Policy and Administrative Issues for Large-Scale Clinical Interventions Following Disasters

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Abstract

Objective: Large, programmatic mental health intervention programs for children and adolescents following disasters have become increasingly common; however, little has been written about the key goals and challenges involved.

Methods: Using available data and the authors' experiences, this article reviews the factors involved in planning and implementing large-scale treatment programs following disasters.

Results: These issues include funding, administration, choice of clinical targets, workforce selection, choice of treatment modalities, training, outcome monitoring, and consumer uptake. Ten factors are suggested for choosing among treatment modalities: 1) reach (providing access to the greatest number), 2) retention of patients, 3) privacy, 4) parental involvement, 5) familiarity of the modality to clinicians, 6) intensity (intervention type matches symptom acuity and impairment of patient), 7) burden to the clinician (in terms of time, travel, and inconvenience), 8) cost, 9) technology needs, and 10) effect size. Traditionally, after every new disaster, local leaders who have never done so before have had to be recruited to design, administer, and implement programs.

Conclusion: As expertise in all of these areas represents a gap for most local professionals in disaster-affected areas, we propose that a central, nongovernmental agency with national or international scope be created that can consult flexibly with local leaders following disasters on both overarching and specific issues. We propose recommendations and point out areas in greatest need of innovation.

Introduction

PROGRAMMATIC MENTAL HEALTH INTERVENTIONS for children and adolescents following disasters have become increasingly sophisticated. Large-scale programs, such as those for the World Trade Center (WTC) attack (Child and Adolescent Trauma Treatments and Services [CATS] Consortium 2007) and the Queensland, Australia floods of 2010 (Cobham and McDermott 2012), and many smaller treatment projects for other disasters, contribute to a growing body of both quantitative and qualitative evidence that can guide future efforts. The successful delivery of large-scale programs requires implementation activities across multiple administrative jurisdictions and dozens of agencies; however, little has been written to describe the key goals and challenges. Our aim is to describe these key issues using the available data and our experiences. These issues include funding, administration, choice of clinical targets, workforce selection, choice of treatment modalities, outcome monitoring, and consumer uptake. Expertise in all of these areas represents a gap for most local professionals in disaster-affected areas, unless they have been involved in previous disaster programs. To fill this gap, we further propose that a central, nongovernmental body with national or international scope be created that has relevant real-world expe-

rience and expertise, and can flexibly and rapidly consult with local leaders following disasters on both over-arching and specific issues relating to policy, clinical, and administrative goals.

Appropriate policy is informed by an understanding of the natural history of disasters. In terms of the psychological well-being of survivors following disasters, the postdisaster period begins with an acute period for attention to immediate survival needs and acute care that lasts for a few days to 1 month. Intervention in the acute period tends to be nonspecific and universally applied, such as in Psychological First Aid (Ruzek et al. 2007). Our focus is on the period beyond that, in order to address enduring emotional and behavioral problems.

Longitudinal research on trauma survivors has established a fairly clear timeline for emotional and behavioral problems. It is normal for survivors to have some emotional and behavioral problems in the 1st month following traumatic experiences (Rothbaum et al. 1992), but those problems resolve naturally for most people. Approximately 70% have no enduring symptoms after the 1st month, whereas ~30% show enduring symptoms (Kessler et al. 1995). These percentages differ for different types of experiences, but the main point is that there is a substantial portion of survivors with enduring and severe problems that are persistent and require evidence-based, specific clinical intervention in the chronic period.

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The scope of large-scale disasters is usually that there are hundreds, if not hundreds of thousands, of survivors who would benefit from clinical intervention for psychological problems. Following the WTC attack of 2001, local leaders developed a rapid needs assessment methodology, which estimated that 520,000 individuals would have posttraumatic stress disorder (PTSD) symptoms severe enough to qualify for the full disorder (Herman et al. 2002). Following Hurricane Katrina, this same type of rapid needs assessment estimated that 260,612 survivors would have PTSD, including 67,971 children and adolescents (Dalton et al. 2008).

