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Trauma-Informed Primary Care Education in a Military Heath Care Clinic

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Abstract

Background: Military service members and their families are a unique population that faces stressors at an increased rate in a distinctive environment. Trauma-informed primary care provides a holistic, person-centered approach to health care that acknowledges past trauma universally. Practitioners who specialize in trauma-informed care promote health, healing, and recovery from trauma and its effect on diseases and disorders.

Purpose: The purpose of this project is to educate clinic staff about trauma-informed primary care and to provide licensed independent providers universal client educational materials about the effects of trauma on health.

Methods: Pre- and post-intervention surveys were used to evaluate affinity for and understanding of trauma-informed primary care. The intervention was comprised of two educational videos. Next, the providers were given universal client education sheets for their clients. A third survey was sent to the providers that included a self-reported rate of distribution.

Results: Fifteen clinic staff members participated in the educational intervention. Staff reported improved affinity for trauma-informed primary care, with a mean practice improvement of 3.64 ($p < .001$). The providers continued to improve their affinity for trauma-informed primary care. However, they did not significantly increase their use of the universal client education sheet.

Conclusion: Educating staff about trauma-informed primary care increases affinity for this type of approach. However, it did not increase the providers use of a universal client education sheet. In this project, this may be a significant change in practice that needs to evolve over more time with greater affinity for trauma-informed primary care.

***Keywords**: Trauma-informed care, primary care, military, trauma, stress.*

Trauma-Informed Primary Care for Youth in Foster Care

Introduction

Military service members, retirees, and their families are a unique population that faces stressors at an increased rate in a distinctive environment (Institute of Medicine [IOM], 2014). Military families have to cope with frequent moves, often far from extended family, have the service member leaving and returning due to training events and deployments, and endure the physical and psychological sequelae of these events. This lifestyle of trauma presents a need for care. Trauma results in high economic costs. In 2013, intimate partner violence (IPV) cost over $8.3 billion (U.S. Department of Veterans Affairs [VA], 2013). In 2010, the latest available data, emergency care and hospitalizations due to nonfatal traumatic injuries cost approximately $4 billion (Centers for Disease Control and Prevention [CDC], 2014). Trauma-informed primary care (TIPC) is a literature supported holistic, person-centered universal approach to primary care to address past trauma. TIPC acknowledges the prevalence of trauma and the impact of trauma on health. TIPC practitioners promote health, healing, and recovery from trauma and its effect on diseases and disorders (Esden, 2018; Machtinger, et al., 2015; Roberts, et. al., 2019; Trauma-Informed Care Implementation Resource Center, 2019b; Trauma-Informed Care Implementation Resource Center, 2020). Currently, the staff of the military treatment facility where this project took place were not educated in TIPC. This represents a gap in practice that is addressed through this educational intervention project.

Background

Trauma-informed care (TIC) is a literature supported holistic, person-centered approach to care by addressing past trauma universally. Trauma may include environmental disasters,

conflicts and wars, and/or abuse and neglect (Esden, 2018; McCance & Huether, 2014; Roberts, et. al., 2019; Trauma-Informed Care Implementation Resource Center, 2019b; Trauma-Informed Care Implementation Resource Center, 2020). Given the prevalence of trauma and to lessen the chance of re-traumatization, the TIC perspective assumes an individual has experienced a trauma, thus taking a universal approach (Stokes, et al., 2017). It aims to promote health, healing, and recovery from trauma and its effect on diseases and disorders (Esden, 2018; Machtinger, et al, 2015; McCance & Huether, 2014; Roberts, et. al., 2019; Trauma-Informed Care Implementation Resource Center, 2019b; Trauma-Informed Care Implementation Resource Center, 2020). Four components define TIC. They are realization, recognition, response, and resisting re-traumatization (SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2019b).

Trauma-informed primary care is a form of TIC adapted for the primary care setting (Esden, 2018; Machtinger, et al, 2015; Roberts, et. al., 2019). Many models of TIPC depict core principles. However, three established national organizations, the Substance Abuse and Mental Health Services Administration (SAMHSA), the National Council for Behavioral Health, and the Trauma-informed Care Implementation Resource Center, sponsored by the Center for Health Care Strategies and the Robert Wood Johnson Foundation, have put forth six principles. The six principles are as follows: emotional and physical safety, trustworthiness/transparency, peer support, collaboration, empowerment, and humility (National Council for Behavioral Health, 2019; SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2019b).

Military service members, retirees, and their family members receive health care through the federal government via Tricare. Tricare is the health care plan under the Defense Health

Agency (DHA) that provides health insurance to service members and their family members (Tricare, 2018). In 2018, there were over 1.3 million active duty Department of Defense (DoD) and Coast Guard service members. Also, in 2018, there were nearly 1.6 million family members (DoD, 2018a). In total, Tricare provides health care coverage for nearly 9.5 million persons. This includes active duty service members, National Guard and Reserve service members, military retirees, their families, and their survivors (Military Health System, n.d.).

The military population endures stressors at a higher rate in a unique environment compared to the general U.S. population (IOM, 2014). Trauma in the military varies greatly. While data about deployment and movement rates are not available to the public, military families have frequent moves often far from extended family, have the service member leaving and returning due to training events and deployments, and endure the physical and psychological sequelae of these events (IOM, 2014).

The type of trauma has specific economic costs. Trauma may result from injuries, adverse childhood experiences (ACEs), and IPV. Regarding injuries, in 2010, the latest available data, emergency care and hospitalizations for nonfatal traumatic injuries cost approximately $4 billion in the U.S. (CDC, 2014). Those with a history of trauma often experience multiple traumas (Fischer, et al., 2019), which costs the military health care system overall. In 2018, 18,949 cases of traumatic brain injury (TBI) occurred in DoD service members (Defense and Veterans Brain Injury Center [DVBIC], 2019). TBI is considered the hallmark injury of recent conflicts. The cost of care for the sequelae for one person's TBI ranges from $9,000 to $103,667 (Dismuke, et al., 2015).

Adverse childhood experiences are traumatic events during childhood. ACEs include

maltreatment, witnessing violence, death of a family member, and food and housing insecurity (CDC, 2020). As a form of ACEs, substantiated childhood maltreatment in the U.S. costs $428 billion per person, based on 2015 data, the latest available (Peterson, et al., 2018). This is an update of the CDC's 2010-estimated cost of $124 billion (CDC, 2018; Peterson, et al., 2018). A history of ACEs is significantly associated with diseases and disorders, including mental health issues, immune dysfunction, endocrine disorders, cardiovascular disease, and pulmonary disease. ACEs impact health directly and indirectly. Directly, the stress from ACEs leads to altered pathophysiology, such as reproductive disorders. Indirectly, ACEs can lead to unhealthy coping mechanisms, such as over-eating and smoking that lead to disease (Esden, 2018; Machtinger, et al, 2015; McCance & Huether, 2014; Roberts, et. al., 2019; Trauma-Informed Care Implementation Resource Center, 2019b).

According to the Agency for Healthcare Research and Quality (AHRQ; AHRQ, 2014), those with four or more ACEs have a 4.6-time increased risk for depression, a twelve-time increased risk for suicide attempts, and a ten-time increased risk for substance abuse. Also, they have twice the risk for cancer and heart disease, four times the risk for lung disease, and 2.5 times increased risk for contracting a sexually transmitted disease (AHRQ, 2014). This demonstrates the disease burden and subsequent health care costs (Peterson, et al., 2018).

Despite many support systems, the military has significant rates of IPV. In 2013, IPV cost the military over $8.3 billion (VA, 2013). The rate of reported IPV was 24.5 per 1,000 couples in fiscal year 2017. Removing duplication of couples reporting IPV reduces the rate to 9.1 per 1,000 couples. Of these, the victim demographics included 64% female, 36% male, 53% service members, and 47% civilian spouses (DoD, 2018b). This demonstrates the diverse impact of IPV

in the military.

In sum, despite many support programs at no cost, military service members, retirees, and their family members have histories of trauma that lead to disease and disorders and their subsequent high health care costs. As part of the general population, the risk for ACEs and injury are high. Moreover, this specific population has greater risk for TBI injuries, IPV, and psychosocial distress from service member moves, training events, and deployments. Educating health care staff about TIPC will address this need addressing the current gap in practice.

Problem Statement

The risk of traumatic experiences, including training and deployment events, injuries, ACEs, and IPV, among military service members, military retirees, and their family members is indicated by higher rates of traumatic events compared to the civilian population and leads to poor health outcomes, such as high rates of health care utilization and mental health issues, and results from health care staff not trained in TIPC. The purpose of this project is to educate clinic staff about TIPC and to increase universal client awareness and education about the effects of trauma on health.

Organizational "Gap" Analysis of Project Site

The community of interest is the health care staff of a primary care clinic in a military treatment facility. This clinic serves all military branches including the Coast Guard, retirees from all branches, and their family members. Current practice does not include a TIPC approach to providing care. This clinic has components of TIPC but does not connect them through a holistic TIPC approach. Currently, all adult clients are routinely screened for post-traumatic stress symptoms. However, this screening is not used to inform staff for TIPC. The clinic has a

person-centered approach to client health care. The clinic has embedded mental-behavioral health and has community outreach programs available. Foremost, not all staff members are proficient in the understanding and practice of providing a TIPC approach to client care. While the clinic has many elements of TIPC, clinic staff does not use a TIPC lens to client care. These videos provide the TIPC education to promote staff to change their lens from asking clients "what's wrong with you" to "what happened to you." Staff education about TIPC is the initial step.

Review of the Literature

Two searches were completed for this review of the literature on July 1, 2020. The first search was completed through the Cumulative Index of Nursing and Allied Health Literature (CINAHL), the Education Resource Information Center (ERIC), PsychINFO, Social Sciences Abstracts databases combined. The second search was completed through the PubMed database.

