

# Building National Capacity for Child and Family Disaster Mental Health Research

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Disaster mental health is a burgeoning field with numerous opportunities for professional involvement in preparedness, response, and recovery efforts. Research is essential to advance professional understanding of risk and protective factors associated with disaster outcomes; to develop an evidence base for acute, intermediate, and long-term mental health approaches to address child, adult, family, and community disaster-related needs; and to inform policy and guide national and local disaster preparedness, response, and recovery programs. To address the continued need for research in this field, we created the Child and Family Disaster Research Training and Education (DRT) program, which is focused specifically on enhancing national capacity to conduct disaster mental health research related to children, a population particularly vulnerable to disaster trauma. This paper describes the structure and organization of the DRT program, reviews the training curriculum, discusses implementation and evaluation of the program, and reviews obstacles encountered in establishing the program. Finally, key lessons learned are reviewed for the purpose of guiding replication of the DRT model to address other areas of community mental health.

*Keywords:* children, disaster, mental health, research, training

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Disaster mental health is a burgeoning field with opportunities for professional involvement in preparedness, response, and recovery efforts. Research is essential to advance professional understanding of risk and protective factors associated with disaster outcomes; to develop an evidence base for acute, intermediate, and long-term mental health approaches to address child, adult, family, and community disaster-related needs; and to inform policy and guide national and local disaster preparedness, response, and recovery programs. Conducting research in the aftermath of a disaster is complicated by the ensuing chaos, often widespread damage and destruction, post-disaster stresses and adversities for the affected population, losses of loved ones and property, pressing need for services, and resource constraints (Steinberg, Brymer, Steinberg, & Pfefferbaum, 2006).

Recognizing the need for mental health research after the September 11, 2001, terrorist attacks and the subsequent anthrax incidents, the National Institute of Mental Health (NIMH), National Institute of Nursing Research (NINR), and Substance Abuse and Mental Health Services Administration (SAMHSA) issued a Request for Applications to enhance interdisciplinary disaster mental health research through education and training. The Terrorism and Disaster Center (TDC; located at the University of Oklahoma Health Sciences Center) and the National Center for Child Traumatic Stress (National Center; located at the David Geffen School of Medicine at UCLA and Duke University Medical Center), both members of the National Child Traumatic Stress Network (NCTSN; Pynoos et al., 2008), received funding to create a disaster research training program, the Child and Family Disaster Research Training and Education (DRT) program. The DRT program is focused specifically on enhancing national capacity to conduct disaster mental health research related to children, a population particularly vulnerable to disaster trauma (see e.g., Norris et al., 2002; Silverman & La Greca, 2002).

The ultimate goal of the DRT program is to increase appreciation for empirical research and to emphasize the importance of integrating research—the collection, analysis, and use of data—in clinical and administrative preparedness, response, and recovery activities associated with disaster mental health services. This paper describes the structure and organization of the DRT program, the training program and curriculum, implementation and evaluation of the program, the obstacles we have encountered in delivering disaster research training, and potential clinical and training applications.

## Structure and Organization

Administratively housed in the TDC of the NCTSN, the DRT program has utilized a network of national partners to achieve professional, content, and geographic diversity in membership and focus. As part of the DRT program, we have created 10 specialized Research Teams. Some teams are located at NCTSN centers; others are integrated in academic, service, and community-based programs.

While all DRT Research Teams address disaster mental health research issues for children and families, each has a unique focus and includes regional and local professionals from various fields active in disaster work through, for example, first response, public health, health, primary care medicine, nursing, education, social work, social services, and pastoral care. Diversity in focus among the Research Teams is intended to ensure attention to a variety of mental health issues that emerge in disaster work while at the same time reinforcing team-building around areas of like interest. The research focal interests of each team are addressed through the representation of relevant professional disciplines on those teams and through curricular content. Geographic distribution of the Research Teams is designed to address regional differences in hazards and potential natural disasters. Geographic diversity also allows the DRT program to have Research Teams positioned in a variety of locations, thus increasing the chance that teams will be geographically situated near locations where future disasters occur. See Table 1 for a list of all Research Teams.

