HHS Public Access

Author manuscript

Prog Community Health Partnersh. Author manuscript; available in PMC 2021 January 01.

Published in final edited form as:

Prog Community Health Partnersh. 2020 ; 14(1): 75–87. doi:10.1353/cpr.2020.0010.

Implementation and Evaluation of a Dual-Track Research Training Program for Community Members and Community-Based Organizations

Jennifer Cunningham-Erves, PhD[1], **Yvonne Joosten, MPH**[2], **Charrise P. Hollingsworth, MS**[3], **Joshua D. Cockroft, BA**[4], **Velma M. Murry, PhD**[3], **Lexie Lipham, BS**[2], **Patrick Luther, MHS**[5], **Yolanda Vaughn, MS**[6], **Stephania T. Miller, PhD**[1]

[1]Meharry Medical College

[2]Vanderbilt University Medical Center

[3]Vanderbilt University

[4]Vanderbilt University School of Medicine

[5]Nashville CARES

[6]Neighbor 2 Neighbor (Formally Neighborhoods Resource Center), Nashville, Tennessee

Abstract

Background: It is a public health priority to increase community research participation to improve health outcomes and eliminate health disparities. There is a need for effective research training programs that build community stakeholders' capacity to engage as equitable partners.

Objectives: To describe the collaborative process of implementing and evaluating a dual-track community research training program—Meharry Vanderbilt Community Engaged Research Core-Community Research Training Program (MVC-CRT) Program—and present participant evaluations.

Methods: The MVC-CRT is a six-session community-based organization (CBO) curriculum and a three-session community member (CM) curriculum, based on needs identified by various community stakeholders, that was piloted in 2016. Immediately post-training, an outcome evaluation (surveys) was used to measure trainees' confidence relative to 30 learning objectives for the combined training sessions (e.g., Introduction to research), satisfaction in preparing them for research roles, and impact on research activities (e.g., building sustainable partnerships). 2 and 3 months after training, a process evaluation (focus groups) was used to assess each session's flow, materials, group discussions, and facilitators.

Results: Trainees' immediate post-training confidence increased or remained the same across 26 of 30 learning objectives. Two to 3 months after training, trainees reported sustained confidence, perceived increased knowledge, and increased intentions to engage in or improve research

Corresponding Author: Jennifer Cunningham-Erves, 1005 Dr. DB Todd Jr. Blvd, Department of Internal Medicine, Nashville, TN 37208; 615.327.5692. jerves@mmc.edu.

The authors have no conflicts of interest to declare.

activities. All participants were satisfied with the program and felt better prepared for research roles.

Conclusions: Tailored community research training may result in positive outcomes that can ultimately increase community capacity to be equitable partners in research in support of efforts to improve health outcomes and eliminate health disparities.

Keywords

Curriculum; education; sociology and social phenomena; community-based participatory research; health disparities; capacity building; community engagement; translational research; community research training program; community health partnerships; community health research

Developing the capacity of CBOs and CMs to engage in research is a public health priority.[1,2] Community-engaged research (CEnR) fosters academic–community collaboration to improve the health conditions and well-being of CMs.[2,3] In addition, CEnR seeks to inform research that can change policies and practices on a "range of social, economic, political and environmental factors that affect health."[4] Capacity-building programs have been developed to engage the community in mutually beneficial research opportunities.[5–11] However, there remains a need to identify programs reflective of community training needs and prepare CMs and CBOs to be equitable partners with academic researchers.[12,13]

Training programs have been designed, developed, implemented, and evaluated with input from community stakeholders,[5,6,10] reflecting CEnR and community-based participatory research processes.[2,14–16] However, many of these programs have not determined if the research training needs differ between CMs and CBOs, and even fewer programs fail to address the individual needs of CMs and CBOs who may serve in different roles when working with researchers. For example, CMs may serve on a community advisory board, whereas a CBO may be interested in conducting their own research or working with an academic partner to conduct research that will benefit their clients. Furthermore, little is known about the impact of the programs once trainees have the opportunity to reflect upon the training or apply training. Collectively, this may slow research translation and dissemination efforts, stalling the improvement of community health and well-being.[17]

To address these gaps, the Meharry-Vanderbilt Community Engaged Research Core (CERC) Capacity Building Team collaborated with CMs and CBOs to develop a Community Research Training (MVC-CRT) Program. Part of the Vanderbilt Institute for Clinical and Translational Research, a clinical translational science program funded by the National Institute of Health, CERC has been working to support meaningful community engagement in translational research since 2009. CERC activities include developing and implementing training in CEnR for investigators and community partners (as described here), providing pilot grants to foster academic–community partnerships, Community Engagement Studios,[18] and consultation with researchers and community organizations.

The dual-track program was designed to address two primary goals: 1) increase CM capacity to serve in various research roles, including advisors and research team members; and 2) increase CBO capacity to conduct independent research and collaborate with academic

researchers. The impetus for developing this program came from the CERC Community Advisory Council during a strategic planning retreat. CMs and CBOs throughout Nashville, Tennessee suggested content, and provided feedback to increase the program's ecological sensitivity and cultural validity. The feedback from CMs and CBOs revealed the unique research training needs for both groups as well as the need for a dual-track program. Cunningham-Erves et al.[19] provide a full description of how community feedback informed the iterative development of the six-session CBO curriculum and a three-session CM curriculum using community engagement principles. The CBO curriculum included introduction to research, research methods, building sustainable partnerships, program evaluation and research, and funding (parts 1 and 2). The CM curriculum included introduction to research, types and phases of research and methods, and emerging roles and opportunities.

