Is Trauma Informed Care Practiced in Public STD Clinics in New York State

Antonia Brewer

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IS TRAUMA INFORMED CARE PRACTICED IN PUBLIC STD CLINICS IN NEW YORK STATE?

By

Antonia Brewer

Approved May 5, 2022

Alison Colbert, PhD
Associate Professor of Nursing
(Committee Chair)

L. Kathleen Sekula
Professor of Nursing
(Committee Member)

Betty Bekemeier, PhD,
Professor of Nursing
(External Committee Member)

Mary Ellen Glasgow, PhD, RN, ANEF
Dean School of Nursing
Professor of Nursing
ABSTRACT

IS TRAUMA INFORMED CARE PRACTICED IN PUBLIC STD CLINICS IN NEW YORK STATE?

By
Antonia Brewer
August 2022

Dissertation supervised by Dr. Alison Colbert

Introduction: Sexually transmitted diseases (STDs) are increasing in the United States and often result in long-term adverse health outcomes. New York State (NYS) local health departments (LHDs) provide public STD clinics for high risk populations also found to have high rates of violence. This study examined if/how trauma informed care (TIC) is implemented in these settings. The study sample were LHD STD Program Directors in NYS.

Method: A convergent parallel mixed methods study design was used which included an online survey and follow up interviews. Survey data were analyzed using univariate statistics and conventional content analysis was used to analyze interview data.

Results: Surveys (n = 11) and interviews (n = 10) diverged in how participants described if/how TIC is practiced in these settings. Participants reported TIC education and training
and the capacity to integrate TIC into STD clinics on surveys, but these data were not confirmed during interviews. Interviews revealed three themes: 1) Trauma is prevalent among individuals attending STD clinics, 2) TIC is understood as screening, responding to emergencies, and referrals to address trauma, and 3) STD clinic governance and infrastructure are challenges to integration of TIC in these settings. Participants also described significant negative impacts on STD clinics due to LHD resources diverted to ongoing LHD COVID 19 pandemic response efforts.

**Conclusions:** TIC is not routinely practiced in these settings. Participants need a broader understanding of how to integrate TIC into direct STD clinic services. More research is needed to identify best practices for trauma screening and providing education and training to implement TIC in these settings. More resources are also needed for STD clinics as LHDs continue to respond to the ongoing pandemic.
DEDICATION

This work is dedicated to my husband and children. I’ll always be grateful for your support and encouragement these past years.
ACKNOWLEDGEMENT

I would like to personally thank my dissertation committee members, Drs. Alison Colbert, Kathy Sekula, and Betty Bekemeier for their wisdom, guidance, and patience.
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1.0 SYSTEMATIC REVIEW OF THE LITERATURE

Manuscript #1

Systematic Review of the Literature


https://doi.org/10.1111/phn.12784
Abstract

**Objective:** This review examines trauma from violence as a risk factor for sexually transmitted diseases among women attending STD clinics. The review also aims to suggest trauma informed care integrated into STD clinics might more effectively address traumatic effects of violence linked to sexual risk behaviors among this population.

**Design and Sample:** A systematic literature review was conducted to identify empirical studies examining the relationship between different forms of violence and sexual risk behaviors among women attending STD clinics.

**Results:** All studies found high rates of violence including childhood sexual abuse, intimate partner violence, and/or community violence associated with high rates of sexual risk behaviors among women attending these settings. Researchers recommend screening for multiple forms of violence, interdisciplinary STD clinic services, and more trauma informed risk reduction interventions to address multiple forms of violence found prevalent among this population.

**Conclusion:** Women attending STD clinics are exposed to multiple forms of violence during their lifetime. Trauma informed care to address the traumatic effects of violence might reduce sexual risk behaviors and rates of sexually transmitted diseases for improved health outcomes among this population.

**KEYWORDS:** childhood sexual abuse, intimate partner violence, sexual risk behavior, sexually transmitted diseases, STD clinics, violence, women
Introduction

Centers for Disease Control and Prevention (CDC) surveillance data (CDC, 2019) reported almost 2.5 million sexually transmitted disease (STD) cases in 2018 and the fifth consecutive year STDs increased in our nation. Significant long-term adverse health outcomes including cancer and transmission of HIV are caused by STDs. Health care costs associated with STDs are also a tremendous economic burden with estimates greater than $16 billion dollars annually (Owusu-Edusei et al., 2013).

Public STD clinics are an important national public health strategy for STD prevention. In particular, women with a history of violence are at high risk for STDs (Decker et al., 2016; Hess et al., 2012; London et al., 2017). Therefore, STD clinics should focus greater attention to addressing the traumatic effects of violence women may often experience to more effectively reduce their risks for STDs.

The purpose of this literature review is to present the state of the science showing the link between high rates of multiple forms of violence and sexual risk behaviors found among women attending STD clinics. Implications of findings are discussed including integrating trauma informed care into STD clinics to address the traumatic effects of violence that may help to reduce sexual risk behaviors and STDs among this population.

Background

Particularly among women, STDs can result in long term poor reproductive health outcomes (CDC, 2019). Recent surveillance data from CDC (2019) reported increased rates among women for the three most commonly reported STDs. Chlamydia rates increased 11.9% (692.7 cases per 100,000) from 2013 – 2018, gonorrhea rates increased 45.2% (145.8 cases per 100,000) from 2014 – 2018, and syphilis rates increased 72.7% (3 cases per 100,000) from 2014
– 2018. Congenital syphilis rates (23.7 cases per 100,000 live births) also increased to the highest rates in two decades.

Public health departments receive federal and state funding for STD Prevention and Control Programs including STD clinics that provide specialized STD health care services and sexual risk reduction interventions to high risk populations (Leichliter et al., 2017). The clinics serve mostly the young and uninsured (Celum et al., 1997), racial and ethnic minority groups (Pathela et al., 2015), and individuals with psychiatric disorders (Erbelding et al., 2004), and alcohol and/or substance abuse issues (Cook et al., 2006). Screening for partner violence in these settings is mandatory for partner notification activities (CDC, 2019). However, it is unknown if follow up care is provided for women with a history of violence.

Methods

A literature review was conducted utilizing the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) method (Moher et al., 2009). Searches of CINAHL, Embase, PsychINFO, and PubMed electronic databases generated 1559 English language publications. No publication date limits were used to capture all existing literature on the topic. Search terms included childhood sexual abuse, intimate partner violence, sexual risk behavior, sexually transmitted diseases, STD clinics, violence, and women.

Covidence (www.covidence.org) systematic review software was used to guide the review process. The search yielded 1053 publications after duplicate removal. Using inclusion and exclusion criteria, titles and abstracts of 1053 publications were screened followed by a review of 63 full text publications to assess for eligibility. Inclusion criteria were empirical publications examining an association between violence and sexual risk behaviors among women attending STD clinics in the United States. Exclusion criteria were publications
theoretical or descriptive in design, literature reviews and metasynthesis, or settings other than STD clinics. Thirteen publications were selected for the review. Figure 1 shows the PRISMA flowchart.

Results

All studies used correlational designs to measure associations between violence and risk behaviors for STDs among participants. Of the 13 studies meeting inclusion criteria, nine collected data from participants about a history of violence and sexual risk behaviors using an Audio Computer-Assisted Self-Interview (ACASI). An ACASI allows a participant wearing headphones to hear questions read aloud while they appear on a computer screen (Senn et al., 2006). Of the remaining four studies, two used a researcher developed self-administered questionnaire (SAQ) (Augenbraun et al., 2001; Senn & Carey, 2010), one used a SAQ developed by public health department STD prevention program staff, and one used interviewer assisted questionnaires (Thompson et al., 1997). Except for one study (Raiford et al., 2009) that collected STD data from participants who submitted self-collected specimens for STD testing, STD data was collected from participants during STD clinic visits as part of study inclusion criteria.

Sample sizes ranged from 83 (Thompson et al., 1997) to 719 (Senn et al., 2010). Ten studies recruited only women; three studies (Senn et al., 2010; Senn et al., 2006; Senn et al., 2016) recruited women and men. Study participants were recruited from STD clinics in cities from western (Bauer et al., 2002), southeastern (Raiford et al., 2009) and northeastern United States. Six studies (Mittal et al., 2011, 2013; Senn et al., 2010; Senn et al., 2006; Senn et al., 2007; Senn et al., 2016) recruited participants from upstate New York STD clinics conducting ongoing randomized trials examining effectiveness of sexual risk reduction interventions.
Researchers examined the relationship between three different forms of violence experienced by women and sexual risk behaviors and STD history. Forms of violence included: (1) childhood sexual abuse, (2) intimate partner violence, and (3) community violence. These three forms of violence are used to present the review results. However, different forms of violence were not found to be mutually exclusive among the participants.

**Childhood Sexual Abuse**

All studies in this review found participants who reported childhood sexual abuse (CSA) were more likely to engage in sexual risk behaviors and report history of STDs. Participants who reported CSA had greater numbers of lifetime sexual partners (Senn & Carey, 2010; Senn et al., 2011; Senn et al., 2010; Senn et al., 2006; Senn et al., 2007; Thompson et al., 1997), greater numbers of sexual encounters without condoms (Senn & Carey, 2010; Senn et al., 2011; Senn et al., 2006; Senn et al., 2007), and greater likelihood of trading sex for money or drugs (Senn et al., 2011; Senn et al., 2006; Senn et al., 2007) compared with participants who did not report CSA. One study found participants who met CSA behavioral criteria, regardless of whether they perceived their experience to be CSA, had greater numbers of lifetime sexual partners, more sexual encounters without condoms, and more reported STDs compared to participants who did not report CSA (Senn et al., 2011).

The severity of CSA compared to other forms of childhood maltreatment was also found to be associated with greater likelihood of sexual risk behaviors and STDs. Senn et al. (2007) found participants who reported CSA characterized by penetration and/or force had greater numbers of lifetime sexual partners and STDs compared to participants who reported either no CSA or CSA without penetration or force. Senn and Carey (2010) examined different forms of childhood maltreatment associated with sexual risk behaviors and found CSA uniquely
associated with higher incidence of recent episodes of sexual encounters without condoms and greater numbers of lifetime sexual partners. Senn et al. (2010) also examined mediating factors between CSA and sexual risk behaviors. Participants who reported CSA and STD history were found to have higher incidence of alcohol abuse, greater frequency of drug use before sexual encounters, and greater likelihood of a history of drug use and/or depression.

**Intimate Partner Violence**

All studies in this review found that participants who reported intimate partner violence (IPV) were more likely to engage in sexual risk behaviors and report history of STDs than women who did not report IPV. Participants who reported IPV had greater numbers of lifetime sexual partners (Bauer et al., 2002), greater numbers of sexual encounters without condoms (Mittal et al., 2011, 2013; Raiford et al., 2009; Walsh et al., 2012), and greater likelihood of using alcohol and/drugs before sexual episodes (Augenbraun et al., 2001; Bauer et al., 2002) compared to participants who did not report IPV. History of STDs was also greater among participants who reported IPV compared with women who did not report IPV (Augenbraun et al., 2001; Bauer et al., 2002; Senn et al., 2010). Fear of partner violence among women was also associated with greater likelihood of inconsistent condom use during sexual encounters (Mittal et al., 2011, 2013; Raiford et al., 2009).

The association between IPV and complex health and psychosocial problems among this population is also significant. Alcohol and/or drug use and partner factors, such as women’s partners having sexual encounters with others, were greater among participants who reported IPV compared to participants who did not report IPV. Alcohol and/or drug use before sexual encounters (Augenbraun et al., 2001; Bauer et al., 2002), and main partners engaging in sex with other partners were also greater among participants who reported IPV compared to participants
who did not report IPV (Bauer et al., 2002). Augenbraun et al. (2001) found participants who reported IPV were more likely to report a history of medical problems, lifetime drug use, and STD history compared to participants who did not report IPV. Senn et al. (2010) found high rates of binge drinking, substance abuse, depression, and greater numbers of sexual partners among participants who reported IPV compared to participants who did not report IPV. Senn et al. (2010) also suggests co-occurring violence, substance abuse, depression and STDs indicates a possible syndemic pattern and worsened outcomes for this population.

**Community Violence**

Two studies in this review found participants who reported a history of community violence (CV) had higher rates of sexual risk behaviors and reported incidence of STDs (Senn et al., 2016; Walsh et al., 2012). CV is described as neighborhood and/or community violence and exposure to crime (Walsh et al., 2012). Both studies used the City Stress Inventory (Ewart & Suchday, 2002) to measure incidence of CV. Participants who reported CV reported greater numbers of lifetime sexual partners (Walsh et al., 2012) and greater numbers of sexual encounters without condoms (Senn et al., 2016; Walsh et al., 2012). Mediating factors between CV and increased sexual risk behaviors were also significant. Participants who reported CV were more likely to report mental health issues, alcohol or substance abuse, and a history of IPV (Senn et al., 2016). Participants who reported a history of multiple episodes of different forms of violence also had greater likelihood of using substances before sexual episodes, greater numbers of lifetime sexual partners and higher incidence of STDs (Walsh et al., 2012).

**Discussion**

The results of this review clearly demonstrate women attending STD clinics are very likely to have experienced one or multiple forms of violence during their lifetime which
significantly contributes to their risks for STDs. All studies in this review found high rates of violence associated with high rates of sexual risk behaviors among women attending these settings. Among the studies, over a third (37.3%) (Augenbraun et al., 2001) to more than half (57%) (Mittal et al., 2011) of participants reported IPV, and almost half (45%) (Walsh et al., 2012) to more than two thirds (69%) of participants reported CSA (Senn et al., 2007). Exposure to multiple forms of violence including IPV (19%), CSA (45%) and CV (mean of .71(SD = .66) on a 0-3 scale) was also significant among participants (Walsh et al., 2012).

Complex health and psychosocial issues were also prevalent among participants further complicating STD prevention efforts (Senn et al., 2010). Raiford (2009) emphasizes women need more than education to reduce STD risks. Greater attention to the traumatic effects of violence must include a broader spectrum of STD clinic health care services to help women cope with and heal from past or current violence.

Researchers identified three general areas to be addressed when providing care for women with a history of violence. First, routine screening for a history of violence and referrals to community support services should be integrated into STD clinic services (Augenbraun et al., 2001; Bauer et al., 2002; Senn & Carey, 2010; Walsh et al., 2012). Screening for violence should also be comprehensive and include different forms of violence women may have experienced during their lifetime. Evidence shows women are receptive to sensitive questioning about past violence and abuse by health care providers (Coles & Jones, 2009). Sensitive and comprehensive violence screening is a necessary first step to address women’s safety concerns when attempting to change sexual risk behaviors with abusive sexual partners.

