are estimated to range from \$2.9–\$36.5 billion each year [83]. A 2016 report from the EJCC to Congress [84] highlighted the efforts made by participating agencies from 2014 to 2016 to combat various forms of elder abuse, including financial exploitation. While a robust discussion of the programs offered by agency members of the EJCC is outside the scope of this article, these programs offer a range of services from developing innovative ways to identify incidents of fraud committed by conservators and guardians [84], to online resources to assist family caregivers in their financial management responsibilities [85], to a variety of programs working to increase education and awareness among older adults and health care professionals on issues of financial exploitation.

Late life intimate partner and sexual violence. Since 1984, the Family Violence Prevention and Services Act

(FVPSA) has provided federal support to domestic violence programs serving people of all ages. Although older adults comprise a minority of victims served in FVPSA-funded programs, the cohort of those ages 60 and older who are receiving support is increasing. In 2017, domestic violence shelters and non-residential advocacy programs in the FVPSA network reported serving at least 42,589 survivors over age 60—an 8 percent increase from the previous year [86]. Complementing the FVPSA, Congress passed the Violence Against Women Act (VAWA) in 1994, establishing federal resources for the development of coordinated community responses to integrate the criminal justice system with services for victim advocacy. VAWA supports victims of domestic violence, sexual assault, and stalking, regardless of age.

However, the singular source of federal funding specifically allocated for direct services to IPV and sexual violence among adults ages 50 and older is the Enhanced Training and Services to End Abuse in Later Life Program (the Abuse in Later Life Program) [87], administered by the Office on Violence Against Women (OVW) in DOJ. Established under the 2000 reauthorization of VAWA, the Abuse in Later Life Program addresses elder abuse, neglect, and exploitation, including domestic violence, dating violence, sexual assault, or stalking, against victims who are ages 50 or older through training and services. The OVW Abuse in Later Life (OVW-ALL) program supports projects with comprehensive and multidisciplinary approaches to address elder abuse in communities across the country. OVW-ALL program grantees are required to do the following: (a) provide training to assist criminal justice professionals, victim service providers, and other professionals in recognizing and addressing elder abuse, neglect, and exploitation; (b) provide or enhance services for victims of abuse in late life; (c) establish or support multidisciplinary collaborative community responses to abuse in late life; and (d) conduct cross-training for victim service providers, agencies of states or units of local government, attorneys, health care providers, community organizations, and faith-based advocates to enable them to better serve victims of abuse in late life.

In addition to funding multidisciplinary teams (MDTs) and direct services for victims of abuse in late life, this program supports a national training and technical assistance provider operated by the National Clearinghouse on Abuse in Later Life (NCALL). NCALL provides individualized technical support for communities developing and implementing their multidisciplinary responses to older survivors, as well as facilitating na-

tional training and awareness building for mainstream domestic violence and sexual assault organizations seeking to build their capacity to serve older adults in their programs [88]. In addition, NCALL partners with culturally specific training and technical assistance providers to develop resources and tools for communities to enhance their inclusion of underserved older populations, including American Indians and Alaskan Natives, in their services for abuse in late life [89]. Programs that service reservations and areas where American Indians and Alaskan Natives are essential given that these communities experience some of the highest rates of IPV and sexual violence across the lifespan, with 84 percent of American Indian and Alaskan Native women and men reporting some form of violence from an intimate partner in their lifetimes [90].

Injury-Based Trauma

Falls in the home and community. ACL, CDC, and the National Institutes of Health (NIH) are working collaboratively to leverage complementary, but distinctive, older adult falls prevention efforts.