After engaging community in the development of MVC-CRT Program, CERC tested the program and asked participants to evaluate it. The purpose of this paper is to describe the collaborative process of implementing and evaluating the dual-track MVC-CRT and present participant evaluations. Piloted in 2016, the impact of the program both immediately after training and 2 and 3 months after training is described here. It is this latter assessment that may provide, along with immediate post-training results, a fuller picture of impact relative to adequately preparing both CMs and CBOs for CEnR.

METHODS

Training Pre-Implementation

Trainee Selection.—Trainees were recruited from CERC's diverse pool of community partners, including patients and other individuals who have participated in Community Engagement Studios,[18] CBO partners (e.g., congregations, health and social service providers), and CMs at large. The training was also promoted via electronic newsletters, flyers, and word of mouth. CBO participants had various roles in their organizations including executive leadership, program coordinators, pastors, and grant writers. All trainees received invitations with information on topics, logistics, and a link to an electronic registration survey. CBO trainees were asked to secure endorsement for their participation from their organizational leaders. Registration questions included, "How much research training have you had?" and "Based on the training topics listed below, which one(s) do you think will benefit you the most and why?" Registration was limited to ten participants to keep the sessions small and interactive.

Facilitator Preparation.—CERC engaged CBO partners (e.g., Nashville CARES, Neighbor 2 Neighbor [formerly Neighborhoods Resource Center]) to help facilitate the training program. These organizations have a history of partnering with academic researchers and are knowledgeable about CEnR. CERC faculty, staff, and postdoctoral fellows were also recruited to develop and implement the training. Two trainers were assigned to each module. Four of the eight sessions were conducted by a community-academic dyad. To prepare their sessions, trainers were given: 1) curricula guides, including recommendations on session flow and content; 2) goals, objectives, and training resources

including presentations previously developed by CERC; and 3) trainee profiles derived from the registration survey. All information was stored in a shared, private, web-based, workspace or shared via email.

Training Implementation and Evaluation.—To maximize participation, we surveyed potential trainees to determine optimal times for their participation and preferred location. The sessions were hosted by a CBO, centrally located with free parking and easy access to public transportation. CBO sessions were held every two weeks, and CM sessions were held weekly. Sessions lasted 2.5 hours and included a combination of didactic teaching, use cases, and hands-on group and individual exercises. The trainees received worksheets and templates to guide future research activities, readings for more in-depth exploration of the training topics, and homework assignments tailored to their own research interests. The first session for CMs and CBOs was combined, then the groups diverged to separated tracks for an additional two and five sessions, respectively.

Assessment of Pre and Post Changes in Confidence

At the beginning of each session, trainees completed an assessment of their confidence relative to each session's two to five learning objectives. For each learning objective, trainees ranked their confidence from 1 (very low) to 5 (very high) using a Likert-scale format. After training, trainees completed the same confidence assessments.

Assessment of Impact after Training

Additionally, trainees completed impact assessments, including two to three questions, following each session. Using Likert-scale response options, trainees reported their agreement with each impact statement (e.g., "I place greater importance on the importance of research" for the Introduction to Research session). A final impact statement for all sessions assessed whether trainees planned to make changes (e.g., "I plan to make changes by seeking to obtain funding from a new source," for the Funding Part 2 session). The survey also included an open question for trainees to describe any planned changes.

Assessment of Satisfaction after Training

Finally, trainees evaluated their satisfaction with the session overall and its appropriateness in preparing them for potential research roles. Each session's flow, materials, group discussions, and facilitators were evaluated. A Likert-scale format was used for responses, ranging from 1 (very low satisfaction) to 5 (very high satisfaction).

Reaction Assessment at 2 and 3 Months after Training

Two focus groups were conducted, one with CMs ($n = 7$) three months following their training and one with CBOs ($n = 5$) 2 months after their training. These focus groups were conducted to: 1) identify the most impactful sessions, including participant experiences in applying the training since its completion; 2) identify the least impactful sessions, including recommendations for improving these sessions; 3) explore recommendations for improving logistics; and 4) explore recommendations for incentivizing future training.

Data Analysis

Quantitative Analysis.—Descriptive statistics were used to analyze results of the confidence, impact, and satisfaction assessments. Frequency and percentages were used to report categorical variables, and median and interquartile range, or mean and standard deviation, were used to report continuous variables, as appropriate. Statistical significance was set at $p \leq 0.05$. SPSS version 25 (SPSS Inc, Chicago, IL) was used for statistical analysis. Confidence assessment data did not meet normality assumptions and the sample size was small; therefore, the Wilcoxon signed-ranks test was used to compare the means of pre- and post-confidence scores. The impact and satisfaction assessments included open-ended questions, which were transcribed verbatim and summarized.

Qualitative Analysis.—A hybrid approach of inductive and deductive coding was conducted by trained qualitative researchers. Using an inductive approach, three raters informed of the study purpose independently coded the focus group transcripts using a line-by-line coding technique. To confirm these codes, deductive coding was done by three additional coders using a priori codes created in the first round of coding. These coders had a 1-hour training on the study purpose, and the process of deductive coding using a priori coding. Then they were provided the codes and their meaning to code the transcripts accordingly. For each round of coding, codes were added or modified if a new meaning emerged among the coders. Codes were checked for consistency, and discrepancies were discussed until a consensus was met among the additional coders. Thematic analysis was used to identify emerging themes. The Meharry Medical College Institutional Review Board approved this study.

