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Developing, implementing, and evaluating a trauma-informed care program within a youth residential treatment center and special needs school

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ABSTRACT

Youth in residential settings have significant trauma histories, and staff are challenged by traumatic stress reactions and youth behaviors. We describe the process of developing, implementing, and evaluating a trauma-informed care program focused heavily on workforce development within a youth residential treatment center and accompanying special needs school. The 3-year program included a needs assessment, leadership buy-in, train-the-trainer model, reflective practice groups, staff incentives, and evaluation. Over 100 staff participated in the (voluntary) trainings, 60 participated in reflective practice groups, and 51 met the requirements to receive an hourly pay raise incentive. Using bivariate correlations, the results from the staff surveys (n = 178) demonstrated that self-reported trauma knowledge and skills, but not felt safety or job satisfaction, were significantly correlated with "dose" of staff participation in trainings and reflective practice groups. In addition, there was a 22% reduction in critical incidents over the study period, although there were minimal changes in staff retention.

KEYWORDS

Trauma-informed care; youth residential care; trauma

Children and youth in residential treatment facilities have high levels of exposure to traumatic events, and subsequently, intense behavioral health needs. Large studies of youth in residential treatment settings have found that over 90% of youth in these settings have experienced at least one trauma. Most have experienced multiple traumas; average exposures range from 2.3 to 5.8 traumatic events (Briggs et al., 2012; Harr, Horn-Johnson, Williams, Jones, & Riley, 2013; Lipschitz, Winegar, Hartnick, Foote, & Southwick, 1999). As the number of traumatic events rises, so do the functional impairments and problem behaviors of youth (Briggs et al., 2012; Harr, Horn-Johnson, Williams, Jones, & Riley, 2013; Lipschitz et al., 1999).

Practices within youth residential treatment facilities have the potential to bring further harm, or re-traumatize, these youth. The most obvious of these

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practices are seclusions and restraints, which trigger, or reactivate, intense trauma-related memories and emotions related to their previous neglect and abuse and further exacerbate symptoms and behavior problems (Fisher, 1994; LeBel, Huckshorn, & Caldwell, 2008; Sailas & Fenton, 2000). Other more subtle experiences such as continuous changes in caregivers/staff, subtle coercion to participate in activities or treatments, feelings of being unsafe when others are acting out, and a lack of a "home-like" environment can also deter normal development (Pynoos, Steinberg, & Piacentini, 1999). Traumatized youth in residential treatment settings need sensitive caregivers and supportive social environments that engender staff understanding of trauma and its sequelae, healthy relationships, and emotion regulation (Briggs et al., 2012). However, the staff employed in these settings are typically not trained to deal with such ubiquitous issues as trauma triggers, explosive outbursts, intense distrust of others, and self-destructiveness among youth (Seti, 2008). Moreover, just as the youth they serve are under considerable stress and often display traumatic stress reactions, staff correspondingly suffer significant levels of job-related stress and secondary traumatic stress. The staff are exposed to physical and verbal assaults (Connor et al., 2003), along with indirect stress related to learning of youth's prior traumas and managing difficult behaviors, which increases their risk for compassion fatigue and vicarious or secondary trauma (Eastwood & Ecklund, 2008). Those who enter helping professions, such as residential staff, also have high rates of their own personal trauma (Bloom & Farragher, 2010). Not surprisingly, residential direct care staff experience poor job satisfaction and high rates of burnout and job turnover (Seti, 2008).

Trauma-informed care (TIC) is a model of organizational change and staff training designed to improve organizational culture, staff morale, and institutional practices and outcomes in settings that serve individuals who have experienced trauma (Harris & Fallot, 2011). Similarly, the National Child Traumatic Stress Network (NCTSN) Trauma-Informed Systems workgroup defines a trauma-informed child and family *service system* as "one in which all parties involved recognize and respond to the impact of traumatic stress on those who have contact with the system including children, caregivers, and service providers. Programs and agencies within such a system infuse and sustain trauma awareness, knowledge, and skills into their organizational cultures, practices, and policies. They act in collaboration with all those who are involved with the child, using the best available science, to maximize physical and psychological safety, facilitate the recovery of the child and family, and support their ability to thrive" (National Child Traumatic Stress Network, no date). More specific than TIC or trauma-informed systems are evidence-based trauma treatments: specific mental health treatment aiming to reduce symptoms related to

youth trauma. These treatments are just one component of larger TIC programs or models.