## DRT Research Teams

The North Shore Trauma Treatment Development Center, a member of NCTSN, hosted the first DRT Research Team at the North Shore-Long Island Jewish Health System on Long Island, New York. The North Shore Research Team focused on training members of a comprehensive health care system to conduct child disaster mental health research within that system. This team emphasized the role of on-scene primary care personnel in the collection of data in the initial aftermath of a disaster to add real time determination of the immediate psychological impact of disasters on children and families and to address medical needs over the longer term. As an outgrowth of the DRT training experience, the North Shore Research Team developed a DRT curriculum module focused on conducting disaster mental health research in hospital-based disaster drills.

Table 1  
*Child and Family Disaster Research Training and Education (DRT) Research Teams*

Team	Location	Focus
1. North Shore Trauma Treatment Development Center	Long Island, NY	Health care system
2. Oklahoma State Agencies	Oklahoma City, OK	State agencies
3. Fuller Theological Seminary	Pasadena, CA	Faith-based institutions
4. Miller Children's Abuse and Violence Intervention Center	Long Beach, CA	Pediatric health care
5. Melissa Institute for Violence Prevention and Treatment	Miami, FL	Early childhood
6. Boston College Graduate School of Social Work	Boston, MA	Social work
7. Massachusetts Coalition for Family and Child Disaster Education	Boston, MA	Mental health responders
8. Northwest Center for Public Health Practice and School of Nursing, University of Washington	Seattle, WA	Public health
9. University of Virginia School of Medicine	Charlottesville, VA	Community responders
10. Yale Child Study Center	New Haven, CT	First responders

The second Research Team representing Oklahoma State Agencies was located in Oklahoma City and focused on disaster mental health research in state agencies instrumental in mounting federally funded disaster mental health services. This team included representatives of the Oklahoma Department of Mental Health and Substance Abuse Services, the Oklahoma Department of Health, the Oklahoma Department of Education, and the Oklahoma Department of Human Services. The focus of this team, which included clinicians and providers, administrators, and data managers, was to address service delivery and administrative concerns of state agencies in preparing for and responding to the disaster mental health needs of children and families and the community institutions that serve them.

Another team, located at Fuller Theological Seminary in Pasadena, California, focused on disaster mental health issues in faith-based organizations and included seminary faculty and trainees as team members. The Miller Children's Abuse and Violence Intervention Center, an NCTSN site at Miller Children's Hospital in Long Beach, California, addressed child disaster mental health from a comprehensive pediatric health care and medical trauma perspective. A team hosted by the Melissa Institute for Violence Prevention and Treatment in Miami, Florida, was comprised of professional staff from the Miami-Dade and Broward County Public School Districts, the Melissa Institute for Violence Prevention and Treatment, the Mailman Center for Child Development at the University of Miami Miller School of Medicine, and the Department of Psychology at Florida International University. This team focused on disaster mental health issues and research needs in early childhood through child care organizations and schools.

Two Research Teams were created in Boston, Massachusetts, with one located in the Boston College Graduate School of Social Work and the other established through the Massachusetts Coalition for Family and Child Disaster Education. The Boston College team included social work faculty and trainees and provided an opportunity for team members to explore the role of social workers in disaster mental health and response. The Massachusetts Coalition team brought together disaster mental health responders from the Massachusetts area to increase the research capacity of responders who were already active in disaster mental health. The Boston Research Teams shared the same leadership, allowing collaboration during training and potentially in the event of a future disaster.