ACL. To facilitate the increase in public education about the risk of falls and to stimulate the implementation and dissemination of evidence-based community programs and strategies proven to reduce the incidence of falls among older adults, ACL has funded the National Falls Prevention Resource Center [91] since 2014. Housed at the Center for Healthy Aging at the National Council on Aging, the Resource Center serves as the national clearinghouse of tools and best practices for falls prevention. Complementing efforts by the Resource Center, ACL provides funding, via the Evidence-Based Falls Prevention discretionary grant programs [92], to state and local government agencies, universities, tribal organizations, and nonprofit community-based organizations to support evidence-based health promotion and disease prevention programs for older adults. The purpose of these grants is to (a) significantly increase the number of older adults and older adults with disabilities at risk of falls to actively participate in evidence-based community programs to reduce falls and fall risks, (b) implement innovative funding arrangements to support these programs both during and beyond the grant period, and (c) embed these programs into an integrated, sustainable evidence-based prevention program network via centralized, coordinated processes.

CDC. To improve the integration of effective fall prevention strategies and patient care, CDC is building partnerships with health systems, providers of health care, and those who pay for health care services

through its National Center for Injury Prevention and Control [93] program. Complementing this program is CDC's Stopping Elderly Accidents, Deaths & Injuries (STEADI) [94] initiative, which provides resources and tools for health care providers. These tools include on-line training, screening tools, case studies, videos and information on how to conduct functional assessments, and patient educational materials. CDC is also working with the suppliers of electronic health record systems to facilitate the adoption and use of the STEADI tools in the clinic setting. Additionally, CDC also supports opportunities to broaden and improve the linkage between primary care and evidence-based community fall prevention programs supported by ACL. CDC also supports critical data and surveillance efforts [95] and research in the area of older adult falls prevention.

NIH. The National Institute on Aging (NIA) within NIH funds a portfolio of older adult fall prevention-related research, examining a broad range of interventions (for example, pharmacological, psychosocial, and environmental) across a variety of settings (for example, community-based, hospital, and long-term care facilities). Additionally, in 2014, NIA and the Patient-Centered Outcomes Research Institute partnered to support the Strategies to Reduce Injuries and Develop confidence in Elders (STRIDE) trial. According to Kelly and colleagues [96], the purpose of STRIDE was "to test a customized prevention strategy and concept of a fall care manager in various healthcare systems and communities to reduce serious fall-related injuries in individuals aged 75 and older." Stakeholders from three universities, an NIA-funded research center, and local health care partners are all involved in this community-based study. The study is expected to conclude in 2019. This research is critical to help identify effective, community-based interventions and programs that may be suitable for implementation throughout ACL's networks.

TBIs. ACL's State Partnerships Program [97] supports an infrastructure of accessible, appropriate, and person-centered supports for individuals who sustained a TBI, their families, and caregivers. This program focuses on training a competent TBI workforce, supporting accurate screening services, and providing resource facilitation services to all individuals who sustained a TBI. Programs throughout the country devote resources to underserved populations, including older adults, youth and adults in correctional settings, minority and rural populations, and youth athletes. ACL also funds the Protection and Advocacy for Individuals with Traumatic Brain Injury (PATBI) program [98], which is a formula

grant to 57 protection and advocacy organizations in the United States and its territories to assess protection and advocacy systems' responsiveness to TBI issues and provide advocacy support to individuals with TBI and their families. The PATBI program provides legally based advocacy services for people who sustained a TBI. PATBI recipients also have the legal authority to investigate suspected abuse or neglect and seek justice for victims and their families.

The National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) housed within ACL supports the Traumatic Brain Injury Model System Centers (TBIMS Centers) program [99]. This program was established in 1987 to demonstrate the benefits of a coordinated system of neurotrauma and rehabilitation care and to conduct innovative research on all aspects of care for those who sustain a TBI. The mission of the TBIMS Centers is to improve the lives of persons who experience TBI, and of their families and communities, by creating and disseminating new knowledge about the natural course of TBI and about rehabilitation treatment and outcomes following TBI. In addition to conducting site-specific and collaborative research, the 16 funded centers contribute data to the TBIMS National Database [100], the largest longitudinal TBI research effort to date. The TBI National Data and Statistical Center coordinates data collection, manages the TBIMS National Database, and provides statistical support to the TBIMS Centers. As of December 2016, the TBIMS Centers had enrolled 15,413 participants in the TBIMS National Database, with follow-up data available to date for 14,728 participants at 1 year post injury; 13,163 at 2 years post injury; 10,144 at 5 years post injury; 5,884 at 10 years post injury; and 640 at 20 years post injury. Fifteen percent of the participants in the TBIMS National Database were ages 65 or older at the time of their brain injury. Of those enrolled in the database and still living, 26 percent are ages 65 or older [101].

