



Measuring Trauma- (and Violence-) Informed Care: A Scoping Review

C. Nadine Wathen¹ , Brenna Schmitt¹,
and Jennifer C. D. MacGregor¹ 

Abstract

Trauma- (and violence-) informed care (T(V)IC) has emerged as an important practice approach across a spectrum of care settings; however how to measure its implementation and impact has not been well-examined. The purpose of this scoping review is to describe the nature and extent of available measures of T(V)IC, including the cross-cutting concepts of vicarious trauma and implicit bias. Using multiple search strategies, including searches conducted by a professional librarian from database inception to Summer 2020, 1074 articles were retrieved and independently screened for eligibility by two team members. A total of 228 were reviewed in full text, yielding 13 measures that met pre-defined inclusion criteria: 1) full-text available in English; 2) describes the initial development and validation of a measure, that 3) is intended to be used to evaluate T(V)IC. A related review of vicarious trauma measures yielded two that are predominant in this literature. Among the 13 measures identified, there was significant diversity in what aspects of T(V)IC are assessed, with a clear emphasis on “knowledge” and “safety”, and less on “collaboration/choice” and “strengths-based” concepts. The items and measures are roughly split in terms of assessing individual-level knowledge, attitudes and practices, and organizational policies and protocols. Few measures examine structural factors, including racism, misogyny, poverty and other inequities, and their impact on people’s lives. We conclude that existing measures do not generally cover the full potential range of the T(V)IC, and that those seeking such a measure would need to adapt and/or combine two or more existing tools.

Keywords

vicarious trauma, violence exposure, intergenerational transmission of trauma, mental health and violence

Trauma is both the experience of, and a person’s response to, an overwhelmingly negative event or series of events (van der Kolk et al., 1996). Trauma exposure is widespread, and the impacts can be (though are not always) severe and long-term. Based on survey data from 24 countries, Benjet et al. (2016) found that 70.4% of respondents in 24 countries overall, and 82.7% of those in the United States, had experienced at least one type of traumatic event; in Canada, the prevalence is approximately 76% of adults (Van Ameringen et al., 2008). Exposure to traumatic events may cause post-traumatic stress disorder (PTSD), but also a range of other negative mental and physical health outcomes, impacts on daily living and coping, cognitive processes, and even neurobiological changes (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). The types of experiences that may be traumatic include, but are not limited to, accidents and injuries (e.g., natural disasters, car accidents), interpersonal violence (e.g., intimate partner violence, child maltreatment), collective violence (e.g., war, genocide, and the ongoing effects of colonialism), and others such as the death of a loved one (Benjet et al., 2016). Overall, trauma is a serious threat to individual health and well-being worldwide, and significant efforts are

expended to understand, prevent, and address the problem (SAMHSA, 2014). One such effort—trauma- (and violence-) informed care (T(V)IC)—is discussed in this article.

How services are provided can have important impacts on health and well-being (Lee & Lin, 2010; Rathert et al., 2013). When serving survivors of trauma and violence, a lack of understanding of the complex and lasting impacts of these experiences may lead to harm and to missed opportunities to provide effective care. In response to this growing awareness, the last two decades have seen increased attention to “trauma-informed care/practice” (TIC/P) to help services attend to the effects of trauma, and its links to health and behavior, so as to create safe spaces that limit the potential for further harm (Covington, 2008; Elliot et al., 2005; Hopper et al., 2010; Strand

¹Arthur Labatt Family School of Nursing, Western University, London, Ontario, Canada

Corresponding Author:

C. Nadine Wathen, Western University, FNB3306, 1151 Richmond St., London, Ontario, Canada N6A5B7.

Email: nwathen@uwo.ca

et al., 2016). Trauma- and violence-informed care (TVIC) expands on TIC/P to account for the intersecting impacts of systemic and interpersonal violence and structural inequities on a person's life, emphasizing both historical and ongoing violence and their traumatic impacts. TVIC focuses on a person's experiences of past and current violence to situate problems as residing in both their psychological state and their social circumstances (Ponic et al., 2016; Purkey et al., 2020). There is emerging evidence that educating health and social services providers about TVIC can lead to practice change (Wathen et al., 2021). Both approaches are differentiated from trauma-specific services, which focus on the treatment of trauma symptoms.

Because T(V)IC frames and orients the provision of an organization's primary services, assessing "success" can prove challenging. An existing gap in the literature is how best to measure the provision and impact of T(V)IC in various service contexts, at both the individual (i.e., how do providers shift their practice? what impact does this have on client/patient outcomes?) and organizational (i.e., how do organizations embed T[V]IC in their protocols and policies? how do staff and clients/patients experience these changes?) levels. The present scoping review sought to address this gap by examining existing measures and mapping them onto a specific definition of T(V)IC based on four intersecting principles of TVIC (Ponic et al., 2016; Wathen & Varcoe, 2019) with additional attention to cross-cutting concepts of vicarious trauma ([VT] including secondary traumatic stress and compassion fatigue) and implicit bias. Taking stock of measures in this way is a necessary step to directing future development of measurement approaches and facilitating research to identify how to effectively implement TVIC.

Principles of T(V)IC

As the TVIC concept has evolved, key authors in the field, building on previous work (e.g., Elliot et al., 2005), have articulated four integrated principles of TVIC (Ponic et al., 2016; Wathen & Varcoe, 2019):

1. understand structural and interpersonal experiences of trauma and violence and their impacts on peoples' lives and behaviors;
2. create emotionally, culturally, and physically safe spaces for service users and providers;
3. foster opportunities for choice, collaboration, and connection; and
4. provide strengths-based and capacity-building ways to support service users.

TVIC is considered a universal approach to care, that is, the prevalence of multiple forms of trauma and violence, including interpersonal violence (e.g., child maltreatment, intimate partner violence) and structural violence (e.g., racism, poverty), means providers must assume that any person seeking service may have experienced one or more forms of trauma and

violence and approach them being mindful of that potential history or ongoing experience. Understanding that these experiences may foster reactions such as distrust, disengagement, and agitation, be linked to behaviors such as substance use, and result in health problems such as chronic pain and sleeplessness, helps providers to anticipate and understand what they might see in a service interaction, classroom, or other setting.

TVIC also attends closely to the well-being of those providing care, with a focus on VT/secondary traumatic stress and compassion fatigue. We therefore conducted a subreview of measurement approaches in this realm to understand how existing measures fit with our operationalization of TVIC. Finally, as the concept of TVIC continues to evolve, we must examine the issue of implicit biases: unconscious stereotypes, assumptions, and associations that people may not be aware they hold and can be present even among those who are educated otherwise. These biases have been shown to be present, and highly detrimental, in health and social services, and are a significant barrier to equity-oriented, structurally competent care (Sukhera & Watling, 2018).

The TVIC principles above align in some respects with approaches to defining TIC/P, such as those of Elliot et al. (2005) and Bowen and Murshid (2016), including common elements such as choice, safety, trust, and collaboration. However, our articulation operationalizes TVIC from a more structural perspective. The provider–client interaction is emphasized as a site for validating the person's experiences of harm from both intra- and interpersonal experiences of trauma and violence and from the ongoing conditions of their lives, especially stigma, lack of access to social determinants of health, racism, and discrimination based on gender, sexuality, ability, and so on. Importantly, TVIC emphasizes the organizational policies required to support this work. Our preliminary scan of T(V)IC measures indicated variability in how well they assessed the spectrum of knowledge, attitudes, and practices underpinning the four principles. As an additional part of the present analysis, we therefore mapped all items from included measures to the four principles and determined whether implicit bias was addressed.

To address these interrelated issues, we conducted a scoping review (Daudt et al., 2013; Peters et al., 2015) with the following research questions: (1) What validated measures exist to assess T(V)IC, including VT (Stages 1 and 2, see Method section)? (2) How are the principles of TVIC, and implicit bias, represented in existing measures (Stage 3)? and (3) What gaps exist in how TVIC is measured (Stages 1–3)?

Method

Because T(V)IC and VT are represented by distinct literatures, we used different strategies to identify and examine measures for each. These are described below in Stages 1 and 2. In Stage 3, the measures from Stage 1 were mapped onto the four T(V)IC principles and the additional element of implicit bias.

Stage 1: T(V)IC Measures

Search strategies. Four searches conducted in June and July of 2020 identified T(V)IC measures in Stage 1. First, a professional librarian searched, from inception date, the following databases: ERIC, Medline, Sociological Abstracts, PsycINFO, CINAHL, and Embase. Search terms for the T(V)IC concept were focused and included the text words “trauma” and “violence” combined through proximity operators with “informed,” “based,” “sensitive,” and variations of “competence.” Additionally, the term “universal trauma precaution” was included. Search terms for the measures concept included variations of “tool,” “instrument,” “questionnaire,” “list,” “checklist,” “screen,” “scale,” “index,” “assessment,” among others, in both text words and controlled vocabulary. They were then combined with terms for measurement properties and instrument validation based on Terwee and colleagues (2009); the text words for these concepts were combined through proximity operators and the controlled vocabulary terms combined with “AND” (sample strategy available on request). Second, gray literature was sought using Google’s Advanced Search function with the term “trauma-informed” and results limited to English language and PDF format. Third, one team member conducted forward citation chaining using our database of commonly cited and foundational TVIC articles and added unique articles to the results to be screened. Finally, forward and backward citation chaining was conducted on the primary measure articles from the three prior strategies.

Screening and eligibility. References identified through database searching were imported into the online review management software Rayyan (Ouzzani et al., 2016). Two team members independently screened titles and abstracts. The same two team members completed independent full-text screening. Decisions were compared and discussed, and the third team member was consulted to resolve disagreements in both of the above steps. References identified through all other means were put forward to double, independent full-text screening and then followed the screening process outlined above.