In a recent systematic review of studies examining the effectiveness of TIC models in youth residential settings, 11 models or approaches were identified in the literature (Bryson et al., 2017). These models differ with respect to their targets of intervention and outcomes. Some models are designed to transform agencies to undertake broad TIC practices (e.g., Risking Connection; Attachment, Self-Regulation, and Competency; Sanctuary Model), while others are focused more narrowly on reducing seclusions and restraints (e.g., Post-Restraint Reduction Meetings; Resource Management Team). In addition, some models primarily target youth and family interventions (e.g., Collaborative Problem Solving), while others target staff workforce development (Safe and Positive Approaches; Risking Connection; Six Core Strategies). Regardless of the model, Bryson and colleagues (2017) observed five core factors in TIC implementation: importance of senior leadership buy-in; supporting staff through advanced training related to the consequences of trauma, ongoing supervision, and debriefing; patient and family inclusion; using data and outcome indicators; and aligning policy and practice with TIC.

The needs of the agency under study (see the section "Initial needs assessment"), and the subsequent TIC initiative described in this article (see the section "Program development and implementation"), shared many priorities and processes with two models in particular: The Six Core Strategies (Azeem, Aujla, Rammerth, Binsfeld, & Jones, 2011; Caldwell et al., 2014) and Risking Connection (Brown, Baker, & Wilcox, 2012). The Six Core Strategies were developed by the National Association of State Mental Health Program Directors (Huckshorm, 2006). The program identifies and implements six critical factors involved in the implementation of TIC within inpatient and residential mental health settings, which are similar to the core factors identified by Bryson et al. (2017). However, unlike the present study, the Six Core Strategies model focuses most heavily on the reduction of seclusions and restraints. Two studies have examined the outcomes associated with the model, one a retrospective chart review (Azeem et al., 2011) and one a qualitative description of outcomes following implementation in three sites (Caldwell et al., 2014). In both studies, the researchers observed marked reductions in the use of seclusions and restraints. Risking Connection uses a relational framework for staff working with traumatized people (Brown et al., 2012) and focuses heavily on workforce development. Risking Connection offers packaged staff training curricula and includes collaboration with agency senior leaders and follow-up consultation from the model experts. The model also places an important emphasis on staff secondary traumatic stress and uses a train-the-trainer model to sustain activities. In the one published (pre-post) study examining outcomes of Risking Connection in five youth congregate care settings, the researchers

observed increase in knowledge, beliefs favorable to TIC, and self-reported TIC behavior (Brown et al., 2012).

The primary purpose of the current study was to describe the process of developing, implementing, and evaluating a broad TIC program focused primarily on workforce development within a youth residential treatment center and accompanying special needs school. We aimed for our efforts and findings to guide leaders wishing to promote similar initiatives within their organizations. We also describe preliminary outcomes pertaining to the effects of the program on several diverse outcomes. Our primary outcomes included staff sense of felt safety, self-reported trauma-informed skills, and job satisfaction. Secondary outcomes (potential distal effects) included staff turnover and frequency of critical incidents before and after implementation of TIC activities. Our activities did not focus specifically on reducing restraints or critical incidents. Rather, we aimed to create a broader cultural shift in the agency so that the staff would understand and respond sensitively to traumatized youth (see Program development and implementation). Although the main aim of the study (describing the process) is not suitable for hypothesis testing, we did hypothesize that at postintervention, the frequency or "dose" of staff participation in trauma-informed trainings and supervision groups would significantly and positively relate to staff felt safety, trauma-informed skills, and job satisfaction. We also hypothesized that agency turnover and critical incidents would decrease over time following program initiation.

Program development and implementation

The residential director contacted the clinical consultants and researchers for assistance with implementing a TIC program after attending training led by the consultants/researchers in a specific evidence-based psychotherapy (Trauma-focused cognitive behavioral therapy) for youth trauma. At this training, the director realized the importance of a more comprehensive trauma-informed approach within youth residential and school programs. When discussing this with other agency leaders, it was observed that most residents and students had significant trauma histories. Agency leaders asked the consultants/researchers to speak with the leadership board and board of directors about trauma and TIC as it applied to their programs. This meeting also included the perspective of a parent of a youth previously in the center with significant trauma, invited by the residential director. The agency leaders approved an initial needs assessment with staff, and, after hearing the results, and with support from a private foundation to fund the initiative, the board approved the 3-year initiative to support training, consultation, and evaluation of the program.

