

Trauma-Informed Healthcare Approaches

A Guide for Primary Care

Megan R. Gerber
Editor



Springer

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This book is dedicated to our patients who have taught us more about healing than any lecture or book and to our families who have been a bedrock for all of us as we have faced the difficult, tragic, unfathomable, and joyful aspects of caring for survivors of trauma. Thank you.

Preface

In recent years, trauma-informed care (TIC) has gained traction as an important set of principles that should guide optimal healthcare delivery. Our understanding of the profound impact traumatic exposure has on health is not new, but the recent #METOO movement has resulted in expanding interest in optimizing the healthcare response to interpersonal trauma. The literature contains many offerings on TIC in mental health, substance abuse, and pediatric care settings, but there has been comparably less published on TIC principles in general adult medical settings. There is a continuum from being trauma-aware to trauma-informed. Organizations may be *trauma-aware* and have outstanding *trauma-focused* care, but being trauma-informed is a process of infusing an entire organization or system with a guiding set of principles that reorders the environment to promote safety, empowerment, and healing for both patients and staff. A truly trauma-informed health system understands its community and collaborates with stakeholders, service providers, and relevant social services.

This book is geared toward general medical practitioners, healthcare administrators and leaders. While trauma has a profound impact on global health, this volume restricts its focus to the United States and similar countries. It begins with a broad overview of trauma and the suspected mechanisms by which it creates poor health. A discussion of practical applications of TIC principles is followed by an introduction to the concept of TIC as an important promoter of health equity through acknowledging and addressing trauma in individuals and communities. The World Health Organization (WHO) Commission on Social Determinants of Health (SDoH) (http://www.who.int/social_determinants/thecommission/finalreport/en/) described health systems as intermediary determinants of SDoH. Trauma is inextricably linked to many SDoH, so conceptualizing healthcare as having a role in mitigating SDoH is another way of understanding its role in achieving health equity and reducing disparities that often result from trauma.

The concept of cultural humility and its critical role in TIC is followed by a series of chapters (Part II) on selected special populations including men of color, gender nonconforming persons, and US military Veterans. While not all groups who are

susceptible to trauma are covered, these chapters provide useful paradigms to apply/customize TIC principles to vulnerable populations.

Part III of the book is geared toward both clinicians and healthcare administrators. It covers practical clinical strategies for primary care (adult, adolescent and pediatric) and maternity care settings. Chapter 9 discusses adolescent and pediatric trauma-informed care through the lens of developing and extending trauma-informed systems. This chapter is relevant to all healthcare settings. Finally, a chapter on trauma-informed holistic nursing provides an overview on transforming nursing care across the health system. The book concludes with a chapter on fostering resilience and self-care for staff; an organization cannot transform into a truly trauma-informed system without understanding the needs of staff who treat survivors.

Boston, MA, USA

Megan R. Gerber, MD, MPH

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We are grateful to the Society of General Internal Medicine (SGIM) for providing a professional home to many of us and a platform over the years for discussing and advancing the needs of trauma survivors in general medical settings. We wish to especially acknowledge our colleagues in the Physicians Against Violence Interest Group for supporting us and shaping our collective “voice.” William R. Bachman, MD; Christine J. Kolehmainen, MD, MS; and Aasia S. Romano, MD, provided invaluable assistance in content review and preparation of this book.

Disclaimer The views expressed in this book are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.

How to Use This Book

Trying to implement trauma-specific clinical practices without first implementing trauma-informed organizational culture change is like throwing seeds on dry land.

Sandra Bloom, MD
Creator of the Sanctuary Model

The reader can access topics of interest and concern as the chapters can be read independently of one another. For administrators, we recommend using guidance from the *Substance Abuse and Mental Health Services Agency (SAMHSA)* (<https://www.samhsa.gov/nctic/trauma-interventions>) or the *Center for Healthcare Strategies (CHCS)* (http://www.chcs.org/media/ATC_whitepaper_040616.pdf) to determine where an organization is on the continuum of trauma informed care (TIC) implementation. Being “trauma aware” is a critical first step. There is no “*one size fits all*” approach to implementing TIC, and most experts do not offer one standard implementation checklist for this reason. Because it provides practical setting-based examples, this book can be a useful adjunct to implementing TIC using the guiding principles laid out by SAMHSA.