Eligible items were published, peer-reviewed journal articles or gray literature reports produced by national or province-/state-level government organizations, or national/supranational nongovernment organizations. These reports needed to provide some indication of peer review (e.g., use of a committee or expert panel). The following questions were used to assess eligibility: (1) Is the full-text available in English? (2) Does the source describe the initial development and validation of a measure? and (3) Is the measure intended to be used to evaluate TIC or TVIC at any stage of the research process? (including implementation research; e.g., provider needs, beliefs, knowledge, impacts). To maximize the number of measures that were included in the review while maintaining rigor, measures did not need to be formally “validated” in order to be included. However, to meet the requirements of the second eligibility question, articles needed to (a) describe the measure’s development process to some degree, (b) describe

the measure in full (including overview of items, subscales, and scoring), and (c) report the measure’s psychometric properties (at least one type of reliability and one type of validity according to the Cosmin taxonomy of measurement properties; Mokkink et al., 2010).¹

Eligible measures could be intended for use in any sector or setting and with any population (i.e., organization, provider/staff, or patient/client). Sources reporting on only² the following were not eligible: unvalidated and “study-specific” measures (e.g., ones designed to evaluate the impact of a particular intervention); “trauma-specific” measures (e.g., ones measuring types of traumatization, PTSD, therapy impacts, or trauma skills); those measuring related but diverging constructs (e.g., patient-centered care, cultural competence); T(V)IC-related coding schemes, indicators, frameworks, or walk-throughs; and those measuring myths, perceptions, or knowledge about trauma.

Use of measures. To examine how (and how much) included measures were used in subsequent research, we conducted forward citation chaining using Google Scholar’s “cited by” function for each included primary article. The resulting references were screened by two team members. Each reference was assessed for whether it (1) collected data using the measure and reported results and (2) was available in full-text. For sources meeting these criteria, data extraction was conducted by one team member and verified by a second. The following were extracted into a shared spreadsheet: sample population, setting, whether the measure was adapted in any way, and whether new psychometric properties were reported.

Stage 2: VT Measures

VT has been of interest to researchers and clinicians for several decades, and many potential measures exist. The goal of Stage 2 was to identify and describe the most common validated measures of VT experiences and interventions and provide a general overview of their use. We conducted focused searches in June 2020 for recent review articles (2015 onward) on VT in the same six databases used for Stage 1. Titles and abstracts were independently screened by two team members and disagreements were resolved by discussion. Potentially relevant articles were examined in full text by one team member. Reviews were considered relevant for identifying measures if their full text was available in English and provided a list of research articles related to VT. If information on the measures used was not provided or unclear, the original article was examined.

The names of the measures and how many included articles used them were entered into a spreadsheet. For each, the original development/validation article(s) and any accompanying manuals were identified and used to report the measure’s characteristics. To get a sense of overall use, findings or author conclusions regarding the use and psychometric properties of the measure or related to the general state of measurement in this area were extracted.

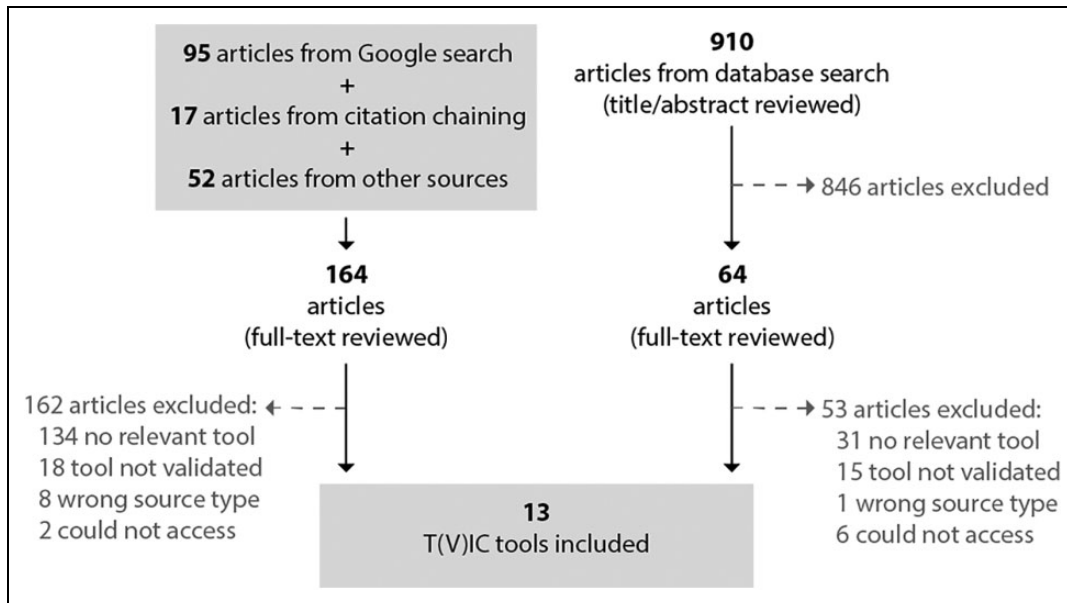


Figure 1. Process flow diagram, Stage 1.

Stage 3: Representation of TVIC Principles

To assess how comprehensively the T(V)IC construct was represented across measures, all items in those identified in Stage 1 were examined and coded as to which (if any) TVIC principle they addressed. This was done independently by two team members with consultation from the third. A coding guide including definitions of each principle (Wathen & Varcoe, 2019) was developed and each item could be coded with a single principle; coders also noted when a secondary, overlapping principle was relevant. Whether the item measured the concept at an “individual” *versus* “organizational” level was also coded, as were items that assessed implicit bias.

Results

Stage 1: T(V)IC Measures

Characteristics. In total, the full text of 228 unique references was examined and 13 measures related to T(V)IC were included (Figure 1). Characteristics of the included measures are described in Table 1. They were published from 2008 to 2019, but most ($n = 10$, 77%) were published in 2016 or later. Most were described in peer-reviewed journal articles ($n = 12$, 92%) or reports (THRIVE, 2011) specifically focused on development and validation ($n = 11$, 85%). All primary articles reported validation findings derived from U.S.-based samples, and many were lacking with respect to gender and/or ethnic diversity ($n = 8$, 62%); about half did not report sample statistics for one or both of these factors ($n = 6$, 46%).

The development processes for the included measures ranged from reviewing the literature and existing measures to extensive multistage processes involving consultation with expert panels, field testing, and/or community-based participatory research (e.g., Baker et al., 2016; Sprang et al., 2016). For

seven measures, theory appeared to be integrated into or foundational to development (Goodman et al., 2016; Hallinan et al., 2019; Madden et al., 2017; Richardson et al., 2012; Salloum et al., 2018; THRIVE, 2011), whereas theory was mentioned, but not integrated, or not mentioned at all for the others; details regarding the role of theory were not always clear. Similarly, some articles reported more extensive validation work than others, and a few articles explicitly noted that further validation was needed (e.g., Richardson et al., 2012; Salloum et al., 2018; THRIVE, 2011).

The individual included measures ranged in length from 10 to 100 items; some were represented by a set of submeasures. For example, the Attitudes Related to Trauma-Informed Care (ARTIC; Baker et al., 2016) has different versions tailored for social services and education. Most measures were designed to be completed by service providers or staff ($n = 10$, 77%) as opposed to service users (Clark et al., 2008; Goodman et al., 2016) or both (THRIVE, 2011). Many sectors were represented including child welfare, education, law enforcement, mental health services, and health care. Some measures contained mostly or all organization-level items ($n = 5$, 38%) or all or mostly individual-level items ($n = 6$, 46%) and one measure had about half of each (Goodman et al., 2016). The System of Care Trauma-Informed Agency Assessment (THRIVE, 2011) has three versions, two with individual-level items (family and youth versions) and for staff at the organizational level (agency version).

Measures were designed to assess a variety of constructs related to T(V)IC. Two were focused on VT (Hallinan et al., 2019; Sprang et al., 2016) but were included in Stage 1 because they explicitly measured it from a trauma-informed organization perspective. Similarly, one measured trauma-informed self-care (Salloum et al., 2018). Otherwise, they were designed to measure client perceptions of care (Clark et al., 2008;

Table 1. Trauma- (and Violence-) Informed Measures, Stage 1.

