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## Trauma-Informed Medical Care: Patient Response to a Primary Care Provider Communication Training

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### Abstract

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Trauma exposure predicts mental disorders and health outcomes; yet there is little training of primary care providers about trauma's effects, and how to better interact with trauma survivors. This study adapted a theory-based approach to working with trauma survivors, Risking Connection, into a 6-hour CME course, Trauma-Informed Medical Care (TI-Med), to evaluate its feasibility and preliminary efficacy. We randomized four primary care sites to training or wait-list conditions; PCPs at wait-list sites were trained after reassessment. Primary care providers (PCPs) were Family Medicine residents ( $n = 17$ ; 2 sites) or community physicians ( $n = 13$ ; 2 sites). Outcomes reported here comprised a survey of 400 actual patients seen by the PCPs in the study. Patients, mostly minority, completed surveys before or after their provider received training. Patients rated PCPs significantly higher after training on a scale encompassing partnership issues. Breakdowns showed lower partnership scores for those with trauma or posttraumatic stress symptoms. Future studies will need to include more specific trauma-related outcomes. Nevertheless, this training is a promising initial approach to teaching trauma-informed communication skills to PCPs.

### Keywords

Communication; continuing medical education; patient-centeredness; primary care; trauma

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Exposure to traumatic experiences is common (50–75% prevalence; Breslau, 2002; Felitti et al., 1998; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995), and linked to mental disorders, including posttraumatic stress disorder (PTSD; Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997; Weaver & Clum, 1995). PTSD, in turn, predicts negative health outcomes such as heart disease and impaired functioning (Felitti et al., 1998; Green & Kimerling, 2004; Kroenke, Spitzer, Williams, Monahan, & Lowe, 2007; Sareen, Cox, Clara, & Asmundson, 2005; Stein et al., 2004). Patients with trauma/PTSD also report more negative provider interactions and perceptions (Bassuk, Dawson, Perloff, & Weinreb, 2001; Green et al., 2012). Although trauma-exposed patients, and patients diagnosed with PTSD, are common in primary care (Gillock, Zayfert, Hegel, & Ferguson, 2005; Kartha et al., 2008; Liebschutz et al., 2007), primary care providers (PCPs) often feel unprepared when dealing with them (Green et al., 2011; Rodriguez, Bauer, McLoughlin, & Grumbach, 1999; Sugg & Inui, 1992). Programs that address communication with trauma survivors could enhance PCP skills.

Better physician–patient communication predicts patient satisfaction, medical information recall, recommendation compliance (Hall, Roter, & Katz, 1988; Katz et al., 2004; Schneider, Kaplan, Greenfield, Li, & Wilson, 2004), and better physiological and behavioral outcomes (Kaplan, Greenfield, & Ware, 1989; Sans-Corrales et al., 2006; Stewart, 1995). *Training* clinicians on communication skills affects patient perceptions of providers, patient satisfaction, and health behaviors (Dwamena et al., 2012; Haskard et al., 2008). Training PCPs in patient-centered care predicts perceptions of provider attentiveness to patients and their medical problems (Dwamena et al., 2012).

Our study adapted a theory-based, evidence-informed trauma-focused intervention into a 6-hour CME course called Trauma-Informed Medical Care (TI-Med). In addition to adapting

the intervention, the goal of the study was to examine the feasibility of the program and to preliminarily evaluate its effectiveness. A previous report focused on the effects of the training program on PCP interactions with *standardized* patients (Green et al., 2015). This current paper reports on outcomes among PCPs' *actual* patients. We sought to understand whether patients would detect differences between trained and untrained PCPs. We were particularly interested in how PCPs engaged the patients in decision making and partnership activities. We also investigated whether patients with trauma or PTSD would have lower ratings for their PCPs.