Second, STD clinic health care services should be interdisciplinary and coordinated across service systems (Augenbraun et al., 2001; Senn & Carey, 2010). Senn et al. (2010)
suggested embedding STD clinics into alcohol/drug treatment programs or homeless shelters to provide services to vulnerable populations in one setting. Interdisciplinary STD health care services may also facilitate STD training and research opportunities for improved care. This recommendation is innovative in light of health care reform shifting resources away from publicly funded STD clinics to other health care settings (Hoover et al., 2015). Interdisciplinary STD health care services that are coordinated to address the physical, psychological, and socioeconomic factors related to STD reoccurrence and transmission may be more successful and cost effective for reducing rising STD rates.

Third, researchers cited a need for more trauma focused interventions to address the prevalence of violence and high rates of sexual risk behaviors found among women attending these settings (Mittal et al., 2011, 2013; Senn et al., 2006). This recommendation is also supported by evidence in the literature from two multi state experimental studies conducted with women with co-occurring mental health and substance abuse disorders and a history of violence. (Hien et al., 2010; Morrissey et al., 2005). Findings showed reduced trauma symptoms, including sexual risk behaviors, compared to women who received usual care. More recently, Senn et al. (2017) piloted a trauma focused integrated sexual risk reduction intervention addressing both traumatic effects of violence and knowledge and skills women need to reduce sexual risks. Participants who received the trauma focused integrated intervention reported less sexual risk behaviors and partner violence compared to participants who received the intervention that focused only on knowledge and skills to reduce STDs. This evidence also suggests trauma focused STD health care and risk reduction interventions are effective in reducing sexual health behaviors among women with a history of violence.

**Implications for Practice: The Importance of Trauma Informed Care**
Given the results of this review, it is clear trauma from violence is a critical factor in STD prevalence, and must be addressed when screening, diagnosing and treating STDs and for STD prevention programs. Trauma informed care (TIC) can provide that essential foundation to health care services delivery. The approach is based on trauma theory suggesting unrecognized or unresolved trauma symptoms often manifest into physiological reactions to situations which summon back feelings of the traumatic event for an individual (SAMHSA, 2014).

Trauma can occur when an individual experiences physical or psychological harm such as violence, natural disasters, and/or severe or life-threatening neglect or maltreatment such as physical or sexual abuse (SAMHSA, 2014). The critical element that defines an event as a traumatic experience is the subjective response of the individual (Van der Kolk et al., 2012). Trauma survivors often experience a wide range of feelings from panic and distress to disassociation making them feel helpless, insecure, and vulnerable (SAMHSA, 2014). Repressed memories and/or unrecognized trauma symptoms may also result in exaggerated or unpredictable responses by trauma survivors (Fallot & Harris, 2001). Health care professionals who are unaware or unable to identify or predict stimuli that may trigger trauma symptoms may cause retraumatization of an individual’s traumatic experience (Reeves, 2015).

The Substance Abuse and Mental Health Services Administration (SAMHSA) report, *Concept of Trauma and Guidance for a Trauma-Informed Approach* (SAMSHA, 2014) could be used as a conceptual framework for integration of TIC into STD clinic health care services. The purpose of the report is to facilitate development of a shared understanding of the concept of trauma and a trauma informed approach across health and human services systems. The report provides guidance for how health and human services agencies can integrate TIC into their infrastructure and services to address trauma related issues and improve outcomes for
populations they serve. The report describes key principles of TIC which include (1) safety, (2) trust building, (3) peer support, (4) interprofessional collaboration, (5) empowerment, (6) and cultural sensitivity. These principles are meant to ensure safety, empowerment, and choice to meet the unique needs of trauma survivors (Rosenberg, 2011). The goal of TIC is to empower individuals with a history of trauma so they may become more active participants in their care and recovery (Elliott et al., 2005). Retraumatization of individuals with a history of trauma and violence may also be reduced if health and human services agencies provide more trauma informed programs and services (Fallot & Harris, 2001).

There is evidence to show that TIC integrated into behavioral health care (Conover et al., 2015), child welfare programs (Gillen, 2012), and veterans’ health care (Kelly et al., 2014) improves health outcomes. Researchers also recommend integrating TIC into primary and/or preventive (Machtinger et al., 2015; Raja et al., 2014) and women’s health care settings (Reeves, 2015; White et al., 2016) to address trauma found prevalent among individuals accessing routine health care services. Based on this review demonstrating women attending STD clinics are likely to have experienced multiple forms of violence in their lifetime, it stands to reason TIC should be integrated into STD clinic health care services. Moreover, evidence also shows women with a history of violence desire TIC from health care providers for more sensitive care and treatment of their unique needs (McGregor et al., 2010; Muzik et al., 2013).

Challenges to implementing TIC in public STD clinics include lack of resources for changes needed at multiple organizational levels including improved physical infrastructure and staff development and training. Publicly funded STD clinics also differ greatly in their resources and infrastructure which could limit their ability to establish TIC. For example, STD clinics can either operate using direct health care staff employed by public health departments, or contract
with other primary and women’s health care organizations to operate the clinics for improved cost effectiveness. Health care reform has also resulted in decreased funding for public STD programs and subsequent decreased hours and/or closings of STD clinics (Leichliter et al., 2017). In an era of rising STD rates, evidence from this review underscores a tremendous need for more effective public STD clinic health care services.

**Conclusion**

Women who experience violence during their lifetime are more likely to engage in sexual risk behaviors and have high STD rates (Decker et al., 2016; Hess et al., 2012; London et al., 2017). Alarmingly high rates of violence and STDs found among women attending STD clinics (Walsh et al., 2012) emphasizes more must be done to address the needs of women with a history of violence to reduce their risks for STDs and improve health outcomes. Integration of TIC into STD clinics might help address the traumatic effects of violence prevalent among this population. However, it is not clear from the literature if or how TIC is integrated into STD clinic health care services. Further research is needed to examine how TIC can be integrated into STD clinic health care services to address the complex needs of women with a history of violence attending these settings.

SAMHSA (2014) provides evidence-based guidelines for organizational structure and operations necessary to establish TIC in health and human services agencies. These guidelines should be adopted by public STD clinics. There is compelling evidence to show TIC should be implemented as an evidence-based strategy to strengthen STD clinic health care services to address the prevalence of violence found particularly among women who attend these settings. Reducing STDs among high risk populations attending STD clinics is also an important public health strategy for reversing the national trend of rising STDs.
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https://doi.org/10.1007/s00737-015-0547-7
### Table 1

**Summary of Findings: Forms of Violence Associated with Sexual Risk Behaviors/STDs Among Women Who Attend STD Clinics**

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<tr>
<th>Author/Study</th>
<th>Design/Measures</th>
<th>Sample</th>
<th>Types of Violence</th>
<th>Sexual Risk Behaviors/STD</th>
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</thead>
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<tr>
<td>Augenbraun et al. (2001). Domestic violence reported by women attending sexually transmitted disease clinic</td>
<td>Cross sectional design/Chi-square and Analyses of variance.</td>
<td>375 women</td>
<td>37.3% reported lifetime history of IPV, 15.5% IPV (12 months), 32.7% verbal threat of IPV (lifetime), 19.1% (three months).</td>
<td>IPV associated greater likelihood of STD (p &lt; 0.01), STD-related symptoms (12 months) (p &lt; 0.07), lifetime use of illegal drugs (p &lt; .001), and recent (6 months) illegal drug use (p &lt; 0.01).</td>
</tr>
<tr>
<td>Bauer et al. (2001) Intimate partner violence and high-risk sexual behaviors among female patients with sexually transmitted diseases</td>
<td>Cross sectional design/Logistic regression analyses.</td>
<td>409 women</td>
<td>24% of women reported lifetime history of IPV, 11% of women reported recent IPV past 12 months,</td>
<td>IPV associated with greater likelihood of STD (OR 2.15; 95% CI, 1.23-3.77). IPV associated with alcohol/substance abuse before sex (OR, 2.36; 95% CI, 1.17-4.77) in past 3 months, and main partners who had other sexual partners (OR, 3.75; 95% CI, 1.94-7.26).</td>
</tr>
<tr>
<td>Mittal et al. (2011) Mediators of the relation between partner violence and sexual risk behavior among women attending a sexually transmitted disease clinic</td>
<td>Part of ongoing randomized control trial/Chi-square and Analyses of variance.</td>
<td>717 women</td>
<td>57% reported lifetime history of IPV, 18% of reported IPV past 3 months,</td>
<td>IPV associated with more episodes of unprotected sex (lifetime), Wald ( \chi^2 ) (1, N=700) = 3.02, p &lt; .10, OR = 1.76 (CI = 0.93-3.32). more episodes of unprotected sex past 3 months Wald ( \chi^2 ) (1, N=700) = 13.38, p&lt; .001, OR = 2.18 (CI = 1.44-3.31).</td>
</tr>
<tr>
<td>Mittal et al. (2013) Fear of violent consequences and condom use among women attending an STD clinic</td>
<td>Part of ongoing randomized control trial/Chi-Square and Analyses of variance</td>
<td>478 women</td>
<td>17% reported IPV past 3 months,</td>
<td>IPV associated with greater likelihood of episodes of unprotected sex (F 1,458 = 8.03, p&lt;.01) Fear of violence associated with more frequent episodes of unprotected sex (F (1,461) = 15.57, p&lt;.0001).</td>
</tr>
</tbody>
</table>
### Table 1

**Summary of Findings: Forms of Violence Associated with Sexual Risk Behaviors/STDs Among Women Who Attend STD Clinics**

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<th>Types of Violence</th>
<th>Sexual Risk Behaviors/STD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiford et al. (2009) Effects of fear of abuse and possible STI acquisition on the sexual behavior of young African American women</td>
<td>Correlational design/logistic regression analysis</td>
<td>715 women</td>
<td>47.6% reported lifetime history of IV and 15% reported IPV past 60 days.</td>
<td>61% did not use condoms with main partner. 75% reported inconsistent condom use past 60 days and fear of abuse related to inconsistent condom use with main partner (p &lt; .01; p &lt; .04)</td>
</tr>
<tr>
<td>Senn et al. (2006) Childhood sexual abuse and sexual risk behavior among men and women attending a sexually transmitted disease clinic</td>
<td>Part of ongoing randomized control trial/Linear regression analyses</td>
<td>827 study participants 376 women</td>
<td>49% reported childhood sexual abuse (CSA), 68% reported CSA involving force.</td>
<td>CSA associated more lifetime sexual partners (p &lt; .0001), more sexual partners (p &lt; .001) past 3 months, more episodes of unprotected sex (&lt; .05) past 3 months, greater likelihood of trading sex for drugs or money (p &lt; .0001), reported STD (p &lt; .01).</td>
</tr>
<tr>
<td>Senn et al. (2007) Characteristics of sexual abuse in childhood and adolescence influence sexual risk behavior in adulthood</td>
<td>Part of ongoing randomized control trial/Analyses of variance</td>
<td>557 women</td>
<td>66% reported CSA, 20% reported CSA without force or penetration, 39% reported CSA with penetration, 37% reported CSA with both force and penetration.</td>
<td>CSA associated with more lifetime sexual partners (p &lt; .0001), more episodes of unprotected sex (p &lt; .01), more recent (3 months) sexual partners (p &lt; .0001), more episodes of trading sex for drugs (p &lt; .0001), and greater likelihood of STD (p &lt; .0001).</td>
</tr>
<tr>
<td>Senn and Carey (2010) Child maltreatment and women’s adult sexual risk behavior: Childhood sexual abuse as a unique risk factor</td>
<td>Part of ongoing randomized control trial/Analyses of covariance</td>
<td>414 women</td>
<td>80% reported at least one type of childhood maltreatment, 56% reported multiple types of childhood maltreatment, 4% reported CSA without another type of abuse.</td>
<td>Greater likelihood of average number of lifetime sexual partners (21.9) and average number of recent (past 3 months) sexual partners (2), Greater likelihood of average number of recent (3 months) episodes of unprotected sex (16.9). 67% of women reported recent (3 months) episodes of unprotected sex.</td>
</tr>
</tbody>
</table>
Table 1

Summary of Findings: Forms of Violence Associated with Sexual Risk Behaviors/STDs Among Women Who Attend STD Clinics

<table>
<thead>
<tr>
<th>Author/Study</th>
<th>Design/Measures</th>
<th>Sample</th>
<th>Types of Violence</th>
<th>Sexual Risk Behaviors/STD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senn et al. (2010)</td>
<td>Part of ongoing randomized control trial/Logistic regression analyses</td>
<td>1557 participants (719 women)</td>
<td>51% reported CSA, 38% reported IPV, 46% reported marijuana use and greater likelihood of IPV.</td>
<td>70% had more than one sexual partner in past 3 months. Interactions between CSA and marijuana use (p &lt; .05), CSA and IPV (p &lt; .05) and were associated with STI diagnosis.</td>
</tr>
<tr>
<td>Senn et al. (2011)</td>
<td>Retrospective design/Analyses of covariance</td>
<td>481 women</td>
<td>43% of women met research criteria for CSA, of which 69% self-defined as CSA.</td>
<td>More lifetime sexual partners (p &lt; .001), episodes of unprotected sex (p &lt; .001), trading sex for money/drugs (p &lt; .001) associated with self-defined as CSA. 66% reported episodes of unprotected sex in past 3 months. 84% reported previous STD diagnosis.</td>
</tr>
<tr>
<td>Senn et al. (2016)</td>
<td>Part of ongoing randomized control trial/Structural equation modeling</td>
<td>508 participants (236 women)</td>
<td>Mean exposure to CV 0.7 on 0-3 scale, 28% reported IPV in past 12 months.</td>
<td>CV marginally positive association with episodes of unprotected sex with non-steady partners (p &lt; .10). Mediating variables for CV associated with poor mental health (p &lt; .05), alcohol use (p &lt; .05), and drug use (p &lt; .01).</td>
</tr>
<tr>
<td>Thompson et al. (1997)</td>
<td>Cross sectional design/Logistic regression analyses</td>
<td>83 women</td>
<td>32.5% reported forced sex, 20.5% reported forced sex before 20 yrs of age, 16.9% reported forced sex before 18 yrs of age.</td>
<td>CSA associated with more sexual partners (p &lt; .05), more negative reactions/displeasure from partners when asked to use condoms (p &lt; .01).</td>
</tr>
</tbody>
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<td>Walsh et al. (2012)</td>
<td>Cross sectional design/Latent class analysis</td>
<td>481 women</td>
<td>53% reported physical childhood maltreatment (CM), (59%) reported psychological CM. 46% reported childhood neglect, 45% reported CSA, 19% reported IPV in past year. Mean level of exposure to CV was .71 (SD = .66) on 0-3 scale.</td>
<td>On average, 22 lifetime sexual partners, and 2 recent (3 months) sexual partners. 45% of women reported never using condoms. 31% of women reported trading sex for money, food, shelter, or drugs. 84% of women reported a STD diagnosis in their lifetime.</td>
</tr>
</tbody>
</table>
Figure 1.