Complementing many of the programs, initiatives, and services discussed above in their efforts to meet the needs of older adults who experienced or will experience a traumatic event during older adulthood are a range of entitlement benefit programs and services already in place. While these benefit programs and services do not focus on a particular source of trauma, they do deliver vital services to individuals, especially in the context of behavioral health and one's maintenance of emotional well-being and mental health. Within the Medicare program, and specifically under Medicare part B, a spectrum of mental health servic-

es are covered, including psychiatric diagnostic interviews, individual psychotherapy, family psychotherapy, psychoanalysis, biofeedback therapy, individualized activity therapy, a yearly screening for depression, and a yearly wellness visit [102]. Ensuring that older adults are able to navigate the Medicare system is critical in their subsequent use of available services. The State Health Insurance Assistance Program provides Medicare beneficiaries with information, counseling, and enrollment assistance and helps individuals sort through their Medicare options, including the original Medicare program, Medicare Advantage, and Medicare Prescription Drug plans [103]. Outside of the available programs, there are additional behavioral health services such as the National Suicide Prevention Lifeline [104] and the Treatment Referral Routing Service [104] operated by SAMHSA, which cover issues of suicidal crisis, emotional distress, and mental and/or substance use disorders prevention and recovery.

Lessons Learned, Challenges, and Promising Practices

Barriers and Facilitators to Positive Outcomes

In the preceding sections, an overview of the sources of trauma experienced by individuals in their older adulthood and related federal government programs, initiatives, and services for these individuals and those who will experience a traumatic event was provided. In the sections that follow, attention is shifted toward the discussion of the lessons learned, challenges faced, and promising practices identified in each of the programs. We hope this discussion will make it possible to obtain a better sense of how programs discussed for each source of trauma are functioning at the level of the organization, state, or community. Lastly, we briefly discuss the potential applications of trauma-informed care in older adults who experienced a traumatic event in late life.

Interpersonal Trauma

A major challenge for the field of elder abuse is the lack of research on best practices for identifying, treating, and preventing elder abuse [10]. Opportunities for further research also exist around the areas of screening tool validation and policies for universal screening of all older adults for elder abuse [106]. In order to build effective intervention and prevention programs, the elder justice field needs to develop a more comprehensive understanding of the diverse risk factors, predictors, and root causes of elder abuse. In addition to research limitations, a lack of consensus on successful

intervention outcomes also serves as a gap in existing programs [106]. Empirical research on prevalence is inadequate, and research is even more limited in the context of special populations such as older adults who reside in long-term care facilities [10] or those with cognitive impairments [106]. Additionally, more routine evaluation—or evaluation as a routine part of the service—is needed to determine which outcomes are successful or promising and which need further development. More recent studies have expanded our knowledge about elder abuse in several minority population groups (for example, African American, American Indian, Chinese, Korean, and Latino populations). However, we still need to study the prevalence, incidence, risk/protective factors, and consequences associated with cases of elder abuse in minority populations [22].

