# University of Massachusetts Boston

From the SelectedWorks of Steven D Vannoy

Summer 2011

# COMMUNITY-BASED PARTICIPATORY DEVELOPMENT OF A COMMUNITY HEALTH WORKER MENTAL HEALTH OUTREACH ROLE TO EXTEND COLLABORATIVE CARE IN POST-KATRINA NEW ORLEANS

Ashley Wennerstrom Steven D Vannoy Charles E Allen Diana Meyers Elizabeth O'Toole, et al.



## COMMUNITY-BASED PARTICIPATORY DEVELOPMENT OF A COMMUNITY HEALTH WORKER MENTAL HEALTH OUTREACH ROLE TO EXTEND COLLABORATIVE CARE IN POST-KATRINA NEW ORLEANS

**Objectives:** The REACH NOLA Mental Health Infrastructure and Training Project (MHIT) aimed to reduce disparities in access to and quality of services for depression and posttraumatic stress disorder (PTSD) in post-Katrina New Orleans by developing a mental health outreach role for community health workers (CHWs) and case managers as a complement to the collaborative care model for depression treatment.

**Intervention:** Community agency leaders, academics, healthcare organizations, and CHWs engaged in a community participatory process to develop a CHW training program.

**Design:** A review of qualitative data including semi-structured interviews, project team conference calls, email strings, and meeting minutes was conducted to document CHW input into training and responses to implementation.

**Results:** CHW contributions resulted in a training program focused on community engagement, depression screening, education, referral assistance, collaboration with clinical teams, and self-care. CHWs reported use of screening tools, early client successes in spite of challenges with client engagement, increase in networking and collaboration with other community agencies and providers, and ongoing community hurricane recovery issues.

**Conclusions:** This intervention development approach and model may be used to address post-disaster mental health disparities and as a complement to traditional implementation of collaborative care. (*Ethn Dis.* 2011;21[Suppl 1]:S1-45–S1-51)

**Key Words:** Community Health Workers, Community-Based Participatory Research, Collaborative Care, Disaster, Mental Health

From Tulane University School of Medicine, Office of Community Affairs and Health Policy (AW); Tulane University School of Public Health and Tropical Medicine, Department of Community Health Sciences (AW); University of Washington, Department of Psychiatry and Behavioral Sciences (SDV); Holy Cross Neighborhood Association (CEA); St. Anna's Episcopal Church (DM); Center for Health Ashley Wennerstrom, MPH; Steven D. Vannoy, PhD, MPH; Charles E. Allen, III, MSPH; Diana Meyers, RN, BSN; Elizabeth O'Toole, MSPH; Kenneth B. Wells, MD, MPH; Benjamin F. Springgate, MD, MPH

#### INTRODUCTION

Underserved communities are at high risk for poor access to quality care for common mental disorders such as depression and posttraumatic stress disorder (PTSD),<sup>1,2</sup> particularly following exposure to disasters such as the 2005 Gulf storms.<sup>3,4</sup> Evidencebased quality improvement programs such as collaborative care approaches that integrate primary care providers, patient care managers, and mental health specialists into patient-focused teams increase access to services and improve health and employment outcomes for depressed and anxious primary care patients, including underserved groups.<sup>5–8</sup> However, such programs may be difficult to implement in public sector agencies and those damaged by disaster, owing to resource and infrastructure limitations.9 Secular and faith-based social service organizations often have infrastructure for post-disaster outreach, case management, and medical care

Services and Society, University of California, Los Angeles (EO, KW); Semel Institute for Neuroscience and Human Behavior, University of California Los Angeles (KW); Department of Health Services, University of California, Los Angeles School of Public Health (KW); RAND Corporation (KW, BS); Tulane University School of Medicine, Department of Medicine (BS); RAND Health (BS); and REACH NOLA (BS).

Address correspondence to Ashley Wennerstrom; 1430 Tulane Ave. SL-16; New Orleans, LA 70112; 504.988.4007; 504.988.8252 (fax); awenners@tulane.edu that could support quality improvement, but staff and administrators may lack adequate training to address mental health issues,<sup>10</sup> facilitate appropriate referrals for care, and help affected persons overcome mental health related stigma.

Health and social service agencies often utilize community health workers (CHWs) - personnel who provide fellow community members with health services including education and healthcare referrals - to fill unmet public health needs in underserved communities.<sup>11</sup> CHW engagement is a promising strategy to overcome disaster-resultant healthcare infrastructure limitations in contexts such as post-Katrina New Orleans,<sup>12</sup> where the shuttering of healthcare facilities and exodus of providers diminished local capacity to address well-documented unmet, ongoing mental health needs.3,4,13 CHW facilitation of early entry into appropriate care for community members with mild to moderate symptoms of anxiety, depression, and trauma may prevent serious mental health sequelae and subsequent use of emergency health services. CHW provision of peer-topeer support for fellow community members may fill gaps in availability of traditional counseling services, and their participation as members of collaborative mental health treatment teams could increase patient engagement, leading to increased efficacy of care delivery. Previous CHW participation in addressing community mental health needs has included application to homeless or severely mentally ill populations,<sup>14,15</sup> international settings,<sup>16</sup> and

in one study, following a disaster,<sup>17</sup> but CHWs have not previously been documented in the scientific literature as serving as members of a mental health treatment team in a post-disaster environment.