Contents

Part I Introduction and Scope

1	An Introduction to Trauma and Health	3
	Megan R. Gerber and Emily B. Gerber	
2	Trauma and Trauma-Informed Care	25
	Leigh Kimberg and Margaret Wheeler	

Part II Special Populations

3	Cultural Humility in Trauma-Informed Care	59
	Joseph Vinson, Ariel Majidi, and Maura George	
4	Trauma-Informed Care: A Focus on African American Men	69
	Marshall Fleurant	
5	Trauma-Informed Care of Sexual and Gender Minority Patients	85
	Tyler R. McKinnish, Claire Burgess, and Colleen A. Sloan	
6	Trauma-Informed Care of Veterans	107
	Megan R. Gerber	

Part III Clinical Strategies

7	Trauma-Informed Adult Primary Care	125
	Megan R. Gerber	
8	Trauma-Informed Maternity Care	145
	Megan R. Gerber	

9	Trauma-Informed Pediatrics: Organizational and Clinical Practices for Change, Healing, and Resilience	157
	Emily B. Gerber, Briana Loomis, Cherie Falvey, Petra H. Steinbuchel, Jennifer Leland, and Kenneth Epstein	
10	Trauma-Informed Nursing Care	181
	Jay Ellen Barrett	
 Part IV Helping Providers		
11	Trauma-Informed Care: Helping the Healthcare Team Thrive	197
	Jessica Barnhill, Joslyn W. Fisher, Karen Kimel-Scott, and Amy Weil	
	Correction to: Trauma-informed Care of Sexual and Gender Minority Patients	C1
	Conclusion	215
	Index	217

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Part I

Introduction and Scope

Chapter 1

An Introduction to Trauma and Health



Megan R. Gerber and Emily B. Gerber

Introduction: The Case for Trauma-Informed Care

Exposure to traumatic events is ubiquitous worldwide and has a well-established deleterious impact on health. Trauma can take many forms, and its impact varies based on the unique life circumstances, environment and resilience of the impacted individual. This volume is designed to enable clinicians – notably primary care providers (PCPs), nurses, and their extended care teams – to understand the potential impact of trauma on their patient population and the elements of a trauma-informed care (TIC) response. We believe that TIC is akin to “universal precautions” – front-line clinicians and health systems do not always know who has experienced, or currently is experiencing, trauma but can respond in an effective, patient-centered manner. The goal of this book is to inform implementation and sustainment of TIC across the individual patient encounter to health systems and communities at large. To lay the groundwork for understanding and implementing TIC, this chapter will provide a broad overview of common forms of interpersonal trauma experienced by patients and the ways in which traumatic experiences impact population health in the US.

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Trauma Defined

Broadly defined, the medical definition of trauma refers to “an injury (such as a wound) to living tissue caused by an extrinsic agent, a disordered psychic or behavioral state resulting from severe mental or emotional stress or physical injury, an emotional upset” [1]. The word “trauma” is derived from the Greek word for “wound,” and accounts of interpersonal trauma date back to antiquity [2]. Judith Herman in her seminal work, “Trauma and Recovery,” provides historical context leading up to the publication of the 5th Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM V) [3, 4]. In the late nineteenth century, Pierre Janet and Sigmund Freud provided the first accounts characterizing traumatic events and their clinical implications. Freud’s work on the etiology of hysteria [3] in the twentieth century – notably experiences of psychological and sexual trauma – was met with such a degree of contention and censuring at that time, that contemporary trauma theories and definitions were largely derived from studies of male soldiers’ experiences of war [2, 3]. After World War I, studies of traumatic stress and interventions emerged and then waned to some degree until the advent of the Vietnam war [2]. A shift occurred when society’s attention was drawn to consequences of sexual and domestic violence as a result of the women’s movement of the 1970s [3]. It was then recognized that the most common posttraumatic disorders are not those of war but “of women in civilian life;” Herman describes the history of psychological trauma as “one of episodic amnesia” [3]. This examination of violence and trauma on both the war-related and domestic/interpersonal fronts led to the groundbreaking inclusion of posttraumatic stress disorder (PTSD) in the DSM III in 1980 [5]. Prior to that, the DSM had characterized reactions to stressful experiences as “transient situational disturbances” that would wane over time.

