The CITRA Pilot Studies Program: Mentoring Translational Research

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Purpose: We developed an innovative pilot studies program to foster partnerships between university researchers and agencies serving older people in New York City. The development of researchers willing to collaborate with frontline service agencies and service agencies ready to partner with researchers is critical for translating scientific research into evidence-based practice that benefits community-dwelling older adults.

Design and Methods: We adapted the traditional academic pilot studies model to include key features of community-based participatory research.

Results: In partnership with a network of 265 senior centers and service agencies, we built a multistep program to recruit and educate scientific investigators and agencies in the principles of community-based research and to fund research partnerships that fulfilled essential elements of research translation from university to community: scientific rigor, sensitivity to community needs, and applicability to frontline practice. We also developed an educational and monitoring infrastructure to support projects.

Implications: Pilot studies programs developing community-based participatory research require an infrastructure that can supplement individual pilot investigator efforts with centralized resources to ensure proper implementation and dissemination of the research. The financial and time investment required to maintain programs such as those at the Cornell Institute for Translational Research on Aging, or CITRA, may be a barrier to establishing similar programs.

Key Words: Community-based participatory research, Investigator development, Research to practice

Although community-based participatory research approaches have been widely applied in public health (e.g., Plumb, Collins, Cordeiro, & Kavanaugh-Lynch, 2006; Israel, Schulz, Parker, & Becker, 1998; Israel et al., 2005; Wells et al., 2006), these approaches have been used less frequently in the field of gerontology. Community-based participatory research (CBPR) is characterized by giving community members and other key stakeholders such as frontline service agencies the opportunity to be “full participants” in each phase of the research process, from conceptualization of the problem through all phases of design, interpretation, and dissemination of the findings. Developing a com-
community-based research approach to issues that affect older people is a priority recognized by major funding organizations such as the National Institute on Aging and the Robert Wood Johnson Foundation (Pillemer, Czaja, Schulz, & Stahl, 2003; Robert Wood Johnson, 2006).

Despite such interest, there is limited information regarding specific ways to promote CBPR initiatives. Numerous obstacles to researcher–practitioner collaboration have been identified, including an academic culture that does not value collaboration with the practice community, lack of training for researchers in community outreach, and the time and costs necessary to conduct collaborative activities. Obstacles on the side of the practitioners include negative prior experiences with researchers, concern that research is a distraction from client needs, and operating under intense time pressure on their jobs (Sabir et al., 2006). Thus, there is a need to develop concrete mechanisms to overcome such obstacles and promote CBPR approaches in the field of aging.

In this article, we describe an innovative effort developed by the Cornell Institute for Translational Research on Aging (CITRA) to address these issues. Specifically, we designed and evaluated a model pilot studies program to facilitate community-based research benefiting older people living in New York City. This program awarded seed grants for agency–researcher collaborations and provided supportive and trouble-shooting assistance during the course of the projects.

The Challenges of Promoting CBPR in a Pilot Studies Program

Pilot studies programs are typically established by academic research centers to develop investigators, break new ground in an area of research, and seed high-risk, high-return projects that may result in funded larger-scale projects. Thus a pilot mechanism provides a flexible means to test new and innovative research procedures and techniques and to pursue scientific opportunities that require quick turnaround time. Such pilot programs are frequently a required component of centers funded by the National Institutes of Health.

Although pilot studies programs often achieve these general scientific aims, it is unclear how they can be used to promote CBPR. The well-documented logistic challenges of community-based research (e.g., Israel et al., 2005; Plumb et al., 2006; Wells et al., 2006) require substantial supplementation for investigators at the infrastructure level to build and maintain equal and productive partnerships with community representatives. Conventional pilot studies are usually funded at a modest level and for a short time. As a consequence, pilot study investigators who want to work with communities may lack the resources, time, and connections to establish partnerships with relevant stakeholders.

In general, most investigators lack experience in CBPR and may also lack access to appropriate education (Israel et al., 2005). It is also not clear that researchers benefit in traditional scholarly ways (e.g., funding, publication) relative to the extra time invested in using CBPR compared with conventional methods (Plumb et al., 2006; Wells et al., 2006). Institutional constraints, such as concern about the scientific rigor of CBPR (e.g., Viswanathan et al., 2004) and difficulty with Institutional Review Boards (IRBs; e.g., Brydon-Miller & Greenwood, 2006; Israel et al.), discourage investigators from adopting CBPR.

