The state of the science on trauma inquiry

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Abstract

Within the context of longitudinal medical care for adults, health care providers have a unique opportunity to inquire and respond to the traumatic life experiences affecting the health of their patients, as well as a responsibility to minimize retraumatizing these patients during medical encounters. While there is literature on screening women for intimate partner violence, and there is emerging data on pediatric screening for adverse life experiences, there is sparse literature on inquiry of broader trauma histories in adult medical settings. This lack of research on trauma inquiry results in an absence of guidelines for best practices, in turn making it challenging for policy makers, health care providers, and researchers to mitigate the adverse health outcomes caused by traumatic experiences and to provide equitable care to populations that experience a disproportionate burden of trauma. This state of the science summarizes current inquiry practices for patients who have experienced trauma, violence, and abuse. It places trauma inquiry within an anchoring framework of trauma-informed care principles, and emphasizes a focus on resilience. It then proposes best practices for trauma inquiry, which include tiered screening starting with broad trauma inquiry, proceeding to risk and safety assessment as indicated, and ending with connection to interventions.

Introduction

Traumatic life experiences are highly prevalent and cause a substantial impact on health, well-being, and mortality of men and women in the United States and worldwide. However, despite strong evidence of the prevalence and adverse health effects of trauma, there is a lack of consensus about how to best identify trauma histories in adult medical patients. In order to mitigate the negative impacts of trauma, health care providers of adult patients must recognize the wide range of ways in which trauma may affect an individual's life. This recognition includes an awareness that not all traumatic events in an individual's life result in pathology and that, in fact, many survivors thrive in the face of adversity. The understanding of resilience is fundamental to providing effective care to patients with histories of trauma.

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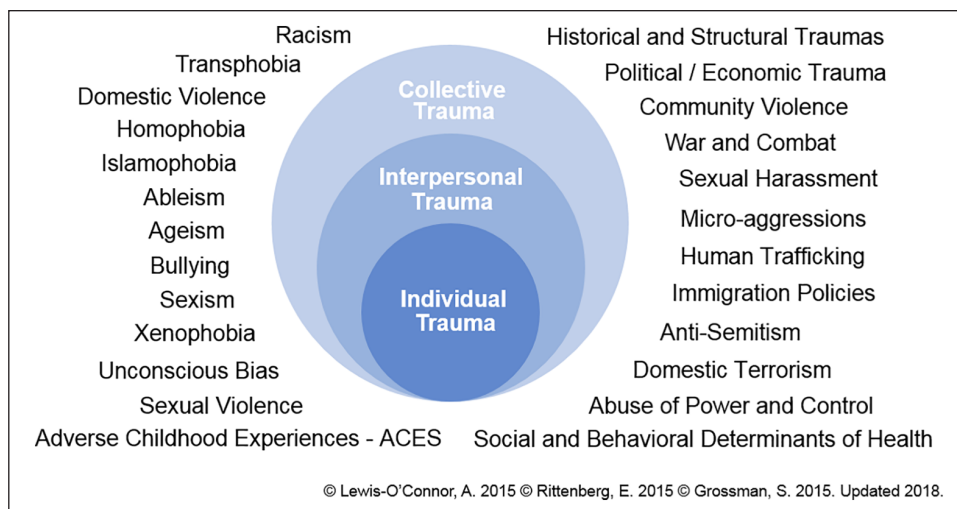
Figure 1. What is trauma?

Over the past decades, screening for certain types of trauma such as intimate partner violence (IPV) has become recognized as standard of care and formalized into medical practice and electronic health records. However, even these screening practices have had limitations, as such screening has primarily targeted heterosexual women and paid less attention to men and members of the LGBTQ (lesbian, gay, bisexual, transgender, and queer) population.[1] Such screening is used to identify the presence of IPV in patients at risk, with and without symptoms, with the goal of mitigating health consequences, and providing interventions and education. Screening is fundamentally different from inquiry-based learning, which is an active process that includes open-ended questions and dialogue. Screening for trauma, violence, and abuse has inherent challenges, such as "Who will ask these questions?"; "What will be asked?"; "How will this information be shared and with whom?"; and "How will information be documented in the electronic medical record?" Moreover, screening for trauma, particularly through a standardized or checklist approach, may inflict unintended harm by triggering the patient's traumatic memories. In this article, we will briefly review definitions of trauma and data demonstrating the impact of trauma on health. We will then explore, in more depth, the current state of the field of adult health care providers' screening and inquiry about trauma. Finally, we will offer recommendations for best practices that go beyond screening to include a broader process of inquiry, risk assessment, and intervention.

Definitions of trauma

The Substance Abuse and Mental Health Services Administration (SAMHSA) 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 has lasting adverse effects on

the individual's functioning and mental, physical, social, emotional, or spiritual well-being.[2]

Repeated trauma is sometimes referred to as "toxic stress," which is defined by the Center for the Developing Child as excessive or prolonged activation of stress response systems in the body and brain, which can have damaging effects on learning, behavior, and health across the life span. This is a "response that occurs when a child experiences strong, frequent, and/or prolonged adversity" and impacts both males and females.

For the purposes of this article, we describe trauma from a broad perspective that includes individual, interpersonal, and collective trauma (Figure 1). We define *individual* trauma as events that result in lasting effects on health and well-being, such as motor vehicle crash, death of a family member, and witnessing a significant tragedy; *interpersonal* trauma as events that occur in the context of relationships, such as domestic and sexual violence, child maltreatment, human trafficking, and elder abuse; and *collective trauma* as traumatic events or sets of circumstances that are shared by a group of people, such as racism, homophobia, and other historical and structural oppressions. Health care institutions themselves may unintentionally contribute to collective trauma through both explicit and implicit bias in the delivery of care. Understanding and ameliorating this dynamic necessitate acknowledging the long history of structural racism and other inequities in health care in the United States.[3] Trauma represents an important but under-recognized social determinant of health that affects not just individuals but also families, communities, and society as a whole.[4]

Rationale for trauma inquiry

Health care providers who care for adult patients should be cognizant of the intersection of multiple lifetime traumatic events, including individual, interpersonal, and collective trauma. Patients often present to their providers with

symptoms that may represent responses to these intersectional experiences of toxic stress. It is critical that providers inquire about trauma in order to understand the context of patient symptoms and provide effective treatment. We will provide evidence that trauma is highly prevalent in the US population, trauma significantly impacts a wide variety of physical and behavioral health outcomes, and identification of trauma makes effective interventions possible.

