Trauma Informed Care in Medicine
Current Knowledge and Future Research Directions

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Traumatic events (including sexual abuse, domestic violence, elder abuse, and combat trauma) are associated with long-term physical and psychological effects. These events may influence patients' health care experiences and engagement in preventative care. Although the term trauma-informed care (TIC) is widely used, it is not well understood how to apply this concept in daily health care practice. On the basis of a synthesis of a review of the literature, the TIC pyramid is a conceptual and operational framework that can help physicians translate TIC principles into interactions with patients. Implications for clinical practice and future research are discussed in this article. **Key words:** *behavioral science, communication skills, mandated reporting, patient-centered care, posttraumatic stress disorder, trauma-informed care*

TRAUMATIC EVENTS such as interpersonal violence,[1] sexual assault,[2] childhood sexual abuse,[3] elder abuse,[4] and being exposed to combat[5] are extremely common in the United States and globally.[6] The Adverse Events Study provides compelling evidence that stressful childhood events influence mental health, physical health, and morbidity in adulthood, with greater levels of trauma leading to poorer outcomes through the lifespan.

These adverse events include recurrent physical, emotional, and sexual abuse and neglect, living with domestic violence, maternal depression or family mental illness, and parental incarceration.[7]

Because many of these traumatic events involve violation of a person's bodily integrity, they often have adverse influences on physical and mental health[8,9] and attitudes toward medical care.[10-13] Although trauma survivors are high utilizers of sick visits and emergency care,[14] they may actually avoid seeking preventive medical care, such as mammograms, cervical cancer screenings, and even dental prophylaxis.[15-18] Many health care visits involve the provider being in close proximity to the patient and needing to touch the patient's body. For some traumatized patients, this may be particularly re-triggering, depending on the nature of their trauma.[19] In addition, some patients may not trust the medical system overall and may be reluctant to disclose a history of trauma. This is particularly true of patients of lower socioeconomic and minority status, where the perceived power

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differential between provider and patient is amplified.[20]

In recent years, the term "trauma-informed care" (TIC) has been used to describe ways in which providers in varied settings (ie, social service, education, health care, and corrections) can better serve people who have experienced traumatic life events.[21] The basic definition of TIC is when every part of service is assessed and potentially modified to include a basic understanding of how trauma impacts the life of an individual seeking services.[22] However, there is not a clear consensus about how this concept can be applied in daily health care practice. This review had 3 aims— (1) to identify the core principles of TIC in medical settings, (2) to identify how providers can apply these principles to practice, and (3) to provide detailed recommendations for how TIC in health care can be studied in an evidence-based, programmatic manner. We examined literature from 1990 to the present using Google Scholar, PubMed, Medline, Science Direct, and PsychInfo databases. We limited our search to peer-reviewed journals and scholarly articles published in English.

TRAUMA-INFORMED CARE IN MEDICAL SETTINGS

The studies we identified suggested that TIC in health care consists of 2 major domains—universal trauma precautions and trauma-specific care—both of which are divided into several categories (Figure). Universal trauma precautions, which involve small changes to practice that can be employed with all patients, do not require providers to know whether or not a specific patient has a trauma history. These techniques may be particularly beneficial for establishing trust and rapport with trauma survivors. Trauma-specific strategies come into play when providers know the patient has experienced a traumatic event. These techniques involve interprofessional collaboration, provider awareness of vicarious victimization professional burnout issues, and universal screening for traumatic events. The domains of universal precautions and trauma-specific care have been broken down further based on the literature we reviewed. Because universal precautions are used with all patients and trauma-specific techniques are only used a certain percentage of time, we have proposed a pyramid framework when outlining the principles of TIC in health care (Figure). Each of these levels is discussed below.

