Published in final edited form as:

J Empir Res Hum Res Ethics. 2015 February ; 10(1): 3–12. doi:10.1177/1556264614561959.

Increasing Research Literacy: The Community Research Fellows Training Program

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Abstract

The Community Research Fellows Training (CRFT) Program promotes the role of underserved populations in research by enhancing the capacity for community-based participatory research (CBPR). CRFT consists of 12 didactic training sessions and 3 experiential workshops intended to train community members in research methods and evidence-based public health. The training (a) promotes partnerships between community members and academic researchers, (b) enhances community knowledge of public health research, and (c) trains community members to become critical consumers of research. Fifty community members participated in training sessions taught by multidisciplinary faculty. Forty-five (90%) participants completed the program. Findings demonstrate that the training increased awareness of health disparities, research knowledge, and the capacity to use CBPR as a tool to address disparities.

Keywords

community-based participatory research; public health training; research literacy; evidence-based public health; academic–community partnership; health disparities

Community-based participatory research (CBPR) has been shown to be effective in addressing issues of marginalization and mistrust among underserved communities. CBPR is intended to bring together researchers and communities to establish trust, share power, foster co-learning, enhance strengths and resources, build capacity, and examine and address community-identified needs and health problems (Israel, Eng, Schulz, & Parker, 2005). It is suggested that engaging these communities as partners in the research process, which is often the missing link to improving the quality and outcomes of health promotion activities, disease prevention initiatives and research studies is the mechanism by which CBPR achieves its outcomes (Minkler, 2004; Minkler & Wallerstein, 2003).

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Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

It is important to recognize that CBPR is meant not only to include community members in research but that CBPR also assumes a commitment to training community members in research (Wallerstein & Duran, 2006). Despite this principle, a systematic review of CBPR clinical trials involving racial and ethnic minorities found that while the majority of CBPR studies reported community involvement in identifying study questions, recruitment efforts, development and delivery of the intervention, and data collection methods, very few studies involved the community in the interpretation of research findings or in efforts to disseminate findings (De Las Nueces, Hacker, DiGirolamo, & Hicks, 2012). A possible explanation for this may be due to differences in research knowledge, limited resources, and capacity for academic partners to teach community partners the skills needed to participate as full partners in the final phases of the research process.

To date, there has been little work exploring ways to address barriers to full participation in CBPR among community members. CBPR is dependent on partnerships, yet the skills and methods needed to develop and maintain these research partnerships are not often explored (Israel et al., 2005). One research training program developed at an academic health center found the program to be a useful and effective method for increasing academic–community partnerships for health and building research capacity for community members (Crosby, Parr, Smith, & Mitchell, 2013).

We discuss a potential model for enhancing partnerships and collaborations between academic and community partners wishing to engage in CBPR. A public health training program that prepares community members for collaborative work with academic researchers and empowers them to act as equal partners in the research process has been proposed (Robson, 2002; Tandon et al., 2007). The current model was originally developed as part of the Community Alliance for Research Empowering Social Change (CARES) program and implemented in 2009 in Long Island, New York. (Goodman, Johnson Dias, & Stafford, 2010). The CARES training was tailored to be region specific and culturally competent for the strengths and challenges in the Long Island community; results indicated that the training was successful, useful, and impactful (Goodman et al., 2010; Goodman, Si, Stafford, Obasohan, & Mchunguzi, 2012; Goodman et al., 2014).

In 2013, the Community Research Fellows Training (CRFT) was adapted from the CARES program and implemented in the metropolitan region of St. Louis, Missouri. Health disparities between African Americans and Whites have persisted in the St. Louis region for decades. Seventy-two percent of African Americans live in segregated St. Louis communities (Goodman & Gilbert, 2013); residential segregation is one of the many causes of disparities in health between Whites and African Americans (Landrine & Corral, 2009; Osypuk & Acevedo-Garcia, 2008; Wilkes & Iceland, 2004). African Americans are three times more likely to fall below the poverty level compared with Whites and the unemployment rate is double that of Whites (Morenoff et al., 2007; Schootman et al., 2007; Schootman & Yun, 2009; Missouri Foundation for Health, 2013), which indicates an experience of social determinants implicated in health disparities. Illustrative of persistent health disparities, African Americans have higher rates of infectious and chronic diseases and avoidable hospital admissions and are more likely to be diagnosed at later stages of diseases (Missouri Foundation for Health, 2013).