Prevalence of trauma

The pervasiveness of trauma is well established. In a large survey of US adults, an estimated 90% reported they had experienced a serious adverse event in their lifetime, 53% reported exposure to either physical or sexual interpersonal violence, and 30% experienced six or more events. In the United States, a large population-based study (National Intimate and Sexual Violence Survey) revealed extremely high rates of violence, with women disproportionally impacted: 37.3% of women and 30.9% of men experienced sexual or physical violence, or stalking by an intimate partner across their life span.[5] In a recent version of this study, 23.2% of women and 13.9% of men experienced severe physical violence during their lifetime and 1.7% of men have reported that they had been raped in their lifetime. Approximately 1.4 million incidents of rape occur against women annually,[6] with 80% taking place before age 25 years, and nearly 1 in 10 women in the United States (9.4%) has been raped by an intimate partner in her lifetime.[7,8] Relative to cis-women, trans-women and non-binary individuals experience IPV at even higher rates.[9]

Traumatic experiences during childhood, including neglect, abuse, and "household dysfunction," are common. In the landmark "Adverse Childhood Experiences" (ACEs) study, Felitti et al. reported that nearly two-thirds of respondents reported at least one ACE, and one-fourth reported more than two.[10] A number of follow-up studies, including the Behavioral Risk Factor Surveillance System (BRFSS), found similar results in telephone surveys of 400,000 US adults from 2009 to 2014.[11–13] Again, almost two-thirds of participants reported having experienced at least one ACE, while more than one in five reported having three or more ACEs.

In 2012, the Philadelphia ACE Task Force Research Workgroup explored the prevalence in an urban population of additional community-level indicators of traumatic stress beyond the traditional ACEs. These community-level adverse events categorized as expanded ACEs included witnessing violence, living in foster care, bullying, experiencing racism or discrimination, and feeling unsafe in your neighborhood. Of the over 1700 adults who completed the survey, more than 70% had experienced one conventional ACE, over 60% had experienced at least one expanded ACE, and almost 50% had experienced both. Furthermore, a subset of 14% who reported no conventional ACEs did experience at least one expanded ACE.[14]

Health impacts of trauma

Repeated exposure to trauma may have a profound impact on health and well-being, especially when coupled with unsupportive social contexts. Biomedical research has expanded our understanding of the pathways by which toxic stress impacts neurologic, immune, endocrine, autonomic, inflammatory, and metabolic processes.[15,16] A perception of danger triggers a cascade of neurotransmitters that interact with hormones in the hypothalamic–pituitary–adrenal (HPA) axis and with the immune system. Once the danger passes, these systems employ negative feedback loops to return homeostasis. This allostatic pattern (stress) is critical to an individual's ability to respond to acute stress. However, when there is a sustained or repetitive exposure to perceived danger, this stress response becomes dysregulated and the resultant allostatic load has negative effects on neurodevelopment, physiology, and behavior.[15,16]

The literature abounds with data that reveal that early and repetitive adversity can cause epigenetic changes that can influence one's physiological responses to adversity later in life.[17–19]

The complex physiologic impacts of toxic stress, in association with exogenous factors including disparate access to health care and other resources, contribute to the increased burden of disease and mortality that results from traumatic exposures.[15]

The groundbreaking 1998 ACEs study found a dose–response relationship between traumatic childhood experiences and adverse health outcomes. Respondents who had experienced four or more adverse experiences, compared to those who had none, had a 4- to 12-fold increase in health conditions, including cardiac disease, lung disease, drug abuse, depression, suicide attempt, sexually transmitted infections, and obesity.[10,13,20] Adults with the highest ACE scores had a life expectancy 20 years than those with lower toxic exposures. The original ACE study and many subsequent studies have focused on the negative adverse experiences of childhood and did not collect data on protective factors. Omission of resilience and strengths limits the full context of the patients' lived experience. Nonetheless, the findings from this study have had profound implications on our understanding of the lifelong consequences of early trauma. Multiple studies have replicated the original ACE study in a wide variety of populations, both in the United States and globally. Relevant findings can be found at ACEs Connection and ACEs Too High.[21,22] These studies have confirmed the relationship between trauma and a wide range of adverse health effects in diverse populations.

IPV can result in acute injury and, in some cases, death. In 2007, there were 2340 IPV homicide victims in the United States, of whom 70% were women. In addition to immediate health consequences, IPV has been linked with an increased risk of multiple long-term health conditions. For example, one study showed that IPV was associated

with an increased risk for mental and physical health conditions, including chronic disease, depressive symptoms, chronic mental illness, and substance use. IPV survivors may also have challenges in establishing trust with medical providers and engaging with the health care system.[23] For example, for some IPV survivors, physical examinations might be triggering and thus contribute to avoidance of health care visits. Transgender and gender nonconforming survivors may face additional challenges when encountering health care providers who are not proactively trauma-informed.[24]

When chronic adversity affects individuals across a community, the impact can be conceptualized as community trauma. Community trauma can result from structural inequities and violence such as failing school systems, criminalization of mental illness and substance abuse, concentrated poverty, and poor food systems. Community-level adversity may have a direct traumatic impact on health as well as mark a lack of the supportive structures that could buffer the impact of traditional ACEs.[14]

The impacts of structural, or community, trauma are particularly salient in refugee and asylum-seeking populations. McKenzie describes the ways in which the existing US system, including medical exams, retraumatizes asylum seekers who are awaiting adjudication of their cases. She states having to conduct physical exams of these patients without privacy, comfort, or control over the experience, and remarks that while understanding that careful assessment of asylum claims is necessary, that "dehumanizing traumatized people by detaining them adds a layer of cruelty to already-demeaning circumstances."[25] Changing the detainment system might minimize the extent of retraumatization experienced by these refugees. Although a detailed examination of structural trauma and resilience factors is beyond the scope of this article, we will review some existing tools to inquire about both community trauma and resilience factors such as social connections, collective efficacy, and civic engagement.