To capture as many publications related to TIPC, the search terms were "'trauma informed' AND primary care." "Trauma informed" was chosen based on past literature searches. Often a specific type of care is placed before the word "care" in TIC, such as trauma-informed health care. As such, this expanded the search to capture all ways that authors may describe a TIPC approach. The medical subject heading (MeSH) term is "primary health care." However, "primary health care" was not a specific phrase searched. Also, placing primary care in quotes was not done. This was decided to capture both variations of language. The boolean code AND was chosen to limit this search to trauma-informed primary care.

The inclusion criteria were peer-reviewed articles for adult populations in a U.S. primary care setting that were published between 2015 and 2020 in a peer-review journal. The exclusion

criteria include articles published before 2015, the setting not being primary care, not related to TIPC, pediatric and adolescent populations, and non-U.S. countries. Also, excluded were textbooks, dissertations, and newsletters.

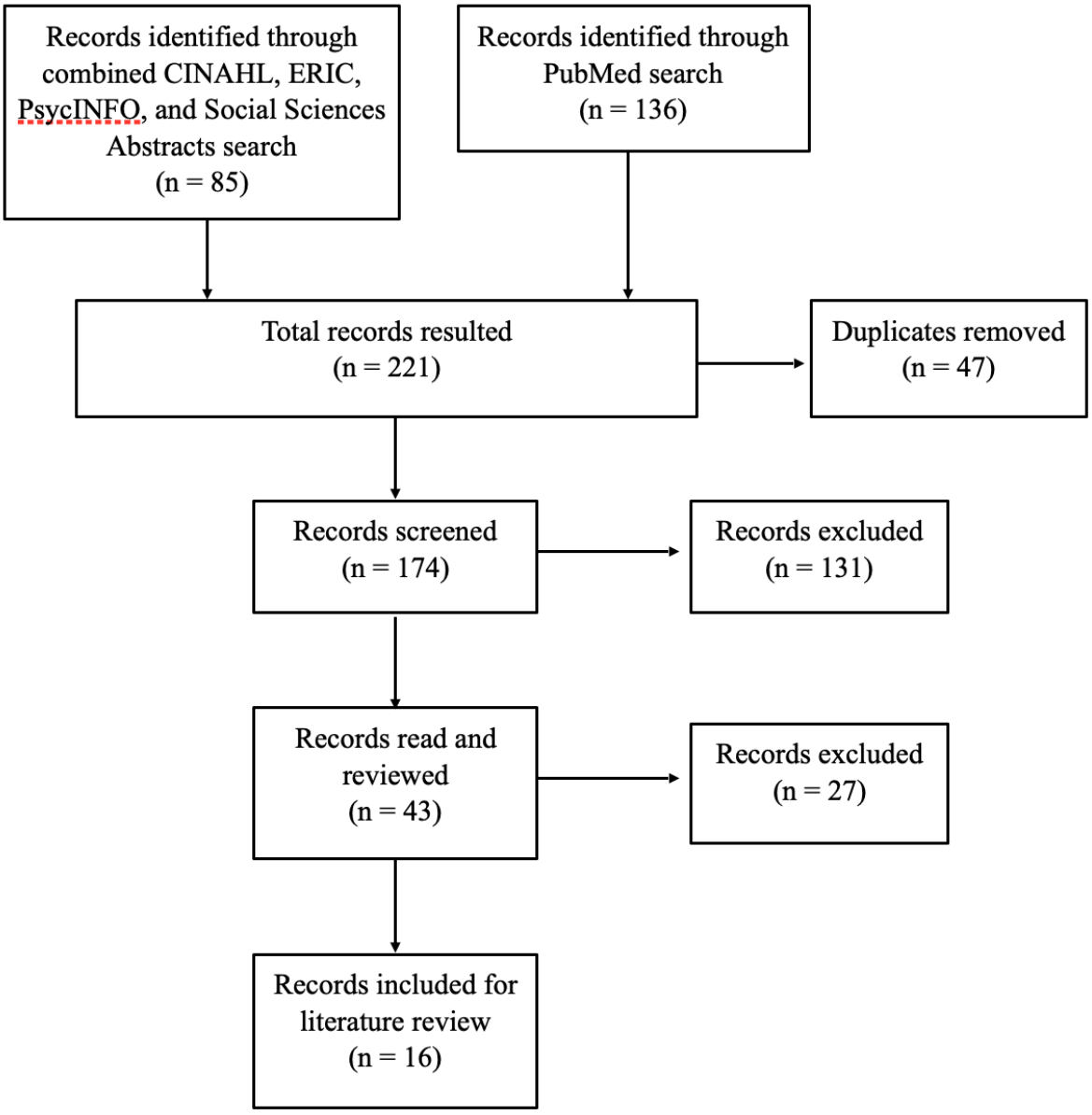
The combined CINAHL, ERIC, PsycINFO, and Social Sciences Abstracts and the PubMed search yielded 174 results (See Figure 1). These were screened for this literature review. Of the screened articles, 131 were excluded and 43 were read and reviewed. Of the 43 articles read, sixteen were deemed appropriate for this literature review based on evidence level and quality rating (Hutton, et al., 2015). Of the sixteen selected studies, one is an experimental method design (Gawande, et al., 2019;) and three were pre- and post-intervention evaluations (Green, et al., 2016; Osofsky, et al., 2017; Shamaskin-Garroway, et al., 2020). Five were observational studies (Dichter, et al., 2018; Finnegan, et al., 2018; Mancini & Farina, 2019; Piper, et al., 2020; Young-Wolff, et al., 2019). One article was a systematic literature review (Bryan, 2019). One article used a qualitative approach (Levine, et al., 2020). Five articles were written by high quality experts who developed a TIPC model that demonstrates the connection between trauma and poor health outcomes (Barnes & Andrews, 2019; Lewis, et al. 2019; Machtinger, et al., 2015; Mahoney, et al., 2017; Raja, et al., 2015).

The Johns Hopkins Nursing Evidence-Based Practice was used to grade the evidence levels and the quality ratings (see Appendix A). Regarding the evidence levels, Levels I through V, are based on type of study and rigor of scientific evidence. Then, the quality ratings are determined as either A, high; B, good; or C, low/major flaw (Dang & Dearholt, 2017). Two articles were graded as level II evidence levels with A (Osofsky, 2017) and B (Green et al., 2016) quality. Nine articles were graded level III with A (Bryan, 2019; Dichter, et al., 2018; Mancini &

Farina, 2019; Piper, et al., 2020; Young-Wolff, et al., 2019) and B (Finnegan, et al., 2018; Gawande, et al., 2019; Levine et al., 2020; Shamaskin-Garroway, et al., 2020) quality. Five articles were graded as level V with A quality (Barnes & Andrews, 2019; Lewis, et al. 2019; Machtinger, et al., 2015; Mahoney, et al., 2017; Raja, et al., 2015).

Figure 1

Flow Diagram for Literature Review



Little research has been published that demonstrates improved health outcomes associated with TIPC. Authors postulate that trauma negatively impacts health and TIPC addresses trauma. As such, they advocated for a TIPC approach describing the potential of TIPC. A knowledge gap exists that demonstrates TIPC improves health outcomes, which the Trauma-Informed Care Implementation Resource Center acknowledges (Germán, et al., 2020). However, two author groups did demonstrate improved health outcomes associated with TIPC (Gawande, et al., 2019; Osofsky, et al., 2017). Gawande, et al. (2019) demonstrated improved mental health screening scores after implementing an eight-week mindfulness-based program to clients. Osofsky, et al. (2017) demonstrated decreased post-traumatic stress symptoms and decreased physical health concerns after integrating mental-behavioral health care into primary care clinics with a TIPC approach.

Themes

All of the literature supported using TIPC to address trauma and included multiple principles of TIPC (National Council for Behavioral Health, 2019; SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2019b). No author or group of authors provided dissenting information with respect to this approach. Among the disciplines of nursing, social work, medicine, and psychology, the authors consistently defined TIPC. TIPC implements TIC into the primary care setting, where TIC is a universal approach to health care that acknowledges the high prevalence of trauma and its health effects by promoting safety and resilience. Generally, the authors all emphasized TIPC shifts to an understanding that trauma has significant health effects. Elements of TIPC alone are not effective. A universal, holistic approach is needed

in TIPC. Specifically, the literature supports the four components of the TIC definition. They are realization, recognition, response, and resisting re-traumatization (National Council for Behavioral Health, 2019; SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2019b).

Realization

As a universal approach to care, TIPC realizes the high prevalence of trauma and trauma's effects on health. Trauma happens among all populations including both clients and staff. TIPC also realizes that healing from trauma is possible. Education is the mechanism for realization (SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2020).

This was demonstrated by several author groups. Barnes and Andrews (2019) and Machtinger et al. (2015) emphasized the importance of TIPC education for all staff while several authors focused on provider TIPC education. Green et al. (2016) focused TIPC education to primary care physicians may be associated with improved communication between clients and providers. Dichter et al. (2018) identified that despite the importance of TIPC, TIPC was not incorporated into family medicine residency programs. Shamaskin-Garroway, et al. (2020) developed a TIPC curriculum for medical and nurse practitioner residents that significantly improved knowledge, attitude, and practice after the TIPC education. Finnegan, et al. (2018) found that TIPC improved primary care provider comfort in assessing suicidality and trauma among clients.

TIPC education is needed to provide TIPC. Piper, et al. (2020) identified the need for providers to be trained in TIPC in order to address needs of clients with trauma histories. They described how having providers not trained in TIPC leads to reduced TIPC approaches to care

including client education, safety and crisis plans, and other support opportunities. They demonstrated how clients are not connected to available existing trauma services clients in the absence of TIPC.