CRFT is a pilot project of the Program to Eliminate Cancer Disparities (PECaD) at Washington University in St. Louis School of Medicine and Siteman Cancer Center. The CRFT program is an academic–community research partnership implemented to create a network of researchers, community-based organizations, and community stakeholders that can work collaboratively to improve minority health and eliminate racial and ethnic health disparities in the St. Louis metropolitan region.

Method

Program Description

The CRFT program is a public health lecture series designed to train community members in public health research methods and evidence-based public health. The training promotes the role of underserved populations in research by enhancing the capacity for CBPR. The program was designed to (a) promote partnerships between community members and academic researchers, (b) enhance community members' understanding of how to use research to improve health outcomes in their communities, and (c) train community members to become critical consumers of research. The overall goal of the program was to equip community members with the tools and resources to examine and address health disparities that exist among communities of color and medically underserved populations in the region. The CRFT project team consisted of the principal investigator and project manager at the Washington University School of Medicine (WUSM), the CEO of a local nonprofit aimed at providing accessible and affordable health care (community mentor), and a professor of Social Work and Public Health with expertise in CBPR and health disparities (academic mentor). All CRFT Project team members were African American females. A Community Advisory Board (CAB) was also established to lead the development of the CRFT program.

The CRFT program was formatted as a comprehensive 15-week evidence-based public health research course. The curriculum was adapted from the CARES curriculum which was developed based on a standard Masters of Public Health curriculum. Each session was a condensed, 3-hour version of an MPH course. Topics included research methods, health disparities, library resources, cultural competency, qualitative and quantitative research methods, ethics, program evaluation, and grant writing.

Nonhuman subjects research designation was given to the CRFT project by the Human Research Protection Office (Institutional Review Board) at WUSM because it is not considered research, rather program evaluation.

CAB—To ensure the CRFT program was tailored to address the unique needs and challenges that are specific to the St. Louis region, a CAB, composed of nine selected community health stakeholders in the local St. Louis region, was established. The CRFT CAB members were composed of two African American males and seven African American females and represented various sectors, including government, community, social, faith, and philanthropy. CABs provide an infrastructure for needs and concerns of the community that otherwise might not be voiced or included in the academic research agenda (Newman et al., 2011). CABs ensure research processes are respectful and acceptable to the community

and research has shown their effectiveness in building mutually beneficial partnerships between academic researchers and communities (Newman et al., 2011). The CRFT CAB members worked in collaboration with the CRFT project team, making collective decisions about the CRFT program. The CAB's primary functions were to (a) provide guidance and advice on the program design, implementation, and evaluation; (b) provide input and resources for CRFT activities; (c) assist with recruitment strategies and selection of participants; (d) development of the CRFT Request for Proposals (RFP) and selection of pilot projects; (e) identify funding sources for program sustainability; and (f) promote community support for and involvement with the CRFT program. The CAB met on a monthly basis from October 2012 to May 2013 and transitioned to quarterly meetings after May.

Recruitment and selection of participants—The target audience for the CRFT program were individuals who currently worked in community health and/or had a desire to improve public health in their community. The CRFT CAB provided guidance on recruitment strategies including advertisements in newspapers focused on minority populations in the region and discussions on local radio talk shows. Every attempt was made to develop all recruitment materials using everyday conversational language. Recruitment lasted 4 months, during which, two informational sessions were held to discuss program details in-depth and allow community members the opportunity to have questions answered. The application process for prospective fellows required submission of an application (online or paper), résumé, and two letters of recommendation (one personal and one professional). To ensure the application process was not a barrier to participation, résumé and reference letter templates were developed and given to potential applicants with the application materials. Project staff assisted with any application questions. Applicants were evaluated on 13 application criteria, scored as “Exceeds,” “Meets,” or “Limited,” as well as résumés and reference letters. Each application was evaluated by three reviewers. In total, 62 applications were submitted, of which 55 were complete and considered for further review. The project team accepted 50 applicants into the program, and 5 were placed on a waitlist. Three participants withdrew their applications, allowing three participants on the waitlist to be accepted into the program.

