**Meharry Medical College AU-PCTE**
**Research Policy Brief**
**Adverse Childhood Experiences**

## I. Title: Need to Address Adverse Childhood Experiences (ACEs) in Medical Education

## II. Executive Summary

Background. ACEs include seven categories of childhood exposure, including three types of abuse: psychological abuse, physical abuse, sexual abuse; and four types of household dysfunction: substance abuse, mental illness, mother treated violently, and criminal behavior in the household. Research on the biological consequences of ACEs on children has demonstrated lasting alterations to the endocrine, autonomic, and central nervous system. Persons exposed to ACEs are at increased risk for adverse health and mental health outcomes and poorer quality of life as they age. Vulnerable populations, such as migrant farmworkers, persons experiencing homelessness, and LGBTQ persons are more likely to have been exposed to ACEs. Screening for ACEs and provision of trauma-informed care (TIC) are not yet part of standard medical care or medical education

Methods. We conducted a systematic review of seven databases to assess the strength of the evidence for screening and treating the effects of ACEs in general and on vulnerable populations, in particular. The search yielded 715 references, which were downloaded and entered into the citation manager, RefWorks. In RefWorks we removed the exact and close duplicates (n=89), 626 references remained. Since we were primarily concerned with journal articles, we removed books (n=56), conference proceedings (n=3), and dissertations (n=3). This left 564 articles to review. After reviewing the title and abstract for the 564 references, results were narrowed down to 16 articles that focused on medical education with respect to ACEs.

Results. Results of the systematic review found little evidence that ACEs screening and trauma informed care have been incorporated into the standard, undergraduate medical education curriculum. While there is a growing support for the need to train medical and other health care providers, behavioral health and social service care providers to address ACES, only a few articles were identified in the literature that reviewed actual efforts to train primary care providers. Of those, only two addressed the needs of medical students, one in residency training programs, and six among primary care providers. Of the two studies that addressed medical students, only one was a research study that assessed the impact of a brief course on ACEs knowledge.

Recommendations. Medical students should be educated about ACEs and how to conduct ACEs screening. Medical students should be taught how to address a history of complex trauma as a member of an integrated behavioral health, primary care team. Medical students should be introduced to trauma informed care (TIC) as a promising approach to promote better inter-professional health care for persons who have experienced multiple ACEs.

Key Stakeholders. Key stakeholders include but are not limited to academic medical institutions, medical education accreditation bodies, health care providers, advocacy groups, public health officials, policymakers, health professions associations, and populations at risk.

## III. Background

- ACEs include seven categories of childhood exposure, including three types of abuse: psychological abuse, physical abuse, sexual abuse; and four types of household dysfunction: substance abuse, mental illness, mother treated violently, and criminal behavior in the household.
- Research on the biological consequences of ACEs on children has demonstrated lasting alterations to the endocrine, autonomic, and central nervous system.
- ACEs occur early in life but have effects that, without intervention, can last a lifetime.
- Persons exposed to ACEs are at increased risk for multiple adverse health and mental health outcomes and poorer quality of life as they age.
- It is estimated that ACEs affect 20%–50% of adults.
- Vulnerable populations, such as migrant farmworkers, persons experiencing homelessness, and LGBT persons are more likely to have been exposed to ACEs.
- Medical students should be educated about ACEs and how to conduct ACEs screening.
- Medical students should be taught how to address a history of complex trauma as a member of an integrated behavioral health, primary care team.
- Medical students should be introduced to trauma informed care (TIC) as a promising approach to promote better inter-professional health care for persons who have experienced multiple ACEs.

## IV. Issue

It is estimated that ACEs affect 20%–50% of adults and are associated with considerable adult chronic disease, unhealthy behavior, mental health conditions, early mortality, violence victimization and perpetration, and overall quality of life. ACEs include seven categories of childhood exposure, including three types of abuse: psychological abuse, physical abuse, sexual abuse; and four types of household dysfunction: substance abuse, mental illness, mother treated violently, and criminal behavior in the household. Vulnerable populations, such as migrant farmworkers, persons experiencing homelessness, and LGBTQ persons often experience multiple traumatic events early in their lives including ACEs and are at increased risk for multiple associated adverse health and mental health outcomes as they age. Yet, screening for ACEs and provision of trauma-informed care (TIC) are not yet part of standard medical care or medical education. The aim of this research was to identify and assess the extent to which medical students are taught about ACEs, ACEs screening, and trauma informed care.

A growing body of research has attributed the adverse health consequences of ACEs to "lasting alterations to the endocrine, autonomic, and central nervous system" during early childhood. ACEs sequelae include affect dysregulation, structural dissociation, somatic dysregulation, impaired self-development and disorganized attachment, regardless of the specific diagnosis or assessment and treatment methodologies in use.[1] Adverse health outcomes that have been associated with ACEs include: alcoholism and alcohol abuse, chronic obstructive pulmonary disease, cardio-metabolic disease, depression, fetal death, early initiation of sexual activity, illicit drug use, risk for intimate partner violence, liver disease, sexually transmitted diseases, smoking,

suicide attempts, and unintended pregnancies. Yet, ACEs research results have yet to be translated into clinical practice.