Recognition

With TIPC, one can recognize the signs and symptoms of trauma in clients and among staff members (SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2020). Trauma screening and assessment aids in trauma recognition (SAMHSA, 2014). Raja, et al. (2015) discussed the importance of TIPC universal screening related to identifying trauma and its effects on health. TIPC has the potential to improve client satisfaction with care, improve health outcomes, and reduce health care costs. Barnes and Andrews (2019) discussed the importance of primary care in recognizing post-traumatic stress symptoms and post-traumatic stress disorder (PTSD).

They described primary care as a "gateway" (Barnes & Andrews, 2019, p. 601) for healing and recovery from ACEs (Barnes & Andrews, 2019), where universal screening for post-traumatic symptoms in primary care can identify those who may benefit from mental-behavioral health services. They also described how fewer stigmas are associated with seeking primary care. As such, clients seek care more frequently in primary care for physical concerns when trauma may be contributing. This positions primary care ideally to screen universally for trauma. Machtinger et al. (2015) emphasized that universal screening is critical due to the prevalence of trauma but also in that it reduces stigma associated with trauma. This stigma may derive from the trauma itself, such as IPV, or from resulting mental-behavioral health issues, such as depression, suicidality, and PTSD.

Beyond screening, Bryan (2019) emphasized the shift in perspective when providers recognize the impact of trauma on health. She described how the TIPC perspective acknowledges the prevalence and effects of trauma on health. The TIPC approach considers what has happened when a disorder has occurred, such as insomnia or obesity, to understand if trauma occurred and needs to be addressed. She highlighted that health risk behaviors may be a coping mechanism related to a past trauma, such as smoking or drinking alcohol. As such, the TIPC approach allows for openness to clients' trauma histories and how this may be impacting their health.

Response

Trauma-informed primary care is a response to trauma and its effects on health that integrates TIPC knowledge into practice at the clinical level, and policies and procedures at the organizational level (SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2020). Because clients interact with all clinical staff members, a TIPC response includes all staff. The TIPC response includes TIPC education, financial support, and leadership support that addresses the six key principles of TIC: safety, trustworthiness and transparency, peer support, collaboration and mutuality, empowerment, and humility (SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2020).

Several authors demonstrated increased knowledge of TIPC and comfort level in managing trauma after TIPC education and that TIPC education is the initial step to implementing TIPC. Barnes and Andrews (2019) and Machtinger et al. (2015) discussed the importance of TIPC training for all staff members. All staff interact with clients. As such, they all should be educated in TIPC. Green et al. (2016) demonstrated that a six-hour continuing medical

education (CME) TIPC course for primary care physicians improved mutuality and collaboration. Levine, et al. (2020) demonstrated increased TIPC knowledge, awareness, and confidence after a comprehensive all-staff multi-disciplinary educational series.

Other authors demonstrated that clients could improve their health after trauma with TIPC. Machtinger et al. (2015) emphasized how once a client feels safe in disclosing their trauma history, this experience in itself may be therapeutic and a beginning to healing and recovery. Young-Wolf, et al. (2019) demonstrated that TIPC for persons with HIV are associated with improved anxiety and mental health quality of life.

Safety. TIPC addresses physical and psychological safety. This includes the environment from the parking lot to the lobby and to hallways and client care rooms. Also, this includes safe interpersonal interactions among clients and clinic staff (The National Council for Behavioral Health, 2019; SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2020). Barnes and Andrews (2019) discussed the importance of safety in TIPC. Safety is essential for therapeutic relationships that can begin healing and recovery. Without safety, a client is not in a position to be receptive to healing and recovery. Machtinger, et al. (2015) also emphasized this.

Trustworthiness and Transparency. Clinical and organizational policy, practices, and procedures are transparent and aim to develop trust among clients and staff (The National Council for Behavioral Health, 2019; SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2020). Mahoney et al. (2017) emphasized how shared decision-making promotes trustworthiness and transparency among staff and in the provider-client relationship. Lewis et al. (2019) developed a TIPC model that aims to increase trustworthiness and

transparency in clients who reported betrayal by previous health care providers. In this model, trustworthiness and transparency contribute to healing and recovery from the trauma.

Peer Support. Although several organizations note that peer support encourages healing and recovery through relationships with others who have similar lived experiences (The National Council for Behavioral Health, 2019; SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2020), nothing in the literature review addressed this TIPC principle.

Collaboration and Mutuality. Collaboration and mutuality aim to promote teamwork and address power imbalances among varying clients and staff positions. All staff members have the potential to interact with each other and among clients. As such, all staff positions from security, housekeeping, and clerks to nursing staff and providers play vital roles in TIPC. Also, the provider-client relationship is rooted in shared decision-making (The National Council for Behavioral Health, 2019; SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2020).

Collaboration and mutuality are manifested in several ways, including embedding mental-behavioral health into primary care settings, multi-disciplinary staff TIPC education, and addressing power imbalances among staff members and in the provider-client relationship. Barnes and Andrews (2019) highlighted collaborative primary care that includes mental-behavioral health embedded into primary care clinics because clients more often seek primary care. Osofsky et al. (2017) demonstrated that their TIPC approach that integrated mental-behavioral health services had significantly decreased physical concerns and improved depressive and post-traumatic symptoms in their study.

Raja et al. (2015) focused on how multi-disciplinary collaboration among care providers supports TIPC and is necessary for improved client care. Other researchers included multi-disciplinary education programs. Shamaskin-Garroway, et al. (2020) created a TIPC curriculum for a residency program of physician and nurse practitioner residents. Levine, et al. (2020) and Mahoney, et al. (2017) developed multi-disciplinary education about TIPC for all staff members of a clinic.

Mahoney, et al. (2017) further emphasized the importance of shared decision-making in their training that addressed power imbalances to improve client care. Machtinger et al. (2015) advocated that addressing power imbalances among staff roles and in the provider-client relationship is important for healing and recovery. They further emphasize the importance of a multi-disciplinary approach to primary care that includes mental-behavioral health.

Empowerment. Empowerment includes both the voice and choice of clients. This is accomplished through person-centered care. This also addresses power imbalances by promoting the autonomy of the client and emphasizing client education (The National Council for Behavioral Health, 2019; SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2020). Gawande et al. (2019) developed a TIPC mindfulness training program for the primary care setting that improved anxiety symptoms, enhanced mindfulness, improved self-compassion, and improved self-management behavior compared to a standard mindfulness program. Raja, et al. (2015) and Mahoney, et al. (2017) emphasized TIPC is person-centered care for improved client care. Mahoney et al. (2017) further emphasized that autonomy and client education are necessary to guide shared decision-making, another element of TIPC.

Humility. Humility includes cultural, historical, and gender issues. TIPC promotes diversity, equity, and inclusion through policy, practice, and procedures. TIPC addresses the needs of the clinic's population (The National Council for Behavioral Health, 2019; SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2020). Elements of humility ranged from addressing a specific cultural need, to community health and social justice, and to staff self-reflection on personal trauma and professional burnout. Mancini and Farina (2019) focused on the importance of TIPC that integrates mental-behavioral health into primary care settings for adults who identify as Latinx. This population has a high prevalence of anxiety, depression, post-traumatic stress symptoms, and PTSD. However, those who identify as Latinx often have barriers to care including access and stigma. TIPC can address these issues.

Green et al. (2016) and Machtinger et al. (2015) emphasized the importance of the client's home and community environment. Machtinger et al. (2015) encouraged partnerships with community outreach programs as part of a TIPC practice. Additionally, Mahoney, et al. (2017) addressed the importance of restoring social justice in the healing and recovery process from trauma. Raja, et al. (2015) discussed the importance of providers self-reflecting on personal trauma history as this may influence client care and contribute to professional burnout.

Resisting re-traumatization

Trauma-informed care intentionally avoids re-traumatization in clients (Trauma-informed Care Implementation Resource Center, 2020). Environments, policies, procedures, and practices may re-traumatize an individual, which interferes with healing. For example, a clinic's parking lot may have low lighting that re-traumatizes a client or staff member who experienced a sexual assault (National Council for Behavioral Health, 2019). Machtinger et al. (2015) emphasized the

importance of the environment in creating one that resists re-traumatization. They discussed how resisting re-traumatization allows for safety that allows for healing and recovery from trauma. Furthermore, Lewis, et al. (2019) developed a TIPC model that addresses past trauma from feeling betrayed by past interactions with the health care system. Addressing this promotes trustworthiness and improves transparency, which promote healing and recovery from trauma.