PRISMA Flowchart

1559 Abstracts identified through database searching electronic databases: CINAHL, Embase, PsychINFO, PubMed

No additional articles identified through other sources

1053 publications after duplicates removed

1053 publications titles/abstracts screened

990 abstracts excluded: (other health care settings, not empirical studies, conference reports, reviews, editorials, or not relevant to review)

63 Full-text publications assessed for eligibility

50 full-text publications excluded, (study designs, variables, populations, settings, outcomes not relevant to review)

13 publications included in review
DISSERTATION PROPOSAL

Is Trauma Informed Care Practiced in Public Sexually Transmitted Disease Clinics in New York State?

Specific Aims

Sexually transmitted diseases (STD) are increasing at alarming rates in the United States (U.S.), with almost 2.5 million cases reported to the Centers for Disease Control (CDC) in 2018 and the fifth consecutive year STD increased in the U.S. (CDC, 2019). STD often lead to serious long term adverse health consequences including cancer and transmission of HIV (CDC, 2019). STD are also a significant economic burden for the U.S. with estimates exceeding $16 billion dollars in annual health care costs, as well as indirect costs from loss of work/school productivity, and the intangible costs of pain and human suffering (Owusu-Edusei et al., 2013).

In particular, women are highly vulnerable to the long term reproductive health consequences of STDs, such as infertility and poor pregnancy outcomes (CDC, 2019). A large body of evidence also shows women are at greater risk of STD if they experience violence during their lifetime (Decker et al., 2016; LeGrand et al., 2015; London et al., 2017). This evidence is further supported high rates of one or multiple forms of violence such as childhood sexual abuse, intimate partner violence, and/or exposure to community violence and high STD rates found among who attend STD clinics (Walsh et al., 2012).

STD clinics are a longstanding public health strategy for prevention of STD. In New York State, STD clinics are a mandated service provided by Sexually Transmitted Disease Prevention and Control Programs and implemented by local (county) health departments (LHDs). The clinics are operated either directly by LHD staff or through contractual arrangements with primary and/or women’s health care agencies. STD clinics play a critical role
in STD prevention by offering expert, specialized STD health care services to populations at high risk for STD (Leichliter et al., 2017). However, it is not clear if or how STD clinic health care services address the traumatic effects of multiple forms of violence found prevalent among women who attend these settings (Walsh et al., 2012).

The purpose of this study is to examine if and how trauma informed care (TIC) is integrated into STD clinic health care services. TIC is based on trauma theory (Van der Kolk et al., 2012) which suggests an individual’s subjective response to either a threat or actual single or prolonged set of events or circumstances perceived to be harmful and/or life threatening may result in long lasting adverse effects on the individual’s life and development. Unresolved trauma symptoms may also manifest into neurological and physiological changes in the body that can interfere with an individual’s cognitive processes and behaviors which may also result in lifelong adverse physical and psychological health outcomes (SAMHSA, 2014). The goal of TIC is to address the vulnerabilities and unique needs of an individual with a history of trauma (Fallot & Harris, 2001). It’s particularly important to explore if TIC is provided in STD health care services because of compelling evidence that shows these settings serve women with high rates of violence and STD (Walsh et al., 2012).

The proposed study design will be an explanatory sequential mixed methods design (Creswell, 2014) to examine if or how TIC is integrated into health care services provided in STD clinics supported by (county) local health departments STD Prevention and Control Programs in New York State. The study will be conducted in two phases: 1) a quantitative web-based survey, and 2) qualitative follow up interviews informed by the data collected and analyzed in the first phase. An anticipated result of using a mixed methods design is that the use
of qualitative follow up interviews may provide more in-depth explanation and clarification of the web-based survey results. The specific aim of this study is to:

1) Describe the degree to which TIC is integrated into STD clinic health care services

Findings from this study will inform public health services research in several ways. First, this study will provide more understanding of if and how TIC is integrated into STD clinic health care services supported by LHDs in NYS. Second, this study will assist the efforts of health care professionals in STD clinics to develop more tailored STD health care services that are more effecting in addressing the complex health and psychosocial needs of women exposed to high rates of violence and STD (Senn et al., 2010).

Significance

Rising Rates of Sexually Transmitted Disease

In 2018, in the U.S., the three most commonly reported STDs increased among women. Chlamydia rates increased 11.9% (692.7 cases per 100,000) from 2013 – 2018 (CDC, 2019). Gonorrhea rates increased 45.2% (145.8 cases per 100,000) from 2014 – 2018 (CDC, 2019). Syphilis rates increased 72.7% (3 cases per 100,000) from 2014 - 2018, and congenital syphilis rates were 23.7 cases per 100,000, the highest congenital syphilis rate in two decades (CDC, 2019). An alarming increase of 22% (from 77 – 94) in newborn deaths related to STD from 2017 – 2018 (CDC, 2019) also highlights the tragic consequences rising rates of STD in the U.S. and the need for further research to determine more effective STD health care service delivery.

Link Between Violence and Sexually Transmitted Diseases

Women with a history of violence are at greater risk of poor physical and mental health outcomes (Gelaye et al., 2015; Hager & Runtz, 2012; Symes et al., 2010). More specifically, women with a history of childhood sexual abuse CSA) and/or intimate partner violence (IPV) are
at greater risk of STD (Decker et al., 2016; Hess et al., 2012; London et al., 2017). This study is important because it seeks to examine if TIC is integrated into health care services provided at STD clinics where it is highly likely that women who attend these settings have a history of one or multiple forms of violence associated with greater risk of STD (Walsh et al., 2012).

**History of violence and sexual risk behaviors among women in STD clinics.** Women who attend STD clinics and reported a history of CSA were found to have greater numbers of lifetime sexual partners, greater numbers of sexual episodes without using condoms, and greater likelihood of trading sex for money or drugs compared with women who did not report a history of CSA (Senn et al., 2011; Senn et al., 2010; Senn et al., 2007), Similarly, women who attended STD clinics and reported a history of IPV were found to have greater numbers of lifetime sexual partners (Bauer et al., 2002), greater numbers of sexual episodes without using condoms (Walsh et al., 2012), and greater likelihood of illicit drug use (Augenbraun et al., 2001), and alcohol or substance abuse before sexual episodes (Bauer et al., 2002) compared to women who did not report IPV.

**Fear of violence and sexual risk behaviors among women in STD clinics.** Fear of violence from intimate partners among women who attend STD clinics has also been associated with increased likelihood of sexual risk behaviors and STD. Raiford and colleagues (2009) found 75% of woman with a history of IPV reported inconsistent use of condoms because they feared violent consequences from their intimate partners, even though they had high levels of knowledge that condoms prevent STD. Mittal and colleagues (2013) found similar results among women who attend STD clinics who were more likely to engage in sexual encounters without use of condoms because they feared violence from their intimate partners versus women who did not report IPV.
**Frequency of violence and sexual risk behaviors.** Increased frequency of multiple forms of violence among women who attend STD clinics has also been associate with increased likelihood of sexual risk behaviors and STD. Alvarez and colleagues (2009) found women with multiple exposures to violence reported higher STD rates compared to women who never experienced violence. Walsh and colleagues (2012) found women who experienced multiple forms of violence had greater frequency of multiple sexual partners, alcohol or substance abuse before sexual encounters, and engaging in sexual encounters without using condoms. Health care professionals in these settings need to examine how to better address the effects of violence that have been associated with high rates of STD (Mittal et al., 2013; Senn et al., 2006; Walsh et al., 2012) which may assist them in developing more effective STD health care services and prevention efforts.

**Trauma Informed Care**

Trauma informed Care (TIC) is based on an understanding of how trauma may impact an individual’s perspective and worldview, thus also impacting an individual’s choices in behavior and lifestyle (Fallot & Harris, 2001). Public systems that are in place to provide services may themselves be trauma inducing because of the nature of the way services are provided which may not take into consideration the needs of individuals with a trauma history (SAMHSA, 2014), thus, unintentionally creating barriers to needed services and care.

TIC focuses on accommodating the vulnerabilities and unique needs of an individual with a history of trauma (Fallot & Harris, 2001). Key principles of TIC are designed to promote safety, trust, and empowerment and prevent retraumatization from triggers of prior traumatic events. TIC is also designed to increase an individual’s participation in health care decisions and treatments which may improve health outcomes (Elliott et al., 2005; Fallot & Harris, 2001).
More recently, researchers recommend TIC be integrated into health care services provided in primary and preventive health care settings (Green et al., 2015; Machtinger et al., 2015; Raja et al., 2015; Reeves, 2015) and women’s health care settings (White et al., 2016) to address symptoms of trauma that may interfere with effective primary and preventive health care services and treatments. TIC integrated into STD clinics health care services, where we know women are likely to have high rates of violence, may help to address their vulnerabilities and unique needs which may often be barriers to STD treatment and prevention.

**Gap in Research**

**Are Health Care Services in STD Clinics Trauma Informed?**

Although there is evidence to support STD clinics deliver high quality, specialized STD health care services to populations at high risk for STD (Hoover et al., 2015; Leichliter et al., 2017; Pathela et al., 2015), evidence is lacking about if or how TIC is integrated into the infrastructure and provision of health care services in STD clinics. This research question is significant because of high rates of multiple forms of violence and high rates of STD found among women who attend these settings (Walsh et al., 2012). This study also addresses the recommendations of researchers to explore more effective methods for addressing the traumatic effects of violence among women in these settings, such as more tailored STD health care services and sexual risk reduction interventions (Bauer et al., 2002; Mittal et al., 2013; Senn et al., 2006). TIC is a way to provide more sensitive and trauma informed health care services to address the unique needs of women with a history of violence and may help address these recommendations.

**Theoretical Framework**
A report released by the Substance Abuse and Mental Health Services Administration (SAMHSA) *Concept of Trauma and Guidance for a Trauma-Informed Approach* (SAMHSA, 2014) provides guidelines for health and human services agencies to provide a trauma informed approach to services and will be used as the conceptual framework to guide this study. The purpose of the report was to develop a shared understanding of the concept of trauma and a trauma informed approach across health and human services systems. The report also provides guidance on how health and human services agencies can become trauma-informed to address trauma related issues which may improve outcomes for populations they serve.

TIC is based on the assumption that an individual may have experienced past or current trauma in their lifetime (SAMHSA, 2014). The key principles of TIC include (1) safety, (2) transparency and trust, (3) peer support and mutual self-help (4) interprofessional collaboration, (5) empowerment and strengths based approach, and (6) cultural sensitivity (SAMHSA, 2014). Health and human services agencies that wish to provide services that are trauma informed need to implement changes at multiple levels of the organization that will impact both staff employed at the organization and the clients they serve (Fallot & Harris, 2001). SAMHSA (2014) describes ten domains of organizational infrastructure and services aligned with the six key principles of TIC that health care agencies may use to establish a trauma informed approach. The ten domains include: 1) governance and leadership, 2) policy, 3) physical environment, 4) engagement and involvement, 5) cross sector collaboration, 6) screening, 7) staff development and training, 8) quality assurance, 9) financing, and 10) evaluation. This study will examine the degree to which the ten organizational domains aligned with the key principles of TIC described by (2014) are integrated into health care services provided by STD clinics. This study will also examine factors that may act as facilitators or barriers to TIC in these settings.
Importance of Research to Health and Nursing

Findings from this study will help to address the gap in knowledge about the integration of TIC into STD clinic health care services. These study findings will be important because they may assist in informing the efforts of health care professionals to provide STD health care services that are more sensitive and tailored to address the effects of multiple forms of violence found prevalent among women in these settings (Walsh et al., 2012). A key principle of TIC is to facilitate feelings of safety and empowerment among trauma survivors (SAMHSA, 2014). For example, health care services that are trauma informed health care means providers will always ask permission before touching a client or initiating a health care service or treatment (Coles & Jones, 2009). TIC aims to strengthen the confidence and skills for self-advocacy among trauma survivors, so individuals feel empowered to engage as full participants in their health care planning and treatment (Elliott et al., 2005). Trauma informed health care services may also improve the quality of health care experiences for trauma survivors which may result in more frequent and sustained engagement of health care services for improved outcomes (Elliott et al., 2005; Ursano et al., 2012). Findings from this study may also help to inform the efforts of health care professionals in developing more multidisciplinary and comprehensive STD health care services and prevention efforts to better address the complex health and social needs of women with a history of violence who often have a wide range of complex health and psychosocial problems (Senn et al., 2010).

Innovation

The proposed study is innovative in several ways. First, it aims to strengthen knowledge among health care professionals about how to address the effects of trauma from violence among populations most vulnerable for STD. Historically, STD clinics have served disproportionate
numbers of populations at high risk of STD including the poor, young, and uninsured (Celum et al., 1997), individuals from racial and ethnic minorities (Pathela et al., 2015), individuals with psychological disorders (Erbelding, Hutton, Zenilman, Hunt, & Lyketsos, 2004), and individuals with alcohol and substance abuse issues (Senn et al., 2010). Examining if TIC is integrated into STD clinic health care services may help health care professionals in these settings to develop more effective approaches to STD prevention by addressing the traumatic effects of violence that have been linked to women’s sexual risk behaviors. Moreover, researchers are calling for multilevel and multidisciplinary approaches to address the numerous psychosocial and health issues among those who seek care at STD clinics (Senn et al., 2010). Integration of TIC and more multidisciplinary STD health care services may be an innovative strategy for reducing rising rates of STD.

This study is also innovative because it will examine the organizational factors related to the provision of health care services in STD clinics that may facilitate or act as barriers to TIC. There are certain conditions and infrastructure that need to be in place within health care organizations in order for them to successfully integrate TIC into their organizational structure and culture (SAMHSA, 2014). For example, an organization committed to TIC will allocate appropriate resources for initial and ongoing TIC education and training programs for staff (Fallot & Harris, 2001). This study will help to identify and describe the organizational factors that may act as barriers or facilitators to TIC services in STD clinics.

Finally, findings from this study will help to expand primary prevention strategies into STD prevention programs. Primary prevention strategies such as educating women about the effects of violence and abuse on their behavior and lifestyle choices and learning how to develop healthy relationships creates opportunities for early intervention and prevention of long-term
adverse outcomes associated with lifetime exposure to violence (Chamberlain, 2006). Trauma informed secondary and tertiary STD prevention strategies may also be strengthened including screening for multiple forms of violence for early identification of risk and/or a history of violence and cross sector community partnerships with community-based violence prevention programs and support services to prevent revictimization of women from violence and abuse.

**Approach**

**Research Design**

The proposed study design will be an explanatory sequential mixed methods design (Creswell, 2014) to examine if or how TIC is integrated into STD clinic health care services. According to Creswell (2014) an explanatory sequential mixed methods design has two phases. The first phase uses quantitative data collection and analysis of findings to develop the second stage of qualitative data collection. While analyzing quantitative data findings, the researcher attempts to isolate findings that are surprising, contrary to expectation, perplexing or unusual and then uses the findings to develop qualitative data collection to explore quantitative findings more in depth (Creswell, 2014). Qualitative data is collected from a subset of individuals who participated in the first phase of quantitative data collection. The interpretation of the study results is based on reporting quantitative findings followed by reporting qualitative findings which more fully explain and clarify quantitative findings.

