The Development of a Model of Psychological First Aid for Non–Mental Health Trained Public Health Personnel: The Johns Hopkins RAPID-PFA

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Introduction: The Johns Hopkins Center for Public Health Preparedness, which houses the Centers for Disease Control and Prevention–funded Preparedness and Emergency Response Learning Center, has been addressing the challenge of disaster-caused behavioral health surge by conducting training programs in psychological first aid (PFA) for public health professionals. This report describes our approach, named RAPID-PFA, and summarizes training evaluation data to determine if relevant knowledge, skills, and attitudes are imparted to trainees to support effective PFA delivery. **Background/Rationale:** In the wake of disasters, there is an increase in psychological distress and dysfunction among survivors and first responders. To meet the challenges posed by this surge, a professional workforce trained in PFA is imperative. **Methods/Activity:** More than 1500 participants received a 1-day RAPID-PFA training. Pre-/postassessments were conducted to measure (*a*) required knowledge to apply PFA; (*b*) perceived self-efficacy, that is, belief in one's own ability, to apply PFA techniques; and (*c*) confidence in one's own resilience in a crisis context. Statistical techniques were used to validate the extent to which the survey successfully measured individual PFA constructs, that is, unidimensionality, and to quantify the reliability of the assessment tool. **Results/Outcome**: Statistically significant pre-/postimprovements were observed in (*a*) knowledge items supportive of PFA delivery, (*b*) perceived self-efficacy to apply PFA interventions, and (*c*) confidence about being a resilient PFA provider. Cronbach alpha coefficients ranging from 0.87 to 0.90 suggested that the self-reported measures possessed sufficient internal consistency. **Discussion:** Findings were consistent with our pilot work, and with our complementary research initiatives validating a variant of RAPID-PFA with faith communities. **Lessons Learned/Next Steps:** The RAPID-PFA model promises to be a broadly applicable approach to extending community behavioral health surge capacity. Relevant next steps include evaluating the effectiveness of trained providers in real crisis situations, and determining if PFA training may have potential beyond the disaster context.

KEY WORDS: **competencies, disaster mental health, psychological first aid, public health emergency preparedness**

Training activities within the Johns Hopkins Center for Public Health Preparedness, which houses the Centers for Disease Control and Prevention (CDC)–funded Preparedness and Emergency Response Learning Center (JH-PERLC), located at the Johns

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TABLE 1 ● Summary of Types of Psychosocial Interventions Relevant for Disaster and Prevention Phases

Disaster Phase	Psychosocial Intervention	Prevention Phase
Before event	Resistance	Primary
Event	Resilience	Secondary
After event	Recovery	Tertiary

Hopkins University Bloomberg School of Public Health,* have included a focus on mental and behavioral health considerations in disasters and other public health emergencies. Center activities have been complemented and informed by research conducted through the colocated Johns Hopkins Preparedness and Emergency Response Research Center (JH-PERRC) and by collaboration with faculty members at other centers in the national PERLC network. In both JH-PERLC and JH-PERRC activities, we have used the Johns Hopkins Model of Disaster Mental Health,[1] which aligns 3 different psychosocial interventions with the 3 main phases of any disaster (see Table 1).

Here, we report on our efforts to build resilience through the use of "psychological first aid" (PFA), which we later describe in more detail. This report describes our approach, named RAPID-PFA, and summarizes training evaluation data to determine whether relevant knowledge, skills, and attitudes (KSAs) are imparted to trainees to support effective PFA delivery.

● Background and Rationale

In the wake of virtually all disasters is a significant increase in psychological distress and dysfunction among survivors and first responders. When the incident is sudden or devastating, 25% or more of the population may exhibit what has been termed, the *disaster syndrome*,[2] a condition marked by survivors appearing dazed, stunned, and experiencing a potentially broad range of acute mental and emotional symptoms. Problematic psychological reactions to disasters may also be prolonged, with prevalence rates of posttraumatic stress disorder ranging from 11% to 40%.[3-8]