RESULTS

Trainee Characteristics

Eight participants represented CBOs and nine were CMs. The CBOs included representatives from health advocacy organizations ($n = 3$), faith-based institutions ($n = 3$), a social service organization ($n = 1$), and a K-12 educational network ($n = 1$). Most CBOs ($n = 5$) reported a moderate amount of research training. There was almost an equal distribution in research experience with three reporting a moderate amount, two with a little, and three with no experience. Evaluation and research ($n = 8$) was the session all CBOs perceived would be most beneficial. All CBO trainees reported an intent to apply training to future grant preparation efforts, and many ($n = 6$) indicated they would partner with another organization in these efforts; one-half noted they planned to do both within the next 3 to 6 months. Among CMs, the majority ($n = 6$) had no research training and little to no research experience ($n = 8$). They expected the types and phases of research to be the most beneficial session ($n = 6$). The majority ($n = 7$) planned to find opportunities to become involved in research post-training (Table 1). Combined participation rates for CBO and CM training sessions ranged from 65% to 100%. Reasons for nonattendance were tracked and were related to unplanned competing work priorities or personal matters, including illness.

Pre to Post Changes in Confidence

Tables 2 and 3 highlight the differences in pre- and post-training confidence levels for each of the eight training sessions. The mean post-test confidence scores for introduction to research (which included both CMs and CBOs) were significantly higher than pretest scores, with improvements in confidence for all except one learning objective (Table 2). The proportion of trainees reporting an increase in confidence for each learning objective ranged from 64% to 82%. No trainees reported a decrease in confidence (data not shown).

For two of the CBO sessions, Research Methods and Funding Part 1, the mean post-test confidence scores were significantly higher than pretest scores for all learning objectives (Table 2). With the exception of one Research Methods-related learning objective in which one trainee's pre- and post-confidence scores were the same, 100% of trainees' confidence scores improved for all learning objectives for these two sessions. For the CM Types and Phases of Research Methods session, there were no statistically significant differences between pre- and post-confidence means (Table 3); however, for the translation/dissemination-related learning objectives differences approached statistical significance. For all learning objectives, greater than 50% reported increased post-test confidence scores. For two learning objectives, one trainee reported a decrease in confidence (data not shown).

For the CM session Emerging Research Roles and Opportunities, learning objectives post-test confidence means were significantly higher than pretest means (Table 3). For both of the learning objectives, 71% reported increased confidence and two trainees reported the same pre- and post-confidence scores. There were no reported decreases in confidence.

Impact after Training

For all sessions combined, the average overall impact ratings ranged from 2.73 for Funding Part 1 (CBO) to 3.0 for Evaluation and Research (CBO), respectively (Table 4). Average impact ratings for the questions related to making session-specific changes ranged from 2.6 for Funding Part 1 (CBO) to 3.0 for Evaluation and Research (CBO), Funding Part 2 (CBO) and Types and Phases of Research (CM). Sixty to 100% of trainees agreed to make changes. Table 5 lists specific changes planned by trainees.

Satisfaction after Training

Overall training satisfaction scores ranged from 4.47 for Research Methods (CBO) to 5.0 for Funding Part 2 (CBO). Relative to appropriateness of each session for preparing trainees for research roles, average satisfaction scores ranged from 4.40 for Funding Part 1 (CBO) and 5.0 for Funding Part 2 (CBO). With the exception of the Research Methods session (CBO), 100% of trainees reported high or very high satisfaction relative to preparation for research roles (Table 6).

Reaction at 2 and 3 Months after Training

Four major themes emerged from the focus groups: (1) Overall Impression; (2) Impact on Confidence and Research Activity; (3) Areas to Improve Training; and (4) Why Community Engagement Matters. Table 7 lists major themes and sub-themes and includes representative quotes from CMs and CBOs.

Theme 1: Overall Impression.—Overall impression describes the trainees' perception of training value, which they felt made them more knowledgeable about research. Training strengths and training weaknesses were two major subthemes. Major strengths included format (i.e., lecture and exercises) and delivery method (e.g., weekly breaks between sessions [CBOs], use of handouts), knowledgeable and competent facilitators, and applicable and comprehendible content. Curriculum weaknesses were also noted, including timing of sessions and limited time for facilitators to respond to the provided information and answer questions. CBO trainees further identified technical issues during one session as a weakness.

Theme 2: Impact on Confidence and Research Activity.—CMs and CBOs both described increased confidence in understanding the research process. Subthemes included the positive impact of the training and the issues lingering after training. CBO trainees described how the training provided new, or enhanced their current methods for engaging in community-based research activities. They further discussed how the training improved their organizational grant writing processes. Overall, CBO trainees indicated their increased confidence to engage in research post-training has had a positive impact within their respective organizations.

CM trainees indicated the training enhanced their attitudes about research. In particular, they better understood the importance of the community's voice in research projects. Because of their increased confidence, some went on to pursue active research roles (e.g., assist researchers with writing Patient Centered Outcomes Research Institute [PCORI] grant proposals) and becoming part of a research team (e.g., PCORI ambassadors). Overall, CM trainees had a positive view of potential community involvement in research.

