Effective clinical management of PTSD in primary care settings: screening and treatment options

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The aim of this article is to provide a rationale for ongoing screening, detection, and treatment for post-traumatic stress disorder (PTSD) and other psychological sequelae following traumatic exposure. Evidence suggests that many patients with medical problems (e.g., chronic pain) and diagnoses (i.e., gastrointestinal) were found to have histories of traumatic exposure and undetected PTSD. Several studies suggest a strong link between poor physical functioning and PTSD. However, most of these patients do not readily discuss their traumatic experiences with their primary care providers unless directly asked. Appropriate clinical management of PTSD in medical settings includes screening patients for symptoms of PTSD and making referrals for psychological treatment. We offer suggestions for specific types of cognitive-behavioural, psychodynamic, and psychopharmacological interventions for early intervention and treatment of chronic PTSD. Finally, we present clinical scenarios which illustrate some of the challenges faced by primary care doctors treating victims of traumatic experiences. Primary Care Psychiatry 1999; 5:3–12, © 1999 by Lippincott Williams & Wilkins

Introduction

Following incidents of interpersonal violence, natural and man-made disaster or vehicular accident, patients who seek direct help for the emotional consequences of trauma are often diagnosed and treated by mental health clinicians. However, medical settings (e.g. primary care clinics and emergency rooms) are also major 'portals of entry' where many traumatized persons may encounter clinicians. As the relatively high prevalence rates of traumatic events and post-traumatic stress disorder (PTSD) make clear, general practitioners in primary care settings are routinely called upon to manage interventions for acute and chronic behavioural disorders related to trauma. A recent study [1] found that 17% of primary care patients, who had never received treatment or evaluation for anxiety, met the diagnostic criteria for PTSD. Moreover, patients with unrecognized anxiety symptoms exhibit impaired functioning and poor quality of life that are as severe as that experienced by patients who suffer from

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chronic physical diseases. This is why it is so important to detect PTSD among the many patients who seek treatment from primary care providers. In this article we describe the phenomenology, epidemiology and treatment of PTSD. In doing so, we emphasize how primary care clinicians can detect PTSD in order to assure the most beneficial treatment for patients with this disorder.

Clinical description of PTSD

PTSD is an anxiety disorder that may develop after an intense emotional reaction to severe or prolonged traumatic events

PTSD is an anxiety disorder that may develop after an intense emotional reaction to severe or prolonged traumatic events. The *Diagnostic and Statistical Manual of Mental Disorders* [2] specifies that four diagnostic requirements be met for a diagnosis of PTSD. The first requirement is that "the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others" and that "the person's response involved intense fear, helplessness, or horror". Some traumatic events with demonstrated links to PTSD include childhood sexual and physical abuse [3,4], natural disaster [5], motor vehicle accident [6], life-threatening medical illness [7] and witnessing the homicide of a parent [8].

The other three diagnostic criteria are related to the major types of PTSD symptoms: intrusive re-experiencing of traumatic memories, avoidance and increased arousal. At the core of these symptoms is the formation of long-lasting traumatic memories following experiences of intense distress. Individuals with PTSD often describe repeated, intrusive imagery of their traumatic events. These intrusive memories may be sudden and unexpected multisensory experiences, such as flashbacks, during which the individual may feel that the trauma is reoccurring. Nightmares may also represent an intrusive reprocessing of the trauma through literal or symbolic themes. Cues associated with trauma may serve as powerful reminders leading to the expression of traumatic memories through intrusive thoughts and imagery. Traumatic memories are not only frightening, their expression may also lead to interruptions in cognitive processes such as concentration and attention [9].

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Most individuals with PTSD will attempt to avoid thoughts and feelings about their traumas, as well as situations that are trauma reminders. In addition to such 'effortful' avoidance, general emotional numbing may also develop. While active avoidance and numbing of feelings may both serve to diminish the intense, unpleasant arousal and fear related to the intrusive memories, they may reflect different underlying processes [10]. Accompanying dissociative symptoms, such as amnesia, derealization and depersonalization, may also interrupt the normal experiencing of emotions. The final PTSD symptom cluster is termed hyperarousal and includes enhanced startle response, insomnia, irritability or rageful affect and hypervigilance towards danger. Individuals with PTSD may be on constant watch for signals that the traumatic experience is continuing or that another trauma is imminent. Typically, PTSD symptoms fluctuate in intensity and frequency. An individual with PTSD will sometimes succeed in avoiding painful reminders, but can be suddenly bombarded by distressing memories at other times, particularly when confronted with trauma cues or reminders. Finally, a PTSD diagnosis is established when the constellations of symptom clusters persist longer than 1 month and there is evidence for global functional impairment due to the distress.