Table 1 displays the demographic characteristics of the CRFT cohort. The majority of the 50 CRFT fellows were female (86%) and ranged in age from 45 to 64 (64%), with a mean age of 51. Forty-four (88%) were African American, and six were Caucasian (12%). Over half of the fellows had a graduate degree (54%), and 30% had a 2-year degree or some college coursework. Of those with graduate degrees, 35% were nursing degrees and 15% social work degrees. Twenty-eight percent of the fellows self-identified as a community member, and 42% were employees of a community-based organization or a healthcare worker. The fellows lived in 34 unique zip codes across the St. Louis region.

CRFT faculty—The CRFT faculty members were selected and recruited by the principal investigator and chosen based on their expertise in the field of public health, as well as their reputations for working in community health and utilizing CBPR principles within their work. The CRFT faculty was a diverse group of 17 multidisciplinary community leaders and

academics at Washington University in St. Louis and Saint Louis University from the fields of public health, social work, biostatistics, medicine, community health, and epidemiology.

Training format and activities—Once the full cohort of fellows was chosen and they agreed to participate, a survey was emailed requesting their availability. The day and time of the classes were selected based on survey responses. Before the first class, there was an orientation session that provided participants with information on the CRFT project, including the rationale for the program's development, the curriculum that would be covered during each session and the goals and expectations. Participants were asked to sign a participant agreement, which required that participants not miss more than 2 of the 15 sessions.

The program consisted of 12 didactic training sessions and 3 experiential workshops. Table 2 displays the CRFT session topics, attendance rates, and homework assignments. (For an outline of the CRFT curriculum and objectives, see Online Supplement Table A1 at JRE.sagepub.com/supplemental.) In an effort to decrease barriers to participation, fellows were provided parking validation or public transportation vouchers, and refreshments were served at the beginning of each session. Classes were held on the WUSM campus, at a space newly designed to bring together diverse partners to address public health in the region and enhance partnerships with the community. The WUSM site allowed for ample space to accommodate the group of fellows and provided the opportunity to have break-out group activities and exercises.

Faculty members worked collectively with the CRFT project team to develop the training and evaluation materials for their respective sessions. All training materials, including handouts of lecture slides, articles, agendas, were distributed at each session, and the fellows were provided with three ring binder notebooks and tote bags to keep materials organized. Each training module consisted of a lecture presenting background information, including previously identified health concerns and issues, with a specific focus on communities in the region. Each training session also included small group exercises, facilitated by research assistants, allowing fellows the opportunity to work on case studies and other activities to better understand material presented in the lecture. Homework was assigned during the training to enhance understanding of material covered. In total, there were seven assignments, including a windshield survey, grocery store and community park audits, family history pedigree forms, cultural competency and racial composition self-assessments, a windshield survey feedback report, a photovoice project examining social capital, and a research methods questionnaire assigned during the first workshop to help fellows begin exploring research topics for pilot projects. Table 2 displays all homework assignments. As part of the training program, fellows were certified to conduct research with human subjects through 3 hr (two 90-min sessions) of in-person training with an Educational Specialist from the Human Research Protections office (Institutional Review Board) at WUSM.

The experiential workshops provided an opportunity for fellows to apply the skills learned from the training. The workshops involved fellows working together with CRFT faculty to plan a research proposal and develop grant writing skills. Sessions on the history of health

care in St. Louis and family health history/genetic counseling were presented as well based on fellows' request.

An important component of the CRFT program involved the opportunity for fellows to form small groups and work collaboratively with CRFT faculty members to develop their own pilot projects. During Session 10, an RFP was given out to fund small CBPR pilot projects. To apply for funding, it required that fellows complete the training, projects be a collaboration between a group of 3 to 7 fellows and a CRFT faculty member, feasible to complete within 6 month, and related to the following seven priority areas aligned with the PECaD mission to reduce cancer disparities: community health, minority health, social capital, health policy, health literacy, environmental health, and chronic disease prevention. To encourage fellows to work collaboratively in teams, a budget of US\$500 was allowed for each fellow on a research team, and fellows were able to pool their funding for one research project, resulting in a budget between US\$1,500 and US\$3,500 depending on the number of fellows collaborating on the project.

To recognize the work, time, and effort that the fellows gave over the 15-week training, a certificate ceremony and reception was held to celebrate their accomplishments and success. Fellows were able to invite guests and were honored with certificates of completion for the CRFT program and human subjects research certification. CAB members were also recognized at the ceremony for their time and guidance. A reception was held after the event, with approximately 300 guests attending the ceremony and reception.