Based on an explanatory sequential mixed methods design (Creswell, 2014), this study will be conducted in two phases: 1) a quantitative web-based survey using a principal investigator (PI) developed inventory tool, and 2) qualitative follow up interviews to further inform and explain the quantitative web-based survey findings. For the first phase of the study, the principal investigator (PI) will solicit quantitative web-based survey data from participants.
representing STD Prevention and Control Programs in each of the 58 local health departments (LHDs) in New York State. Because there is no published tool available, the PI will develop a quantitative survey tool to be used for this study. The PI developed tool will collect data to describe the infrastructure and services of STD clinics based on the SAMSHA (2014) framework for ten domains of organizational structure and processes aligned with the key principles of TIC.

The second phase of the study will include qualitative follow up interviews with a subset of participants who completed the web-based quantitative survey. The qualitative follow up interviews will be conducted using Zoom©2020 videoconferencing software. Results of the quantitative web-based survey will be used for purposeful sampling to select the subset of participants and to develop the questions to be asked for the qualitative follow up interviews (Creswell, 2014). The purpose of the qualitative follow up interviews will be to more fully explain and clarify the quantitative web-based survey findings for if or how STD clinics implement TIC in health care services. The qualitative follow up interviews may also help identify and describe facilitators and barriers to TIC in these settings.

Research Setting

The setting for this study will be the 58 LHDs that support publicly funded STD clinics in the 62 counties of New York State. The discrepancy between the 58 LHDs and 62 counties is explained by five counties (boroughs) of New York City: New York County (Manhattan), Kings County (Brooklyn), Bronx County (Bronx), Richmond County (Staten Island) and Queens County (Queens) which are represented by the New York City Department of Health. The New York State Department of Health (https://www.health.ny.gov/) public website lists 105 STD clinics supported by all 58 LHDs. Each LHD public website also lists the STD clinics that operate in their respective county (and New York City). The number of STD clinics supported by
each LHD vary in number depending on county population size and LHD resources. It’s also important to note that STD clinic infrastructure and operations vary among LHDs. For example, some LHDs support STD clinics that use direct LHD staff, some LHDs contract with outside health care organizations to operate their STD clinics, and some LHDs support STD clinics that use both direct LHD staff and contracted health care organizations. Variability among the STD clinics supported by LHDs throughout New York State is important data to collect to provide context for study findings.

**Research Population**

The population for this study is identified as Directors of STD Prevention and Control Programs in the 58 LHDs in New York State. Potential study participants may have different work titles because of the variability of infrastructures among LHDs. Therefore, inclusion criteria for this study will be: 1). Individuals with the title “Director of STD Prevention and Control Program” and, 2). Individuals with other LHD titles/roles with responsibility for oversight and supervision of the STD Prevention and Control Program. The PI identified this study population because these individuals are most likely to possess direct knowledge of STD clinic infrastructure and operations which greatly vary among LHDs. Demographics of each participant will be collected to describe population parameters and variability among the participants and their respective LHDs.

Each LHD maintains a public website with contact information to identify potential study participants. The PI will also directly contact each of the 58 LHDs to identify/confirm the names of Directors of STD Prevention and Control Programs and develop a list of potential study participants. Although the number of study participants will be dependent upon participants’ willingness to participate in the study, the PI will aim for participation to include the entire
population of Directors of STD Prevention and Control Programs in all 58 LHDs in New York State.

**Qualitative Research Sample.** To ensure study rigor in an explanatory sequential mixed methods study design, qualitative data collection should be built directly on quantitative data results (Creswell, 2014). Therefore, sampling procedures and the number of participants selected for qualitative follow up interviews will be dependent upon the quantitative findings of this study. For example, if the PI isolates quantitative findings that indicate TIC is integrated into STD clinic health care services, qualitative data will be solicited from those participants that may further explain and clarify quantitative findings. Quantitative data results may also be influenced by factors such as demographics and sample size (Creswell, 2014). This is an important factor to consider in this study because STD clinics among LHDs greatly differ in infrastructure, size, and staffing patterns as well as demographic profiles of populations they serve. Therefore, if possible, the PI will attempt to recruit a qualitative research sample of participants from LHDs represented by each of the four regional offices of the New York State Department of Health (NYDOH). The NYSDOH regional offices include: 1) Capital District Office, 2) New York City Office, 3) Metropolitan Regional Area Office, and 4) Western New York Office. If possible, the PI will also attempt to recruit a qualitative research sample of participants that represent LHDs with STD clinics that operate using either direct LHD staff or contract staff from outside health care organizations and/or both methods of staffing.

Other criterion for sampling procedures for selecting participants for qualitative follow up interviews may also be identified upon analysis of findings from quantitative data collection. However, the sampling procedures for qualitative data collection the PI has planned thus far for this study are designed to build qualitative data collection on quantitative data findings to ensure
adequate an adequate sample size for qualitative data collection for assuring validity of study findings (Creswell, 2014).

**Recruitment and Consent**

Permission for the study will be obtained from the Duquesne University Institutional Review Board (IRB). After completion of IRB approval, an invitation letter requesting voluntary participation in the research study will be developed. The invitation letter will include a brief description of the study, inclusion criteria, a direct link to the web-based survey, and contact information for the PI. Invitation letters will be sent via USPS and electronically to potential study participants. Using mixed modes of sending invitation letters for this study is essential because it allows for individual preferences and may make responding to the voluntary survey easier, which may also increase the survey response rate (Dillman et al., 2014). The PI will use two recruitment strategies for sending study invitation letters to potential study participants.

The first strategy will be to send a study invitation letter via USPS and electronically to every Director of STD Prevention and Control in each of the 58 LHDs in New York State. Whenever possible, the PI will personalize study invitation letters with exact names and titles of potential study participants. Recruitment of study participants by sending study invitation letters with exact names and titles whenever possible has been found to increase survey response rates (Cho et al., 2013).

The second strategy will be to send a study invitation letter to every Commissioner of Health/Public Health Director in each of the 58 LHDs in New York State. Exact names and titles of these individuals are available on LHD public websites. Sending study invitation letters to LHD administrative leaders is an important strategy for study recruitment because LHDs are likely to vary in titles and roles of individuals who have responsibility for STD Prevention and
Control Programs. Therefore, this recruitment strategy may help to ensure study invitation letters are directed to individuals who are best qualified to meet study inclusion criteria. Study invitation letters will be sent to these individuals via the USPS and electronic mailing list of the New York State Association of County Health Officials (NYSACHO). The PI has received previous endorsement of this study from the Executive Director of NYSACHO. This organization is a highly valued and trusted collaborative partner with New York State LHDS for advocacy and support for health promotion and disease prevention programs. Support from NYSACHO is important for study recruitment because collaboration with legitimate and trustworthy professional organizations has been found to increase response rates to surveys of health care professionals (Dillman et al., 2014). Collaboration with NYSACHO is also important for this study because professional organizations are reliable sources of accurate and updated contact information for potential study participants (Klabunde et al., 2012).

The PI has also received endorsement of this study from the NYSDOH Director of the Department of Epidemiology and STD Prevention and Control. This endorsement will be included with the study invitation letters sent to all LHDs via the USPS and NYSACHO electronic mailing list. Based on prior knowledge and experience of the PI, collaboration among the NYSDOH and NYSACHO for dissemination of information to LHDs about important public health issues and programs is a familiar and accepted practice. Thus, the endorsement of this study by these two state public health agencies is an important recruitment strategy to increase likelihood of recruitment of study participants.

Researchers recommend follow up contacts are likely to maximize survey response rates, although there is not a consensus regarding the recommended number of follow up contacts (Cho et al., 2013; Dillman et al., 2014; Klabunde et al., 2012). Therefore, following the survey design
methodology of Dillman (2014), the PI will send four electronic follow up contact messages to potential study participants inviting them to participate in this voluntary study. Follow up contacts will be structured based on a study timeline of 60 days, with contacts (after initial contact) on days 7, 14, 28, and 60. These intervals are based on the literature (Cho et al., 2013; Dillman et al., 2014; Klabunde et al., 2012) and the knowledge and experience of the PI regarding the amount of time that may be needed for potential study participants in STD clinics to respond to the study.

To accept the electronic invitation to participate in the study, participants will click on the embedded link in the invitation letter. Invitation letters mailed via the USPS to potential study participants will also include the electronic link to access and participate in the study. The electronic link will connect participants to a screen where they can verify their inclusion criteria by selecting “agree” or “disagree”. After the study participant verifies meeting study inclusion criteria, a voluntary informed consent embedded into the electronic survey will appear on the screen. The informed consent will provide a thorough and detailed description of the study which will also explain data will be collected in two phases: a web-based survey and follow up interviews with study participants using video teleconferencing. The participant will be asked to select “agree” or “disagree” to each phase of the study.

If the participant selects “agree” to the web-based survey and “disagree” to the follow up interview, a pop-up window will then appear in a new tab/window for the participant to complete the web-based survey. If the participant selects “agree” to the web-based survey and “agree” to the follow up interview, a pop-up window will then appear in a new tab/window for the participant to enter a first and last name, email address, and preferred days, and times to schedule a follow up interview. Once the participant enters the requested contact information for
scheduling a follow up interview, a pop-up window will then appear in a new tab/window for the participant to complete the web-based survey

**Quantitative Measures**

**Demographic data.** Demographic information will be collected to describe factors such as STD clinic staffing patterns, numbers of staff, staff vacancies, and staff educational backgrounds and credentials. Information will also be collected to identify STD clinic infrastructure and operations such as STD clinics operated only by direct LHD staff, STD clinics operated by contracting with outside health care organizations, and STD clinics operating using a combination of both direct staff and contracted agencies. STD clinic settings will also be important to identify such as whether settings are in urban, suburban, and/or rural areas. This data is important to gain an understanding of contextual factors that may impact the availability and access to STD clinics particularly since recent health care reform has shifted already dwindling resources away from publicly funded STD clinics (Drainoni et al., 2014). For example, describing factors such as STD clinic staff levels and educational backgrounds which could either facilitate or act as a barrier to integration of TIC into STD health care services will be important findings for this study. Data collected from study participants who represent STD clinics directly operated by LHDs versus study participants representing STD clinics operated by outside health care organizations may also help to more clearly describe the present context of STD clinic health care services supported by LHDs in New York State, which is also important for analysis of study findings

**Inventory of trauma informed care in STD clinics.** The quantitative web-based survey using a principal investigator (PI) developed inventory tool will contain questions designed to collect data about STD clinic organizational structure and processes based on the ten domains of
organizational structure and processes aligned with the six principles of TIC described by SAMHSA (2014). The ten organizational domains are based on the philosophy and principles of trauma theory used to develop trauma informed service delivery systems (Fallot & Harris, 2001). The ten domains are meant to provide a description of the presence or absence of principles of TIC. Because the PI developed inventory tool is being used for the first time in this study, it will not have established reliability and validity. However, established best practices for survey design (Losby & Wetmore, 2012) were used to construct the PI developed inventory tool, and inventory content is based on the literature that describes the organizational philosophy and agency models recommended for establishing and implementing health and human services delivery systems that are trauma informed (Elliott et al., 2005; Fallot & Harris, 2001).

The PI developed inventory tool includes twenty-five questions that will assess STD clinic infrastructure and services including 1) governance, 2) policy, 3) physical environment, 4) engagement 5) collaboration, 6) screening, assessment, and treatment services, 7) workforce development, 8) quality assurance, 9) financing, and 10) evaluation. Survey responses will be measured using a Likert type scale as follows: 1) “Never”, 2) “Rarely, 3) “Sometimes”, 4) “Usually”, 5) “Always”, 6) “Don’t Know”. The addition of “Don’t Know” as a neutral response may help to ensure accuracy of data from key respondents by reducing a forced response to a question (Losby & Wetmore, 2012). Because this is the first time the PI developed tool will be used, a pilot test will be conducted to help identify errors that need to be corrected with the survey tool that may impact complete and accurate data collection. Participants from the seven LHDs (Dutchess, Orange, Putnam, Sullivan, Rockland, Ulster, Westchester) represented by the NYSDOH Metropolitan Area Regional Office will be included in the pilot test for the PI developed web-based survey. Upon analysis of the survey findings, the PI will make any
necessary corrections and/or revisions to the survey tool as needed to improve accuracy and completeness of data collection

**Qualitative Measures**

**Qualitative follow up interviews.** Qualitative follow up interviews will be developed which will be conducted with a subset of study participants who participated in the quantitative web-based survey. In keeping with this study design (Creswell, 2014), the PI will develop the questions for the qualitative follow up interviews after completing the analysis of findings from the quantitative web-based surveys. The PI will then use the quantitative web-based survey findings to develop a set of open-ended questions to guide the qualitative follow up interview.

Findings from the quantitative web-based survey results that indicate TIC integrated into STD clinic health care services will be an important criterion for the PI to consider when developing open-ended questions for the qualitative follow up interviews. Other criterion identified by the PI for development of open-ended questions for the qualitative follow up interviews will be determined after the analysis of findings from the quantitative web-based surveys. However, all the open-ended questions developed for qualitative follow up interviews will build upon quantitative web-based survey results to facilitate increased validity of study findings (Creswell, 2014).

The PI will use content analysis as the qualitative research method to analyze qualitative data collected in this study. Content analysis offers a flexible and practical method for developing knowledge from data collected through research (Hsiu-Fang & Shannon, 2005). A subset of study participants will be asked open-ended questions during the qualitative follow up interviews to further explain and clarify findings of their responses to the initial quantitative web-based survey findings (Creswell, 2014). The purpose of the qualitative follow up interviews
will be to elicit the perspectives, views, and opinions of study participants who may be able to explain and clarify more clearly if or how TIC is integrated into STD clinic health care services. Data provided by study participants during the a qualitative follow up interview will also guide the PI to ask additional questions to further inform, clarify and expand upon findings from the quantitative web-based survey (Creswell, 2014). Results from the qualitative follow up interviews may help to clarify and more clearly explain study findings which may also assist the PI to identify effective methods of or barriers to integrating TIC into STD clinic health care services. This study design fits well with the overall goal of the PI which is to increase knowledge about if or how TIC is integrated into the provision of health care services at STI clinics which have been found to serve high numbers of women with a history of one or multiple forms of violence and high rates of STDs (Walsh et al., 2012).