Name (Author, Year)	Description	Development Process	Pilot/Initial Validation
ARTIC scale (Baker et al., 2016)	<ul style="list-style-type: none"> Measures central components of attitudes supportive of TIC implementation Different versions: 45-, 35-, and 10-item; seven subscales: (a) underlying causes of problem behavior and symptoms, (b) responses to problem behavior and symptoms, (c) on-the-job behavior, (d) self-efficacy at work, (e) reactions to the work, (f) personal support of TIC, and (g) system-wide support for TIC Versions for human services and education Example items: I believe that... (a) "Students' learning and behavior problems are rooted in their history of difficult life events;" (g) "I think I do/will have enough support to implement the trauma-informed care approach" 	<ul style="list-style-type: none"> Based on Trauma Informed Care Belief Measure; redeveloped with extensive mixed method process including community-based participatory research and updated review of theoretical, empirical, and measurement literatures related to TIC 	<ul style="list-style-type: none"> Online/paper survey of 760 service providers (e.g., human services, health care, education) CFA shows seven-factor structure fits data Strong internal consistency and test-retest over 6 months Construct and criterion-related validity shown through correlations with indicators of familiarity with TIC, staff- and system-level indicators of TIC implementation
TICOMETER (American Institutes for Research, 2016; Bassuk et al., 2017)	<ul style="list-style-type: none"> Measures the level of TIC in health and human service organizations (can be used with all staff) 35 items across five TIC domains: (a) build trauma-informed knowledge and skills, (b) establish trusting relationships, (c) respect service users, (d) foster trauma-informed service delivery, and (e) promote trauma-informed procedures and policies Example items: (a) "The organization offers training that describes the impact of trauma on brain and body," (c) "Reception staff are trained to greet service users in a welcoming manner," and (d) "Privacy policies have been discussed with service users and adapted based on their feedback" 	<ul style="list-style-type: none"> Developed through consultation with expert panel (including service users) and study of existing literature and assessment tools; original item pool refined based on psychometric testing 	<ul style="list-style-type: none"> Online survey of 424 health care providers Good/excellent test-retest reliability and internal consistency (domain and overall) Rating scale models testing domains show good item fit Face validity confirmed through expert panel CFA shows construct validity Convergent validity established through correlating scores with expert ratings of TIC for organizations; ROC model showed scores distinguished between organizations' levels of TIC orientation
CPC (Clark et al., 2008)	<ul style="list-style-type: none"> Measures consumer's perceptions of care and satisfaction with services for co-occurring disorders and/or trauma-related disorders; for use in behavioral health settings. 26 items, four factors measuring (a) service integration, (b) choice in services, (c) cultural sensitivity, and (d) trauma-informed assessment Example items: (a) "I was asked about my personal strengths and coping skills," (b) "I had a choice in the services I received," and (c) "Treatment was provided in a way that respected my values and beliefs" 	<ul style="list-style-type: none"> Developed in the context of intervention study for women with co-occurring disorders Items developed from existing tools, workgroup member suggestions, and study site needs assessment (e.g., focus groups with women survivors) 	<ul style="list-style-type: none"> Administered in person to 2,729 women in intervention study Strong internal consistency, 2-week test-retest reliability poor to acceptable for scales Construct validity supported through correlations among subscales and with measures of satisfaction with provider and services Psychometrics held up across ethnic groups
TIP Scales (Goodman et al., 2016)	<ul style="list-style-type: none"> Measures the extent to which survivors perceive DV programs to be trauma-informed (focus on staff practices as opposed to infrastructure) 20 items, four themes: (a) environment of agency and mutual respect, (b) access to information on trauma, (c) opportunities for connection, and (d) emphasis on strengths Supplemental scales: (e) cultural responsiveness and inclusivity and (f) parenting support Example items: (a) "Staff respect the choices I make," (b) "I have the opportunity to learn how abuse and other difficulties affect responses in the body," and (d) "Staff respect the strengths I have gained through my life experiences" 	<ul style="list-style-type: none"> Developed through qualitative literature review, consultation with 15 national experts on TIP in the DV context, focus groups with survivors and advocates Initial items were piloted with small sample before validation 	<ul style="list-style-type: none"> 370 Women using DV services completed paper surveys Three rounds of EFA to refine items and verify factor structure; high factor loadings overall Construct validity shown through correlations with related measures and among subscales; ICCs show internal consistency good—excellent for subscales (English/Spanish versions)

(continued)

Table 1. (continued)

Name (Author, Year)	Description	Development Process	Pilot/Initial Validation
VT-ORG (Hallinan et al., 2019)	<ul style="list-style-type: none"> Measures employee perceptions of whether an organization is vicarious trauma-informed 63 Base items but varies by version: law enforcement, fire services, emergency medical services, and victim services; five subscales: (a) leadership and mission, (b) management and supervision, (c) employee empowerment and work environment, (d) training and professional development, and (e) staff health and wellness Example items: (a) "Leadership proactively addresses vicarious trauma in the organization's long-term vision and strategy" and (c) "My organization provides employees with a private, comfortable, and safe workspace" 	<ul style="list-style-type: none"> Development grounded in industrial and organizational psychology theories (Galbraith, 2002; Gittel, 2006) Five strategies (corresponding to subscales) were identified by representatives from diverse group of organizations 	<ul style="list-style-type: none"> Completed online by 3018 individuals from 14 organizations (mostly law enforcement) Excellent internal consistency for scale overall; good—excellent for subscales Convergent validity shown through subscale correlations with related measures CFA supported the proposed five-factor structure
Knowledge, Attitudes, and Practices of TIP Survey (King et al., 2019)	<ul style="list-style-type: none"> Measures knowledge, attitudes, and practices related to TIC among health care professionals within health care setting 21 Items, three subscales: (a) knowledge, (b) attitudes, and practices Example items: (a) "There is a connection between mental health issues and past traumatic experiences or ACEs," (b) "TIP is essential for working effectively with our patients and their families," and (c) "I help patients and peers to recognize their own strengths" 	<ul style="list-style-type: none"> Adapted existing unpublished/unvalidated tool (Abdoh et al., 2017) originally developed through literature review and piloted with staff Tool refined through face validity assessment with experts in childhood adversity and trauma 	<ul style="list-style-type: none"> Online survey completed by 592 staff at pediatric health care institution Adequate—very good internal consistency for three subscales and scale overall Construct validity supported by three-factor CFA with adequate fit Correlations between subscales indicate they are not redundant
TSRT (Chadwick Center for Children and Families, 2013; Lang et al., 2016) ^a	<ul style="list-style-type: none"> Measures child welfare worker perceptions of agency/ agency staff understanding of and capacity to use TIP 81 Items,^b 12 domains: (a) trauma training and education, (b) staff trauma knowledge and practice, (c) individual trauma knowledge and practice, (d) trauma supervision and support, (e) staff supports child relationships, (f) birth family trauma support, (g) resource family trauma support, (h) staff addresses child psychological safety, (i) agency trauma assessment, (j) access to trauma-informed services, (k) local agency collaboration—general practices, and (l) local agency collaboration—trauma practices Example items: (b) "The child welfare staff at my agency work as a team with each family, empowering them to make decisions about their services" and (h) "The child welfare staff at my agency make psychological safety a priority when making case decisions" 	<ul style="list-style-type: none"> Initially developed by CTISP expert panel to align with NCTSN Essential Elements of Trauma-Informed Child Welfare System (Henricks et al., 2011). Minor revisions after EFA using year 1 data from current study 	<ul style="list-style-type: none"> Online survey completed by 223 (Year 1) and 231 (Year 3) child welfare staff (various roles) Good—excellent internal consistency for each subscale at Years 1 and 3 EFA supported 12 domains; correlations among subscales were small—large (Year 1) and moderate—large (Year 3)

(continued)

Table 1. (continued)

Name (Author, Year)	Description	Development Process	Pilot/Initial Validation
Child Welfare Trauma-Informed Assessment Tool (Madden et al., 2017)	<ul style="list-style-type: none"> Measures the use of TIC among frontline child welfare service providers 11 items across four factors: (a) knowledge and skills, (b) parental/caregiver trauma, (c) referrals, and (d) trauma impact Example items: (a) "I have a clear understanding of what trauma-informed care means in my professional role at CPS," (c) "I consider the cultural backgrounds of the parents that I work with when making referrals," and (d) "I am able to recognize the signs and symptoms of trauma, even if a person does not verbally tell me" 	<ul style="list-style-type: none"> Developed in response to U.S.-state welfare agency's newly implemented trauma-informed framework and practice model Items developed through examining TIC literature and existing tools (especially NCTSN, 2008) Draft tool revised based on feedback from child welfare experts 	<ul style="list-style-type: none"> Completed in-person by 213 child welfare workers, supervisors, and administrators Face/content validity examined by expert panel EFA showed good fit for four-factor model Good-excellent internal consistency for four factors and scale overall
TISCI (2nd ed.; Richardson et al., 2010, 2012)	<ul style="list-style-type: none"> Measures extent to which child welfare systems function in a trauma-informed manner; designed for measuring change from training initiatives 18 items, three scales (a) agency policy, (b) agency practice, and (c) integration (individual practice) Example items: (a) "Written policy is established committing to trauma informed practices," (b) "My agency addresses the impact that secondary traumatic stress has on staff," and (c) "I have a clear understanding of what trauma informed practice means in my professional role" 	<ul style="list-style-type: none"> Developed in the context of a complex community system change initiative Items developed through literature review, consultation with content experts, and study of existing instruments Revised after piloting; some items based on the EBPAS (Aarons, 2005) 	<ul style="list-style-type: none"> Completed in-person by 342 personnel (e.g., court, human services) Good-excellent internal consistency for each factor Separate CFAs for community and individual items supported two factor structures for each, but problematic items suggest further revision required Subsequent CFA on second edition supported revised three-factor structure
TISC-R (Galloum et al., 2015, 2018 ^c)	<ul style="list-style-type: none"> Measures TISC practices used by professionals 10 items, three factors: (a) utilizing organizational resources and supports (four items), (b) organizational practices (three items), and (c) personal self-care practices (three items) Example items: (a) "I attend trainings on stress management," (b) "I utilize peer support," and (c) "I practice stress management through meditation, prayer, conscious relaxation, deep breathing, and exercise" 	<ul style="list-style-type: none"> Original TISC based on self-care recommendations from the Child Welfare Trauma Training Toolkits (Child Welfare Committee, NCTSN, 2008) Revised based on authors' expertise in child welfare, expert review from two child welfare professionals, and review of the literature 	<ul style="list-style-type: none"> Completed by 177 child welfare workers Adequate-very good internal consistency for subscales and scale overall EFA and CFA revealed three-factor model fit data well Discriminant validity shown through correlations among subscales Associations with measures of related constructs indicate convergent validity
STS-IOA (Sprang et al., 2016)	<ul style="list-style-type: none"> Measures the extent to which an organization is STS-informed and responds to the impacts of STS in an organization 40 items, six domains: (a) organizational promotion of resilience building activities, (b) degree to which an organization promotes physical and psychological safety, (c) degree to which the organization has STS relevant policies, (d) how STS informed leadership practices are, (e) how STS informed routine organizational practices are, and (f) how well the organization evaluates and monitors STS policies and practices in the workplace Example items: (b) "Staff in the organization are encouraged to not share graphic details of trauma stories unnecessarily with co-workers," (c) "The organization has defined procedures to promote resiliencebuilding in staff (e.g., self-care workshops)," and (f) "The organization responds to what it learns through evaluation, monitoring and/or feedback in ways that promote safety and resilience" 	<ul style="list-style-type: none"> Development followed four-stage process: (a) expert group generate items based on literature and existing tools; refined through Modified Delphi process, (b) further revisions based on review by national experts and NCTSN STS committee, (c) refinement based on field testing by various system representatives, and (d) psychometric analysis (current study) 	<ul style="list-style-type: none"> Online or paper survey completed by 629 workers from helping professions (e.g., child welfare, community mental health) Internal consistency for subscales and scale overall is excellent; very good 90-day test-retest reliability Concurrent criterion validity shown through correlation with (TSRT) EFA supported five-factor structure