Evaluation of the CRFT Program

A comprehensive (formative and summative) mixed method (quantitative and qualitative) evaluation of the CRFT program was conducted to assess the fellows' increase in knowledge of public health research methods and satisfaction with the program. During the orientation session, a baseline assessment was administered. The questionnaire included 29-item open-ended items to measure fellows' existing knowledge of CRFT training topics, including quantitative and qualitative research methods, research ethics and the Institutional Review Board, CBPR, health policy, bio-banking, health literacy, and program evaluation (see Online Supplement Table A2, at JRE.sagepub.com/supplemental). There were nine demographic questions, including age, race, ethnicity, sex, zip code, country of origin, education level, high school attended, and employment status. The baseline assessment also included the Patient Trust in Medical Researchers scale (Mainous, Smith, Geesey, & Tilley, 2006), items pertaining to community engagement and community influence adapted from the Community Engaged Research Index and revised perceived control scale items: multiple levels of empowerment indices (Khodyakov et al., 2013; Minkler, 2005) and a verbally administered component that assessed health literacy using the Newest Vital Sign and the Rapid Assessment of Adult Literacy in Medicine (Davis et al., 1991; Davis, Michielutte, Askov, Williams, & Weiss, 1998; Murphy, Davis, Long, Jackson, & Decker, 1993; Weiss et al., 2005).

At each of the training sessions, a pre-test was administered in the beginning of the session and a post-test at the end of the session to assess whether the learning objectives of the session were met. At the end of each session, fellows also completed a session evaluation to

gain feedback on content and presenter(s) related likes and/or dislikes; these session evaluations were in a consistent format with six close-ended and four open-ended items for each presenter. Evaluation forms were anonymous but included four demographic questions (age, gender, race, education). A mid-training evaluation was administered after Session 6; the questionnaire included 15 closed- and 10 open-ended items that assessed satisfaction levels with the program and with the CRFT project team, assessed the level of community engagement using an investigator-created measure, and assessed health literacy with three self-reported items (Chew et al., 2008; Chew, Bradley, & Boyko, 2004). The final assessment and evaluation was administered during the final training session, this 54-item questionnaire included the same 29 open-ended assessment questions from the baseline and 25 new (17 closed and 8 open-ended) questions related to the training program.

The 29 opened-ended assessment questions from the baseline and final assessment were graded essentially correct (2 points), partially correct (1 point), and incorrect (0 points) by one grader using a rubric to ensure consistency; scores were number of points earned divided by the maximum 58. Participant scores from their session pre- and post-test are the percentage of questions that fellows answered correctly on each assessment and were graded using statistical software (Lyons & Goodman, 2013). Fellows' scores on their pre- and post-test and baseline and final assessments were linked; given the small sample size and paired nature of the data, Wilcoxon Signed-Rank Test was used to test for an increase in knowledge among the training cohort. SAS Statistical Software Version 9.3 was used to analyze the data; statistical significance is assessed at $p < .05$.

Based on CRFT CAB recommendation, in an effort to include multiple perspectives and understand strengths and weakness of all aspects of the training program, CRFT faculty were asked to participate in program evaluation. A web-based evaluation survey was administered to the CRFT faculty members to rate their experience after teaching a session. Faculty were asked whether they felt fellows were well prepared for that day's training session, whether fellows frequently took notes, whether fellows contributed to discussions and provided insightful and constructive comments, whether fellows asked insightful and constructive questions, and whether fellows listened attentively and seemed interested in presented material. These items were measured using a Likert-type scale, with 1 indicating "strongly disagree" and 5 indicating "strongly agree."

Results

Program Participation

Assessments indicated that fellows initially learned about the CRFT program through advertisements in the local newspaper (32%), received an email (20%), or heard an advertisement on the radio (14%). Fellows also reported that they received information via word of mouth (12%), which was likely through a CAB member. Forty-five fellows (90%) completed the CRFT training, and 44 fellows completed the human subject's certification. Attendance exceeded 85% for each of the 15 training sessions. Eight fellows (18%) had perfect attendance, 22 (49%) had one absence, 10 (22%) had 2 absences, and 5 (11%) had 3 absences; those with more than 2 absences completed a make-up homework assignment that excused an absence.