Both CM and CBO trainees identified several post-training issues that they felt limited their application of training content. For example, CBO trainees discussed the need for additional sessions to fully apply the information from the training (i.e., implementing the lessons learned within their organization). One trainee noted the training required her to adjust her thinking about her organization's needs. CM trainees expressed similar uncertainty of how they could implement the training lessons in their community. Additionally, some trainees noted the potential for local churches to educate congregations about research and acknowledged more people need to attend trainings such as these. Overall, lingering issues post-training affected some trainees' perceived ability to implement lessons learned from the training.

Theme 3: Areas to Improve Impact.—CBO trainees emphasized the desire for post-training mentoring and the need to build partnerships, while CM trainees stressed the need to improve research dissemination. This theme had three major subthemes: identification of mentorship process/program, building partnerships, and mechanisms to improve dissemination of research.

Many trainees indicated they were unsure how to apply the information to their projects or organizations. CBOs further suggested building academic–community and community–community partnerships to improve their capacity to apply their training and inquired about

how to develop these partnerships. A CBO representative suggested a speed dating session with academic researchers to help find a potential research partner.

Disseminating findings from research, including this study, emerged as a mechanism to improve training impact. Trainees stressed if they knew how their opinions informed this training, it would keep them involved in research. Trainees also thought improved dissemination could help increase their level of community engagement and understanding of research more broadly. Suggested channels for dissemination include city government (e.g., city council, mayor's office), city groups, community health centers, religious spaces, radio, and public service announcements.

Theme 4: Community Engagement Matters.—Community engagement matters emphasized the perceived importance of community engagement to increase trainees' confidence in research as well as the community at large. Some CMs indicated they shared what they learned about research with their community and served as a link between researchers and the community post-training. The four subthemes which emerged under this theme are: importance of community participation in research, disconnect between community and researchers, need to build partnerships between researchers, and disconnect between communities.

The importance of the community voice in the research process was expressed across trainees. Some CBO trainees discussed ways (e.g., community integration) to engage and build the capacity of communities to increase their presence in research; however, some CM trainees wondered if their opinion was in fact taken into consideration. Trainees also discussed the importance of building academic–community partnerships. They stressed a disconnect between researchers and CMs, noting how researchers are only present when they want data for their research, leading to distrust among CMs. A CBO trainee shared a past failed attempt to learn more about research from a researcher. Despite the disconnect, CBO trainees remained interested in establishing relationships with academicians so they could have input in the research process.

DISCUSSION

Numerous training programs have been designed to increase the community stakeholder knowledge about research.[20–23] The MVC-CRT program was one of the first studies to document the integral role of CMs and CBOs in program design[19] and in testing and evaluation as presented here. Documenting this process lays the foundation to develop and/or improve metrics for future evaluations regarding the impact of community input on building research capacity. Furthermore, the MVC-CRT program, unlike other programs, was tailored to meet the unique research needs and interests of both CBOs and CMs, and can be used to address the different research interests of the CBOs and CMs. For example, a CBO could apply this training program to address a health issue that impacts their clients (e.g., addressing cancer disparities through increased screening) by: 1) becoming a member of a community–academic partnership; 2) identifying and applying for funding if necessary; and 3) conducting their own research as described in the training. Similarly, CMs can better address a health concern through research because they are more informed of: 1) the purpose

of research and the process and 2) the role they can play in research. This likely contributed to the high satisfaction scores for the overall training. Another unique feature of the MVC-CRT program is the implementation of immediate and 2- and 3-month post-training assessments, which provides a more robust impact assessment when combined with immediate post-training assessments.

Little has been written about how training programs increase trainees' confidence in engaging in research. Overall, MVC-CRT trainees reported significant improvements in confidence levels immediately following the training via their evaluation surveys. Particularly, the CMs had a greater increase in confidence levels overall post-training compared to CBOs, which could reflect CBOs having higher levels of knowledge and experience in research pre-training. These findings were similar to the focus groups, and the 2- and 3-month post-assessments. Participation in the program effectively improved confidence, which was sustained and led to either improved or enhanced research activity (e.g., improved grant writing and taking on new research roles).

Focus group and 2- and 3-month post-assessment results suggested participants were more knowledgeable about research. They felt empowered to engage in research conversations and activities within their communities and/or organizations. Many reported an increased understanding of the importance of the community voice in research, particularly to build trust between researchers and the community for future partnerships. Finally, the evaluation process empowered trainees to suggest improvements to the program, including additional opportunities to learn about and experience research, mentorship of CBOs by researchers, and improved research dissemination to the community at large. These suggestions align with CERC's goal to strengthen academic–community research partnerships to improve community health.

STRENGTHS AND LIMITATIONS

There are several strengths of this study. First, this is one of the first training programs with a dual track that addresses the distinct training needs of CMs and CBOs individually. Second, it promotes capacity building of CMs and CBOs to engage in research with academic partners on many levels (i.e., team members, advisors, and/or participants), promoting sustainability of research partnerships. Third, community partners were engaged throughout the development, implementation, and evaluation of this pilot project to promote program relevance and possibly sustainability. Furthermore, the program's evaluation uses a mixed methods approach, pre–post assessment as well as follow-up focus groups, which demonstrate lasting impact of the content.

The main limitation of the study is the small sample size. However, the study was the first of its kind, exploratory in nature, and will inform future studies. This study may be limited in generalizability if academic institutions and/or community organizations are geographically located in areas with little to no research activity/interests (e.g., rural areas); however, if they are, this work is generalizable. Furthermore, we do not demonstrate formal follow up regarding participant engagement in research. However, a some trainees, during focus groups, indicated they engaged in research efforts post-training, such as becoming a member

of a research team (e.g., PCORI ambassador) or active research roles (e.g., academic–community research partner to write grants). Furthermore, a CBO applied and received a CERC minigrant aimed at building academic–community research partnerships.

FUTURE RESEARCH AND CONCLUSIONS

Trainees viewed the training positively immediately post-training, and this positive opinion was sustained at 2 and 3 months after training. However, it is not known how or the extent to which their increased confidence and perceived knowledge increase impacted their research activities. Additional investigation is needed to understand if participation in the program, independent of other training opportunities, resulted in an increase in the number or quality of academic–community research partnerships. We integrated trainees' recommendations for improvement into the dual-track curricula and recently conducted a second round of training with a new group of trainees. For example, we added insight on how to form relationships with academic partners. We plan to track the research activities of these trainees, whether it be as research team members, advisors, and/or participants. Long term, we anticipate our training will empower and increase the capacity of CMs and CBOs to participate in research, use research findings to promote policy change, and help others to advocate for their health, all important activities in the process of translating research findings into improvements in public health.

ACKNOWLEDGMENTS

The authors acknowledge the CERC Community Advisory Council for providing the impetus for developing the MVC-CRT training program, and the community stakeholders who assisted with implementation and evaluation.

This publication was made possible by funding from the National Center for Advancing Translational Sciences, NIH under the following award numbers: UL1RR024975-03S1, UL1-RR025747-02S1, U54-MD007593, and UL1-TR000445, as well as support from the Meharry-Vanderbilt Alliance.

REFERENCES

1. Holzer J, Kass N. Understanding the Supports of and Challenges to Community Engagement in the CTSAs. Clin Transl Sci. 2015;8(2):116–22. [PubMed: 25196710]
2. Clinical and Translational Science Award Consortium, Community Engagement Key Function Committee Task Force on the Principles of Community Engagement Principles of Community Engagement, 2nd edition. Bethesda (MD): National Institutes of Health; 2011.
3. Holzer JK, Ellis L, Merritt MW. Why we need community engagement in medical research. J Investig Med. 2014; 62(6):851–5.
4. McCloskey DJ, McDonald M, Cook J, et al. Community engagement: Definitions and organizing concepts from the literature In: Principles of Community Engagement, 2nd ed. Bethesda (MD): National Institutes of Health; 2011.
5. Coombe C, Schulz A, Guluma L, et al. Enhancing capacity of community-academic partnerships to achieve health equity: Results from the CBPR Partnership Academy. Health Promot Pract. 2018;29:1524839918818830.
6. Tumiel-Berhalter L, Mclaughlin-Diaz V, Vena J, Crespo CJ. Building community research capacity: Process evaluation of community training and education in a community-based participatory research program serving a Puerto Rican community. Prog Community Health Partnersh. 2007; 2(1):89–97.

7. Kwon S, Rideout C, Tseng W, et al. Developing the community empowered research training program: Building research capacity for community-initiated and community-driven research. Prog Community Health Partnersh. 2012;6(1): 43–52. [PubMed: 22643787]
8. Confair AR, Wilson D, Schildhorn L, Keppen SJ, Hart B, Klassen AC. HUD's Livable Communities Conference: Building capacity for change through evidence dissemination and partnership-based training. Prog Community Health Partnersh. 2013;7(1):5–24. [PubMed: 23543016]
9. Masuda JR, Creighton G, Nixon S, Frankish J. Building capacity for community-based participatory research for health disparities in Canada: The case of "Partnerships in Community Health Research." Health Promot Pract. 2011;12(2):280–92. [PubMed: 21057046]
10. Rubin CL, Martinez LS, Tse L, et al. Creating a culture of empowerment in research: Findings from a capacity-building training program. Prog Community Health Partnersh. 2017; 10(3):479–88.
11. Goytia CN, Todaro-Rivera L, Brenner B, Shepard P, Piedras V, Horowitz C. Community capacity building: A collaborative approach to designing a training and education model. Prog Community Health Partnersh. 2013;7(3):291–9. [PubMed: 24056511]
12. Caldwell WB, Reyes AG, Rowe Z, Weinert J, Israel BA. Community partner perspectives on benefits, challenges, facilitating factors, and lessons learned from community-based participatory research partnerships in Detroit. Prog Community Health Partnersh. 2015;9(2):299–311. [PubMed: 26412771]
13. Darling M, Gonzalez F, Graves K, et al. Practical tips for establishing partnerships with academic researchers: A resource guide for community-based organizations. Prog Community Health Partnersh. 2015;9(2):203–12. [PubMed: 26412762]
14. Israel BA, Shulz AJ, Parker EA, Becker AB. Review of community-based research: Assessing partnership approaches to improved public health. Annu Rev Public Health. 1998;19: 173–202. [PubMed: 9611617]
15. Community-Based Participatory Research for Health. San Francisco: Jossey-Bass; 2003.
16. Wallerstein N, Duran B. Using community-based participatory research to address health disparities. Health Promot Pract. 2006;7:312–323. [PubMed: 16760238]
17. Glasgow RE, Emmons KM. How can we increase translation of research into practice? Types of evidence needed. Annu Rev Public Health. 2006;28:413–33.
18. Joosten YA, Israel TL, Williams NA, et al. Community engagement studios: A structured approach to obtaining meaningful input from stakeholders to inform research. Acad Med. 2015;90(12):1646–50. [PubMed: 26107879]
19. Cunningham-Erves J, Joosten Y, Bruce M, et al. Comprehensive strategy for capturing and integrating community input into community research training curricula. J Clin Transl Sci. 2018;2(1):1–7. [PubMed: 31304044]
20. Ahmed S, DeFino MC, Connors ER, Kissack A, Franco Z. Science cafes: Engaging scientists and community through health and science dialogue. Clin Transl Sci. 2014;7(3):196–200. [PubMed: 24716626]
21. Kathryn Stewart M, Spencer N, Davis AH, Hart C, Boateng B. Developing and piloting a community scientist academy to engage communities and patients in research. J Clin Transl Sci. 2018;2(2):73–8. [PubMed: 30294466]
22. Komaie G, Goodman M, McCall A, et al. Training community members in public research: Development and implementation of a community participatory research pilot project. Health Equity. 2018;2(1):282–7. [PubMed: 30334019]
23. Ziegahn L, Nevarez L, Hurd T, et al. An exploratory study of Clinical and Translational Science Award community-engaged research training programs. J Clin Transl Sci. 2018;2:110–4. [PubMed: 31660224]

Table 1.

Participant Characteristics

CBO Participants		CM participants	
Characteristic	**N**	**Characteristic**	**N**
Amount of Research Training		**Amount of Research Training**	
None	2.0	None	6.0
A little	1.0	A little	2.0
A moderate amount	5.0	A moderate amount	1.0
A lot	0.0	A lot	0.0
Amount of Research Experience		**Amount of Research Experience**	
None	3.0	None	4.0
A little	2.0	A little	4.0
A moderate amount	3.0	A moderate amount	1.0
A lot	0.0	A lot	0.0
Most Beneficial Training Topics		**Most Beneficial Training Topics**	
Introduction to Research	5.0	Introduction to Research	3.0
Research Design	5.0	Types and Phases of Research	6.0
Building Sustainable Academic Research Partnerships	7.0	Emerging Research Roles and Opportunities	3.0
Program Evaluation and Research	8.0		
Funding: Part 1	6.0		
Funding: Part 2	6.0		
Plans to apply information learned in training		**Plans to apply information learned in training**	
No current plans	0.0	No current plans	1.0
As part of an existing-research related role in my organization	4.0	A specific research project for which I already serve as an adviser or research team member	1.0
Preparing a research grant for my organization	8.0	I am interested in finding opportunities to become involved in research	7.0
Partnering with another organization in applying for a research grant	6.0	Other	1.0
Other	2.0		
Plans to apply for organizational grant or grant for which your organization will partner			
No particular timeframe	3.0		
Within the next 3–6 months	4.0		

Prog Community Health Partnersh. Author manuscript; available in PMC 2021 January 01.

CBO Participants		CM participants	
Characteristic	**N**	**Characteristic**	**N**
Within the next 6–12 months	1.0		
Other	0.0		

Table 2.

Impact of Community-Based Organization Curriculum on Confidence

Training Session Learning Objectives	Pre-Test Confidence[b]	Post-Test Confidence[b]	Wilcoxon signed-rank test	Reporting Increased Confidence (%)
Introduction to Research[a]				
Define research. (n = 6)	2.8 (0.4)	3.8 (0.8)	0.063	67.0[d]
Describe steps in the research process. (n = 11)	3.0 (0.0)	3.8 (0.8)	0.008[c]	73.0[d]
Identify the phases of translational research. (n = 11)	2.0 (0.6)	4.0 (0.6)	0.06 [c]	82.0[d]
Identify the different types of research questions. (n = 11)	2.5 (0.6)	3.8 (0.8)	0.07 [c]	82.0[d]
Develop a research question based on community problems/concerns. (n = 11)	3.0 (0.6)	4.0 (0.6)	0.016[c]	64.0[d]
Research Methods				
Conduct a basic literature review based on working questions. (n = 7)	3.0 (0.8)	4.3 (0.5)	0.014[c]	100.0
Identify different types of research designs. (n = 7)	3.0 (0.6)	4.1(0.7)	0.023[c]	86.0[d]
Identify the best research design for working research questions. (n = 7)	2.6 (1.0)	4.0 (0.8)	0.015[c]	100.0
Explain how translation and dissemination fit into the overall research paradigm. (n = 7)	2.6 (1.1)	4.0 (0.8)	0.015[c]	100.0
Building Sustainable Partnerships				
Identify specific contributions that community members and academic researchers bring to the partnership. (n = 6)	3.3 (0.8)	3.8 (0.4)	0.180	33.0[d]
State the benefits of community-academic partnerships to community organizations and academic researchers. (n = 6)	3.2 (1.0)	4.3 (0.5)	0.059	67.0[d]
Describe institutional and regulatory academic requirements that may impact partnership progress. (n = 6)	3.3 (1.2)	4.0 (0.9)	0.102	50.0[d]
Identify key working agreements and processes that should be developed during partnership development. (n = 6)	3.2 (1.0)	4.0 (0.9)	0.102	50.0[d]
Identify specific strategies to promote trust and manage conflict. (n = 6)	3.2 (1.3)	4.5 (0.6)	0.066	67.0[d]
Evaluation and Research				
Describe the goal of program evaluation. (n = 6)	3.5 (0.8)	4.3 (0.8)	0.129	67.0[d]
Develop a basic logic model for program evaluation. (n = 6)	3.3 (1.0)	4.2 (0.8)	0.129	67.0[d]

Prog Community Health Partnersh. Author manuscript; available in PMC 2021 January 01.

Training Session Learning Objectives	Pre-Test Confidence[b]	Post-Test Confidence[b]	Wilcoxon signed-rank test	Reporting Increased Confidence (%)
Identify scenarios in which program evaluation and research are needed. (n = 6)	3.2 (1.2)	4.5 (0.6)	0.063	67.0[d]
Funding: Part 1				
List organizational factors that need to be in place prior to applying for and receiving funding. (n = 6)	2.8 (0.4)	4.5 (0.6)	0.023[c]	100.0
List potential funding sources that are relevant to community organizations. (n = 6)	2.5 (0.6)	3.8 (0.4)	0.023[c]	100.0
Initiate a funding announcement query within relevant funding agency databases. (n = 6)	2.8 (0.8)	4.2 (0.4)	0.023[c]	100.0
Complete tasks needed to complete pre-application announcements. (n = 6)	2.7 (0.5)	4.3 (0.5)	0.026[c]	100.0
Funding: Part 2				
List organizational factors that ed to be in place prior to applying for and receiving funding. (n = 5)	2.6 (0.6)	3.8 (0.5)	0.063	80.0[d]
List potential funding sources that are relevant to community organizations. (n = 5)	2.4 (0.6)	4.0 (0.0)	0.038[c]	100.0
Initiate a funding announcement query within relevant funding agency databases. (n = 5)	2.4 (0.6)	3.8 (0.5)	0.038[c]	100.0
Complete funding pre-application tasks. (n = 5)	2.8 (0.5)	3.8 (0.5)	0.063	80.0[d]

[a] Included Community Member and Community-Based Organization Trainees;

[b] Data are means and standard deviations for level of confidence (1–very low to 5–very high) with training session learning objectives;

[c] $p \leq 0.05$;

[d] Pre/post confidence rankings were the same for 2 to 4 trainees.

Table 3.

Impact of Community Member Curriculum on Confidence

Training Session Learning Objectives	Pre-Test Confidence Mean (SD)	Post-Test Confidence Mean (SD)	Wilcoxon signed-rank test	Reporting Increased Confidence (%)
Types and Phases of Research Methods				
Identifying different types of research designs. (n = 6)	3.6 (0.9)	4.0 (0.7)	0.157	67.0[c]
Gaining an understanding of the impact of patient/community stakeholder feedback. (n = 6)	3.8 (0.8)	4.2 (0.5)	0.096	63.0[c]
Explaining how translation and dissemination fit into the overall research paradigm. (n = 6)	3.4 (1.1)	4.4 (0.6)	0.059	67.0[c]
Emerging Research Roles and Opportunities				
Articulating the current and emerging roles that stakeholders can play in the research process. (n = 7)	3.71 (1.1)	4.7 (0.5)	0.038[b]	71.0[c]
Explaining the different phases of research in relation to community/stakeholder engagement. (n = 7)	3.7 (1.1)	4.7 (0.5)	0.038[b]	71.0[c]

[a]Data are means and standard deviations for level of confidence (1–very low to 5–very high) with training session learning objectives;

[b]$p \leq 0.05$;

[c]Pre/post confidence rankings were the same for 1 to 2 trainees.

Table 4.

Overall Impact of Community Member and Community-Based Organization Training Sessions

Session	Overall Impact[b]	Change Intent[b]	Change Intentions[b] (%)
Community-Based Organization Curriculum			
Introduction to Research[a] (n = 11)	2.9 (0.4)	2.8 (0.4)	78.0
Research Methods (n = 7)	2.9 (0.3)	2.9 (0.4)	88.0
Building Sustainable Partnerships (n = 6)	2.9 (0.3)	2.8 (0.5)	80.0
Evaluation and Research (n = 6)	3.0 (0.0)	3.0 (0.0)	100.0
Funding: Part 1 (n = 6)	2.7 (0.5)	2.6 (0.6)	60.0
Funding: Part 2 (n = 5)	2.9 (0.3)	3.0 (0.0)	100.0
Community Member Curriculum			
Types and Phases of Research (n = 6)	2.9 (0.2)	3.0 (0.0)	100.0
Emerging Roles and Opportunities (n = 7)	2.8 (0.4)	2.8 (0.5)	75.0

[a]This was a combined session that included community-based organizations and community members;

[b]data are means and standard deviations for level of agreement (1–disagreement to 3–agreement) with combined, positively-worded impact statements;

[c]data are percent of trainees that agreed with combined, positively-worded impact statements.

Prog Community Health Partnersh. Author manuscript; available in PMC 2021 January 01.

Table 5.

Changes Planned by Trainees After Completion of Training

Session	Planned Changes
Research Methods	Changes to current research by including translation and dissemination: *"Dissemination to funders and policy makers"* *"Assignment of dissemination activities to org personnel" "Think more about dissemination"*
Building Sustainable Partnerships	Changes in current community-academic partnerships to promote trust and manage conflict: *"Apply info to ongoing activities"* *"Talk to academic partners and discuss mutual expectations"*
Program Evaluation	Changes to program evaluation activities: *"Involve a team in evaluation"* *"Use logic model as living doc"* *"Build database for broader evaluation"*
Funding Parts 1 and 2	Changes by seeking to obtain funding from a new source: *"Look for more diverse funding sources"* *"Work on org strategic plan"* *"I plan on digging into federal grant opportunities"* *"Develop a proposal toolbox; develop budgets and revise to fit specific grant; use tips on focus areas discussed today, i.e., human, health, environment, etc. and work on grants with partners as opportunities for funding become available"*

Prog Community Health Partnersh. Author manuscript; available in PMC 2021 January 01.

Table 6.

Overall Satisfaction with Community Member and Community-Based Organization Training Sessions

Session	Overall Satisfaction[b]	Satisfaction Relative to Research Role Preparation[b]	High or Very High Satisfaction with Research Role Preparation (%)
Community-Based Organization Curriculum			
Introduction to Research*	4.8 (1.1)	4.6 (0.5)	100.0
Research Methods	4.5 (0.6)	4.4 (0.8)	88.0
Building Sustainable Partnerships	4.8 (0.4)	4.7 (0.5)	100.0
Evaluation and Research	4.8 (0.4)	4.7 (0.5)	100.0
Funding: Part 1	4.6 (0.5)	4.4 (0.6)	100.0
Funding: Part 2	5.0 (0.0)	5.0 (0.0)	100.0
Community Member Curriculum			
Types and Phases of Research	4.8 (0.4)	4.6 (0.5)	100.0
Emerging Roles and Opportunities	4.9 (0.2)	4.9 (0.3)	100.0

[a]This was a combined session that included community-based organizations and community members;

[b]data are means and standard deviations for level of satisfaction (1–very low to 5–very high) with various training aspects (e.g., materials, facilitators) or relative to role preparation.

Table 7.

Focus Group Themes and Subthemes

Themes and Subthemes	Representative Quotes
1. Overall Impression	*"The thing that really stuck out to me was how long it took from having doing the research to implementing it."* (CM)
• Strengths	*"… (there) was a really good organization to the meeting structure, the meeting format, and the delivery."* (CM)
	"They [facilitators] never made you feel like that was a silly question. They were warm and welcoming." (CBO)
	"I enjoyed the week break. It definitely gave me time to apply it or even apply it in our organization. Even just process it." (CBO)
• Weaknesses	*"I also think there should have been more time for questions."* (CM)
2. Impact on Confidence and Research Ability	" [My organization has] *looked into software that not only does a logic model but also does a project management piece that goes along with it."* (CBO)
	"… now we basically have a big board with just the logic model. It's really helped us speed things up with deadlines and grant applications and future project." (CBO)
	"There should be normal [non-academic] people on every [project]. Every time that someone does research, there should be some human person on that team." (CM)
	"I just feel so much more educated that maybe I do belong." (CM)
	"… this makes me want to … get involved because I was not afraid to sit in there with these brainiacs now cause I walk in with my head up now." (CM)
•Post-Training Issues	*"I want to make sure … before I invest time and effort into this I'm going in the right direction."* (CBO)
	"we want to continue to share information about research with our communities to make sure they have a seat at the table." (CM)
3. Areas to Improve Impact	
• Identifying Mentorship Process/Program	*"I would like to work with someone who could kind of walk me through this."* (CBO)
	"I have so many directions I could go with it. To have somebody sit down and say, 'Of these three or four ideas, that's probably the one that's the most formed and would probably get the most traction.' " (CBO)
• Building Partnerships	*"… if I could talk to four or five or however many* [researchers] *and throw out these ideas, and then see if any of them were interested in any of it."* (CBO)
• Improving Dissemination of Research	*"If there's a segment in a paper or something stating … the [focus] group actually happened and [described] the outcomes, modifications [of the training]."* (CM)
	"How do you get people actually interested, that's the question … that's a big leap and we almost take that leap for granted. Like you guys did all of this research … but nobody says how we get this research to these people." (CM)
4. Community Engagement Matters	
•Importance of Community Participation in Research	*"… There should be normal people on every one. Every time that someone that does research, there should be some human person on that team—that has nothing to do (with) it but that will be a recipient of this …"* (CM)
	"I came with the expectation alone that I would learn something I could take back. And what I found out was that it is just essential that I participate because whether I think so or not, somebody could learn something from me." (CM)
•Disconnect between Community and Researchers	*"I wondered the impact of the community's opinion, insight into these research projects and those types of things. Do they really listen to us or do they actually get behind closed doors and be like 'Oh, we're just not going to do that' because that doesn't make any sense?"* (CM)

Prog Community Health Partnersh. Author manuscript; available in PMC 2021 January 01.

Themes and Subthemes	Representative Quotes
•Need to Build Partnerships between the Researchers	*"If you only see people when they want something, then it's hard to trust them."* (CM)
	"I feel like there's maybe three or four different directions I could go with this, and obviously I can't do them all at one time but if I could talk to four or five or however many people who currently are conducting research and throw out these ideas, and then see if any of them were interested in any of it. Then I think I could move something forward." (CBO)
•Disconnect between Communities	*"It's (research opportunities) not out there like that."* (CM)
	"What happens when we give this research, and what happens at the end." (CM)