While much still needs to be studied, the body of knowledge in the field of elder abuse has grown significantly in the past few years and promising practices are emerging. These include caregiver support interventions to reduce re-victimization; money management support programs to prevent financial exploitation; telephone helplines to facilitate early intervention; and MDTs to support service coordination among criminal justice, health care, victim legal services, APS, financial services, long-term care and proxy decision-making systems [10], and psychotherapeutic interventions to reduce depression (for example, PROTECT, which combines psychotherapy with services to address elder abuse [107]). Existing research on forensic markers of abuse may help health care professionals distinguish between abuse-related injuries (for example, an arm fracture that occurred as a result of being pushed [108] or a bruise caused by an intentionally forceful touch [109]) and non-abuse-related trauma (for example, a fracture or a bruise caused by a fall). Recent research also supports the development of MDTs comprising emergency medical services providers, triage providers, nurses, radiologists, radiology technicians, social workers, and case managers. This is a recommended strategy for enhancing the identification of elder abuse in an ED setting [110]. American Indian tribes have also used MDTs as a successful approach to provide assistance with APS [80]. Participation in tribal MDTs allows for expanded work through several tribal service departments. Lastly, the elder abuse field has started to borrow evidence-based practices from intervention and prevention efforts of similar programs designed to address child abuse and IPV. These present exciting opportunities for adaptation within elder abuse intervention and prevention provided that these practices prove to be promising in relation to elder abuse [111].

Injury-Based Trauma

The prevention of falls and treatment of fall-related injuries is challenging due to the complexity of the factors involved. As noted above, both environmental and intrinsic factors can impact a person's risk for falls or a person's ability to recover post fall. The good news is that falls are preventable when modifiable risk factors are addressed. A range of effective clinical interventions and community-based programs have been shown to be effective in helping address modifiable risk factors [112]. Interventions that have been shown to reduce falls or fall risk among older adults may include those that focus on increasing physical activity and strength, improving home safety, promoting the use of necessary equipment or sensory aids, and introducing appropriate medication management [112]. On the other hand, there are some fall risk factors that are not as easily modifiable, such as socioeconomic-related issues. Financial resources are necessary to purchase equipment to aid mobility, make home modifications, and in post-fall recovery support (for example, stays in skilled nursing facilities, formal and family caregivers in home), which can be a barrier for some older adults [113]. In addition, recommendations to strengthen informal and formal connections among falls researchers, health care providers, policy makers, fall prevention coalitions, and other stakeholders to promote clinical-community linkages have also been suggested [114]. Although evidence-based community interventions have been shown to reduce fall risk, not all older adults have available access to these programs or the means to pay the fees or transportation costs associated with participation. Although some progress has been made with respect to reimbursement for fall risk screening (for example, through a Medicare Wellness Visit) [115], provider reimbursement for fall intervention can be a barrier and at times there is the perception among providers that reimbursement rates do not fully cover the cost of the fall risk assessment [113].

ACL acknowledges the need for the development of evidence-based best practices in the area of TBI. To this end, the TBI ACL State Partnership Grant Program [97] is focused on supporting a network of TBI-related infrastructures that address commonly identified gaps within the community. These gaps include the development and implementation of screening methods for the reliable and accurate recognition of TBI in people of all ages. This is accomplished through the training of professionals in a multitude of settings to provide appropriate supports for individuals of all ages who sustained a TBI, in addition to connecting individuals of all

ages who experienced TBI with appropriate information and independent or community living supports.

Emerging Practice: Trauma-Informed Care for Older Adults

While the primary focus of this article is on the discussion of the sources of traumatic events experienced by persons in late life, individuals can also enter late life having already experienced a traumatic event. In the section below, we review the testing and development of a person-centered approach for serving these older adults.

Person-Centered Trauma-Informed (PCTI) Supportive Services

One type of trauma, termed historical and multi-generational trauma, is experienced by a group of individuals such as, but not limited to, those members of the American Indian and Alaskan Native communities or those who are Holocaust survivors. Typically, this is trauma experienced by a specific cultural, racial, or ethnic group and is usually in connection to a significant history of oppression such as slavery, forced migration, or some other similar, significant occurrence [116].

In 2015, ACL administered a new grant program – Advancing Person-Centered, Trauma-Informed (PCSTI) Supportive Services for Holocaust Survivors – to deliver services and supports for aging Holocaust survivors living in the United States. ACL and its grantee, the Jewish Federations of North America established the Center for Advancing Holocaust Survivor Care [117] which works together with a host of community-based, sub-grantee organizations from across the United States to advance innovations in the design and delivery of supportive services to Holocaust survivors.

Adopting SAMHSA's 2014 publication [118] on trauma and trauma-informed approaches as a guiding framework, this 5-year project is focusing on two primary objectives: (a) advancing innovations in the delivery of PCTI supportive services to Holocaust survivors living in the United States; and (b) improving the nation's overall capacity to deliver PCTI health and social services to this and other populations of older adults who experienced trauma. To date, community-based organizations are working in a variety of ways to provide or enhance the provision of PCTI supportive services to Holocaust survivors. This includes (a) infusing PCTI principles (for example, safety; trustworthiness and transparency; peer support; collaboration; and mutuality) throughout an agency's programming, including wellness, transportation, socialization, care management, and family caregiver support programs; (b) em-

ploying PCTI approaches in meeting the legal needs of Holocaust survivors through the training of attorneys and the tailoring of legal services to meet specific survivor needs and situations; (c) enhancing PCTI outreach and cultural competence training for health care, financial, legal, and mental health professionals to improve delivery to Holocaust survivors and their families; and (d) developing end-of-life planning approaches to address the unique needs and concerns of Holocaust survivors and their families.

Delivering services and supports in a PCTI manner has potential benefits for older adults who experienced a traumatic event in the early stages of their older adulthood and consequently may suffer the harmful effects of trauma for decades to come. Knowing that trauma can occur in anyone's life at any time throughout the life course and can have significant and lasting impacts on its victims and their families, it is essential that a broad spectrum of community-based organizations serving older adults have the competence and support to deliver PCTI-based services.

While this particular initiative focuses on serving a narrow segment of the older adult population that experienced a traumatic event not connected to military service before late life, ACL and its grantees are working toward advancing understanding of how lessons learned from this population can be generalizable to older adults who experienced a particular traumatic event.

Conclusion

Falls, TBI, and elder abuse are common sources of trauma that are more likely to occur as people age. This article provides a broad overview of select federal programs, initiatives, and services for older adults who experienced or may experience a traumatic event in late life. In doing so, this review may potentially serve as a tool and reference guide for readers hoping to advance their knowledge of current federal programs and their component services in the areas of evidence-based interventions, education, awareness, and home and community support. It is the intention of the authors that this review will provide useful information concerning the impact and response to trauma experienced in late life and ways that different types of trauma might be addressed both now and in future work in this area.

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DOI

<https://doi.org/10.31478/201901a>

Suggested Citation

Iyengar, V., G. Link, P. W. Beatty, M. Boel, C. Crockett, C. DiCocco, D. Fink, J. S. Gray, C. LaCounte, A. C. Miller, M. Phillippi, S. Skowronski, M. S. Twomey, and T. Williams. 2018. Trauma caused by injury or abuse in late life: Experiences, impacts, and the federal response. *NAM Perspectives*. Discussion Paper, National Academy of Medicine, Washington, DC. <https://doi.org/10.31478/201901a>

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Acknowledgments

Julie Pavlin, MD, PhD, MPH, Director of Board on Global Health at the National Academies of Sciences, Engineering, and Medicine; **Louise A. Flavahan, JD, MPH**, Senior Public Policy Analyst to Senator Barbara Mikulski, Krieger School of Arts and Sciences, Johns Hopkins University; **Lisa Caucci JD, MA**, public health policy analyst at the Center for Disease Control and Prevention; **Lyndon Joseph, PhD**, Health Scientist Administrator at the National Institute on Aging; and **Helena Lamont, PhD**, Office of Disability, Aging, and Long-Term Care Policy at the Office of the Assistant Secretary for Planning and Evaluation for providing valuable writing support.

Conflict-of-Interest Disclosures

Dr. Jacqueline Gray reports that she receives financial support from the Administration for Community Living.

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The views expressed in this paper are those of the authors and not necessarily of the authors' organizations, the National Academy of Medicine (NAM), or the National Academies of Sciences, Engineering, and Medicine (the National Academies). The paper is intended to help inform and stimulate discussion. It is not a report of the NAM or the National Academies. Copyright by the National Academy of Sciences. All rights reserved.