**Selection of Participants.** The actual number of follow up qualitative interviews with participants will be based on their willingness to participate in the second phase of the study. The follow up qualitative interviews will be conducted by scheduling virtual meetings with participants using Zoom©2020 videoconferencing software. In the event of technical difficulties with using the teleconferencing software for conducting the qualitative follow up interviews, or preference of the participant, the PI will develop a backup protocol to conduct the qualitative follow up interview by telephone. After the participant completes the quantitative web-based survey, a window will pop up with a statement which thanks the participant for participating in the first phase of the study. The statement will then invite the participant to participate in the second phase of the study which is a follow up interview via a virtual meeting using Zoom©2020 videoconferencing software. The statement will also explain the follow up interview will be scheduled at a later date once the survey findings have been analyzed, and that the purpose of the
follow up interview is for the PI to gain a greater understanding from the participant of if or how
TIC is integrated into STD clinic health care services.

The participant’s response to agree to participate with a follow up interview will be
obtained during the initial informed consent process for participation in this study. Within 24
hours of the participant’s response to agree to the follow up interview, the PI will send the
participant an email confirming their response. The confirmation email will also include
information such as type of teleconferencing software used for the interview and projected time
frame for the follow up interview.

Projected time frame for the follow up interviews will be determined more specifically
when the PI begins the study. Since the first phase of the study to collect qualitative data will be
planned for 60 days, qualitative data collection will be planned within 30 days of the analysis of
quantitative findings. The PI will keep a detailed study log which will track the participants who
agree to participate in the follow up interviews. Once an interview day and time is finalized with
the participant, the PI will send a confirmation email that will include the Zoom©2020
videoconferencing link and an Outlook Calendar invitation so the interview date can be
scheduled directly into the Outlook calendars of the PI and participant. The Outlook Calendar
invitation will also be set up for reminders to be sent to the PI and participants one week, and one
hour before the scheduled time of the interview.

**Interview protocol.** Before the actual interview is conducted, the PI will obtain a verbal
consent from the participant to participate with the qualitative follow up interview. A verbal
consent to participate in the study will include permission from the participant to digitally record
the interview. To ensure a standardized method of conducting and recording the follow up
interviews, the PI will follow a qualitative interview protocol. The PI will maintain a detailed
study log with handwritten notes transcribed into a Word document after each follow up interview. A back up plan protocol for telephone interviews and handwritten notes of the interview will also be developed by the PI in the event of technical issues with the Zoom©2020 videoconferencing software.

The final questions for the qualitative follow up interviews will be developed after the PI analyzes the findings of the quantitative web-based surveys. To minimize bias, the PI will be mindful when developing the final interview questions and format to provide an opportunity for participants to give detailed explanations of their answers and elaborate on their own thoughts and ideas (Creswell, 2014). The PI will also schedule time immediately after each qualitative follow up interview to listen to the digitally recorded interview and to immediately transcribe the interview verbatim into a Word document that will also be analyzed in combination with the recorded interviews to clarify coding and themes.

**Data Collection and Management**

Qualtrics ([https://www.qualtrics.com](https://www.qualtrics.com)) software will be used to transform the PI developed TIC inventory tool into a web-based survey format. An anonymous survey link will be disseminated to all participants for accessing the survey. A study database will be developed for monitoring and analysis of the survey data collected for the study. The survey data will be deidentified and entered into a password protected SPSS© database for analysis of the survey results. A subject identification number will be assigned to each study participant to de-identify the data and ensure protection of confidentiality. Data tables will be set up in the study database to enter data for each participant and collect measurements necessary for each of the study methods. Data tables will capture all study related data collected in the survey. Each data field will be defined and given a domain indicating the range of value assigned to make data entry
consistent and prevent data entry errors (Hulley et al., 2013). Particular attention will be given to minimize errors in data collection for measuring outcome variables (Hulley et al., 2013). Consistency checks will be conducted to ensure patterns of data collection are reasonable (Polit & Beck, 2012). Errors in data collection will be corrected and a record of all data collection and correction of data entry will be recorded in a study diary maintained by the PI. All steps of the data collection and management will be documented in the PI study diary and kept in a secure location. To protect the integrity and security of the data, the study database will include an editing feature that tracks all edits in data fields, regular data backup systems, and archived data kept in a secure storage system. The study database will be password protected to maintain the safety and integrity of the study data. All study data and materials will be kept in a locked cabinet in the PI’s locked office. The computer used for the study will be password protected and will also be stored in a locked cabinet in the PI’s office when not in use. All data will be reported in the aggregate in reports on the results.

**Data Analysis**

**Quantitative data analysis.** Data from quantitative survey findings will be analyzed using univariate and bivariate statistics. Univariate statistics will be used to describe individual TIC practices among STD clinics. Bivariate statistics will be used to examine differences among LHDs in TIC practices based on factors such as staffing (i.e. direct LHD staff or contract) and clinic settings (i.e. urban, rural). Descriptive statistics (i.e. mean, median, standard deviation, skewness, kurtosis, range, and outliers) will be used to describe the degree to which components of TIC are integrated into the STD clinic infrastructure and health care services. Survey questions will be analyzed based on frequency of responses to individual survey questions. Descriptive statistical analysis will be used to describe and summarize results from the PI
developed TIC inventory tool. Descriptive statistics used to describe and summarize the data help make data more comprehensible so the PI may develop a better understanding of the data (Polit & Beck, 2012).

**Qualitative data analysis.** Interviews will be transcribed into a Microsoft Word document and imported into NVivo 10 for data management and analysis. Open line-by-line coding will be used to allow the PI to generate descriptions and interpret themes and patterns for the data (Houser, 2008). Data will then be categorized for thematic analysis and interpretation (Creswell, 2014). The PI will utilize multiple strategies reported in the literature to assess for validity of study findings to assess validity reliability of study findings (Noble & Smith, 2015).

**Meticulous recordkeeping.** The PI will maintain detailed and accurate records in the study guide of all data collection procedures and decisions regarding data collection. Detailed meticulous recordkeeping ensures interpretations of data are consistent and transparent

**Member checking.** The PI will seek comments from participants on major findings and themes in their interview transcripts to determine clear and accurate representation of participants’ viewpoints and perspectives (Creswell, 2014). This strategy may require a second follow up interview with a participant to provide an opportunity to comment on study findings (Creswell, 2014).

**Clarifying bias.** To clarify any bias that may impact study validity, a study journal will be maintained by the PI for self-reflections regarding personal feelings and professional influences that may influence and shape the PI’s interpretations of findings (Creswell, 2014). The PI will also seek feedback from other researchers including members of the PI’s dissertation committee to provide an objective assessment of the study proposal and methodology (Creswell, 2014).
Conveyance of accurate findings. The PI will ensure rich, thick verbatim descriptions of qualitative findings, such as detailed descriptions of STD clinic services provided, to ensure realistic descriptions and different perspectives are offered in interpretation of study findings (Creswell, 2014)

Seeking out comparisons. Collecting data that is also counter to the themes of qualitative findings and ensuring different perspectives are represented can help in the interpretation of data that is more realistic and valid (Creswell, 2014; Noble & Smith, 2015).

Anticipated Barriers and Challenges

Recruitment of study participants and/or potential lack of response to the survey is a potentially significant barrier to this study, particularly in light of the current and ongoing priority of LHDs in New York State to respond to the COVID 19 pandemic. To address this barrier, The PI will assess and adjust the appropriateness of the timing of study recruitment for LHDs throughout New York State. For example, it may be necessary to begin recruitment among LHDs that may currently be less impacted by the pandemic to maximize the response from LHDs. The PI will also follow a rigorous process of identifying the individuals who are likely to meet the inclusion criteria for this study so that invitations can go directly to potential study participants. The PI has also received endorsement of this study from the NYSDOH and NYSACHO, that work closely with LHDs on important public health issues which may help facilitate participation with the study. Furthermore, NYSACHO has also agreed to disseminate the study flyers for recruitment of participants to all administrators of all LHDs which will further increase the likelihood that potential recipients get invitations to participate in this study.

Accuracy and completion of the list of STD clinics on the NYSDOH public website may also be a challenge because of a possible backlog of changes and closures of STD clinics not yet
updated on the NYSDOH website. To ensure accuracy and completion of the list of STD clinics in NYS, the PI will cross check every county’s public website listing STD clinics and addresses against the list of STD clinics and addresses on the NYSDOH website. When there is a discrepancy, the PI will use the listing of STD clinics from the county website as it is more likely to have reliable and updated information.

Another limitation to this study may be that data collected represents one individual’s survey responses to describe TIC integrated into STD clinic health care services in their respective county. This could result in bias due to a lack of understanding of TIC resulting in less meaningful responses from participants and could also be a limitation for interpreting study findings. Alternatively, data collected from participants who have direct knowledge of STD health care services could be considered a strength of this study. Data collected from participants is likely to be accurate in the interpretation and description of STD health care services since these individuals have firsthand knowledge of the day to day STD operations, policies, and procedures.

Variance among participants, such as differing levels of education and credentials among health care professionals, particularly among health care staff from STD clinics that are operated by contracted health care agencies may also be a challenge as survey responses may not be representative of STD clinics operated by LHD staff. To address this challenge, the PI will attempt to collect qualitative follow up interviews with participants representing participants who represent STD clinics operated both directly by LHDS and staff of outside health care agencies that LHDs contract with for STD clinics. The PI will also attempt to conduct qualitative follow up interviews from participants that represent all regions in NYS to include participants that represent STD clinics located in urban, suburban, and rural settings.
Protection of Human Subjects and Data

Duquesne University Internal Board Review (IRB) approval will be sought for approval of all study procedures and materials prior to data collection as per the Duquesne University IRB research protocol. This study focuses on public health services research and does not involve access to protected health information of study participants. Therefore, HIPAA requirements are not relevant for this study. However, protection of human subjects will include maintaining confidentiality of study participants and ensuring their informed consent to participate in the study.
Timeline

A timeline for the study is as follows:

September 2019  Submit proposal draft to Chair
October/November 2019  Revise study proposal
March 2020  Proposal defense
*July 2020  Submit/obtain IRB approval
**August 2020  Begin data collection
November 2020  Begin data collection

*Start of data collection subject to IRB approval

**Data collection began November 2020
References


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## Appendix A

### STD Clinic Demographic Information

<table>
<thead>
<tr>
<th>County:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>STD Clinic Staff:</td>
<td>Number</td>
</tr>
<tr>
<td><em>Check YES if staff also serves in role of clinic manager/supervisor</em></td>
<td>Physicians</td>
</tr>
<tr>
<td>Nurse Practitioners</td>
<td></td>
</tr>
<tr>
<td>Supervising Public Health Nurses</td>
<td></td>
</tr>
<tr>
<td>Public Health Nurses (BSN)</td>
<td></td>
</tr>
<tr>
<td>Registered Nurses/Community Health Nurses (RN)</td>
<td></td>
</tr>
<tr>
<td>Licensed Practical Nurses</td>
<td></td>
</tr>
<tr>
<td>Administrative/Clerical</td>
<td></td>
</tr>
<tr>
<td>Medical Translators</td>
<td></td>
</tr>
<tr>
<td>Other (specify)</td>
<td></td>
</tr>
<tr>
<td><strong>Total Number STD Clinic Staff</strong></td>
<td></td>
</tr>
</tbody>
</table>

### STD Clinic Settings: Describe HOW STD clinics operate in your LHD:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Number</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suburban</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Total Number of STD Clinics** |  |  |
Appendix B

Principal Investigator Developed Trauma Informed Care Measurement Tool

Key principles of trauma informed care promote safety, trust, and empowerment and prevent unintentional triggers from health care interactions that may retraumatize trauma survivors.

Please choose the answer that BEST describes how STD clinic health care services are planned, implemented, and provided in STD clinics in your county:

1. Does your agency leadership communicate support for trauma informed care by integrating knowledge about the effects of violence and abuse into health care services provided by the clinic?

2. Does your agency’s mission statement state the intent to increase understanding of the impact of the traumatic effects of violence as an integral part of health care services?

3. Are there written policies and procedures that include a focus on trauma and issues of patient safety and confidentiality?

4. Are there written policies and procedures that provide information and guidance on how to prevent retraumatization in the provision of health care services and procedures?

5. Are there written policies and procedures that include clients that are receiving services in meaningful roles within the agency for planning services, policies and procedures, and evaluation of services?

6. Does human resources have hiring practices for health care workers who are already “trauma champions” defined as those who understand the effects of trauma and trauma informed care?

7. Does the agency provide all levels of staff (direct care, administrators/supervisors, support/indirect staff) with a minimum of basic training about trauma informed care to address the traumatic impacts of violence and victimization of clients?

8. Does the agency provide ongoing staff development and training to build and strengthen health care staff knowledge and skills for providing trauma informed health care services?


9. Does the agency provides ongoing staff development and training to build staff knowledge and skills for working with peer supports as an integral part of the agency’s


10. Does the agency provide ongoing staff development and training to address the emotional stress that can arise in staff when working with individuals who have had traumatic experiences?


11. Does the physical environment promote a sense of safety, calm, and de-escalation for clients and staff?


12. Do staff members recognize and work together to address aspects of the physical environment that may retraumatize clients?


13. Does the physical environment address gender related physical and emotional safety concerns for clients?


14. Do staff members keep clients fully informed of health care services and procedures to be conducted, while being mindful that frightened or overwhelmed clients may have difficulty processing information?


15. Do staff members help clients identify strategies that contribute to feeling empowered and comforted?

16. Are there processes/systems of communication in place for working with other partner agencies that have experience and knowledge in providing trauma informed care?


17. Are there processes/systems of communication in place for referring clients to agencies that provide trauma informed supportive services and programs?


18. Does the agency conduct universal trauma screening and assessment on all clients receiving services?


19. Does the agency have the capacity to provide trauma informed care and specific treatments or refer to agencies that provide appropriate trauma specific care and services?


20. Does the agency have peer supports (individuals with lived experience of trauma from violence) integrated into the services provided by the agency:


21. Does the agency provide gender specific trauma informed health care services and supports to both men and women?


22. Does the agency provide education to clients about the range of reactions to trauma to work towards minimizing client feelings of fear or shame and to increase self-understanding?


23. Do clients who have experienced trauma have the opportunity to provide confidential and anonymous feedback to the agency to inform quality assurance processes for better client engagement and services?


24. Does the agency have an established tool(s)/measure to evaluate services that reflect an understanding of trauma and are trauma oriented?

1) “Never”, 2) “Rarely,”

25. Does the agency provide financial resources to support trauma informed care including hiring and training for agency staff, peer specialists and cross sector partners and creating and maintaining a safe physical environment?

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE:
Is Trauma Informed Care Practiced in Public Sexually Transmitted Disease Clinics

INVESTIGATOR:
Antonia Brewer, MA, RN
Doctoral Student, School of Nursing
11 Hudson Lane
Ulster Park, 12487

ADVISOR: (if applicable)
Alison M. Colbert, PhD, PHCNS-BC, FAAN
Associate Professor, School of Nursing
Duquesne University
600 Forbes Avenue
Pittsburgh, PA 15282

SOURCE OF SUPPORT:
This study is being performed as partial fulfillment of the requirements for the doctoral degree in Nursing at Duquesne University.