Subsequently, DSM IV and DSM IV-TR ushered in a more inclusive definition of trauma (including varied events such as car accidents, natural disasters, or learning about the death of a loved one) that resulted in a marked expansion in trauma-related diagnoses [2, 6]. Contemporary theory conceptualizes trauma and responses to it as occurring along a continuum [2, 6]. It is clear that not all persons exposed to even highly traumatic events will go on to develop PTSD [7]; nonetheless, the experience of that trauma can still have a lasting impact on that individual.

The Adverse Childhood Experiences (ACEs) Study

It was the landmark work of Felitti and Anda in the Adverse Childhood Experiences (ACEs) Study of the 1990s that ushered in a more mainstream understanding of the impact of childhood trauma on lifelong health [8]. Dr. Vincent Felitti, an internist and Director of Preventive Medicine at Kaiser Permanente, a health maintenance organization (HMO) in California, first made the connection between childhood abuse and adult health during an obesity research study he ran in the 1980s [9]. During a routine checkup, one of his patients mentioned that the year after she was

raped, she gained 105 pounds. Felitti recalled what happened next: “She looked down at the carpet and muttered to herself, ‘Overweight is overlooked. And, that’s the way I needed to be’” [10]. In the obesity clinic at Kaiser, 50% of patients dropped out of treatment. Felitti interviewed these patients and found that a history of child sexual abuse was common [9]. The ACEs Study formally began in 1995 with an initial questionnaire sent to patients who presented for standardized wellness exams at the Kaiser Health Appraisal Clinic.

The initial study published in 1998 presented findings for 9,508 participants (eventually over 17,000 were enrolled) – all were insured patients at Kaiser Permanente – and provided groundbreaking evidence linking ACEs to morbidity and mortality in adulthood [8]. The initial study [8] found that patients reporting greater numbers of ACEs had increased risk for smoking, severe obesity, physical inactivity, depressed mood, and suicide attempts. Similar findings occurred for substance use and sexually transmitted infections. The greatest odds, or risk, of disease occurred in those who reported four or more ACEs. The researchers also found a dose–response relationship between the number of ACEs and ischemic heart disease, cancer, chronic bronchitis/emphysema, liver disease, skeletal fractures, and poor overall self-rated health. The initial study population, all insured, was mostly White and middle class. The authors posited that the resulting development of adverse health behaviors, like smoking, led to disease and called for increased communication and coordination across healthcare specialties and enhanced training of providers [8]; this was truly an early call for what we now know as trauma-informed care delivery.

Trauma as a Process

A traumatic event or series of events results in physiologic changes, complex adaptations, and pathways that are linked to adverse health impacts. For example, the hypothalamic-pituitary-adrenal (HPA) axis serves as an important mediator after a stressor or under conditions of chronic stress [11]. The HPA axis is responsible for the release of stress hormones, notably glucocorticoids and cortisol. Under normal circumstances, the HPA axis is well-regulated and serves to enable a rapid response to stressful events with prompt return to a normal state. Chronic activation of this system is thought to damage the feedback loops that return stress hormones to their basal, or resting, levels [12, 13]. HPA axis function is determined by a number of factors including genetics, early-life environment [14], and current life stress [15]. The immune system is also involved, and chronic stress can lead to sustained levels of inflammation [13, 16]. An individual’s genetic make-up and environment further modify and contribute to either enhancing or inhibiting these processes. Thus, two people may experience and react entirely differently to the same event objectively characterized as traumatic.

