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**National Advisory Committee on Rural
Health and Human Services**

**Exploring the Rural Context for
Adverse Childhood Experiences (ACEs)**

Policy Brief and Recommendations

August 2018

EDITORIAL NOTE

During its April 2018 meeting in and near Saratoga Springs, New York, the National Advisory Committee on Rural Health and Human Services examined the rural landscape of adverse childhood experiences (ACEs). In its explorations, the Committee considered the role that health and human services play in mitigating and preventing ACEs and their related outcomes. Over the two-and-a-half day gathering, the Committee heard about national and state-level perspectives on ACE-related research and prevention. The following day, the subcommittee tasked with this topic visited a rural community in Schoharie County. There, the subcommittee took a tour of the Schoharie County Head Start located in Cobleskill (see **Appendix A**). Additionally, members of the Committee met with and heard from early childhood experts and advocates, head start educators, home visiting professionals, school-based providers, and a wide array of cross-systems professionals, including local law enforcement and community, social, and human services' staff.

ACKNOWLEDGEMENTS

The Committee would like to acknowledge and give thanks to all those whose participation helped make the April 2018 meeting in Saratoga Springs, the site visit in Cobleskill, and this policy brief possible.

The Committee expresses its gratitude to each of the presenters for their contributions to the meeting and for their knowledge and expertise on the subject. These individuals are: **Dr. Elizabeth Crouch** (South Carolina Rural Health Research Center); **Dr. Michael Compton** (New York State Office of Mental Health); **Priti Irani** (New York State Department of Health); **Dr. Rahil Briggs** (HealthySteps); and **Dr. Heather Larkin** (SUNY Albany).

The Committee would also like to thank each of the community panelists who shared insights and experiences during the site visit meeting in Cobleskill. These individuals are: **Dawn Bialkowski** (Gilboa-Conesville Central School); **Chief Richard Bialkowski** (Cobleskill Police Department); **Susan Cimino-Cary** (Schoharie Hypnosis and Reiki); **Dr. Susan Emerson** (Bassett Healthcare); **Dr. Miguelina Germán** (Montefiore Medical Center); **Richelle Gregory** (Clinton County Mental Health and Addiction Services); **Jane Hamilton** and **Gayle Wheeler** (Bassett Healthcare Network); **Linda Hill** and **Karen Simmons** (Schoharie County Department of Health); **Dr. Carol Morris** (SUNY Cobleskill); **Sarah Nies** and **Bonnie Post** (Schoharie County Office of Community Services); **Amy Pricolo-Brown** (Child At Risk Response Team of Schoharie County); **Marcia Rice** (New York State Office of Mental Health); **Lisa Scott, Eileen Thrush**, and **Siri Young** (Schoharie County Child Development Council); **Angela Smith** (Catholic Charities of Delaware, Otsego, and Schoharie Counties); **Kathy Wright** (Parsons Child and Family Center at Malta); and **Dr. Katie Zuber** (Rockefeller Institute of Government).

The Committee expresses its appreciation to **Siri Young** for her assistance with the meeting planning process, for leading the tour of the Schoharie County Head Start, and for being a passionate community advocate, educator, and leader.

Special thanks goes to **Kate Rolf** for serving as Committee host; to **Donald (Don) Warne** for serving as the ACEs subcommittee chair; and to **Kathleen Belanger**, **Carolyn Emanuel-McClain**, **Barbara (Barb) Fabre**, **Constance (Connie) Greer**, and **Octavio Martinez, Jr.**, for serving on this subcommittee.

Finally, the Committee extends its gratitude and appreciation to **Alfred Delena** for his work.

RECOMMENDATIONS

1. The Committee recommends the Secretary develop and implement a comprehensive prevention strategy that identifies key priority outreach/awareness, programming, research, and policy areas to address toxic stress, trauma and the health consequences of ACEs for rural, tribal, and other at-risk populations.
2. The Committee recommends the Secretary supports research that evaluates economic costs resulting from ACEs and benefits gained from federal investments in ACE-related prevention programming.
3. The Committee recommends the Health Resources and Services Administration's (HRSA's) Maternal and Child Health Bureau (MCHB) establish and include a predefined variable for "Rural-Urban Status" in the National Survey on Children's Health (NSCH) to allow for easier, standardized analyses of ACE prevalence.
4. The Committee recommends the Secretary seek additional funding for telehealth-supported school-based health centers (SBHCs) in rural areas as a way of increasing access to integrated primary and behavioral health care services.

INTRODUCTION

Over the past decade, the National Advisory Committee on Rural Health and Human Services (hereinafter referred to as “the Committee”) has examined a number of rural issues that touch upon the [social determinants of health](#).ⁱ Through its reports and policy briefs to the Secretary, the Committee has consistently documented the unique, yet, all too common health barriers and consequences individuals residing in rural areas experience.ⁱⁱ Some of these issues include inadequate access to primary and behavioral health care, rural hospital closures, health professional workforce shortages, lack of transportation services, food insecurity, housing instability, and diminished economic opportunities. With limited infrastructure, each of these determinants, in turn, contributes to existing rural health disparities, which have impacts on life expectancy, morbidity, and mortality. The Committee’s work has focused, in part, on understanding how such outcomes (e.g., [homelessness](#), [childhood poverty](#), [intimate partner violence](#), [opioid misuse](#) and [suicide](#)) can be better addressed through health and human service programs and policymaking. In addition to having examined the rural social determinants of health in its prior work, the Committee chose to address another layer that may exacerbate these rural health disparities and outcomes. That issue is ***adverse childhood experiences*** or ***ACEs***. These refer to any form of chronic stress or trauma (e.g., abuse, neglect, and household dysfunction) experienced throughout childhood that has profound short- and long-term impacts on an individual’s development, health and overall well-being.

ⁱ As defined by the [World Health Organization](#), the social determinants of health are “the circumstances in which people grow, live, work and age, and the systems put in place to deal with illness. The conditions in which people live and die are, in turn, shaped by political, social, and economic forces.”

ⁱⁱ To read the Committee’s previous work on health and human service topics, please visit: [hrsa.gov/advisory-committees/rural-health/index.html](#).