In this article, we explore: 1) the process and viability of using a community-based participatory approach to develop a framework and model for CHW and case manager mental health outreach as a complement to quality improvement training in collaborative care for depression in post-Katrina New Orleans; and 2) the feasibility of the model itself, as well as early responses to a training curriculum that was developed to operationalize the model. While the need for developing a mental health outreach model was jointly recognized by academic and community participants in early stages of the project we describe, we were uncertain of whether the community-based participatory approach would lead to an implementable model within the short time period required by the urgency of the postdisaster situation. We were also uncertain whether CHWs receiving relatively little training in mental health issues would find the outreach model and training applicable to their work. We report on the process of model development and early experiences with implementing a training program to

We report on the process of our mental health outreach model development and early experiences with implementing a training program to address these feasibility and potential effectiveness issues. address these feasibility and potential effectiveness issues.

## **METHODS**

Community-based participatory research (CBPR) approaches have been recommended to address health disparities,<sup>18</sup> particularly in groups with historical distrust in research and services.<sup>19</sup> This approach has been applied to mental health services research,<sup>20,21</sup> and was the basis for development of the participatory REACH NOLA partnership<sup>22,23</sup> that led the Mental Health Infrastructure and Training Project (MHIT).

### Training Development

Initiated in May 2008, MHIT aimed to address limitations in access and quality of mental health care for New Orleans area hurricane survivors by providing staff and administrators at social service and safety-net agencies with multi-day training seminars and follow-up technical support in evidencebased practices for treatment of depression and psychological trauma. Approximately 400 therapists, psychiatrists, primary care providers, care managers, administrators, CHWs, and case managers employed by 70 participating institutions attended team-focused sessions on implementation of collaborative care for depression that included: overview of the collaborative care model; implementing system change through structured quality improvement methods; improving care coordination and communication between clinical providers; strategies for assembling a collaborative care team; networking with other community providers; and quality improvement methodology.

Profession-specific collaborative care competencies were developed through: instruction of medication management principles for primary care providers; therapist training in administration of evidenced-based therapy; and care manager sessions on coordination of depression treatment.

The addition of CHWs as members of the collaborative care team required the development of a CHW-specific training curriculum and resources. A work group of community and academic MHIT project co-leads, and New Orleans-based CHWs engaged in a participatory, iterative process with the goal of developing a sustainable, culturally competent CHW training program for mental health outreach. Work group collaborators sought to: 1) be responsive to community needs and acknowledge community strengths; 2) be consistent with key components of the collaborative care model of chronic disease management<sup>24</sup> such as promoting evidence-based treatments, care coordination, and patient participation; 3) build on existing CHW models that address health disparities;<sup>25</sup> and 4) support CHW-patient engagement in nonclinical settings to contribute to patient education that results in an increase in the utilization of evidence-based screening tools, and to contribute to the referral of patients into treatment, which may be critical to bringing underserved populations into appropriate care.<sup>22</sup>

Sixty-two CHWs and case managers attended the first three MHIT training seminars held between July 2008 and February 2009. Trainers used didactic instruction, role-playing and discussion at Training 1 to demonstrate the use of depression screening tools and teach principles of community engagement; at this time participants and trainers identified a need for additional instruction to address more adequately community concerns. All participants in Trainings 1 through 3 were invited to contribute to a revised CHW mental health outreach curriculum by providing insights on community context and feedback on training materials and resources. The project team altered training topics, techniques, and materials in response to CHWs' goals and concerns.

All information presented at trainings was documented in a written manual and distributed with a CD of resources and a client education DVD. CHWs received a book on depression education and treatment options, including collaborative care<sup>26</sup> and community resource guides describing lowor no-cost social services resources to address client needs.

#### Partnered Working Group Qualitative Assessment

We conducted a qualitative review of CHW input into training development and responses to training and implementation using a partnered working group approach.<sup>27</sup> Data sets were reviewed by two-member work group teams, with each member independently reviewing the source material. We analyzed blinded data from all sources of CHW feedback that included: minutes taken during 20 CHWspecific breakout sessions during Trainings 1, 2, and 3; 12 MHIT project team weekly conference calls among academic and community partners including CHWs; three CHW support calls, in which academic partners provided CHWs with post-seminar technical assistance for implementation of outreach techniques and use of screening tools; 31 email strings from project team members, including CHWs; and five semi-structured telephone interviews of CHWs who participated in the training seminars and support calls.

A structured form was developed to record themes and text examples based on the analysis questions. Then team members together reviewed all documents to identify common and uncommon themes and associated citations. Authors integrated these summaries to reduce redundancies and clarify distinct themes.<sup>28</sup>

No financial incentives were offered to participants. Research procedures were found to be exempt from review by IRBs at RAND, Tulane University, and the University of Washington.

## RESULTS

Community input into training development is summarized in Table 1. CHWs revealed the following primary concerns: complex post-hurricane challenges; need for services for vulnerable populations; continuing stressors such as concern about future hurricanes; frustration with inability to satisfy clients' financial needs; difficulty responding to suicidal clients; and concern about existing community and agency capacity, resources, and infrastructure to support mental health services and referrals. CHWs and case managers reported strengths in the areas of trust-building with clients, knowledge of the community, and flexibility. Many CHWs described difficulty accommodating the stresses of being on the front line, facing personal recovery needs, and lacking time or resources to get help for personal recovery. CHWs requested instruction in self-care techniques to cope with personal and workrelated stress.