For two reasons, we chose not to use a previously established model. First, the director prioritized local consultants and researchers with expertise in trauma and with whom she had developed trusting relationships, and these consultants were not trained in any specific TIC model. Second, the two existing models that most closely resembled the needs of the agency did not have rigorous research support (i.e., no controlled trials). Nevertheless, the TIC activities included several critical elements of TIC implementation identified in the literature. More specifically, in line with the Six Core Strategies, we made considerable efforts to engage senior leadership; use data to inform practices, including a data-driven needs assessment; provide extensive staff support by way of training and reflective practice groups, and a train-the-trainer model; promote de-escalation techniques to replace seclusion and restraints; and support careful debriefing processes during reflective practice groups and other parallel agency initiatives. The TIC activities also aligned with the training content and processes (train-the-trainer) of the Risking Connection model.

The program occurred across four tiers: (1) needs assessment with staff and leaders, (2) building buy-in and planning with agency administrators, (3) training and coaching provided to internal trainer and reflective group leader, and (4) internal sustainment of ongoing trainings and reflective practice groups. Staff had the opportunity to voluntarily participate in the program activities, as they chose, during their normal work hours. The consultants also offered training and consultation in the screening of traumatic events and post-traumatic stress disorders of youth entering their programs, but the agency chose not to institute this practice.

Over the course of 3 years, approximately $32,000 foundation funds were applied to expert training and consultation and refreshments for staff at trainings. This amount does not include staff overtime to attend trainings or the 0.50 cent/hour staff raise accomplished by 51 staff who met the criteria during the study time period.

Initial needs assessment

In Winter 2014/2015, the consultants/researchers conducted focus groups with staff and key-informant interviews with school and residential department leaders and staff (separately) to understand the needs of the facility and assist in planning the intervention program. The needs assessment revealed several trauma-sensitive practices already in place at the agency, including allowance and funds for staff to attend external trainings, two staff who provided trauma-focused cognitive behavioral therapy to students and residents, thorough chart reviews and assessments upon youth admission to understand traumas, as well as behavioral and root cause analyses after critical incidents. The staff and leaders also identified numerous needs, including systematic staff processing and reflection time or supervision,

ongoing trauma training for all agency employees, systematic identification of youth traumas and triggers, and additional ways to build trust between youth and staff and enhance feelings of safety after critical incidents. These findings were brought to the agency administrators and board of directors and used to create a plan for the current TIC program.

Administrator buy-in and planning

In Spring 2015, at the request of the residential program director, the lead researcher gave a brief presentation to facility administrators (e.g., CEO, COO) outlining the findings from their needs assessment and proposing the trauma-informed program. In Summer 2015, again at the request of the residential program director, the lead researcher gave another presentation to the facility's board of directors, including a 30 min "Trauma 101" presentation, a brief description of the needs assessment findings, and a description of the proposed intervention. This presentation to the board also included testimony from a parent of a youth formerly in the residential center and how the youth was impacted by trauma and the importance of TIC. Together with strong championing from the residential director, the results of the needs assessment and the presentation from the lead researcher and parent convinced the agency administrators and board of directors to support the proposed program in spirit and through the use of foundation funds granted to the larger agency.

Creating internal trainers and supervision leaders (implementation phase)

(July–December 2015). The researchers implemented a series of trauma trainings and reflective practice groups using a train-the-trainer model. We identified an internal "trauma specialist," who eventually offered the trainings and reflective practice supervision groups to staff on an ongoing basis. The training was divided into seven 2-hour sessions: "Creating a trauma-informed agency: Overview," "Relationships and trauma," "Attachment and trauma," "Practical intervention strategies," "Worker resiliency and secondary traumatic stress," "Reflective practice," and "Creating a trauma-informed organization." (The Attachment and trauma training was added in June 2016 after the agency received an influx of young children into their programs.) The experts provided coaching and consultation to the trauma specialist, co-trained one round of seven trainings, and co-led the first round of reflective practice supervision groups. These supervision groups focused on understanding how traumatic events and reactions have impacted residents and mitigating these impacts, as well as understanding and mitigating the impacts of secondary traumatic stress on staff.

Internal sustainment of the program

(December 2015). As an incentive for staff to participate in the program, the agency offered $0.50 hourly raise to staff who met the following criteria: (1)

Completed all seven 2-hour training sessions and passed the exam that followed each class with a grade of 80% or better; (2) Participated in six 1-hour reflective practice supervision groups; (3) Demonstrated listening, wondering, observing, and responding skills during reflective practice groups, as judged by the group leader (internal trauma specialist); and (4) Completed a brief paper describing how the program has changed their practices in the facility. Each staff member who attended trainings also received certificates and continuing education credits. In addition, although only in effect during the first year of implementation, the staff were offered overtime for attending trainings. The agency also provided refreshments to all staff attending the trainings.