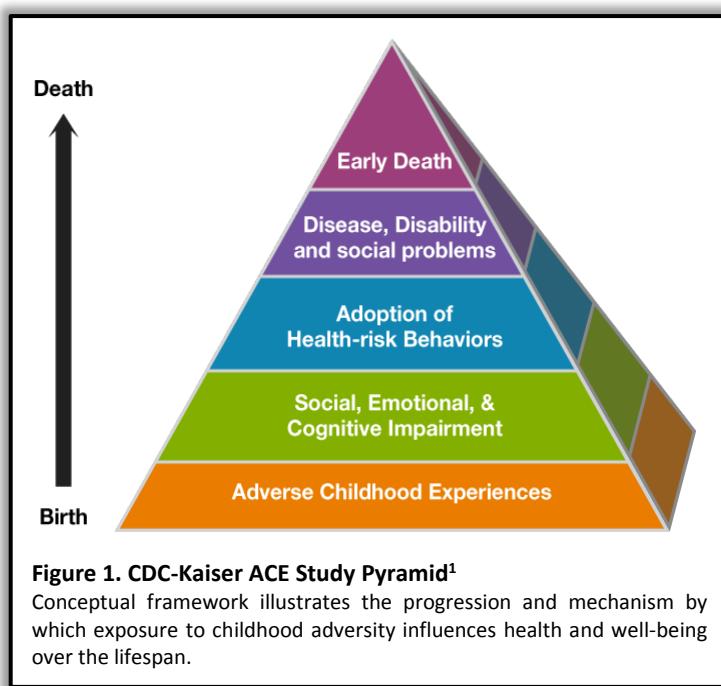
BACKGROUND

Understanding the Link between Childhood Trauma and Adult Well-Being

In their landmark research study published in 1998, principal investigators Dr. Vincent Felitti (from Kaiser Permanente's Health Appraisal Clinic in San Diego [Kaiser]) and Dr. Robert Anda (from the Centers for Disease Control and Prevention [CDC]) analyzed medical evaluations and self-reported survey data collected from over 17,000 Kaiser health-plan members.¹ Following their medical visits, each study participant received a questionnaire in the mail asking for a personal history of health-related behaviors and childhood adversities, or what they coined, "adverse childhood experiences" (ACEs). These ACE categories included: physical, sexual, or emotional abuse; physical or emotional neglect; and certain forms of household dysfunction. Forms of household dysfunction included having witnessed domestic violence; having lived with someone who was substance dependent, suffered from mental illness, or had been incarcerated; or having witnessed parental separation or divorce.

Results from the ACE Study revealed several concerning outcomes. First, ACEs are quite common. With a sample population that consisted of predominantly white (74.5%) and college-educated (75.2%) adults,ⁱⁱⁱ 63.9% of participants reported at least one ACE category and 12.5% reported a high ACE score of four or more. Secondly, Felitti, Anda, and colleagues observed a dose-response relationship between the number of ACEs and poor adult health-related outcomes. Specifically, the more ACEs an individual reported, the more likely they were to engage in negative health behaviors and be at an elevated risk for the leading causes of morbidity and mortality.¹ Compared with individuals who reported no ACE history, those with a high ACE score (**of four or more**) had a 1.6-fold increase in diabetes; a 1.9-fold increase in cancer; a 2.2-fold increase in ischemic heart disease; a 2.4-fold increase in suffering from a stroke; and a 3.9-fold increase in having chronic bronchitis or emphysema. Furthermore, these same individuals were also as likely to be severely obese (1.6 times), be a current smoker (2.2 times), have a sexually transmitted disease (2.5 times), be depressed (4.6 times), be an alcoholic (7.4 times), have injected drugs (10.3 times), and have attempted suicide (12.2 times).¹

In addition to their findings, Felitti, Anda, and colleagues developed a conceptual framework that suggests early exposure to chronic stress has negative downstream implications on adult health and behavior. (See



ⁱⁱⁱ Centers for Disease Control and Prevention. "Data and Statistics, Participant Demographics." Retrieved from cdc.gov/violenceprevention/acestudy/about.html.

Addressing Health Disparities and Historical Trauma among Native Populations

Representing roughly 2% of the total U.S. population² and more than half living in rural or small towns,³ the American Indian/Alaska Native (AI/AN) population continues to face some of the highest health disparities in the nation. When compared with their racial American counterparts, Native people die at higher rates from alcoholism (520% higher), tuberculosis (450% higher), chronic liver disease and cirrhosis (368% higher), diabetes (177% higher), unintentional injuries (141% higher), and suicide (60% higher).⁴ In particular, of all racial groups, Native youth (ages 15-24) have the highest suicide rate at 34.1 deaths per 100,000.⁵ Moreover, analyzing 2011-2012 data, researchers found that when compared to non-Hispanic White children, AI/AN youth (ages 17 and under) are more likely to have experienced 8 of 9 ACE categories.⁶

In short, race-based discrimination and **historical trauma** or the “cumulative emotional and psychological wounding over the lifespan and across generations, emanating from massive group trauma,”⁷ may explain, in part, differences in health outcomes and higher ACEs.⁸

Thus, to effectively reduce racial health disparities, the Committee believes that interventions that address historical trauma are fundamental to the healing and health of tribal communities as is the need to further expand the evidence base.^{9,10}

Figure 1). These effects, in turn, have further ramifications for the onset of chronic disease, disability, and even premature mortality.