(continued)

Table 1. (continued)

Name (Author, Year)	Description	Development Process	Pilot/Initial Validation
Measure of foundational knowledge about TIC (Sundborg, 2019)	<ul style="list-style-type: none"> Measures foundational knowledge related to TIC 30 items cover six topics: TIC implementation and principles, neurobiology of stress and trauma, ACE research, work-related stress and trauma, systemic oppression and issues of power, and historical trauma including intergenerational transmission Example items: "I know the importance of self-care for the workforce," "I understand how vulnerable and marginalized people and their communities can be differentially impacted by trauma," and "I understand the difference between trauma-specific services and trauma-informed care" 	<ul style="list-style-type: none"> Knowledge topics chosen from several existing TIC-related standards of practice and training materials 	<ul style="list-style-type: none"> Online survey completed by 118 human service workers (e.g., early childhood sectors, public health) Excellent internal consistency Convergent validity indicated through significant correlations with other TIC-related measures
TIAA (THRIVE, 2011; Thrive Initiative, 2011a, 2011b, 2011c)	<ul style="list-style-type: none"> Measures children's behavioral health agency performance related to TIP for the purpose of informing change efforts and benefitting the overall system for youth and families 42 items, six domains: (a) physical/emotional safety, (b) youth/family empowerment, (c) trustworthiness, (d) trauma competence, (e) cultural competence, and (f) commitment to trauma-informed philosophy Three versions: agency, youth, and family Example items: (a) "Space: Agency displays map of space showing exits, restrooms, parking, offices; reception area is secure; rooms are labeled, private and soundproof; all areas are well-lit." (agency version). Other items (subscales not labeled): "Staff worked with me to identify my strengths as a parent and how to use them to help my child" and "Staff at this agency respect my culture, traditions and beliefs" (family version) 	<ul style="list-style-type: none"> Key stakeholder group identified domains informed by Trauma-Informed Systems Theory (Fallot & Harris, 2001) Workgroup reviewed literature and existing tools to draft items; reviewed by stakeholder group Refined through pilot process with youth and families 	<ul style="list-style-type: none"> Completed by 1,441 agency staff, 213 youth, and 574 family members (administration unclear) Expert panel during development process helped established face validity Internal consistency for six domains is good–excellent. EFA generally supported seven-factor structure for the agency version but 10-factor structures for youth/family versions; authors note further validation required

Note. ACE = adverse childhood experiences; ARTIC = Attitudes Related to Trauma-Informed Care; CFA = confirmatory factor analysis; CPC = consumer perceptions of care; CTISP = Chadwick Trauma-Informed Systems Project; DV = domestic violence; EBPAS = Evidence-Based Practice Attitude Scale; EFA = exploratory factor analysis; ICC = intraclass correlation coefficient; NCTSN = National Child Traumatic Stress Network; ROC = Receiver Operating Characteristic; STS = secondary traumatic stress; STSI-OA = Secondary Traumatic Stress-Informed Organizational Assessment; TIAA = System of Care Trauma-Informed Agency Assessment; TIC = trauma-informed care; TICS = Trauma-Informed Climate Scale; TIP = trauma-informed practice; TISC = trauma-informed self-care; TISCI = Trauma-Informed System Change Instrument; TSRT = Trauma System Readiness Tool; VT-ORG = Vicarious Trauma Organizational Readiness Guide.

^aWe evaluated the Lang et al. (2016) version of the scale originally developed for the CTISP. ^bThe version we obtained from authors has 100 items. ^cMultiple articles report on early validation, but this has been treated as the primary one for the purposes of data extraction.

Table 2. Vicarious Trauma Measures, Stage 2.

Name (Author, Year)	Description	Development Process	Pilot/Initial Validation
ProQoL 5 ^a (Stamm, 2009, 2010)	<ul style="list-style-type: none"> Measures compassion satisfaction and compassion fatigue. 30 Items, three subscales with 10 items each: (a) compassion satisfaction, (b) burnout, and (c) secondary traumatic stress Example items: (a) "I get satisfaction from being able to [help] people," (b) "I feel worn out because of my work as a [helper]," and (c) "I feel depressed because of the traumatic experiences of the people I [help]" 	<ul style="list-style-type: none"> Developed over many revisions beginning with the CFST (Figley, 1995) and CSFT (plus revised versions; Figley & Stamm, 1996; Stamm, 2002); subsequently renamed ProQoL (Stamm, 2005) Initial CFST item development and some aspects of validation and refinement are unclear (e.g., the steps taken to revise from one ProQoL version to the next) 	<ul style="list-style-type: none"> Stamm (2010) reports some psychometrics for the ProQoL-5, but the sample size and sample characteristics are unclear Internal consistency for the three subscales is good to very good (Stamm, 2010) While Stamm (2010) suggests the subscales are distinct, some research suggests three-factor structure not supported, calling into question construct validity (see text for details)
STSS (Bride et al., 2004)	<ul style="list-style-type: none"> Measures intrusion, avoidance, and arousal symptoms related to indirect exposure to trauma through clients 17 Items, three subscales: (a) intrusion (five items), (b) avoidance (seven items), and arousal (five items) Example items: (a) "Reminders of my work with clients upset me," (b) "I wanted to avoid working with some clients," and (c) "I felt jumpy" 	<ul style="list-style-type: none"> Initial item pool developed based on DSM-IV criteria for PTSD and reviewed for content validity by five experts Items piloted by two samples and refined based on results of CFA, reliability statistics, content validity, readability, clarity, and so on 	<ul style="list-style-type: none"> Mail-in survey completed by 287 social workers Internal consistency for subscales and tool overall is good–excellent. Convergent validity indicated through correlations with trauma case load and depression/anxiety symptoms; discriminant validity shown through lack of correlations with unrelated factors CFA supported three-factor structure Some aspects of its validity have been criticized (see text for details)

Note. CFA = confirmatory factor analysis; CFST = Compassion Fatigue Self-Test; CSFT = Compassion Satisfaction and Fatigue Test; DSM-IV = Diagnostic and Statistical Manual of Mental Disorders; ProQoL = Professional Quality of Life Scale; PTSD = post-traumatic stress disorder; STSS = Secondary Traumatic Stress Scale.

^aTool details for the most recent version of the ProQoL are described in this table.

Goodman et al., 2016), capacity to implement T(V)IC (Baker et al., 2016; Lang et al., 2016), T(V)IC practice (Bassuk et al., 2017; Richardson et al., 2012; THRIVE, 2011), T(V)IC knowledge only (Sundborg, 2019), and a combination of knowledge, attitudes, and/or practice (King et al., 2019; Madden et al., 2017).

Use. In total, the primary articles for the 13 included measures had been cited 348 times. Of these, 142 were ineligible because they were a book, book chapter, or thesis; a duplicate citation; not accessible; not in English; or did not actually appear to cite the primary article. The measures included in this review have been infrequently used to collect data. The most commonly used was the ARTIC (most often the ARTIC-35; Baker et al., 2016) which was used 10 times in various contexts such as education, child welfare, nursing, and human services. Of the 10 articles, half reported new psychometric properties, one developed a new version (Japanese language; Niimura et al., 2019), and two used only a subset of ARTIC items. Of the remaining measures, seven had not been used at all and five had been used one to five times (for a total of 16 uses; Clark et al., 2008; Goodman et al., 2016; Lang et al., 2016;

Richardson et al., 2012; Salloum et al., 2018). Of the articles using these, eight (50%) reported new psychometrics (usually internal consistency). Most ($n = 10$, 77%) did not revise or adapt the measure, five (38%) slightly revised or used part(s) of it, and one article reported on a new version (Trauma System Readiness Tool-Short Form; Connell et al., 2019). Data were collected from a variety of sectors such as child welfare, domestic violence services, and mental health services. Three measures were cited in subsequent articles because they were used to inform the development of other instruments (Lang et al., 2016; Richardson et al., 2012; THRIVE, 2011).

Stage 2: VT Measures

In total, 35 unique references were screened, 27 were reviewed in full, and 14 were examined to determine the most used VT measures. Excluded reviews either were not available in English or not published in full (e.g., conference abstracts), had no articles meeting their inclusion criteria, or did not include information regarding measures (e.g., qualitative reviews). The 14 reviews reported on 324 unique sources published from 1981 to 2017 and targeted health and/or social service

Table 3. TVIC Principles Code Descriptions and Sample Items, Stage 3.

Principle and Code Description	Sample Items Receiving Code
Principle 1: Understand trauma, violence, and its impacts on people's lives and behavior	"Written policy is established committing to trauma informed practices." (Richardson et al., 2010, 2012)
Knowledge/understanding/training on trauma (including vicarious), violence (including structural), and the impacts on people and their behavior? This may include knowledge about appropriate initial responses to disclosure to minimize risk of further harm, for example, as well as policies or procedures in place indicating a culture of T(V)IC or anything to do with T(V)IC training	"I understand how historical and structural oppression may create traumatic conditions and psychological trauma." (Sundborg, 2019)
Principle 2: Create emotionally and physically safe environments for all clients and providers	"I felt safe and comfortable when I met with my service providers" (Clark et al., 2008)
Addresses safety (physical, emotional, cultural, and spiritual), or aspects of place/space that contribute to perceptions of safety. Focuses on interactions that may influence perceived safety such being nonjudgmental, avoiding "triggering," fostering connection/trust, providing clear information or ensuring confidentiality/privacy. Measures an aspect of provider safety (e.g., self-care)	"Supervisors promote safety and resilience to STS by routinely attending to the risks and signs of STS" (Sprang et al., 2016)
Principle 3: Foster opportunities for choice, collaboration, and connection	"Service users' desires and preferences are given top priority in the treatment or service plan" (Bassuk et al., 2017)
Emphasis on shared decision making or the service user having meaningful choice in their own care or involvement in how/what services are provided. The provider/organization offers choices that are feasible for people given life circumstances (e.g., poverty). Describes collaboration or communication between providers or organizations related to client care?	"I am encouraged to network and collaborate with coworkers and other organizations" (Hallinan et al., 2019)
Principle 4: Use a strengths-based and capacity-building approach to support clients	"Staff respect the strengths I have gained through my life experiences" (Goodman et al., 2016)
What the service user brings (e.g., coping strategies, knowledge or strengths), their resilience, or a capacity-building approach to services (i.e., understanding where capacities lie and helping people to develop skills). Indicates that sufficient time is allowed for meaningful engagement, providing tailored/flexible program options to meet people's needs, strengths, or situations	"I ask the parents I work with how they cope with the difficult feelings that surround the trauma they have experienced" (Madden et al., 2017)
Implicit bias.	No examples found
Acknowledges that an individual/organization may unintentionally discriminate against, stereotype or have stigmatizing thoughts about people using services, and/or that this could influence care provision	

Note. TVIC = trauma- and violence-informed care; T(V)IC = trauma- (and violence-) informed care.

providers in general or those with specific occupations within these fields. Ultimately, two measures were most commonly used: the Professional Quality of Life (ProQoL-5) instrument (Stamm, 2010), including its precursors, and the Secondary Traumatic Stress Scale (STSS; Bride et al., 2004; see Table 2), a finding consistent with extant literature on assessing "empathy-based strain" (Rauvola et al., 2019).