## Method

TI-Med is an adaptation of the Risking Connection (RC) curriculum (Saakvitne, Gamble, Pearlman, & Lev, 2000) that includes a theoretical framework, intervention techniques, didactic and experiential aspects, and attention to the self-care needs of PCPs. Additional training details and effects on PCP outcomes and skills are reported elsewhere (Green et al., 2015). For this study, we converted the two-day RC training originally targeted to mental health professionals into a 6-hour CME program, using feedback from PCPs and patients. The adaptation process began with the original content and a faith community adaptation (Day, Pearlman, Nelson-Pechota, & Balamani, 2006). We added cultural content about adverse experiences and their impact on health and health care issues, with attention to diversity. Next, we conducted three focus groups, two with providers and one with patients. The focus groups generated feedback on the training materials, which was incorporated into the final curriculum draft. We conducted a two-session pilot training at a local primary care site using the modified curriculum with 6 PCPs and 19 clinical staff. Participants provided feedback on the curriculum at a concluding session. Additional participant feedback was gathered via conference call about 10 weeks after the training. All feedback was incorporated into the finalized curriculum and instructional design.

TI-Med teaches how traumatic events may overwhelm individuals and cause them to perceive threat to life, or to mental or bodily integrity. Additionally, trauma affects a person's ability to stay in the present, integrate feelings, and make sense of experiences. The training does not target screening for trauma, although sensitive ways to do this are discussed, nor how to identify PTSD, although PTSD is presented and discussed. Rather, the training focuses on the healing power of interactions between trauma survivors and providers so that activities like asking about trauma or symptoms, or making mental health referrals, can be done in a trauma-informed way that supports trust and honesty. Like RC, TI-Med uses two core concepts to enhance the role of relationship: feelings skills called self-capacities and the RICH<sup>®</sup> relationship that teaches extending Respect, Information, Connection with others, and Hope to patients. TI-Med also emphasizes the role of self-awareness and self-care in mitigating the impact of *vicarious trauma* on the care provider.

Didactic materials were presented using slides, written handouts, and experiential exercises. The training began with the group generating and defining the different types of trauma and discussing their common dimensions. An interactive exercise helped PCPs recognize the universality of trauma exposure. The overwhelming impact of early childhood experiences was discussed within an attachment-informed framework, introducing the concept of self-

capacities that allow the individual to maintain a consistent sense of identity and self-esteem. The training also included specific content about the consequences of trauma, and its impact on the body and brain. We reviewed the symptoms of PTSD, its comorbidity with depression, and broader change that included effects on memory, perception, judgment, beliefs, worldview, and emotional skills. As participants mastered each section of the content, they were asked to reframe and revise their responses in the context of a case study (i.e., a trauma patient's visit to the doctor). This case illustrated training concepts, and provided the opportunity for participants to develop a deeper understanding of the multiple manifestations of trauma, and to consider more nuanced possibilities for responding. As participants discussed the case at each phase, the trainers demonstrated appropriate and trauma-sensitive responses. The training program also emphasized the role of self-awareness and self-care, in mitigating the impact of *vicarious trauma*, defined as an inevitable consequence of empathic engagement with traumatized individuals, on the provider. The self-care of both parties—provider and patient—was viewed as critical, as PCPs modeled RICH<sup>®</sup> relationships (Respect, Information, Connection, Hope). Worksheet exercises helped participants understand and identify vicarious trauma consequences and develop self-care activities. Participants were given a training manual that provided details on the training materials, additional readings including aspects of child development and attachment (and how attachment can be disrupted by trauma), and the physiology of fear. They received a “job aid” that outlined the consequences of trauma, the self-capacities, and the elements of RICH<sup>®</sup> relationships. Support staff was included in the training so that the organizational response to patients with trauma histories could be enhanced.

Outcomes of this larger study were assessed in two ways, the first with a *patient-centeredness composite* derived from Roter Interactional Analysis System ratings of 90 taped visits between PCPs and standardized patients (SPs; Green et al., 2015). For that outcome, in the interaction analysis reported elsewhere, immediately trained PCPs showed a marginally significant larger increase in patient-centeredness than PCPs whose training was delayed until after they were reassessed, with a moderate effect size. Combining pretraining and posttraining scores for the two groups, we found a *significant increase* in ratings of *patient-centeredness* pre- to posttraining (Green et al., 2015). For the second outcome, surveys were obtained from actual patients of the trained PCPs, half before training, and half after training (this paper; see below for instrument description).

## Overview

Four primary care sites (two residencies, two community programs) were randomized into two conditions (immediate or delayed training) crossed with site type, such that each condition consisted of two sites: one residency and one community program. Self-report data from PCPs' patients before or after PCP training were collected.

Participants were 30 PCPs and 400 of their patients who were recruited in provider waiting rooms. Patients participated anonymously. Provider sites served primarily low-income ethnic minority patients.