Baseline and Final Assessment Analysis

Fifty fellows completed the baseline assessment, and 44 completed the final assessment (88%). Among those who completed both the baseline and follow-up assessments, the median score on the baseline assessment was 18 points (36%), and the median score on the final assessment was 37 points (64%). Based on the Wilcoxon Signed-Rank test, median assessment scores increased by 28% on the final assessment compared with the baseline assessment; this difference is statistically significant ($p < .001$) demonstrating increased knowledge among program participants.

Pre-Test and Post-Test Analysis

Post-tests were higher than pre-tests scores for 10 of the 12 didactic training sessions. There were statistically significant increases in scores for four sessions: Epidemiology, CBPR, Research Ethics, and Qualitative Methods. Significant increases were found for the Research Methods session for those who had never taken a research course ($p = .0233$).

Participant Satisfaction

Responses from final assessments show that majority of fellows were satisfied with the logistics and structure of the training program. Nearly all of the fellows (93%) agreed that the training site was a convenient location for them and 97% were satisfied with the training facilities. Seventy-seven percent of fellows felt that the small group activities were helpful and beneficial. Eighty-eight percent of the fellows felt that the structure and format of the training sessions was beneficial and agreed that the timing of the training fit into their schedule. Fellows were also asked about the homework assignments, and 88% believed that the homework was useful, and 73% felt the homework prepared them to better understand the lecture material.

Responses from the open-ended final evaluation questions showed two recurring themes. One theme was that fellows would have liked more time for the training session. Many fellows suggested that the training be extended beyond 15 weeks and suggested some topics be covered in two sessions. This comment from a fellow summarizes the feelings of many of the fellows, "The training session could be longer to allow more time for content and discussion. Some of the topics needed more time." A second recurring theme from the final assessments showed that fellows felt this training has provided them with the tools to better understand the research process and how research can be used to change inequalities in their communities. One fellow stated, "The fellowship was an awesome experience and has provided a wealth of life changes for improving my community and teaching others." Another fellow stated, "I am more aware of the existing health disparities and lack of knowledge in poor communities. However, I have been given tools and I am equipped with knowledge and compassion to help make a positive difference."

Faculty Evaluation

CRFT faculty members were also asked to complete an evaluation about their experiences teaching in the program. The mean scores for survey questions ranged from 4.40 to 4.93 out of a 5-point scale. The mean score for CRFT faculty members overall experience teaching a

CRFT session was 4.80. Eighty-seven percent of the faculty members reported they learned from the fellows during the session and all (100%) CRFT faculty members reported that they would both be willing to teach again for the CRFT program in the future and willing to collaborate with fellows on CBPR pilot projects.

Pilot Projects

Nine groups, including a total of 30 fellows, submitted brief proposals in response to the program RFP. Five groups were invited to submit full proposals, and of these, four groups submitted full proposals. The CAB, along with WUSM faculty members, reviewed full proposals and selected proposals to fund through a systematic review process. Reviewers first evaluated proposals in teams of two, using an evaluation score sheet designed to assist reviewers with reliable and consistent scoring. Proposals were evaluated on merit, scientific rigor, and academic–community collaboration. Specific evaluation categories included background and significance, methodology, evaluation and dissemination plans, sustainability, and overall style. Reviewers selected a score ranging from 1 to 10, with 1 to 3 points “exceeding” requirements, 4 to 6 points “meeting” requirements, 7 to 9 points “having limited information/clarity,” and 10 points “missing.” After reviewing proposals in teams of two, groups merged into two large groups. These groups re-evaluated and scored proposals a second time. Average overall proposal scores ranged from 23.5 to 70.5, with lower scores indicating more favorable reviews.

Two full proposals were awarded funding to conduct pilot projects. One project has partnered with a shelter and is seeking to better understand the health care needs of homeless women 45 to 64 years of age. The other project partnered with a local church in the community and focused on decreasing rates of chronic disease through training lay persons about healthy eating, physical activity, and managing chronic conditions. The two projects not funded by CRFT were funded through other funding sources. Information on the demographic composition of the four full proposal teams is displayed in Table 3.

Discussion

Results from assessments suggest that the CRFT program was successful in increasing research knowledge and skills for CBPR. Fellows were engaged in each session's topics and deeply invested in the training, as evidenced by the high attendance rate at each session and the low attrition rate overall. Assessments indicate that fellows felt the learning objectives had been met for each session.