The Northwest Center for Public Health Practice and the School of Nursing at the University of Washington in Seattle, Washington, established a Research Team comprised of public health faculty, trainees, and professionals from across the Pacific Northwest. This team focused on designing research to investigate and improve the integration of disaster mental health issues in public health disaster response. The University of Virginia School of Medicine Research Team, based in Charlottesville, Virginia, brought together a diverse group of community disaster responders, including Medical Reserve Corp volunteers; psychiatrists from the University of Virginia; community mental health providers; representatives from public schools, clergy, and others, to explore how disaster mental health research could be incorporated across different groups of community disaster responders. The Virginia team included members from rural and urban areas of the state to gain a perspective on implementing disaster mental health research

activities in different contexts. Finally, the Yale Child Study Center Research Team, located at an NCTSN center, focused on disaster mental health research with first responders, primarily fire and police, and their families.

## The Training Program and Curriculum

Training in child and family disaster mental health research was delivered to Research Teams onsite across the country, with adaptations based on the clinical and research expertise and experience of team members, the Research Team's focus, and the geographic location and unique community characteristics. Training was designed to prepare teams to conduct or facilitate child disaster mental health research pre- and/or post-event. The comprehensive 22-module curriculum covers disaster mental health clinical, research, and public health topics (Pfefferbaum et al., in press). See Table 2 for a list of all modules. Our original plans envisioned 6 days of training with the potential to expand or contract based on each Research Team's needs, interests, and available time.

### The Core DRT Curriculum

The DRT curriculum includes several types of modules: clinical, research, applied clinical research, public health, and team-building. Because Research Team members possess diverse professional training and clinical expertise and a range of disaster experience and research sophistication, clinical modules provide the basic content necessary for team members to appreciate the myriad clinical issues that may arise in the context of planning and implementing child disaster mental health services and research. Research modules cover essential material needed to understand

Table 2  
*Child and Family Disaster Research Training and Education (DRT) Curriculum Modules*

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Clinical modules
Overview of child disaster mental health
The psychosocial impact of disasters
Coping and resilience
Child disaster services and interventions
Early childhood and child care
Disasters and schools
Research modules
Research design and methods
Qualitative research approaches
Child disaster mental health research
Designing a research project
Program evaluation
Child disaster research ethics
Integrating research into disaster drills
Applied clinical research modules
Disaster mental health assessment
Cultural competence
Legal issues and disaster ethics
Gaps and challenges
Team-building modules
Team-building and action planning
Funding and grant writing
Public health modules
National response and incident command
Risk communication
Assessing community resilience

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hypothesis formation, research design, and methodology, strategies in data collection and analysis, and implementation of empirical studies. Several modules have combined application for clinical work and research, including modules on disaster assessment, cultural competence, legal issues and disaster ethics, and gaps and challenges in disaster mental health research. Modules addressing public health issues cover the national response plan and incident command, risk communication, and assessing community resilience. Two modules are designed to enhance team functioning and solidarity, including one on team-building and action planning and one on funding and grant writing.

Modules typically require 2 to 4 hours for delivery, but can be expanded or contracted based on the interests and needs of the specific Research Team and the available time. An advantage of the modular curriculum design is that it can be delivered selectively to a variety of audiences to match each team's research interests and capability as well as the needs of, and access to, potential disaster-affected populations. Formatting for consistency in design and structure is underway with the goal of making curriculum modules available through the TDC located at the University of Oklahoma Health Sciences Center in the coming year (<http://tdc.ouhsc.edu>).

### **Focused Experiential Projects**

Several Research Teams augmented the core DRT training with focused experiential activities through special projects. These special experiential projects were used to apply newly gained knowledge and/or expand understanding of disaster mental health response within a specific professional field. For example, the Melissa Institute for Violence Prevention and Treatment Research Team used some of its DRT training sessions to prepare a disaster needs assessment for use in the local school system. The goal of this exercise was to give team members experience in constructing research instruments through survey development and in the implementation process. The needs assessment instrument was designed to determine the level of school staff awareness of disaster plans. The exercise resulted in an experiential training for the Melissa Institute Research Team on how to operationalize a research question, design a research instrument, and initiate a research project.