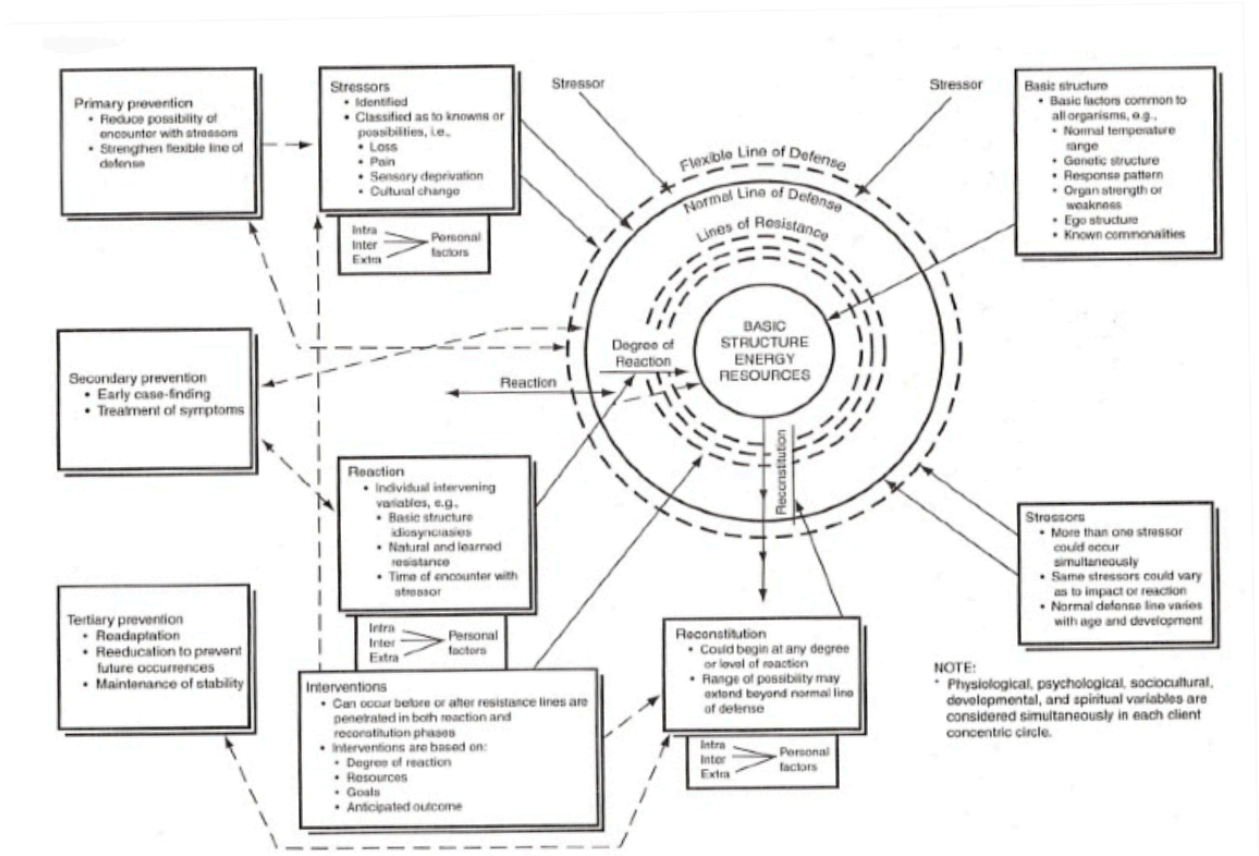
In sum, all authors advocate for TIPC to address trauma. The authors defined TIPC consistently with the established definition of TIC and the TIPC principles (The National Council for Behavioral Health, 2019; SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2020). Most author groups are multidisciplinary teams. However, authors from medicine, nursing, psychology, and social work also advocate for a TIPC approach to address trauma. This is consistent with the holistic TIPC approach that encourages collaboration and mutuality. Isolated services, such as primary care, mental-behavioral health, and mindfulness, do not improve outcomes. Instead, holistic universal TIPC addresses trauma. Trauma is a common cause for disease and disorders.

Theoretical Framework and Evidence Based Practice Model

The overarching theory for this project was a middle-range theory, the Neuman Systems Model (NSM; Neuman, 2005). Within this, a situation-specific TIPC model was applied (Roberts, et al., 2019). The NSM is a nursing theory that includes the person, the environment, health, and the nurse (See Figure 2). The purpose of nursing, according to the NSM, is to support the stability of clients, who are holistic beings, against internal and external stressors (Meleis, 2018; Neuman, 2005). This is consistent with the holistic, person-centered approach of TIPC.

Figure 2

The Neuman Systems Model



(Reprinted from *The Neuman Systems Model of Nursing*, B. Neuman. (2005) Retrieved from https://www.neumansystemsmodel.org/nsm-powerpoint)

Moreover, the NSM accounts for prevention interventions that promote healing and recovery (Neuman, 2005).

For the situation-specific framework, Roberts, et al. (2019) developed a TIPC model based on the established TIC definition and principles, referred to as the 5Rs TIPC model. They describe five key elements for TIPC. The five elements that guide TIPC are recognition, realization, response, respect, and resilience. Recognition addresses screening for ACEs.

Realization addresses educating both health care staff and clients on the impact of ACEs. Response ensures person-centered care and client empowerment. Respect empathizes with clients and considers potential barriers to care with sensitive responses. Resilience focuses on strengths-based care (Roberts, et. al., 2019). This framework fits into the NSM as prevention interventions to promote healing and recovery from trauma. Educating staff about TIPC is the first step to implement the 5Rs TIPC model.

In the NSM, the person is the client, the individual receiving care. However, the client also may be a family, a community, or a social issue (Fawcett & Gigliottti, 2001; Meleis, 2018; Neuman, 2005). The client's constitution includes five interrelated variables: physiologic, psychological, sociocultural, developmental, and spiritual. The physiologic variable concerns body structure and function. The psychological variable describes mental processes that interact with the environment, such as behavior, cognition, and emotion. The sociocultural variable considers the social and cultural influences. The developmental variable describes age and maturation of the client. Lastly, the spiritual variable relates to belief practices. From the interrelated variables, the client core includes both general, or universal, attributes that are held in common as well as specific attributes that are unique to the client (Meleis, 2018; Neuman, 2005). The 5Rs TIPC model addresses the health of each of these variables promoting empowerment, resilience, and safety (Roberts, et al., 2019). Empowerment, resilience, and safety are part of TIPC staff education.

Within the NSM, Neuman describes the environment as forces that can affect the client system. She illustrates three types of environments: internal, external, and created. The internal environment is the influence within the client system. The external environment includes

interpersonal and extra-personal impacts. The interpersonal environment is proximal to the client core and the extra-personal environment lies at the distal edge. Extra-personal environments can include political and economic systems. Together the internal and external environments range from the intra-personal, the interpersonal, and the extra-personal. The created environment supersedes and connects the internal and external environments dynamically to preserve stability and the integrity of the client system. The purpose of the created environment is to maintain a state of health among the five variables. In other words, the created environment assists the client system in coping with stressors. The client may accomplish this process consciously and unconsciously (Fawcett & Gigliottti, 2001; Meleis, 2018; Neuman, 1990; Neuman, 2005; Verberk & Fawcett, 2017). The 5Rs TIPC model can mitigate the environmental effects on health outcomes with recognition, realization, response, respect, and resilience (Roberts et al., 2019).

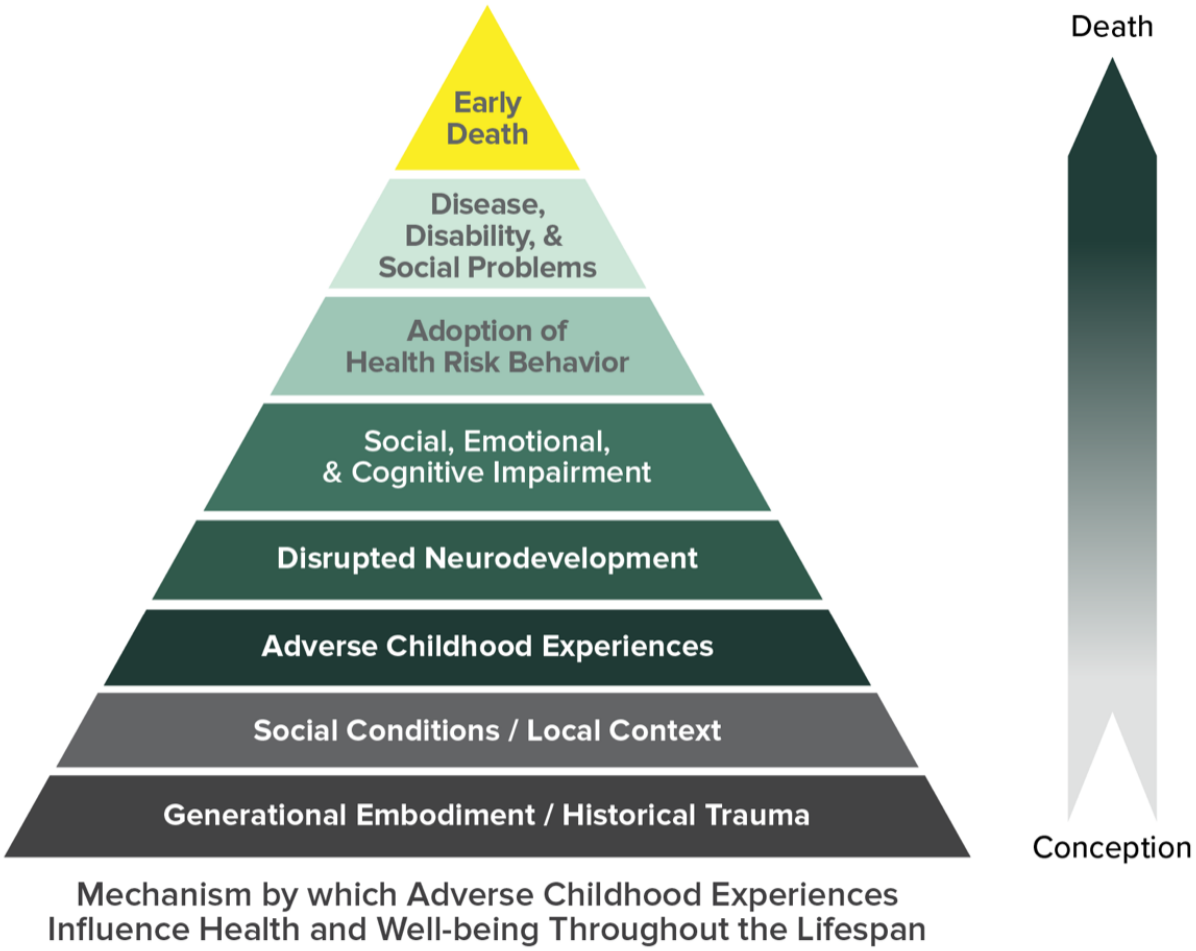
In the NSM, Neuman describes health based on a dynamic wellness to illness continuum. Three main aspects affect health. One, the client system contains living energy, which is energy used to meet the clients' health needs. Two, the five variables effect the client's resistance and defense against stressors. Three, optimal wellness is akin to optimal stability and is the highest achievable wellness state. This occurs when the client system has sufficient energy to meet its needs and the five variables are in harmony.