Epidemiology of trauma and PTSD

Several epidemiological studies conducted in the USA have investigated the prevalence of exposure to traumatic events [11,12] and rates of PTSD [13,14]. Together, these studies indicate that traumatic incidents occur frequently and exposed individuals suffer a high emotional cost. Using individual interviews from the general US population, the National Comorbidity Survey [13] represents a recent large-scale effort to determine the prevalence of trauma exposure and mental health disorders. A greater number of American men than women were exposed to at least one traumatic event during their lifetime (60.7 versus 51.2%); however, following traumatic exposure, women were at higher risk of developing PTSD [11]. This difference may be accounted for by the high frequency of females who are victims of sexual assault (e.g. sexual abuse and rape) which often precipitates the development of PTSD.

A recent epidemiological survey of psychiatric diagnoses among primary care and surgical patients at the Department of Veterans Affairs reported that 10% of males met lifetime criteria for PTSD [15]. For those diagnosed with PTSD, there were substantial impairments in emotional and physical role functioning. These findings strongly suggest that extreme life experiences—accidental injury, violence and abuse—occur frequently and that reactions to these events may be strongly associated with decreases in general social functioning and overall health.

Traumatic stress, PTSD and physical health

A growing body of empirical research indicates that exposure to extremely stressful events is associated with a wide array of deleterious physical health outcomes, ranging from lowered self-perception of physical health status to the actual occurrence of physical degeneration and disease [16]. Several investigations have found strong associations between lifetime histories of trauma and specific medical conditions. Some examples include chronic pain [17,18] and gastrointestinal disorders [19,20] including irritable bowel syndrome [21] and fibromyalgia [22]. In a study examining females in an infertility clinic with chronic pelvic pain, Walker *et al.* [23] found significantly higher rates of childhood and adult incidents of victimization in the chronic pain group compared to a non-pain group. Out of 100 women in the clinic, 14 reported severe histories of childhood sexual abuse; 12 of these women suffered from chronic pelvic pain. In addition, women in the chronic pain group also suffered from a higher rate of medically unexplained physical symptoms, such as nausea, shortness of breath and pain in the arms and legs.

Life-threatening medical conditions, including heart attacks [24], cancer [25] and asthma [26], may also contribute to the causation or exacerbation of PTSD [27]. For example, Andrykowski *et al.* [7] found that women diagnosed and treated for breast cancer were at risk of developing PTSD. In their study, prevalence rates of 6 and 10% for current and lifetime PTSD were established 6–72 months following cancer therapy. Jacobsen *et al.* [28] examined PTSD in 43 females who had undergone autologous bone marrow transplantation for breast cancer. In this study, Jacobsen *et al.* [28] discovered even higher rates of PTSD. As many as 19% of this group developed PTSD due to the invasive nature of the cancer treatment. In addition, more severe levels of PTSD were associated with less sleep, poorer physical health and mental health problems.

Exposure to extremely stressful events is associated with a wide array of deleterious physical health outcomes

In addition to worsening of physical health, trauma may also lead to higher rates of medical care utilization. For example, Toomey *et al.* [29] found that, compared with patients with no prior abuse, out-patients with histories of sexual or physical abuse used the emergency room more often to remedy their chronic pain. Kimerling and Calhoun [30] found that female rape survivors reported a higher frequency of somatic problems and more medical service utilization. In the sections that follow, we discuss practical guidelines for assessing and treating patients with histories of trauma, for the mutual benefit of both patients and clinic staff.

Importance of routine screening

Most doctors and nurses do not routinely screen for trauma history

It is important to recognize that most trauma victims do not seek mental health services. However, many traumatized individuals do look for assistance and care for their emotional problems from their physicians. In fact, most mental health treatment is delivered by non-psychiatrist physicians or nurses. At the current time, most of these doctors and nurses do not routinely screen for trauma history, so that the majority of trauma survivors probably go undetected. Abbott *et al.* [31] found that 83% of women whose emergency room visits were prompted by partner abuse were not asked about domestic violence and did not spontaneously disclose the abuse to emergency room personnel. In another study [32], only 6% of adult female patients at a family medicine clinic reported being asked by physicians about their trauma histories. Even in trauma medicine, where injuries and illnesses are recognized as life threatening and traumatic, the emotional consequences of such medical events are not routinely identified or addressed [33]. Of course, failure to identify and treat PTSD and other negative consequences of traumatization is not limited to medicine. In mental health settings, problems such as alcohol and drug abuse, panic disorder and

Life threatening medical conditions may also contribute to the causation or exacerbation of PTSD

depression, all highly co-morbid with PTSD, are often treated while their relationship to traumatic experiences and PTSD symptoms may remain unexplored.