To address these challenges, CITRA has developed a pilot studies program specifically designed to promote CBPR approaches in aging. CITRA endeavored to build a flexible partnership infrastructure that investigators new to CBPR could access to carry out community-based research. Further, CITRA incorporated a research support and monitoring infrastructure into its pilot program. To evaluate the program, CITRA has conducted qualitative evaluations of each of the pilot studies it has funded. An appendix table lists examples of pilot studies. The next sections provide an overview of the CITRA pilot studies program, document the steps used to implement it, and report findings from the case evaluations.

The CITRA Pilot Program

CITRA, an Edward R. Roybal Center funded by the National Institute on Aging, is a research partnership that involves social gerontologists, geriatricians, and geropsychiatric researchers drawn from various Cornell University departments and the university’s Weill Cornell Medical College. One of CITRA’s major goals is the translation of research findings to community members, including dissemination regarding evidence-based practices in aging. The second primary goal, and the topic of the present article, also reflects the aims of translational research: to promote scientifically rigorous community-based research in aging that will lead to speedier uptake of empirical findings by practitioners (Pillemer, Suitor, & Wethington, 2003). Further, CITRA aims to study the process of developing partnerships for translational research projects. Given these goals, it was clear that a conventional pilot studies program would not be appropriate. Therefore, the CITRA investigators and their community partners transformed the conventional center pilot model to promote research facilitating the development of evidence-based practices (e.g., Dunifon, Duttweiler, Pillemer, Tobias, & Trochim, 2004). Over a 3-year period, the pilot studies program has been employed to foster a continuum of applied research studies on aging, linking to resources available in the New York City community, made accessible to CITRA through its Community Advisory Committee (CAC) and its major community partner (the Council of Senior Centers and Services).

The reconceptualized pilot program has five key aims: (a) developing researcher–community agency partnerships as a means of translating scientific findings into community settings; (b) increasing the capacity of community agencies to partner with researchers; (c) mentoring researchers in community–researcher partnerships by offering support and providing access to community agencies; (d) monitoring the development
of community–researcher partnerships; and (e) encouraging externally funded (e.g., National Institutes of Health or equivalent) proposals to continue community-based research.

The next section describes how we revised a conventional pilot program to maximize the success of community-based research (and ultimately CBPR) on a small scale. Drawing on our previous experiences working with community and elder service agencies (Pillemer et al., 2003) and the growing research literature on community partnerships (e.g., Israel et al., 2005), over time we developed a pilot program intended to meet essential elements of research translation from university to community: scientific rigor, sensitivity to community needs, and applicability to frontline practice. The process was iterative, as we integrated feedback from our experiences.

**Components of the CITRA Pilot Studies Program**

Operationally, the CITRA pilot program infrastructure has six components: (a) a community-based process to establish funding priorities; (b) staff to facilitate community and researcher development; (c) a pool of investigators willing to collaborate with service agencies and community groups; (d) guidelines for pilot funding codeveloped with community partners; (e) joint community–researcher review processes; and (f) monitoring and troubleshooting.

**Community-Based Process to Establish Funding Priorities.**—The keystone of the CITRA pilot program is forging successful relationships with community agencies and organizations. In the planning stages, we determined that the pilot program should foster an environment in which frontline agencies can engage as equal partners in intervention and applied research. This approach necessitated working closely with community partners to determine priority areas for pilot grants. In a conventional pilot program, the scientific agenda of the investigators would guide pilot awards.

The general plan for the research priorities of CITRA was developed in partnership with its CAC. An important step to sustain focus on community priorities was establishing a Pilot Studies Subcommittee from the larger CAC. Through regular meetings, this committee of community service providers had a critically important impact on developing and defining research priority areas, methods for building community agency capacity to partner with researchers, and the pilot program design and thematic focus. Its contributions have been essential for building a program that is mutually responsive to the interests of community agencies as well as researchers.

**Staff to Facilitate Community and Researcher Development.**—The core staff consists of the Director of the Pilot Studies Program and several specialists in dissemination, partnership development, investigator recruitment, research methodology, and IRB submission and review. To address the special demands of community-based research, a dissemination specialist develops and maintains relationships with service agencies in New York, including scheduling educational sessions and publishing a regular newsletter. A partnership specialist advises researchers and agencies seeking collaborations. The Director and core staff members recruit potential stakeholders for new projects and contribute expertise gained through conducting previous CITRA activities.