Table 2 summarizes findings concerning CHW responses to the training. The CHWs generally offered positive feedback on the training content and valued both guided role playing and follow-up support calls. They reported using PHQ-2<sup>29</sup> and PHQ-9<sup>30</sup> screening questionnaires. To increase community acceptability, some rephrased screening questions to include colloquial language, or they incorporated screening questions into informal conversations. Although most CHWs were familiar with employers' existing privacy policies, some CHWs identified confidentiality/HIPAA training as useful particularly role playing the application of policy and tools. Training in problem-solving skills and behavioral activation support was novel for most CHWs, and use of these techniques was noted in follow-up support calls. CHWs offered specific suggestions for improvement of training and materials such as inclusion of additional role-playing sessions, emphasizing cultural competence and networking, simplifying the case registry form, and integrating training for CHWs and therapists. CHWs identified a number of challenges to conducting outreach and client follow-up, including difficulty of reaching clients, stigma, lack of community infrastructure, job conditions, and barriers to collaboration. Training participants acknowledged five types of positive training impact: increased delivery of highquality care, improved networking opportunities, increased respect for providers, assistance with continuing education requirements, and increased hope for community mental health recovery.

The final CHW training curriculum contained modules that covered: overview of depression and PTSD; techniques for building trust with clients; instruction in use of PHQ-2 and PHQ-9 depression screening tools; community resources for referring depressed patients; skills for problem-solving and behavioral activation, which were adapted from psychotherapy trainings in other collaborative care initiatives; selfcare for community health workers; community education techniques; and tools for tracking client services and outcomes.

## DISCUSSION

This project aimed to expand the implementation of collaborative care for depression through a community-partnered, participatory approach to developing and evaluating a culturally appropriate mental health training program for CHWs and case managers in post-Katrina New Orleans. The effort integrated principles of collaborative care, CHW models for other health conditions, and participatory planning. The result, a program presented in a

Themes	Quotations
What are the needs of New Orleans residents?	
Multiple problems	"Most people before the storm could handle their issues, but afterwards, it was difficult to deal with because all the problems were adding up."
Difficulty of housing	"It's always housing issues."
Vulnerable populations and mental health issues	"There are a lot of scary things being noticed in the community in terms of children without parents in homes by themselves, people not able to find jobs and not having any hope for dealing with rebuilding issues, elderly folks living alone on dark streets with no relatives checking on them, children in desperate need of mental health interventions."
Suicidal clients	"Just talking to them straight out. Are you having thoughts of killing yourself? They want someone to listen to them, and are relieved that I brought it out."
	"I met a woman in the doctor's office who wanted to die."
Fit with agency scope	"They say 'I need this fixed' rather than accepting assistance." "75% of clients are hard to get a follow-through because what you are offering is not direct enough."
Continuing stressors	"We are back from (evacuation due to hurricane) Gustav and seeing people in the community centers and counseling offices whose needs have only increased."
How is mental health outreach currently conducted?	
Lack of mental health outreach programs	"There is nothing out there in the community that addresses the needs of mental health outreach workers."
Knowledge of local needs	"History of serving low-income and/or African-American populations of post-disaster Greater New Orleans area."
Engage in client's story	"I want to hear your story, tell me what you're experiencing."
Support without enabling	"There is a thin line between empowering and enabling."
Faith-based support	"I had to go to the Bible." "I pray with them."
Build trust	"We deal with building the trust of community folks to work with them."
Flexible style	"Let people know that we are here for them and won't abandon them." "Need to be flexible in terms of meeting people on their own terms."
What do CHWs and community-based organizations need to address stress and depression in New Orleans?	
Resources/staff	"Get so many (clients) that you become overwhelmed."
	"Clients are responding, but would respond better if we weren't standing on someone's porch going door to door."
	"A place we can refer our clients—that's our big need as case management."
Funds for medication	"One of the major problems we have is funds for medication."
Self-care/personal treatment	"You need to treat yourself as a patient."
	"Discussion of having recently trained counselor run support group for outreach workers for mutual benefit."
Integrate into existing programs	"Work with other programs—nutrition for high school students, encourage exercise and healthy habits."
Agency capacity and accountability	"The vast majority of those agencies are not doing what they say they are doing; lack of direction; no enforcement mechanisms."

#### Table 1. Community input into development of community health worker training program

training manual<sup>31</sup> is itself an important addition to the public mental health field, building on prior documented approaches.<sup>32</sup> Early feedback suggests that CHW participation in post-disaster mental health outreach may bolster community resilience by increasing interagency collaboration, building trust, and alleviating mental healthassociated stigma.

Data from the partnered evaluation of the program suggest that the two-way

knowledge exchange between community and academic partners enabled the development of a community-relevant program informed by experts in local context. We were encouraged that a participatory model was effective in supporting program development in a short time period, and for a stigmatized issue in the context of a historically underserved community following a major disaster. Consistent with participatory research principles, it was possible to develop awareness of the many challenges for the population and environment post-disaster, while maintaining an asset-based approach that supported hope in participants.<sup>21</sup>

The data suggested a positive overall response to training and desire for additional information in problem-solving therapy and PTSD. Participants valued confidentiality training. Depression screening was implemented by many participants and was often report-