In the twenty years since the seminal ACE Study was first published, further research has expanded upon the links between ACEs and increased risks of negative health behaviors, as well as elevated risks for chronic physical and psychological conditions in adulthood.^{11,12} The current literature demonstrates that associations between ACEs and subsequent health-related outcomes include smoking,^{13,14} illicit drug use,¹⁵ alcoholism,¹⁶ suicidal behaviors,^{17,18} cancer,^{19,20} chronic obstructive pulmonary disease (COPD),²¹ depressive disorders,²² ischemic heart disease,²³ and general disability.²⁴

With advances in genomics,

epigenetics, neuroscience, and the broader behavioral and social science disciplines, researchers have begun to understand the crucial role that **toxic stress**^{iv} plays in affecting the foundations for healthy development.^{25,26} In short, toxic stress disrupts essential nervous, endocrine, and immune systems development,²⁷ leading to a “wear and tear” effect on the brain and body.²⁸

As such, the Committee acknowledges the increasing recognition and implementation of ACE-related programming in early childhood, education, and health and human service sectors. **The Committee therefore strongly encourages practitioners, researchers, and policymakers to include and account for rural-urban differences in ACE-related outcomes.**

Rural-Urban ACE Prevalence among Adults and Children

When considering the prevalence of ACEs based on levels of urbanization, research remains limited. Of the existing studies that have examined population data on ACE prevalence among adults in the U.S., only three studies have investigated such differences – two of which have analyzed data from multiple states using the CDC’s Behavioral Risk Factor Surveillance System (BRFSS) survey.^{29,30,31} Results^v from a 2018

^{iv} Although [“stress” has received a bad reputation](#), not all stress is “bad”. In the presence of a stressor, the adoption of adaptive coping mechanisms is key to buffering its effects. However, the degree to which a stressor is deemed harmful is characterized by the strength of the stressor and the absence of a supportive adult/caregiver. Thus, unlike “positive” and “tolerable” stress, toxic stress refers to the severe and prolonged activation of the stress response system **without** the supportive presence of a caring adult/caregiver who can diminish the severity of the stressor(s) impact.²⁵

^v Researchers analyzed 2011 and 2012 BRFSS data from 79,810 survey respondents from 9 states (Iowa, Minnesota, Montana, North Carolina, Oklahoma, Tennessee, Vermont, Washington, and Wisconsin).

study published in the *Journal of Environmental and Public Health* revealed that 55.4% of rural adult respondents reported exposure to at least one ACE and 14.7% experienced four or more.³⁰ These findings seem to suggest a similar pattern to that of other multi-state BRFSS analyses,^{32,33} the original ACE Study,¹ and results from a 2016 study published by researchers at the Maine Rural Health Research Center (MRHRC).³¹ In their study,^{vii} MRHRC researchers noted that ACEs are more likely to co-occur and exposure to ACEs is common among surveyed rural adults. However, overall rural adult ACE prevalence appears to be lower³⁰ or roughly the same³¹ in comparison to urban respondents in both studies. Among young people, ages 17 and under, an analysis from 2011-2012 National Survey on Children's Health (NSCH) data demonstrated that 28.9% of those living in small rural areas experienced two or more ACEs compared with 21.3% of urban children.³⁴ Additional findings suggest that rural children and families experience economic hardship significantly more than children living in urban areas.³⁴

Although there is limited research on the prevalence and severity of ACEs nationally, especially accounting for rural-urban differences, it is, however, plausible to argue that rural children and adults would be at an elevated risk of experiencing more toxic stress and thus, more ACEs and their downstream impacts. For certain ACE categories, there are notable differences in outcomes between rural and urban populations. For instance, amongst its findings, the Fourth National Incidence Study of Child Abuse and Neglect reported that when compared with urban children, rural children were twice as likely to have experienced nearly all forms of maltreatment (i.e., abuse and neglect).³⁵ On incarceration, data analysis from the Vera Institute of Justice revealed that despite having low crime rates, rural counties have the highest pretrial detention rates in the nation and experienced a 436% increase in pretrial incarceration from 1970 to 2013.³⁶ On intimate partner violence (IPV), the Committee's 2015 policy brief on the issue pointed out that prevalence of IPV among rural areas may be similar to or marginally higher than that of non-rural areas.³⁷ These findings seem to suggest that perhaps ACE-related outcomes are worse in rural areas.

Revisiting Rural Health Disparities

As the Committee has observed in the past, rural population health is diminished when multiple, often co-occurring factors limit one's ability to thrive. The co-occurrence and coalescence of factors – not limited to, but including, poverty, socio-economic status, and disease – take a toll on the health of rural communities. According to USDA's Economic Research Service (ERS), in 2016, the poverty rate for Americans living in nonmetropolitan (rural) areas was higher than the national rate and that of those living in metropolitan (urban) regions (16.9%, 14%, and 13.6%, respectively).³⁸ Across age categories, the overall poverty rate among children^{vii} (those under 18 years) was the highest at 23.5% when compared with urban children, rural and urban working adults, and rural and urban seniors.³⁸ Additionally, of the 353 ERS-identified persistent poverty counties across the country, 301 counties (or 85.3%) of those were rural.³⁸

Beyond poverty levels, geographic differences seem to suggest greater disparities in life expectancy, mortality, and chronic disease. Although national rates of infant death have been steadily decreasing³⁹ as has rates based on levels of urbanization,⁴⁰ the rural-urban gap remains. In 2014, the infant mortality rate was 20% higher among rural counties (6.55 deaths per 1,000 births) than large urban counties (5.44 deaths per 1,000 births).⁴¹ In addition to infant mortality, according to data from the CDC, death from pregnancy-related complications among rural women (ages 15-44) in 2015 was 64% higher than that of women living

^{vii} Analysis of BRFSS ACE survey data was obtained from 103,203 respondents from Maine, Minnesota, Montana, Nebraska, Nevada, Vermont, and Washington in 2011; Connecticut, Iowa, and North Carolina in 2012; and Iowa and Utah in 2013.

^{viii} Children under 5 years of age living in rural areas had an even higher poverty rate (26.8%) than that of rural children under 18 years.³⁸

in large urban areas.⁴² Moreover, there are growing divides in overall rural-urban mortality and life expectancy trends, as noted in the Committee's 2015 policy brief on the issue.⁴³ While national mortality rates have been on the decline, the rural mortality rate has decreased relatively slower than the urban rate. Furthermore, from 2005-2009, a 13% difference in mortality rates was observed between the two populations with nearly a two-and-a-half-year discrepancy in life expectancy (76.9 years [rural] compared to 79.1 years [large metro areas]).^{43,44} These outcomes are unsurprising given that the prevalence of chronic disease conditions (e.g., COPD,⁴⁵ obesity,⁴⁶ diabetes and coronary heart disease,⁴⁷ and arthritis⁴⁸) tend to be much higher among rural communities.