Response and trauma-specific interventions

Awareness of a patient's trauma history and an acknowledgment of the impact of trauma experiences on a patient's health enable the clinician to offer a trauma-sensitive responses grounded in the six guiding principles of trauma-informed care.[25] There is consensus that trauma-specific interventions have the potential to mitigate the complex biopsychosocial effects of trauma. In 2006, the Center on the Developing Child at Harvard University was established by Dr Jack P. Shonkoff with the goal of developing science-based innovations to mitigate the effects of toxic stress experienced by children. This work has identified protective factors that can strengthen adaptive skills and self-regulating capacities, with the aim of fostering self-efficacy and resilience.[17] The Center for Youth Wellness, established by Dr Nadine Burke-Harris, also provides a

framework for trauma responses that can buffer the impact of toxic stress. Dr Burke's model integrates pediatric primary health care, mental health and wellness, research policy, education, and community and family support services to meet the needs of children and their families. Promising interventions that may mitigate dysregulation associated with childhood traumatic exposures include regular exercise, good nutrition, sleep, mental health services, mindfulness practices, and supportive relationships.[26]

Screening for trauma

Although the prevalence and significant impact of traumatic experiences are clear, there is not yet a consensus about screening for abuse, violence, and trauma in adult health care settings. In the next section, we will review the current state of the field in screening for trauma and make recommendations for best practices.

## State of the science on screening

Methods

The objective of our literature search was to identify the most commonly utilized tools for trauma, abuse, and violence screening. We initially focused our search on studies examining two specific screening tools: IPV screening tools and human trafficking, and then expanded our search to include broader trauma screening tools.

To identify the most commonly used IPV screening tools, we reviewed the literature, including two large systematic reviews on screening for IPV conducted by Rabin et al. in 2009 and Sprague et al. 2016, and reviewed specific screening tool recommendations (Figure 2) of seven leading health institutions (American College of Obstetricians and Gynecologists, Academy of Nursing, SAMHSA, American Academy of Family Physicians, US Task Force, Massachusetts Medical Society, and American Association of Colleges of Nursing).[27–35] This identification strategy was not intended to be exhaustive, rather to identify the tools most commonly used in the field, recommended by leading institutions, and presumably most accessible to health care providers.

To identify broad trauma inquiry tools with the potential to detect a range of traumatic experiences, we examined resources and recommendations provided by organizations, including SAMHSA-HRSA (Health Resources and Service Administration) and the National Center for PTSD (Figure 3).[36] We only included tools that are designed for health care providers to use with adult populations.

IPV screening tools

The most substantial research examining trauma screening has been done in the area of IPV, which has been spurred by its Joint Commission mandate as a requirement of hospital accreditation.
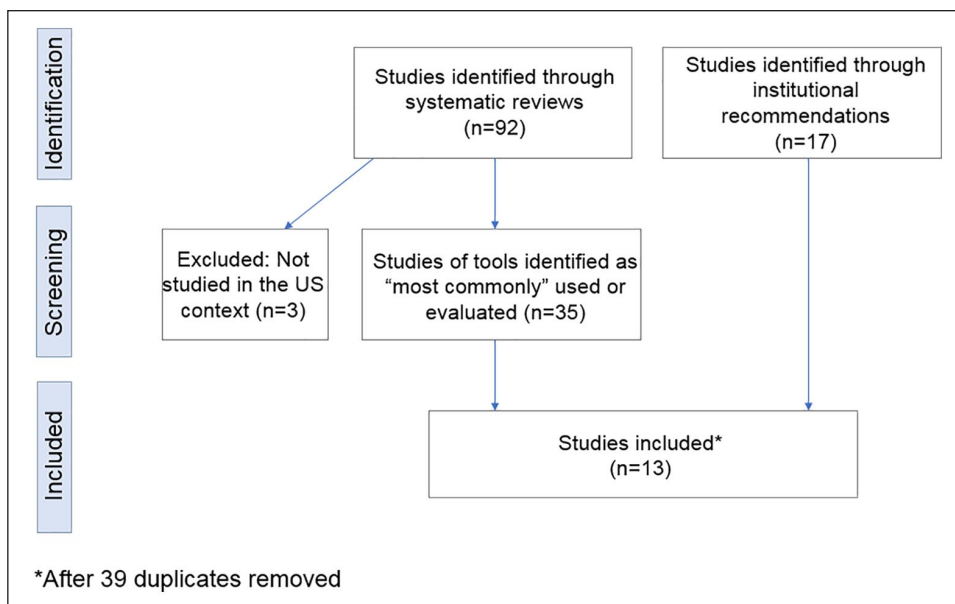
Figure 2. Identification of IPV screening tools.
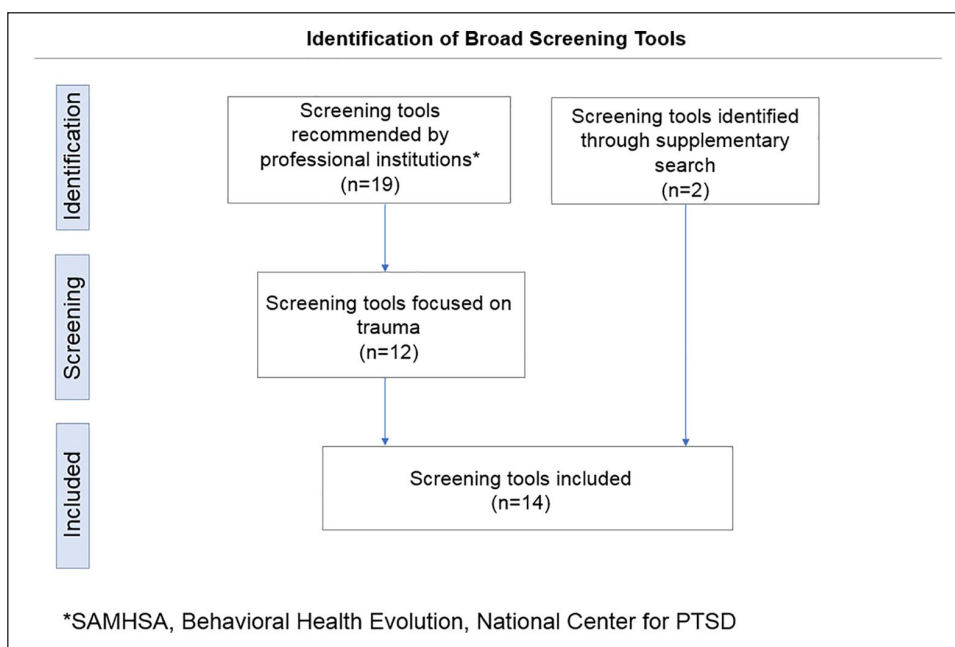
Figure 3. Identification of broad screening tools.