On the other hand, illness results when the client system has insufficient energy to meet its needs. This creates unmet needs and disharmony among the five variables (Meleis, 2018; Neuman, 2005). Illness occurs when the client system expends more energy attempting to re-establish stability, or wellness. If the imbalance is extreme, the client can perish (Neuman, 2005). This is consistent with the known effects of trauma on health (CDC, 2020a; See Figure 3). The

5Rs TIPC model that aims to restore health through empowering clients, increasing resiliency in clients, and promoting safety (Roberts, et al., 2019). This is emphasized in the TIPC staff education.

Figure 3

Adverse Childhood Experiences



(Reprinted from *About the CDC-Kaiser ACE study*, CDC. (2020a) Retrieved from https://www.cdc.gov/violenceprevention/aces/about.html)

Rooted in client autonomy, Neuman endorses the importance of the client's responsibility to maintain personal health (Meleis, 2018; Neuman, 2005). This aligns with the six key principles of TIC that emphasizes the importance of person-centered care. Here, the role of the nurse is to promote wellness in clients through prevention. Neuman explains three levels of prevention: primary, secondary, and tertiary. In primary prevention, the potential stressors are identified, and the goal is functional coping. In secondary prevention, a stressor has created instability, eliciting internal and external responses in the client system by affecting lines of defense and resistance (Neuman, 2005). Here, the goal of the nurse and the client is to protect the client and rebuild resistance. The tertiary prevention state is reconstitution where readaptation towards wellness can occur (Fawcett & Gigliottti, 2001; Meleis, 2018; Neuman, 2005; Ume-Nwagbo, et al., 2006). The 5Rs TIPC model can be applied as interventions to the stressors of trauma at primary, secondary, and tertiary prevention levels (Roberts, et al., 2019). TIPC education as an intervention can increase staff and clients' affinity for and understanding of TIPC. This is foundational to implementing TIPC. Also, the universal client education sheet provides clients direct information about trauma and its effect on health. This supports client autonomy in maintaining personal health.

Methods

Project design

This project was a pre- and post-intervention design to evaluate a TIPC educational intervention (two web-based videos) for the staff of a military health care clinic (See Appendix B; Trauma-Informed Care Implementation Resource Center, 2019a; Trauma-Informed Care Implementation Resource Center, 2020).

Project Site and Population

The project setting was a military primary care ambulatory health care clinic. This clinic serves active duty service members of all branches, active duty Coast Guard members, retirees, and their family members. This clinic is situated in a larger facility that has occupational health, audiology, optometry, pharmacy, radiology, and laboratory services.

A TIPC approach to care includes all staff members. Therefore, the population for this educational intervention was all sixteen staff members in this military health care clinic. The population included all the active duty and civilian staff members of the family health clinic who worked at the clinic during the months of September through December 2020 for the project. All staff members are full time. Specifically, the population included a physician, two nurse practitioners, a physician assistant, a clinical pharmacist, two licensed practical nurses, two registered nurses, five corpsmen who are similar to nursing assistants, and two clerks. Of these, four are full-time providers. The population excluded deployed service members and service members assigned to another detail or additional duty assignment during pre- and post-intervention surveys.

Intervention

Videos for TIPC education were used to educate all staff. The two videos were obtained from the Trauma-Informed Care Resource Center, a nationally recognized organization that is a leader in TIPC, supported by the Center for Health Care Strategies and the Robert Wood Johnson Foundation. Presenters define TIPC and describe TIPC principles in these two and five minute videos.

The universal client education sheet was given to providers to share with their clients

universally during their encounters. This was developed with information from the Centers for Disease Control and Prevention, Military OneSource, and the Trauma-Informed Care Implementation Center. The information includes effects of stress and trauma on health, prevalence of trauma, and mental-behavioral health resources.

Measurement Instruments

To evaluate affinity for and understanding of TIPC gained after viewing the TIPC videos, two pre- and post-intervention surveys were created by the author especially for this project:

1. The first survey included ten Likert-scale items focused on affinity for and understanding of TIPC and used a 5-point scale ranging from "strongly agree" to "strongly disagree." This was used for the all-staff educational intervention. The survey was used for all clinic staff pre and post viewing (See Appendix C).
2. The second survey was a post-intervention only survey intended to evaluate providers' offer of TIPC education to their clients using the universal client education sheet. This survey also includes ten items with Likert-scale answers using a 5-point scale from "strongly agree" to "strongly disagree." The survey was administered to providers (nurse practitioners, physicians, physician assistants, and clinical pharmacists) only. This survey also included open-ended comment boxes for each item to elicit participant comment related to TIPC (See Appendix C).

Data Collection Procedures

First, an email with the link to the all-staff pre-intervention survey through SurveyMonkey was distributed to the entire staff (16) of the military health care clinic from the staff distribution list (See Appendix D). Reminder emails were sent seven days later requesting

staff to complete the pre-intervention survey. At two weeks, emails with the links to the all-staff educational videos and post-intervention survey were sent (See Appendix D). The post-intervention survey was the same as the pre-intervention survey.

The videos were blocked from streaming on the military network. Therefore, the email with the links to the videos and post-intervention survey suggested staff to forward the email to their personal civilian email addresses if they wanted to participate. In addition, an iPad was placed in the clinic break room for video viewing. All fifteen participants watched the TIPC educational videos during the first week.

After the all-staff educational intervention, the four providers of the clinic were emailed the universal client education sheet and were also given physical color copies (See Appendix D; see Appendix E). Two months after receiving the client education sheets, providers received the post-intervention survey to assess use of the universal client education sheet in their practice (See Appendix D).

Note: Informally, the DNP student was available to staff to encourage participation. The structure of the clinic maintains distance between leadership and staff. However, much information is passed among staff members, and staff members share information freely. The DNP student's position was among the staff members. This allowed the DNP student informally to encourage TIPC staff education to participate in the project (See Appendix F for budget).

Data Analysis

SPSS was used for data analysis. Pre- and post-intervention responses to the surveys administered to all clinic staff were compared to measure changes associated with the all-staff video educational intervention. The pre-intervention survey was used as the baseline measure.

Each of the items of the post-intervention responses were compared to the pre-intervention baseline using descriptive statistics. The intervention was categorical, either the videos were watched or not watched. The pre- and post-intervention surveys provided paired data. The sample size was fifteen, which was insufficient to achieve statistical power. Therefore, with nonparametric data, the Wilcoxon signed ranks test was used for analysis.

Descriptive statistics were used again for data analysis of the provider post-intervention survey. The responses to the post-intervention survey for the universal client education sheets produced both interval and text data from the open-ended comments. Text comments were listed as quotes in a spreadsheet to analyze the content.

Results

Overall, the goal was to educate the clinic staff about TIPC with an 80% or higher participation rate and for this project 94% of clinic staff participated (15 of the 16 staff). This was accomplished through a pre- and post-intervention survey for the all-staff TIPC education. The secondary goal was to give providers universal client education sheets about trauma and its health effects then re-assess their affinity for and understanding of TIPC and assess their use of the universal client education sheets. This was accomplished through another ten-item Likert-scale survey. All of the four providers responded to this post-intervention survey.

The Wilcoxon sign ranks test was used to determine statistically significant improvement between the pre- and post-intervention surveys. Table 1 outlines the clinic staff responses to the pre-intervention survey. These are listed by number of responses and the percentage for each survey item.

Table 1

Survey responses from pre-intervention of staff TIPC education (n = 15)

Survey Item	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
1. I have heard of trauma-informed care.	2 (13.3%)	4 (26.7%)	1 (6.7%)	7 (46.7%)	1 (6.7%)
2. I know what trauma-informed care is.	0 (0%)	3 (20%)	2 (13.3%)	8 (53.3%)	2 (13.3%)
3. My comfort level working with patients who have experienced trauma is.	0 (0%)	2 (14.3%)	8 (57.1%)	4 (28.6%)	0 (0%)
4. I am familiar with how trauma affects mental health.	6 (40%)	6 (40%)	3 (20%)	0 (0%)	0 (0%)
5. I am familiar with how trauma affects physical health.	7 (46.7%)	6 (40%)	2 (13.3%)	0 (0%)	0 (0%)
6. I use trauma-informed primary care in how I take care of our patients.	0 (0%)	2 (13.3%)	7 (46.7%)	6 (40%)	0 (0%)
7. I am considering using trauma-informed primary care in how I take care of our patients.	2 (13.3%)	4 (26.7%)	8 (53.3%)	1 (6.7%)	0 (0%)
8. I want to use trauma-informed primary care in how I take care of our patients.	4 (26.7%)	6 (40%)	4 (26.7%)	1 (6.7%)	0 (0%)
9. I think trauma-informed primary care makes sense to improve our patients' health.	8 (53.3%)	2 (13.3%)	5 (33.3%)	0 (0%)	0 (0%)
10. I feel knowledgeable and capable to provide care for someone who has a history of trauma.	0 (0%)	7 (46.7%)	6 (40%)	2 (13.3%)	0 (0%)

The pre-intervention results show that staff had some understanding that stress and trauma affect health. However, they are unfamiliar with TIPC and do not use a TIPC approach to care. Interestingly, nearly 67% of the staff agreed that TIPC could improve clients' health.

Table 2 outlines clinic staff responses to the post-intervention survey. These are listed by number and percentage for each survey item.