Altogether, these factors – high levels of poverty, diminished life expectancy, and heightened prevalence for disease – seem to coalesce. With reductions in the availability of resources, poverty has been shown to increase the number of hardships and impact one's ability to provide and meet basic needs. Moreover, the experience of growing up poor disrupts vital brain regions that result in difficulties with emotion regulation, executive function capacities (e.g., working memory, inhibitory control), and learning.⁵³ In combination with economic hardships, poverty is associated with elevated psychological parental distress, maternal depression, insecure attachment between child and parent/caregiver, and “chaotic” home and community conditions (e.g., violence).⁵⁴ Furthermore, poverty and low income levels contribute to a greater likelihood of health burdens. For instance, data from CDC demonstrates chronic disease differences are amplified and more pronounced in rural impoverished communities, compared with median and more affluent areas.⁴⁸

On ACEs and the Opioid Epidemic

In light of the nation's opioid epidemic, the continued rise of the rural opioid overdose death rate,⁴⁹ and having examined the issue previously, the Committee urges ongoing conversations and efforts to take into consideration the role toxics stress and trauma experienced early in childhood have on later opioid-related outcomes. Although there is limited research on the scope of the issue, results from several studies do suggest that exposure to certain adverse experiences (e.g., child abuse and neglect) is linked to an increased likelihood of misusing opioids in adulthood.^{50, 51} Moreover, in its 2017 policy brief, the Campaign for Trauma-Informed Policy and Practice (CTIPP) acknowledges that in order to effectively combat the opioid epidemic, strategies “must recognize the role that trauma and ACEs play in addiction” as “few strategy discussions,” to date, have done so.⁵²

In addition to the opioid epidemic being declared a [national public health emergency](#), HHS initiated a comprehensive federal [Strategy](#) to prioritize all opioid-related efforts. In 2017, the federal government administered over [\\$800 million](#) in funding to support services for opioid-related treatment, prevention, and recovery.

KEY FEDERAL PROGRAMS

HHS Programs

At the federal level, there are a number of agencies that administer programs and resources that can assist with focusing on prevention or intervention of the consequences of ACEs and their outcomes. Within HHS, the Health Resources and Services Administration (HRSA), the Administration for Children and Families (ACF), and the Substance Abuse and Mental Health Services Administration (SAMHSA) oversee a range of programs that either specifically or indirectly address ACEs and their related outcomes. In addition, ACE prevention cuts across multiple divisions, institutes, and centers at [CDC](#), the [National Institutes of Health \(NIH\)](#), and the [Agency for Healthcare Research and Quality \(AHRQ\)](#) – CDC, NIH, and AHRQ play key roles in producing research and identifying and disseminating best practices. Moreover, as referenced earlier, with approximately 54% of American Indian/Alaska Natives living in rural or small

towns,³ the [Indian Health Service \(IHS\)](#) provides critical health services to federally recognized tribal nations. Lastly, estimates reveal that in 2012, nearly half (47%) of rural children were covered by [Medicaid](#) and the [Children's Health Insurance Program \(CHIP\)](#).⁵⁵ Managed by the Centers for Medicare & Medicaid Services (CMS), both Federal-State programs provide fundamental health insurance coverage to eligible individuals, many of whom may be impacted by the effects of ACEs.

HRSA Programs

With the goal of increasing access to quality health care services for geographically, economically, and/or medically underserved populations nationwide, [HRSA's Bureaus and Offices](#) support funding, training, technical assistance, and research initiatives to address a variety of issues that affect maternal and child health, primary care, workforce development, and rural health. Pertinent to the prevention of ACEs for rural communities are the following HRSA agencies and programs. The [Maternal and Child Health Bureau \(MCHB\)](#) oversees the management of the Title V Maternal and Child Health Services Block Grant Program, the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program, and the Healthy Start program. In addition, the [Bureau of Primary Health Care](#) and the [Bureau of Health Workforce](#), respectively, manage the Health Centers Program and National Health Service Corps and NURSE Corps programs that can play a role in prevention or intervention related to those subject to ACEs. Lastly, through its [Community-Based Division](#) and the [Office for the Advancement of Telehealth](#), the [Federal Office of Rural Health Policy \(FORHP\)](#) administers funding to rural communities through the Rural Health Care Services, Outreach, Network, and Quality Improvement Grant programs and the Telehealth Network Grant Program. Those programs can be leveraged by rural communities in ways that enhance access to or coordination of services related to ACEs.

ACF Programs

Within HHS, [ACF](#) is the primary agency tasked with promoting the economic and social well-being of children, youth, and families by providing resources to enhance access to human services. ACF's multiple offices provide programs that benefit rural areas on issues ranging from prevention and treatment of child abuse and family violence to supporting early childhood development and education.

Initially enacted in 1974 and recently reauthorized in 2010, the [Child Abuse Prevention and Treatment Act \(CAPTA\)](#) programs aim to improve systems for child welfare and child protection services and support prevention services for children who have been abused or neglected. Along with the [CAPTA programs](#), ACF's [Children's Bureau \(CB\)](#) offers additional child welfare, adoption, foster care, guardianship assistance, and tribal-specific service programs. While CB's scope focuses on child abuse and welfare broadly, the [Family & Youth Services Bureau](#) programs address runaway and homeless youth, family violence prevention, and adolescent pregnancy prevention. Additionally, through its [Office of Early Childhood Development](#), ACF oversees crucial child care and early learning programs such as the Child Care and Development Fund and Head Start/Early Head Start. Moreover, the [Office of Community Services](#) support families, communities and tribal populations in reducing the impacts of certain adverse experiences and the social determinants of health through the [Social Services Block Grant](#) and [Community Services Block Grant](#) programs. Lastly, along with administering the Temporary Assistance for Needy Families (TANF) and tribal TANF programs, the [Office of Family Assistance](#) also manages the funding for the Healthy Marriage and Relationship Education Demonstration Grants, the New Pathways for Fathers and Families Demonstration Grants, and the Responsible Fatherhood Opportunities for Reentry and Mobility Grants.

Because of ACF's focus on children and families, the Committee encourages ACF's programs to collect data that includes information on rural populations at all levels of programming.