The Fuller Theological Seminary team used experiential sessions to conduct focus groups with faith-based organizations in Texas that had responded to Hurricane Katrina. The purpose of these focus groups was to increase the team's understanding of the role of faith-based responders in disaster displacement situations and to inform the development of future research questions. Similarly, the Oklahoma State Agencies team used experiential sessions to conduct focus groups with state mental health personnel in an attempt to discern how state mental health agencies have used data to inform disaster response and to clarify the barriers and challenges in collecting and using clinical research data. Knowledge gained through these focus groups is being incorporated into the state mental health agency adaptation of the DRT curriculum that is described below.

### **DRT Newsletter**

In addition to the formal DRT curriculum, program participants and other individuals and groups with potential interest are regu-

larly updated about DRT activities and issues of interest in the field of child and family disaster mental health research through the "All the DRT" newsletter. Each newsletter focuses on a theme and includes an interview with an expert, highlights of the DRT program, information on a disaster in history, and reviews of publications addressing the content of the edition. Past newsletters have focused on topics such as child disaster mental health interventions, public health issues in disaster mental health, culture, schools, and coping. Previous and current editions of this newsletter are available on the TDC website (<http://tdc.ouhsc.edu>).

### **Curriculum Adaptations**

One of the major outgrowths of the DRT program has been the adaptation of the core curriculum for use with specific audiences. For instance, the Yale Child Study Center Research Team members used their experience working with police and fire personnel and families to inform their adaption of the DRT curriculum for use with police and fire departments. The leaders of this team engaged team members and first responders in reviewing and revising the curriculum through a group process. This curriculum will provide information about risk, reactions, coping, and resilience of first responders and their families and will be used to raise awareness of the value of disaster mental health research among the police and fire workforce and their families, to develop the relationships that can lead to the implementation of disaster mental health research activities through partnerships of first responders and researchers, to guide the development of interventions, and to inform resource allocation and policy decisions. Similarly, representatives from the Oklahoma State Agencies Research Team have chosen to adapt the DRT curriculum for use with administrators, clinicians and providers, and information technology and evaluation staff within state mental health agencies for the purpose of increasing disaster mental health research knowledge and awareness within those agencies. This adaptation emphasizes topics that are most likely to entail data management such as needs assessment and program evaluation. Both of these curriculum adaptations will include content and examples specific to the fields for which they are intended and will utilize a length and format that is practical and appropriate for their target audiences.

### **Evaluation**

Following each training session, training evaluations were completed by Research Team members who attended the session. A total of 737 evaluations were completed. The evaluations addressed participant understanding of child and family disaster mental health research and perceived effectiveness of the training. In addition to the evaluation, some DRT training sessions utilized pre- and post-tests to assess the knowledge gained as a result of the training.

### **Understanding of Child and Family Disaster Mental Health Research**

We used several content-specific questions to query participants about the extent to which they developed a better understanding of child and family disaster research content as a result of the training. These questions addressed objectives specific to the session

being evaluated. For example, for the Gaps and Challenges training session, one question read, "As a result of this session, I developed a better understanding of gaps in current knowledge about the effectiveness of interventions for children following disasters." Responses to these questions ranged from 4 = Strongly agree to 1 = Strongly disagree. For all DRT trainings, participants indicated they agreed that the DRT training sessions helped them develop an increased understanding of the child and family disaster research ( $M = 3.52, SD = .51$ ). Mean scores for individual modules are presented in Table 3.

### Training Effectiveness

We measured the effectiveness of the training sessions with questions about specific aspects of the training session including the effectiveness of the PowerPoint slides, the format and organization of the session, the communication skills of the trainer, the discussion and interaction included in the session, and the training materials and handouts. Responses to questions asking about the effectiveness of training aspects were 4 = Excellent, 3 = Good, 2 = Fair, and 1 = Poor. Overall DRT participants indicated that the PowerPoint slides ( $M = 3.47, SD = .62$ ), format and organization of the training session ( $M = 3.52, SD = .61$ ), communication skills of the trainer ( $M = 3.73, SD = .52$ ), discussion and

interaction included in the session ( $M = 3.46, SD = .71$ ), and training materials and handouts ( $M = 3.51, SD = .64$ ) were effective. The overall effectiveness of the training for all sessions was indicated to be good ( $M = 3.56, SD = .61$ ). Overall effectiveness for individual modules in the training curriculum is reported in Table 3.