The homework assignments were new with the CRFT program and had not been a part of the CARES training. Overwhelmingly, the response to homework was positive, and fellows felt the assignments were useful and beneficial to their learning process. Although busy in their everyday lives, the fellows felt the assignments were manageable and did not present a considerable challenge to complete during the time frame allotted.

Data collected from assessments indicate that fellows were satisfied with the training location. This is an important finding because there is often a desire among researchers doing community-based work to meet communities where they are within the communities

to create higher levels of comfort. Although there is much validity in these practices, our feedback from fellows suggests community members are also interested and willing to come to academic and research settings as well. Holding the sessions on the WUSM campus provided community members with the opportunity to get a real feel and comfort for working and being in an academic setting. It opened the academic space for use as a community resource; a place where they could have meetings and conduct business. There was also a discussion of the prestige of attending a course at WUSM; for some participants, this validated institutional commitment to the community and the training program as part of the institution.

Evaluations from CRFT faculty members indicate that they were pleased with fellows and excited to continue being a part of the CRFT program. Faculty members were thrilled to teach to such an engaged audience who they felt they could also learn from. Support from academic and community leaders is essential as their participation is a key component of the sustainability of the training.

Based on the high number of fellows who submitted brief proposals, there is evidence to suggest an interest from fellows to participate in research projects after completing the CRFT program. This suggests that community members participating in this type of research training are not participating solely for increased knowledge, but to apply and transfer the knowledge and skills gained into action to improve their communities, and they are ready to take immediate action upon completion of the training.

With a greater-than-expected interest from community members in the St. Louis region, the CRFT program accepted a much larger cohort compared with the CARES program in Long Island (Goodman et al., 2010). The CRFT project team's initial aim was to recruit 25 participants, and the CAB suggested this be increased to 35 participants. This number was exceeded by over 40%. This demonstrates that there is a demand for public health knowledge among community members. A large cohort also provided the opportunity to explore whether or not the original training implemented in Long Island, New York, had the ability to be scaled up to train a larger number of fellows. With 45 fellows successfully completing the program, this cohort demonstrates that this training framework can fit the needs of both a small or large group of participants, without sacrificing the experiences and knowledge gained by participants. Small break-out groups provided fellows with the opportunity to learn from each other in a smaller group environment and go in greater depth on that week's topics through application of concepts learned to a real-world problem. Overall, CRFT fellows were satisfied with the training received and felt that the training was of great benefit for their personal and professional endeavors. Many of the fellows felt the training has not only provided them with the foundations of research and CBPR but has also provided them with resources, networks, and partnerships with WUSM academic partners as well as with other community partners.

There were several challenges throughout the process of planning and implementing the CRFT program. One challenge was how to address the varying levels of education and experience among participants. Although this was often viewed as a strength, heterogeneity of background was also viewed as a challenge in terms of what material to include, because

while some material was more of a “refresher” for some, for others it was new material. There were a large proportion of participants who already had advanced degrees who were interested in participating in the training. This may suggest that although participants may have prior experience with research or advanced degrees, there is limited knowledge about how to apply formal education and training in community settings. It may also suggest that the CRFT training can not only be used as an introduction to public health research for some but also as continuing education and development for others who have worked in public health for many years and desire to better understand the current best practices in public health research.

Another challenge of the program was providing sufficient time for fellows to network with each other. Many of the concerns from fellows was that there was not enough time to get to know other fellows’ research and professional interests at a depth that would allow space to explore potential partnerships and collaborations with each other. This was addressed through the dissemination of the CRFT participant directory that contained contact information for all CRFT participants and was given to all fellows. In terms of evaluation, the high pre-test scores on average suggest a need to refine evaluation metrics given the scores on the baseline and final assessments do not support that participants had this high level of advance knowledge. This was addressed midway through the program by asking fellows to complete and submit their pre-test before receiving the information packet for the session.