Other agency initiatives during the time period of study

During the data collection time period (June 1, 2013–May 31, 2017), several other agency initiatives occurred that may have impacted our findings.

(1) In September 2015, the agency installed Gentle Teaching, a nonviolent approach for helping people with special needs and sometimes challenging behaviors. It focuses on four primary goals of caregiving: teaching the person to feel safe and engaged with, unconditionally loved by, and feel loving toward their caregiver. The agency obtained expert consultation in the Gentle Teaching model to support agency-wide implementation, including training classes, mentoring, role modeling, video-taping, and review of tapes.
(2) In October 2015, the agency employed two specialized staff dedicated to educating and training the staff following critical incidents. These specialists review incidents and assess the breakdown in training, education, implementation of the behavior plan, or other contributors to the event, followed by consultation to staff involved with the student to prevent re-occurrence.
(3) In January 2016, the agency began behavior rounds. These meetings are wrap-around meetings in which the staff can present a youth case to the review team for which they are struggling to intervene effectively around a student or resident's behavior. The team brainstorms changes, illnesses, or life stressors that could be contributing to an increase in behavior and then work to implement an intervention, with a follow-up 2 weeks later.
(4) In November 2015, the agency began excluding youth with histories of behaviors that support a diagnosis of conduct disorder at time of admissions.
(5) Between 2014 and 2016, five agency youth mental health clinicians participated in trainings and consultation in two evidence-based practices for youth trauma. Three staff clinicians participated in trauma-

focused cognitive behavioral therapy and two clinicians participated in child–parent psychotherapy. These trainings were funded by a separate external grant aimed and aligned nicely with the current project.

Methods

This study was approved by the Dartmouth Committee for the Protection of Human Subjects and by the Institutional Review Board of the agency under study (to remain anonymous).

Participants and recruitment

The broader agency provides medical care and comprehensive rehabilitation to children and adults throughout the northeastern United States with conditions including brain injuries, strokes, spinal cord injuries, ventilator dependency, and other serious medical conditions. The focus of this study was on the youth residential facility and accompanying day school, which specialize in autism spectrum disorders, behavior disorders, and vocational development. During the study, approximately 100 youth were served in the special needs school (some are day students) and 70 youth (70%) were housed at the residential treatment facility at any given time. These two departments employ approximately 550–600 staff, some of whom work in both the school and residential setting. Further, the agency prioritized shared trainings and initiatives in an effort to streamline principles and practices with youth. For these reasons, we chose to analyze the residential and school staff groups together.

Survey participants were staff within the school and residential facility as well as agency administrators from the larger entity (n = 589). Staff members were recruited through an e-mail introducing the research project and describing their potential participation via completion of electronic consent and subsequent electronic survey.

The researchers collected administrative data on critical incidents (including restraints), and staff turnover from agency administrators for a time period covering approximately 18 months prior to planning and implementation of TIC activities through the initial 6-month implementation phase and 12 months following internal sustainment of the ongoing trainings and supervision groups.

Measures and data collection

Surveys

The researchers administered surveys in December 2016 (12 months into the internal sustainment phase) through a secure web-based platform. The Felt Safety Survey included 16 items regarding the respondent's perception of various aspects of their work environment pertaining to a sense of safety. Responses were recorded on a 5-point Likert scale indicating the degree of truthfulness of the statement ranging from "completely untrue" to "completely true" about items such as focus on safety in the environment, openness to the opinions and input of everyone, and support for self-care activities. The measure was adapted from a safety subscale created to evaluate changes in staff felt safety after implementation of TIC training with staff in youth residential treatment facilities (Rivard et al., 2003). No psychometrics were available for the subscale or the larger scale used in the Rivard study.

The Trauma-Informed Skills Survey is a modified version of the Trauma-Informed Self-Assessment included in the National Child Traumatic Stress Network Chadwick Child Welfare Trauma Toolkit, which is available in the public domain (National Child Traumatic Stress Network, 2008). Thirteen items encompass statements about the respondent's sense of competence in delivering TIC. Using a 5-point Likert scale, the participants indicated how they perceive their understanding of the impact of trauma, have the ability to employ effective strategies, and recognize the impact of traumatic stress on them personally. No psychometric data are available for this scale.

We also included one item assessing job satisfaction: "Overall, I am satisfied with my job." This item was rated on a 5-point Likert scale ranging from 1 (completely untrue) to 5 (completely true). The survey also had one open-item question, "Please tell us how your practices have changed, or not changed, as a result of the trauma trainings and/or reflective practice groups."