Universal trauma precautions

Patient-centered communication and care

The base of the TIC pyramid (see Figure) consists of excellent, patient-centered communication and care.[23,24] Specific communication and behavioral techniques can help

Figure. The trauma-informed care pyramid. [a]Universal trauma precautions; [b]trauma-specific care.

reduce patient anxiety and increase physician rapport with trauma survivors but do not require screening patients for a trauma history or knowledge of an individual's trauma history (or lack of it). Rather, they involve small changes both to provider behavior and to the health system practice that can be employed with all patients and may be particularly beneficial for establishing trust with trauma survivors. Such changes to overall practice are often referred to as "universal trauma precautions." For example, trauma survivors often report that lack of control in medical settings increases their anxiety.[25] Many patients without trauma histories report mild to moderate levels of fear and discomfort[26] particularly with needles and injections,[27] whereas trauma survivors often report a wider variety of concerns, including having their bodies exposed, fear of powerlessness or being alone with an unknown provider, fear of having something inserted into their body, fear of not being able to breathe/swallow, fear of being touched, and fear of being unconscious.[28]

Although it is not possible for health care providers to let patients control the entire appointment, they can ask patients about their priorities for the visit and offer patients an overview of what will happen during the interaction, including medical procedures involved in the appointment. Similarly, prior to a physical examination, the provider should present a brief summary of what parts of the body will be involved, allowing the patient to ask questions and letting the patient know there will also be time available to ask questions afterward. Offering patients choices that will not hinder the examination can also increase the patient's sense of control. For example, a patient may be given the option of shifting an item of clothing out of the way rather than putting on a gown when an entire area does not need to be visualized, or sitting in a chair rather than on the examination table for a respiratory system examination. Patients who are anxious in the supine position may feel more comfortable if offered a pillow for their back or offered the option of a mirror to see procedures or examinations that are out of their visual field.[26] Another simple but often overlooked way to mitigate anxiety is to ask every patient what can be done to make them more comfortable during the appointment. Patients may have general preferences, for example, leaving the door slightly ajar or sitting closer to it, or they may request a support person to be present during a physical examination. Overall, trauma survivors who are encouraged to collaborate in their appointment may experience a higher level of subjective control and trust during the appointment.[20]

In situations where patients' nonverbal behaviors indicate a moderate to high level of anxiety, physicians can ask patients if there are specific things that worry them about the appointment (eg, lying back, fear of not knowing what comes next, and the possibility of pain) and if they would like to "signal" to indicate if they are in distress.[29,30] For example, if a patient is worried about feeling out of control during a Papanicolaou smear, the provider can explain the procedure to them and encourage the patient to verbalize if they are uncomfortable. If it is medically safe, the provider can tell the patient they will slow down or stop the procedure as needed. Although these anxiety management techniques can be used with all patients, it is likely that they will be especially useful in engaging patients who have a history of traumatic events.

Providers should also remember that reassurance is not the same as assessment of anxiety; telling patients they have nothing to worry about may not help patients feel more in control, particularly patients who have a history of trauma. When patients have a moderate to high level of medical anxiety, allowing patients to discuss their concerns and helping them develop active coping techniques appear to be more effective than provider reassurance that the patient has nothing to worry about.[30] Table 1 provides suggestions for how providers can integrate this principle of TIC into practice.

Research implications

Patients with a trauma history may be more anxious during medical appointments.[31]

Table 1. Specific Suggestions for Implementing TIC in Patient Care

Principle of Trauma-Informed Care (TIC)	Specific Suggestions for Practice
Patient-centered communication and care	Ask every patient what can be done to make them more comfortable during the appointment.
	Prior to physical examination, present a brief summary of what parts of the body will be involved, allow the patient to ask questions, and let the patient know there will also be time available to ask questions afterward.
	Give the option of shifting an item of clothing out of the way rather than putting on a gown when an entire area does not need to be visualized.
	Patients who are anxious in the supine position may feel more comfortable if offered a pillow for their back.
	Offer the option of a mirror to see procedures or examinations that are out of the patient's visual field.
	If patient nonverbal behavior indicates a moderate to high level of anxiety, conduct further anxiety assessment and offer patient ways to "signal" distress either verbally or via by raising their hand (eg, signaling anxiety during a Papanicolaou smear).
Understanding the health effects of trauma	Understand that maladaptive coping (eg, smoking, substance abuse, overeating, and high-risk sexual behavior) may be related to trauma history.
	Understand that the maladaptive coping behaviors have adverse health effects.
	Engage with patients in a collaborative, non-judgmental fashion when discussing health behavior change.
Interprofessional collaboration	Maintain a list of referral sources across disciplines for patients who disclose a trauma history.
	Keep referral and educational material on trauma readily available to all patients in the waiting room.
	Engage in interprofessional collaboration to ensure continuity of care.
Understanding your own history and reactions	Reflect on your own trauma history (if applicable) and how it may influence patient interactions.
	Learn the signs of professional burnout and vicarious traumatization and prioritize good self-care.
Screening	Examine your specialty, setting, and level of long-term interaction with patients.
	Decide if you will screen for current trauma (eg, current domestic violence) or a history of traumatic events.
	Consider if screenings will be face-to-face or self-report.
	Use a framing statement prior to the trauma screen.
	Provide all staff with communication skills training about how to discuss a positive trauma screening with a patient.