Best Practices

We identified seven best practices in developing, implementing, and evaluating the CRFT program. (a) Establishing a CAB was a key component of the success of the CRFT program. Each CAB member brought a wealth of knowledge and expertise and was committed to improving population health in the region. The CAB brought years of local leadership and advocacy work and provided insight that only community members working in the region would be able to provide. (b) Tailoring recruitment efforts to target communities of color and recruit those most impacted by health disparities is important. (c) Providing résumé templates and technical assistance to applicants, if needed, prevents the application from being a barrier to participation. (d) Fellows had ownership over time and day of the training sessions, to accommodate for their schedules. The 3-hr training sessions on a weekly basis seemed to work well for fellows. (e) Having a diverse, multidisciplinary group of faculty members who all have an interest in partnering with community members and who come to the class to be both a teacher and a learner will foster bi-directional learning. (f) Providing both large group interactive lectures and smaller break-out discussions to acknowledge varying learning styles among fellows and to provide an opportunity to apply lecture material to specific scenarios facilitates learning. (g) Celebrating the accomplishments of the fellows, both individually and collectively, validated the importance of the commitment they were making to improve community health. Because none of the fellows were paid for their participation or time commitment, it was important to allow an opportunity to celebrate them. The certificate ceremony also provided a space for leaders on the WUSM campus, the CAB, family, friends, and community members to thank the fellows for the work they were willing to do for their region.

Research Agenda

It is important that the CRFT model continue to be replicated in different settings and regions. The CARES program was implemented in a suburban setting, and the CRFT program was in an urban setting. Implementation of this training model in a rural setting is an important area for future research. With a large emphasis on creating healthier future generations, adaptation of this training for youth could prove beneficial as another potential area for future research.

Evaluations should compare structure, format, content, and location to identify which strategies are most effective in particular settings. Although it is important to provide a convenient location for both community members and faculty and to convene in locations that are a part of the community, it has also proven beneficial to allow community members the opportunity to feel comfortable being in an academic space and having ownership over not just community spaces but academic spaces as well. It is important to university–community partnerships that community members know these are spaces for everyone, places for everyone to feel they belong.

Future trainings should consider the selection criteria for participants. The variation in education levels among participants resulted in challenges related to curriculum implementation. Future trainings should compare effectiveness of separate trainings for participants with prior experience in public health research and those with no prior experience. Future trainings should also tailor recruiting efforts to increase the number of participants self-identifying as a community member.

Finally, future trainings should also consider the length of the training. Many fellows stated they would like to have more time designated for certain topics. Development of a follow-up course or an additional semester or two of work could have great implications for enhancing the CBPR infrastructure.

Educational Implications

Implementing the training in two unique settings demonstrates the flexibility of the curriculum and model to be adapted to fit the needs of a specific community, while still incorporating the important components of the program. Fellows seem to be interested in additional training, and longer or intermediate and advanced courses for specific topics might be incorporated in future trainings.

The CRFT training was designed with the intention of preparing community members with the skills and knowledge to understand the essential components of the research process. If this training model is adopted by other community–academic partnerships, the infrastructure developed can increase community capacity to collaborate in CBPR as equitable partners throughout the process. This model has the potential to train large groups of community members in order to engage community members in the research process to influence research and establish trust and legitimacy for successful uptake of research findings.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

We thank the Community Research Fellows Training (CRFT) fellows for their insight, trust, excitement, and enthusiasm to participate in the training. We thank the Community Advisory Board (CAB) for their wisdom, guidance, and leadership to make the training successful and the CRFT faculty for volunteering their time and expertise. We also thank all of the research assistants and volunteers who helped make the program a positive experience for all.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The CRFT program is funded by National Institutes of Health, National Cancer Institute Grant U54CA153460 and an administrative supplement from the National Cancer Institute. The work of Jacquelyn Coats is funded by National Institutes of Health, National Cancer Institute Grant U54CA153460. The work of Melody Goodman is supported by the Barnes-Jewish Hospital Foundation, Siteman Cancer Center, National Institutes of Health, National Cancer Institute Grant U54CA153460, Washington University School of Medicine (WUSM), and WUSM Faculty Diversity Scholars Program.

Biography

Jacquelyn V. Coats is a research technician for the Community Research Fellows Training (CRFT) program. She assisted in the planning and coordinating of Community Advisory Board (CAB) meetings and CRFT training sessions and served as the point of contact for CRFT fellows. She helped develop homework material, facilitated small break-out groups during the trainings, entered data, and graded assessments.

Jewel D. Stafford is the project manager of the CRFT program and member of the CRFT leadership team. She participated in the recruitment of participants, conducted the information and orientation sessions, and coordinated the certificate ceremony and reception; she taught the Cultural Competency and Program Evaluation training sessions and the Grant Writing workshop. She provided technical assistance to CRFT subgroups developing proposals for pilot projects, aiding with IRB submissions and project management for groups awarded funding.