Although the ProQoL-5 (including previous versions) and STSS have undergone psychometric assessment (for an overview for the ProQoL, see Keesler & Fukui, 2020), they are not without criticism. For example, they have both been found to have varying factor structures, and problematic items and factor loadings for the ProQoL have been identified (Geofrion et al., 2019; Rauvola et al., 2019). Further, evidence of the measures' construct validity is lacking (Hemsworth et al., 2018; Heritage et al., 2018; Rauvola et al., 2019). Nevertheless, the ProQoL in its various forms is widely accepted as the

most frequently used measure of compassion fatigue (Sinclair et al., 2017). Although we did not do a full review of their use, it should be noted that to date the primary articles for the STSS (Bride et al., 2004) and ProQoL-5 (Stamm, 2010) have been cited in Google Scholar 734 and 1,432 times, respectively. The ProQoL-5 has been translated into many languages (ProQoL.org, 2019; Stamm, 2010) and the STSS has French and Italian versions (Jacobs et al., 2019; Setti & Argentero, 2012).

Stage 3: Representation of TVIC Principles

A total of 499 items across the 13 (Stage 1) measures were coded. Descriptions for each TVIC principle code and sample items receiving that code are presented in Table 3. Table 4 presents the results of our mapping of each measure to the four TVIC principles. No items addressing implicit bias were identified, and only three measures had items related to structural

Table 4. TVIC Principles in T(V)IC Measurement Items, Stage 3.

Tool Name (Number of Items)	Principle 1 <i>n</i> (%)	Principle 2 <i>n</i> (%)	Principle 3 <i>n</i> (%)	Principle 4 <i>n</i> (%)	No Principle <i>n</i> (%)
ARTIC scale (45)	14 (31.1)	21 (46.7)	0 (0)	4 (8.9)	6 (13.3)
TICOMETER (15 ^a)	4 (26.7)	6 (40.0)	3 (20.0)	1 (6.7)	1 (6.7)
CPC (26)	3 (11.5)	10 (38.5)	7 (26.9)	5 (19.2)	1 (3.8)
TIP Scales (20 + 13 supplemental)	11 (33.3)	9 (27.3)	5 (15.2)	7 (21.2)	1 (3.0)
VT-ORG (68 ^b)	8 (11.8)	29 (42.6)	1 (1.5)	0 (0)	30 (44.1)
Knowledge, attitudes, and practices of Trauma-Informed Practice Survey (21)	11 (52.4)	3 (14.3)	3 (14.3)	3 (14.3)	1 (4.8)
TSRT (100)	31 (31.0)	21 (21.0)	9 (9.0)	14 (14.0)	25 (25.0)
Child Welfare Trauma-Informed Assessment Tool (11)	6 (54.5)	3 (27.3)	1 (9.1)	1 (9.1)	0 (0)
TISCI (2nd ed.; 18)	6 (33.3)	6 (33.3)	5 (27.8)	1 (5.6)	0 (0)
TISC-R (10)	3 (30.0)	7 (70.0)	0 (0)	0 (0)	0 (0)
STSI-OA (40)	6 (15.0)	31 (77.5)	0 (0)	1 (2.5)	2 (5.0)
Measure of foundational knowledge about TIC (30)	30 (100)	0 (0)	0 (0)	0 (0)	0 (0)
TIAA (Agency) ^c (35)	8 (22.9)	18 (51.4)	8 (22.9)	1 (2.9)	0 (0)
TIAA (Youth) ^c (42 plus 5 subquestions)	2 (4.3)	18 (38.3)	17 (36.2)	7 (14.9)	3 (6.4)
Total (499)	143 (28.7)	182 (36.5)	59 (11.8)	45 (9.0)	70 (14.0)

Note. ARTIC = Attitudes Related to Trauma-Informed Care; CPC = Consumer Perceptions of Care; CTISP = Chadwick Trauma-Informed Systems Project; DV = domestic violence; STS = secondary traumatic stress; STSI-OA = Secondary Traumatic Stress Informed Organizational Assessment; TIAA = System of Care Trauma-Informed Agency Assessment; TIC = trauma-informed care; TICS = Trauma-Informed Climate Scale; TIP = trauma-informed practice; TISC = trauma-informed self-care; TISCI = Trauma-Informed System Change Instrument; TSRT = Trauma System Readiness Tool; VT-ORG = Vicarious Trauma Organizational Readiness Guide; TVIC = trauma- and violence-informed care; T(V)IC = trauma- (and violence-) informed care.

^aThe TICOMETER has 35 items in total, but we were not able to access the complete tool.

^bThere are multiple versions of the VT-ORG; therefore, we used one and then also coded any unique items from the other versions.

^cThere are three versions of the TIAA, but the Youth and Family versions are almost identical; therefore, we coded the Agency and Youth versions only.

issues, including social determinants of health, racism, stigma, and discrimination. Some items received no code, for example, because they measured more general aspects of care environments, aspects of trauma-focused (as opposed to informed) care, or the appropriate principle was unclear. Overall, Principles 1 and 2 were most often represented in the measures. Given the overlapping nature of the TVIC principles, it is not surprising that some items ($n = 94$, 18.8%) also received a secondary code. The most common secondary code was Principle 1 ($n = 60$, 63.8%) followed by Principles 2 ($n = 14$, 14.9%), 3 ($n = 13$, 13.8%), and 4 ($n = 7$, 7.4%). By far, the most common pairing was Principles 1 and 2 ($n = 59$, 62.8%), for example, items about policies/procedures (P1) to ensure safety (P2) such as “My performance evaluation includes a discussion of organizational and individual strategies to minimize risk for vicarious traumatization” (VT Organizational Readiness Guide; Hallinan et al., 2019) or about training (P1) related to safety (P2): for example, “Reception staff are trained to greet service users in a welcoming manner” (TICOMETER; Bassuk et al., 2017). A summary of the strengths and weaknesses of each tool is presented in Table 5.

Discussion

This three-stage scoping review was conducted to assess the nature and extent of existing measures of TVIC. In Stage 1, we identified 13 measures used primarily to assess the original articulation of TIC/P, roughly split in terms of measurement at the individual provider/client level and organizational approaches to supporting practice. Overall, the primary

aspects of T(V)IC assessed were VT or self-care from a trauma-informed perspective, client perceptions of care, capacity to implement T(V)IC, and T(V)IC knowledge, attitudes, and practice. Less attention was given to structural issues, including social determinants of health, racism, stigma, and discrimination. None of the 13 measures included items to assess implicit bias.

These measures tended to be more recent (since 2016) and therefore not (yet) well-cited, with certain exceptions (e.g., the ARTIC); many addressed T(V)IC in fairly homogenous, U.S.-based samples. About half of the measures alluded in some way to theory, though the role of theory in developing items or instruments was not always clear. A range of development and validation approaches was described. Several of the measures had multiple versions for use in different human service contexts, and overall, a wide range of practice settings, from acute and community-based health care to policing to education, were represented.

In terms of measuring VT, our focused review, consistent with existing literature, found that the ProQoL-5 instrument (Stamm, 2010), including its precursors, and the STSS (Bride et al., 2004) were most commonly used. Both are well-cited and translated into multiple languages. However, each requires additional validation and testing (Rauvola et al., 2019).

Our mapping of items from Stage 1 onto the four TVIC principles showed that these core elements are treated unequally, with most (65%) of the 499 items included in the 13 measures focusing on Principles 1 (knowledge) or 2 (safety). Only 12% focused on Principle 3 (collaboration) and 9% on Principle 4 (strengths-based); 14% of items did not map onto

Table 5. Summary of Strengths and Weaknesses of T(V)IC Measures.