Brief, direct questions about trauma exposure and post-trauma symptoms included as a routine part of contact can quickly identify many persons whose traumatic experiences are having a significant impact on their functioning. While treatment-seeking patients do not typically disclose personal trauma histories spontaneously, they usually will provide this information if queried directly. In a study of 50 emergency room charts selected at random [34], references to sexual abuse were found in only 6% of the charts. Subsequently, physicians were instructed to ask patients about histories of childhood sexual abuse routinely. Among 50 women directly queried, 70% reported having been sexually molested. In the Walker *et al.* [32] study, a large majority of patients (84%) reported that they felt comfortable discussing all topics with their physicians and 61% agreed that physicians should routinely ask about histories of trauma.

Most patients who have experienced trauma will not readily report their experiences

In summary, while some individuals presenting to helping professionals will explicitly report traumatic experiences and link their problems to them, most patients who have experienced trauma will not readily report their experiences. For this reason and because evidence links trauma with a multiplicity of psychological and physical problems, we strongly recommended that trauma and PTSD symptom screening be conducted routinely in primary health care settings [31,35]. Indeed, some have argued that neglecting to screen for trauma communicates a lack of permission to discuss such topics in the medical setting [36].

Several PTSD screening instruments are now in development

Trauma exposure/PTSD screening and assessment tools

As noted above, routine assessment of trauma exposure and PTSD is warranted because they can affect general health and health care utilization and because, in the absence of explicit questioning, patients are unlikely to disclose traumatic experiences. An efficient way to accomplish an inquiry regarding previous trauma exposure and post-trauma symptoms is by including screening questions in the standard intake protocol that patients routinely complete. Intake forms commonly review patient's health habits and problems prior to receipt of services. Use of screening questionnaires is important because face-to-face interview inquiries place demands on precious staff resources, which may not be practical or a cost-effective use of staff time. However, when positive responses to the written screen indicate previous exposure to traumatic events and/or PTSD, the clinician can then follow up with a trauma history and questions designed to determine the impact of trauma. In fact, the screen items provide the practitioner with a more comfortable way of introducing the topic of trauma and, in so doing, raise the likelihood that the subject will actually get discussed.

Several PTSD screening instruments are now in development. We present a four question, symptom-related screening instrument (Table 1) that can be used in primary care and other medical settings (A. Prins and R. Kimerling, in preparation). This PTSD screening instrument has shown promising psychometric properties for detecting those individuals with more severe trauma-related difficulties. We recommend that these questions be embedded in a more comprehensive screen used to assess health behaviours, mental health problems and perceived health difficulties. Further questioning about trauma and its effects would be warranted if a patient responded yes to two or more of the items.

A positive response to the screen does not necessarily indicate a problem with post-traumatic stress. However, it indicates the need for sensitive questioning by a helping professional. Psychological instruments to assist in the diagnosis of PTSD are available [37]. One widely used measure is the Clinician-administered PTSD Scale (CAPS) [38], a structured interview that assesses the intensity and frequency of each PTSD symptom using a five-point rating scale. The CAPS has well-established reliability and construct validity across multiple treatment populations.

In addition to clinician-administered PTSD measures, using a self-report measure is a cost-effective method of adding sensitivity and specificity to the assessment procedure. Self-report measures of PTSD may be completed by patients quickly and can be repeatedly administered throughout treatment to examine progress. Two commonly used measures with demonstrated reliability and validity are the Los Angeles Symptom Checklist (LASC) [39]

Table 1. PTSD primary care screen

Have you ever had an experience that was so frightening, horrible or upsetting that, in the past month, you...
Have had nightmares about it or thought about it when you did not want to?
Yes No
Tried hard not to think about it or went out of your way to avoid situations that reminded you of it?
Yes No
Were constantly on guard, watchful or easily startled?
Yes No
Felt numb or detached from others, activities or your surroundings?
Yes No

and the PTSD Checklist (PCL) [40]. An advantage of using the LASC is that specific items measuring PTSD are embedded within a larger list of symptoms, including health-related and affective problems.