A Brief Note about State Block Grant Funding

Over the years, the Committee has heard from community stakeholders about the limitations imposed by state block grants for rural communities. Since states have broad discretion over how and where block grant funding is allocated, the Committee reiterates its concerns that state block grant funds from ACF and SAMHSA may not always go to the areas of greatest need by focusing more on the overall population affected rather than, perhaps, high-need areas that have smaller populations. It is important to note that certain block grants administered to tribes have been more effective. Given these considerations, the Committee recognizes and understands that any changes to block grant formula allocation requires a statutory change.

SAMHSA Programs

SAMHSA is the lead agency within HHS in charge of programming activities that fund a range of mental health and substance abuse issues. Through the Community Mental Health Services Block Grant (MHBG) and Substance Abuse Prevention and Treatment Block Grant (SABG), SAMHSA administers funding that targets comprehensive, community- and prevention-based service activities and related support services. Both MHBG and SABG are substantial “safety net” funding programs for some of the most vulnerable populations (e.g., rural communities) affected by mental illness and substance abuse. Along with MHBG and SABG, the Children’s Mental Health Initiative also supports activities that address the needs of

children, youth, and young adults with serious emotional disturbance. Pertinent to targeting childhood trauma, SAMHSA’s Safe Schools/Healthy Students Initiative and Project AWARE awards grant funding to decrease youth violence, create safer schools, promote youth resilience and positive child development, and increase access to mental health services. Lastly, as part of the SAMHSA’s effort to support and elevate trauma-informed strategies, the National Child Traumatic Stress Initiative is one of several technical assistance centers that offers training, education and resources on the issue.

U.S. Departments of Justice and Education

While this is beyond the jurisdiction of the Committee and the HHS Secretary, it is important to point out that there are several HHS partners whose programs tie in with the prevention of ACEs and their downstream effects. For example, the U.S Department of Justice (DOJ) administers funding to states, tribal governments, and local organizations to tackle a wide array of criminal justice related areas. Key programs that could have a role in ACE prevention for rural communities include programs administered by the Office on Violence Against Women, the Office of Juvenile Justice and Delinquency Prevention, and the Office of Community Oriented Policing Services. Similar to DOJ, the U.S Department of Education (ED) manages funds for several programs that have the potential to reduce the impacts of adverse experiences. Sample programs that rural communities would benefit from are the Student Support and Academic Enrichment (SSAE) Grants program, Project SERV, and the Full-Service Community Schools Program.

To the extent that it may already be happening, the Committee encourages the HHS Secretary to work with staff from DOJ and ED. For example, in conjunction with federal efforts to keep students safe in schools, the Committee recognizes an opportunity to further enhance and align cross-department partnerships through the Federal Commission on School Safety (FCSS). Initiated in March 2018 and comprised of department leadership from ED, DOJ, HHS, and the U.S. Department of Homeland Security, FCSS is tasked with “providing meaningful and actionable recommendations and best practices to keep students safe.” The Committee commends the Commission’s charge and would encourage FCSS members to consider the role of childhood trauma, ACEs, and their consequences on health and well-being, especially among rural populations.

POLICY RECOMMENDATIONS

There are a number of Federal programs and resources with the potential to address ACE-related issues. The reach of these programs, however, is challenged by the siloed approach inherent in government programs. With limited research on the surveillance of ACES, nationally and with respect to rurality, **the Committee urges all HHS Agencies and Offices involved to place attention to and emphasize the rural dimensions of ACEs into their programs, research, and outreach, as part of building a comprehensive, collaborative approach.** In addition, while the Committee recognizes that several agencies such as HRSA, SAMHSA and ACF are well aware of the way in which trauma affects human health and well-being, the Committee nonetheless encourages all federal agencies and programs be made aware of the science of ACEs and receive training on trauma-informed care. This training should take into account the unique historical and cultural backgrounds of certain sub-groups, particularly for rural and tribal populations.

Defining Trauma and a Trauma-Informed Approach

In 2014, SAMHSA released a paper on a working concept of trauma and a framework to guide the implementation of a trauma-informed approach.⁵⁶ SAMHSA's expert panel defines **trauma** as "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 the lasting adverse **effects** on the individual's functioning and mental, physical, social, emotional, or spiritual well-being."⁵⁶

To effectively address trauma, SAMHSA's expert panel encourages programs, organizations, or systems to be **trauma-informed** as it plays an essential part in the delivery of care. SAMHSA provides that an entity that is "trauma-informed **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; and **responds** by fully integrating knowledge about trauma into policies, procedures, and practices, and seeks to actively resist **re-traumatization**."⁵⁶

The following recommendations were informed, in part, by the Committee's experiences and conversations during its site visit to a rural community in upstate New York. There, the Committee took a tour of the Schoharie County Head Start and heard from a variety of community stakeholders. (See **Appendix A** for more information about the Committee's site visit to Cobleskill.)

Develop and Implement a Rural ACE Prevention Strategy

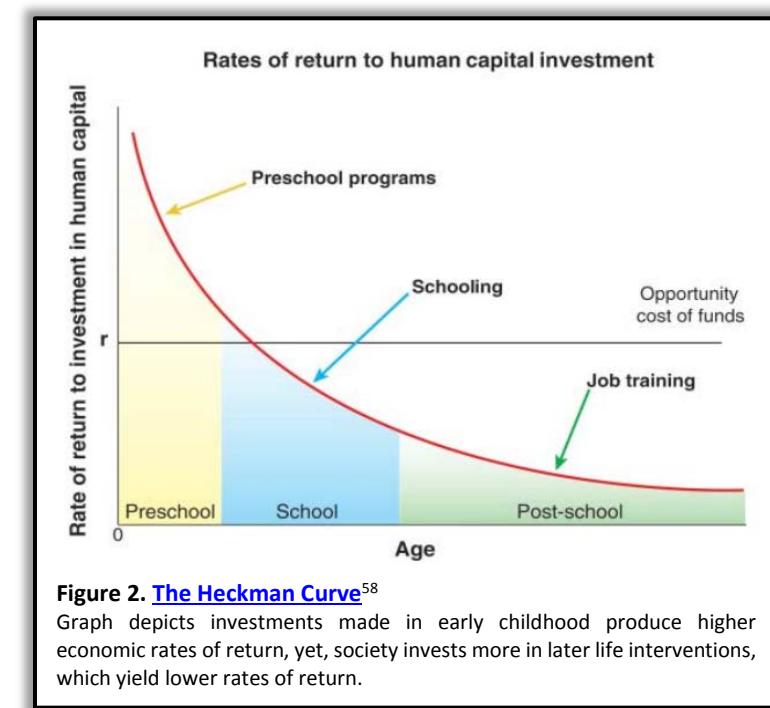
[Harvard University's Center on the Developing Child](#) has been at the forefront of generating, translating, and disseminating research that informs practice and policy on issues related to child health and development. In 2017, the Center published a report that emphasized three critical "design principles" that practitioners and policymakers alike should consider in order to effectively improve service delivery and policy.⁵⁷ These three areas are (1) supporting responsive relationships, (2) strengthening core life skills, and (3) reducing sources of stress in the lives of children and families.