Name (Author, Year)	Strengths	Weaknesses
ARTIC scale (Baker et al., 2016)	<ul style="list-style-type: none"> • More validated and used in subsequent research than other measures • Different versions for use in human service/health care versus education sectors • Short-form available • Some items across all four principles (but did not have access to all items) 	<ul style="list-style-type: none"> • Purchase required • Measures mostly Principles 1 and 2
TICOMETER (Bassuk et al., 2017)	<ul style="list-style-type: none"> • Some items across all four principles • Available in published journal article (may require article purchase) • Used for data collection in subsequent research • Some items across all four principles • English and Spanish versions • Available in published journal article (may require article purchase) • Used for data collection in subsequent research • Four versions: law enforcement, fire services, emergency medical services, and victim services • All versions freely available (in public domain) 	<ul style="list-style-type: none"> • Author permission required • Has not been used for data collection in subsequent research • May not be useful in other contexts
CPC (Clark et al., 2008)	<ul style="list-style-type: none"> • Some items across all four principles • Available in published journal article (may require article purchase) • Used for data collection in subsequent research • Some items across all four principles • English and Spanish versions • Available in published journal article (may require article purchase) • Used for data collection in subsequent research • Four versions: law enforcement, fire services, emergency medical services, and victim services • All versions freely available (in public domain) 	<ul style="list-style-type: none"> • May not be useful in other contexts
TIP Scales (Goodman et al., 2016)	<ul style="list-style-type: none"> • Available in published journal article (may require article purchase) • Used for data collection in subsequent research • Some items across all four principles • English and Spanish versions • Available in published journal article (may require article purchase) • Used for data collection in subsequent research • Four versions: law enforcement, fire services, emergency medical services, and victim services • All versions freely available (in public domain) 	<ul style="list-style-type: none"> • Measures mostly Principles 1 and 2; many items do not map to any principle • Has not been used for data collection in subsequent research
VT-ORG (Hallinan et al., 2019)	<ul style="list-style-type: none"> • Available in published journal article (may require article purchase) • Used for data collection in subsequent research • Some items across all four principles • English and Spanish versions • Available in published journal article (may require article purchase) • Used for data collection in subsequent research • Four versions: law enforcement, fire services, emergency medical services, and victim services • All versions freely available (in public domain) 	<ul style="list-style-type: none"> • Measures mostly Principles 1 and 2; many items do not map to any principle • Has not been used for data collection in subsequent research
Knowledge, attitudes, and practices of Trauma-Informed Practice Survey (King et al., 2019)	<ul style="list-style-type: none"> • Some items across all four principles • Over half items measure Principle 1 • Available in published journal article (open access) • Some items across all four principles • Used for data collection in subsequent research • Original version freely available online from CTISP (see Key Resources); revised version available from Lang et al. (2016) by request • Short-form available from Connell et al. (2019) by request • Available in published journal article (may require article purchase) 	<ul style="list-style-type: none"> • Few items for Principles 2–4 • Has not been used for data collection in subsequent research • Many items do not map to any principle • May not be useful in other contexts
TSRT (Chadwick Center for Children and Families, 2013; Lang et al., 2016)	<ul style="list-style-type: none"> • Some items across all four principles • Used for data collection in subsequent research • Original version freely available online from CTISP (see Key Resources); revised version available from Lang et al. (2016) by request • Short-form available from Connell et al. (2019) by request • Available in published journal article (may require article purchase) 	<ul style="list-style-type: none"> • Measures mostly Principles 1 and 2 • Has not been used for data collection in subsequent studies • Measures mostly Principles 1–3
Child Welfare Trauma-Informed Assessment Tool (Madden et al., 2017)	<ul style="list-style-type: none"> • Available in published journal article (may require article purchase) 	<ul style="list-style-type: none"> • Measures mostly Principles 1 and 2 • Has not been used for data collection in subsequent studies • Measures mostly Principles 1–3
TISCI (2nd ed.) (Richardson et al., 2010, 2012)	<ul style="list-style-type: none"> • Used for data collection in subsequent research • Available from authors by request • Available in published journal article (may require article purchase) • Used for data collection in one subsequent study • Freely available (in public domain) 	<ul style="list-style-type: none"> • Measures Principle 1 and 2 only
TISC-R (Salloum, 2018)	<ul style="list-style-type: none"> • Available in published journal article (may require article purchase) • Used for data collection in one subsequent study • Freely available (in public domain) 	<ul style="list-style-type: none"> • Measures mostly Principle 2 • Has not been used for data collection in subsequent research
STSI-OA (Sprang et al., 2016)	<ul style="list-style-type: none"> • Available in published journal article (may require article purchase) 	<ul style="list-style-type: none"> • Only measures Principle 1 • Has not been used for data collection in subsequent research
Measure of TIC foundational knowledge (Sundborg, 2019)	<ul style="list-style-type: none"> • Available in published journal article (may require article purchase) 	<ul style="list-style-type: none"> • Has not been used for data collection in subsequent research
TIAA (THRIVE, 2011)	<ul style="list-style-type: none"> • Three versions: agency, youth, and family • Some items for all four principles (but mostly 2 and 3; varies by version) • Freely available (in public domain) 	<ul style="list-style-type: none"> • Has not been used for data collection in subsequent research

Note. ARTIC = Attitudes Related to Trauma-Informed Care; CPC = Consumer Perceptions of Care; CTISP = Chadwick Trauma-Informed Systems Project; DV = domestic violence; STS = secondary traumatic stress; STSI-OA = Secondary Traumatic Stress-Informed Organizational Assessment; TIAA = System of Care Trauma-Informed Agency Assessment; TIC = trauma-informed care; TICS = Trauma-Informed Climate Scale; TIP = trauma-informed practice; TISC = trauma-informed self-care; TISCI = Trauma-Informed System Change Instrument; TSRT = Trauma System Readiness Tool; VT-ORG = Vicarious Trauma Organizational Readiness Guide.

any of the four principles. The weighting of these principles across measures varied considerably, with some having relatively equal distribution across items, and others addressing only one principle.

One issue we noted was the conflation of “trauma-focused” (i.e., treatments for trauma) and “trauma-informed”; that is, some of the measures we examined included items we would consider “trauma-focused” rather than “trauma-informed.” This lack of conceptual clarity has been discussed in the TVIC literature more broadly and identified as a barrier to quality research (Donisch et al., 2016; Hanson & Lang, 2016; Mersky et al., 2019). The inclusion of trauma-focused items to evaluate T(V)IC in settings where trauma-specific services are not part of routine care (e.g., primary health care, policing, education) is potentially problematic, as it presents an unfair test of these services; it may also unduly emphasize seeking out disclosures rather than treating everyone as though they may have experienced trauma.

Our review was not without limitations. First, our decision to articulate TVIC according to four principles (Ponic et al., 2016; Wathen & Varcoe, 2019), rather than, for example, the 10 proposed by Elliot et al. (2005) or the seven used by Bowen and Murshid (2016) for policy contexts, means that approaches using those conceptualizations might have different findings. However, a smaller set of principles does allow for more convergence around concepts, and less atomization, which may better help us understand important gaps in measurement. In addition, while our search was systematic and comprehensive, it was not exhaustive—some measures or articles citing measures could have been missed, especially with the more focused review-based search for measures of VT. Again, however, we selected the more efficient approach to answer this more specific research question.

The most pressing need for future research is the development of a TVIC measure that “does it all.” This could take the form of adapting and testing an already near-comprehensive measure with additional questions to fill gaps, as was the approach taken by Rodger et al. (2020), who used the education version of the ARTIC but added questions to assess the more structural aspects of trauma and violence experienced by children and youth to fill those gaps in assessing TVIC education with student teachers. Alternatively, a new measure could be developed, starting with theoretical underpinnings of trauma, structural and interpersonal violence, implicit bias, VT and organizational change (among others), and using an iterative and participatory approach to collecting empirical data. Such a process should incorporate the lived/living experience of all relevant actors, including service leaders, providers, and users, with an emphasis on capturing these experiences among samples diverse across various social locations and conditions, including race, gender, sexuality, geography, income, and ability status.

Conclusion

The primary motivation in conducting this review was pragmatic, that is, to find measures that would assist in assessing

interventions to implement TVIC, including a focus on both interpersonal and structural forms of violence. As evidence is generated indicating that educating professionals about TVIC (Wathen et al., 2021) and providing care in these ways (Purkey et al., 2020) can improve both provider and patient experiences and outcomes, it is important to understand how both organizations and researchers can evaluate these practices at both the individual and organizational levels. Overall, a range of high-quality measures exist, but none that completely cover the range of knowledge, attitudes, practices, and policies that reflect the structural competence required to safely recognize and respond to the historical and ongoing experiences of trauma and violence faced by most care seekers, and the intersection of various social locations on people’s experiences of receiving and providing care. Given increased attention to structural issues, from racism to poverty, and their impact on every aspect of people’s lives, it is increasingly obvious that we must not only implement interventions that approach TVIC from a structural stance, but also that we develop more nuanced and rigorous ways to assess these efforts.

Critical Findings

While a number of measures exist, there is significant diversity in what aspects of T(V)IC are assessed, with a clear emphasis on “knowledge” and “safety.”

The items and measures are roughly split with some focusing on individual-level knowledge, attitudes and practices, and others designed to assess organizational policies and protocols. Few measures examine structural factors such as poverty and racism, and none included in this review assessed implicit bias as a facet of T(V)IC.

Two VT measures dominate the assessment landscape in this area; both are well-used but each requires additional validation. Several T(V)IC measures explicitly include VT (or related concepts), but this is not uniform.

Implications for Practice, Policy, and Research

Organizations and systems implementing trauma- and violence-informed approaches to service delivery require robust ways to assess the success of these efforts, including impacts on staff and users of service.

Existing measures do not generally cover the full potential range of the core principles of what we have defined as TVIC, which takes a structural lens to both people’s past and ongoing experiences, and to the conditions of their lives.

Since no one measure assesses the core principles comprehensively, while at the same time attending at least to some extent to individual, organizational as well as structural factors, those seeking such a measure would need to adapt and/or combine two or more existing tools.


Declaration of Conflicting Interests


The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The study was funded in part by Nadine Wathen's Canada Research Chair.

ORCID iDs

C. Nadine Wathen  <https://orcid.org/0000-0003-2646-2919>

Jennifer C. D. MacGregor  <https://orcid.org/0000-0001-5908-9108>

Notes

1. We considered evaluating each tool using the COSMIN (Consensus-based Standards for the selection of health status Measurement INstruments) checklist. However, because articles were not required to have performed a formal validation process, we concluded it was not appropriate to hold papers to this standard.
2. Having items on these topics did not exclude the measure from consideration, but it could not solely measure these constructs.