Compounding the difficulty of meeting the needs of disaster-related psychological casualties is the general shortage of mental health clinicians in more than 3000 geographic areas of the United States;[9] moreover, few mental health providers are adequately trained in disaster mental health intervention. The undersupply of qualified responders relative to the magnitude of demand for disaster-caused service needs constitutes a significant challenge for the public health system.[7,10-13]

The logic of the JH-PERLC approach to mitigating the predictable increase in human distress after disaster is anchored in a strategy supported by numerous organizations. For example, a half century ago, the American Psychiatric Association argued for the all-hazards relevance of acute mental health intervention, making one of the first references to PFA and urging that all disaster workers be familiar with the unique patterns of psychological responses following disasters.[14] More recently, the Institute of Medicine noted that a broad spectrum of professional responders is necessary to meet terrorism-related psychological needs effectively, and that PFA can provide a well-organized community response to increase health and resiliency.[15] The current PFA model embraces this notion of the importance of training a wide variety of local responders in an attempt to harness indigenous resources possessing local knowledge, credibility, and cultural awareness.

Psychological first aid is neither counseling nor psychotherapy; rather, PFA is to the practice of psychotherapy as physical first aid is to the practice of medicine. Of note, PFA-like crisis interventions were found to be superior to multiple-session psychotherapy in promoting psychological resilience in survivors after the terrorist attacks of September 11, 2001.[16]

Consistent with the calls for greater attention to the mental and behavioral dimensions of disasters, the CDC and the Association of Schools of Public Health (now the Association of Schools and Programs of Public Health) in 2004 directed members of the network of Centers for Public Health Preparedness to create the *Mental Health and Psychosocial Preparedness Exemplar Group* to address the mental health aspects of terrorism and mass disasters. The Group, subsequently transitioning into the *Disaster Mental Health Collaborative Group* in 2006, created consensus recommendations for core disaster mental health competencies for responders.[17]

By integrating key elements of the Collaborative Group's recommendations with those advocated earlier in consensus reports from the American Psychiatric Association,[14] the Institute of Medicine,[15] and seminal authors such as Raphael[2] in 2005, we developed the Johns Hopkins "RAPID" PFA training program for public health personnel, first responders, and first receivers.[18] Following a pilot study and content validation of the RAPID-PFA model,[19] we refined and delivered the curriculum to an expanded volume of participants. This report summarizes that work intended to determine whether this brief training intervention can impart the necessary KSAs to support PFA competencies in would-be responders.

*The PERLC program is designed to address the preparedness and response training and education needs of the public health workforce. Supported by Federal funding (2010 to date), the program includes 14 centers in Council on Education for Public Health accredited Schools of Public Health. For additional information, see www.cdc.gov/phpr/perlc_factsheet.htm.

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Methods/Activity

The training intervention: RAPID-PFA

The training format is a 1-day (6-hour) workshop comparable with those routinely used to meet requirements for continuing professional education. The teaching/learning format involves periods of lecture, supported by Microsoft Word PowerPoint slides, complemented by opportunities to practice techniques in small groups. An example is an exercise during which 3 persons practice "reflective listening," by alternately playing the roles of PFA recipient (describing her/his distress), PFA provider (demonstrating desired communication skills), and PFA observer (offering process comments).

The core content of the training adheres to the acronym, RAPID, as follows:

- *Reflective listening* refers to the ability to utilize active listening techniques, establish empathy, and determine important aspects of the survivor's experience;
- *Assessment* entails, first, screening to answer the binary (yes-no) query of whether there are indicators to warrant exploration into a person's capacity for adaptive mental and behavioral functioning and, second (if necessary), a brief assessment of dimensional factors that are likely to facilitate or impede rapid recovery of adaptive functioning, for example, the ability to understand and follow directions, the ability to express emotions in a healthful and constructive manner, social adaptability, and the ability to access interpersonal resources;
- *Prioritization* (of assessed functional needs) is essentially a triage task intended to guide an acute intervention plan for more severe physical, psychological, and behavioral reactions. Beyond physical and medical priorities, the focus is on the ability of the survivor to perform basic activities of daily living;
- *Intervention* (once physical and medical needs are addressed) is applied, as needed, using stress management and/or cognitive/behavioral techniques to reduce acute distress;[20] and
- *Disposition,* involving the determination if survivors have regained the functional capacity to engage in the basic activities of daily living, or need referral and transitioning to other clinical or social supports (possibly with continuing advocacy and liaison needs).