Patient-centered care principles have been found to increase patient retention and engagement.[32] When health care providers are empathic and sensitive, survivors of sexual violence report that they are more likely to follow up on medical appointments and engage in preventive care.[33] To move the science of TIC forward, future studies can focus on assessing the experiences of trauma survivors (vs non-trauma survivors) in the health care system, specifically asking them about the role of patient-centered techniques in their engagement in health care. It important to critically examine if patient-centered techniques encourage more trauma survivors to participate in preventive care (not just emergency and sick visits) and if this translates into better health outcomes and potential cost savings for these patients. Table 2 summarizes these suggested research directions.

Table 2. Summary of Suggested Research Directions in TIC

Question	Possible Study Design	Relevant Variables/Outcomes
Do patient-centered techniques foster engagement in sick care and preventive care in trauma survivors?	Cross-sectional comparisons of trauma survivors and non-trauma survivors	Health care utilization disease outcomes cost
Does trauma-informed care (TIC) facilitate health behavior change?	Longitudinal studies comparing TIC trained providers with treatment at usual	Health behaviors (smoking, alcohol and drug use, and weight). Disease outcomes (heart disease, diabetes, cancer, etc)
Do patients with complex trauma histories and high allostatic loads report greater levels of health risk behaviors?	Cross-sectional studies comparing patients with complex and single-incident trauma histories	Health behaviors (smoking, alcohol and drug use, and weight). Disease outcome (heart disease, diabetes, cancer, etc)
Do trauma survivors benefit from interprofessional referrals?	Cross-sectional or longitudinal surveys of trauma survivors	Health care utilization disease outcomes
What are provider barriers to TIC interprofessional collaboration?	Cross-sectional surveys of providers and qualitative interviews	Institutional resources (eg, support staff and time)
How does vicarious traumatization influence delivery of TIC?	Cross-sectional or longitudinal surveys and qualitative interviews of providers	Workplace stress and burnout practice patterns (eg, hospital-affiliated and private practice)
What are patient preferences for screening of traumatic events in health care settings?	Cross-sectional surveys of patients	Provider type and setting (eg, specialist vs general practitioner), assessment type (self-report and clinician interview), and patient variables (eg, ethnicity, socioeconomic status, and trust in the health care system)

Understanding the health effects of trauma

The second level of the TIC pyramid (see Figure) consists of understanding the health effects of trauma, including coping style and medication adherence. This level is also a part of universal precautions because it does not require a provider to know whether or not a particular patient is a survivor of trauma. Because traumatic events often have short-term consequences such as anxiety, insomnia, and difficulty trusting others, some survivors may turn to negative coping behaviors, for instance, smoking, alcohol and drug use, engaging in unprotected sex, and overeating to manage emotional distress.[19] Traumatic events, particularly recurrent trauma over the lifespan, can cause the sympathetic nervous system and hypothalamus-pituitary-adrenal axis to become chronically activated. This allostatic load can lead to damaged blood vessels and heart disease and chronic increases in blood sugar, resulting in insulin resistance.[34] Providers' awareness about the health effects of trauma can help increase clinical rapport.[20,23,24,35] For example, when discussing negative coping behaviors with patients (eg, smoking, drinking, illicit or prescription drug use, and high intake of sugary food and drink), providers should be aware that these behaviors may be related to traumatic life experiences. A trauma history may also influence medication adherence.[36] Trauma survivors may fear that taking medication will result in a loss of psychological or physical control or they may worry that certain medications will make them feel emotionally numb. Medication adherence also requires thinking about the one's physical body; some trauma survivors' primary coping mechanism is avoidance of bodily sensations and awareness.[37]

This level of the TIC pyramid does not imply that every patient who engages in maladaptive coping behaviors has been traumatized. However, addressing patients in a collaborative, non-blaming manner makes it much more likely that the patient will be more accepting of discussions around behavior change and actively engage in preventive care and treatment. This approach, consistent with patient-centered care and the principles of motivational interviewing (which emphasizes a collaborative approach to health behavior change), can be used with every patient, not just trauma survivors.[38-40] Table 1 provides suggestions for how this principle can be integrated into practice.

Research implications

There is strong evidence that traumatic experiences are linked to maladaptive coping techniques[7,14,41,42] and that collaborative patient care encourages health behavior change.[40] Future research should focus specifically on what types of medical interactions help trauma survivors to successfully change health behavior (see Table 2). One approach would be to focus on comparing providers who have a basic understanding of the health effects of trauma with those who do not; it will be important to understand if trained providers are more likely to engage traumatized patients in preventive care and if that engagement helps patients reduce negative coping behaviors. It will also be important to examine whether patients with complex trauma histories and higher allostatic loads report greater health risk behaviors and explore what types of medical interactions can help these patients lead healthier lives (see Table 2).

Trauma-specific services

Interprofessional collaboration

The third level of TIC (see Figure) bridges the gap between universal trauma precautions and trauma-specific services. This level involves collaboration with other professionals and a thorough understanding professional roles and responsibilities.[20,23,24,35,43-45] All providers should maintain a list of referral sources for patients who do disclose a trauma history; this information can be readily available to all patients in the waiting room. Providers can also strive to form collaborative relationships with trauma-informed

colleagues in other specialties. Even a basic awareness of these resources can be very helpful building a long-term relationship with traumatized patients.

For patients who do spontaneously disclose a trauma history, health care should be cautious about delving deeply into the psychological histories of patients, unless they have specific training in trauma.[46] Instead, health care providers can be respectful but also focus on the chief complaint for the current appointment. For example, if a woman reports that a history of sexual abuse is causing her anxiety at visits, a provider can thank her for disclosing the information, ask how he can make her more comfortable at the appointment, and offer her any available resources and referrals, if warranted. In this way, providers acknowledge the patient's history without crossing the boundaries of their professional competence.

To provide TIC, it is also important for providers to be aware of their legal obligations as health care providers. Many physicians report confusion and discomfort with mandated reporting laws,[47,48] which is cause for concern. Providers should also respect the wishes of trauma survivors to report (or not report) abuse when mandated reporting is not required (eg, in many US states domestic violence does not need to be reported unless it involves danger to a minor or elder).[49]

Research implications

The importance of interprofessional collaboration has been well documented.[50,51] It will be important for future work to focus on whether trauma survivors place a high level of subjective value on these referrals and if they follow up on them. We also need to develop a better understanding of the barriers and facilitators of collaboration. For example, it is possible that providers would like develop a strong referral network, but they lack adequate time or appropriate resources to do so.[52] Table 2 provides suggestions for how to examine these issues in future studies.

Understanding your own history and reactions

The fourth level of the pyramid, (see Figure) underscores that providers themselves are human beings, with their own prior life experiences and reactions to patients. Although medical settings rarely encourage providers to examine and understand their own trauma histories, this reflection is an important aspect of providing TIC.[53,54] When health care providers are themselves survivors of traumatic events, they may feel uncomfortable talking about these issues for fear of retriggering their own feelings.[55]

In addition, all providers need to be aware of the potential for vicarious victimization, which involves intense emotional reactions that may persist when providers hear stories of traumatic events, and should be attentive to the signs of professional burnout.[53,54] Empathic communication becomes nearly impossible when a physician feels overwhelmed by the emotional aspects of daily practice. Burnout is characterized by a lack of energy, depression, substance abuse, frequent headaches, or changes in sleep and appetite. Trauma-informed care includes the idea of "trauma-stewardship," which involves caring for the patient without the provider taking on the patient's struggles.[55] In health care, this means being aware of reactions to challenging patients and prioritizing good self-care to provide optimal care to all patients. Table 1 contains specific suggestions for applying these principles in practice.