To better align these "design principles" with federal human service programs, funding streams, and research initiatives, the Committee sees the importance of channeling and integrating existing efforts into a robust initiative that effectively addresses the health and social consequences resulting from toxic stress and trauma. As a step in that direction, the Committee believes that an ACE prevention strategy, with a focus on rural, tribal, and other at-risk populations, should be established. The Committee advises that current efforts can be further strengthened through a more targeted federal approach.

Recommendation 1: Thus, similar to that of [HHS' five-point Opioid Strategy](#), the [National Strategy on Suicide Prevention](#), and [HRSA's Strategy to Address IPV](#), the Committee recommends the Secretary develop and implement a comprehensive prevention strategy that identifies key priority outreach/awareness, programming, research, and policy areas to address toxic stress, trauma, and the health consequences of ACEs for rural, tribal, and other at-risk populations.

Conduct an ACE Cost-Benefit Analysis

Economist and Nobel Laureate, James Heckman has consistently articulated the best way to increase economic productivity and promote equity is to invest early in childhood.^{58,59,60} (See **Figure 2**). To build upon this work, the Committee recognizes that analyses of economic costs resulting from ACEs and benefits gained from current federal prevention efforts are needed. The Committee acknowledges that certain environmental drivers that result in toxic stress and trauma (e.g., childhood poverty) have tremendous economic costs to society. For example, in a 2018 study published in *Social Work Research*, researchers, McLaughlin and Rank estimate that in 2015, total childhood poverty cost the U.S. \$1.0298 trillion, representing 5.4% of America's gross domestic product.⁶¹ Researchers rationalize that because impoverished children are more likely to receive a substandard education, they are less likely to develop and possess skills essential for the workplace. Thus, when compared with their non-impooverished peers, children growing up in poverty are less able to be economically productive.⁶¹



McLaughlin and Rank conclude, “Investing in programs that reduce childhood poverty is both smart and effective economic policy.” Similar to reducing childhood poverty, prevention of ACEs and their negative outcomes on health and well-being, too, has ramifications for diminished economic productivity, accrued from the burden of chronic disease. The Committee concurs with these findings and argues that the rural implications of this issue deserves a more specific focus.

Recommendation 2: Because ACEs are preventable, the Committee believes that economic costs and impacts to society, including rural areas, from childhood trauma and toxic stress should not be overlooked. Therefore, the Committee recommends the Secretary supports research that evaluates the long-term economic costs resulting from ACEs and benefits gained from federal investments in ACE-related prevention programming.

Strengthen Data Variables to Better Understand Rural ACE Prevalence

One of the two common ways data is collected on ACEs is through the National Survey of Children's Health (NSCH).^{viii} (See **Appendix B** for a list of ACE-related items included in the NSCH.) Administered by HRSA's Maternal and Child Health Bureau (MCHB), NSCH collects important data on a range of issues related to the health and well-being of children ages 0-17 years in the U.S. With respect to analyzing rural-urban differences in the prevalence of ACEs, the Committee noted concerns regarding the ease and simplicity of investigating such issues. To better address this issue, the Committee believes that in addition to having a "state" variable in the NSCH Public Use File, having predefined composite variables for "Urban/Rural Status" and "HRSA Region" could streamline and standardize the process of investigating rural-urban differentials. By doing so, this would also offer a reasonable level of granularity while complying with privacy rules imposed on these data files.

Recommendation 3: In an effort to increase the ease with which data users and researchers are able to access and analyze the NSCH to understand differences based on urbanization levels in general, and specifically around ACEs, **the Committee recommends HRSA's MCHB establish and include a predefined variable for "Rural-Urban Status" in the NSCH to allow for easier, standardized analyses of ACE prevalence.**

Support Funding for Rural Telehealth-Supported School-Based Health Centers

In its rural health policy brief, CDC features three essential policy options to provide greater access to mental health services for children living in rural areas.⁶² These policy considerations are (1) using telehealth, (2) integrating primary care and behavioral health, and (3) administering services through the school-based health center (SBHC) model. By combining these policy options into a comprehensive approach, the Committee believes that access to and delivery of integrated services through an on-site school health center with further support from the use of telehealth is an optimal, promising practice for rural populations. In addition, given limited infrastructure, SBHCs in rural communities are ideally positioned to offer upstream prevention services and intervention for ACE-related outcomes for children exposed to chronic stress and trauma. Moreover, given limited specialty services in rural areas, telehealth can be an important tool for linking SBHCs to experts in child development and mental health.

As CDC's policy brief points out, SBHCs have been shown to yield financial benefits; annual savings from SBHCs range from \$15,028 to \$912,878 per SBHC and net savings to Medicaid, ranging from \$30 to \$969 per visit or \$46 to \$1,166 per patient.⁶² Yet, despite these benefits, the costs of starting and maintaining an SBHC is challenging. Estimates on opening an SBHC can range from \$49,750 to \$128,250 with average operating costs during

Rural Health Spotlight: Bassett Healthcare's SBHC Program

During its site visit to Cobleskill, the Committee heard from Jane Hamilton and Gayle Wheeler, both of whom represent [Bassett Healthcare's \(Bassett\) SBHC program](#). Staffed by licensed clinical social workers, physician assistants, nurse practitioners, physicians, nurses, dentists, a dietitian, office staff, and a care coordinator, Bassett's network of 20 rural SBHC provides high-quality, comprehensive primary, mental, and dental health care to students (Pre-K–12th grade) at 15 schools in 4 counties.