**Developing a Pool of Researchers.**—Developing a pool of investigators committed to translational research on aging is at the core of CITRA’s mission. At the start of CITRA, we created a database of research expertise on the Cornell campuses. We update this database continuously, including evolving research interests. Agencies and investigators interested in research partnerships are matched by core CITRA staff.

As an attraction for researchers, CITRA has developed a research-ready community network that researchers can access rather than develop one on their own. In tandem, we provided education intended to help overcome some of the barriers that may prevent researcher engagement with community agencies. Thus, another important role for CITRA has been to educate potential partners about differing expectations for collaboration, to mentor investigators and agencies in the partnership process, and to facilitate conversations between the agencies and researchers on an “as needed” basis should problems arise.

**Codevelopment of Guidelines for Pilot Funding.**—CITRA’s Pilot Studies Subcommittee was composed of New York City practitioners and board members. The committee’s advice was essential for the development of the Request for Proposals, which emerged as a key educational document for researchers and community partners. Fundamental to the Request for Proposals development process was ensuring that it explicitly promotes community–researcher partnerships.

The major requirement for a successful pilot application is that a Cornell investigator partner with one or more senior center or service agencies in New York City, providing research products that are of use for that organization and other service providers. (Eligible groups include but are not limited to senior centers, home health care providers, and case management services.) In pursuit of skills development and laying the groundwork for a successful partnership, the applicants are also asked to demonstrate clearly how the research will directly benefit the community partner. The proposal is also expected to document specific strategies to develop the partnership and how partners will be involved in the process of research. Researchers are also required to provide a small stipend for collaborating organizations. The proposal serves as the formal contract between the investigators and their collaborators.

We assumed that researcher–community partnerships could take many forms, and we instructed applicants to include one or more of the possible types of collaborations: (a) mutual development of the research
idea; (b) collaboration between partners and researchers in all stages of the research, including initial planning, implementation, and utilization; (c) interpretation of the results together; and (d) eventual provision by the researcher of evidence-based products, community education, or both. It should be noted that researchers were not required to design and implement a study that met all of the ideal requirements of a CBPR study (Israel et al., 1998). The aim is to develop a fuller, more equal partnership later by exposing researchers and community partners to components of the CBPR model and then providing mentoring to encourage broad application of CBPR principles as the partnership develops in the course of the execution of the project.

**Joint Agency–Researcher Review Process.**—A review committee consisting of both researchers and practitioners evaluates the proposals. Reviewers evaluate projects on the basis of (a) timeliness and application to issues facing older adults, (b) adequate knowledge and appreciation of prior community research and existing programs in New York City regarding the research area the project will address; (c) the extent to which the concept of “partnering” was translated into a concrete arrangement; (d) quality and feasibility of research design; (e) possibilities for attracting outside funding; and (f) qualifications and commitment of the researcher and partners to the project. Despite the potential for divergent points of view on research quality and timeliness, scientific reviewers and community reviewers have shown striking correspondence ranking the quality of submissions at each review cycle.

**Monitoring and Troubleshooting.**—Our model for developing community-based research includes monitoring by CITRA staff. The monitoring consists of presurvey and poststudy questionnaires administered to pilot researchers and their partners, regular phone calls from the core staff to document progress and troubleshoot problems, and required reporting of project milestones.

The purpose of the monitoring is to help resolve issues that may arise in partnerships, such as differing expectations for contributions to projects, difficulty with implementation or IRB review, and communication problems. Issues that emerge are regularly discussed by the core staff and procedures to deal with them are developed and documented. In the interest of mentoring, researchers are also asked to report their activities delivering findings to their community partners.

**The Pilot Studies Program in Action: Lessons Learned**

By comparing the early CITRA pilots, implemented by use of a conventional pilot model, to later pilots, which required implementation of some CBPR methods, we learned several important lessons. These lessons suggest that the infrastructure developed iteratively by CITRA is essential to implement community-based research projects. Because individual pilot investigators may not be involved in all phases of implementing CBPR, there must be an infrastructure in place that “fills in the blanks” to guarantee translation of the research to the community. The infrastructure we recommend addresses five areas.

**Timely Sharing of Data with the Community Is Important.**—Careful preplanning and negotiation with all partners is necessary to ensure that data are released to the community in a timely manner. Before CITRA developed the CBPR aspects of the pilot program, we awarded pilot funds to collect data about a controversial change in the mode of delivery of home-delivered meals to some frail elders. The pilot study was designed not only as an assessment of home-delivered meals services but also as a systematic documentation of the characteristics of older people receiving those meals.