Administrative data

Two types of administrative data were analyzed. Critical incidents, which included restraints, were analyzed across six chunks of 6-month periods, beginning with June 1, 2014–November 30, 2014, and ending with December 2016–May 2017. We define *critical incidents* as any incident that resulted in injury or had the potential to result in injury to staff or clients severe enough that it required or would have required medical attention, including significant intentional property destruction, incidents involving a motor vehicle accident, elopement or lost client, where physical restraint is used, and any incident involving a medical issue not currently documented or being followed by another tracking mechanism; i.e., choking, seizures, fainting, etc. We define *restraints* as any physical holding that restricts a person's ability to move his head, arms, torso, or legs freely when conducted as a response to

an immediate safety risk during which the individual does not accept such holding willingly. This includes any intervention used to release a client's pulling a staff's hair or release a client's bite from staff, clothing release, and any reference to lift and carry transfer. We were unable to gather restraints separately from critical incidents for the purpose of this article. However, our TIC program aimed to create a broader cultural shift and "trauma lens" among the agency workforce and did not implement any specific curriculum or interventions targeting a reduction of restraints. We were interested, though, in examining the potential impact of the TIC initiative on the more distal outcomes related to critical incidents (including restraints), as well as staff turnover, and they were therefore included in the study.

Staff turnover was analyzed across three 12-month periods, beginning in June 2014. We chose 12-month periods because staff turnover varies by season of the year (more turnover in summer months). We define s*taff turnover* as staff separations as a result of either resignation or termination.

Data analyses

We used SPSS (v.24) to examine the internal consistencies of each of the three outcomes scales (see Table 2). We then applied descriptive statistics to the survey outcome measures (see Table 2), and we used bivariate correlations (with statistical tests of significance) to examine the relationship between our three survey outcomes with the participant's "dose" of participation in the offered trauma trainings and reflective practice groups. See Table 3 for the correlation matrix.

To analyze the qualitative responses written into the open-ended survey question "Please tell us how your knowledge and practices have changed—or not changed—in terms of being trauma-informed since beginning the trauma initiative at [name of facility]," we created five categories to code responses. The five categories were: (1) general positive comments about the trauma initiative; (2) specific positive comments about the trauma initiative; (3) general negative comments about the trauma initiative; (4) specific negative comments about the trauma initiative; and (5) general comments about the facility. Finally, we summed the number of critical incidents and staff turnover across the study period chunks, graphed them over time (Figure 1), and calculated the percentage reduction or increase across time points.

Results

Implementation and internal sustainment

During the 12-month internal sustainment phase, in which the internal trauma specialist (train-the-trainer) led all trainings and reflective practice