Although not part of the RAPID acronym, all training sessions end with a module on "Self Care," covering signs and symptoms of stress, and several techniques to manage (and prevent) them.

Participants

More than 1500 trainees from Maryland, Delaware, and the District of Columbia participated in PFA from January 2011 through May 2013. Trainees were representatives from various federal, state, and local public health agencies, as well as health care and community-based organizations. Myriad job roles were represented, including, but not limited to, clerical and support staff, administrators, health educators, health planners, nurses, security personnel, social workers, and professional volunteers.

Trainer

To maximize quality and consistency, all training was conducted by the first author of this report.

Evaluation

Pre- and posttesting and evaluation was conducted to determine if RAPID-PFA training can achieve the following aims with participants: (*a*) impart the foundational information upon which the approach depends (*knowledge*); (*b*) promote a sense of self-efficacy, that is, belief in one's own ability, in applying PFA interventions (*skills*); and (c) instill confidence in one's capacity to function in a disaster context and, as necessary, be resilient in the face of personal crises (*attitudes*). Tests were administered to measure PFA-related acquired knowledge (10 items: 4 multiple choice and 6 true-false) and self-report surveys were used to assess perceived self-efficacy in the application of PFA techniques (7 items), and self-confidence as a resilient PFA provider (3 items). Survey items were structured as 5-point Likert scales. All evaluation instruments were administered immediately before and after training sessions. [Note: Copies of evaluation forms are available by contacting the corresponding author.] Tracking numbers were used on forms in place of names to maintain respondent anonymity. Evaluation data collection for this training was deemed "exempt" by the Johns Hopkins Bloomberg School of Public Health's institutional review board.

Data analysis

Assessment information and tracking numbers were entered into Survey Monkey data sets by year and administration (www.surveymonkey.com) and combined for quality review and analysis. The knowledge measure was calculated as the number of correct responses. Likert scale ratings were calculated as arithmetic means of individual item ratings. The larger data set (n = 1218) was reduced (n = 1191) to include only information from participants for whom both pre- and posttraining assessments were available. The reliability, that is, internal consistency, of the survey variables was evaluated using Cronbach alpha on pretraining assessments. Paired *t* tests were employed to evaluate change on all other assessment measures.

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TABLE 2 ● Summary of Pre-, Post-, and Post-Pre Training Scores on Knowledge Test[a] and Self-Report Surveys[b]

Measure	N	Pretraining Mean (SD)	Posttraining Mean (SD)	Post-Pre Training		
				Mean (SD)	*P*[c]	Cohen D[d]
Knowledge	1218	6.43 (1.99)	7.66 (2.12)	1.24 (2.19)	<.001	0.56
Self-efficacy in application of interventions	1191	3.55 (0.70)	4.28 (0.54)	0.73 (0.63)	<.001	1.16
Confidence in personal resilience	1194	3.81 (0.74)	4.28 (0.64)	0.47 (0.67)	<.001	0.70

[a]Number of correct responses to Knowledge Test.
[b]Average rating across items on scale.
[c]Significance level based on paired *t*-test analysis.
[d]Effect size for post-pre change.

● Results

During RAPID-PFA training offerings, participants provided evaluation forms that permitted paired assessments on the measures of PFA knowledge, technical self-efficacy, and confidence in personal resilience. As shown in Table 2, all 3 measures showed significant improvement from pre- to posttraining.

More specifically, a review of Table 2 reveals significant and meaningful changes appear to be associated with the completion of the PFA course. Knowledge pertaining to crisis intervention, self-confidence in one's ability to apply PFA, and self-confidence in one's own personal resiliency all increased with effect sizes ranging from moderate (knowledge) to large. The measures related to technical self-efficacy applying PFA interventions showed a somewhat higher mean difference (0.73) and effect size (1.16) than the personal confidence/resilience measure (0.47; 0.70). Higher mean differences indicated greater agreement with the statements in the measure. Cronbach alpha coefficients, 0.90 and 0.87, for the intervention self-efficacy and personal resilience measures, respectively, support the conclusion that each set of survey items reliably measured a single construct.