wouldn't have as much knowledge on a particular subject."         "The role-playing on how to deal with difficult clients was very interesting."         What components are CHWs using?         PFQ 2 and PFQ-9: Strategies for use of         "Several of our workers have used the PFQ-2."         "Several of an workers have used the PFQ-2."         "Paraphresing sceneming items), so we could understand each other."         "Suggest they go to a clinic because I don't want them to say is laid they have 'such and is who they eave and a hard they was and then ask the questions and preser options."         Confidentiality materials were helpful, especially HIPAA laws?         Ethorional activation       "Ethoffy man who develops a plan to get off hus one block carly to return to exercise, better; then gets of 2 blocks early and runs into a frend."         How can CHW training and support materials be improved?       "The form is too long, break it down. Some questions need to be eliminated."         Woard optence       "Spanish version or simplifier devesion for folly develops and a practice sesion is very helpful."         Woar relationship building       "Needs to be a greater effort to get them all to talk. Have everybody exchange phone nur and have the challenges associated with implementing were elaptical distinction between courselforts."         What are the challenges associated with implementing the optical service."       "You created an artificial distinction between courselforts."         What are the challenges associated with implemention."       "Reluctance to cal	Themes	Quotations
wouldn't have as much knowledge on a particular subject." "The role-playing on how to deal with difficult clients was very interesting." What components are CHWs using? PHQ-2 and PHQ-9: Strategies for use of "Several of our workers have used the PHQ-2." "Several of our workers have used on the maximum of the phane several of our workers have used on the output of the phane several of our workers on simplified version of rollybic version or simplified version for folks while we doucation." "Worker the phane "Several have used for more practice or commonity-oriented approach and Language." What are the challenges associated with implementing the CHW role" "Control theories in merial health inderverse or courseling and outreach workers." "United hoopial service." "United heart for to get them used the year." "United heart for to get them used the year." "United hoopial service." "United hoopial service." "United hoopial service." "United hoopial service	What did CHWs think of the training and materials?	
PHQ2 and PHQ-9: Strategies for use of       "Several of our workers have used the PHQ-2."         screening and referral resources       "Paraphrasing forcening items), so we could understand each other."         "1's soggest they go to a clinic because 1 don' want them to say 1 said they have 'such and s When they come back 1 ask about the visit and them ask the questions and preser options."         Confidentiality tools       "Confidentiality materials were helpful, especially HIPA laws"         Elevision and support materials       "Elevision may who develops a plan to get of bus one block early to return to exercise, better; then gets off 2 blocks early and runs into a friend."         How can CHW training and support materials       "The form is too long break it down. Some questions need to be eliminated."         Wore role playing       "The form is too long break it down. Some questions need longuage."         More relationship building       "Needs to be a greater effort to get them all to talk. Have everybody exchange phone nur and have some conversations."         Therapy for CHWs       "Having recently trained counselor run support group for outreach worker."         "Your created an artificial distinction between counseling and outreach piece, that didn't (for our needs in mental health agency)."         What are the challenges associated with implementing the CHW role?       "Counseling and outreach piece, that didn't (for our needs in mental health agency)."         What are the challenges associated with implementing the CHW role?       "Coundition is."         Callent	Informative	
screening and referal resources "Paraphrasing iscreening items), so we could understand deach other." "I suggest they go to a clinic because I dor't want them to say I asid they have such and s When they come back I ask about the visit and them ask the questions and preser options." Confidentiality notes "Confidentiality materials were helpful, especially HIPA have". "Edelow may be developes a plan to get of thes one block carly to return to exercise, better; then gets off 2 blocks early and runs into a friend."" Would like a more community-oriented approach and language." "Voudel like a more community-oriented approach and language." "Would like a more community-oriented approach and language." "Veople need more practice and a practice session is very helpful." "Nore relationship building "Neede to be a greater effort to get them all to alk. Have everybody exchange phone nur and have some conversations." "Having recently trained coursefor to uspect or uspace to use of the some theore," "Usuals have some conversations." "Having recently trained coursefor to uspect may and outreach workers." "Lintegt for CHWs "Nou created an artificial distinction between courseling and outreach workers." "Lintegt with courseling skills "You created an artificial distinction between courseling and outreach piece, that didn't (for our needs in mental health agency)." What are the challenges associated with implementing the CHW role? Community infrastructure "Reluctance to call police because of the way they handle it sometimes." "Using wait for buses." "Veople don't want to go to care." "When the try to get populo to accept some responsibility, people get upset with us and a us to find force." "When the try to get populoes." "When the try to get populoes." "When the try to get populoes." "Using wait to buse so the care." "When the try to get populoes." "When the try to get populoes." "Using wait huppes: "Carth me internetiationships within and between agencies." "Dot have the internetationships within and between agencies." "Dot	What components are CHWs using?	
"1 suggest they go to a clinic because I don't want them to say I said they have 'such and's         "Confidentiality tools         Behavioral activation         "Confidentiality activation         "Elderly man who develops a plan to get off bus one block early to return to exercise, better; then gets off 2 blocks early and runs into a friend."         How can CHW training and support materials         be improved?         Case registry         Cultural competence         "Notal like a more community-oriented approach and language."         "Receipt need more practice and a paratice session is very helpful."         More role playing       "Needs to be a greater effort to get them all to talk. Have everybody exchange phone nur and have some conversations."         Therapy for CHWs       "Having recently trained counselor run support group for outreach workers."         "You all like a more community-oriented approach workers."       "You all distinct to between counseling and outreach piece, that didn't (for our needs in mental health agency)."         What are the challenges associated with implementing wet for buses."       "You all essistance."         "Using wet for buses."       "You and there if you can't differ."         Client resistance and denial       "Weeg the t''m not crazy.""         "What are the challenges associated with implementing with multiple issues—health is last."         "Prophe don't want to go to care."         "Whee	PHQ-2 and PHQ-9: Strategies for use of	"Several of our workers have used the PHQ-2."
Behavioral activation       "Elderly man who develops a plan to get of fus one block early to return to exercise, better; then gets off 2 blocks early and runs into a friend."         How can CHW training and support materials be improved?       better; then gets off 2 blocks early and runs into a friend."         Cultural competence       "Spanish version or simplified version for folks with low education."         "Would like a more community-oriented approach and language."       "Would like a more community-oriented approach and language."         More role playing       "People need more practice and a practice sesion is very helpful."         More role playing       "Needes to be a greater effort to get them all to talk. Have everybody exchange phone nur and have some conversations."         Therapy for CHWs       "Having recently trained counselor run support group for outreach workers."         Integrate with counseling skills       "You created an artificial distinction between counseling and outreach piece, that didn't (for our needs in mental health agency)."         What are the challenges associated with implementing infrastructure       "Reluctance to call police because of the way they handle it sometimes."         "Unreach workers."       "Gonial issues."       "Gonial issues."         Client resistance and denial       "We get the 'fm not craz,"       "People don't want to go to care."         "People don't want to go to care."       "Problems on top of problems."       "Ghaving meenenehabit is last."         Ide conditions </td <td>screening and referral resources</td> <td>"I suggest they go to a clinic because I don't want them to say I said they have 'such and such." When they come back I ask about the visit and then ask the questions and present the</td>	screening and referral resources	"I suggest they go to a clinic because I don't want them to say I said they have 'such and such." When they come back I ask about the visit and then ask the questions and present the