STUDY OVERVIEW:
The proposed study aims to describe and expand understanding of the degree to which trauma informed care is integrated into health care services provided at public sexually transmitted disease clinics in New York State. The proposed study also aims to examine organizational factors that may facilitate and/or act as barriers to integrating trauma informed care into health care services provided at these settings.

PURPOSE:
You are being asked to participate in a research project that is investigating if and/or how trauma informed care is integrated into health care services provided at public sexually transmitted disease (STD) clinics in New York State.
In order to qualify for participation, you must:

- Individual with the title/role “Director of STD Prevention and Control Program”
- Individual with other local health department title/role with responsibility for oversight and/or supervision of the STD prevention and control program

PARTICIPANT PROCEDURES:

If you provide your consent to participate, you will be asked to participate in the study which includes two phases as follows:

- Complete an electronic 25-question survey given using Qualtrics software. The survey is accessed by an anonymous link and is estimated to take 30 minutes or less to complete.

- In addition, you will be asked to allow me to interview you to gain your perspectives, views and opinions of if or how trauma informed care is integrated into health care services provided at STD clinics. The interviews will be conducted using Zoom teleconferencing software, and both audio and video will be recorded and transcribed. The length of the interview will be 60 minutes or less and it can take place at a convenient and private location selected by you.

RISKS AND BENEFITS:

There are minimal risks associated with participating in this study, but no greater than those encountered in everyday life. The benefits of participating in this study include expanding and advancing knowledge of if and/or how trauma informed care is integrated into health care services provided at public STD clinics. This knowledge can help inform public health practice and improve quality and effectiveness of STD treatment and prevention programs.

COMPENSATION:

There is no compensation to you to participate in this research project and there is also no cost for you to participate in this research project.

CONFIDENTIALITY:

Your participation in this study, and any identifiable personal information you provide, will be kept confidential to every extent possible. Your name will never appear on any survey or research instrument used for this study and names will also be removed from the transcribed interview data. Your responses to questions may appear as de-identified quotes, so anything that could identify you will be removed. Electronic survey results and Zoom video and audio recordings will be stored on a password protected computer in a locked file cabinet in a locked office. No identity will be made in the data analysis. All study materials will be destroyed after five years. The study may be published or presented at professional meeting but at no time will your identity be shared or known. In addition, any publications or presentations about this
research will only use data that is combined together with all subjects; therefore, no one will be able to determine how you responded.

**RIGHT TO WITHDRAW:**

You are under no obligation to start or continue this study. You can withdraw at any time from the survey by pressing exit or stop, and you can withdraw decline from participating and/or stop the interview once it’s started at any time. Should you decide to withdraw your consent to participate, any information already collected will be destroyed.

**SUMMARY OF RESULTS:**

A summary of the results of this study will be provided to at no cost. You may request this summary by contacting the researchers and requesting it. The information provided to you will not be your individual responses, but rather a summary of what was discovered during the research project as a whole.

**FUTURE USE OF DATA:**

Any information collected that can identify you will have the identifiers removed and kept for use in future related studies. Data collected might be used in the future to examine integration of trauma informed care in health care services provided in other public health programs.

**VOLUNTARY CONSENT:**

I have read this informed consent form and understand what is being requested of me. I also understand that my participation is voluntary and that I am free to withdraw at any time, for any reason without any consequences. Based on this, I certify I am willing to participate in this research project.

I understand that if I have any questions about my participation in this study, I may contact Antonia Brewer, phone: (845) 742-5031, email: brewera@duq.edu. If I have any questions regarding my rights and protections as a subject in this study, I can contact Dr. David Delmonico, Chair of the Duquesne University Institutional Review Board for the Protection of Human Subjects at 412.396.1886 or at irb@duq.edu.

_________________________________________________________________________________________
Participant’s Signature                                                                                           Date

_________________________________________________________________________________________
Researcher’s Signature                                                                                           Date

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3.0 RESULTS MANUSCRIPT

Manuscript #2

Is Trauma Informed Care Practiced in Public Sexually Transmitted Disease Clinics in New York State

Abstract

Introduction: Sexually transmitted diseases (STDs) are increasing in the United States and often result in long-term adverse health outcomes. New York State (NYS) local health departments (LHDs) provide public STD clinics for high risk populations also found to have high rates of violence. This study examined if/how trauma informed care (TIC) is implemented in these settings. The study sample were LHD STD Program Directors in NYS.

Method: A convergent parallel mixed methods study design was used which included an online survey and follow up interviews. Survey data were analyzed using univariate statistics and conventional content analysis was used to analyze interview data.

Results: Surveys (n = 11) and interviews (n = 10) diverged in how participants described if/how TIC is practiced in these settings. Participants reported TIC education and training and the capacity to integrate TIC into STD clinics on surveys, but these data were not confirmed during interviews. Interviews revealed three themes: 1) Trauma is prevalent among individuals attending STD clinics, 2) TIC is understood as screening, responding to emergencies, and referrals to address trauma, and 3) STD clinic governance and infrastructure are challenges to integration of TIC in these settings. Participants also described significant negative impacts on STD clinics due to LHD resources diverted to ongoing LHD COVID 19 pandemic response efforts.
**Conclusions:** TIC is not routinely practiced in these settings. Participants need a broader understanding of how to integrate TIC into direct STD clinic services. More research is needed to identify best practices for trauma screening and providing education and training to implement TIC in these settings. More resources are also needed for STD clinics as LHDs continue to respond to the ongoing pandemic.
Introduction

Centers for Disease Control (CDC) surveillance data shows sexually transmitted diseases (STDs) have been steadily increasing in the United States (U.S.) (CDC, 2020). STDs are a significant public health issue that often lead to adverse health outcomes including cancer, infertility, and transmission of HIV (CDC, 2020). Although the COVID 19 pandemic (hereafter referred to as the pandemic) posed an unprecedented challenge to STD surveillance in 2020 (Pagaoa et al., 2021), early CDC surveillance data shows STD rates continued to rise (CDC, 2020). Moreover, the pandemic is likely to have contributed to underreporting of STDs in 2020 due to major disruptions in STD prevention programs and services (National Coalition of STD Directors, 2020). Effects of the pandemic also severely strained the resources and infrastructure of a weakened and fragmented U.S. public health system to respond to STDs and which continues to be stressed by rising rates of STDs (NCSTDD, 2020).

A 2018 report sponsored by the National Coalition of STD Directors and released by the National Academy of Public Administration (NAPA, 2018) described adolescents and young women as particularly susceptible poor STD outcomes and identified sexual abuse and violence among contributing factors to STDs among this population. Evidence shows women with high rates of physical and/or sexual violence are at greater risk of engaging in sexual risk behaviors leading to STDs (Decker et al., 2016; LeGrand et al., 2015; London et al., 2017)). Recent evidence also shows women who attend public STD clinics have high rates of physical and sexual violence, including community violence described as neighborhood crime (Brewer et al., 2020). Public STD clinics provide free or low-cost specialized STD health services for high-risk populations (Pathela et al., 2015) and are often a direct service for STD prevention and control programs provided by public health agencies. Trauma informed care (TIC) has been suggested as
a strategy to address the traumatic effects of violence found prevalent among individuals who
attend STD clinics (Brewer et al., 2020). However, a gap in the literature exists describing if or
how TIC is integrated into STD treatment and prevention services provided in these settings.

**Background and Purpose**

Trauma can occur when an individual experiences physical or psychological harm such
as violence, natural disasters, and/or severe or life-threatening neglect or maltreatment such as
physical and/or sexual abuse (SAMHSA, 2014). Traumatic experiences may be current and/or
ongoing or a remote event or experience of an individual during their lifespan. Trauma survivors
often experience a wide range of feelings from panic and distress to disassociation which can
make them feel helpless, insecure, and vulnerable when receiving care and services in health and
human services settings (SAMHSA, 2014). Health care professionals who are unaware or unable
to identify trauma symptoms may unintentionally trigger recalled memories of past traumatic
events or experiences for trauma survivors causing distress, discomfort, and unpredictable
reactions and/or behaviors (van Loon et al., 2004) that result in less effective care and services
and poor health outcomes (Elliott et al., 2005; Machtinger et al., 2015; Reeves, 2015).

TIC is a strengths-based service delivery approach based on an understanding of the
effects and symptoms of trauma that promotes physical, psychological, and emotional safety for
trauma survivors (SAMHSA, 2014). Organizations that are trauma informed integrate knowledge
about the prevalence of trauma and its effects into all aspects of service delivery to provide a safe
physical and emotional environment and return a sense of control and autonomy to trauma
survivors (Harris & Fallot, 2001). Moreover, because STD health care involves physical
examination and treatments to body parts involved in abuse, such as the genitals, it’s particularly
important for providers in health care settings to understand trauma and to learn how to care for
trauma survivors (Reeves, 2015). Trauma survivors have also been found to prefer health care providers that are more sensitive in their approach to care and treatments to address their individual and unique needs (Muzik et al., 2013). TIC is the standard of care in behavioral health care settings (Conover et al., 2015), child welfare programs (Gillen, 2012), and veterans’ health care (Kelly et al., 2014). Researchers also support TIC in primary and preventive health care settings (Green et al., 2015; Machtinger et al., 2015; Reeves, 2015), including HIV (Cuca et al., 2019) and STD clinics for more effective care and improved outcomes.

STD clinics serve disproportionate numbers of populations at high risk for poor STD outcomes such as the young and uninsured (Celum et al., 1997), people of color (Hoover et al., 2015; Pathela et al., 2015), and individuals with psychiatric disorders (Erbelding et al., 2004), including alcohol and substance abuse issues (Cook et al., 2006). Disparities in STD outcomes among these populations have been linked to social determinants of health such as poverty, racial discrimination, lack of access to adequate health care (Hogben & Leichliter, 2008) and exposure to violence at home or in the community tied to the effects of structural racism (Boutrin & Williams, 2021). The purpose of this study was to examine if and/or how TIC is implemented in public STD clinics across New York State (NYS). The study aims were: 1) describe the degree to which TIC is integrated into public STD clinic health services to better understand trauma informed practices in these settings; and 2) examine factors that may facilitate and/or act as barriers for integrating TIC in these settings.

Methods

An explanatory sequential mixed method design was originally planned for this study which included an online survey to collect quantitative data to analyze and develop questions for follow up interviews with a subset of the study sample to elucidate and clarify quantitative
findings. However, because LHDs were solely focused on pandemic response efforts, even after multiple recruitment efforts, participant response was very low. Therefore, it became clear this study design would not be feasible and a convergent parallel mixed methods design (Creswell, 2014) was used instead to collect both quantitative and qualitative data, analyze them separately, and compare the results to determine if findings either confirmed or did not confirm each other. Quantitative data were collected using an online survey based on the ten health and human services organizational structure/processes aligned with TIC principles as described by the Substance Abuse and Mental Health Services Administration (SAMHSA) (SAMHSA, 2014). Qualitative data was collected using semistructured interviews with participants to elicit more detailed views of if or how TIC is integrated into STD clinic services (Creswell, 2014) and analyzed using a conventional content analysis approach (Hsieh & Shannon, 2005).

**Sample and Recruitment**

The study sample included all directors of STD programs in the 58 local health departments (LHDs) representing all counties of NYS. Individuals with the role/title of “Director of STD Prevention and Control Program” or role/title that included responsibility and oversight of STD clinics were invited to participate in the study. The study was conducted in the fall 2020 during the escalating pandemic. Therefore, due to low response, recruitment was extended through fall 2021 and included snowball recruitment (asking participants if they knew other potential participants to recruit). Two participants who met inclusion criteria but recently retired from LHDs were also included in this study. Eleven participants completed the survey and ten participants participated in follow up interviews. One participant who completed the survey declined an interview.

**Quantitative online survey**
A 25-question quantitative online survey was developed by the lead author as a TIC inventory tool to collect quantitative study data. The TIC inventory tool included county demographic data to identify and describe STD clinic staff roles/titles, number of clinic staff, whether the LHD operated STD clinics using direct staff or contracted with outside health care agencies to operate STD clinics (or a combination of direct/contract), and location of STD clinics (urban, suburban, rural). Upon completing demographic information, participants answered survey questions regarding their STD clinic organizational structure and processes. Survey questions addressed ten domains of organizational structure and processes aligned with principles of TIC described by SAMHSA’s) *Concept of Trauma and Guidance for a Trauma-Informed Approach* (SAMHSA, 2014). The ten domains are based on the philosophy and principles of trauma theory used to develop trauma informed service delivery systems (Fallot & Harris, 2001) and are meant to provide a description of the presence or absence of TIC. The domains include: 1) governance, 2) policy, 3) physical environment, 4) engagement, 5) collaboration, 6) screening, assessment, and treatment services, 7) workforce development, 8) quality assurance, 9) financing, and 10) evaluation. Survey responses were measured using a six-point Likert type scale (“Never”, “Rarely”, “Sometimes”, “Usually”, “Always”, and “Don’t Know”) (Table 1). The last question of the online survey asked the participant if they would be willing to participate in a follow up interview.

**Qualitative interviews**

Five semi-structured, open-ended questions were developed to address the study aims and research question and guide qualitative interviews conducted with participants who completed online surveys. The questions included: 1) What is your understanding of TIC? 2) Do you see a need for TIC integrated into STD clinics? 3) Have you observed/provided TIC integrated into
STD clinic services? 4) Can you describe or explain what you think barriers are/would be for providing trauma informed STD clinic services? 5) Can you describe or explain what you think needs to change and what/or what resources your agency would need to provide trauma informed STD clinic services? Immediately following each interview, the lead researcher transcribed the interview verbatim from the Zoom recording into a Word document. Handwritten notes taken during interviews were recorded in a study log and analyzed along with transcribed interviews to clarify coding and themes for qualitative data analysis.

**Data Collection and Analysis**

Subsequent to Duquesne University IRB approval of the study protocol, an invitation to participate in the voluntary research study was sent electronically to all potential study participants in the 58 LHDs. Electronic email addresses were obtained through the public websites of the LHDs. The New York State Association of County Health Officials (NYSACHO) leadership assisted with recruitment by sending out study recruitment letters to all LHD STD Directors twice during the recruitment period.

To accept the electronic invitation to participate in the study, participants clicked on the embedded link in the invitation letter, which included informed consent and voluntary participation. Survey data were collected using Qualtrics software (www.qualtrics.com). Upon completion of the online survey, the participant was asked to select “agree” or “disagree” to participate with an interview using Zoom videoconferencing software (www.zoom.com). Participants were then contacted within 24 hours to confirm a day/time for the interview. Once a time and date were confirmed, a confirmation email which included a Zoom videoconferencing link to access the interview was sent to each participant. A reminder email was also sent to each participant one week before and one day prior to the scheduled interview.
Quantitative Data Analysis

SPSS version 28.0 statistical software (www.spss.com) was used for quantitative data analysis. Univariate statistics were used to describe the degree to which components of TIC are integrated into STD clinic infrastructure and health services (Table 1).