Although it is evident that these large volumes of potential patients would overwhelm the capacities of local clinicians to provide evidence-based treatment (EBT), 100% of individuals who would benefit from treatment do not present themselves for treatment. A portion of them would not seek help, because of lack of ability to pay, in countries where universal health insurance is not available. Other causes of not accessing services include a widespread culture of limited enthusiasm toward mental health services (Stevens et al. 2006), the conceptualization by many that their experiences are normal, or a more altruistic view, that other survivors have greater needs. But even if 10% of those with PTSD sought help, this postdisaster surge in presentations would overwhelm the available treatment capacities. Hence, augmentation of existing resources is nearly always needed, with a large amount of funding.

Funding Issues

Little can happen without funding. Traditional clinical interventions require the use of trained and licensed clinicians to meet with patients over weeks and months. Unlike the immediate (1st month post-disaster) response, volunteers cannot offer 1 week of service as the core of a long-term project. Large-scale intervention programs following disasters, therefore, are relatively expensive. This must be kept in context, however, as the cost of psychosocial programs represents very small portions of all funds spent on rebuilding after disasters. For example, of the \$109 billion United States dollars allocated by the federal government for Hurricane Katrina within the 1st year (Fellowes and Lui 2006), 0.3% (\$300 million) was allocated to social services.

Only federal agencies have funds sufficient to support large-scale programs. The federal agencies however cannot do the work. Hence, every disaster response needs to be integrated at the local level. The traditional model has been that federal (or a mixture of federal and state) funds are dispersed to the state and local agencies that do the actual work, although an innovative alternative (currently being trialed in Australia) to this model will be briefly described later in the article. Therapy has to be delivered primarily by local clinicians who live in those areas, for a variety of good reasons. Hence, the first major barrier is the flow of funds from the federal level to the local providers.

The American example

The American federal government has a history of allocating enormous amounts of funds for rebuilding to state and local agencies following disasters. For example, federal agencies allocated more than \$20 billion United States dollars for the WTC disaster (New York City Independent Budget Office 2011) and more than \$109 billion for Hurricanes Katrina, Rita, and Wilma (Fellowes and Lui 2006). Despite this, there is no policy or mechanism to spend funds on mental health treatment.

In 1974, the United States Congress passed the Robert T. Stafford Disaster Relief and Emergency Assistance Act that formalized

mechanisms to access a wide range of federal assistance following emergencies (Public Law 106-390 2000). In 1978, a central federal administration was created, the Federal Emergency Management Agency (FEMA), to administer the Act. The Act included authorization to fund mental health services, and this function was delegated to the Substance Abuse and Mental Health Services Administration (SAMHSA) via an interagency agreement. For > 30 years, SAMHSA has implemented this mission as the Crisis Counseling Assistance and Training Program (CCP). New York's CCP following the WTC Disaster, Project Liberty, was allocated \$137 million. Following Hurricane Katrina, CCP awards allocated to all states totaled \$131.6 million.

As a matter of general knowledge, the CCP is not well known among licensed clinicians, because the CCP is actually not a clinical treatment program. Most people who learn about the CCP are surprised to learn that it is intended to be short term (meaning one to two sessions) and provided usually by unlicensed laypersons "to serve people responding normally to an abnormal experience" (SAMHSA 2000). CCP guidelines specifically prohibit treatment by licensed clinicians. For those who truly need treatment, it is clear that CCP is only a referral program. All contacts between CCP "counselors" and survivors are required to be anonymous, in the effort to be sensitive to stigma, which greatly hinders any attempt at program evaluation. The Congressional Research Service has been highly critical of the CCP, noting that "the actual effect of the program on health outcomes has not been demonstrated" (Sundaraman et al. 2006). Despite repeated calls for evaluation of its effectiveness, no such program evaluations have taken place.

It is noteworthy that two exceptions have been made by SAMHSA. New York received a small supplemental award outside the CCP to provide actual treatment to survivors. Following the 2004 Florida hurricanes, Florida also received a small supplemental fund for treatment. However, because these supplements were late additions, actual treatment did not begin until 2 years after the attack in New York (CATS Consortium 2007) and >1 year after the hurricanes in Florida (Allen et al. 2006), which is an irrationally long time for survivors to wait. The time delay also creates the possibilities of symptom chronicity and related functional impairment, both of which likely make the task of therapy more difficult. Despite Hurricane Katrina being the largest and most expensive natural disaster in the history of the country, Louisiana was ineffective at obtaining supplemental treatment funds.

The Australian example

Similarly to the United States, the Australian federal government has a long history of providing disaster relief funding. A recent example is \$8.4 billion AUD in 2010–11 to state governments to fund responses to bushfires, floods, and cyclones. Although originally ad hoc, in 2002, national guidelines were proposed, and the National Disaster Relief and Recovery Arrangements (NDRRA) were signed off on in 2007. Standard NDRRA assistance covers personal hardship and distress grants to households, loans to small businesses and primary producers, public protection activities, and restoration of essential public assets. If a severe disaster strikes, additional special assistance may be available through a "community recovery package."

There is no specific mention of mental health services in NDRRA. Nevertheless, in 2011, an unprecedented amount of NDRRA funding was allocated to mental health care following the Queensland floods. Under the funding model used, dedicated recovery and resilience teams (consisting of adult workers, child and youth workers, and older adult workers) were established across the

state. These teams included licensed clinicians who were trained and contracted for up to 18 months to provide a variety of clinical treatments. A statewide team responsible for the management and administration of the newly established teams was established, as was a dedicated child and youth statewide team (led by V.E.C. and B.M.). The Statewide Mater Child and Youth Recovery and Resilience team offered child and youth workers an overarching model of care for implementation, training, and supervision. More frequent contact with the Statewide Child and Youth team was related to more cases being seen for evidence-based therapy, as well as more positive child outcomes (Cobham and McDermott 2012).

Administrative Issues

Every disaster response is local; therefore, after every new disaster, an administrator or management team must be established from local leaders who are working at capacity in their existing roles and who have never before had to design and implement such programs. The wheel is reinvented every time. It is our contention that this is not necessary. Local leaders need to be proficient (or have a core group that is proficient) in all of the funding and clinical issues noted in this article, in addition to being able to administrate.

There are several “big picture” questions that immediately rise to the top when determining how an administrative team must form following a disaster. Who takes the lead in developing programs? Whoever has the funds generally takes the lead. Potential leaders need to understand quickly that expertise does not determine who takes the lead. An alternative position is that funding agencies need to be educated as to the value of funding leaders with a track record of success in implementing disaster responses.

How big is the project? An evidence-informed rapid needs assessment methodology has shown to be a valid means for estimating the number of individuals who are likely to develop PTSD following a disaster (Herman et al. 2002; Dalton et al. 2008). Although this can be a guide for a “wish list” of the number of survivors to reach, the limiting factor for the size of a project will likely always be funding.

Who must be involved? Although it is important to involve stakeholders (community clinicians, schools, day care facilities, local governments, primary care clinics, juvenile justice, child welfare, and academic centers), this can become an all-consuming, self-defeating exercise. It is never going to be possible to please all of the people all of the time. It may be difficult to strike a balance between getting complete buy-in and getting started. Open and clear communication with local stakeholders is extremely important; therefore, partial buy-in may be a more efficient and feasible compromise than complete buy-in. In a partial buy-in model, the process is less about asking for input about what should be done and more about ensuring that people feel part of the plan or that they at least are aware of the plan. This involves taking the time to speak with representatives from key stakeholder bodies (e.g., holding community meetings; meeting with the local child and youth mental health service, key personnel in government, and education departments, for example) in an attempt to make them part of the proposed solution, as well as addressing predictable concerns.

An experienced central body with a national or international range that can be consulted by local leaders on these issues can be useful in this regard. Research has shown that a central body providing support and services can have a significant effect on outcomes in, for example, treating adult depression in primary care clinics (Fortney et al. 2013). The National Institute of Health funded two Disaster Research Education & Mentoring centers in 2005

(Ruggiero et al. 2005), but these were limited to research efforts and were not re-funded. There have been recent calls for a greater focus on the mental health needs of children following disasters, with the development of a Concept of Operations (CONOPS) (National Commission on Children and Disasters 2010). A CONOPS would formalize and enhance many aspects of the disaster preparedness, response, and recovery policies. Our own experiences in leading disaster responses has shown us that a central body providing an overarching vision, training, and supervision is crucial in supporting clinicians delivering services. We envision this body with the flexibility and independence of a nongovernmental and non-academic organization that would be complementary to and non-overlapping with a CONOPS. This body would function as a “handyperson” who has expertise in all of these issues, and could be asked to consult on or implement all functions, or only a subset of functions, as needed. Such a body has the potential to represent the difference between a coordinated response with significant reach and effectiveness as part of a larger, integrated whole, and a chaotic response in which clinicians may work isolated and unsupported without adequate training.

Clinical Targets

In individualized clinical care, treatment plans can target all of a patient’s problems in multiprong, multimethod approaches that can evolve over time, as old problems are resolved and new problems become the foci. This often requires use of multiple theoretical models of therapy such as supportive therapy, cognitive behavioral therapy (CBT), interpersonal and family dynamics models, medication management, and other modalities. Because of the scale of disasters, the focus of large-scale programs must be considerably narrower.

Numerous studies have shown that PTSD is the most common syndrome that develops following traumas. In addition, it is well established in all age groups that at least one other disorder co-occurs with PTSD 80–90% of the time. In adults, the common comorbid conditions include depression, anxiety, and substance abuse (Kessler et al. 1995). In preschool children, the most common comorbid disorders are oppositional defiant disorder and separation anxiety disorder (Scheeringa et al. 2003; Scheeringa and Zeanah 2008). These comorbid disorders are generally easier to spot, whereas PTSD, for a variety of reasons, is more difficult to assess, and historically has been under-recognized in youth (Scheeringa 2011). This range of syndrome presentations can lead to confusion when choosing outcomes to target with large-scale treatment programs.

McMillen and colleagues conducted a study that clarified considerably the relationships between PTSD and comorbid disorders in adult flood survivors (McMillen et al. 2002). They demonstrated empirically that PTSD is the core psychological injury following trauma, and should be the outcome target of choice. This finding has been replicated with both preschool children and their caregivers following Hurricane Katrina (Scheeringa and Zeanah 2008). Additional evidence that PTSD is the most efficient choice for an outcome target comes from treatment studies. When PTSD is the core target of treatment, comorbid depression, anxiety, and disruptive behaviors all significantly improve (Kowalik et al. 2011). A modular approach to treatment may be most efficient when PTSD is targeted first, and then subsequent treatments are targeted for remaining symptoms of other syndromes.

However, not all individuals who experience a disaster suffer a panic-driven moment of fear for their lives that causes PTSD. These individuals may experience distress about lost jobs,

uncertainty about finances, indecision about where to live, and insecurity about changed family dynamics. There are established implications of maternal depression on child functioning, and emerging evidence of altered parenting after parents experience a natural disaster (Cobham and McDermott 2014). An example of such a disaster was the Deepwater Horizon oil spill in the Gulf of Mexico in 2011, the largest marine oil spill on record. The tens of thousands of people in the oil field, fishing, and tourist industries who temporarily or permanently lost their jobs because of the oil in the Gulf did not experience life-threatening traumas but they could potentially have developed depression, anxiety, substance abuse, and other psychological problems.

Workforce

As noted earlier, when a natural disaster occurs, even if a small proportion of those who developed PTSD presented to existing services, these services would be overwhelmed. Clinicians with full caseloads do not have the capacity to take on large numbers of disaster-related cases. Understandably, many clinicians question the rationale of conducting assessments and then making referrals to existing services that have no capacity to provide treatment. This is an issue for the group coordinating the response to manage via clear communications with existing service providers in disaster-impacted communities.

Another issue that requires management is how to make best use of volunteer practitioners. As also noted previously, short-term workers such as volunteers are not a sustainable workforce over the medium to long term. Unless provided with clear, focused missions from a central body, volunteers have the potential to be used inefficiently and/or unproductively.

This question of who will do the work is a crucial one, with important implications for the issues of treatment modality, training, and monitoring of outcomes. Although there are no easy answers to this question, our key learning over multiple disasters is that dedicating a “new” workforce full time to the disaster project, as opposed to trying to integrate part-time community providers, has multiple advantages. Although disadvantages of a new workforce are acknowledged (e.g., difficult recruitment because of lack of job permanence and limited applicants in rural and remote ar-

eas), a solution for creating a new workforce that has worked well in Australia is to employ clinical psychology postgraduate students as clinicians in a disaster setting. This idea may work well in other countries with psychology and other accredited counseling programs that use internships for training and have an interest in disasters. This workforce has many advantages: they generally possess a reasonably standardized and high level training background; being university students, their timetable is more flexible than that of practicing clinicians; and they are used to regular supervision (crucial for less-experienced clinicians), are eager for training opportunities, and are used to working with manualized interventions.

Treatment Modality

There is no one type of treatment modality that fits every individual and every type of disaster. This is a reality of individual differences and the uniqueness of each disaster. The choice of treatment modality is often driven by numerous factors such as where the clients live, what transportation and technology resources are available, and personal preference of the program leaders, including their uptake and support of evidence-based approaches. The development of new modalities to reach patients in different ways is exciting, but presents difficult choices for how to use limited funds when there are so many different options. Space does not allow us to cover each of these modalities in detail. In this section, we briefly describe the main modalities, and review the primary factors to consider when choosing among them. These are summarized in Table 1.

Traditional office-based treatment is well known to clinicians and is the most well-studied by far. Trauma-focused CBT has the most evidence to support its use (Cohen et al. 2004). There is relatively less evidence regarding other techniques, such as eye movement desensitization and reprocessing, supportive therapy, and psychodynamic therapy (Gillies et al. 2012). School-based treatment replaces the traditional centralized office practice and can dramatically increase the number of children reached (Jaycox et al. 2010). Home visitation models, useful for families who lack transportation, have shown effectiveness in the delivery of CBT for mothers with postnatal depression (Ammerman et al. 2013), but

TABLE 1. FACTORS TO CONSIDER WHEN CHOOSING TREATMENT MODALITIES

	<i>Office-based</i>	<i>School-based</i>	<i>Home visitation</i>	<i>Parent-led workbooks</i>	<i>Fly-in clinicians</i>	<i>Tele-health</i>	<i>Internet</i>	<i>Mobile app</i>
Reach	–	±	±	±	±	+	+	+
Patient retention	–	+	±	±	–	–	±	±
Privacy	+	–	–	+	+	+	+	+
Parent involvement	+	–	+	+	+	+	–	–
Familiarity	+	+	–	–	+	+	±	±
Intensity	+	±	+	±	±	±	–	–
Clinician burden	+	–	–	+	–	+	+	+
Cost	±	–	–	+	–	–	+	+
Technology needs	+	+	+	+	+	–	–	–
Effect size	+	±	±	±	±	±	±	–

For all factors, + means that the modality has advantageous aspects of the factor, and – means that the modality has disadvantageous aspects of the factor; ± means that the aspects are mixed or the qualities are not known. Reach=ability to provide an intervention to the greatest number of patients. Patient retention=ability to retain patients through a full course of treatment. Privacy=maintains patient confidentiality and privacy from peers and nonparental family members. Parent involvement=ability to involve parents in the treatment in regular and meaningful ways. Familiarity=clinicians are familiar with the techniques. Intensity=modality is flexible to match symptom acuity and impairment of patient. Clinician burden=demands of travel, time, convenience, and safety on the clinicians. Cost=cost of the program per patient treated. Technology needs=Extra technological equipment or training is needed to use the modality. Effect size=the degree to which the modality effectively reduces symptoms.

there are no known studies for treating PTSD or youth disaster populations. Parent-led workbooks are a relatively new approach that make much more economical use of therapist time by limiting the number of clinician meetings and conducting most of the treatment at homes (Salloum et al. 2014). Fly-in and drive-in clinicians can be useful when this is the only reasonable way to provide enough clinicians to areas or when the providers themselves have been displaced by the disaster (e.g., Hurricane Katrina), and this approach has shown promising acceptance and effectiveness following the Queensland floods (Cobham, personal communication). Tele-health, in which clinicians and patients meet long distance via audiovisual communication, has grown rapidly over the last decade as a way to reach rural and underserved areas for nearly all types of medical problems (Tuerk et al. 2010). Internet-based, self-directed therapy is another modality that has grown rapidly, with the growth of the Internet and ownership of home computers (Rizzo et al. 2011). Finally, there is the use of mobile device applications (apps), software programs designed to run on mobile phones and tablets, which do not require a computer. An example is PTSD Coach, which is a free application jointly created by the National Center for PTSD and United States Veterans Administration (National Center for PTSD 2011).