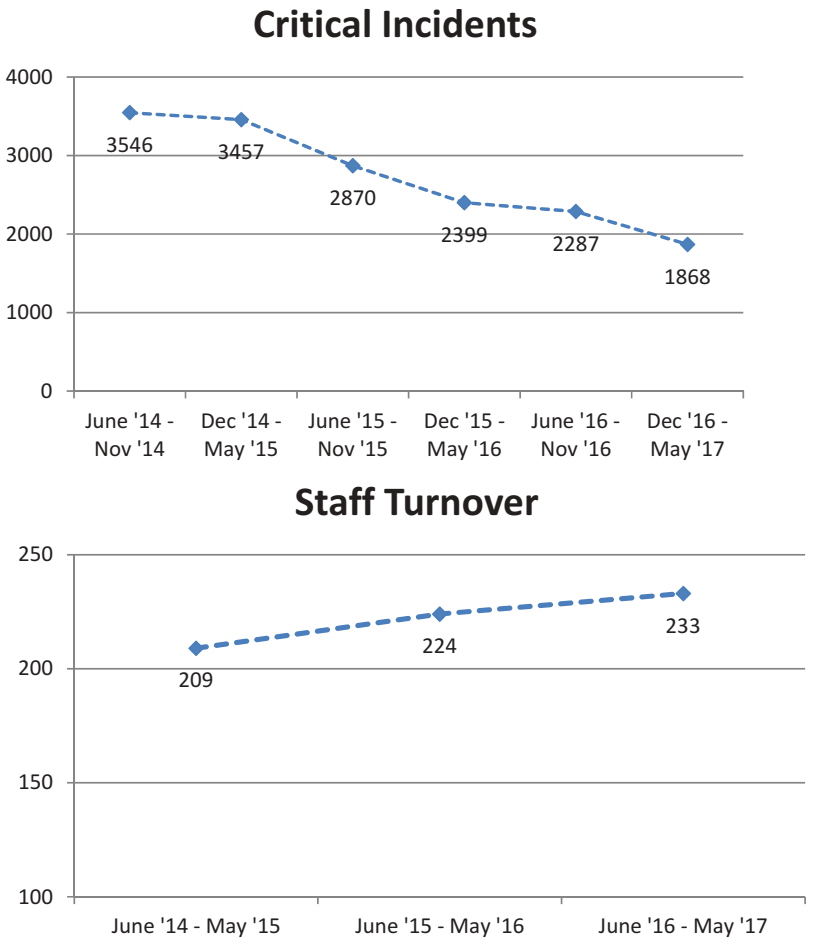

Figure 1. Critical incidents and staff turnover over the study period.

groups, staff member attendance at each of the seven training sessions ranged from 72 (Attachment and trauma, added late) to 108 (Creating a trauma-informed agency: overview). Eighty-nine staff members attended five of the seven offered training sessions. After completing the sixth training session on reflective practice, the staff were eligible to join the ongoing reflective practice groups. Sixty staff members completed six reflective practice groups, the number recommended by the program leaders. In total, 15 people met the eligibility requirements to receive the incentive hourly raise during the study period (through November 30, 2016). Another 36 staff met eligibility and received the raise through May 2017. Finally, a 2-hour trauma training was embedded into staff orientation for all new staff in July 2017.

Table 1. Characteristics of Survey Participants (n = 178)

Demographics	Count (n), Percent (%)
Age	
<25	10, 5%
25–30	33, 17%
31–40	36, 18%
41+	84, 43%
Nonresponses	34, 17%
Gender	
Female	118, 60%
Nonresponses	32, 16%
Job title	
Residential counselor	45, 23%
Program manager	11, 6%
Paraprofessional	33, 16%
Teacher	9, 5%
Administrator	30, 15%
Nonresponses	69, 35%
Years in role	
<1	38, 19%
1–2	57, 29%
3–5	32, 16%
6–10	21, 11%
11+	19, 10%
Nonresponses	30, 15%

Table 2. Internal Consistency, Means, Standard Deviations, and Response Ranges for Measures

Survey	α	Mean	SD	Minimum	Maximum
Felt-safety (16 items)	.73	52	7.2	36	68
Trauma skills (14 items)	.90	46	8.6	18	64
Job satisfaction (1 item)	NA	3.4	1.0	1	5

Table 3. Correlations of the Study Variables

	1	2	3	4	5
1. Number trainings attended	—	0.828**	0.04	0.36**	0.00
2. Number supervision groups attended		—	0.06	0.33**	−0.06
3. Felt-safety			—	0.43**	0.58**
4. Trauma skills				—	0.34**
5. Job satisfaction					—

Note. **Correlation is significant at the 0.01 level (two-tailed).

Survey participant characteristics

See Table 1 for survey participant characteristics. Almost half of participants were over the age of 40 years, and 60% were female.

Survey response rate and psychometrics

One hundred seventy-eight of the 589 staff were invited to take the survey responded, resulting in a 30% response rate. See Table 2 for the internal

consistencies, means, standard deviations, and response ranges for responses on the Felt Safety, Job Satisfaction, and Trauma Skills survey. The internal consistencies were acceptable for both the Felt Safety (0.73) and Trauma Skills (0.90) surveys in the current study.

Quantitative survey results

The mean responses on the three outcome scales are reported in Table 2 and indicate moderately high levels of self-perceived Felt Safety, Job Satisfaction, and Trauma Skills, although there is considerable range on all three variables. Table 3 displays the correlations between the number of attended trainings and attended supervision groups with Felt Safety, Job Satisfaction, and Trauma Skills. The number of trainings (r = 0.35) and number of supervision groups attended (r = 0.33) were both significantly positively correlated with Trauma Skills, but not with Felt Safety or Job Satisfaction. Separately, Job Satisfaction was significantly positively correlated with both Felt Safety and Trauma Skills (see Table 3).

Qualitative survey results

In response to the open-ended question "Please tell us how your knowledge and practices have changed—or not changed—in terms of being trauma-informed since beginning the trauma initiative at [name of facility]," 69 people wrote in a response. Of these 69 responses, four people made both negative and positive comments, totaling 73 "comments" for analysis. Most comments made by staff, either about the specific initiative or the agency or their work in general, were rated as positive (46 comments; 63%); 20 (32%) were negative and 7 (11%) were neutral.