Qualitative Data Analysis

Qualitative interviews were transcribed verbatim into Word documents. Transcribed interviews were then uploaded into NVivo 1.5 software (www.nvivo.com) for data analysis. A conventional content analysis approach was used as an inductive approach to interpret content of text data through a systematic classification process of coding and identifying themes to provide knowledge and understanding of the phenomenon under study (Hsieh & Shannon, 2005). Researchers have also used qualitative description study results to develop methods to improve care for critical health care issues (Sullivan-Bolyai et al., 2005)

Using an inductive conventional content analysis approach as described by Hsieh & Shannon (2005), first, each transcribed interview was read in its entirety and notes were made to record the researchers’ general impressions and key points. Second, each individual transcript was read carefully, and descriptive codes were assigned to segments of text that frequently described similar (and differing) participant views and perspectives. Each code was listed and assigned a description. Quotations were also attached to provide an exemplar of the code meaning and description. Codes where then sorted into categories to create themes found throughout the data that identified participants’ ideas, views, and perspectives.

Because LHDs remained solely focused on addressing pandemic response efforts it was not feasible to invite respondents to comment on transcribed interviews or recruit additional participants to validate the three identified themes. However, alternative strategies for validity
described by Nobel and Smith (2015) were used which included repeatedly listening to audio recordings of interviews and reading transcribed interviews to verify emerging themes accurately reflected participants descriptions of if/how TIC is implemented into clinic health services. The researcher also collaborated with a second researcher to verify identification of codes and reach consensus on emergence of the themes identified from the data.

**Results**

**Quantitative online survey**

Eleven respondents completed the online survey representing LHDs from the Capital, Metropolitan Area, and Western regions of NYS. Respondents reported operating STD clinics in urban (n = 7), suburban (n = 1), and rural (n = 3) settings using direct LHD staff (n = 8) versus contracting with outside health care organizations (n = 3) to operate clinics (n = 3). Six respondents were Nurse Practitioners including one respondent representing a LHD that is a NYS Sexual Health Center of Excellence and training center for public and private STD providers. Other respondents included retired (n = 2) public health nurses in former STD Program Director and Supervisory roles (n = 2) and current (n = 3) STD Program Directors in non-clinical roles.

Most respondents indicated that their agency leadership always/sometimes (n = 10) communicated support for TIC and had procedures partially (n = 4) or fully (n = 6) in place that focused on trauma and related client safety/confidentiality. However, only two respondents reported they had written policies and procedures that provide guidance on how to prevent retraumatization. Eight respondents reported always/usually having communication systems/processes in place for working with and referring patients to (n = 6) agencies that provide trauma support and services.
Respondents reported always/usually (n = 6) and sometimes/rarely (n = 3) receiving a minimum of basic TIC education and training and always/usually (n = 7) and sometimes/rarely (n = 2) receiving ongoing TIC education and training. Respondents also reported rarely/never (n = 5) or not knowing (n = 2) if education and training is provided to address emotional stress experienced by staff working with patients who have experienced trauma and always/usually (n = 6) and sometimes (n = 1) receiving education and training to work with peer supports. However, most (n = 10) respondents reported never (n = 8) or rarely (n = 2) integrating peer support services into STD clinic services.

Only four respondents reported always/usually conducting universal trauma screening and sometimes/rarely (n = 4) or never (n = 3) providing patient education about trauma reactions to increase patients’ self-understanding and minimize feelings of fear and shame. However, most (n = 9) respondents reported always/usually keeping patients fully informed of clinic services and procedures while being mindful they may have difficulty processing information. Six respondents also reported always/usually helping clients identify strategies that contribute to feeling empowered and comforted while receiving care. Most (n = 9) respondents reported STD clinic physical environments always/usually promoting a safe and calm atmosphere for patients and staff. However, fewer respondents (n = 5) reported their physical environments always/usually address gender related physical and emotional safety concerns.

Seven respondents reported clinic patients who have experienced trauma are always/usually in meaningful roles within LHDs to participate in planning and evaluation of STD clinic services. Six respondents also reported patients who have experienced trauma always/usually have the opportunity to provide confidential and anonymous feedback for quality assurance processes and improved client engagement. However, respondents also reported LHDs
have no (n = 6) established tool or measure or one that is only partially (n = 3) established to evaluate how STD clinic services reflect an understanding of trauma and TIC.

**Qualitative Interviews**

Interviews were conducted with ten of the eleven survey respondents to provide depth of understanding regarding if and/or how TIC may be integrated into STD clinic health services. The interview questions focused on need, understanding, availability, and barriers to TIC integration, and the data supported three primary themes: 1) Trauma is prevalent among individuals attending clinics 2) TIC is screening, responding to emergencies, and referrals, and 3) STD clinic governance and infrastructure are challenges to integration of TIC. Each is described in detail below.

1. **Trauma is Prevalent Among Individuals Attending Clinics**

Participants described trauma as a prevalent and important health issue among individuals attending STD clinics. They described caring for high numbers of individuals with histories of physical and/or sexual violence such as childhood sexual abuse, partner violence, and sex trafficking. One participant stated, “...*it’s remarkable to me the number of patients that disclose past history of childhood sexual abuse...I mean it’s astounding.*” Additionally, participants described individuals with trauma histories as more likely to engage in sexual risk behaviors resulting in repeated STDs. One participant described their view of the connection between trauma and repeated STDs as: “...*people with multiple sexual partners or constant sexual infections probably dates back to some other issues that they had gone through, even as kids or after that.*”

Participants also described their views about how trauma is likely linked to other serious health issues among individuals who attend STD clinics. One participant stated, “...*trauma...*
causes physical problems later in a person’s life and can manifest through addiction, anxiety, depression and physical symptoms like GI problems.” Participants expressed concerns about individuals who attend STD clinics that live in poverty, are uninsured with lack of adequate health care, are living with violent partners and/or in neighborhoods with high crime rates, and at risk of repeated victimization and STDs. Some participants viewed STD clinic services as lacking by not regularly addressing trauma. A participant from a clinic that does not routinely provide trauma screening stated “…not to address it [trauma] seems like we’re missing an important component”.

Participants also described STD care and treatment as distressing and uncomfortable and the need to individualize care and services for these individuals. One participant described care provided for women at an addiction treatment facility: “...women get very upset when they have to take their clothes off...we’re not able to complete the exam so we counsel them on presumptive treatment.” Another participant with forensic nursing experience described how individuals may be distressed by just attending a STD clinic: “...STDs in and of themselves can be traumatic...I think it’s very traumatic coming to a STD clinic...when I refer a sexual assault victim to the clinic...I would be there to hold their hand during the exam if they wanted that.”

2. **TIC is understood as screening, responding to emergencies, and referrals to address trauma**

Participants’ understanding of TIC was described narrowly as screening for trauma, responding to emergencies such as current partner violence or other incidences of current physical or sexual abuse, and referring individuals to agencies that provide specialized trauma support and treatment services. A concerning finding was that no participants described TIC as a comprehensive way to provide direct patient care and clinic services designed to be more
responsive to people who have experienced trauma and also reduce the risk of retraumatizing patients while providing care (SAMHSA, 2014). One participant acknowledged the need for a better understanding of TIC, “We need to better integrate the concept of trauma and TIC other than what you [the client] may be currently experiencing.” Another participant acknowledged TIC as beneficial to all clients as well as the community, “It’s [TIC] actually in the best interest of our clients and the community.”

All participants described screening for trauma as an important part of TIC. However, screening practices described varied among participants. Some participants describing not conducting screening at all in their clinics and some participants described routinely screening clinic patients for partner violence and sex trafficking. The most comprehensive trauma screening was reported by a participant from a large urban STD clinic: “…we evaluate domestic violence human trafficking, possible sexual abuse or anybody that has sex without consent.”

Participants described staff education and training about the effects of trauma and TIC as a priority need. One participant stated: “…number one there is a need for [staff] education, there’s not very good education around trauma informed care.” Another participant described a need for education to address negative reactions from staff which occurred during a prior initiative to change STD clinic practices and concern that introducing TIC may provoke the same reaction: “…some of them felt like I didn’t go into this to do psychiatry or psych nursing…you have to get by those attitudes and beliefs.” Participants also discussed the lack of formalized policies and procedures addressing documentation and quality assurance related to TIC. One participant stated, “…I think it needs to be more formalized with policies and procedures for documentation…and something that we monitor so you have an evaluation piece.”
Participants also described a need for better communication and coordination with agencies specializing in trauma support services and programs. They reported difficulty trying to connect with agencies and not knowing if individuals ever received services. One participant reported “…you spend a lot of time referring patients…the referral process needs to be tight enough that if the patient chooses to act on it, it will be managed.” Moreover, communication with these agencies worsened during the pandemic because of reduced hours and only virtual rather than in person services available. One participant described the experience of referring a client who disclosed a sexual assault for support and services: “…they [rape crisis agency] were dismissive…she didn’t disclose what happened to her on the phone…she didn’t feel comfortable…nobody came to meet her.”

3. STD Clinic Governance and Infrastructure are Challenges to Integration of TIC

Participants described clinic governance and infrastructure as challenges for integration of TIC into STD clinic services. Funding for public health was a concern for all participants. One participant and long term LHD employee described concern over decades of massive reductions in public health funding: “In the last twenty years they’ve pretty much decimated public health.” Another participant stated: “It’s a lack of funding for public health across the board…I don’t think we have the capacity to be focused on things like that [TIC].”

Participants also described administrators and county lawmakers as potentially unsupportive of TIC if they don’t understand why it’s needed and/or think it may expand scope of care and services provided in STD clinics beyond what is mandated by NYS. However, one participant suggested administrators may support TIC if they see a demonstrated need: “…it would be good to show the volume of patients needing TIC…get the administrators to see a need for it [TIC]…to get them behind it.” In contrast, a participant who described a past interaction
with their administrator when proposing changes to improve clinic practices as “…we’re really just a walk-in clinic and that’s the only thing we should be here for…just STDs…don’t try to think of other things we can do while people are here.” Participants also described how the only way to ensure TIC in STD clinics would be to make it a state mandate. One participant stated: “…it needs to come from the top…from the funding agencies that this [TIC] is a requirement…just like child abuse reporting…to that level to promote compliance.”

Participants described major concerns about the effects of the pandemic on already understaffed and under resourced STD clinics and how the pandemic has only worsened what they perceive to be inadequate STD clinic capacity: “…we all had been going out to do COVID clinics and [STD] clinics weren’t able to be staffed.” and “…we have a very limited amount of clinic time now due to the pandemic.” Participants described tremendous workloads and long workdays worsened by ongoing pandemic response efforts as problematic for integrating TIC into STD clinics: “…we’re heading into COVID wave two and you’re expecting everyone to do their traditional job and then additional duties.” They are also concerned about pandemic related reductions in STD clinic capacity leading to a shift of STD care into less specialized settings such as hospital emergency departments: “…people are going to the emergency room because they done know where else to go…there’s not real specialized STD services and these physicians are not confident in their [STD] knowledge.”

**Interpretation of Results**

Interpretation of the results of this study are new findings. Quantitative and qualitative findings are interpreted and compared addressing seven of the ten domains recommended by SAMHSA (2014) for organizations to become trauma informed. Three organizational domains (Evaluation, Progress Monitoring and Quality Assurance, and Physical Environment) are not
discussed because the qualitative interviews did not elucidate findings related to those domains. However, meaningful findings for all ten organizational domains are included in the separate quantitative and qualitative results sections. Findings from both the quantitative and qualitative data are compared to show convergence or divergence among the data (Creswell, 2014).

**Governance and Leadership**

Most survey respondents reported administrative support for TIC. However, these data were not supported by findings from participant interviews. All participants described how administrative support for TIC would be a challenge due to the potential need for additional LHD resources which they do not believe administrators would be willing to support. However, some participants described administrative support for TIC may be possible if the need was justified.

**Policy**

Most survey respondents reported their agencies have policies that focus on trauma and safety. However, these data were not supported by findings from participant interviews. All participants described a need to establish formal policies to integrate TIC into clinic services including integration of TIC and practices into the patient’s electronic health record. Some survey respondents reported policies within their agencies to guide staff in how to prevent retraumatization of patients. However, none of the participants directly addressed if these policies were in place during interviews.

**Training and Workforce Development**

Most survey respondents reported receiving basic and ongoing TIC education and training to strengthen their TIC knowledge and skills. However, these data were not supported by findings from participant interviews. During interviews, all participants described a need for education and training about the effects of trauma and TIC. Moreover, all participants stressed education and
training as a priority for LHD STD clinic staff in order to successfully integrate TIC into STD clinic care and services.

**Engagement and Involvement**

Most survey respondents described keeping patients fully informed of clinic services/procedures conducted while being mindful patients may have difficulty processing information. Survey respondents also reported helping patients identify strategies that contribute to feeling empowered and comforted. Findings from participant interviews supported these data. Some participants interviewed described clinic care and practices that acknowledge patients may have experienced trauma such as finding alternate ways of providing treatment for patients who are uncomfortable undressing for examinations, holding a patient’s hand during an examination, and advocating for patients referred to trauma support agencies and programs.

**Screening, Assessment, and Treatment**

Universal trauma screening varied greatly among survey respondents and findings from participant interviews supported these data. Participants described variations in screening from no screening to routine screening of all patients for partner violence and sex trafficking. Some survey respondents reported having the capacity to provide patients with trauma support services and referrals. However, these data were not supported by findings from participant interviews. All participants described a lack of LHD capacity (i.e. funding and staffing) to provide TIC. Some participants also described the need for a state mandate as the only way to ensure TIC is integrated into STD clinic services.

**Cross Sector Collaboration**

Most survey respondents reported working with partner agencies that provide specialized trauma support services and program and referring patients to these agencies. However, these
data were not supported by findings from participant interviews. Most participants described difficulties with referring patients to these agencies because of lack of time to make referrals and not hearing back from agencies if patients followed through after being referred. Participants also described challenges with referrals were exacerbated by the pandemic which forced many agencies to reduce hours and provide only virtual visits.

Financial Support for TIC

Most survey respondents reported never having LHD financial support for TIC and these data are supported by findings from participant interviews. However, it’s not clear why three survey respondents reported always/usually having LHD financial support for TIC because all participants described a lack of LHD funding as a barrier to integrating TIC into STD clinics.