We now know that trauma should be conceptualized as a *process* that is dynamic and involves interaction between an event, or series of events, and the individual (and community’s) level of vulnerability and resilience/protective factors [17]. Understanding resilience and protective factors is important in efforts to aid in prevention and recovery. Thus, trauma is less of an event, episode, or exposure and

more of an interaction that may offer points of intervention, particularly in the healthcare setting. A brief review of the current understanding of factors that mediate the “process” of trauma follows.

Allostatic Load

“Allostasis” refers to the highly integrated balance of the central nervous system (CNS), endocrine/metabolic, and immune systems which mediate the response to stress [11, 13, 18]. As discussed above, prolonged activation of these systems through chronic or repeated exposure to psychosocial stress and traumatic events has damaging consequences or “wear and tear on the body” [13]. The cumulative physiologic consequences of these result in “allostatic load” [11, 18]. Allostatic load is a contributor to cardiovascular disease [11], metabolic disorders [11], and accelerated cognitive decline [19] and has been consistently linked to lower socioeconomic status (SES) [11, 12]. Allostatic load is measured in different ways [11]; some studies use biomarkers such as urinary or salivary cortisol and epinephrine, while others use clinical measurements like laboratory data, for example, lipid measurements and hemoglobin A1c. Some studies combine these with measurements of blood pressure, heart rate, body mass index (BMI), or skinfold measurements [11].

Chronic toxic stressors, or traumatic experiences, that occur during childhood, and beyond, can have an enduring influence on allostatic load because they coincide with developmental windows [13], notably those of the brain [20]. ACEs appear to impact allostasis [13], resulting in the observed higher prevalence of disease and premature mortality observed in adulthood [8]. Allostatic load causes ill-health through both the primary biologic impact of stress and damaging behaviors like tobacco and alcohol consumption which are often used as methods of coping with stress [11]. Allostatic load increases with age [11], resulting in longitudinal, worsening health impact.

Racial disparities in allostatic load were demonstrated in data from National Health and Nutrition Examination Survey (NHANES); after controlling for SES [11], Black patients were more likely than Whites to have greater allostatic load at all ages [21]. Black women across all age groups had the highest allostatic load and accrued higher allostatic load at younger ages than all other women [11]. Allostatic load is a useful construct for conceptualizing mechanisms that underlie many health disparities [11].

Environment and Epigenetics

Early life stress results in poor physical and mental health states. As discussed above, HPA axis and immune system changes play a major role in linking adversity early in life to poor health later on [13, 14]. Research has also focused on

cellular-level changes, notably chromosomal changes. Telomeres are regions of nucleotide repeats – or repetitive deoxyribonucleic acid (DNA) – at the ends of chromosomes that protect them from damage during replication [22]. Telomeres progressively shorten with every replication cycle and are thus often used as a marker for biological aging [23]. A number of studies have consistently demonstrated a relationship between childhood maltreatment and telomere length [24, 25]. There appears to be a dose-dependent association between early-life stressors and telomere shortening [22]. It also appears that protective factors, such as parental responsiveness, are linked to longer telomeres [22].

Socioeconomic Status and Cortisol: Biology and Injustice

Decreased SES has been consistently linked to poor health in the US [26] and worldwide [27]. The mechanisms that underlie this are multiple and complex. Persons of lower SES are exposed to more stressors and have a higher overall risk of lifetime trauma exposure and less access to mitigating or protective resources to buffer stressful events [11, 28]. As previously discussed, the HPA axis plays a key role in regulating the response to stressors. Cortisol is one of the most well-studied hormones produced by the HPA axis, in part because it exerts widespread effects on the CNS, metabolic, and immune systems [29], each of which contributes to allostasis [13]. Overexposure to cortisol has been hypothesized as one critical mechanism linking traumatic events to poor health outcomes. A review of these studies suggests that this association is inconsistent in part due to variability in measurement [12]. The body of research investigating the biologic mechanisms of trauma continues to grow and may soon provide opportunities to intervene at the molecular level to mitigate some of the health effects of these exposures.