One common positive theme related specifically to the TIC program related to the staff being more aware of the signs when a student/resident has a traumatic background, e.g., "…Once I establish the presence or absence of a trauma history, I then plan ahead accordingly" and "I feel that the basis for the majority of what we see is trauma-based. Looking at helping our clients from that perspective really opens understanding and options that are more effective." Themes also revealed staff perceptions of having more tools to help students and residents feel safe at their agency, as well as increased understanding of how student and resident behavior is a way of communicating needs, e.g., "Ruling out trauma history is my top option when I first am seeing behavior…" Some themes also reflected staff's own personal trauma: "Thanks for caring about this, as a child of trauma myself I am glad that as an organization this important issue is being addressed!"

The most common negative themes related to staff not having sufficient time and resources to implement what they learn, e.g., "Don't have time to reflect"; "Don't have realistic time to read information about clients." Some

themes also focused on a lack of concrete guidance for interacting with traumatized clients, e.g., "Overall, I don't think the [name of facility] is very helpful in this respect. There needs to be more of an explanation as to what we can do to help clients who come from traumatic experiences." Other themes were not directly related to the TIC initiative, but to related processes, such as a lack of support during crises and staff turnover/poor consistency for residents and students.

Administrative data (critical incidents and staff turnover)

See Figure 1 for a visual depiction of critical incidents, which includes restraints, within the residential facility and school across six 6-month chunks spanning 18 months prior to planning through 6 months of implementation and 12 months of internal sustainment. Critical incidents decreased over time across the study period. Critical incidents dropped from 2399 to 1868, a 22% reduction, over the implementation and sustainment phases (December 2015–May 2017), although critical incidents were already decreasing prior to initiation of the project. Figure 1 also displays staff turnover in three 12-month chunks (turnover varies across different seasons of the year). A minimal change in turnover, albeit an increase of 11%, occurred during the study period.

Discussion

We aimed to describe the process of developing, implementing, and evaluating a 3-year TIC program within a youth residential treatment center and accompanying special needs school to guide leaders with similar goals. We conducted a thorough needs assessment and met with agency leaders, administrators, and board of directors before implementation to tailor the program to the needs of the agency, plan for incentivizing the program, and plan for sustainability. Agency leaders had strong buy-in throughout the study period as evidenced by their hosting the trauma experts at an annual board meeting, paying for staff time to participate in trainings and groups, and supporting an increase in pay as incentive for completion of the program activities with fidelity. After an initial 6-month implementation phase, an internal trauma specialist offered (voluntary) ongoing trainings and reflective practice groups to staff. Over 100 staff participated in the trainings, 60 participated in supervision group sessions, and 51 met all of the requirements to receive the pay raise incentive. The trainings and supervision groups were also incorporated into all-staff orientation.

Our survey data revealed that although the frequency of participation in the trainings and supervision groups were not significantly correlated with job satisfaction or felt safety, both were significantly and positively associated with self-reported trauma-informed skills. In addition, results from the

qualitative study were largely positive, with nearly four times as many general or specific positive comments made about the trauma initiative than general or specific negative comments made about the initiative. Other studies and models have shown similar improvements in trauma skills within youth residential or congregate care settings: Risking Connection increased knowledge of, favorable views toward, and behaviors aligned with TIC following their 17-month program (Brown et al., 2012). The Creating Trauma-Informed Care Environments Curriculum also reported successes in terms of competent trauma-informed organizational, clinical, and milieu practices (Hummer, Dollard, Robst, & Armstrong, 2010).

Although our study did not find an association between participation in the TIC program and felt safety, other studies have shown mixed effects. For example, Rivard, Bloom, McCorkle, and Abramovitz (2005) reported that, compared to controls, staff participating in the Sanctuary Model units reported more gains in physical, social, and psychological safety based on a measure of felt safety borrowed and adapted for the current study. The Sanctuary Model is more comprehensive and delivers a stronger "dose" of intervention (e.g., staff training, 12 training sessions for youth, weekly psychoeducation groups, twice-daily communication meetings, exercises between youth and staff) than the TIC initiative described in this article. Perhaps, a higher dose of intervention is needed, or, training and psychoeducation sessions with youth, to affect staff felt safety. Goetz Goetz and Taylor-Trujillo (2012) also reported improved staff sense of safety following the implementation of their Patient-Focused Intervention Model. However, the authors did not provide details about their staff safety survey nor did they indicate whether the observed improvements met statistical significance. No other studies, which we are aware of, measured job satisfaction as an outcome of a TIC initiative in a youth residential or congregate care setting.