We identified 13 IPV screening tools (Partner Violence Screen; Woman Abuse Screening Tool; Hurt, Insult, Threat, and Scream; Composite Abuse Scale Revised–Short Form; Conflict Tactics Scale; Abuse Assessment Screen; Danger Assessment; RADAR Tool; HARK; CUES; OAS; OVAT; and STaT).[37–49] The tools vary along several dimensions, including format, extent of Supplementary Materials for providers, number of questions, and follow-up protocols. We categorized the IPV screening tools by format into one of two categories: structured questionnaire and conversation. Almost all of the tools analyzed (85%) are designed as structured questionnaires (Partner violence Screen (PVS), Women Abuse Screening Tool (WAST), Hurt, Insultted, Insulted Threatened with HArm and Screamed (HITS), Compsoite Abuse Scale Revised- Short Form (CASR-SF), Contact Tactics Scale-2 (Conflict Tactics Scales), Abuse Assessment Scree (AAS), Danger Assessment-5 (DA-5), Humiliation, Afraid, Rape, Kicked (HARK), Ongoing Abuse Screen (OAS), Ongoing Violence Assessment Tool (OVAT), and (STaT- Slapped, threatened,

broken things). These tools consist of a standard list of questions presented as a written form for patients to complete independently, or verbally by providers. The questionnaires range in number of questions (see Supplemental Appendix A) and some questions include multiple, detailed probes about violence experienced. Only two of the IPV screening tools (15%) deviate from this format and recommend a more conversation-based approach to screening and inquiry Confidentiality, Universal Education and Empowerment, and Support, Routinely Screen, Ask direct questions, Document, Assess safety, Review options (CUES, RADAR). These two tools are also the only ones to embed recommendations for provider responses to a positive IPV screen. Most studies evaluating IPV screening/inquiry fail to measure the critical education, referral, and continuing support measures that should accompany IPV and other trauma inquiry conversations. Evaluation of the tool effectiveness varies, as do the outcomes evaluated (e.g. disclosure, patient well-being).

Human trafficking—sex and labor trafficking screening tools

More recently, the human trafficking field has been building off the evidence-based foundations of screening for other forms of interpersonal violence.[50–52] Taking a universal education approach, the Privacy, Educate, Ask, Respect and Respond (PEARR) tool, designed by Dignity Health in conjunction with Health, Education, Advocacy and Linkage (HEAL) Trafficking and Pacific Survivor Center, reminds the clinician who is screening for any form of interpersonal violence, including human trafficking, to provide Privacy, Education, Ask, Respect, and Respond.[53] There is currently no validated screening tool for labor trafficking in the health care setting, which is unfortunate as globally labor trafficking is more common than sex trafficking. The only validated sex trafficking screening tool that exists is specific for English-speaking 13- to 17-year-olds.[54]

Trauma screening tools

Although adult medical practices routinely screen for IPV, and some adult medical settings incorporate social determinants of health (SDOH) into their routine care, structural and community trauma are rarely included in either set of questions. Three types of trauma screening tools exist: those that assess for specific past experiences, those that focus on current symptoms, and those that include both events and symptoms. A summary of trauma screening tools is in Table 1.

Of the trauma screening instruments analyzed, the average number of questions is 15. Six out of 14 instruments use questions about specific events that individuals may have experienced. For example, the Life Event Checklist assesses exposure to 16 events known to potentially result

in posttraumatic stress disorder (PTSD) or distress (e.g. natural disaster, assault with a weapon, sexual assault) and also includes witnessing such events.[55] Seven instruments use a symptoms-based approach, inquiring about "problems" that are often indicative of exposure to stressful experiences. For example, the PTSD Checklist for *DSM-5* (*Diagnostic and Statistical Manual of Mental Disorders* (5th ed.)) is comprised of 20 questions (e.g. "In the past month, how much were you bothered by … repeated, disturbing, and unwanted memories of the stressful experience?").[61] One instrument, the Cojac Screening Tool, uses both a symptoms-based and events-based inquiry approach. This tool includes questions about mental health (e.g. "Have you ever been worried about how you are thinking, feeling, or acting?"), as well as experiences of violence (e.g. "Have you ever been in a relationship where your partner has pushed or slapped you?).[63]

Structural trauma

Instruments evaluating the prevalence of community trauma and resilience are limited. The Prevention Institute has published a set of instruments for evaluating community trauma and resilience that can be used by community leaders and members to identify collective challenges and strengths, as well as priority areas for community members.[79] For example, the Adverse Community Experiences survey uses 19 questions, prompting individuals to (1) identify the extent to which factors might be adversely affecting their community and (2) select five factors that are most important to address. The survey also includes spaces for individuals to write in factors not mentioned.[79] The Community Resilience Measures takes a similar format but lists measures of community resilience—that can be leveraged by communities and identified for further investment (see Table 2).[79]

ACE screening

The ACEs questionnaire is the most widely used broad trauma screening tool in settings such as public health surveys and in pediatric practices. However, the ACEs tool is not widely used in adult medical settings. Moreover, although the ACEs tool incorporates a broad range of individual and interpersonal trauma, it does not include structural traumas such as experience of war and combat, racism, incarceration, PTSD, or severe illness. An expanded ACEs screen, such as used in the Philadelphia ACEs Survey, is much less commonly used in clinical practice.[14]

There are multiple reasons for this lack of adult trauma screening using instruments such as ACEs questionnaires or other broad screening tools. There are no guidelines or recommendations for broad trauma screening for adults. There are many competing screening requirements expected of providers in a limited amount of time.[80] Many

Table 1. Trauma screening tools.