● Discussion

These positive findings are consistent with our earlier pilot work with public health professionals[19] and with our JH-PERRC research initiatives to validate a specialized version of RAPID-PFA with urban and rural faith communities.[21] While the project was not a trial of clinical effectiveness, it represents a necessary step toward validation of the approach in real-world disaster contexts and confirms that participants without previous formal training in mental health can acquire KSAs important for helping persons experiencing acute human crises. That our outcome variables were organized as KSAs is explicitly supportive of the extensive efforts of the CDC and Association of Schools and Programs of Public Health to promote the development of national, competency-based training curricula,[22] and with the consensus-derived, PFA competency set we recently developed with PERLCs in Florida (College of Behavioral and Community Sciences, University of South Florida, Tampa), Iowa (College of Public Health, University of Iowa, Iowa City), and Oklahoma (College of Public Health, University of Oklahoma Health Sciences Center, Oklahoma City).[23]

Evaluating the practical results and tangible impact of training programs poses the greatest challenge to training professionals[24] and researchers. Particularly challenging is evaluating the effectiveness of prior PFA trainees aiding persons experiencing a disaster (or more common psychological crises) in that 3 broad criteria must be met: (*a*) the research infrastructure must be in place to implement the study; (*b*) the appropriate event(s) must occur; and (*c*) PFA providers and/or recipients must be ready, willing, and able to provide the relevant data. We are currently analyzing, and in the near future will be reporting, the data from a recent follow-up study with a cohort of 67 community PFA trainees, 20% of whom had the opportunity to use RAPID-PFA in a real-world public health emergency (the 2013 storm, *Sandy*).

Thus, on the basis of an integration of reviews and consensus recommendations previously cited throughout this article, the RAPID-PFA model was developed to be applicable across communities as a means of harnessing local resources to respond to acute mental health surges and to ultimately enhance community resilience from within, rather than relying upon transient external resources that may lack situational awareness, cultural sensitivity, and credibility. We employed the generally accepted KSA model for evaluating adult learning as our initial evaluation process. We believe this to have general applicability across communities.

● Lessons Learned/Future Directions

The likelihood of any PFA training approach having genuine public health significance rests, in part, on the training curriculum being able to impart the basic

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knowledge necessary for immediate mental health intervention, and to bring about in participants the technical self-efficacy and personal confidence to deliver quality services in a disaster setting. The data presented support the conclusion that the Johns Hopkins RAPID-PFA model has met these criteria with more than 1500 participants in multiple venues and agencies throughout Maryland, Delaware, and the District of Columbia and thus would appear to be a promising approach for addressing the inevitable surges in demand for psychological services observed in the wake of disasters and public health emergencies. These surges almost invariably exceed the capacity of local mental health resources to respond effectively. A remedy that has been proposed here is to train local resources who are already well versed in community culture, and possess credibility as well as knowledge of local logistics. Public health personnel, first responders, and first receivers seem an ideal choice to fill the resource gap due to their familiarity with the local culture, landscape, and their credibility with potential recipients of services. The data reported here suggest that these personnel are receptive to such training, though no follow-up data are currently available.

Appropriate next steps would appear to be continuing our research and quality improvement initiatives to validate the RAPID-PFA model with specific populations; evaluating the effectiveness of RAPID-PFA trainees in real crisis situations; and determining the feasibility of broader-scale training. The latter might include not only expanding disaster surge capacity but also enhancing nondisaster crisis-intervention capacity in the public mental health system, and perhaps applying PFA training to enhance community resilience, in general.

This latter point is particularly important. A fundamental principle in our RAPID-PFA approach is that disaster-driven mental and behavioral health surge cannot possibly be met by the formal mental health care and public health system, and trained mental health extenders will be needed. Such extenders will come from the community, that is, from various components of the Public Health Emergency Preparedness System[25] beyond formal governmental public health agencies. Our version of PFA is explicitly designed for such extenders and as such represents an explicit attempt to build both individual and community resilience.

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