Physicians typically are trained to address a behavior, like smoking, or to treat a disease like cardiovascular disease, without consideration of the underlying causes. The majority of primary care providers are not knowledgeable about ACEs, lack understanding of how to screen for ACEs reported by children or family members, and are ill equipped on how to respond. As a group, patients with a history of complex trauma disorders have developmental/attachment deficits that require additional treatment goals that are more extensive than those directed at PTSD symptoms alone.

TIC is a strength-based, life course approach used to identify and respond to the needs of patients who have been exposed to multiple and/or complex trauma, such as ACEs. TIC views symptoms as expected and adaptive reactions to traumatic childhood. Core principles of trauma-informed care are `safety', `trustworthiness', `choice', `collaboration', and `empowerment'[2]. TIC recommends that understanding the effects of trauma on the brain, body and subsequent functioning is a significant component of effective trauma therapy experiences and of patient psycho-education. TIC requires culturally competent providers who are sensitive to gender, sexual orientation, ethnicity, age, and other patient differences and highly attuned to their own responses to cultural, gender and other `differences' in relation to their clients.

Lack of attention to ACEs by physicians is attributed to a lack of training, familiarity with ACEs screening, and knowledge about how to respond when positive results are found. Failure to screen for ACEs leaves opportunities to improve health missed. Fortunately, patient centered medical homes which provide access to mental health clinicians and behaviorist teams are increasing primary care capacity to help patients and family physicians care for patients with ACE histories and improve patient quality of life.

## V. Methods

Procedures: We conducted a systematic review of seven databases to assess the strength of the evidence for screening and treating the effects of ACEs in general and on vulnerable populations, in particular. The databases that were searched included: PubMed, ERIC, SCOPUS, Web of Science, OVID, CINAHL, and Psych INFO. The search yielded 715 references, which were downloaded and entered into the citation manager, RefWorks. In RefWorks we removed the exact and close duplicates (n=89), 626 references remained. Since we were primarily concerned with journal articles, we removed books (n=56), conference proceedings (n=3), and dissertations (n=3). This left 564 articles to review. After reviewing the title and abstract for the 564 references, results were narrowed down to 16 articles that focused on medical education with respect to ACEs.

In addition, we assessed the literature to see if there was evidence that students were being prepared to screen for and address ACEs among vulnerable populations, including LGBT, persons experiencing homelessness, and migrant farm workers. Only two studies were found that addressed using a trauma informed care approach with persons experiencing homelessness and one with LGBTQ youth

## VI. Results/Key Findings

Results of the systematic review found little evidence that ACEs screening and trauma informed care have been incorporated into the standard, undergraduate medical education curriculum. While there is a growing support for the need to train medical and other health care providers[3], behavioral health and social service care providers[4-8] to address ACES, only a few articles were identified in the literature that reviewed actual efforts to train primary care providers[9-18]. Of those, only two addressed the needs of medical students[13,17], one in residency training programs[18], and six among primary care providers[9-12,15,16]. Of the two studies that addressed medical students, only one was a research study that assessed the impact of a brief course on ACEs knowledge. While the study yielded promising results, findings were limited by a convenience sample of 20 medical students.

## VII. Discussion

While research suggests a dose-response relationship between number of ACEs experienced during childhood and a range of adverse health outcomes of adulthood, especially among vulnerable populations, study results found little evidence to suggest that medical schools are addressing ACEs in their curriculum. In addition, no studies have been conducted in primary care settings to assess the impact of using a TIC to address ACEs in vulnerable populations, including persons experiencing homelessness, LGBTQ persons, or migrant farmworkers.

Research findings on the effect of ACEs across the life course have not yet been translated into clinical practice or medical education. Only two articles were identified in the research literature that assessed the impact of teaching medical students about the effects of ACEs and none which identified how TIC can be used to screen or care for the complex needs of vulnerable populations, including LGBT, homeless persons and, migrant workers.

Failures in the health care system occur when complex trauma and its effects are unrecognized or misdiagnosed, and services do not address trauma victims' needs. People impacted by trauma characteristically present to multiple services over a long period of time and care is often fragmented with inadequate coordination between services, and poor referral pathways and follow-up protocols which results in unintegrated care. Understanding that trauma underpins the way in which many people present who attend a diversity of service settings necessitates substantially new ways of operating.

There is an emerging body of evidence that suggests that the bio-physiological response to complex trauma can be prevented or mitigated by a supportive and empowering trauma informed care environment. Two papers looked at the implications of using a trauma informed care approach to working with persons experiences homelessness[10,19] and one with LGBTQ youth[20] but were not research papers. However, the systematic review has enabled us to make recommendations for a model ACEs screening protocol and trauma informed care approach for teaching medical students.