Instrument	Type	Number of questions	Institutional recommendation	Event or symptom focused	Hyperlink to tool
Life Events Checklist[55]	Questionnaire	17	SAMHSA[36]	Event	https://www.integration.samhsa.gov/clinical-practice/life-event-checklist-lec.pdf
PCL-C[56]	Questionnaire	17 (abbreviated versions available)	SAMHSA[36]	Symptom	https://www.integration.samhsa.gov/clinical-practice/Abbreviated_PCL.pdf
BTQ[57]	Questionnaire	10	The National Center for PTSD[58]	Event	https://www.ptsd.va.gov/professional/assessment/documents/BTQ.pdf
SLESQ[59]	Questionnaire	13	The National Center for PTSD[60]	Event	https://georgetown.app.box.com/s/nzprmm2bn5pwzdw1l62w
PTSD Checklist for *DSM-5*[61]	Questionnaire	20	The National Center for PTSD[62]	Symptom	https://www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp
Cojac Screening Tool[63]	Questionnaire/interview	9	N/A	Event/symptom	https://alamedacountytraumainformedcare.org/wp-content/uploads/2012/11/COJAC_screening_tool.pdf
ACEs[64]	Questionnaire	10	N/A	Event	https://alamedacountytraumainformedcare.org/wp-content/uploads/2012/11/ACE_Score_Calculator.pdf
Trauma Assessment for Adults[65]	Self-report questionnaire	17	The National Center for PTSD[66]	Event	https://www.ptsd.va.gov/professional/assessment/te-measures/taa.asp
Life Stressor Checklist–Revised[67]	Questionnaire	30	The National Center for PTSD[68]	Event	https://www.ptsd.va.gov/professional/assessment/documents/LSC-R.pdf
TSQ[69]	Questionnaire	10	The National Center for PTSD[70]	Symptom	https://www.ptsd.va.gov/professional/assessment/screens/tsq.asp
SPRINT[71]	Self-report questionnaire	8	The National Center for PTSD[72]	Symptom	https://www.ptsd.va.gov/professional/assessment/screens/sprint.asp
SPAN[73]	Self-report questionnaire	4	The National Center for PTSD[74]	Symptom	https://www.ptsd.va.gov/professional/assessment/screens/span.asp
Trauma Symptom Checklist[75]	Questionnaire	40	The National Center for PTSD[76]	Symptom	http://actic.electricembers.net/wp-content/uploads/2012/11/Trauma-Symptom-Checklist-.pdf
PC-PTSD[77]	Interview	4	The National Center for PTSD[78]	Symptom	https://www.ptsd.va.gov/professional/treat/care/screening_referral.asp

SAMHSA: Substance Abuse and Mental Health Services Administration; PCL-C: shortened version of the PTSD Checklist–Civilian Version; BTQ: Brief Trauma Questionnaire; PTSD: posttraumatic stress disorder; SLESQ: Stressful Life Events Screening Questionnaire; *DSM-5: Diagnostic and Statistical Manual of Mental Disorders* (5th ed.); ACEs: Adverse Childhood Experiences; TSQ: Trauma Screening Questionnaire; SPRINT: Short Post-Traumatic Stress Disorder Rating Interview; SPAN: startle, physically upset by reminders, anger, and numbness; PC-PTSD: Primary Care PTSD Screen.

adult medical care providers may not be aware of the relationship between earlier experiences of adversity and adult health. There is a dauntingly wide range of potentially significant traumatic experiences, ranging from personal experiences of illness and injury, to interpersonal violence and abuse, to repeated exposure to racism, homophobia, and other forms of structural trauma. Clinicians may be uncomfortable with asking questions about trauma history, concerned about triggering patients, or unsure about how to respond to disclosure.

There are limited studies which assess the feasibility of integrating ACEs screening into adult medical care.

Several studies report high levels of patient comfort in discussion of ACEs with their primary care provider, especially if the discussion resulted in treatment options.[80–82] In Goldstein's study on patient preferences, most patients report being comfortable with documenting their ACEs score in their medical record.[83] In a prenatal feasibility study, 11% of patients screened for ACEs reported that the conversation changed their relationship with their clinician, 53% felt that it increased their trust in their clinician, 75% reported that it made them feel like their clinician knew them better, and 95% reported that it had no negative impact on their relationship with their clinician.[84] In

Table 2. Structural trauma.

Instrument	Number of questions	Focus	Example questions	Hyperlink to tool
Adverse Community Experiences[79]	19	Structural violence, violence	To what extent is each community experience affecting your community? (e.g. Poor food systems, poor transportation systems)	https://www.preventioninstitute.org/publications/what-why-how-answers-faqs-about-acer-framework (p. 39)
Community Symptoms Worksheet[79]	7	Symptoms of community trauma	To what extent is each symptom of community trauma showing up in your community? (e.g. Hopelessness, disconnected/damaged social relations and social networks. We don't know or trust each other)	https://www.preventioninstitute.org/publications/what-why-how-answers-faqs-about-acer-framework (p. 41)
Community Resilience Measures[79]	19	Factors of community resilience	To what extent is each measure of community resilience important for your community? (e.g. Resources for investment in the arts, trust, social cohesion)	https://www.preventioninstitute.org/publications/what-why-how-answers-faqs-about-acer-framework (p. 43)

another feasibility study on routine ACEs screening of adults in a family medicine setting, providers responded that they changed the clinical care provided for one of six patients with high-risk ACE scores ($\geqslant$4), although the study did not show a change in plans for follow-up visits or new referrals.[85] These study results were limited by not including an analysis of other ways in which clinical care may have changed due to screening.

In studies of ACEs screening, provider comfort with screening during routine visits was contingent on their previous Trauma-informed education (TIC) education and training, whether screening had been integrated into their workflow, and whether there were readily available resources for their patients.[80,81] These studies provide insight into the potential feasibility of broader trauma screening tools in a primary care setting; however, their generalizability is limited by small sample sizes. Further research is needed to better understand the impact of ACE screening on health care plans and its relationship with patient outcomes.

Assessment of SDOH is one current approach to inquiry about structural trauma. SDOH assessment provides an opportunity to understand the concrete adversities impacting patient health and engagement in care, and can make it possible to address the structural and upstream causes of health inequities.[86] Awareness of SDOH and use of a trauma-informed lens to address these factors promote health equity, engagement, and meaningful encounters between providers and their patients.

Current screening methodologies for trauma have inherent limitations. Standard screening tools that rely on checklists may not enable patients to feel comfortable nor safe enough to share their histories. Providers may suffer vicarious traumatization if they bear witness to their patients' sufferings without adequate support themselves.[87,88] As the debate about screening proceeds, the importance of avoiding retraumatization of patients and

vicarious traumatization of providers should be balanced with the goal of providing optimal, trauma-sensitive treatment choices. Furthermore, most current screening methods fail to offer provider's guidance on interventions and responses after trauma disclosure. Inadequate responses to a trauma disclosure may negate the benefits of screening, have a net-negative impact on a patient's comfort with sharing their history, or provoke an emotional or psychological response that providers are not versed on responding to. We therefore describe below a framework around inquiry, which follows the guiding principles of trauma-informed care.