Early intervention and prevention of chronic PTSD

Although there is little evidence bearing on this point, most specialists in trauma believe that early intervention with traumatized persons is likely to be more effective than services provided when PTSD symptomatology has become chronic. The most popular early intervention to reduce the likelihood of PTSD among trauma survivors is critical incident stress debriefing (CISD) [41], which consists of a single semi-structured discussion of the facts about and emotional responses to the traumatic event. CISD and similar approaches are widely implemented following natural disasters, transportation accidents and episodes of community violence, particularly those affecting large groups of survivors. Due to a lack of empirical data, it is not possible at the current time to draw conclusions about the effectiveness of CISD [42,43]. Although the practice can be defended on humanitarian grounds, some recent research has suggested the possibility that it may lead to poorer outcomes than no treatment, with at least some trauma survivors [44,45]. Bisson *et al.* [45] found significantly worse outcomes at 13 month follow-up among burn victims given a debriefing between 3 and 17 days after being burned. There is, however, some evidence that more intensive early interventions may help prevent the development of PTSD. Foa *et al.* [46] delivered four sessions of cognitive-behavioural therapy—comprised of education, breathing/relaxation, imaginal and *in vivo* exposure and cognitive restructuring—to recent female victims of sexual and non-sexual assault. Subjects were assessed within 3 weeks of the assault and treatment was begun immediately following assessment. Compared with a matched control group, individuals receiving this preventive care were significantly less depressed and experienced fewer re-experiencing symptoms 5 months post-assault. None of the treated group showed depression or more than six PTSD symptoms. Fifty-six percent of the control group reported moderate to severe depression and 33% had more than six PTSD symptoms. This study provided evidence that a brief cognitive-behavioural program administered shortly after an assault can accelerate the rate of improvement of trauma-related psychological problems. Recently, Bryant *et al.* [47] provided a similar demonstration of the effectiveness of cognitive-behavioural treatment of acute stress disorder with survivors of motor vehicle or industrial accidents.

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High rates of post-traumatic stress symptoms are very common in the first days following trauma exposure. However, in the planning of early intervention responses to traumatization, it is important to recognize that, for many trauma survivors, these symptoms will decline markedly in the first months of recovery without treatment. Therefore, a sensible approach to prevention may include regular provision of traumatic stress education to all recently traumatized persons, followed by monitoring of symptoms and, if symptoms have not declined significantly within 1–3 months, referral for delivery of a brief psychotherapeutic intervention protocol.

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Treatment options: psychotherapy and pharmacotherapy

Many therapeutic approaches have been advocated for PTSD. The reader is referred

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to a number of comprehensive reviews of the most prominent treatments for PTSD, including cognitive-behaviour therapy (CBT) [48,49], psychodynamic therapy [50] and pharmacotherapy [51]. CBT has received the most empirical study and includes methods such as direct therapeutic exposure (e.g. flooding and systematic desensitization), cognitive therapy or cognitive 'restructuring', anxiety management training (e.g. relaxation training, stress inoculation training, breathing retraining and biofeedback), social skills training and distraction/grounding techniques. Exposure treatment involves repetitive imaginal and/or *in vivo* exposure to traumatic memories in an attempt to reduce the distress and arousal associated with the memories. In practice, most cognitive-behavioural treatments are multicomponent packages that include exposure, but also implement cognitive therapy, skills training and anxiety management [52,53].

Brief psychodynamic therapy involves a more slowly evolving retelling of the traumatic event in a safe and quiet office space to a calm, non-judgmental clinician. Before exploring meaning aspects of the trauma, a therapeutic relationship is established that emphasizes safety, trust and consistency. Through psychodynamic therapy, the patient may gain a greater sense of self and more adaptive defences and coping strategies. Powerful emotions evoked by traumatic memories may become better modulated and less overwhelming [54].

Group treatments also offer powerful therapeutic potential

In addition to individual delivery of these psychotherapies, group treatments also offer powerful therapeutic potential. It can be argued that the peer-group settings may be particularly helpful for trauma survivors because their post-traumatic emotions and behaviours may be more effectively normalized, understood and destigmatized through the sharing of traumatic experiences in a safe, cohesive group comprised of empathic fellow survivors. In addition, it may be easier to accept confrontation from a fellow sufferer who has impeccable credentials as a trauma survivor than from a professional therapist who never went through those experiences first hand.