References

- Aarons, G. A. (2005). Measuring provider attitudes toward evidence-based practice: Organizational context and individual differences. *Child and Adolescent Psychiatric Clinics of North America, 14*, 255–271. <https://doi.org/10.1016/j.chc.2004.04.008>
- Abdoh, N., Bernardi, E., & McCarthy, A. (2017). *Knowledge, attitudes, and practices of trauma-informed practice: A survey of health care professionals and support staff at Alexander Street Community* [Unpublished manuscript]. <http://hdl.handle.net/2429/60785>
- American Institutes for Research. (2016). Trauma-informed organizational capacity scale (TIC Scale): An agency-wide assessment [PDF file]. <https://www.air.org/sites/default/files/trauma-informed-organizational-capacity-scale.pdf>
- Baker, C. N., Brown, S. M., Wilcox, P. D., Overstreet, S., & Arora, P. (2016). Development and psychometric evaluation of the Attitudes Related to Trauma-Informed Care (ARTIC) Scale. *School Mental Health, 8*(1), 61–76. <http://doi.org/10.1007%2Fs12310-015-9161-0>
- Bassuk, E. L., Unick, G. J., Paquette, K., & Richard, M. K. (2017). Developing an instrument to measure organizational trauma-informed care in human services: The TICOMETER. *Psychology of Violence, 7*(1), 150–157. <https://psycnet.apa.org/doi/10.1037/vio0000030>
- Benjet, C., Bromet, E., Karam, E. G., Kessler, R. C., McLaughlin, K. A., Ruscio, A., Shahly, V., Stein, D. J., Petukhova, M., Hill, E., Alonso, J., Atwoli, L., Bunting, B., Bruffaerts, R., Caldas-de-Almeida, J. M., de Girolamo, G., Florescu, S., Gureje, O., Huang, Y., ... Koenen, K. C. (2016). The epidemiology of traumatic event exposure worldwide: Results from the world mental health survey consortium. *Psychological Medicine, 46*(2), 327–343. <http://doi.org/10.1017/S0033291715001981>
- Bowen, E. A., & Murshid, N. S. (2016). Trauma-informed social policy: A conceptual framework for policy analysis and advocacy. *American Journal of Public Health, 106*, 223–229. <http://doi.org/10.2105/AJPH.2015.302970>
- Bride, B. E., Robinson, M. M., Yegidis, B., & Figley, C. R. (2004). Development and validation of the secondary traumatic stress scale. *Research on Social Work Practice, 14*(1), 27–35. <https://doi.org/10.1177%2F1049731503254106>
- Chadwick Center for Children and Families. (2013). *Trauma-informed child welfare practice toolkit*. <https://ctisp.wordpress.com/trauma-informed-child-welfare-practice-toolkit/>
- Child Welfare Committee, National Child Traumatic Stress Network. (2008). *Child welfare trauma training toolkit: Comprehensive guide* (2nd ed.). National Center for Child Traumatic Stress.
- Clark, C., Young, M. S., Jackson, E., Graeber, C., Mazelis, R., Kammerer, N., & Huntington, N. (2008). Consumer perceptions of integrated trauma-informed services among women with co-occurring disorders. *The Journal of Behavioural Health Services & Research, 35*(1), 71–90. <https://doi.org/10.1007/s11414-007-9076-0>
- Connell, C. M., Lang, J. M., Zorba, B., & Stevens, K. (2019). Enhancing capacity for trauma-informed care in child welfare: Impact of a statewide systems change initiative. *American Journal of Community Psychology, 64*(3–4), 467–480. <https://doi.org/10.1002/ajcp.12375>
- Covington, S. S. (2008). Women and addiction: A trauma-informed approach. *Journal of Psychoactive Drugs, 40*(S5), 377–385. <https://doi.org/10.1080/02791072.2008.10400665>
- Daudt, H. M., van Mossel, C., & Scott, S. J. (2013). Enhancing the scoping study methodology: A large, inter-professional team's experience with Arksey and O'Malley's framework. *BMC Medical Research Methodology, 13*, 48. <https://doi.org/10.1186/1471-2288-13-48>
- Donisch, K., Bray, C., & Gewirtz, A. (2016). Child welfare, juvenile justice, mental health, and education providers' conceptualizations of trauma-informed practice. *Child Maltreatment, 21*(2), 125–134. <https://doi.org/10.1177%2F1077559516633304>
- Elliot, D. E., Bjelajac, P., Fallot, R. D., Markoff, L. S., & Reed, B. G. (2005). Trauma-informed or trauma-denied: Principles and implementation of trauma-informed services for women. *Journal of Community Psychology, 33*(4), 461–477. <https://doi.org/10.1002/jcop.20063>
- Fallot, R. D., & Harris, M. (2001). A trauma-informed approach to screening and assessment. *New Directions for Mental Health Services, 2001*(89), 23–31. <https://doi.org/10.1002/yd.23320018904>
- Figley, C. R. (1995). Compassion fatigue as secondary traumatic stress disorder: An overview. In C. R. Figley (Ed.), *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized* (pp. 1–20). Routledge.
- Figley, C. R., & Stamm, B. H. (1996). Psychometric review of compassion fatigue self test. In B. H. Stamm (Ed.), *Measurement of stress, trauma, and adaptation* (pp. 127–130). Sidran Press.
- Galbraith, J. R. (2002). Organizing to deliver solutions. *Organizational Dynamics, 31*, 194–207.
- Geoffrion, S., Lamothe, J., Morizot, J., & Giguère, C.-E. (2019). Construct validity of the professional quality of life (ProQoL) Scale in a sample of child protection workers. *Journal of Traumatic Stress, 32*(4), 566–576. <https://doi.org/10.1002/jts.22410>
- Gittel, J. H. (2006). Relational coordination: Coordinating work through relationships of shared goals, shared knowledge and

- mutual respect. In O. Kyriakidou & M. Ezbilgin (Eds.), *Relational perspectives in organizational studies: A research companion* (pp. 74–94). Edward Elgar Publishing Ltd.
- Goodman, L. A., Sullivan, C. M., Serrata, J., Perilla, J., Wilson, J. M., Fauci, J. E., & DiGiovanni, C. D. (2016). Development and validation of the trauma-informed practice scales. *Journal of Community Psychology, 44*(6), 747–764. <https://doi.org/10.1002/jcop.21799>
- Hallinan, S., Shiyko, M. P., Volpe, R., & Molnar, B. E. (2019). Reliability and validity of the vicarious trauma organizational readiness guide (VT-ORG). *American Journal of Community Psychology, 64*, 481–493. <https://doi.org/10.1002/ajcp.12395>
- Hanson, R. F., & Lang, J. (2016). A critical look at trauma-informed care among agencies and systems serving maltreated youth and their families. *Child Maltreatment, 21*(2), 95–100. <https://doi.org/10.1177/1077559516635274>
- Hemsworth, D., Baregheh, A., Aoun, S., & Kazanjian, A. (2018). A critical enquiry into the psychometric properties of the professional quality of life scale (ProQoL-5) instrument. *Applied Nursing Research, 39*, 81–88. <https://doi.org/10.1016/j.apnr.2017.09.006>
- Hendricks, A., Conradi, L., & Wilson, C. (2011). *The trauma system readiness tool*. Chadwick Center for Children and Families.
- Heritage, B., Rees, C. S., & Hegney, D. G. (2018). The ProQOL-21: A revised version of the professional quality of life (ProQOL) scale based on Rasch analysis. *PLoS One, 13*(2), e0193478. <https://doi.org/10.1371/journal.pone.0193478>
- Hopper, E. K., Bassuk, E. L., & Oliver, J. (2010). Shelter from the storm: Trauma-informed care in homelessness services settings. *Open Health Services and Policy Journal, 3*, 80–100. <http://doi.org/10.2174/1874924001003010080>
- Jacobs, I., Charmillot, M., Martin Soelch, C., & Horsch, A. (2019). Validity, reliability, and factor structure of the secondary traumatic stress scale-French version. *Frontiers in Psychiatry, 10*, 191. <https://doi.org/10.3389/fpsy.2019.00191>
- Keesler, J. M., & Fukui, S. (2020). Factor structure of the professional quality of life scale among direct support professionals: Factorial validity and scale reliability. *Journal of Intellectual Disability Research, 64*(9), 681–689. <https://doi.org/10.1111/jir.12766>
- King, S., Kuan-Lang, D. C., & Chokshi, B. (2019). Becoming trauma informed: Validating a tool to assess health professional's knowledge, attitude, and practice. *Pediatric Quality and Safety, 4*(5), e215. <https://doi.org/10.1097%2Fpq9.0000000000000215>
- Lang, J. M., Campbell, K., Shanley, P., Crusto, C. A., & Connell, C. M. (2016). Building capacity for trauma-informed care in the child welfare system: Initial results of a statewide implementation. *Child Maltreatment, 21*(2), 113–124. <https://doi.org/10.1177%2F1077559516635273>
- Lee, Y.-Y., & Lin, J. L. (2010). Do patient autonomy preferences matter? Linking patient-centered care to patient-physician relationships and health outcomes. *Social Science & Medicine, 71*(10), 1811–1818. <https://doi.org/10.1016/j.socscimed.2010.08.008>
- Madden, E. E., Scannapieco, M., Killian, M. O., & Adorno, G. (2017). Exploratory factor analysis and reliability of the child welfare trauma-informed individual assessment tool. *Journal of Public Child Welfare, 11*(1), 58–72. <https://doi.org/10.1080/15548732.2016.1231653>
- Mersky, J. P., Topitzes, J., & Britz, L. (2019). Promoting evidence-based, trauma-informed social work practice. *Journal of Social Work Education, 55*(4), 645–657. <https://doi.org/10.1080/10437797.2019.1627261>
- Mokkink, L. B., Terwee, C. B., Patrick, D. L., Alonso, J., Stratford, P. W., Knol, D. L., Bouter, L. M., & de Vet, H. C. (2010). The COSMIN study reached international consensus on taxonomy, terminology, and definitions of measurement properties for health-related patient-reported outcomes. *Journal of Clinical Epidemiology, 63*(7), 737–745. <https://doi.org/10.1016/j.jclinepi.2010.02.006>
- National Child Traumatic Stress Network. (2008). *Essential elements of trauma-informed child welfare practice*. National Center for Child Traumatic Stress.
- Niimura, J., Nakanishi, M., Okumura, Y., Kawano, M., & Nishida, A. (2019). Effectiveness of 1-day trauma-informed care training programme on attitudes in psychiatric hospitals: A pre-post study. *International Journal of Mental Health Nursing, 28*, 980–988. <https://doi.org/10.1111/inm.12603>
- Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan—A web and mobile app for systematic reviews. *Systematic Reviews, 5*, 210. <https://doi.org/10.1186/s13643-016-0384-4>
- Peters, M. D. J., Godfrey, C. M., Khalil, H., McInerney, P., Parker, D., & Soares, C. B. (2015). Guidance for conducting systematic scoping reviews. *International Journal of Evidence-Based Healthcare, 13*(3), 141–146. <https://doi.org/10.1097/xe.0000000000000050>
- Ponic, P., Varcoe, C., & Smutylo, T. (2016). Trauma- (and violence-) informed approaches to supporting victims of violence: Policy and practice considerations. *Victims of Crime Research Digest, 9*(9). <https://www.justice.gc.ca/eng/rp-pr/cj-jp/victim/rd9-rr9/p2.html>
- ProQoL.org. (2019). The ProQoL Measure in English and Non-English translations. https://proqol.org/ProQol_Test.html
- Purkey, E., Davison, C., MacKenzie, M., Beckett, T., Korpala, D., Soucie, K., & Bartels, S. (2020). Experience of emergency department use among persons with a history of adverse childhood experiences. *BMC Health Services Research, 20*(1), 455. <https://doi.org/10.1186/s12913-020-05291-6>
- Rathert, C., Wyrwich, M. D., & Boren, S. A. (2013). Patient-centered care and outcomes: A systematic review of the literature. *Medical Care Research and Review, 70*(4), 351–379. <https://doi.org/10.1177/1077558712465774>
- Rauvola, R. S., Vega, D. M., & Lavigne, K. N. (2019). Compassion fatigue, secondary traumatic stress, and vicarious traumatization: A qualitative review and research agenda. *Occupational Health Science, 3*, 297–336. <https://doi.org/10.1007/s41542-019-00045-1>
- Richardson, M. M., Coryn, C. L. S., Henry, J., Black-Pond, C., & Unrau, Y. (2010). *Trauma informed system change instrument (TISCI)* (2nd Ed.). Southwest Michigan Children's Trauma Assessment Centre.
- Richardson, M. M., Coryn, C. L. S., Henry, J., Black-Pond, C., & Unrau, Y. (2012). Development and evaluation of the trauma-informed system change instrument: Factorial validity and implications for use. *Child and Adolescent Social Work Journal, 29*(3), 167–184. <https://doi.org/10.1007/s10560-012-0259-z>