Discussion

Findings from this study suggest participants believe trauma is prevalent among patients attending their STD clinics and likely linked to higher incidence of STDs among these individuals. Findings also suggest participants believe TIC would be beneficial for patients. However, participants did not describe TIC as a universal approach to providing direct STD clinic services and/or to reduce the risk of re-traumatization (SAMHSA, 2014). These findings indicate STD clinic staff need a broader understanding of how to provide trauma informed direct care and clinic services. All participants described a need for education and training to help STD clinic staff and administrators understand the effects of trauma and a need for TIC, even though survey results showed LHDs provide basic and ongoing TIC education and training. This could indicate that training they receive is either insufficient or not focused on what they need to know about the effects of trauma and TIC. This finding aligns with Wathen et al. (2021) who found educating health care professionals about the effects of trauma on health are important
foundational steps organizations can take to become more trauma informed. Education and training are critical to help STD clinic staff gain knowledge and develop skills so they may integrate TIC directly into STD care and treatment provided to patients who access these settings.

Survey results showed STD clinics lack written policies and procedures for how to provide care and services that prevent retraumatization of patients who attend these settings. However, routine practices of carefully explaining STD screening and treatment procedures, informing patients they can refuse services that are distressing and/or uncomfortable, and working with patients to screen for and treat STDs within their preferences were clearly described by participants during interviews. This indicates participants do provide care in a manner that acknowledges the possibility of past trauma. However, they are not cognizant, nor do they describe what they do as trauma informed. Broader knowledge about the effects of trauma and continuity of trauma informed care and practices among STD clinic staff could potentially help shift to a more standardized model of TIC in these settings.

Beyond provider competency, participants described STD governance and infrastructure as significant challenges to their efforts for STD prevention. Decades of stagnant funding for STD programs has resulted in STD clinic closures and reduced hours as rates of STD incidence rates have climbed (NAPA, 2019). Moreover, findings of this study conducted during the pandemic reveal a high recognition of and need for more TIC education and support for the public STD clinics in this sample. Not only has the pandemic dramatically worsened LHD STD clinic capacity (Nagendra et al., 2020; Pagaoa et al., 2021), ongoing unpredictable demands for pandemic response activities continue to threaten sustainability of STD clinics forcing individuals to seek care for STDs at less specialized health care settings such as emergency
rooms. As the demand for more effective STD treatment and prevention initiatives and reducing disparities of STD outcomes increases, STD clinic staff have been stretched thin and support for education and training have been undermined by pandemic response efforts. As the literature describes similar general infrastructure challenges across public health systems nationally (NAPA, 2018) participants from STD clinics in NYS who participated in this study are likely reflective of many other public health clinics nationally.

This study has several limitations. First, recruitment of study participants took place during an unprecedented pandemic resulting in a small survey sample of eleven participants from LHDs in one state. However, the sample represents LHDs in rural and urban counties in three of the four regions in NYS and the findings align with the relevant literature. Findings from this study are new and may also help to address a gap in the literature regarding strategies to address the crisis of rising rates of STDs. Second, the TIC inventory tool was developed by the lead researcher for this study and the tool’s reliability and validity were not evaluated. Moreover, the survey questions pertained to organizational assessment and change processes. Further research should include a question to elicit understanding of just what TIC is among public STD clinic staff. Third, because of the need to switch to a parallel convergent mixed methods design, the interview questions were not developed using the quantitative findings as was originally planned for this study. However, interview questions were developed to address the study aims and research question. Fourth, there is the possibility of implicit bias of the researcher during interviews. For example, asking participants what the barriers are to integrating TIC into STD clinic services could have conferred an expectation of barriers to TIC that could have affected participants’ responses during interviews.

Implications for Research and Practice
The goal of this study was to explore if and how TIC is integrated into STD clinic services. Despite the modest survey response rate, the findings of this study clearly demonstrate TIC is not routinely and systematically integrated into STD clinic services. If we are to reverse rising rates of STDs, expert and specialized care for high risk individuals provided at these settings (Hoover et al., 2015; Pathela et al., 2015) must also address the widespread and profound impacts of trauma on risks for STDs (Senn et al., 2010; Senn et al., 2016; Walsh et al., 2012). Given the strong evidence supporting TIC (Cuca et al., 2019; Elliott et al., 2005; Machtinger et al., 2015), STD clinics should assess their own policies and procedures related to trauma and develop comprehensive plans to integrate TIC in all aspects of STD clinic services. LHDs could begin by inviting staff and patients who have experienced trauma who access care in these settings to give feedback and input to address the ten organizational domains recommended by SAMHSA (2014) for implementing TIC. This may also help LHDs to begin building an evidence-based framework for trauma informed STD clinic services.

In response to the finding of a need for a more comprehensive understanding of TIC among STD clinic staff, research is needed to identify best practices for TIC education and training for STD staff to assist them with knowledge and skills needed to integrate TIC into clinic services. Education and training must also include LHD administrators who influence STD clinic resources and operations. A trauma informed philosophy of service delivery requires change at all levels of an organization (SAMHSA, 2014). LHDs could explore educational resources available through Sexual Health Centers of Excellence that provide statewide training for STD providers and the National Coalition of STD Directors who provide STD education and training for providers, policymakers and the public – all important stakeholders for addressing rising rates of STDs. Education must also address the effects of trauma on risks of STDs related
to social determinants of health such as poverty, discrimination, and inadequate access to health care and education (Hogben & Leichliter, 2008) including structural racism and its effects on disparities in STD outcomes among people of color (Boutrin & Williams, 2021). Finally, because many LHDs contract with outside health care organizations to provide STD clinics, education must also be provided to contract providers and other community partners to ensure STD health services and prevention efforts are provided within a TIC framework. Prior research demonstrates education about TIC can improve knowledge, skills and attitudes among health care providers and improved client outcomes (Choi & Seng, 2015). Future research is also needed to determine outcomes of TIC education and training in STD clinic settings to determine if education leads to successful integration of TIC into STD health services.

Findings also indicate a need for universal trauma screening in STD clinics. Screening should be comprehensive to address different forms of violence and/or traumatic events. Screening for trauma is important because individuals with a history of trauma receiving health services are at risk of being retraumatized during health care interactions (Reeves & Humphreys, 2018). It also provides an opportunity for health care providers to validate an individual who discloses trauma to establish their trust and provide education about links between trauma and health and information about trauma support services and programs (Machtinger et al., 2015). The Patient Protection and Affordable Care Act provides guidance on screening and counseling for intimate partner and sexual violence (Centers for Medicare and Medicaid, 2014) and could be used as a starting point to build on for trauma screening. Future research is needed to determine best practices for comprehensive trauma screening in STD clinics.

Finally, to address the alarming rise of STD rates, more resources must be directed to LHDs to build adequate infrastructure for STD screening, treatment, and surveillance tailored to meet
community needs. The U.S. Department of Health and Human Services (USDHHS) convened stakeholders across health care and related fields to develop a related strategic plan (USDHSS, 2020). It outlines a comprehensive national plan for implementing innovative, multidisciplinary, and sustainable strategies to strengthen public health capacity and reverse the trend of rising rates of STDs. Objectives in this plan outline holistic models of care such as TIC for STD screening, treatment and prevention initiatives. As this strategic plan unfolds, LHDs can begin to position themselves to integrate more trauma informed STD clinic services.

Conclusion

TIC is a well-supported, evidence-based approach to providing sensitive and appropriate care for individuals who may have experienced traumatic events and experiences during their lifetime. However, changing the delivery of STD clinic services is challenging because of the need to educate people at multiple levels of the LHD about the need for TIC. There is also wide variation across LHDs for how STD clinics are funded and operated with most LHDs contracting with outside agencies to operate STD clinics (NAPA, 2018). Moreover, the ongoing and fluctuating demands of pandemic response efforts are a continued threat to understaffed LHDs as they struggle to rebuild and sustain STD clinic capacity to meet the needs of their communities.

The USDHSS’ new strategic plan (USDHSS, 2020) is designed to provide the resources and support needed by state and local public health agencies and clinics like those represented in this research to reverse the trend of rising rates of STDs. LHDs are important direct providers of STD health services and surveillance activities for ensuring latest recommendations for STD treatment for individuals to prevent transmission and/or reoccurrence of STDs and their complications. Innovative and holistic approaches such as TIC are needed to address the multiple intersecting biological, behavioral, and social factors that contribute to STDs (NAPA, 2018).
These factors include the need to address the effects of trauma on STD outcomes. LHDs are poised well to engage in the emerging national strategies for STD prevention which target more resources for state and LHDs to reverse the alarming trends of rising rates of STDs.
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<td>n = 2</td>
<td>n = 2</td>
</tr>
<tr>
<td>Agency provides staff training to address emotional stress among staff when working with individuals with trauma history.</td>
<td>n = 2</td>
<td>n = 5</td>
<td>n = 2</td>
<td>n = 2</td>
</tr>
<tr>
<td><strong>Physical Environment:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical environment promotes a sense of safety, calm, and de-escalation for patients and staff.</td>
<td>n = 9</td>
<td></td>
<td>n = 2</td>
<td></td>
</tr>
<tr>
<td>Staff recognize and work together to address aspects of physical environment that may retraumatize clinic patients.</td>
<td>n = 2</td>
<td>n = 4</td>
<td>n = 1</td>
<td>n = 4</td>
</tr>
<tr>
<td>Physical environment addresses client gender related physical and emotional safety concerns.</td>
<td>n = 5</td>
<td>n = 3</td>
<td></td>
<td>n = 3</td>
</tr>
<tr>
<td><strong>Engagement and Involvement:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff members keep clients fully informed of clinic services/procedures conducted while being mindful patients may have difficulty processing information.</td>
<td>n = 9</td>
<td>n = 1</td>
<td></td>
<td>n = 1</td>
</tr>
<tr>
<td>Staff members help clients identify strategies that contribute to feeling empowered and comforted.</td>
<td>n = 6</td>
<td>n = 3</td>
<td></td>
<td>n = 2</td>
</tr>
</tbody>
</table>
### TABLE 1

Survey Results: Organizational Domains to Support Trauma Informed Care

<table>
<thead>
<tr>
<th>TIC Survey Tool</th>
<th>Always/Usually</th>
<th>Sometimes/Rarely</th>
<th>Never</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Screening, Assessment, and Treatment:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency conducts universal trauma screening and assessment for all clients.</td>
<td>n = 4</td>
<td>n = 4</td>
<td>n = 2</td>
<td>n = 1</td>
</tr>
<tr>
<td>Agency has the capacity to provide TIC and specific treatments or refer to agencies that provide trauma specific care/services.</td>
<td>n = 6</td>
<td>n = 2</td>
<td>n = 1</td>
<td>n = 2</td>
</tr>
<tr>
<td>Agency has integrated peer (individuals with history of trauma) support services.</td>
<td></td>
<td>n = 2</td>
<td>n = 8</td>
<td>n = 1</td>
</tr>
<tr>
<td>Agency provides gender specific TIC/supports to women and men.</td>
<td>n = 3</td>
<td>n = 3</td>
<td>n = 4</td>
<td>n = 1</td>
</tr>
<tr>
<td>Agency provides patient education about reactions to trauma to minimize feelings of fear or shame and to increase self-understanding.</td>
<td>n = 2</td>
<td>n = 4</td>
<td>n = 3</td>
<td>n = 2</td>
</tr>
<tr>
<td><strong>Cross Sector Collaboration:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication processes/systems are in place for working with other partner agencies with knowledge and experience in providing TIC.</td>
<td>n = 8</td>
<td></td>
<td></td>
<td>n = 3</td>
</tr>
<tr>
<td>Communication processes/systems are in place for referring patients to agencies that provide trauma informed support services/programs.</td>
<td>n = 6</td>
<td>n = 2</td>
<td></td>
<td>n = 3</td>
</tr>
<tr>
<td><strong>Progress Monitoring, Quality Assurance:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic staff and patients who have experienced trauma have opportunities to provide confidential and anonymous feedback to the agency to inform quality assurance processes.</td>
<td>n = 4</td>
<td>n = 4</td>
<td>n = 2</td>
<td>n = 1</td>
</tr>
<tr>
<td><strong>Financing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency has financial support for TIC (hiring/training), cross sector partners, safe physical environment).</td>
<td>n = 3</td>
<td>n = 6</td>
<td></td>
<td>n = 2</td>
</tr>
<tr>
<td>Theme</td>
<td>Exemplar code(s)</td>
<td>Exemplar quotation(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
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<td>----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trauma is prevalent among individuals attending clinics.</td>
<td>Childhood sexual abuse</td>
<td>“It’s remarkable to me the number of patients that disclose a past history of childhood sexual abuse, I mean it’s astounding.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intimate partner abuse</td>
<td></td>
<td>“I had a patient that definitely had a high-risk condition. She needed to be followed up and she didn't come for her follow up. And she showed up months later. And I said, why didn't you come? And she said, Oh, my boyfriend shot me.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual assault/trafficking</td>
<td></td>
<td>“We’ve [STD clinic] always seen women who came because they were raped or sexually assaulted, and we’re seeing so many more women now that are victims of sex trafficking.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health risk behaviors</td>
<td></td>
<td>“People are affected by trauma in the past like being molested as a child or physically abused that triggers negative health behaviors for the rest of their life.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other serious health issues</td>
<td></td>
<td>“Trauma causes physical problems later in a person’s life and can manifest through addiction, anxiety, depression, and physical symptoms like GI problems.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poverty, uninsured, homeless</td>
<td></td>
<td>“It’s just very hard [for clients] especially when they have these other social determinants of health, you [client] want food, shelter, then maybe I’m going to think about going to the doctor.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STDs are traumatic</td>
<td></td>
<td>“STDs in and of themselves are traumatic. I think it’s very traumatic coming into a STD clinic no matter what your reason for coming.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TIC is screening, responding to emergencies, and referrals.</td>
<td>Need broader understanding of trauma and TIC.</td>
<td>“We need to have better knowledge of the concept of TIC and integrate that into the way that we do screenings and provide care.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Need education and training.</td>
<td>“We need to better integrate the concept of trauma and TIC other than what you [the client] may be currently experiencing.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of follow up.</td>
<td>There’s nothing worse that working hard to get someone to accept a referral and then having a problem with it…you can put somebody at risk who might not end up getting the care they need because we have an obstacle.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack policies and procedures</td>
<td>“It [TIC] needs to be more formalized, we need policies and procedures, integration into documentation, and so on.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theme</td>
<td>Exemplar code(s)</td>
<td>Exemplar quotation(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STD clinic governance and infrastructure are challenges to integration of TIC.</td>
<td>Lack public health resources</td>
<td>“In public health we don’t have a lot of resources so even if we had the ability and wanted that [TIC] with clinics, we couldn’t.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demands of pandemic</td>
<td>“We’re going into COVID wave two and [administration] is expecting everyone to do their traditional job and then also additional duties.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inadequate staffing</td>
<td>“I think we need additional public health nurses; our health department is so understaffed.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack administrative support</td>
<td>“I think the administration is definitely not interested and it’s partly COVID, but it’s partly just always hearing the same message that we want people to come in and get their diagnosis and treatment and get out.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Easier if mandated</td>
<td>“It needs to be mandatory, just like child abuse reporting and at that level to promote compliance.”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>