Posttraumatic Stress Disorder (PTSD) and Metabolic Syndrome

While not all who experience trauma develop PTSD, the addition of PTSD to the DSM III in 1980 [5] ushered in a new era in terms of traumatic studies. In 2013, the DSM V redefined PTSD and included it as part of a category designated as “Trauma and Stressor-Related Disorders” [4]. A detailed discussion of PTSD is beyond the scope of this chapter, but briefly defined, PTSD may develop after exposure to a serious traumatic event known as a “Criterion A” event (the person was exposed to: death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence, through either direct exposure or witnessing the trauma) [4]. It consists of the following symptoms: re-experiencing the traumatic event, avoidance, arousal/reactivity, and changes in cognition and mood for at least 1 month after the event. Many effective, evidence-based PTSD treatments have been developed since 1980 when PTSD was first included in the DSM III [30].

PTSD has received attention as a critical mediator between trauma exposure and health [31] and is known to be linked to allostatic load [32]. While poor health is observed among trauma-exposed persons who *do not* develop PTSD, studies have consistently shown poorer health after a traumatic event for persons with PTSD compared to those without it [31]. As research has consistently shown linkages between trauma and chronic disease outcomes [8, 31, 32], attention has been focused on PTSD as a mediator between exposure to traumatic stress and poor health [31].

One of the most well-studied health outcomes associated with PTSD is metabolic syndrome, a group of medical risk factors that signal abnormal underlying pathophysiological processes that increase risk for morbidity (notably hypertension, type II diabetes, and cardiovascular disease) and, eventually, mortality [32]. Some of the markers of metabolic syndrome are also used to estimate allostatic load [11], and PTSD has been consistently linked to increased risk of metabolic syndrome [32]. PTSD manifests variably among individuals, in keeping with the concept of trauma as a “process.” One proposed causal mechanism is through alterations in neuropeptide Y (NPY), a stress-activated cardiovascular and metabolic regulating hormone that is variably expressed based on genetic makeup [32]. This is another pathway for which ongoing research may yield important points of potential therapeutic intervention after traumatic exposure.

In summary, traumatic events set off a myriad of biological responses that vary among individuals and are still being elucidated. The pathways between traumatic experiences and adverse health effects are complex but indisputable and hold promise for future treatment and care for survivors.

Prevalence of Common Traumatic Exposures

While it is beyond the scope of this volume to provide a detailed review of every form of interpersonal trauma, we will now provide an overview of the epidemiology of some of the traumatic exposures experienced by patients who seek US medical care. This summary will better equip both clinicians, administrators and systems of care with critical background knowledge to tailor patient care and develop/enhance trauma-informed practices. Most prevalence and background data on traumatic exposure come from either (1) population-based surveys, frequently conducted through random digit dialing in a limited number of languages (commonly English and Spanish at a minimum), (2) studies conducted in medical populations (which typically demonstrate higher rates of traumatic exposures than in general population-based surveys), and (3) surveillance data collected by government agencies and reporting systems such as law enforcement/justice department and child protective services referrals. Each of these forms of data has its own limitations. For example, often government agencies are mandated to collect certain data which depend, in part, on reporting. In cases involving child maltreatment; if a report is not made, the potential trauma to the child is not captured in that data source.

Many forms of traumatic exposures overlap in their definitions, and multiple exposures during the course of an individual’s lifetime are unfortunately too common. Often patients will not self-identify as survivors of trauma, so familiarity with different

forms of trauma is key to TIC and to delivery of high-quality medical care (and related, critical social services). Trauma exposure in subgroups of patients who may need adaptations in their care to meet unique sets of needs is covered in Part III of this book. In addition, many of those who commit abusive, violent acts against others have themselves experienced abuse and trauma (as “victims”) and also need understanding and care [33]. Table 1.1 summarizes key aspects of and, selected data sources for, each form of trauma reviewed below, it is intended to provide sample estimates and is not an exhaustive summary of all available data for each form of trauma.