Our administrative data revealed a 22% decrease in critical incidents over the course of the study period (although these incidents were already on a downward slope prior to the program beginning) and no effect on staff turnover. Other programs directly targeting the reduction of seclusions and restraints and other critical incidents within youth residential centers have shown more dramatic decreases in restraints and seclusions (see Bryson et al., 2017 for a review). The focus of our program was to more broadly provide staff with knowledge and skills surrounding TIC, and we did not target directly the reduction of critical incidents. We are therefore pleased that our program may have had this more distal effect. We could not find any other studies that examined staff turnover as a distal effect of a TIC initiative within a youth residential/congregate care setting. We do believe that in the long term, a successful TIC initiative would reduce staff turnover. However, more research is needed, along with perhaps a more comprehensive, higher dose intervention, to see these effects.

Lessons learned

We believe that sustained leadership support; tailoring the initiative to the agency needs and practices; and incentivizing staff participation in the initiative through financial (pay raise), pride (certificates), and continuing education credits were crucial to our success. We also learned how grateful staff were for the refreshments provided during the trainings through informal feedback from staff. In addition, although high rates of personal trauma among residential and other human service staff is well documented in the literature (Bloom & Farragher, 2010), we were still alarmed by the number of staff who revealed their own traumatic histories and traumatic stress symptoms, either during the trainings, supervision groups, or written assignments that were required to earn the incentive. While participating in the initiative, many staff described gaining insight and confidence in understanding the impact of their own traumas on their functioning as well as on their interactions with residents and students. No staff were debilitated by these memories and insights; rather, they felt empowered and more effective in their job when allowed to process these experiences in a safe environment. Still, devoting more resources, such as outreach and assistance from an Employee Assistance Program, to help staff manage their own traumatic and secondary traumatic stress may have further strengthened the program. Further, we would recommend choosing more than one trauma specialist so that the sustainment of the program does not hinge on one person's expertise.

Limitations

Several limitations warrant mention. First, our study design did not include a comparison group. We cannot therefore say with authority that the intervention caused the effects. Further, the other initiatives occurring alongside the TIC initiative certainly aligned nicely with our goals and likely had a bearing on our outcomes. For example, the change in policy to not admit youth with behaviors that would support a diagnosis of conduct disorder in November 2015 could have impacted many of the outcome measures. Nevertheless, we feel that the alignment of timing in the installation of intervention activities and changes in critical incidents is compelling. Another limitation of our study is the relatively low response rate (30%) to our survey. Nonresponders may have responded differently to the survey. The findings would also be strengthened by measures with more robust establishment of reliability and validity. Further, although our one-item job satisfaction question had strong face validity, this outcome variable may also have been strengthened by a more comprehensive measure of children's behavioral health needs or behavior problems.

Future research

We suggest that future researchers replicate the study using established measures with reliability and validity. Examining youth perspectives would also add breadth and depth to the findings. We also recommend that researchers identify specific mechanisms of change in TIC initiatives to guide program developers and policy makers in decisions about how to best use resources toward this aim. In addition, residential centers are burdened by high staff turnover (Leon, Visscher, Sugimura, & Lakin, 2008), and staff satisfaction and retention can be improved by increasing workers' level of perceived safety in dealing with traumatized patients (Lynch, Plant, & Ryan, 2005). Our study did not show improvements to staff sense of felt safety nor staff retention. We urge program leaders and researchers to examine various mechanisms that could improve staff's sense of safety at work, thereby improving staff retention. Future research could also examine potential differences in processes and outcomes between youth residential centers and special needs schools that may differ more significantly in their structures and priorities. (Because the students and staff overlap significantly in the agency under study, and because of their overlapping principles and vision, we chose to analyze these groups together.) A necessary, although more distal, step in future research is the need to examine outcomes from TIC programs in a controlled trial. Finally, cost–benefit analyses are needed to better prepare for long-term financing and sustainment of this and other similar programs.

Conclusions

Staff experience considerable stress when caring for youth with trauma and need support in managing youth traumatic stress reactions and behaviors as well as their own stress and trauma triggers. Program leaders of youth residential treatment centers and special needs schools, along with researchers and other stakeholders, can use the processes described in this article to drive implementation and evaluation efforts and fuel future research. Embracing a TIC approach holds promise to improve trauma-informed staff's knowledge and skills and decrease critical incidents in youth residential treatment facilities and special needs schools.

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