## Procedure

All PCPs at each site were invited to participate. Interested PCPs signed informed consent and attended the TI-Med training. They gave permission for us to approach and recruit their patients to complete surveys (PCPs were unaware of which patients participated). All patients of PCPs in our study were invited to participate on the days we were in the clinic. We surveyed as many patients as possible, up to 30 for each PCP (15 before and 15 after training). The before- and after-training patient samples comprised different patients (not a repeated measures design). Community physicians received CME credits; all PCPs received \$100 for participation. Patients were consented, in a procedure recommended by Georgetown's Institutional Review Board, where they were fully informed and consented, but did not need to give a name or sign a consent form. This was done to protect individuals who were undocumented, and were expected to be a significant portion of the sample. Patients completed the survey (15–20 min) in a private location, and received a \$10 gift card. Georgetown University, Howard University, Providence Hospital, and the Johns Hopkins School of Public Health IRBs approved the study.

## Instruments

The patient survey included demographics, the PHQ-2 (Kroenke, Spitzer, & Williams, 2003), a two-item depression screen, and a Trauma Screen: six questions (yes/no) about interpersonal trauma exposure (Green, Chung, Daroowalla, Kaltman, & De Benedictis, 2006; Hooper, Stockton, Krupnick, & Green, 2011), plus one question from the ACE study (Felitti et al., 1998; mentally ill parent). An example question was: "Have you *ever* had any of the following experiences happen to you? Been physically attacked, like being hit, kicked, or beaten up?" A locally utilized PTSD screen consisted of four questions (yes/no)—one each for intrusion, avoidance, numbing, and hyperarousal (e.g., "During the past 4 weeks, have you been bothered by repeated, disturbing memories, thoughts, or images of the experience(s) you described above?"). Ratings of PCP behavior and relationship consisted of 21 items on a 5-point Likert scale covering targeted skills, derived from measures assessing patient satisfaction and interactions with providers (Bertakis, Roter, & Putnam, 1991; Cooper et al., 2000; Thom & Stanford Trust Study Physicians, 2001); higher numbers indicated more agreement. Sample items included, "The doctor helped ease my mind about my worries"; "The doctor carefully explained his or her thoughts about what was recommended"; "The doctor made an effort to give me some control over my treatment." Instruments were pilot-tested and additional positive response categories were added to the patient ratings of PCPs, since patients tended to rate all PCPs highly. All instruments were translated into Spanish as well. The survey was self-administered, except for patients who chose to have it read aloud to them.

Interviewers included a medical student and bilingual-bicultural research assistants or associates. The patients who identified as Latino chose to take the survey in Spanish, either orally or on paper. Patients took the survey anywhere from a week to three months following the final training session, with a median across sites of 30 days and a mean of 37 days.

## Analyses

Pretraining surveys underwent factor analysis. The final and simplest solution with three factors or scales used orthogonal rotation, excluding items not loading on any factor ( $n = 7$ ). The first scale, *Rapport* ( $\alpha$  reliability = .89), included six items (e.g., “The doctor understood my problems”). The second, *Information* ( $\alpha$  reliability = .87), included five items (e.g., “The doctor gave me guidance”). The third, *Partnership* ( $\alpha$  reliability = .81), comprised three items (e.g., “The doctor took my preferences into account when making treatment decisions”). Mean scores of the items in each scale were then computed for pre versus post samples and compared using independent samples  $t$ -test, since the patients were not paired across time points. These tests were repeated for breakdowns by trauma exposure and PTSD symptoms. To control for potential correlations among the patients of the same physician, the pre–post differences were adjusted for site and clustered by physician in linear regression models. Surveys with more than five missing data points were excluded ( $n = 35$ ). If fewer responses were missing, they were replaced with mean subscale scores for pretest and posttest samples separately.

## Results

### Participants

PCPs included 17 Family Medicine residents and 13 community providers (83% Family Medicine), primarily female (70%), and half were Caucasian.

Among the 400 patient participants, 77% were women, 44% were African American, and 50% were Latino. Average age was 44.96 ( $SD = 15.58$ ); average education, 11.73 years ( $SD = 4.69$ ). Over half (52%) reported one or more trauma experiences, 58% reported at least one PTSD-screening symptom, and 36% reported at least one depression-screening symptom (see Table 1). There were no demographic or symptom differences between pre and post samples.