Table 2

Survey responses from post-intervention of staff TIPC education (n = 15)

Survey Item	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
1. I have heard of trauma-informed care.	7 (46.7%)	6 (40%)	1 (6.7%)	0 (0%)	1 (6.7%)
2. I know what trauma-informed care is.	4 (26.6%)	8 (53.3%)	3 (20%)	0 (0%)	0 (0%)
3. My comfort level working with patients who have experienced trauma is.	2 (15.4%)	5 (38.5%)	6 (46.2%)	0 (0%)	0 (0%)
4. I am familiar with how trauma affects mental health.	9 (60%)	6 (40%)	0 (0%)	0 (0%)	0 (0%)
5. I am familiar with how trauma affects physical health.	9 (60%)	6 (40%)	0 (0%)	0 (0%)	0 (0%)
6. I use trauma-informed primary care in how I take care of our patients.	3 (20%)	5 (33.3%)	7 (46.7%)	0 (0%)	0 (0%)

Survey Item	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
7. I am considering using trauma-informed primary care in how I take care of our patients.	7 (46.7%)	6 (40%)	1 (6.7%)	1 (6.7%)	0 (0%)
8. I want to use trauma-informed primary care in how I take care of our patients.	10 (66.7%)	5 (33.3%)	0 (0%)	0 (0%)	0 (0%)
9. I think trauma-informed primary care makes sense to improve our patients' health.	12 (80%)	3 (20%)	0 (0%)	0 (0%)	0 (0%)
10. I feel knowledgeable and capable to provide care for someone who has a history of trauma.	5 (33.3%)	7 (46.7%)	2 (13.3%)	0 (0%)	1 (6.7%)

The post-intervention results demonstrate staff members became more familiar with the effects of stress and trauma on health and became more familiar with TIPC. All staff members agreed that TIPC can improve client's health and they want to use TIPC as an approach to care. However, not all staff were comfortable with caring for clients with trauma histories.

Table 3 compares the pre- and post-intervention surveys. The results demonstrate statistically significant improvement for each item.

Table 3

Comparison of pre- and post-intervention of staff TIPC education (n = 15)

Survey Item	Pre- and post-intervention comparison
1. I have heard of trauma-informed care.	3.15 (p = .002)
2. I know what trauma-informed care is.	3.54 (p < .001)
3. My comfort level working with patients who have experienced trauma is.	2.65 (p = .008)
4. I am familiar with how trauma affects mental health.	2.45 (p = .014)
5. I am familiar with how trauma affects physical health.	2.00 (p = .046)
6. I use trauma-informed primary care in how I take care of our patients.	3.64 (p < .001)
7. I am considering using trauma-informed primary care in how I take care of our patients.	2.31 (p = .021)
8. I want to use trauma-informed primary care in how I take care of our patients.	3.21 (p = .001)
9. I think trauma-informed primary care makes sense to improve our patients' health.	2.46 (p = .014)
10. I feel knowledgeable and capable to provide care for someone who has a history of trauma.	2.89 (p = .004)

Note: Wilcoxon signed ranks tests were used to compare pre- and post-intervention mean ranks, alpha .05.

The Wilcoxon sign ranks tests demonstrate that clinic staff responded to each of the ten items with significant improvement. The items with most improvement were regarding

understanding of what TIPC is and using a TIPC approach to client care. The most significant change was use of TIPC. Staff increased their self-reported use of TIPC after viewing the TIPC educational videos. The next item of greatest improvement was in self-reported knowledge of TIPC followed by a desire to use TIPC with clients.

All four of the providers responded to the provider survey two months after the universal client education sheets were distributed (See Table 4; see Table 5). Most of the responses demonstrate that providers had affinity for TIPC and understanding of TIPC.

Table 4

Survey responses from post-intervention of provider universal client education sheets (n = 4)

Survey Item	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
I am interested in trauma-informed primary care as a provider.	3 (75%)	1 (25%)	0 (0%)	0 (0%)	0 (0%)
I see value in trauma-informed primary care as a provider.	3 (75%)	1 (25%)	0 (0%)	0 (0%)	0 (0%)
I see how trauma may be common in my patient population.	3 (75%)	1 (25%)	0 (0%)	0 (0%)	0 (0%)
I see how my patients may benefit from trauma-informed primary care.	3 (75%)	1 (25%)	0 (0%)	0 (0%)	0 (0%)
I liked the universal patient education sheet.	3 (75%)	1 (25%)	0 (0%)	0 (0%)	0 (0%)

Survey Item	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
Our clinic has elements of TIPC already in place. We screen for trauma; we have behavioral health embedded; we have an established local outreach with the base's Family Advocacy Program; and, we have outreach services available from Military OneSource.	0 (0%)	2 (50%)	0 (0%)	2 (50%)	0 (0%)
I feel more comfortable addressing trauma.	1 (25%)	3 (75%)	0 (0%)	0 (0%)	0 (0%)
I have transitioned my perspective from "what's wrong with you" to "what happened to you."	1 (25%)	3 (75%)	0 (0%)	0 (0%)	0 (0%)
I have used the knowledge I gained from TIPC education.	2 (50%)	0 (0%)	2 (50%)	0 (0%)	0 (0%)

Table 5

Survey responses from post-intervention of provider universal client education sheets (n = 4)

Survey Item	Every day	A few times a week	About once a week	A few times a month	Once a month	Less than once a month	Never
I used the universal patient education sheet.	0 (0%)	2 (50%)	0 (0%)	1 (25%)	0 (0%)	0 (0%)	1 (25%)

The provider post-intervention survey after given the universal client education sheet demonstrates positive improvement in all items regarding affinity for and understanding of TIPC. However, the providers did not all agree that the clinic has elements of TIPC already established. Also, while two providers used the universal client education sheet a few times per week, one provider used it a few times per month, and one never used it.

Table 6 describes the mean and ranges for each item. The means demonstrate a difference between the affinity for and understanding of TIPC and providing care consistent with TIPC. The means for the items about the use of the universal client education sheet and view that the clinic provides integrated, holistic care were lower than the means for the items about and affinity for and understanding of TIPC.

Table 6

Descriptive statistics from post-intervention of provider universal client education sheets (n = 4)

Range Maximum	Mean	Range Minimum	Range Maximum
I am interested in trauma-informed primary care as a provider.	4.75	4	5
I see value in trauma-informed primary care as a provider.	4.75	4	5
I see how trauma may be common in my patient population.	4.75	4	5
I see how my patients may benefit from trauma-informed primary care.	4.75	4	5
I liked the universal patient education sheet.	4.75	4	5
I used the universal patient education sheet.	3.50	1	5

Range Maximum	Mean	Range Minimum	Range Maximum
Our clinic has elements of TIPC already in place. We screen for trauma; we have behavioral health embedded; we have an established local outreach with the base's Family Advocacy Program; and, we have outreach services available from Military OneSource.	3.00	2	4
I feel more comfortable addressing trauma.	4.25	4	5
I have transitioned my perspective from "what's wrong with you" to "what happened to you."	4.25	4	5
I have used the knowledge I gained from TIPC education.	4.00	3	5

The baseline for the use of the universal client education sheet is known to be zero. No providers used a universal client education sheet as part of their practice. The results show that a difference between understanding/affinity and practice exists. While providers became more comfortable and had a greater affinity for TIPC, some providers did not apply this in their practice.

The range of the item responses, between four and five, demonstrated improvement in providers' affinity for and understanding of TIPC based on the Likert-scale items. However, the ranges were wide regarding the use of the universal client education sheet with their clients and about available services (see Table 6).

The post-intervention of the provider universal client education sheets survey had comment boxes for each item for free-text, open-ended information to be reviewed. This was an improvement made from the initial phase of the project that provided TIPC education to all clinic

staff. In these boxes, four comments were made and a summative review of the content was constructed.

The four quotes are as follows. To “[o]ur clinic has elements of TIPC already in place. We screen for trauma; we have behavioral health embedded; we have an established local outreach with the base’s Family Advocacy Program; and, we have outreach services available from Military OneSource,” one provider responded, “[w]e do not have established local outreach with FAP or outreach arranged through Military OneSource but we do provide these resources as options.” To the same item, another responded, “BH is not fully embedded, not always available. Communication with FAP or FFSC is not optimal at times.”

To the item, “I have transitioned my perspective from “what’s wrong with you” to “what happened to you,” one provider responded, “I hope I have always been more of a "what happened to you" provider!” To the item, “I have used the knowledge I gained from TIPC education,” one provider commented “[p]roviding resources to patients and transitioning perspectives.” These comments provided more depth to the Likert-scale items.

The purpose of this project was to assess the affinity for and understanding of TIPC with an all-staff web-based TIPC educational intervention as well as a provider-specific universal client education sheet. The results of this project demonstrated improved affinity for and understanding of TIPC. However, the providers, as a group, did not increase their use of the universal client education sheet.

Discussion

The purpose of this project was to educate clinic staff about TIPC and to increase universal client awareness and education about the effects of trauma on health. The results

demonstrate a statistically significant improvement in TIPC regarding affinity for and understanding of TIPC. The providers demonstrated continued improved affinity for TIPC after having the universal client education sheet for two months. However, the providers did not use the universal client education sheets more despite the improvement in affinity for TIPC.

Clinic staff were educated in TIPC. TIPC education is foundational to a TIPC practice. The clinic has elements of TIPC. The clinic uses a person-centered care model, universally screens adult clients at each encounter for depression, anxiety, and PTSD, has an embedded mental-behavioral health team, and has established community outreach programs. However, an overarching TIPC approach is not in place. With the existing elements of TIPC in place, TIPC education may shift staff's perspectives to a holistic TIPC approach. This has the potential for future TIPC projects that may assess health outcomes.

As described in the literature, clinic staff education of TIPC is a foundational step in a clinic's adoption of a TIPC approach. Before implementing changes in environment and inter-personal interactions, staff must have an internal shift, changing their lens from asking clients "what's wrong with you" to "what happened to you." In order to accomplish this, staff must be educated. This project aimed to educate staff to be more open to adopt a TIPC approach.