Table 1.1 Interpersonal trauma: Definitions and Data Examples

Trauma type	Definition	Estimated prevalence	Selected data sources
Child neglect & physical abuse	When a parent or caregiver acts, or fails to act, in a way that results in physical injury to a child or adolescent even if unintentional [45]	Any maltreatment 30.1 per 1000 children (22% of maltreated children are referred to foster care)	Government Reporting Data: NCANDS, Child Maltreatment 2016 [94] https://www.acf.hhs.gov/cb/research-data-technology/reporting-systems/ncands
		Any maltreatment: 25.6%	Population-based data: National Survey of Children’s Exposure to Violence (NatSCEV/ NatSCEV II) [35]
Child sexual abuse	An interaction between a child and an adult or child in which the child is used by the perpetrator for sexual stimulation (Includes touching and non-touching behavior) [34]	8.5% sexual abuse	NCANDS [94]
		Sexual assault 4.2% (2.5% for males and 5.9% for females)	NatSCEVII [35]
Intimate partner violence	Physical violence, sexual violence, stalking, and psychological aggression (including coercive tactics) by a current or former intimate partner (i.e., spouse, boyfriend/ girlfriend, dating partner, or ongoing sexual partner) [95]	1 in 3 women (35.6%) 1 in 4 men (28.5%) Sexual IPV: 16.9% of women 8.0% of men	National Intimate Partner and Sexual Violence Survey (NISVS) [96]
Sexual assault	Sexual violence refers to any sexual activity in which consent is not obtained or freely given [95]	Rape: 19.3% of women 1.7% of men All forms of sexual violence: 43.9% of women 23.4% of men	NISVS [96]

(continued)

Table 1.1 (continued)

Trauma type	Definition	Estimated prevalence	Selected data sources
Community violence	Exposure to intentional acts of interpersonal violence committed in public areas. Common types include individual and group conflicts (e.g., bullying, fights among gangs and other groups, shootings in schools and communities) [48]	Varies by neighborhood/state Violent crime: 21.1 victimizations per 1000 persons (1.3%) 8.8% of households experienced at least one property victimization. Ages 12–34 had higher rates of violent victimization than persons age 35 or older (BJS) [97] Victimization rates vary by income bracket (highest for persons in households earning less than \$10,000 each year) (BJS) [97]	National Survey of Children’s Exposure to Violence [35] National Crime Victimization Survey https://www.icpsr.umich.edu/icpsrweb/NACJD/NCVS/ Youth Risk Behavior Surveillance System (YRBSS) [60] National Neighborhood Crime Study (NNCS) [58] Survey of Exposure to Community Violence (SECV) [56]
Human trafficking	The action or practice of illegally transporting people from one country or area to another, typically for the purposes of forced labor or commercial sexual exploitation [61]	40.3 million worldwide as reported by the Polaris Project Statistics are limited; research is scarce and challenging to conduct	Trafficking in Persons Report; US Department of State [67] Counter-Trafficking Data Collaborative (CTDC), The Polaris Project [98, 99]
Historical trauma	Cumulative emotional and psychological injury, as a result of group traumatic experiences transmitted across generations within a community [80]	Population-based prevalence rates are unavailable at this time	National Child Traumatic Stress Network [100]

Child Abuse and Maltreatment

Systems of care are not only treating acutely injured and abused children, but adult survivors of childhood maltreatment and the medical sequelae that develop as a result of these adverse experiences. Much of what we know about the prevalence of child abuse and maltreatment in the USA comes from reports made to social service and law enforcement. It is likely that these data are underestimates of the true prevalence of abuse in childhood. Widening the definition of childhood maltreatment to include household dysfunction, as Felitti did [8], yielded estimates similar to those published at the same time in the first national prevalence study of child sexual abuse [34].

In 1999, the Office of Juvenile Justice and Delinquency Prevention (OJJDP) created the Safe Start Initiative to prevent and reduce the impact of children’s exposure