### Outcomes

The *Rapport* scale difference was nonsignificant because PCPs at baseline were perceived as having excellent rapport (4.87 out of 5). The *Information* scale increased from pre- to posttraining samples, but did not reach significance ( $p < .07$ , one-tailed). The *Partnership* scale showed the largest, and significant, increase pretraining versus posttraining (4.56 to 4.77),  $t(360) = 2.72$ ,  $p < .01$ . Linear regression models adjusted for each site where pre and post scores were clustered by physician also resulted in a nonsignificant increase in the *Rapport* scale (increase = 0.02,  $SE = 0.03$ ,  $p = 0.56$ ) and in the *Information* scale (increase = 0.10,  $SE = 0.05$ ,  $p = 0.09$ ) and a significant increase in the *Partnership* scale (increase = 0.21,  $SE = 0.07$ ,  $p = 0.006$ ).

Further breakdowns of the Partnership scale, combining pre- and postsamples, showed that patients with at least one PTSD symptom rated their PCPs lower,  $t(df = 360) = 2.2$ ,  $p < .01$ , as did patients with two or more traumas,  $t(df = 360) = 2.3$ ,  $p = .02$ . Comparing patients with and without trauma and PTSD symptoms on this scale in the before and after training samples showed higher ratings posttraining for both measures, with significant change in the

no-trauma group,  $t(df=169) = 2.2, p = .03$ , no-PTSD group,  $t(df=251) = 3.1, p = .002$ , and a trend for the trauma-exposed group,  $t(df=189) = 1.7, p < .09$ .

## Discussion

This pilot study adapted an evidence-based trauma-focused communication training program into a six-hour CME training program for PCPs called Trauma-Informed Medical Care (TI-Med). We aimed to examine the acceptability and feasibility of the training, and to preliminarily evaluate its effectiveness both in terms of primary care provider interactions with (standardized) patients, and any detectable effects with actual patients. This paper describes the latter aim, to examine whether actual patients had more positive ratings of their PCPs following training, particularly in the areas of comfort and partnership. While the training focused heavily on trauma-related content in addition to relationship and communication issues, the preliminary outcomes examined in this study focused only on aspects of communication and comfort among patients.

Patients rated trained PCPs higher on a Partnership scale after, compared to before, training. In the earlier analysis, interactions with *standardized* patients on a patient-centeredness composite rating improved significantly over time (repeated measures) with training (Green et al., 2015). The convergence between actual patient ratings and third-party blinded ratings of interactions between PCPs and standardized patients suggests that this new curriculum, TI-Med, has promise. To our knowledge, this is the first test of CME training for PCPs with an overall focus on trauma in patient-provider relationships.

The training followed recommendations that CME programs need to be based on a specific theoretical framework, and should include practice and ongoing knowledge checks (Davis, Thomson, Oxman, & Haynes, 1992; Griffin et al., 2004). Because of the high rates of trauma and PTSD among patients in primary care (Gillock et al., 2005; Kartha et al., 2008; Liebschutz et al., 2007), and the comorbidity of trauma exposure and PTSD with physical health outcomes (Kroenke et al., 2007; Sareen et al., 2005), a trauma-informed care approach seems warranted. Without provider awareness, trauma exposure may go undetected, and negatively affect patient-provider relationships and patients' engagement in health care.

As noted in the introduction, patients with trauma and PTSD have been shown to report more negative provider interactions and perceptions (Bassuk et al., 2001; Green et al., 2012), and PCPs are often inadequately prepared to deal with them (Green et al., 2011; Rodriguez et al., 1999; Sugg & Inui, 1992). Our study replicated this finding: patients with trauma and PTSD symptoms rated their providers lower on the *Partnership* scale. This may have occurred because patients, having trauma and PTSD, and based on past experience, were more wary of the relationship and interaction with the PCP. Conversely, providers may have been uncomfortable with trauma and PTSD patients, either because they were aware of the patients' trauma and did not know how to appropriately respond to them, or because of how patients were relating to them. These and findings from other studies do, however, suggest that training PCPs about trauma holds promise for improving these relationships. Our pilot study was not able to show a significant increase in ratings of PCPs among the subset of

patients with trauma and PTSD symptoms, possibly due to small sample size, and to the uncontrolled real-world setting in which this aspect of the study took place. However, we found a change in the appropriate direction; a larger sample or different outcomes measures might show significant changes. Demonstrating the effectiveness of the training in patients with trauma and PTSD would be important, as this is the target population for the training.