Under the realization component of TIPC, the literature described a need for TIPC education to both all clinic staff (Barnes & Andrews, 2019; Machtinger et al., 2015) and to providers specifically (Green et al., 2016; Dichter et al., 2018; Shamaskin-Garroway, et al., 2020; Finnegan, et al., 2018; Piper, et al., 2020). The results demonstrated statistically significantly improved affinity for and understanding of TIPC. This lays the foundation potentially to improve client satisfaction and health outcomes with TIPC. This is consistent with the literature. From the

realization component, the other components of TIPC, recognition, response, and resisting re-traumatization (National Council for Behavioral Health, 2019; SAMHSA, 2014; Trauma-informed Care Implementation Resource Center, 2019b) can be adopted. This provides for future directions in TIPC research.

In the literature, the authors emphasized the importance of TIPC being a holistic, universal approach to care. The clinic has elements of TIPC. Also, the staff had some understanding of how stress and trauma affect health prior to the intervention. This may explain staff's openness to TIPC and the significant improvement in affinity for, understanding of, and use of TIPC after watching the TIPC educational videos. An overarching TIPC approach is not in place that fully intertwines these aspects of primary care into a holistic approach. This may explain how some staff remained uncomfortable caring for clients with trauma histories. Also, this was reflected in three comments from the provider survey. They each described concerns that the services are siloed and that they have access concerns.

These comments indicate that relationships with community services and mental-behavioral health exist but are weak. In turn, this may explain why the providers did not statistically significantly improve use of the universal client education sheet. This reflects the literature. TIPC authors stated that effective TIPC is holistic and universal through an integrated multi-disciplinary approach (Barnes & Andrews, 2019; Levine, et al., 2020; Machtinger et al., 2015; Mahoney, et al., 2017; Osofsky et al., 2017; Raja et al., 2015; Shamaskin-Garroway, et al., 2020). Improving silos of community resources and mental-behavioral health do not improve health outcomes. A holistic TIPC approach is needed to improve health outcomes.

This also reflects the fit of the NSM and the 5Rs TIPC model that promote holism. The NSM describes five constitutional and interrelated variables: physiologic, psychological, sociocultural, developmental, and spiritual. A holistic approach where the whole is greater than the sum of the parts is required for a TIPC approach. This data demonstrates that a holistic approach is needed for providers to apply TIPC. Having siloed resources does not improve use of the services and does not improve utilization of TIPC.

Also, using the universal client education sheet is a significant mental-behavioral change in clinical practice. This may also contribute to why the providers did not significantly increase the use of the universal client education sheets. Clinical practice is personal. These providers have been practicing for years. Adapting behaviors to reflect cognitive and emotional change takes more time. This provides another future direction to measure long-term mental-behavioral changes in providers after continued TIPC support with education and resources.

Future projects can evaluate applying the NSM as a mid-range theory to TIPC, where the goal of the nurse and the client is to protect the client and rebuild resistance through healing and recovery. TIPC is a prevention intervention that protects against stressors and promotes wellness (Fawcett & Gigliottti, 2001; Meleis, 2018; Neuman, 2005; Ume-Nwagbo, et al., 2006). More specifically, the 5Rs TIPC model can be applied as interventions for the stressors of trauma at primary, secondary, and tertiary prevention levels (Roberts, et al., 2019). The TIPC staff education intervention can increase staff's, and in turn clients', understanding of TIPC. The universal client education sheet provided clients information directly about trauma and its effect on health.

The primary facilitator was the staff's motivation with support from leadership. Ninety-four percent of the clinic staff participated in the staff educational intervention, and all four providers completed secondary survey. While the clinic has not implemented TIPC as a whole, the clinic has available resources to community and mental-behavioral health. This may have set staff up to consider TIPC as a valuable approach to care. Informally, staff did comment that the brevity of the surveys and videos encouraged participation.

The primary barrier was time constraints for client care. If more time was available for the providers to learn TIPC, they may have used the universal client education sheets more often. Also, TIPC is a shift in view of client care. A longitudinal project may reveal an increase in adoption of TIPC staff and provider behavior, such as providing the universal client education sheet as a part of their practice.

Overall, the benefits and value of TIPC include universal, person-centered, holistic care in a safe, secure environment. TIPC aims to address trauma by establishing trust and rapport from interpersonal sensitivity to promote compliance and honesty for improved health outcomes (Como, 2007; Finfgeld-Connett, 2008). Although the measures are indirect for the clinic, the staff education adds little cost for implementation. This is a low-cost structural change that is literature supported to improve client outcomes and efficacy of care (Wyszewianski, 2014). Trauma-informed primary care would address the pathophysiological consequences of trauma through a cost avoidance measure (Institute for Healthcare Improvement Business Tools, n.d.) improving client outcomes by improving health and decreasing disease burden. In turn, this may decrease health care costs (Cutuli, et al., 2019; See Appendix F).

Conclusion

The effectiveness of a TIPC educational intervention for clinic staff and provider TIPC universal client education sheets was assessed in this quality improvement project. The analyses revealed an improvement with TIPC educational intervention. Clinic staff's affinity for and understanding of TIPC before and after viewing TIPC videos increased. Furthermore, while use of the universal client education sheet did not improve, during the period of the study, providers' affinity for TIPC did improve.

This foundational project lays the groundwork for future evidenced-based practice and research projects regarding TIPC and health outcomes. The first step in dissemination was obtaining approval from the DNP student's approval authorities in the Army. This was obtained. Next, approval from the Navy clinic's IRB and leadership is pending. After approval, dissemination includes scholarship day and nursing events that include themes about effects from trauma and about the connection between psychosocial health and overall health outcomes.

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Appendix A

Johns Hopkins Nursing Evidence-Based Practice

Johns Hopkins Nursing Evidence-Based Practice

Appendix D

Evidence Level and Quality Guide

Evidence Levels	Quality Ratings
Level I Experimental study, randomized controlled trial (RCT) Explanatory mixed method design that includes only a level I quaNtitative study Systematic review of RCTs, with or without meta-analysis **Level II** Quasi-experimental study Explanatory mixed method design that includes only a level II quaNtitative study Systematic review of a combination of RCTs and quasi-experimental studies, or quasi-experimental studies only, with or without meta-analysis **Level III** Nonexperimental study Systematic review of a combination of RCTs, quasi-experimental and nonexperimental studies, or nonexperimental studies only, with or without meta-analysis Exploratory, convergent, or multiphasic mixed methods studies Explanatory mixed method design that includes only a level III quaNtitative study QuaLitative study Meta-synthesis	**QuaNtitative Studies** **A High quality**: Consistent, generalizable results; sufficient sample size for the study design; adequate control; definitive conclusions; consistent recommendations based on comprehensive literature review that includes thorough reference to scientific evidence. **B Good quality**: Reasonably consistent results; sufficient sample size for the study design; some control, fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence. **C Low quality or major flaws**: Little evidence with inconsistent results; insufficient sample size for the study design; conclusions cannot be drawn. **QuaLitative Studies** No commonly agreed-on principles exist for judging the quality of quaLitative studies. It is a subjective process based on the extent to which study data contributes to synthesis and how much information is known about the researchers' efforts to meet the appraisal criteria. *For meta-synthesis, there is preliminary agreement that quality assessments of individual studies should be made before synthesis to screen out poor-quality studies*[1]. **A/B High/Good quality** is used for single studies and meta-syntheses[2]. The report discusses efforts to enhance or evaluate the quality of the data and the overall inquiry in sufficient detail; and it describes the specific techniques used to enhance the quality of the inquiry. Evidence of some or all of the following is found in the report: • Transparency: Describes how information was documented to justify decisions, how data were reviewed by others, and how themes and categories were formulated. • Diligence: Reads and rereads data to check interpretations; seeks opportunity to find multiple sources to corroborate evidence. • Verification: The process of checking, confirming, and ensuring methodologic coherence. • Self-reflection and scrutiny: Being continuously aware of how a researcher's experiences, background, or prejudices might shape and bias analysis and interpretations. • Participant-driven inquiry: Participants shape the scope and breadth of questions; analysis and interpretation give voice to those who participated. • Insightful interpretation: Data and knowledge are linked in meaningful ways to relevant literature. **C Low quality** studies contribute little to the overall review of findings and have few, if any, of the features listed for high/good quality.

Johns Hopkins Nursing Evidence-Based Practice

Appendix D

Evidence Level and Quality Guide

Evidence Levels	Quality Ratings
Level IV Opinion of respected authorities and/or nationally recognized expert committees or consensus panels based on scientific evidence Includes: • Clinical practice guidelines • Consensus panels/position statements	**A High quality:** Material officially sponsored by a professional, public, or private organization or a government agency; documentation of a systematic literature search strategy; consistent results with sufficient numbers of well-designed studies; criteria-based evaluation of overall scientific strength and quality of included studies and definitive conclusions; national expertise clearly evident; developed or revised within the past five years **B Good quality:** Material officially sponsored by a professional, public, or private organization or a government agency; reasonably thorough and appropriate systematic literature search strategy; reasonably consistent results, sufficient numbers of well-designed studies; evaluation of strengths and limitations of included studies with fairly definitive conclusions; national expertise clearly evident; developed or revised within the past five years **C Low quality or major flaws:** Material not sponsored by an official organization or agency; undefined, poorly defined, or limited literature search strategy; no evaluation of strengths and limitations of included studies, insufficient evidence with inconsistent results, conclusions cannot be drawn; not revised within the past five years
Level V Based on experiential and nonresearch evidence Includes: • Integrative reviews • Literature reviews • Quality improvement, program, or financial evaluation • Case reports • Opinion of nationally recognized expert(s) based on experiential evidence	**Organizational Experience (quality improvement, program or financial evaluation)** **A High quality**: Clear aims and objectives; consistent results across multiple settings; formal quality improvement, financial, or program evaluation methods used; definitive conclusions; consistent recommendations with thorough reference to scientific evidence **B Good quality**: Clear aims and objectives; consistent results in a single setting; formal quality improvement, financial, or program evaluation methods used; reasonably consistent recommendations with some reference to scientific evidence **C Low quality or major flaws**: Unclear or missing aims and objectives; inconsistent results; poorly defined quality improvement, financial, or program evaluation methods; recommendations cannot be made **Integrative Review, Literature Review, Expert Opinion, Case Report, Community Standard, Clinician Experience, Consumer Preference** **A High quality**: Expertise is clearly evident; draws definitive conclusions; provides scientific rationale; thought leader(s) in the field **B Good quality**: Expertise appears to be credible; draws fairly definitive conclusions; provides logical argument for opinions **C Low quality or major flaws**: Expertise is not discernable or is dubious; conclusions cannot be drawn

1 https://www.york.ac.uk/crd/SysRev/!SSL!/WebHelp/6_4_ASSESSMENT_OF_QUALITATIVE_RESEARCH.htm
2 Adapted from Polit & Beck (2017).