Pharmacotherapy offers positive treatment options for PTSD

Pharmacotherapy

Pharmacotherapy offers positive treatment options for PTSD. From a practical perspective, there is no question that drugs can provide some symptomatic relief of anxiety, depression and insomnia, whether or not they improve core PTSD intrusive and avoidant/numbing symptoms. The published literature on pharmacotherapy for PTSD is, however, small and inconsistent. In most but not all trials, improvement has been achieved with imipramine, amitriptyline, phenelzine, fluoxetine and propranolol. A quantitative analysis by Southwick *et al.* [55] suggested that tricyclic antidepressants and monoamine oxidase inhibitors are generally efficacious in PTSD patients, particularly with regard to intrusion and avoidant symptoms. Fluoxetine, amitriptyline and possibly valproate have shown efficacy in the reduction of avoidant symptoms [56,57,58].

Based on this limited evidence, our recommendation [59] is to start treatment with an anti-adrenergic agent. Anti-adrenergic agents (such as α_2 agonists or β blockers) have received surprisingly little systematic attention in clinical trials despite overwhelming evidence for adrenergic dysregulation in PTSD. It is useful to prescribe clonidine first. More often than not, clonidine will reduce hyperarousal and re-experiencing symptoms. In addition, reduced adrenergic activity is often accompanied by dramatic reductions in dissociative symptoms, even among adults with complex PTSD as a result of repeated sexual abuse during childhood. The advantage of using clonidine (or a β adrenergic antagonist) is that the clinician can titrate the drug over the course of a week or two. It will be readily apparent (in a much shorter time than with a serotonin-selective reuptake inhibitor (SSRI)) whether this drug will work. When a clonidine responder appears to develop tolerance to the drug, switching to guanfacine (an α_2 agonist with a longer half-life) often restores the therapeutic effect.

If symptoms persist (as they often do) after optimal titration, the next drug to prescribe is an SSRI. Current evidence suggests that SSRIs may reduce PTSD core (B (reexperiencing); C (avoidance); and D (hyperarousal)) symptoms, co-morbid disorders (depression, panic, obsessive-compulsive disorder and substance abuse/dependency) and clinically significant associated symptoms (such as rage, aggression, impulsivity and suicidal behaviour). However, there remain a

number of important questions about SSRI treatment. Whereas earlier studies suggested that it can take a month or two before SSRIs exert their effects, more recent studies suggest that drug-responsive patients will exhibit improvement after only 2 weeks of treatment. While earlier studies suggested that SSRIs might be less effective against re-experiencing and arousal than they are against avoidant/numbing symptoms, more recent studies suggest that SSRIs may effectively ameliorate all PTSD symptom clusters and also produce global improvement. When prescribing SSRIs, however, it is important to recognize that they sometimes have undesirable side-effects, such as arousal and insomnia, which are particularly intolerable for PTSD patients. If patients develop insomnia and/or agitation, the next choice is to add trazadone at bedtime. If there are still clinically significant symptoms after an 8–10 week trial of the SSRI at its optimal dose, it is time to go back to the drawing board, try to make sense of the refractory symptoms from a pathophysiological perspective and cautiously consider other classes of drugs.

It is likely that, in many cases, combined pharmacological and psychotherapeutic treatment for PTSD will be more effective than either conducted alone. Importantly, one of the functions of medications is to make it possible for patients to participate in psychotherapy. If they are prescribed only to accomplish short-term symptomatic relief, patients may be encouraged to avoid addressing their trauma-related problems and may develop a substance abuse problem. Physicians should be alert to a possible higher rate of drop out from medical care due to medication side-effects [60] and should take concrete steps to increase rates of compliance with medication [61].

Common clinical scenarios

Many patients with PTSD will also present with feelings of depression, anxiety, chemical dependency, eating disorders, somatic complaints or adjustment disorders. Indeed, among cohorts of treatment-seeking PTSD patients, up to 80% have at least one additional psychiatric diagnosis including affective disorders, anxiety disorders, alcoholism or drug abuse or personality disorders [14,62,63]. For such patients, PTSD sometimes emerges as a diagnostic possibility only after a screening process has been implemented and the clinician has obtained a careful trauma history as part of a comprehensive assessment. In general, the best results are achieved when both PTSD and these other possible co-morbid disorders are treated concurrently rather than one after the other. This is particularly true for PTSD and alcohol/substance abuse [64,65].