The study had several limitations. As a pilot, it used relatively small samples of (primarily Family Medicine) PCPs. It addressed only short-term outcomes; the interval from end of training to patient data collection averaged about a month. Thus, the findings can be generalized to the short, but not the long term. We did not assess changes in physical health indicators. On the patient questionnaire, patients seemed reluctant to rate their PCP negatively, so that even lower scores were on the positive side. Although this makes the significant findings even more surprising, it may also suggest the limitations of patient ratings of providers. Pre- and postsamples were different individuals since we did not feel we could ask patients to return for an unneeded visit for research purposes in this small study. To evaluate training effects, more trauma-focused longitudinal data will be required in a future study.

It is possible that some of the effects of the intervention were due to the fact that the PCPs knew we were rating their patients. However, we feel this is unlikely, since PCPs did not necessarily know that we were surveying their patients on a specific day. They had given blanket permission for us to interview their patients both before and after training over several months, and multiple PCPs' patients were targeted on clinic days. Thus, while it is possible that PCPs changed their behavior on specific days over the period of weeks and months that surveys were being conducted in the practice pre- and posttraining, this seems more unlikely than a more general training effect.

Because this is a preliminary investigation of a newly developed training, we are not able to specify the active ingredients of this intervention. The intended active ingredients included the information on trauma and PTSD, working within the framework that most people experience trauma (to reduce patient-provider divisions), and helping PCPs understand the wide range of reactions to trauma, for example, self-worth or attachment capacity. However, a larger, dismantling study would be required to address this empirically.

A primary study limitation is the lack of trauma-specific study outcomes. Without examination of trauma processes such as screening and discussions of trauma, as well as more attention to PTSD and other trauma-related disorders through counseling and referral that would be expected following training, we cannot state with confidence that the training leads to specific trauma-related changes. Rather, we can say that the training primarily leads to relationship and communication changes. However, it is important also to note that the goal of the training is not to do a trauma screening per se, but to give PCPs tools to model good physician-patient relationships and thus support traumatized patients to successfully negotiate the primary health care system (without undue anxiety, refusing treatment, and failing to show for follow-ups). A critical component of trauma-informed care is an open and trusting relationship. Disclosure of trauma, and referrals per se, do not necessarily lead to better or more sensitive care without this relationship. Thus, in addition to assessing



screening and referral, future studies may want to review patients' comfort in interacting with their providers, return follow-up visits, and other indicators that the patient is positively engaged with the provider, trusts him or her sufficiently to stay in the system, and follows through with physician recommendations.

Despite the limitations, this primary care-based CME training to improve communication with trauma-exposed patients shows promise for further evaluation with a larger sample size and a wider range of outcomes. We were encouraged to find a significant difference in a scale that was conceptually linked to the patient-centeredness score in the SP ratings (Green et al., 2015) that was a target for our training, that is, Partnership. These findings occurred despite the relative lack of room for improvement in the patient ratings, which began high, and the less sensitive pre-post two-sample design employed. Breakdowns of Partnership by type of patient clarified that those with traumas and PTSD symptoms rated PCPs lower overall, and that positive changes from pre to post samples occurred for both subgroups, although trends were stronger for nontrauma, non-PTSD groups. The training therefore increased positive aspects of the PCP-patient partnership from both observer ratings and patient perspectives. Further research should explore more trauma-specific outcomes (like disclosure, recognition of trauma, and treatment interventions), longitudinal changes in patient ratings of providers and in mental health indicators, and effects on patient health outcomes.

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**Table 1**

## Patient characteristics.

Gender	77% women
Race	44% African American 19% White 37% other
Ethnicity	50% Latino
Trauma experiences	52% yes $M=1.1$ (range 0–6, $SD=.43$ )
PTSD symptoms (screen)	58% at least 1 $M=1.3$ (range 0–4, $SD=1.45$ )
Depression symptoms (screen)	36% at least 1 (of 2)
Chronic illnesses	24% arthritis; 20% diabetes
Physical complaints	55% pain; 50% headaches

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