Vetta Sanders Thompson is a member of the CRFT leadership team and Melody Goodman's academic mentor for the CRFT pilot grant. She has expertise in health disparities research and community engagement principles. She helped guide the development of the program, recruit CAB members, recruit participants, attended CAB meetings, and reviewed CRFT applications. She was a CRFT faculty member, teaching the session on community-based participatory research and is currently partnering with a subgroup of CRFT fellows to develop and implement their pilot project study aimed at better understanding the health care needs of older homeless women.

Bethany Johnson Javois is a member of the CRFT leadership team and Melody Goodman's Community Mentor for the CRFT grant. She helped guide the development of the program, recruit CAB members, recruit participants, and was involved in the review process to select

the CRFT cohort. She was also a CRFT faculty member, teaching the session on history of healthcare in St. Louis, and was involved in reviewing CRFT pilot project proposals.

Melody S. Goodman is the principal investigator of the CRFT grant. She led the planning, implementation, and evaluation of the CRFT program; developed the CRFT application, syllabus, assessment questionnaires, and homework assignments; recruited the CRFT faculty; and helped recruit participants. She taught the quantitative methods training session and the workshop on research synthesis and research evaluation as part of the CRFT faculty.

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Table 1Demographic of Participants ($N = 50$).

	<i>n</i>	%
Gender		
Female	43	86
Male	7	14
Race		
African American/Black	44	88
White	6	12
Education		
Jr. high school or some high school	1	2
High school diploma	2	4
Some college or associates degree	14	28
College degree	7	14
Graduate degree	26	52
Age		
25-44	14	28
45-64	32	64
65+	4	8
Affiliation		
Academic	5	10
Government	5	10
Community-based organization	12	24
Community member	14	28
Faith-based organization	5	10
Health care worker	9	18
Previous research experience		
conducting research	27	54
participated in research	31	62

Table 2

Community Research Fellows Training Attendance and Homework.

Session/workshop	Topics ^a	Attendance <i>n</i> (% ^b)	Homework assignments	Completed <i>n</i>
Session 1	Community health	46 (92)	Windshield survey	49
Session 2	Research methods	48 (96)		
Session 3	Public health research/health disparities	42 (86)	Community park audit or Grocery store audit ^c	24 35
Session 4	Public health library resources/health literacy	43 (90)	Family health history	37
Session 5	Cultural competency/program evaluation	41 (87)	Cultural competency and racial composition self- assessment	45
Session 6	Introduction to epidemiology/evidence-based public health/community-based prevention	44 (94)		
Session 7	Quantitative methods	44 (94)		
Session 8	Community-based participatory research	41 (87)	Windshield survey feedback form	43
Session 9	Research Ethics I and II	41 (87)		
Session 10	Qualitative methods	43 (93)	Photovoice	45
Session 11	Clinical trials and bio-banking	40 (87)		
Session 12	Health policy research/human subjects certification I	42 (91)		
Workshop 1	Research synthesis/research evaluation	40 (89)		
Workshop 2	Human subjects certification II/history of healthcare in St. Louis	41 (91)		
Workshop 3	Family health history/grant writing	40 (89)		

^aSee Online Supplement Table A1 for more information.^bAdjusted for fellows dropping from the program.^cTen fellows completed both grocery store and park audit homework assignments.

Table 3

Composition of Full Proposal Project Teams.

	Group 1	Group 2	Group 3	Group 4
Number of fellows	4	6	4	3
Gender				
Female	4	4	4	3
Male	0	2	0	0
Race				
African American/Black	3	5	4	3
White	1	1	0	0
Education				
Some college/associates degree	1	3	1	2
Bachelor's degree	2	1	1	0
Graduate degree	1	2	2	1
Age				
25-44	2	1	0	1
45-64	2	5	2	1
65+	0	0	2	1
Affiliation				
Academic	0	2	0	0
Government	3	0	0	0
Community-based organization	0	1	1	1
Community member	1	3	1	2
Faith-based organization	0	0	1	0
Health care worker	0	0	1	0
Previously participated in research				
Yes	2	5	2	2
No	2	1	2	1
Previously conducted research				
Yes	2	4	1	2
No	2	2	3	2
Funded	CRFT	Other university	CRFT	Other foundation

Note. CRFT = Community Research Fellows Training.