Research implications

Surprisingly little is known about how many health care providers have their own trauma histories. There has been work focused on helping providers manage their own stress and reactions to patients in general[56-58] and well-established evidence that high levels of trauma exposure can lead to vicarious traumatization and professional burnout.[59] Trauma-informed initiatives will be strengthened by understanding the prevalence of trauma history among health care providers, as well as

exploring how providers with trauma histories can manage their personal stressors in the work environment (see Table 2).

Screening

The final level of the TIC pyramid (Figure) involves screening for traumatic events. The decision to routinely screen for trauma in health care practice is a complex one.[46,60] Some[22,35,44] argue that screening should be a vital part of TIC. Providers should consider their level of contact with patients (long vs short term) and their specialty. When clinics or hospitals decide to screen for trauma, it is also essential that they have the resources available to address positive results, and in cases where the resources are not available on-site, to have the knowledge to refer patients to other resources. It is also important for all providers to understand the importance of screening and be committed to it prior to implementing it on a hospital or clinic level. For example, in primary care settings, screening and reviewing results with patients may help victims receive appropriate services. Many primary care settings have initiated screening for some types of trauma as a part of everyday practice.[61] To prepare patients for potentially difficult questions, providers may wish to use a framing statement that prefaces all trauma screening. For example, stating, "Because traumatic events are so common and because they have direct, long last effects on physical and mental health, I've begun to ask all my patients about stressful or difficult experiences they may have had."

In emergency settings that screen for trauma, personnel need to decide if they will focus on current trauma (eg, current domestic violence and sexual abuse) or a history of traumatic events. There is evidence that victims may benefit from referrals for trauma treatment services in an emergency care settings, even if they are not seeking care for an acute trauma-related injury.[62]

However, patients may also find that screening is intrusive, depending on the type of provider. For example, certain specialists who limit their typical interviews to a very specific set of concerns (eg, ophthalmologists, dermatologists, and allergists) may want to focus on the universal precautions of the TIC pyramid, rather than employing routine screening. If providers do choose to screen for a history of trauma (see the Adverse Childhood Events checklist or the Primary Care PTSD Screen), they should also consider if they plan to engage in face-to-face or self-report screenings.[7,63,64] Some data indicate that women prefer self-report screening, but men do not have a preference.[65] However, this is an issue open for further study. Table 1 presents a summary of guidelines for screening for traumatic events in practice.

Research implications

Routine trauma screening has been used in many health settings[66-68]; however, not all settings may be appropriate for screening. It is extremely important to conduct large-scale, anonymous studies asking patients about their screening preferences. Patients' perceptions and preferences should guide decisions about which types of providers, what settings (eg, emergency department and outpatient clinics), and what type of assessment (eg, online, written, and interview) will most likely elicit honest disclosure and open discussion. To determine the feasibility of routine screening in medical care, future studies can examine how screening rates may differ according to setting (emergency care vs outpatient clinics) as well as by provider specialty. Finally, it is important to examine how distrust of the medical system in general, socioeconomic status, and ethnicity influence screening preferences and willingness to disclose trauma history (see Table 2).

CONCLUSION

In summary, traumatic events are highly prevalent locally and globally, and they have negative physical and emotional health consequences across the lifespan. It is important

for health care providers to understand the extent of trauma and how it may influence patients' experiences seeking health care. Universal trauma precautions include strong patient-centered communication and care and an understanding of the health effects of trauma. Trauma-specific services require providers to collaborate across disciplines and have an awareness of their own trauma histories and stress level. Finally, TIC requires physicians to be sensitive to the issue of screening and aware of situations where it may be useful.

The principles outlined here are based on our current understanding of the literature and our clinical knowledge of best practices with traumatized patients. However, future research should focus on ways to critically examine each of these levels, as we attempt to implement TIC on a larger level in health care. The ultimate goal of TIC is to empower patients, increase patient engagement, and reduce the long lasting burdens of trauma. If providers who are trained in TIC can affect these types of outcomes, it will make a strong case for the application of these principles into routine practice. Clearly, there is much work to be done as we move the science and practice of TIC forward. Overall, medical providers have a unique niche in supporting both mental health and physical health during emergency situations and in the long-term aftermath of trauma. Given the high prevalence of trauma in our society, learning to better engage trauma survivors in health care has the potential for larger-scale societal benefits by achieving the nationally recognized triple aim of improving patients' experiences of care, improving health outcomes, and reducing costs.

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