With support from [HRSA's Telehealth Network Grant Program](#), Bassett's SBHC Program is increasing access to care by connecting patients with pediatric specialty services including psychiatry and linking them with a registered dietitian via telehealth.

^{viii} Since the original ACE Study was published, a variety of [adapted and expanded ACE surveys](#) have been developed.

a 9-month period ranging from \$90,750 to \$152,750.⁶² Members of the Committee further heard about the limited startup funding for SBHCs during their site visit.

Although the Committee recognizes funding for SBHCs come from variety of private and public mechanisms – including some support from HRSA’s Community Health Center program and billing for services through Medicaid and CHIP⁶² – the Committee acknowledges the need to support SBHCs. It is clear that the SBHC model is a promising practice for rural communities as SBHCs provide a variety of services and resources into a one-stop-shop hub for care, which may also reduce challenges regarding transportation, workforce, and mental health stigma.

Recommendation 4: Thus, to address this issue and in an effort to develop and enhance comprehensive school mental health systems,⁶³ **the Committee recommends the Secretary work with the Administration and Congress to appropriate funding that supports telehealth-supported SBHCs in rural areas to increase access to integrated primary and behavioral health care services.**

POLICY CONSIDERATIONS

Along with these recommendations, the Committee would like to draw attention to additional policy concerns that the Secretary should consider regarding ACE prevention. These issues relate to rural workforce development, improvements to surveillance of ACE prevalence, and public health education and screening.

Rural Workforce Development

As the Committee has documented over the years, rural health professional workforce recruitment and retention continues to be a challenging issue. At the federal level, [HRSA’s National Health Service Corps \(NHSC\)](#) aims to address this disparity by supporting qualified medical, dental, and mental and behavioral health providers dedicated to working in areas with limited access to care. Accounting for nearly 10,200 clinicians, NHSC members provide cultural competent care to 10.7 million people at more than 5,000 NHSC-approved health care sites in urban, rural, and frontier areas. In exchange for providing services, NHSC offers tax-free loan repayment assistance. While the Committee appreciates that licensed clinical social workers (LCSWs) can receive loan repayment through NSHC, the Committee also recognizes and sees value in supporting the human service workforce. **Therefore, the Secretary and HHS may want to consider developing human service loan repayment programs, modeled off the NHSC, to support professionals working in rural and underserved parts of the country.**

During their site visit to Schoharie County, Committee members heard from stakeholders about the need for more human service providers, particularly child welfare caseworkers, school social workers, substance abuse counselors, and mental health social workers. With a much more limited clinical and social service infrastructure to focus on prevention and intervention, by supporting a broad array of social workers, the Committee believes that this can further improve the rural health workforce.

Improved Surveillance of ACE Prevalence

As previously noted, ACEs data is collected through a variety of instruments, however, two of the more common ways is through the National Survey on Children’s Health and CDC’s Behavioral Risk Factor Surveillance System (BRFSS) survey. (See **Appendix B** for a list of items asked in both questionnaires.)

While each survey collects important data, the Committee raises concerns about the limited scope of and awareness for conducting national analyses on ACE prevalence and with particular regard to rural-urban differentials. Because the BRFSS module on ACEs is optional, as of 2017,^{ix} thirty-eight states and the District of Columbia have gathered and analyzed data ACE-related data. However, some states that have collected ACE data in the past (e.g., New Mexico and Arkansas) have not revisited the module since 2009^{ix} as it is costly to do so and may not be a priority for all states. Thus, in conjunction with Recommendation 1 and to better surveil the nation's ACE prevalence, **the Secretary should consider encouraging all states and the District of Columbia to collect adult population data on ACEs through the BRFSS.** While the Committee acknowledges the financial costs affiliated with administering this module and collecting data, the Committee nonetheless would like to reiterate the importance of data collection for national and geographic analyses on the issue.

Public Health Education on ACEs and ACE Screening

After meeting with community stakeholders in Cobleskill, one thing was made certain: public education and awareness about ACEs and toxic stress play integral roles in prevention. As such, the Committee believes that individuals who work with children, youth, and families across the health and human service continuum should be made aware of ACEs.

The Committee agrees with a 2012 policy statement by the American Academy of Pediatrics (AAP), which recommended that the science of early childhood adversity and toxic stress should be incorporated into the training of physicians and pediatricians.⁶⁴ Additionally, the AAP recommended that pediatricians take a more active role in educating parents, educators, policymakers, and public servants about the harmful effects toxic stress and childhood trauma have on the developing brains and bodies of young children. However, the Committee believes that sustained, targeted education and training needs to be addressed as ACEs may not be fully understood by the public or even health and human services providers. For example, to understand pediatricians' awareness of ACEs, in 2013, the AAP conducted a study that found 76% of respondents were not familiar with the original ACE Study and nearly 49% of the study respondents had never heard of an ACE screening tool.⁶⁵

In addition, as home visiting^x has been shown to be an effective, evidence-based practice, the Committee recognizes that the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program is ideally positioned to help with the prevention, intervention, and treatment of ACEs. While there is no program requirement or performance measure^{xi} for MIECHV grantees to screen for ACEs or to report data on ACE screening, some awardees do use the ACE questionnaire as part of their home visiting programs.^{xii} **Thus, the Secretary and HHS should consider encouraging more states and tribes to collect ACE-related data through the MIECHV Program.** Given the importance of this issue, HHS should actively take steps to help states understand the value of collecting ACEs data so that more reporting of ACEs can occur.

^{ix} ACEs Connection Network. State ACEs Action. "Updated states collecting ACEs data." Retrieved from <https://www.acesconnection.com/g/state-aces-action-group/blog/behavioral-risk-factor-surveillance-system-brfss>.

^x **Home visiting** is an umbrella term that refers to an evidence-based early childhood program whereby trained professionals identify and provide specific support and services that meet the needs of parents/caregivers/families. Such needs can address a variety of issues, including teaching and modeling effective parenting skills; providing health education on topics that include breastfeeding, nutrition, and injury prevention; administering screenings to detect delays in essential developmental milestones and diagnosing developmental disabilities; and linking families with community resources.