### Knowledge Gained

We began to measure the amount of knowledge gained as a result of individual DRT sessions through pre- and post-tests at several trainings late in the DRT program. Pre- and post-tests included the same questions, which addressed content specific to the training being evaluated. A portion of trainings with the North Shore Trauma Treatment Development Center, Oklahoma State Agencies, and Massachusetts Coalition for Family and Child Disaster Education Research Teams and all of the trainings with the University of Virginia School of Medicine team included pre- and post-tests. Tests were scored on a scale of 0 to 100, and a  $t$  test revealed that trainees exhibited more knowledge about a topic following the training session ( $M = 86.27, SD = 15.15$ ) than they did prior to the training ( $M = 72.92, SD = 19.79$ ),  $t(201) = 5.41, p < .01$ ). The results indicate that participants gained a significant

Table 3  
*Respondent Perceptions of Understanding Resulting From and Overall Effectiveness of DRT Training Sessions*

Module name	Understanding <sup>1</sup>			Effectiveness <sup>2</sup>		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
<b>Clinical modules</b>						
Overview of child disaster mental health	90	3.31	.55	90	3.53	.52
Coping and resilience	55	3.64	.37	55	3.71	.50
Child disaster services and interventions	22	3.45	.44	22	3.14	.64
Early childhood and child care	10	3.82	.33	10	4.00	.00
Disasters and schools	16	3.69	.34	16	3.88	.34
<b>Research modules</b>						
Research design and methods	32	3.36	.64	32	3.56	.62
Qualitative research approaches	20	3.64	.38	20	3.80	.41
Child disaster mental health research	20	3.65	.37	19	3.68	.48
Designing a research project	8	3.81	.37	8	4.00	.00
Program evaluation	33	3.37	.57	32	3.31	.69
Integrating research into disaster drills	15	3.50	.38	15	3.60	.51
<b>Applied clinical research modules</b>						
Disaster mental health assessment	23	3.36	.46	22	3.27	.70
Cultural competence	52	3.67	.39	51	3.78	.50
Legal issues and disaster ethics	65	3.65	.43	65	3.60	.55
Gaps and challenges	41	3.64	.57	41	3.71	.46
<b>Public health modules</b>						
National response and incident command	42	3.68	.42	42	3.48	.74
Risk communication	10	3.47	.66	9	3.56	.53
Assessing community resilience	31	3.70	.34	30	3.70	.60
<b>Team-building modules</b>						
Team-building and action planning	50	3.65	.42	51	3.67	.55
Funding and grant writing	17	3.76	.26	16	3.94	.25
<b>Auxiliary disaster intervention modules</b>						
Psychological first aid	31	3.44	.56	31	3.52	.57
K-FLASH-II	11	3.66	.49	10	3.60	.70

*Note.* <sup>1</sup> Understanding was measured by asking respondents to report how much they agreed that they developed a better understanding of several module-specific objectives as a result of the training, with possible responses ranging from 4 = strongly agree, to 1 = strongly disagree. <sup>2</sup> Effectiveness was measured by asking respondents to rate the effectiveness of the overall training session with possible responses ranging from 4 = excellent to 1 = poor.

amount of child and family disaster research knowledge as a result of DRT trainings.

While limited in scope, evaluations were conducted after every session. The results were used to refine the curriculum modules through an ongoing process. The most common response in the qualitative portion of the evaluation was to adapt the training to the specific focus of the team. In addition, we shared evaluation results with DRT faculty and matched future faculty based on this feedback.

### **Implementation and Obstacles**

Implementation of the DRT program was complex and met with a number of obstacles. We experienced challenges associated with constituting Research Teams, with the prolonged effort required to develop and refine the curriculum, with training itself, and with evaluation. With the completion of the training phase, sustainability will be a major challenge for the Research Teams.