Proposed best practices in trauma inquiry

In order to enable patients to feel comfortable sharing information about their trauma history and its effects on their health, and to minimize the potential for harm, we propose a tiered approach to inquiry (Figure 4). The type and depth of inquiry depend on patient factors, the provider's role, and the resources available. An initial approach by a medical provider starts with broad inquiry. Sample questions might include the following: "Have you had any life experiences that you feel have impacted your health and well-being?" "Can you share how these experiences have affected you?" These questions allow patients themselves to determine what they feel comfortable sharing with the clinician, avoid prompting the patient to recount the details of the event, and validate the impact of these experiences on their health.

If a disclosure suggests current danger, the provider proceeds to a risk and safety assessment, either by asking inquiry questions (Specify and Refer to table 3 for sample screening tools) or by referring the patient to an appropriate specialist such as a social worker or advocate for risk and safety assessment. If a disclosure does not suggest imminent risk, we suggest that the provider should consider the
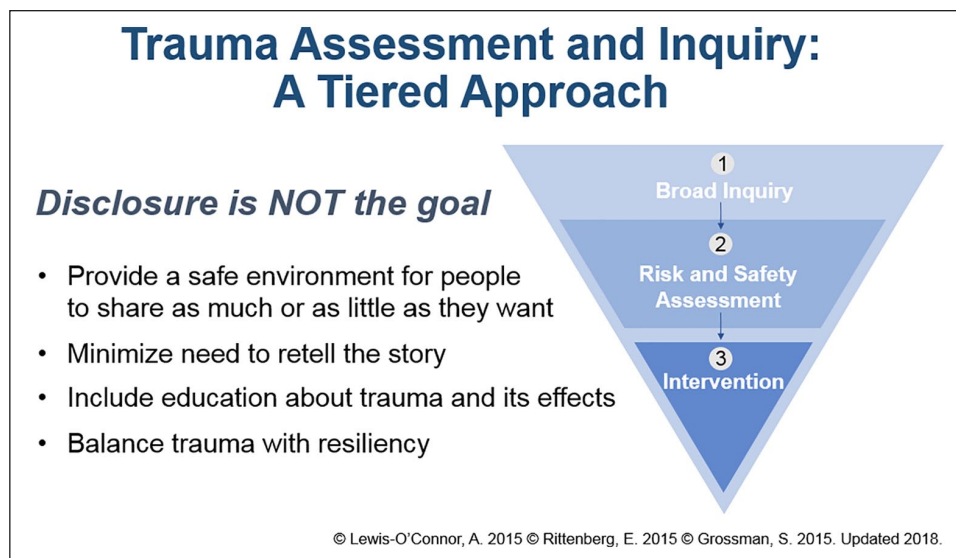
Figure 4. Tiered approach.

immediate needs of the patient that are responsive to their desires rather than pursuing extensive details of the patient's trauma history. Instead, the provider can help contain the dysregulation that might accompany a disclosure of trauma: they can offer grounding techniques if appropriate, appreciation for the patient's willingness to share, support for their suffering, and acknowledgment of their resilience. The provider can then ensure that the patient is offered trauma-specific services. Within those services, the patient might want to share more details of their history, in a safe space. The goal of inquiry is not necessarily disclosure, rather it is to provide a safe environment in which patients can share as much or as little of their event as they choose. This inquiry is symptom focused, in order to identify how an event/s has impacted one's health, rather than being event-focused by eliciting the details of the event (unless such information would have implications for the physical examination).

A trauma-informed approach to inquiry also requires balancing trauma and resilience. No matter how vulnerable a patient may appear, recognition of their strengths and aspirations for the future empowers individuals to see beyond their trauma. Current practices focus on diagnosis and treatment though a medical lens; however, treatment may be enhanced when strengths and resilience are recognized. For example, Kimberg promotes the use of strength-based questions for a variety of reasons: (1) it allows a patent to feel known in more ways than just the negative events of life and the corresponding problems; (2) it provides a fuller picture to staff so that the likelihood of "armoring," the hard shell that workers can develop when faced with client problems that seem insurmountable, is diminished and a sense of manageability increases; (3) it increases the likelihood that the strengths can be used during the delivery of health care services;

and (4) in research, it provides richer understanding of the relationship between the independent and dependent research variables.[89] In addition, inquiry about strengths can point researchers toward answers to important questions about recovery from trauma. For example, in the original ACEs study, not all individuals with higher ACEs scores experienced the same adverse health risks. How many protective factors, or which ones, diminish the effect of adverse experiences? Unfortunately, information about protective factors was not collected. In individual cases, identification of protective factors and strengths can be an integral component of ongoing treatment and recovery. More broadly, when data on resilience are collected, as is being done in some pediatric practices, it can inform the field about interventions that might buffer the impact of trauma.[90]

There are several scales that do evaluate resilience factors. In a methodological review of 15 measures of resilience, the Resilience Scale Assessment (RSA), the Brief Resilience Scale, and the Connor–Davidson Resilience Scale (CD-RISC) received the highest overall ratings and are considered moderately reliable measures of resilience.[91] The CD-RISC is a brief self-rated assessment to help quantify resilience and a clinical measure to assess treatment response.[92] The RSA is a self-reported 37-item assessment aimed at examining intrapersonal and interpersonal protective factors (e.g. family support and cohesion, external support systems) presumed to facilitate adaptation to psychosocial adversities.[93] The Brief Resilience Scale is a self-reported six-item scale designed to measure resilience as an outcome through assessing the ability to recover from stress.[94] Finally, the Resiliency Scale for Young Adults (RSYA) is based on a three-factor model of personal resilience, including mastery, relatedness, and emotional reactivity.[95]

Application of six guiding principles to inquiry

Trauma-informed care offers a theoretical framework for developing more inclusive and effective inquiry into trauma. SAMHSA defines six principles of trauma-informed care—Safety: Physical and Psychological; Trustworthiness and Transparency; Peer Support; Collaboration and Mutuality; Empowerment, Voice, and Choice; and Cultural, Historical, and Gender Acknowledgment.[96] In Table 3, we offer practice guidelines for each of the six trauma-informed care principles with sample inquiry questions. We have associated sample inquiry questions with specific guiding principles; however, these questions may correspond to multiple principles and are not mutually exclusive.

Machtinger et al. offers a framework for including inquiry within a broader context of trauma-informed care (Figure 5) that addresses the environment, response to patients, and education for patients that addresses the link between trauma and health and opportunities for healing.[97] A trauma-informed approach to inquiry may result in two types of benefit for patients: insight gained from the inquiry process itself, as well as the connection to trauma-specific services and intervention.

How might the process of inquiry itself benefit a trauma survivor? Education about the impact of trauma is fundamental to inquiry. Patients may gain an understanding of how their experiences have a direct relationship to their health and well-being, and be able to identify strengths and factors that enable posttraumatic growth. Moreover, a safe, transparent, collaborative, empowering, and culturally humility-based conversation about trauma history can contribute to a meaningful relationship between provider and patient, and providers and the care team. These relationships are important to healing from trauma and to successful engagement with health care services.

In addition to the benefits of universal awareness of trauma and emphasis on relationship-based care, inquiry and subsequent disclosure of trauma history can enable survivors to access trauma-specific services. A trauma-informed approach may include components such as warm handovers that minimize the need for a survivor to retell their story, or a TIC care plan that communicates a patient's specific needs to all members of a care team. Trauma-informed services may include mindfulness meditation, warm referrals to psychotherapy, psychiatry, or peer support groups.

Discussion

The gold standard for detection of disease and health risks is the use of standardized tools that have undergone robust psychometric testing to assure reliability and validity. As a result, when there is awareness of a new disease, often the scientific field will grapple with best ways to identify and intervene. Once such tools are developed, it is often a process to integrate into the medical visit, given the resources available and competing issues during the health care encounter.

Currently, there is wide variability and debate in the field on the practice of "screening" and "inquiry" for traumatic life events. For example, the prevalence of identification of IPV varies depending on setting (primary care, Ob-Gyn clinics, and emergency departments) ranging in identification from 12% to 45%. This variation partly depends on how IPV is defined and how the questions are asked.[98–100] A recent review article in the *New England Journal of Medicine* (*NEJM*) by Miller and McCaw highlights the prevalence of IPV, associated health consequences, and the need to incorporate routine inquiry into health care settings.[101] There are many validated tools that exist to address IPV and to a limited degree other discrete forms of trauma such as sexual violence and ACEs, there is no current short validated tool to use during adult medical encounters to inquire about adverse life events. Existing broad trauma screening tools are limited by their unwieldy length, a lack of resources to inquiry, and response and competing demands during the health care encounter. Moreover, many current screening protocols include checklist-type questions, often repeated by many providers across the continuum of care in a process that places unnecessary burden on patients to repeatedly share details of their story. This screening process is often ineffective and can retrigger and retraumatize. We propose that trauma inquiry, rooted in the six principles of trauma-informed care, using a broad screening question such as "Have you had any life experiences that you feel has impacted your health? How do you feel this event/s impacts you?" provides an opportunity for patients to self-determine what they share and with whom. Finally, we recognize that education around trauma inquiry should apply to even the most experienced providers. We believe there needs to be proactive education and policies in place to support providers and ensure adequate treatment options exist for patients.[102]

Research and measurement

Increasingly, health care providers recognize the intersection of many forms of abuse and violence; however, general screening focuses on individual and interpersonal forms of violence and abuse, such as IPV, sexual violence, and more recently human trafficking. In addition, screening tools for depression and anxiety are often proxy indicators for experiences of trauma, violence, and abuse.[103–106] While certain types of trauma disproportionately affect women (e.g. IPV), there is limited research demonstrating the health consequences of trauma, by gender. Furthermore, there is a need to explicitly study the impact of TIC interventions, by gender. In a recent article, Hamberger et al. raise many of these important gaps in the research and propose direction for future research.[24]

Table 3. Trauma-informed care (TIC) guiding principles and inquiry.

SAMHSA Six Guiding Principles of TIC		Sample Inquiry Questions
SAFETY	**Definition:** Throughout the organization, staff and the people they serve feel physically and psychologically safe. **Practice:** • Create an environment that is safe during appointments/procedures • Let the patient know if they prefer to not answer a question, that is okay • Assure that patients feel safe physically and emotionally. • Create opportunities for the patient to feel known and cared for • Provide opportunities for patients to share as much or as little as they choose • Slow down or stop if the patient appears uncomfortable • Don't assume you know what they are experiencing, practice active listening	• What are ways or things we can do to make you feel safe? • Have you had any experiences receiving health care that would be important for me to know? • Can you share with me any concerns that you have about your health?
TRUSTWORTHINESS AND TRANSPARENCY	**Definition:** Organizational operations and decisions are conducted with transparency and the goal of building and maintaining trust among staff, clients, and family members of those receiving services. **Practice:** • Build a relationship of trust • Share the limitations of confidentiality (mandatory reporting laws) • Allow time for patient to ask questions • Be open with patients when you are seeking consult advice • Assure patients you will respect their decisions and choices • Consider using teach-back methods • Allow patients to view their chart, work together with them on phrasing of confidential information	• Do you have any questions for me? Any questions about what to expect today? • Is there a signal you would like to use to tell me to slow down or stop? Do you need some time? • Would you like me to ask your permission to share this information with your health care team? • How would you like me to document what you have shared with me?
PEER SUPPORT	**Definition:** Peer support occurs when people provide knowledge, experience, emotional, social or practical help for each other. Peer support commonly refers to an initiative consisting of trained supporters and can take a number forms such as peer mentoring, reflective listening, or counseling. **Practice:** • Connecting patient to others that provide support services (in house, community, support groups, etc.) • Connecting patients to others with a similar lived experience • Value the unique contributions of each member of the health care team (Colleague to colleague)	• Can you tell me about your support system? • Is there anyone you would like me to share information with? • Would you like me to help you find support from others who have been through what you have been through? • I would like to hear and understand your perspectives on this, can you share your thoughts with me? (question for colleagues)

Table 3. (Continued)