^{xi} By statute, MIECHV grantees are required to collect and report on a number of performance measures and systems outcomes that include depression screening, child maltreatment investigations, and screening for intimate partner violence.

^{xii} Internal communication with MIECHV representative; not published online.

CONCLUSION

The topic of ACEs provides another layer of examination on rural health disparities and presents a focal point of analysis and attention on the Committee's previous work. As such, this brief emphasizes the importance of prevention, education, and awareness at the local, state, and federal levels of health and human service delivery. Furthermore, the Committee believes that ACEs needs to be part of the broader conversation to effectively prevent and reduce health-related disparities and outcomes such as cancer, COPD, depression, heart disease, alcoholism, opioid misuse, and suicide. In particular, rural health and human service leaders need to account for issues related to toxic stress and trauma. Additionally, as seen through the Schoharie ACEs Team (see **Appendix A**), community-driven and cross-sector collaborations and communications are crucial components to ACE prevention, especially in rural areas.

In this policy brief, the Committee provides a set of actionable recommendations that advise the Secretary and HHS on how to better address ACEs and their outcomes in an effort to develop comprehensive, integrated, federal partnerships. In addition, this brief enhances ongoing national efforts to combat the opioid epidemic, to keep students and schools safe, and aligns with the [First Lady's Be Best Initiative](#).

APPENDIX A: COBLESKILL SITE VISIT PROFILE

During their site visit to Cobleskill, members of the Committee heard from a myriad of local professionals who work in the health and human service continuum, law enforcement, and early childhood education. The conversations between the Committee and community stakeholders underscored the benefits of drawing attention to and spreading public awareness of ACEs.

The Schoharie County ACEs Team

Amidst the backdrop of limited infrastructure and resources, the [Schoharie County ACEs Team](#) is a community-driven, grassroots initiative whose aim is to “promote community awareness and capacity in order to help children and caregivers build resilience in response to [ACEs].” Comprised of professionals who work in multiple sectors within the county, the ACEs Team hosts free-of-charge conferences, trainings and events in the community that spotlight education on neuroscience, trauma and trauma-informed approaches, and resilience. As a co-founder and Team member, **Siri Young** provides in-person training to schools across Schoharie County. Building upon her work as the Mental Health Services Manager for the Schoharie County Head Start, also referred to as the [Schoharie County Child Development Council](#), Ms. Young is dedicated to raising awareness about ACEs and engaging with multiple stakeholders through collaborative partnerships.



The Committee acknowledges the importance of implementing a similar model in rural communities and while this is certainly beyond the purview of HHS, the Committee nonetheless would like HHS to become aware of this innovative model.

Community Stakeholder Perspectives

During the site visit meeting, the Committee gained further insights on the cross-sectoral nature of ACEs. Below are but two voices that the Committee would like to spotlight.

After joining the ACEs Team, Chief of Police for the Village of Cobleskill, **Richard Bialkowski**, remarked on the unique position police officers are in to help mitigate ACEs and their outcomes:

*Since joining the team, [the knowledge I have gained on ACEs] has helped me become a better police officer. ...Having been in law enforcement long enough, I actually see the children from those adverse situations 20 years ago now as young adults, and many are making poor decisions, have substance abuse issues, and have frequent law enforcement involvement. ...I think it is vital that police officers receive training and that they are mandated to help screen and/or report on [the] children they encounter in their duties [that have been impacted by] ACEs to the proper agencies to ensure that intervention services can be initiated as early as possible. – **Chief Richard Bialkowski***

As the director of the Parsons Health Center at Malta and Home Based Crisis Intervention program, **Kathy Wright** has seen the value in creating cross-sector partnerships:

*Our programs embed a trauma-informed practice in all aspects of service delivery. We assess the presence of ACEs in every client and provide constant [education on ACEs and resilience] to teachers, principals, school counselors, social service caseworkers, nurse case managers, and primary care physicians. ...We collaborate with primary care offices, mental health providers, schools, social services, churches, community centers, and food pantries. We also link those organizations with each other when we notice a duplication of services or shared need. – **Kathy Wright***

APPENDIX B: NSCH & BRFSS ACE-RELATED ITEMS

NSCH ACE Questionnaire^{xiii}

To the best of your knowledge, has this child EVER experienced any of the following?

- (a) Parent or guardian divorced or separated [Yes/No]
- (b) Parent or guardian died [Yes/No]
- (c) Parent or guardian served time in jail [Yes/No]
- (d) Saw or heard parents or adults slap, hit, kick, punch one another in the home [Yes/No]
- (e) Was a victim of violence or witnessed violence in his or her neighborhood [Yes/No]
- (f) Lived with anyone who was mentally ill, suicidal, or severely depressed [Yes/No]
- (g) Lived with anyone who had a problem with alcohol or drugs [Yes/No]
- (h) Treated or judged unfairly because of his or her race or ethnic group [Yes/No]

SINCE THIS CHILD WAS BORN, how often has it been very hard to get by on your family's income—hard to cover the basics like food or housing? **[Very Often, Somewhat Often, Rarely, Never]**

BRFSS ACE Module^{xiv}

- (1) Did you live with anyone who was depressed, mentally ill, or suicidal?
- (2) Did you live with anyone who was a problem drinker or alcoholic?
- (3) Did you live with anyone who used illegal street drugs or who abused prescription medications?
- (4) Did you live with anyone who served time or was sentenced to serve time in a prison, jail or other correctional facility?
- (5) Were your parents separated or divorced?
- (6) How often did your parents or adults in your home ever slap, hit, kick, punch or beat each other up?
- (7) Before age 18, how often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way? (Spanking does not count.)
- (8) How often did a parent or adult in your home ever swear at you, insult you, or put you down?
- (9) How often did anyone at least 5 years older than you or an adult, ever touch you sexually?
- (10) How often did anyone at least 5 years older than you or an adult, try to make you touch [them] sexually?
- (11) How often did anyone at least 5 years older than you or an adult, force you to have sex?

^{xiii} Reprinted from [Sacks & Murphey \(2018\)](#) and [Bethell et al. \(2017\)](#).

^{xiv} Reprinted from [CDC's BRFSS ACE Module](#).

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