Appendix B

TIPC Staff Educational Videos

- Video 1: “Trauma-Informed Cares Does Not Have to be a Burden to Adopt” from Trauma-Informed Care Implementation Resource Center. https://www.traumainformedcare.chcs.org/resources-for-becoming-trauma-informed/
    - Summary: This video explains the flexibility and simplicity of transitioning a provider or clinic from standard care to TIPC. It emphasizes the financial and time saving potential of TIPC.
- Video 2: “Trauma-Informed Care Champions: From Treaters to Healers” from Trauma-Informed Care Implementation Resource Center. https://www.traumainformedcare.chcs.org
    - Summary: This video introduces TIPC defining TIC in the primary care setting and describing the principles of TIC in the primary care setting. Providers in the video describe how TIPC addresses past trauma and the shift from asking “what is wrong with them” to “what happened to them.” The providers address common frustrations in primary care and how TIPC addresses these.

Appendix C

Pre- and Post-Intervention Surveys

Survey for staff education

1. I have heard of trauma-informed care.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

2. I know what trauma-informed care is.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

3. My comfort level working with patients who have experienced trauma is.

- Extremely comfortable
- Very comfortable
- Somewhat comfortable
- Not so comfortable
- Not at all comfortable

4. I am familiar with how trauma affects mental health.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

5. I am familiar with how trauma affects physical health.

- Strongly agree
- Agree
- Neither agree nor disagree

- Disagree
- Strongly disagree

6. I use trauma-informed primary care in how I take care of our patients.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

7. I am considering using trauma-informed primary care in how I take care of our patients.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

8. I want to use trauma-informed primary care in how I take care of our patients.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

9. I think trauma-informed primary care makes sense to improve our patients' health.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

10. I feel knowledgeable and capable to provide care for someone who has a history of trauma.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Survey for universal client education

1. I am interested in trauma-informed primary care as a provider.

Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Comments:

2. I see value in trauma-informed primary care as a provider.

Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Comments:

3. I see how trauma may be common in my patient population.

Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Comments:

4. I see how my patients may benefit from trauma-informed primary care.

Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Comments:

5. I liked the the universal patient education sheet.

Strongly agree
Agree
Neither agree nor disagree

Disagree
Strongly disagree
Please, provide any and all feedback.

6. I used the universal patient education sheet.

Every day
A few times a week
About once a week
A few times a month
Once a month
Less than once a month
Never
Comments:

7. Our clinic has elements of TIPC already in place. We screen for trauma; we have behavioral health embedded; we have an established local outreach with the base's Family Advocacy Program; and, we have outreach services available from Military OneSource.

Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Comments:

8. I feel more comfortable addressing trauma.

Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Comments:

9. I have transitioned my perspective from "what's wrong with you" to "what happened to you."

Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Comments:

10. I have used the knowledge I gained from TIPC education. Some examples are:

Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Some examples of me using TIPC are…

Appendix D

Emails to Staff

Email to all clinic staff with pre-intervention survey

ALCON,

I greatly appreciate your time and consideration to take part in this education for trauma-informed primary care. The total amount of time is approximately less than 9 minutes.

- Did you know that 61% of adults have endured an adverse childhood experience, such as childhood maltreatment or housing insecurity? And, 1 in 6 of adults have experienced 4 or more?

- Did you know that for nonfatal, substantiated childhood maltreatment alone, the estimated cost for the lifetime consequences of this childhood maltreatment is over $400 billion every year?

If you are willing, the process is as follows.
1. Complete the survey in this email (approximately 1 min to complete).
2. After enough people respond to the survey, I will send all another email with two links to two short videos (each less than 5 mins).
3. After one month, I will send an email with another survey (approximately 1 min to complete).

Thank you for your time and attention! I do respect how busy everyone is!

This is the link: https://www.surveymonkey.com/r/BNL23YJ

Email to all clinic staff with link to staff education videos and with post-intervention survey

ALCON,

Thank you all for your time and attention with the survey! I would greatly appreciate if you would continue and view the following two links. Both videos are less than 5 minutes.

Specific to this clinic to consider when watching. We already have universal trauma screening for our adult patients. We have behavioral health ready and available for mental health care concerns. We have community outreach through many military programs, including locally the Family Advocacy Program and Military OneSource.

4. **https://www.traumainformedcare.chcs.org/resources-for-becoming-trauma-informed/** (1 min, 41 sec)
5. **https://www.traumainformedcare.chcs.org** (4 min, 28 sec)

Thank you for all your time and attention so far!
Here's the last survey link (unless you're a provider): **https://www.surveymonkey.com/r/B3WGYDB**

Email to providers with client education sheet

ALCON (Providers),

Attached is a universal patient education sheet that is recommended as part of TIPC to be given universally to all patients. This is for your consideration as part of your practice. Some scripts to introduce the handouts:

"I stated giving these to all of my patients."

"I've started giving two of these cards to all of my patient, so you have the info for you and so you can help a friend or family member if it's an issue for them."

In the beginning of December, I will email you a final survey regarding this universal patient education sheet. Thank you so much for your time and attention! I recognize how much care you provide with time constraints. Thank you for all you do!

Email to providers with link to client education sheet post-intervention survey

ALCON (Providers),

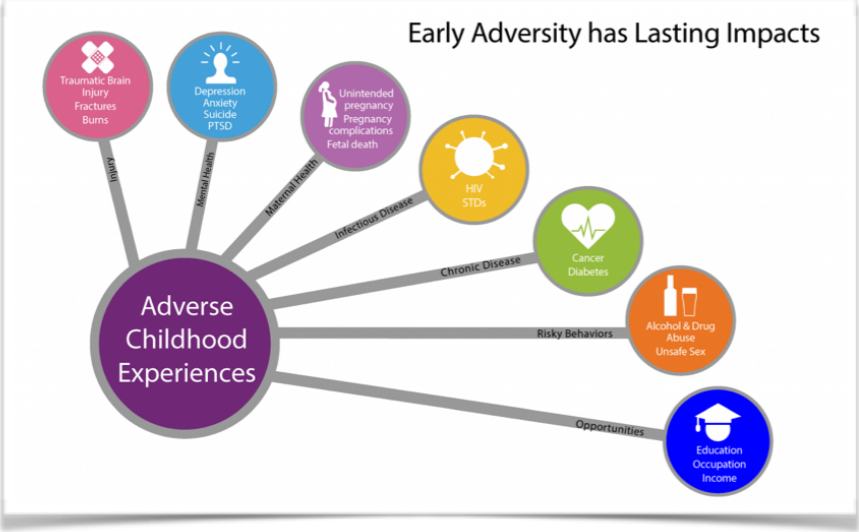
My last email! I truly do appreciate your time and attention. I would be very grateful for one final survey. It's only ten questions. Thank you so much for your time and attention! I recognize how much care you provide with time constraints. Thank you for all you do!

Link to the survey: **https://www.surveymonkey.com/r/2K69TMM**

Appendix E

Universal Client Education Sheet

Trauma Effects Your Health



Traumatic stress symptoms can include

- Being easily upset or angry • Feeling anxious, jumpy, or confused
- Being irritable or uncooperative • Feeling empty or numb

Military OneSource Mental Health Resources

https://www.militaryonesource.mil/health-wellness/mental-health/mental-health-resources

Military Crisis Line

CALL	TEXT	CHAT ONLINE
800-273-8255, then press 1	838255	Military Crisis Line

We're here to help.

Research shows things that happen in our life affect our health. Here, we care about all aspects of your health—physical, emotional, and even social. We know life can be hard and that can make managing our health even harder.

What makes you strong?

Your health is not defined by your life experiences. Each of us can use our personal strengths to achieve wellness.

References: Centers for Disease Control and Prevention (https://www.cdc.gov/violenceprevention/acestudy/resources.html); Trauma-Informed Care Implementation Resource Center (https://www.traumainformedcare.chcs.org/what-is-trauma/)

Appendix F

Budget Table

Item	Benefit	Cost	Responsible party
Survey Monkey	Data collection	$0	SurveyMonkey
SPSS	Data analysis	$99	All, by student
TIPC video training	Staff education on TIPC	$0	Trauma-Informed Care Implementation Resource Center
Clinic staff time, 15 minutes	Staff will become educated about TIPC to improve client care	$79.52	All, in kind by clinic leadership
Color physical copies of universal client education sheet	Part of a TIPC approach is to provide universal client education	$0.58/sheet $28.60/50 sheets	All, by student
DNP student travel	Project completion	Not tracked	All, by student
Total costs		$117.12	