be improved?         Case registry       "The form is too long, break it down. Some questions need to be eliminated."         Case registry       "Spanish version or simplified version for folks with low education."         More role playing       "People need more practice and a practice session is very helpful."         More relationship building       "Needs to be a greater effort to get them all to talk. Have everybody exchange phone nur and have some conversations."         Therapy for CHWs       "Having recently trained counselor run support group for outreach workers."         What are the challenges associated with implementing the CHW role?       "Reluctance to call police because of the way they handle it sometimes."         Community infrastructure       "Reluctance to call police because of the way they handle it sometimes."         "Umited hospital services."       "Dong wait for buses."         "United hospital services."       "Umed to files."         "Uppel don't want to go to care."       "When we try to get poople to accept some responsibility, people get upset with us and r us to follow with office."         Hard-to-reach clients and clients with complex issue       "Work force too small, pay too little."         Job conditions       "Work force too small, pay too little."         When I called her the following week, have not been able to get through."       "Sill trying to collaboration"         "Work force too small, pay too little."       "Oner half with torelevelow."		"Elderly man who develops a plan to get off bus one block early to return to exercise, feels
Cultural competence "Spanish version or simplified version folks with low education." Would like a more community-oriented approach and language." Wore role playing "People need more practice assion is very helpful." More relationship building and have some conversations." Therapy for CHWs "Having recently trained counselor run support group for outreach workers." Integrate with counseling skills "You created an artificial distinction between counseling and outreach piece, that didn't (for our needs in mental health agency)." What are the challenges associated with implementing the CHW role? Community infrastructure "Reluctance to call police because of the way they handle it sometimes." Linited hospital services." Client resistance and denial "We get the 'I'm not crazy." 'Denial issues." Hard-to-reach clients and clients with complex issues "Catch me if you can' clients." Agency relationships and provider collaboration "Work force to osmall, pay to little." 'Management is not on the same page." What is the early impact? Hope "It gives us all hopeIt's good that you started that process." What is the early impact? Hope Certification Server environ former." We increased case of getting help for use are environ." Certification Server environ former." ''Leinsted hospital services." ''Leinsted hospital services." Certification Server environ former.'' ''We increased ease of getting help for the agences.'' ''You create the following week, have not been able to get through.'' ''You force to osmall, pay too little.'' ''Management is not on the same page.'' ''Don't have the interrelationships with and between agencies.'' ''We increased ease of getting help for during with other agencies.'' ''We increased ease of getting help for during with other agencies.'' ''We increased ease of getting help for during with other agencies.'' ''Wo is the early impact? Hope ''It gives us all hopet's good that you started that process.'' ''We increased ease of getting help for during.'' ''We increased ease of getting help for durin	° 11	
More role playing       "People need more practice and a practice session is very helpful."         More relationship building       "Needs to be a greater effort to get them all to talk. Have everybody exchange phone nur and have some conversations."         Therapy for CHWs       "Having recently trained counselor nur support group for outreach workers."         Integrate with counseling skills       "You created an artificial distinction between counseling and outreach piece, that didn't (for our needs in mental health agency)."         What are the challenges associated with implementing the CHW role?       "Reluctance to call police because of the way they handle it sometimes."         Community infrastructure       "Reluctance to call police because of the way they handle it sometimes."         "Umited hospital services."       "Denial issues."         "Umited hospital services."       "Denial issues."         Client resistance and denial       "We get the 'Im not crazy.""         Hard-to-reach clients and clients with complex issues       "Cath me if you car' (lients."         "When we try to get people to accept some responsibility, people get upset with us and r us to the front office."       "The read family to follow-up with leddery."         Job conditions       "Cath me if you car' (lients."       "When leddery."         "When we try to get people to accept some responsibility, people get upset with us and r us to the front office."       "The root family to follow-up with leddery."         "Out the the following		"Spanish version or simplified version for folks with low education."
Therapy for CHWs       "Having recently trained counselor run support group for outreach workers."         Integrate with counseling skills       "You created an artificial distinction between counseling and outreach piece, that didn't (for our needs in mental health agency)."         What are the challenges associated with implementing the CHW role?       "Reluctance to call police because of the way they handle it sometimes."         Community infrastructure       "Reluctance to call police because of the way they handle it sometimes."         Client resistance and denial       "We get the 1'm not crazy.""         "Denial issues."       "People don't want to go to care."         "When we try to get people to accept some responsibility, people get upset with us and r us to the front office."         Hard-to-reach clients and clients with complex issues       "Catch me if you can' clients."         When I called here the following week, have not been able to get through."       "Try to reach family to follow-up with elderly."         Job conditions       "Work force to small, pay too little."       "Management is not on the same page."         Agency relationships and provider collaboration       "Toy tor reach workers could work more closely with providers, churches."         What is the early impact?       "It gives us all hopeIt's good that you started that proces."         Myria to the early impact?       "The most important thing is that we stay in touch to make sure we are working on the basis so we can all help each other."		"People need more practice and a practice session is very helpful." "Needs to be a greater effort to get them all to talk. Have everybody exchange phone numbers
Integrate with counseling skills "You created an artificial distinction between counseling and outreach piece, that didn't (for our needs in mental health agency)." What are the challenges associated with implementing the CHW role? Community infrastructure "Reluctance to call police because of the way they handle it sometimes." 'Limited hospital services." Client resistance and denial "We get the 'I'm not crazy.'" 'Denial issues." Client resistance and clients with complex issues "'Reople don't want to go to care.'' 'When we try to get people to accept some responsibility, people get upset with us and r us to the front office.'' I'm to reach family to follow-up with elderly.'' 'Clients dealing with multiple issues—health is last.'' ''Try to reach family to follow-up with elderly.'' Agency relationships and provider collaboration '' What is the early impact? Hope ''It gives us all hopeIt's good that you started that process.'' What is the early impact? Hope ''It gives us all hopeIt's good that you started that process.'' ''Do a resource network of mental health and rehabilitation providers. That would be a service you could do.'' Certification ''Our agency pre-Katrina, failed joint Commission because we did not do this. They will lo see if you have thing like this in your program.''	Therapy for CHWs	