### **DRT Research Teams**

The effort to constitute Research Teams diverse in focal content, professional background, and geographic region was substantial. We recruited team leaders who had specific interests and expertise and who were familiar with professionals in the geographic region. These team leaders then recruited team members with the goal of creating multidisciplinary teams interested in ongoing collaboration. To function effectively at the team site, local leadership and coordination were essential. We provided a face-to-face session to discuss the rationale for the research training program with administrators of the respective organizations and agencies when appropriate, provided for administrative support for each team, and maintained frequent interaction with team leaders and coordinators throughout team formation and in initiating and conducting training. We developed a team-building curriculum module to promote team identity, cohesion, and commitment. This module was delivered to many teams. As part of our sustainability efforts, we have also maintained relationships with teams and team members upon completion of training.

### **The DRT Curriculum**

We convened an expert panel to determine appropriate content, review curriculum modules, and make recommendations for revisions. It took more time than anticipated to engage faculty to develop modules and to structure and format modules for consistency. It was necessary to create more modules than initially anticipated because of the special needs of some of the teams. For example, our original curriculum did not include content on coping and resilience, services and post-disaster mental health interventions, early childhood and child care, or disaster effects and response in the school setting. This content was added as we identified gaps in research and the potential for meaningful future study by Research Teams. Each team used either focus groups or a brief written needs assessment survey to identify the content areas for training. Team leaders worked with DRT staff to select modules appropriate for each team based on the team's professional expertise, experience, and interests.

We engaged team leaders and faculty presenters in both creating new modules and in adapting existing modules to address the specific interests and needs of various teams. For example, we developed a module on service program evaluation specifically to address the needs of the Oklahoma State Agencies team. The modular format of the curriculum facilitated the addition of content. We also offered auxiliary trainings in disaster interventions to interested teams and used these supplemental trainings to emphasize the importance of integrating research in service delivery systems.

### **DRT Training**

Some team members were limited in the amount of time they could devote to training. For example, because state agencies found it difficult to grant employees extensive time away from work to attend trainings, we adjusted the training schedule of our Oklahoma State Agencies Research Team considerably. Thus, instead of a potential of 6 days of training, the Oklahoma team received a single day of training for senior administrative and clinical leadership, 2 days of training from a modified core curriculum (including Team-building and Action Planning, National Response and Incident Command, Research Designs and Methods, Qualitative Research Approaches, and Program Evaluation) for all team members, and an additional 2 days focused on auxiliary disaster intervention modules (Psychological First Aid, an acute-phase mental health intervention [Vernberg et al., 2008], and K-Flash II, a training package intended to help mental health professionals differentiate normative and pathological responses in children post-disaster, identify and triage children into services, and apply front-line disaster mental health interventions [<http://tdc.ouhsc.edu>]). The modular format of the DRT curriculum allowed for a training schedule to be developed that fit the capacity and need of individual Research Teams, thus providing a practical, realistic, and flexible training program.

### **Sustainability**

Now entering the final year of the grant period, sustainability is a pressing challenge. We addressed sustainability from the inception of the project by embedding the program within the NCTSN. While some teams will be unable to continue once our grant support is no longer available, other teams are expected to continue functioning. Research Teams located at NCTSN centers and those in academic programs include individuals and partners who work together in other activities and who can integrate disaster mental health research training and projects into existing programs and planning. The educational support for this effort at institutions sponsoring our teams enhances team work while at the same time providing guidance and mentorship to collaborators and future researchers.