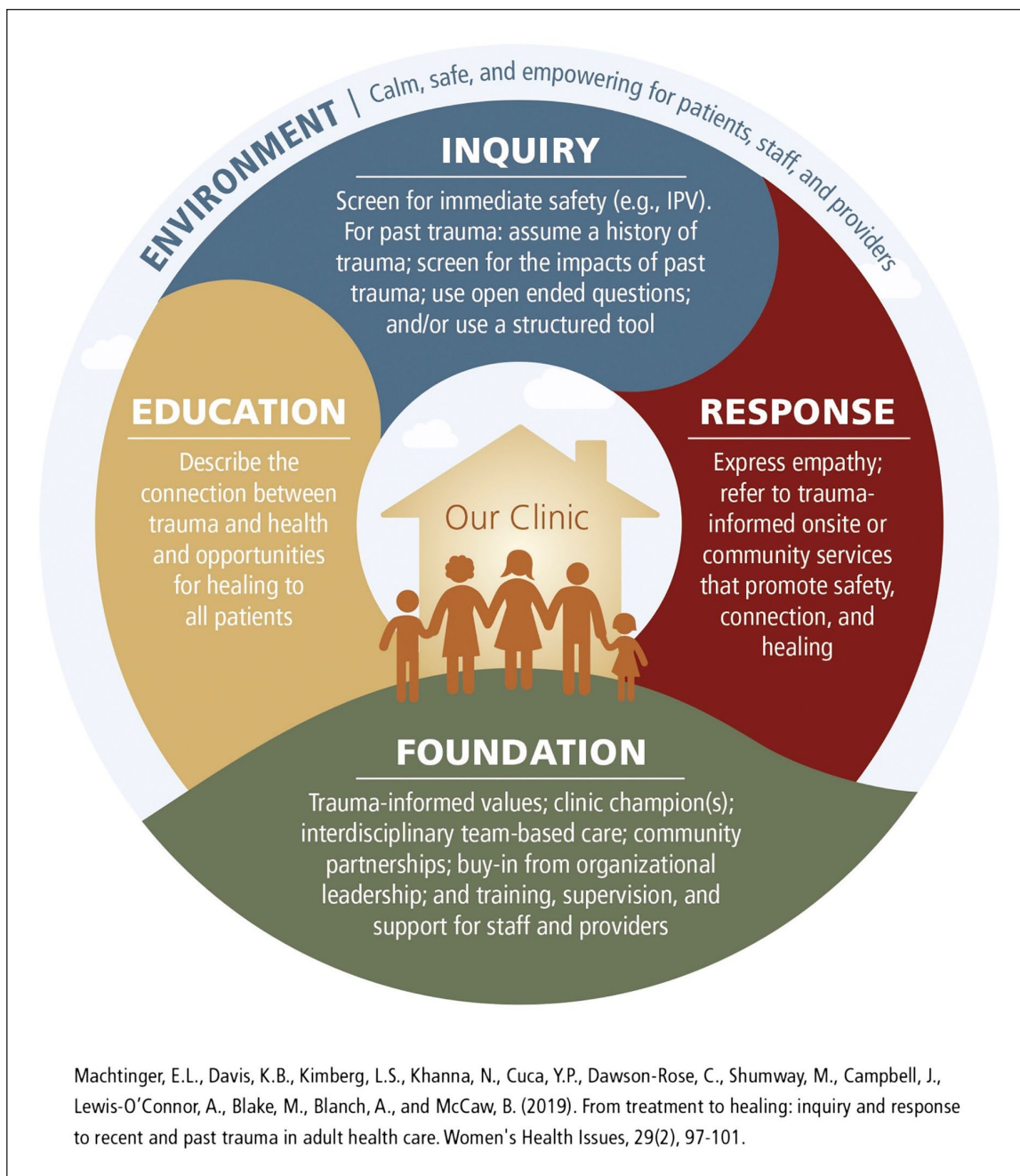| SAMHSA Six Guiding Principles of TIC		Sample Inquiry Questions
EMPOWERMENT, VOICE AND CHOICE	**Definition:** Throughout the organization and among patients served, individuals' strengths are recognized, and built upon. The organization aims to strengthen the staffs', clients', and family members' experience of choice and recognizing that every person's needs are unique and thus individualized approaches are core. This includes a belief in resilience of individuals, organizations, and communities can heal. This builds on what clients, staff, and communities have to offer, rather than responding to perceived deficits. **Practice:** • Value the autonomy and rights of patients to self-determine • Provide choices to your patients • Seek to understand rather than make assumptions about an individual • Respect the choices made even when you think the choice may not be the best choice • Level the power differential so that patients can feel they are able to voice their truths, etc. • Share with patients that they do not need to share details in order to receive care and treatment • Ask patients to share what their preferences are as your goal is to be supportive *In acute cases of sexual and domestic abuse and human trafficking, some details of the event are required in order to access shelter services.	• What are you proud of? • What are your strengths? • Are there services you have received that were not as helpful?
MUTUALITY AND COLLABORATION	**Definition:** There is true partnering and leveling of power differences between staff and clients and among organizational staff from direct care staff to administrators. There is recognition that healing happens in relationships and in the meaningful sharing of power and decision-making. **Practice:** • Acknowledge that patients are experts in their lives (even when you may not agree with their choices) • Work with your patient work to come up with a care and treatment plan • Share ways in which your patients can contact you • Develop treatment plans with your patients; not 'to' your patients, or 'for' your patients	• I value working in a partnership with my patients-what would be helpful as we work together? • What is the best way for me to contact you? • Do you know how to contact me?
CULTURAL, HISTORICAL AND GENDER ACKNOWLEDGEMENT	**Definition:** The organization actively moves past cultural stereotypes and biases (e.g, based on race, ethnicity, sexual orientation, age, geography), offers gender responsive services, leverages the healing value of traditional cultural connections, and recognizes and addresses historical trauma. **Practice:** • Seek to understand rather than make assumptions about an individual based on culture, race, or gender identity • Create an environment that is welcoming and affirming to all using a health equity lens	• Would you like to share with me with any cultural practices that I should know? • Any religious or spiritual practices that are important to you? • Have you had any lifetime experiences that you feel have impacted your health and wellbeing? How has that experience/s affected you?

Machtinger, E.L., Davis, K.B., Kimberg, L.S., Khanna, N., Cuca, Y.P., Dawson-Rose, C., Shumway, M., Campbell, J., Lewis-O'Connor, A., Blake, M., Blanch, A., and McCaw, B. (2019). From treatment to healing: inquiry and response to recent and past trauma in adult health care. Women's Health Issues, 29(2), 97-101.

Figure 5. Trauma-informed health care.

Future research focused on the return on investment when trauma-informed approaches are utilized for trauma inquiry and intervention would provide the opportunity to measure process outcomes, health outcomes, health care costs, and staff satisfaction. Case analysis data suggest that the trauma-informed innovative changes in health delivery may (1) increase staff wellness and mitigate the impact of vicarious trauma, (2) improve the patient's ability to engage in more meaningful encounters with their providers, (3) decrease health care costs by averting emergency department visits and long lengths of stay, and (4) lower no-show rates and lower the number of patients leaving against medical advice.[107] Future research should be multimodal, quantitative, and qualitative, and include process outcomes from quality improvement projects. Research that captures the lived experiences of patients and providers will help to advance the care for patients exposed to trauma, violence, and abuse.

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