implementing the ČHW role?Community infrastructure''Reluctance to call police because of the way they handle it sometimes.'' ''Limited hospital services.'' ''Long wait for buses.'' ''Denial issues.'' ''People don't want to go to care.'' ''People don't want to go to care.'' ''People don't want to go to care.'' ''When we try to get people to accept some responsibility, people get upset with us and r us to the front office.'' ''Try to reach family to follow-up with elderly.'' ''Cleints dealing with multiple issues.'' ''Poople don't want to go to care.'' ''When we try to get people to accept some responsibility, people get upset with us and r us to the front office.'' ''Try to reach family to follow-up with elderly.'' ''Try to reach family to follow-up with elderly.'' ''Visit so dealing with nultiple issues.'' ''Still trying to collaborate to the same page.'' ''Still trying to collaborate (to find a) place we can refer our clients.'' ''Outreach workers could work more closely with providers, churches.'' '''Still trying to response to most important thing is that we stay in touch to make sure we are working on the basis so we can all help each other.'' ''We increased ease of getting help for clients, working with other agencies.'' ''Do a resource network of mental health and rehabilitation providers. That would be a service you could do.'' ''Do		"You created an artificial distinction between counseling and outreach piece, that didn't work
''Limited hospital services.'' ''Long wait for buses.'' ''Long wait for buses.'' ''Denial issues.'' ''Denial issues.'' ''Denial issues.'' ''People don't want to go to care.'' ''When we try to get people to accept some responsibility, people get upset with us and r us to the front office.'' ''When we try to get people to accept some responsibility, people get upset with us and r us to the front office.'' ''When we try to get people to accept some responsibility, people get upset with us and r us to the front office.'' '''Uto reach family to follow-up with elderly.'' '''Clients dealing with multiple issues—health is last.'' ''''Problems on top of problems.'' '''Wanagement is not on the same page.'' ''''Management is not on the same page.'' ''''''''''''''''''''''''''''''''''''		
Client resistance and denial       "We get the 1'm not crazy.""         "Denial issues."       "People don't want to go to care."         "When we try to get people to accept some responsibility, people get upset with us and r us to the front office."       "Catch me if you can' clients."         Hard-to-reach clients and clients with complex issues       "Catch me if you can' clients."       "Catch me if you can' clients."         Job conditions       "Work force to small, pay too little."       "Monagement is not on the same page."         Agency relationships and provider collaboration       "Don't have the interrelationships within and between agencies."         What is the early impact?       "It gives us all hopeIt's god that you started that process."         Hope       "It gives us all hope each other."         "We increased ease of getting help for clients, working with other agencies."         "Ou a sesource network of mental health and rehabilitation providers. That would be a service you could do."         Certification       "Our agency pre-Katrina, failed Joint Commission because we did not do this. They will lo see if you have things like this in your program."	Community infrastructure	"Limited hospital services."
Hard-to-reach clients and clients with complex issuesus to the front office.""Catch me if you can' clients.""Catch me if you can' clients.""When I called her the following week, have not been able to get through.""Try to reach family to follow-up with elderly.""Ob conditions"When I called her the following week, have not been able to get through."Job conditions"Work force too small, pay too little."Agency relationships and provider collaboration"Work force too small, pay too little.""Management is not on the same page.""Don't have the interrelationships within and between agencies.""Youtreach workers could work more closely with providers, churches.""Wureach workers could work more closely with providers, churches."What is the early impact?"It gives us all hopeIt's good that you started that process."Networking"It gives us all help each other.""We increased ease of getting help for clients, working with other agencies.""Do a resource network of mental health and rehabilitation providers. That would be a service you could do.""Our agency pre-Katina, failed Joint Commission because we did not do this. They will lo see if you have things like this in your program."	Client resistance and denial	"We get the 'I'm not crazy."" "Denial issues."
Job conditions"Work force too small, pay too little."Agency relationships and provider collaboration"Work force too small, pay too little."Agency relationships and provider collaboration"Don't have the interrelationships within and between agencies."What is the early impact?"Outreach workers could work more closely with providers, churches."What is the early impact?"It gives us all hopeIt's good that you started that process."Networking"It gives us all hopeIt's good that we stay in touch to make sure we are working on the basis so we can all help each other."We increased ease of getting help for clients, working with other agencies."Certification"Our agency pre-Katrina, failed Joint Commission because we did not do this. They will lo see if you have things like this in your program."	Hard-to-reach clients and clients with complex issues	us to the front office." "'Catch me if you can' clients." "When I called her the following week, have not been able to get through." "Try to reach family to follow-up with elderly." "Clients dealing with multiple issues—health is last."
Agency relationships and provider collaboration"Don't have the interrelationships within and between agencies.""Still trying to collaborate (to find a) place we can refer our clients.""Outreach workers could work more closely with providers, churches."What is the early impact?"It gives us all hopeIt's good that you started that process."Hope"It gives us all hopeIt's good that we stay in touch to make sure we are working on the basis so we can all help each other."We increased ease of getting help for clients, working with other agencies."Certification"Our agency pre-Katrina, failed Joint Commission because we did not do this. They will lo see if you have things like this in your program."	Job conditions	"Work force too small, pay too little."
Hope       "It gives us all hopeIt's good that you started that process."         Networking       "The most important thing is that we stay in touch to make sure we are working on the basis so we can all help each other."         "We increased ease of getting help for clients, working with other agencies."       "Do a resource network of mental health and rehabilitation providers. That would be a service you could do."         Certification       "Our agency pre-Katrina, failed Joint Commission because we did not do this. They will lo see if you have things like this in your program."	Agency relationships and provider collaboration	"Don't have the interrelationships within and between agencies." "Still trying to collaborate (to find a) place we can refer our clients."
Hope       "It gives us all hopeIt's good that you started that process."         Networking       "The most important thing is that we stay in touch to make sure we are working on the basis so we can all help each other."         "We increased ease of getting help for clients, working with other agencies."       "Do a resource network of mental health and rehabilitation providers. That would be a service you could do."         Certification       "Our agency pre-Katrina, failed Joint Commission because we did not do this. They will lo see if you have things like this in your program."	What is the early impact?	
basis so we can all help each other."         "We increased ease of getting help for clients, working with other agencies."         "Do a resource network of mental health and rehabilitation providers. That would be a service you could do."         Certification       "Our agency pre-Katrina, failed Joint Commission because we did not do this. They will lo see if you have things like this in your program."		"It gives us all hopeIt's good that you started that process."
Certification "Our agency pre-Katrina, failed Joint Commission because we did not do this. They will lo see if you have things like this in your program."	Networking	"We increased ease of getting help for clients, working with other agencies." "Do a resource network of mental health and rehabilitation providers. That would be a great
see if you have things like this in your program."	Certification	"Our agency pre-Katrina, failed Joint Commission because we did not do this. They will look to
	Improved quality and funding	see if you have things like this in your program." "Helps set our own standards, better opportunity to shine, clarify ourselves, and get more
Perception of providers "' "First time realized these providers want to do well."	Perception of providers	