When ACEs screening indicates that further assessment is needed, the clinician should warmly but directly investigate the client's trauma history and formulate a trauma-informed treatment plan. It is critical that clinicians be aware of co-morbidities associated with the ACEs (especially

the increased risk of suicidality and self-harm) and of the requirements of their mandated reporting status that may arise from assessing trauma history. Being prepared to offer (or offer referrals to) empirically supported trauma-informed treatments (i.e., Trauma-focused, cognitive behavioral therapy (CBT), eye movement desensitization and reprocessing therapy (EMDR), is also advisable. In the end, the great depth and breadth of research done on the ACEs and associated outcomes present clinicians with a major set of resources that are most accessible if the clinician conducts a screening using the ACEs questionnaire.

There are six common core elements of a trauma-informed approach: (1) build trauma-informed knowledge and skills; (2) establish safe and supportive relationships and environments; (3) provide trauma-informed assessment and treatment services; (4) involve youth and families; (5) promote trauma-informed procedures and policies; and (6) collaborate across sectors.

There is a growing consensus among health care providers that a TIC frame provides an effective strategy for addressing ACEs. Trauma-Informed services regardless of contexts must be based on principles, policies, and procedures that provide safety, voice and choice. They must focus first and foremost on an individual's physical and psychological safety, including responding appropriately to suicidality. They must also be flexible, individualized, and culturally competent, promote respect and dignity, hope and optimism and reflect best practice. Recent research indicates that the most effective approaches for supporting recovery from trauma are well-integrated psychological/ therapeutic health services that also reflect the centrality of trauma in the lives and experiences of consumers. Creating a trauma-informed system of care requires cross-system collaboration around information collection and sharing, training, a common vision across public and private systems, and the ability to blend funding in a way that creates a seamless system. It also requires leadership.

A TIC approach typically integrates behavioral health specialists into the primary care environment. A TIC approach recognizes the vast consequences of trauma in the developing years and throughout a person's lifespan. A trauma-informed practitioner will be better equipped to understand why their patients' current state of health is not based on their addiction, maladaptive behavior, or mental illness as much as it is a consequence of the body's physiologic and psychologic response to toxic stress in the developing years.

## XIII. Limitations

- There is a dearth of research on the need for teaching medical students about ACEs.
- There is no research literature on the impact of using a TIC approach to address ACEs among vulnerable populations.

## IX. Recommendations/Next Steps

The connection between trauma, health, mental health and co-occurring disorders such as substance abuse, eating disorders, HIV/AIDS and further violence has been well-documented. In recent years many recommendations and guidelines have been created documenting the need for culturally-competent, trauma-informed care. These guidelines typically emphasize the need for holistic treatment in which all components of an individual's history and identity are considered in treatment planning and service provision. Central elements of history and identity include

exposure to traumatic incidents as well as sexual orientation and gender identity, experiences with homelessness and addiction. These factors shape the way people think, feel, relate to others and manage stress. Failure to consider these factors can lead to misdiagnosis, poor treatment outcomes and ineffective therapeutic relationships.

Creating programs that are trauma-informed and culturally competent requires deliberate planning, training and organizational change at all levels including direct care staff, managers, directors, administration and boards of directors. Organizations that fail to engage in a thorough internal assessment of their competencies in these areas risk alienating the community. By failing to accommodate all aspects of clients' identity, organizations can unknowingly create organizational structures, processes, cultures and/or staff members that do not demonstrate inclusion or that are dismissive to vulnerable populations experiencing trauma.

## X. Acknowledgements

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**The Pre- and Post-curriculum Survey**

1. How familiar are you with the clinical and scientific findings of the Adverse Childhood Experiences (ACEs) Study?
Unfamiliar / Somewhat Familiar / Extremely Familiar
2. How familiar are you with Trauma-Informed Care?
Unfamiliar / Somewhat Familiar / Extremely Familiar
3. How comfortable are you discussing with your patient their personal history of physical, emotional, and sexual abuse?
Uncomfortable / Somewhat Comfortable / Extremely Comfortable
4. How important do you think it is for a patient's medical record to include any history of physical, emotional, and sexual abuse?
Not important / Somewhat Important / Extremely Important
5. How likely will you be to administer and assess an ACEs questionnaire on your patients?
Unlikely / Somewhat Likely / Extremely Likely / Uncertain what this is
6. How confident are you in knowing what to do to help your patient after discussing his/her history of trauma?
Not Confident / Somewhat Confident / Extremely Confident
7. Have you completed an ACEs questionnaire in the past?
No / Yes
8. If no, how likely are you to complete an ACEs questionnaire on yourself?
Unlikely / Somewhat Likely / Extremely Likely / Uncertain what this is
9. If no, how comfortable are you completing an ACEs questionnaire on yourself?
Unlikely / Somewhat Likely / Extremely Likely / Uncertain what this is
10. If yes, how likely are you to discuss your personal results of the questionnaire with your own physician?
Unlikely / Somewhat Likely / Extremely Likely
11. If yes, how comfortable are you discussing the results of the questionnaire with your own physician?
Uncomfortable / Somewhat Comfortable / Extremely Comfortable
12. What is your sex?
Male / Female