We are hopeful that the curriculum itself will promote sustainability. It includes a comprehensive review of current issues in child disaster mental health clinical services and research, thus providing education to share the knowledge base across many constituencies. Some teams intend to integrate the curriculum, or parts of it, in existing or new course work at their institutions and in staff trainings. Web-based modules provided to the Northwest Center for Public Health Practice and School of Nursing at the

University of Washington Research Team have been archived so that the audio and slide training materials can be accessed via the Internet for the foreseeable future (<http://www.nwcp.org/training/courses-exercises/courses/drt/?searchterm=Disaster%20Research%20Training>). The “All the DRT” newsletter, which is circulated to all Research Teams, NCTSN sites, and colleagues in the field, provides additional opportunities for learning and builds and sustains linkages among and beyond our Research Teams and project timeline.

Sustainability is promoted through the enhanced mentoring capacity created by the faculty and trainees across the nation who participated in the DRT program and through the increased capacity of NCTSN partners now trained in disaster mental health research. In the spirit of the disaster mental health field, trained Research Team members are likely to participate in disaster preparedness activities or to respond when disasters strike their communities and to assist others in their regions or nationally. Mentoring is a strong tradition in disaster mental health. A federal response that appreciates the need for professional education and training and a dedicated core of experienced professionals have provided the needed assistance historically. Our own NCTSN TDC team continues that tradition by making itself available to professionals in communities where disasters occur and to collaborate in planning and implementing disaster mental health research when appropriate.

Sustainability will be enhanced through publications associated with DRT activities. We currently envision these to address competing disaster mental health research and clinical needs in primary care, collecting and using clinical and program evaluation data in state agency disaster efforts, and the role of public health in child and family disaster mental health. Finally, sustainability is enhanced as teams prepare and apply for disaster research grants in the future. While no requests for funding for work in specific disasters have been submitted by any of our teams to date, funding requests resulting from DRT participation are expected in the near future. For example, the Miller Children’s Abuse and Violence Intervention Center Research Team, where DRT training helped to integrate clinicians’ experience in treating children with complex trauma with new knowledge in the area of disaster intervention, will incorporate this experience in future research projects and funding requests. The North Shore Research Team, which participated in experiential sessions focused on integrating research on Psychological First Aid (PFA) into hospital disaster drills, plans to seek funding to support research on hospital-based PFA applications. The success of the DRT program may be measured in use of the curriculum, appreciation for research, and the willingness to collaborate across disciplines and agencies rather than in new funded research projects, though we fully expect several teams to be successful in future grant applications.

### **Potential Clinical and Training Applications**

Through the DRT program, we have established a mix of Research Teams set in diverse sites and integrated under the umbrella of the NCTSN through its TDC, which administers the program. These teams now have the expertise to plan and implement high quality disaster mental health research related to children and families. Along with TDC, many also have manpower

capable of providing mentorship in child and family disaster mental health clinical, research, and training issues.

The DRT program has produced a comprehensive 22-module curriculum and training materials that can be used to enhance the ability of professionals interested in participating in disaster preparedness and response activities through clinical services, research, and/or education and training. DRT materials are available through TDC (<http://tdc.ouhsc.edu>). The effectiveness of this curriculum has been assessed through the training evaluations and pre-/post-tests previously described. Moreover, our experience suggests that child and family disaster mental health training is of interest to health, mental health, and public health professionals not routinely involved in disaster planning and response activities.

While the DRT program now provides the appropriate curriculum for training in the area of child and family disaster mental health, the challenge remains in finding the time for professionals to participate in such a program. An organizational commitment is essential to free professionals from daily obligations to undertake such training. Our experience in forming and sustaining training teams led us to structure the DRT curriculum through modules and to place content online as appropriate to reduce the in-person training requirement for completion of the program. There is great value, however, in bringing professionals together (in-person or online in real time) for some portion of this training. The focused experiential projects undertaken by several DRT teams illustrate the practical outcomes that are likely to emerge when a group of professionals come together to be trained on conducting disaster research. Therefore we would encourage organizations to make a commitment to this type of training program as part of professional staff development.

Staff participation in the DRT program can result in increased knowledge of how data can be used to inform disaster service activities and promote their effectiveness. This sort of knowledge among staff can in turn increase organizational effectiveness (both in terms of achieving goals and maximizing efforts or costs) in disaster preparedness, response, and recovery—areas that have implications for all organizations.