### Table 2. Community health worker responses to training program

ed as acceptable in the community. Some adapted screening tool questions to increase cultural appropriateness, but these informal adaptations were not validated for reliability. Some CHWs noted resistance and difficulties with follow-up for referrals among those clients who screened positive for depression. CHWs requested enhanced focus on cultural competence, which was implemented in a training session after the data collection period. Additional CHW suggestions included adding information on managing severely mentally ill clients and addressing workplace safety concerns, both addressed in subsequent seminars. We found that the program instilled hope, offered networking opportunities, helped with continuing education requirements, and supported CHWs' commitments to improving the quality of their services

We found many challenges to implementation of mental health outreach practices, especially limited community capacity for service delivery, inadequate funding for CHWs, and social stigma of mental illness. We failed to generate consistent use of both web- and paperbased case registry tools designed to track client interactions and depression scores, as these tools were perceived as burdensome. CHWs expressed a strong need for personal assistance with recovery stressors and anxiety about future hurricanes. The participatory nature of the project allowed us to implement modifications in response to many of these concerns. Some challenges, such as environmental factors, could not be directly addressed by the CHW intervention, but generating awareness of them improved the ability of CHWs to anticipate client needs.

We were somewhat surprised that the most innovative feature of the program, orientation to problem solving and behavioral activation, reportedly led to early client successes, with one CHW using behavioral activation to assist a client in implementing a physical activity regimen, leading to increased social interaction and improved mood. This intervention may offer an important resource for underserved communities to address mental health disparities following major disasters, as a complement to implementation of collaborative care programs in healthcare settings.

In summary, we found that it was possible to use a community-partnered, participatory research approach to design, implement, and evaluate feasibility of a CHW mental health outreach training program built on evidence-based practices in post-disaster New Orleans. Preliminary data support the acceptability and feasibility of implementation of most components, including novel features such as behavioral activation. We recommend ongoing program development supported by community input, as well as a formal evaluation to determine effectiveness of the model. This intervention may offer an important resource for underserved communities to address mental health disparities following major disasters, as a complement to implementation of collaborative care programs in healthcare settings.

#### **ACKNOWLEDGMENTS**

This project was supported by NIMH Partnered Research Center for Quality Care, Award # P30MH082760 and NIH, Award # KL2 RR025015; Investigator: Vannoy; and by NIH Research Grant # P30MH068639 and P30MH082760 funded by the National Institute of Mental Health.

#### REFERENCES

1. Institute of Medicine. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Washington, DC: The National Academies Press; 2002.