Physicians must also cope with patients who, despite an obvious relevance of their physical health problems to trauma-related emotions, will not accept a mental health referral. This can be due to avoidance of the distress associated with traumatic memories, lack of awareness of the impact of PTSD on health or negative attitudes towards mental health problems. Part of responding to these patients involves educating them about trauma and PTSD in order to promote acknowledgement of problems and importance of treatment. Education should include the following kinds of information: prevalence of trauma exposure (e.g. battering and child abuse), normality of symptomatic responses to traumatization, differentiation between being 'crazy' and having intrusive memories and other symptoms, relationship of emotional stress to health problems and the nature and potential benefits of trauma treatment. The physician should also encourage the patient to voice concerns and fears about treatment, in order to encourage a mutual review of those fears. During these discussions, it is important to communicate acceptance of the patient, comfort with the trauma material and a non-judgmental stance. It will be helpful to talk relatively slowly, assume a relaxed body posture and take care to avoid use of provocative terms (e.g. rape and incest). Care should also be taken to reassure the patient that the physician will continue to address the health problems of the patient, that stress and coping treatment will be only one part of a larger response to increase the patient's well being and that the referral will be time limited. It may be helpful to avoid the term 'mental health' completely and frame the referral in the more acceptable context of stress management and coping skills instruction. If a referral is to be made, it should only be made to a mental health professional who specializes or is experienced in treating PTSD. This enables

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the physician to speak with confidence of treatment being recommended and emphasize the experience of his or her colleague. Finally, it is very helpful to provide written patient education materials on PTSD and other trauma-related problems, so that the patient may review the information later.

Many patients will refuse treatment

Despite these efforts, many patients will refuse treatment. The stage-of-change model [66] is helpful in conceptualizing work with such patients. According to this model, patients may be placed along a continuum of 'readiness to change' with regard to any problematic behaviour. The motivational interviewing techniques developed for use with alcohol abusing patients [67] may be usefully adapted for use with patients who are reluctant to enter into treatment for trauma-related problems [68]. In particular, the physician can review the possible benefits and drawbacks of treatment with the patient as a way of encouraging a balanced decision-making process, exploring the likelihood of some anticipated negative consequences and drawing attention to and elaborating upon potential benefits. If the patient remains reluctant, the physician can 'keep the door open' by supporting the right of the patient to decide and reintroducing the subject during later visits. As with the somaticizing patient, it may be helpful to schedule frequent visits. It may also be helpful for the physician to consult with a mental health professional experienced in working with trauma patients.

If the patient remains reluctant the physician can 'keep the door open'

Models of care

Recognition of the potential impact that trauma can have on a victim's physical and mental health is important in a comprehensive and integrative model of primary care. Suitable care for the patient with PTSD can take place in several ways. First, the physician may assume primary responsibility for treatment by responding to the patient's physical and mental health needs. This model may be most appropriate when the emotional problem does not require specialized services or when mental health treatment is not locally available. Second, the physician may refer the patient to a mental health care clinic outside the primary care setting. This is the conventional and probably most common manner of access to specialized care for PTSD patients in the primary care setting. Most physicians, mental health providers and patients are familiar with a referral-based system of mental health care. A third, evolving, health care model involves collaborative care for the patient by medical and psychiatric professionals within the same primary care setting. This last model has been advocated by Katon *et al.* [69,70] for depression and found to be more effective in the treatment of that disorder than the other models. Similarly, integrated, multidisciplinary treatment of patients with chronic pelvic pain (many of whom have histories of childhood abuse) is more effective in reducing symptom severity than medical evaluation followed by psychosocial investigation [71,72].

There are several useful strategies for continuing to learn more about trauma and PTSD

Continuing education

There are several useful strategies for continuing to learn more about trauma and PTSD. The International Society for Traumatic Stress Studies (ISTSS) and European Society for Traumatic Stress Studies organize annual conferences at which state-of-the-art trauma assessment and treatment research are presented. The ISTSS also publishes the *Journal of Traumatic Stress*, a single source for much that is current in the trauma field. The National Center for PTSD home page (www.dartmouth.edu/dms/ptsd/) contains a variety of trauma-related resources (e.g. fact sheets) and lists additional sources of information. The Pilots database, available at the home page, is the most comprehensive electronic database of traumatic stress-related publications available and it can provide busy clinicians with a simple means of searching the trauma literature to locate abstracts of useful articles.

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