The primary factors to consider for each modality include 1) reach (providing access to the greatest number), 2) retention of patients, 3) privacy, 4) parental involvement, 5) familiarity of the modality to clinicians, 6) intensity (intervention type matches symptom acuity and impairment of patient), 7) burden to the clinician (in terms of time, travel, and inconvenience), 8) cost, 9) technology needs, and 10) effect size. As Table 1 summarizes, there is no single modality that excels in all of these factors. For example, office-based treatment has advantages of proven effect sizes and familiarity and convenience to clinicians, but limited reach and retention. New approaches provide greater reach, but possess disadvantages (i.e., school-based treatment sacrifices privacy and parental involvement; self-directed Internet treatments cannot reach those without the Internet) that must be carefully weighed. All approaches need further examination of effect sizes. Training is an additional consideration that is important for all of the modalities that involve clinicians, as noted in the next section.

Training

The first generation of training and dissemination of EBTs typically involved one-time workshops over several days or serial collaborations over months. These usually did not involve weekly consultations on actual cases being treated by the trainees. Also, there typically have been few contractual obligations to use the EBTs, meaning that volunteer implementation has been the *de facto* approach. There are limited data on whether this model results in clinicians actually using the EBTs with fidelity after the trainings, but suggestive data indicate that the uptake is quite poor (Dean et al. 2012). It has been the experience in Australia (V.E.C. and B.M.), that many organizations demonstrated willingness to have their staffs trained in interventions designed for roll-out in a postdisaster environment. However, when these organizations were asked to make their trained employees available to deliver the intervention, many obstacles arose, both at the level of the organization and for individual employees.

The one-time training model with voluntary implementation should now no longer be applied; it is unnecessary, as other more suitable alternatives are available. If the goal of training is to have clinicians actually learn the method and use it in their practice,

training must include frequent, ongoing consultation on actual cases that they are treating, and administrative oversight to ensure that EBTs are actually used and used with fidelity (Zazzali et al. 2008). There are positive signs, as national guidelines support ongoing supervision (National Institute for Clinical Excellence 2005), and anecdotal evidence suggests that training projects increasingly include ongoing supervision.

In Australia, clinicians trained to deliver a trauma-focused, manualized CBT intervention were provided with weekly supervision either face to face or via tele-health. As part of supervision, clinicians were expected (and required) to audio-record each session. These audio recordings were used to facilitate clinical learning and development, as well as to ensure fidelity to the treatment program. This particular model employed clinical psychology postgraduate students governed by a memorandum of understanding with their university, as well as obligations inherent to the student receiving payment, which helped to ensure attendance at supervision, facilitated treatment adherence, and learning the EBT.

As a consequence, interest has grown in studying the best methods for agencies and providers to adopt EBTs (Zazzali et al. 2008). Although studies have shown that worker satisfaction and organizational climate were associated with better child outcomes as a generality (Hemmelgarn et al. 2006), very little controlled evidence exists to show that efforts designed to change work attitudes and climates have any influence on the successful implementation of EBTs (Glisson et al. 2010).

A key problem seems to be that clinicians do not work in a typical business model. In a typical business model, employees are contractually obligated to perform specific tasks, and are rewarded, disciplined, or fired based on their competence at those tasks. In contrast, clinicians who are involved in many EBT dissemination projects have the option to adopt or not to adopt the EBT. Good management strategies and a positive climate may not make a difference if clinicians can opt to not adopt the EBT. There are many reasons that steer clinicians away from EBTs: they feel that it stifles their professional creativity, they are comfortable with what they have always been doing, they have no experience to see the benefits of EBTs, they misunderstand the role of EBTs, they are a self-selected group to be independent minded, and, most importantly perhaps, there is no financial incentive to be more effective. A specific disaster-related impediment may be clinicians' unwillingness to encourage children to re-tell their trauma narratives. Regardless of the dissemination strategy, the expectations regarding supervision and compliance with treatment fidelity processes need to be discussed and agreed upon at the outset and put into contractual agreements.

Monitoring Outcomes

At the individual level, standardized checklists provide an extremely useful complement to qualitative indicators of improvement. At the program level, aggregated quantitative data are the only true program evaluation indicators that reflect the overall success as well as indicating program areas that require further development. At the taxpayer level, citizens have the right to know that the millions of dollars spent on these programs do what they were intended to do. At the administrative and legislative level, these data are needed to convince funders and policy makers that what we do works.

For example, many persons are interested in whether PTSD can be prevented in the acute period. There is, however, little evidence

that preventive or acute interventions work following disasters. This is not because of publication of negative findings; it is because of the lack of any well-controlled or randomized studies that attempted to collect standardized data. A potential model comes from a four session intervention that has shown preliminary promise for preventing PTSD in children, when implemented within 30 days posttrauma (in a non-disaster population) (Berkowitz et al. 2010). Also, as noted earlier, the CCP has been severely critiqued twice by government oversight agencies for its absolute lack of accountability. Most would agree that collecting data with standardized measures at serial evaluations in order to monitor the effects of programs is a good idea. However, better methods evidently are needed to help clinicians collect and use standardized data.

Uptake by Consumers

Previous programs have worked under the assumption that, with many people looking for clinical help following disasters, if free counseling were offered, they would take advantage of it. No one would expect 100% of the population to take advantage of it; perhaps not even 50%, but it was usually assumed that many would. Experiences to date have been quite the opposite.

The CATS Consortium was formed following the WTC disaster with \$3 million in supplemental funding from the SAMHSA CCP (CATS Consortium 2007). CATS was a consortium of nine agencies with 81 clinicians primarily delivering the therapy at 45 clinic sites. As noted earlier, a needs assessment estimated that 520,000 individuals would qualify as having the full PTSD disorder (Herman et al. 2002), of which >100,000 would be children and adolescents. However, in the published report of their project, a mere 385 children had received at least one therapy session.

The Fleur-de-Lis school-based program was created following Hurricane Katrina with funding from the Sisters of Mercy of New Orleans. Out of 609 fourth to eighth grade students in three schools, with whom consent forms were sent home, 71 students began an intervention and only 62 completed treatment (Jaycox et al. 2010).

The Mater Child and Youth Recovery and Resilience program was created following the Queensland floods of 2010 in Australia. The leaders leveraged funding to develop the most comprehensive array of resources yet assembled following a disaster, which included podcasts, Internet sites, parenting seminars including Disaster Recovery Triple P (Cobham et al. 2011), student focus groups, teacher training, training of clinicians, proactive screening of targeted communities, and delivery of a manualized intervention involving parents and children in schools. Because of limited help-seeking by the target population, they were able to treat <100 children and adolescents.

What is wrong? In the reports of each of these programs, the authors expressed disappointment with the number of youth who were treated, and noted substantial problems with attracting clients to these programs, which were all free and of high quality. It is apparent that when using the current methods of appealing to consumers, if someone builds a program, they do not necessarily come. In order to change this, we need to understand why youth and families do not access these programs. Following the poor uptake of Disaster Recovery Triple P in Australia, focus groups with parents were held around the disaster region in order to better understand the aids and obstacles to attendance. One of the key themes was that parents appear to have very limited awareness of the potential for significant psychological harm to their children posed by exposure to a natural disaster. It is no longer feasible to continue the use of past methods with such poor results. It is time for new policies in

regard to marketing, which take advantage of business models that promote products to consumers. This represents a tremendous gap in the administration of disaster programs. Although many agencies are experimenting with new ways to reach and educate consumers about children's mental health issues (e.g., the Child Mind Institute web site), to our knowledge there has been little written about innovative methods of marketing to consumers in this area.

One Way Forward

In January 2013, the Australian state of Tasmania was ravaged by devastating bushfires. Following these fires, V.E.C. and B.M. were engaged by a charitable organization called *beyondblue* (the Australian national depression initiative) to implement and evaluate the evidence-based disaster response that had been used with children and adolescents following the Queensland floods. The *beyondblue* Child and Adolescent Bushfire Response is funded by *beyondblue* and the Red Cross. This response is unique in that:

- It represents an opportunity to pilot a template “optimal” disaster response for children and adolescents.
- It does not involve reinventing the wheel, but rather builds on lessons learned from the Queensland floods response.
- Training, supervision, and overarching vision are provided by leaders with expertise and experience in postdisaster child and youth mental health to local professionals (teachers and clinicians), with the aim of providing evidence-based, best practice care, while at the same time training the local workforce and leaving behind a skills legacy.

Recommendations

We approached this overview from our collective experiences that reinventing the administrative wheel every time is a substantial obstacle to implementing treatment programs following disasters. Although every disaster is different and requires unique and local approaches, there are many issues common to every disaster response (Table 2).

- Funding: Federal funding for large-scale postdisaster mental health programs must be clearly specified in law, and spending on treatment should not be a prohibited use.
- Administration: An experienced central body with a national or international scope that can consult and/or assist with implementation would benefit local leaders for many issues.
- Clinical targets: Comorbidity with PTSD can be clinically challenging, but evidence indicates that PTSD is the most efficient choice as a target for treatment.
- Workforce: Choice of which clinicians to recruit as providers is best determined by the unique characteristics of each disaster; however, experience has shown that a “new” workforce that is dedicated full time to the disaster project has many advantages.
- Treatment modality: There are now many interesting treatment modalities to choose from (Table 1). The choice of treatment modalities will tend to be driven by the list of 10 factors that we offered. In the absence of controlled research that shows the superiority of one method over any others on all factors, personal preference and expertise of the program leaders will figure strongly.
- Training: The one-time training model with voluntary implementation should no longer be applied. Training must include frequent, ongoing consultation on actual cases and

TABLE 2. MATRIX OF NEEDS FOR DESIGNING A LARGE-SCALE TREATMENT PROGRAM FOLLOWING A DISASTER

<i>Function</i>	<i>Considerations</i>
Funding	Who has the funds? Will the funds be released in a timely manner?
Administration	Who has administrative and clinical experience or simply the time to take on new responsibilities?
Clinical targets	How many were exposed to life-threatening trauma? How many exposed to (non-trauma) stress and adversity? What does previous research tell us about the likely prevalence for this type of disaster?
Workforce	Which clinicians to recruit as providers: part-time community clinicians or full-time clinicians dedicated to the project?
Treatment modality	What is the optimal balance of reach and effectiveness that can be implemented with the available funds? Are there specific characteristics of the target population that make one modality more feasible than others?
Training	How will you ensure that clinicians actually use the treatments they were trained in and use them with fidelity?
Monitoring outcomes	How will outcomes be systematically monitored with standardized measures? Are qualitative data from discussion groups useful to learn what worked and what did not work?
Uptake by consumers	How will new methods of marketing be used to improve on the dismal rate of uptake of previous programs?

administrative oversight to ensure that EBTs are actually used and used with fidelity.

- Monitoring outcomes: Collecting data with standardized measures at serial evaluations in order to monitor the effects of programs is valuable at multiple levels.
- Uptake by consumers: When using the current methods of appealing to consumers, their participation in free, high-quality programs has been disappointing. It is time for innovative approaches that leverage the methods of successful marketing in consumer-driven businesses.

Clinical Significance

We summarized a wide range of policy and administrative issues that are critical for ensuring that appropriate, evidence-based, and high-quality clinical interventions are delivered to the widest possible population of children and adolescents following disasters. Efforts in this field are emergent, and we point out key areas for innovation and improvement. The potential benefits of implementing the recommendations in this article include decreased rates of PTSD; decreased syndrome-related impairment across family, peer, and school domains; decreased school absenteeism and maintenance of the predisaster level of school functioning; and opportunities for parent, teacher, and community engagement in dialogue about emotional health and, specifically, around trauma. Program-level changes would include a mechanism for delivering an EBT during a time when often no services are delivered, exposure of service systems to new elements of delivery (i.e., screening) and places of delivery (e.g., schools), and opportunities for intersectoral engagement and collaboration at a time when individuals and organizations are looking to meaningfully assist those with postdisaster material and emotional needs. It is critical to acknowledge that there are significant challenges involved for service providers (and funders) in delivering the type of comprehensive approach that we are advocating. Recent experiences, however (Cobham 2013), lead us to believe that implementation of the recommendations represent a realistic way forward in proactively addressing youth mental health needs following disasters.

Disclosures

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