- US Department of Health and Human Services, Office of the Surgeon General. Mental Health: Culture, Race and Ethnicity. A Supplement to Mental Health: A Report of the Surgeon General. Rockville, MD: USDHHS; 2001.
- Kessler RC, Galea S, Jones RT, Parker HA. Mental illness and suicidality after Hurricane Katrina. *B World Health Organ.* 2006;84: 930–939.
- Wang PS, Gruber MJ, Powers RE, et al. Mental health service use among hurricane Katrina survivors in the eight months after the disaster. *Psychiat Serv.* 2007;58:1403.
- Miranda J, Chung JY, Green BL, et al. Treating depression in predominantly lowincome young minority women: *JAMA*. 2003;290:57–65.
- Roy-Byrne PP, Craske MG, Stein MB, et al. A randomized effectiveness trial of cognitivebehavioral therapy and medication for primary care panic disorder. *Arch Gen Psychiat*. 2005;62:290–298.
- Unutzer J, Katon W, Callahan CM, et al. Collaborative care management of late-life depression in the primary care setting: A randomized controlled trial. *JAMA*. 2002;288: 2836–2845.
- Wells K, Sherbourne C, Schoenbaum M, et al. Five-year impact of quality improvement for depression: Results of a group-level randomized. Arch Gen Psychiat. 2004;61:378– 386.
- Hogan MF. Public sector mental health care: new challenges. *Health Affairs*. 1999;18:106– 111.
- Dossett D, Fuentes S, Klap R, Wells K. Obstacles and opportunities for providing mental health services through a faith-based network in Los Angeles. *Psychiat Serv.* 2005;56:206–208.
- U S Department of Health and Human Services, Health Resources and Services Administration. *Community Health Workers National Workforce Study.* 2007;Available at: ftp://ftp.hrsa.gov/bhpr/workforce/chw307. pdf. Last accessed February 1, 2010.
- Yun K, Lurie N, Hyde PS. Moving mental health into the disaster preparedness spotlight. *N Engl J Med.* 2010;363(13):1193–1195.
- Barrow B. Area's mental health much worse than before Katrina, experts say. The Times-Picayune. 2009;Available at: http://www.nola. com/health/index.ssf/2009/09/mt-preview-6b8ef7bb1a2a2a15481772d97881be860d3e1dc7. html. Last accessed February 1, 2010.
- Collins JA, Cavanaugh M. The paraprofessional II brief mental health training for the community health worker. *Hosp Community Psych.* 1971;22:367–370.

#### POST-KATRINA MENTAL HEALTH OUTREACH - Wennerstrom et al

- Dixon L, Stewart B, Krauss N, Robbins J, Hackman A, Lehman A. The participation of families of homeless persons with severe mental illness in an outreach intervention. *Community Ment Hlt J*. 1998;3:251–259.
- 16. Richards D, Bradshaw T, Maris H. Helping people with mental illness: A mental health training programme for community health workers. 2003;Available at: http://www.who. int/mental\_health/policy/en/Module%20A. pdf. Last accessed February1, 2010.
- Roy N, Shah H, Patel V, Bagalkote H. Surgical and psychosocial outcomes in the rural injured–a follow-up study of the 2001 earthquake victims. *Injury.* 2005;36:927–934.
- Institute of Medicine. Promoting Health: Intervention Strategies from Social and Behavioral Research. Washington, DC: National Academy Press; 2000.
- Whaley A. Cultural mistrust and mental health services for African Americans: A review and meta-analysis. J Couns Psychol. 2001;29:513–531.
- Bluthenthal RN, Jones L, Fackler-Lowrie N, et al. Witness for Wellness: preliminary findings from a community-academic participatory

research mental health initiative. *Ethn Dis.* 2006;16(suppl 1):S1-18-34.

- Jones L, Wells KB. Strategies for academic and clinician engagement in community-participatory partnered research. *JAMA*. 2007;297: 407–410.
- Springgate B. Down in New Orleans. *Health* Aff (Millwood). 2007;26:1426–1430.
- Springgate B, Allen C, Jones C, et al. Rapid community participatory assessment of health care in post-storm New Orleans. *Am J Prev Med.* 2009;37:S237–S243.
- Wagner EH, Austin BT, Von Korff M. Organizing care for patients with chronic illness. *Milbank Quarterly*. 1996;74:511– 544.
- Jackson EJ, Parks CP. Recruitment and training issues from selected lay health advisor programs among African Americans: A 20year perspective. *Health Educ Behav.* 1997;24:-418–431.
- Jackson-Triche M, Minnium K, Wells KB. *Beating Depression: Journey to Hope*. New York, NY: McGraw-Hill; 2002.

- Guest G, MacQueen KM. Handbook for Team-based Qualitative Research. Lanham, Md: AltaMira Press; 2008.
- Ryan G, Bernard HR. Techniques to identify themes. *Field Methods*. 2003;15:85–109.
- Kroenke K, Spitzer RL, Williams JB. Patient health questionnaire-2: Validity of a two-item depression screener. *Med Care.* 2003;41: 1284–1292.
- Kroenke K, Sptizer RL, Williams JB. PHQ-9: Validity of a brief depression severity measure. *J Gen Intern Med.* 2001;16:603–613.
- The Mental Health Infrastructure and Training Project. Mental Health Outreach: Guidelines & Resources for Community Health Workers. 2009; Available at: http://reachnola.org/pdfs/ reachnolamentalhealthoutreachmanual2009. pdf. Last accessed August 31, 2010.
- Reinschmidt KM, Chong J. SONRISA: A Curriculum Toolbox for Promotores to Address Mental Health and Diabetes. 2007;Available at http://www.cdc.gov/pcd/issues/2007/oct/ 07\_0021.htm. Last accessed December 2, 2009.