- Rodger, S., Bird, R., Hibbert, K., Johnson, A., Specht, J., & Wathen, N. (2020). Preparing teachers to teach all students: Initial teacher education and trauma and violence informed care in the classroom. *Psychology in the Schools, 57*(2), 1798–1814. <http://doi.org/10.1002/pits.22373>
- Salloum, A., Choi, M. J., & Stover, C. (2018). Development of a trauma-informed self-care measure with child welfare workers. *Children and Youth Services Review, 93*, 108–116. <https://doi.org/10.1016/j.chilyouth.2018.07.008>
- Salloum, A., Kondrat, D. C., Johnco, C., & Olson, K. R. (2015). The role of self-care on compassion satisfaction, burnout and secondary trauma among child welfare workers. *Children and Youth Services Review, 49*, 54–61. <https://doi.org/10.1016/j.chilyouth.2014.12.023>
- Setti, I., & Argentero, P. (2012). Vicarious trauma: A contribution to the Italian adaptation of the Secondary Traumatic Stress Scale in a sample of ambulance operators. *Giunti Organizzazioni Speciali, 264*(59), 58–64.
- Sinclair, S., Raffin-Bouchal, S., Venturato, L., Mijovic-Kondejewski, J., & Smith-MacDonald, L. (2017). Compassion fatigue: A meta-narrative review of the healthcare literature. *International Journal of Nursing Studies, 69*, 9–24. <https://doi.org/10.1016/j.ijnurstu.2017.01.003>
- Sprang, G., Ross, L., Miller, B. C., Blackshear, K., & Ascienzo, S. (2016). Psychometric properties of the secondary traumatic stress-informed organizational assessment. *Traumatology, 23*(2), 165–171. <http://doi.org/10.1037/trm0000108>
- Stamm, B. H. (2002). Measuring compassion satisfaction as well as fatigue: Developmental history of the Compassion Satisfaction and Fatigue Test. In C. R. Figley (Ed.), *Treating compassion fatigue* (pp. 107–119). Brunner-Routledge.
- Stamm, B. H. (2005). The ProQOL manual [PDF file]. <http://compassionfatigue.org/pages/ProQOLManualOct05.pdf>
- Stamm, B. H. (2009). Professional quality of life: Compassion satisfaction and fatigue version 5 (ProQOL) [PDF file]. https://proqol.org/uploads/ProQOL_5_English.pdf
- Stamm, B. H. (2010). The concise ProQOL manual [PDF file]. <https://proqol.org/uploads/ProQOLManual.pdf>
- Strand, V., Popescu, M., Abramovitz, R., & Richards, S. (2016). Building agency capacity for trauma-informed evidence-based practice and field instruction. *Journal of Evidence-Informed Social Work, 13*(2), 179–197. <https://doi.org/10.1080/23761407.2015.1014124>
- Substance Abuse and Mental Health Services Administration. (2014). SAMHSA'S concept of trauma and guidance for a trauma-informed approach. *SAMHSA*. <https://store.samhsa.gov/product/SAMHSA-s-Concept-of-Trauma-and-Guidance-for-a-Trauma-Informed-Approach/SMA14-4884.html>
- Sukhera, J., & Watling, C. (2018). A framework for integrating implicit bias recognition into health professions education. *Academic Medicine, 93*(1), 35–40. <https://doi.org/10.1097/ACM.0000000000001819>
- Sundborg, S. A. (2019). Knowledge, principal support, self-efficacy, and beliefs predict commitment to trauma-informed care. *Psychological Trauma: Theory, Research, Practice and Policy, 11*(2), 224–231. <https://psycnet.apa.org/doi/10.1037/tra0000411>
- Terwee, C. B., Jansma, E. P., Riphagen, I. I., & de Vet, H. C. W. (2009). Development of a methodological PubMed search filter for finding studies on measurement properties of measurement instruments. *Quality of Life Research, 18*(8), 1115–1123. <https://doi.org/10.1007/s11136-009-9528-5>
- THRIVE. (2011). System of care trauma-informed agency assessment (TIAA) overview [PDF file]. <https://www.hca.wa.gov/assets/program/trauma-informed-self-assessment-tiaa.pdf>
- Thrive Initiative. (2011a). System of care trauma-informed agency assessment [PDF file]. <https://www.maine.gov/dhhs/ocfs/cbhs/webinars/documents/SOC-TIAA-Agency.pdf>
- Thrive Initiative. (2011b). System of care trauma-informed agency assessment: Family version [PDF file]. <https://www.maine.gov/dhhs/ocfs/cbhs/webinars/documents/SOC-TIAA-Family.pdf>
- Thrive Initiative. (2011c). System of care trauma-informed agency assessment: Youth version [PDF file]. <https://www.maine.gov/dhhs/ocfs/cbhs/webinars/documents/SOC-TIAA-Youth.pdf>
- van Ameringen, M., Mancini, C., Patterson, B., & Boyle, M. H. (2008). Post-traumatic stress disorder in Canada. *CNS Neuroscience & Therapeutics, 14*, 171–181. <https://doi.org/10.1111/j.1755-5949.2008.00049.x>
- van der Kolk, B. A., McFarlane, A. C., & Weisaeth, L. (Eds.). (1996). *Traumatic stress: The effects of overwhelming experience on mind, body, and society*. Guilford Press.
- Wathen, C. N., MacGregor, J. C. D., & Beyrem, S. (2021). Impacts of trauma- and violence-informed care education: A mixed method follow-up evaluation with health & social service professionals. *Public Health Nursing*. <https://onlinelibrary.wiley.com/doi/abs/10.1111/phn.12883>
- Wathen, C. N., & Varcoe, C. (2019). Trauma- & violence-informed care: Prioritizing safety for survivors of gender-based violence [PDF file]. https://gtvincubator.uwo.ca/wp-content/uploads/sites/22/2020/05/TVIC_Background_Fall2019r.pdf

Author Biographies

C. Nadine Wathen, PhD, is a full professor and Canada Research Chair in mobilizing knowledge on gender-based violence. She works in the Arthur Labatt Family School of Nursing at Western University and is a research scholar at Western's Centre for Research and Education on Violence Against Women and Children. She is a member of the College of the Royal Society of Canada. Her research examines the health and social service sector response to gender-based violence, interventions to reduce health inequities, and the science of knowledge mobilization, with a focus on partnerships to enhance the use of research in policy and practice. She has led a number of federally funded research initiatives and international research and knowledge mobilization networks.

Brenna Schmitt, HBSoc, is a recent graduate of the University of Toronto, where she studied Human Biology and Health Studies. She works as a research assistant for the Arthur Labatt Family School of Nursing at Western University. She also works as a research assistant for the Mental Health Nursing Research Alliance at Lawson Health Research Institute. Her research interests include gender-based and reproductive health service disparities, food justice, and equity-oriented health policy solutions.

Jen C. D. MacGregor, PhD, is a senior research associate in the Arthur Labatt Family School of Nursing at Western University and Community Research Associate at Western's Centre for Research and Education on Violence Against Women and Children. She is a member of the Domestic Violence at Work Network and was a lead

researcher on the first Canadian national study on the impacts of domestic violence on the workplace. Her current projects focus on domestic violence in the Canadian media, the evaluation of trauma- and violence-informed care training initiatives, and the impacts of the COVID-19 pandemic on domestic violence shelter services.