In addition to benefitting those being trained as well as the local organization hosting the training, participation in the DRT program also has the potential to benefit the professional fields represented by DRT trainees. The experiences of focusing on child and family disaster mental health research within a professional context such as faith-based organizations, for example, has led one Research Team to undertake a project that will result in the development of resources with utility for the faith-based field as a whole. In this way the DRT program is not simply focused on training locally, but it can enhance expertise that can generate disaster mental health knowledge for entire professional fields.

The DRT program also provides a model for integrating disaster mental health clinical, research, and training efforts within a larger framework of disaster management activities across a broad field of provider organizations. The multidisciplinary aspect of the DRT teams provides an opportunity for mental health, public health, and health professionals to convene to learn about and examine issues important to disaster mental health and the local disaster response. For example, the University of Virginia School of Medicine Research Team allowed volunteer medical responders, psychiatrists, community mental health providers, school counselors, and clergy

from across the state the opportunity to discuss the state and local disaster response and in turn examine how available resources and organizations might address the disaster mental health concerns of children and families.

While participating in the DRT program was rich for professionals interested in disaster mental health research, the overall DRT model is not limited to disaster mental health as it could be replicated for application in other areas of community mental health research training. Those wishing to utilize the DRT model in other areas should embrace the lessons learned from our experience and balance the need for homogeneity and diversity among teams and team members; invest in strong leadership at the research team level; establish generous timelines for curriculum development; create a curriculum that is modular, adaptable, and flexible and that acknowledges the expertise and experience of those being trained; tailor training schedules to meet the needs and availability of each team; plan for and implement a robust evaluation of knowledge and research outcomes from the inception of the program; identify repositories for the curriculum that are sustainable beyond the life of the program (e.g., online, incorporated into academic training programs, located within public and professional organizations); and create a mentoring component at both the program and research team level. Adopting these strategies can result in a participatory research training program capable of improving individual, organizational, and professional awareness, expertise, and interest in the area of focus of any professional mental health training program.

## References

- Norris, F. H., Friedman, M. J., Watson, P. J., Byrne, C. M., Diaz, E., & Kaniasty, K. (2002). 60,000 disaster victims speak: Part I. An empirical review of the empirical literature, 1981–2001. *Psychiatry*, *65*, 207–239.
- Pfefferbaum, B., Maida, C. A., Steinberg, A. M., Beaton, R. D., Pynoos, R. S., Fairbank, J. A., et al. (in press). Enhancing national capacity to conduct child and family disaster mental health research. *Nursing Education Perspectives*.
- Pynoos, R. S., Fairbank, J. A., Steinberg, A. M., Amaya-Jackson, L., Gerrity, E., Mount, M. L., et al. (2008). The National Child Traumatic Stress Network: Collaborating to improve the standard of care. *Professional Psychology: Research and Practice*, *39*, 389–395.
- Silverman, W. K., & La Greca, A. M. (2002). Children experiencing disasters: Definitions, reactions, and predictors of outcomes. In A. M. La Greca, W. K. Silverman, E. M. Vernberg, & M. C. Roberts (Eds.), *Helping children cope with disasters and terrorism* (pp. 11–33). Washington, DC: American Psychological Association.
- Steinberg, A. M., Brymer, M. J., Steinberg, J. R., & Pfefferbaum, B. (2006). Conducting research on children and adolescents after disaster. In F. H. Norris, S. Galea, M. J. Friedman, & P. J. Watson (Eds.), *Methods for disaster mental health research* (pp. 243–253). New York: Guilford Press.
- Vernberg, E. M., Steinberg, A. M., Jacobs, A. K., Brymer, M. J., Watson, P. J., Osofsky, J. D., Layne, C. M., et al. (2008). Innovations in disaster mental health: Psychological First Aid. *Professional Psychology: Research and Practice*, *39*, 381–388.

Received January 6, 2009

Revision received March 27, 2009

Accepted May 26, 2009 ■

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