The first problem that came to the fore was that key government stakeholders were not involved in the initial study planning efforts, and subsequently they raised objections against the project. These objections were resolved but the study was delayed. In addition, aspects of the negotiated resolution delayed the release of the data until 2 years after the initial controversy. During this time, the data were not available for detailed analysis, even for aspects of the data collection that did not bear on the policy controversy, most notably the composition of the home-delivered meals population. The delay in releasing the data provoked strong complaints from CITRA’s Community Advisory Committee.

CITRA could have avoided these problems if we had implemented a key step recommended by leading CBPR practitioners. An initial memorandum of understanding (Israel et al., 1998) with all key partners and stakeholders would have been a useful exercise at laying out expectations for rapid dissemination of the study findings to the community.

**Investment in Community Research Capacity Is Critical.**—Not all community agencies are ready to partner with researchers, and steps have to be taken to screen partners for their capacity to conduct research, and to make education and support available when necessary. One of the first pilot studies implemented with the CITRA support infrastructure partnered an investigator with a senior center serving older immigrants. The senior center director eagerly welcomed the investigator with a senior center serving older immigrants.

Implementation of the study, however, was affected by misunderstandings about necessary steps to follow research protocols. Although an active and successful senior center, it was understaffed and overburdened. For example, the IRB’s expectation that agency staff members involved in recruitment complete extensive human research education on the Web proved difficult. The education was difficult for the overworked agency staff members, many of whom were not computer literate. The investigator and local CITRA staff

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members volunteered time to help center staff complete the required education.

In addition, once the project was underway, it was clear that all aspects of research implementation had to be more closely monitored by the researcher than anticipated. The project consisted of interviews and community-based education. Perhaps because the study was low risk and did not involve intervention, center staff found it hard to distinguish routine conversation and service delivery from research activities. As a consequence, the investigator needed to frequently reeducate center staff about recruitment and other ethical guidelines in order to meet IRB requirements.

A key point, however, is that the investigator could not respond to the situation alone. CITRA’s monitoring process made it possible to identify the problems as they occurred. CITRA staff also provided troubleshooting to deal with potential threats to the scientific integrity of the study.

**Success Is Dependent on Making Education in CBPR Available.**—The availability of education on CBPR appears to be a critical feature of a successful infrastructure for partnerships. Our experiences suggest that education is useful not only for recruiting researchers but also for expanding the capacity of the community to support research projects. Commitment to implementing CBPR poses considerable opportunity costs. Our interviews with investigators indicate that, on one hand, pilot researchers who decided not to implement additional CBPR features in their pilots or in future research judged other research opportunities to be less time consuming and more likely to lead to publication. On the other hand, several investigators were eager to implement CBPR features in their studies and wrote research proposals to extend their pilot work. Although it is impossible to rule out other factors that distinguish researchers who embraced CBPR, it is perhaps significant that they were much more involved in the CITRA educational activities. The educational activities went beyond academic instruction in the principles of CBPR; they included discussions of successful projects, projects that were not working as well, and the ethics and IRB review of CBPR. CITRA’s advance work with investigators may have reduced problems in obtaining IRB approval.

**Projects Require Monitoring to Guarantee Research Productivity.**—CBPR involves commitments of time and resources that tax the capacity of some researchers. The published literature on CBPR suggests that a long lead time is necessary to set up projects in comparison with the time required by projects that do not involve negotiation with nonacademic collaborators (e.g., Wells et al., 2006). A successful partnership infrastructure requires leaders who are committed to mentoring younger investigators and to encouraging them to publish at the same rate as those who do conventional research. Although there are universities that have made changes in tenure and promotion standards to accommodate young researchers who practice CBPR, these accommodations are not widespread (Wallerstein & Duran, 2003). Leaders must also be sensitive to when the adoption of CBPR is an appropriate choice for a younger investigator and when it is not. Not all research projects require CBPR approaches, and for others it may be debatable whether CBPR will significantly improve the study outcomes. Too little is known about the scientific payoff of CBPR to recommend it unreservedly in all cases (Green, 2003).

**The Infrastructure Must Organize Dissemination Efforts for Pilot Investigators.**—Our experiences also suggest that dissemination to the community—a critical step in fulfilling CBPR—must be supported by an infrastructure rather than left entirely to the resources of pilot investigators. