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Teaching Community-Based Participatory Research Principles to Physicians Enrolled in a Health Services Research Fellowship

Dr. Marjorie S. Rosenthal, MD, MPH [Assistant Director],

Robert Wood Johnson Clinical Scholars Program and an Associate Research Scientist, Department of Pediatrics, Yale University School of Medicine, New Haven, Connecticut

Ms. Georgina I. Lucas, MSW [Deputy Director],

leads the community component of the program Robert Wood Johnson Clinical Scholars Program, Yale University School of Medicine, New Haven, Connecticut

Ms. Barbara Tinney, MSW [Executive Director],

New Haven Family Alliance, New Haven, Connecticut

Dr. Carol Mangione, MD, MSPH [Professor of Medicine],

(David Geffen School of Medicine at UCLA) and Health Services (UCLA School of Public Health), Co-Director, Robert Wood Johnson Clinical Scholars Program, University of Southern California, Los Angeles, CA

Dr. Mark A. Schuster, MD [Chief of General Pediatrics and Vice Chair for Health Policy Research],

Department of Medicine, Children's Hospital Boston/Harvard Medical School, and former Associate Director of the Robert Wood Johnson Clinical Scholars Program, University of Southern California, Los Angeles, CA

Dr. Ken Wells, MD [Professor of Psychiatry and Biobehavioral Sciences],

(David Geffen School of Medicine and Semel Institute) and Health Services (UCLA School of Public Health), Senior Scientist (RAND) and Co-Director, Robert Wood Johnson Clinical Scholars Program, University of Southern California, Los Angeles, CA

Dr. Marlene Wong, PhD, LCSW [Assistant Dean and Clinical Professor],

Director of Field Education, School of Social Work, University of Southern California, Los Angeles, CA

Dr. Donald Schwarz, MD [Professor of Pediatrics at the University of Pennsylvania School of Medicine at The Children's Hospital of Philadelphia (on leave)],

He is currently Deputy Mayor for Health and Opportunity and Health Commissioner of the City of Philadelphia, PA

Dr. Lucy W. Tuton, PhD [Adjunct Associate Professor of Medicine],

Prevention and Population Health and Co-Director of the Community and Leadership Components of the Robert Wood Johnson Clinical Scholars Program at the University of Pennsylvania School of Medicine, Philadelphia, PA

Dr. Joel D. Howell, MD, PhD [the Victor Vaughan Professor of the History of Medicine Professor of Internal Medicine], and

History, and Health Management and Policy, and was until 2007 the Director of the University of Michigan Robert Wood Johnson Clinical Scholars Program, Ann Arbor, MI

Dr. Michelle Heisler, MD, MPH, MPA [Assistant Professor]

VA Center for Clinical Practice Management Research, University of Michigan Department of Internal Medicine, and Assistant Director University of Michigan Robert Wood Johnson Clinical Scholars Program, Ann Arbor, MI

Abstract

To improve health and reduce disparities through health services research, investigators are increasingly turning to techniques that actively involve individuals and institutions who would be affected by the research. In one such approach, community-based participatory research (CBPR), community members participate in every aspect of designing and implementing research with the expectation that this process will enhance the translation of research into practice in communities. Because few physician researchers have expertise in such community-based approaches to research, the Robert Wood Johnson Foundation leadership expanded the mission of the Robert Wood Johnson Clinical Scholars Program (RWJCSP), which historically focused on health services and clinical research, to include training and mentored experiences in community-based health research.

The three years of experience (2005-2008) implementing the new community research curricula at the four RWJCSP sites, University of California at Los Angeles, University of Pennsylvania in Philadelphia, University of Michigan in Ann Arbor, and Yale University in New Haven, form the basis for this paper. The authors describe how, with common goals and objectives, each site has taken different approaches to teaching CBPR based on the unique nature of existing community and academic environments. The authors use illustrative quotes to exemplify three key challenges that training programs face when integrating community-partnered approaches into traditional research training: relationship building; balancing goals of education/scholarship/relationships/product; and sustainability. Finally, the authors offer insights and implications for those who may wish to integrate CBPR training into their research training curricula.

Keywords

Community-based research; fellowship training; health services research; underserved populations

Introduction

The ultimate goal of clinical and health services research is to create knowledge that can be used to improve health and health care for individuals and communities. To achieve this goal effectively, especially when working with underserved populations, investigators are increasingly incorporating community input into all stages of the research. Community-based participatory research (CBPR), which provides principles and processes for obtaining community input, is being increasingly used in traditional medical research settings. CBPR is designed to partner community members with academic researchers to jointly define issues needing study. The partners then develop, conduct, and disseminate research addressing those issues.^{1, 2} The critical elements of CBPR are 1) recognizing that both the academy and the community have important expertise, 2) having community members participate in every aspect of the research, from defining the health concern and designing the research question to interpreting and disseminating the results, 3) having the community and the academy share knowledge, skills, resources, and power, and 4) using the results of the research to inform and direct change.³ This increased awareness of community expertise parallels the increased acceptance of both educating physicians in community-oriented primary care⁴ and health-related community-based research networks.⁵

CBPR can contribute to decreasing health disparities among disempowered communities in at least three ways: through building capacity in underserved populations, through focusing attention on social justice, and through sharing of power and resources.^{6, 7} While health service researchers, funders and policy makers increasingly have recognized the extent and severity of health disparities,^{8, 9} traditional approaches to reducing these disparities have had limited success. Accordingly, the underlying CBPR principle of partnership—that those affected by disparities are integral to better understanding the nature of, consequences of, and solutions to disparities—is increasingly being adopted for both research and service relationships.

While community-partnered approaches hold great promise, integrating them into traditional research training for physicians presents substantial challenges. CBPR, for instance, demands transdisciplinary collaboration, accepting research subjects as research partners, a desire for advocacy, and acceptance of power-sharing in decision-making throughout the research process.¹⁰ Successful community collaborations require time for building and maintaining relationships through a lengthy and unpredictable process of planning, development, and refinement.² Moreover, there are limited medical faculty with experience in CBPR, and the academic framework, especially with regard to promotion, offers few incentives for this approach to research.^{11,12}

The Robert Wood Johnson Clinical Scholars Program (RWJCSP), a two- or three-year post-doctoral research training fellowship prepares physicians to be leaders in improving health and health care.^{13,14} In the early 1970s clinically-relevant health services research was a new field, and for the first 30 years (1975-2005) each academic site offering the RWJCSP focused on training fellows to work in health services research. Graduates of the program were well-trained and built successful careers in clinical epidemiology, biostatistics, health care management, outcomes research, and health policy. In preparation for funding for 2005-2015, however, the Robert Wood Johnson Foundation leadership hoped to expand the skill set of its graduates to include training and experience in community health research. Four sites were selected competitively to train physicians under this expanded mission: University of California at Los Angeles (UCLA), University of Pennsylvania in Philadelphia (Penn), University of Michigan in Ann Arbor (Michigan), and Yale University in New Haven (Yale). In this paper, we review each site's approach to CBPR training for physicians and consider differences and similarities, from the perspective of several stakeholder groups.

While there are guidelines for CBPR^{1, 2} and curricula for teaching CBPR,^{15,16} there has been little systematic evaluation of how to address the challenges of engaging physicians in CBPR and no evidence-based approach to CBPR training in general. Directors and community partners at the four RWJCSP sites therefore crafted a curriculum and expectations that drew on experiences with CBPR, strengths and needs of the particular target cities, as well as history of the relationships between each University, school of medicine, and potential partner communities. This has resulted in a diversity of approaches to the role of CBPR at the four RWJCSP sites. Although the adaptation of CBPR philosophy to four geographically distinct RWJCS Programs resulted in four heterogeneous curricula, common themes across sites serve to illustrate how to implement a curriculum that best serves the community and the academy.

Goals and Objectives of Program Curricula

The leadership of the four sites arrived separately at their own educational goals for CBPR, without specific competencies or strategies dictated from the National Program Office. In discussions for this paper, however, we realized that there are four goals common to each site: education, relationship development, product, and scholarship. Research fellowships for physicians traditionally include educational goals ('What are we going to teach the

fellows?') and scholarship goals ('What and how are we expecting the fellows to disseminate new information in the medical community?') but what makes the CBPR curriculum distinct for training clinicians is that it includes relationship development goals ('With whom is it important that fellows partner? and What will those partnerships look like?') and product goals ('What tangible, sustainable items will the community partners have after the research that can improve the health of the community members?'). Three key objectives used to meet those goals are 1) to teach principles of community-based research and CBPR, 2) to provide opportunities for conducting community-based research or CBPR, and 3) to make a measurable impact on the health of the individuals in the communities served by the projects.

Objective #1: teaching principles—At each RWJCSP site a primary objective is to teach critical principles of CBPR, health disparities, social and behavioral determinants of health, and ethics of community-relevant research (Table 1). Fellows learn about community strengths, challenges, and available resources, as well as the role of the community-based organizations (CBO) and local government. All four sites include training in understanding the community context of performing community relevant research as well as having the skill set to work collaboratively in conducting research, program evaluation, providing service, and influencing policy.

Objective #2: working with communities—The second objective at all four sites is to learn how to work directly with local communities. All four sites acknowledge that community-based research occurs on a spectrum from community-placed research—where community members serve as research subjects, only—to fully participatory research, where community members have an opportunity to contribute to the extent of their ability and availability in every step of the process. All four sites require that fellows have experience partnering with a community and using principles of CBPR. However, because of limits of time, specialty, and experience, on the part of fellows, faculty, and community partners, it may not be possible to fully incorporate all the elements of CBPR into each fellow's experience. At UCLA, for example, each fellow participates in a traditional CBPR project with a community partner representing a local community. At Yale, somewhat as a result of the small size of New Haven, each cohort of fellows is encouraged to build on the work of previous cohorts and assist in sustaining a focused research agenda. Michigan fellows may choose a traditional CBPR approach or a partnership that integrates multiple principles of CBPR but uses a community composed of whomever their individual research ultimately will target, such as a community of economically disadvantaged individuals or ICU nurses or public health departments. Alternatively Michigan fellows may choose to work with one of the established CBPR research groups with long-standing community partnerships or may develop an individual CBPR project within larger, often multi-faceted CBPR projects. Penn uses a short-term group consultation model: in response to a need of a CBO, faculty and community partners develop a topic and then the first year fellows, as a group, use the first two months of fellowship to provide an agreed-upon research-based product to a CBO. Additionally, the first year fellows at Penn are required to undertake a partnership with a CBO that leads to a mutually-developed project. Each community-based project at all four sites must have a dissemination product useful for the community (such as analysis that can be used to attract funding) and/or a scholarly dissemination product (such as a scientific paper).

Objective #3: having an impact on communities—The third objective-- making a measurable impact on the health of community members-- is interpreted differently at the four sites, depending on local circumstances. For example, in New Haven, a city of approximately 125,000 people, the absence of a coordinated medical school presence in the

community allowed the Yale RWJCSP faculty to create a goal of expected improvements in a community-relevant health indicator, after 10 years of cumulative CBPR projects. The Michigan program, on the other hand, partners with experienced organizations, the Detroit Community-Academic Urban Research Center and the Flint, Michigan Prevention Research Center (PRC), serving a region of over 5 million people. The existence of many projects within the Detroit and Flint networks makes it difficult to disaggregate the community impact of the fellow's contributions from others team members.

Projects have resulted in products that are useful to partner communities (Table 2). For example, one summer community project at Penn provided a CBO partner with a proposal that could be utilized to obtain funding, as well as provided them with a comprehensive listing of resources to address violence in urban communities. A project at UCLA led to a community coalition and funding for health and resiliency centers in post-Katrina New Orleans. A project at Michigan on the effect of a community-based adult diabetes self-management program on children in the household led to funding from the Centers for Disease Control and Prevention to more fully incorporate children and adolescents into the program.

Structure and Process

The distinct academic and community milieus into which CBPR was inserted have led to differences in engaging community leaders with academic faculty (Table 3). For example, the programs at UCLA and Michigan have long-standing connections to well-established community-based organizations and networks of community organizations. While fellows are not compelled to work with long-standing partners like Healthy African American Families in Los Angeles, the Detroit Urban Research Center or the Flint PRC, if fellows at UCLA or Michigan choose to work with these community partners, their efforts are facilitated by strong relationships. At Penn and Yale, community research connections were previously developed only by individual faculty members or University centers.

Faculty expertise differed at each site. For example, the directors at Michigan were able to draw from faculty with experience in CBPR from throughout the medical school, public health schools, the Urban Research Center, and the PRC. At Penn and UCLA there were faculty with pre-existing strong connections to the surrounding community, and some with CBPR experience; the Penn and UCLA directors recruited from these faculty to oversee the community curriculum. Cognizant of the limited faculty with experience conducting or teaching CBPR at their institution, the directors at Yale created a new position. Prior to starting the new iteration of the program, the directors hired a social worker with experience in community organizing, health and human services, and building collaborative relationships between the academy and diverse sectors of the community around program development, applied research, and professional training.

At each site program faculty recruited community partners prior to starting the CBPR curriculum. Potential partners were identified from an established network of community leaders, from an existing community-based research center or from a community advisory board created for this purpose. For example, the UCLA program faculty recruited community partners, who had worked previously with at least one member of the RWJCSP faculty, into an advisory board. Each applicant to the UCLA RWJCSP interviews with a member of this board and the board has veto power over applicant acceptance. Through a series of meetings with leading health care providers, policy makers, leaders from well-established community-based organization, and academics working in the community, the new social worker at Yale created a network of engaged community members. All four programs utilize community leaders to teach parts of the didactic curriculum; at UCLA and

Michigan the curriculum is co-led by academics and community leaders. Some community leaders are provided stipends, in line with the payment at their community organization.

In order to reinforce principles of partnership the program leadership shares established CBPR principles with fellows and community partners in several settings. Faculty encourage discussion on the practical application of these principles during the course curriculum, in community advisory board meetings and at program research advisory meetings. At UCLA, faculty and community partners developed a workbook to review expectations and each fellow at UCLA develops a project-specific memorandum of understanding based on the existing model.¹⁷ This transparency is aimed at enhancing cooperation throughout the research process, up to and including implementing interventions and publishing the project results.

Challenges: Illustrative quotes

In discussions for this manuscript, the authors recognized that some CBPR challenges were greater when trying to simultaneously teach and perform CBPR rather than only teaching or only performing CBPR. The authors came up with a preliminary list of challenges and potential solutions; listened for quotes among community partners, steering committee members, fellows, and directors; shared the quotes with each other; and then discussed what challenges they believed the quotes were actually describing. This iterative process led to identification of the following key challenges and potential solutions faced in implementing CBPR in a research training program for physicians: 1) relationship building and maintenance, 2) balancing goals of education, scholarship, relationship, and product, and 3) sustainability.

Challenge: Relationship building and maintenance—Research relationships between the academy and community, regardless of whether the academic partner is a fellow, demand trust, a recognition of the expertise each is bringing to the project, transparency, and commitment. A key challenge in the fellowship is the time necessary for the relationship as illustrated by this quote provided by a community partner of a clinical scholars program.

“How do entities approach the task of research and subsequently the role and function of community as subjects? It's like respecting others in a relationship. People need to take the time to build the context—a sign of respect, not condescending. When there's authenticity, the context conversation can happen.”

Faculty members have recognized that enhancing the fellow's ability to practice CBPR requires that the faculty serve as a consistent party to the relationship. How such challenges may play out in the curriculum structure is illustrated by a comment from one of the program directors:

“We have made a substantial effort to earn and sustain the community's trust in the fellows and the university. We recruited a team of community partners who each had a history of working with at least one member of our core faculty. Fellows can therefore build on existing relationships, with mentorship from the particular faculty member. Community partners have greater confidence because of the role of the faculty member. Of course, partners and fellows must still build their own trust and rapport, but it is easier to do so in the context of an existing relationship.”

Challenge: Balancing the goals of relationship, education, research, and product—Research between any two partners is a balance of competing interests. In a training program that includes community research, the balance is more delicate because for program sustainability, the academic mentors, the fellows, and the community partners each

need to achieve the four goals but in any given moment, for a given partner, any one of the four goals may be more important. The goals of fellows, faculty and community members may conflict, and the resulting tensions for fellows, are illustrated by the following quotes from fellows.

Fellows met with community leaders and decided on a topic that was of interest to both fellows and community leaders. After the fellows had agreement from faculty to pursue a research project, one community leader described a completely different focus that he thought fellows should pursue. Faculty mentors, and not fellows, were convinced. When the faculty tried to encourage the fellows to pursue this research topic they found more compelling and more likely to lead to sustainable research projects that future cohorts could inherit, one fellow said, “We feel like you think the community and the Clinical Scholars Program are more important than we are.”

One cohort of fellows is working on a project to assess the social determinants of health in a city. They are interviewing influential community members, analyzing qualitative data for themes and will disseminate their data with policy makers to set a research agenda. The academic and community leaders who have been engaged throughout the process have formed a coalition to collect quantitative data and triangulate the data. While the fellows appreciated that their own goals were to engage the community, and that sustainability of the project beyond their two years of fellowship required community engagement, they were conflicted. “We are concerned that the coalition is made up of some vocal parts of the community. When we were asked to delay our interviews to accommodate other parts of the triangulation, we understood why that was happening but worried about what it might mean. What else they might ask of us?”

Challenge: Sustainability—Each partnership between a fellow and a community organization functions within the context of a university/community relationship; for some community members that has meant continued skepticism regarding the sustainability of projects once a fellow completes the fellowship. Concerns of a community partner are illustrated by the following quote:

“There is a certain amount of anxiety with this project. When is [the University] going to pull out? When will the feds pull back the money and no one will want to do it? Is it philanthropy or a cash experience? How much reach is there? How deep into the institution does CBPR go? Does the University see the community work as part of tenure? What is happening in other parts of the University? Where is the continuity of the effort? If the person leaves, does the work stop? Not to diminish the value of relationships but does the work go on?”

Part of the traditional ethos of physician researchers is that they are independent investigators; perhaps more than any other aspect of CBPR, sustainability demands that researchers respect the abilities of others and actively engage them. In the quote below, a program director describes how the fellow, the faculty mentors and community partners considered sustainability of the product before they knew the intervention would work.

“One team of a community partner and a fellow designed a program to treat homeless persons with Hepatitis C in primary care settings. It was clear that implementation and pilot testing of this program was of critical importance to the community partner and to the fellow but that time constraints would not permit the fellow to complete the work. Because of early recognition of this problem, the community partner, faculty mentors, and fellow devised a plan that would make completing the work feasible and would leave the program in community hands

with the needed resources to continue it if it was found to be effective in the pilot test.”

Discussion

In this paper we described how four fellowship programs, historically designed to promote physician leadership in health services and policy research, developed a new program component to introduce and promote knowledge and expertise in community-based participatory research, as an added research design particularly suited to addressing health disparities and achieving local impact. The program directors at these four sites sought assets at their own institutions (faculty or centers who were already practicing CBPR or who had relationships with CBO), and sought assets in their community (strong CBO with an interest in health care). The directors formed relationships with leaders of these CBO and sought their insight. Some institutions hired additional faculty. The directors and community partners used existing literature to adapt both didactic and experiential curricula and adapted a set of goals that include what health services research training programs are good at (education and scholarship) as well as what is innovative and enhances the training (relationship and product).

Just as doing CBPR requires understanding local strengths and needs, teaching the principles of CBPR can work only if it is specifically adapted to fit within the local context. Faculty and community partners at all four RWJCSP sites have created curricula based on principles outlined in the CBPR literature, yet the specifics of their assets, challenges, and historical relationships with their local communities and with implementing CBPR have resulted in locally relevant and distinct curricula. While others have outlined curricula and described the challenges of CBPR,^{1, 2} we add to the literature by contrasting how four health services research fellowships for physicians implemented training in CBPR and by describing the challenges of CBPR in such training programs.

All four curricula give fellows the opportunity to stretch their world view, through, for example, considering the perspective of those being researched and sharing resources with non-traditional community partners. Creating a curriculum that highlights the principles of CBPR necessitates a broad approach including instruction in the politics and history of cultural, racial and economic disparities in medicine. All four curricula described here include both classes on social determinants of health as well as forums to discuss and reflect on who is traditionally on the research team, who is not, who is receiving resources for their work, and how the presence of different research team members influences the outcomes. Acting within the guidelines of CBPR could reduce health disparities in a number of ways; one is to highlight issues that were not previously apparent.

One lesson learned has been the importance of sustainability. The reality of sustaining the partnership and benefit of the projects when the fellowship is only two to three years requires early planning, building of community capacity, and enlisting resources that may be beyond the program. One scenario is that the fellow finds work either as a faculty member or with an organization that permits sustaining the partnered research. A second option is the development of a project that can easily be transferred between cohorts of fellows. A third approach is to identify extramural resources that can be used by community partners to sustain projects. Critical to sustainability in all of these scenarios is committed academic faculty and community partners, as well as transparency from the beginning about planned deliverables and roles.

Another challenge of placing this curriculum within a health services research fellowship is that academic medical centers may not be ready to support academic careers with a

substantial focus on community impact and CBPR.^{11, 12} Many leaders of academic medicine have been successful using research models that are not based on partnerships; while some of them may support the idea of CBPR, many may not. When mentoring fellows, program directors must balance the lack of certainty in the viability of a CBPR career with supporting the fellow's enthusiasm for the new curriculum.

Limitations to this description of curricula include that we have not provided a formal evaluation of outcomes. Given that the mandate for the curricula is only three years old, the only evaluation possible is whether the four sites are implementing the curriculum as described. Future research should assess the impact of this curriculum change on the health of community members, using specific health indicators relevant to their community, as well as on the career trajectory of graduates from the RWJCSP. Additionally, from our limited sample we cannot comment on what specific institutional characteristics increase the likelihood of successful CBPR training. Further research should assess the importance of funding, mission of university and other characteristics in determining successful CBPR training and successful CBPR. Finally, the four universities described here are large and in or near urban areas and therefore the training described may not be generalizable. On the other hand, CBPR also occurs in small, rural areas¹⁸ and, given that relationships are a critical aspect of the training, small and rural communities are likely to implement the training successfully.

Training physicians in CBPR principles and approaches during their research fellowship has potential benefits for communities, training programs, and fellows. For the communities, while health care disparities continue to increase, meaningful community involvement in research may decrease health disparities among disempowered individuals, through building skills in using research to advocate for their needs, through having a collaborator who has credibility with policy makers, and through increasing the power and confidence of individuals to secure resources.^{6, 7} For the training programs, they may be able to leave a legacy of improved health in the communities with which they partner. For the fellows, federal and foundation funding is increasingly targeting research that incorporates community engagement and CBPR to facilitate the effective translation of research findings into practice. Moreover, teaching CBPR principles gives physicians skills in relationship-building, communication, collaboration and negotiation that can be applied effectively in more traditional health services sites. Fellows may be better trained to carry out a quality improvement project in the hospital (i.e., in the ICU medical staff and administrators and patients are the community), to listen for places where the community can get involved (i.e., when brainstorming about what action to take after recognizing the high prevalence of hypertension in the emergency department), and to seek knowledge wherever and from whomever has it. CBPR principles and practices may enhance any effort to engage and mobilize stakeholders and promote social and policy changes, whether in health systems, rural sites or urban communities.

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Table 1
Topics of Community Research Curriculum Common to All Four RWJCSP Sites*
(2005-2008)

CBPR History and Basic Concepts Quantitative Methods in CBPR Qualitative Methods in CBPR
Strategies for Developing and Maintaining Partnerships with Communities How to identify Community Leaders Community Needs Assessment
History and epidemiology of local communities Health and Human Services Systems Walking Tours of Disadvantaged Neighborhood Orientation to Community-Based Organizations
Health Disparities Healthy People 2010
Ethics of Community-Based Research Ethics of using Research to Change Health Care Ethics of Research Among People of Color and Vulnerable Populations
Social Determinants of Health Impact of Faith on Health Impact of Public Benefits on Health Built Environment Impact of Professional and Economic Diversity on Health Care Providers' Decision-Making
Behavioral Determinants of Health
Program Evaluation and Dissemination

* University of California at Los Angeles, University of Pennsylvania in Philadelphia, University of Michigan in Ann Arbor, and Yale University in New Haven

Table 2
A Sample of Community-Based Research Projects Partnered between RWJCSP Fellows and Community Partners and their status after the Fellow's Graduation from the fellowship

Project	Community Partner(s)	Sustained beyond fellow graduation
Evaluating an exercise program for primary school students	Board of Education, New Haven, CT	Yes, by new fellow
Partnering with New Haven Community Leaders to Create a Repository for Data on Health and Social Determinants of Health: Step 1: How Can Data Best Be Gathered and Used?	Dept of Public Health, New Haven, CT	Yes, by new fellows
Translating a diabetes prevention program from research to practice in a community health center	Fair Haven Community Health Center, New Haven, CT	Yes, by new fellow
Understanding impact of parent involvement in diabetes intervention on children and adolescents in the household	REACH Detroit Partnership, CHASS, Henry Ford Health System, Detroit, MI	Yes, by community partners who received additional funding to target diabetes prevention intervention to families
Developing and evaluating a multi-level intervention to prevent diabetes and its complications among Latino and African American adults in Detroit	REACH Detroit Partnership, CHASS, Henry Ford Health System, St. Johns Riverview Health System, Detroit, MI	Yes, by community partners who received funding from multiple sources (including NIH) to expand and evaluate the program
Rapid Evaluation and Action for Community Health in New Orleans (REACH-NOLA): Understanding and addressing the community health needs working with community groups	Common Ground Health Clinic, St. Ann's Episcopal Medical Mission, New Orleans, LA	Yes, by fellow (as Faculty Member)
Supporting Wellness Workgroup: Focus on Advocacy and Policy Strategies to Reduce the Burden of Depression on Communities of Color	Healthy African American Families, Los Angeles, CA	Yes, by fellow (as Faculty Member)
Needs assessment, risk behaviors, and factors affecting adherence to therapy for Asian Americans with Hepatitis and HIV co-infection	Asian Pacific AIDS Intervention Team, Los Angeles, CA	Yes, by fellow (as Faculty Member)

Table 3
Structure of the Community-Based Research Training Common to all four RWJCSP Fellowship Sites* (2005-2008)

CBPR coursework
All fellows must participate
At least two semesters
Co-taught by academic faculty and community leaders
Includes tours of community organizations and neighborhoods
Community-based research
All fellows must have one project that incorporates CBPR principles such as assessing needs, actively involving stakeholders from beginning or has policy impact, etc.
Project designed in coordination with community leaders
Fellows present key process findings to designated community groups throughout project
Products from project must include item useful for community (i.e., program evaluation, toolkit, website, grant proposal)
Products from project must include written product (i.e., scientific paper, policy brief, agency report, research agenda) for dissemination
Community Leaders Involvement
Standing network of community leaders to act as steering committee, mentors and/or partners for community projects

* University of California at Los Angeles, University of Pennsylvania in Philadelphia, University of Michigan in Ann Arbor, and Yale University in New Haven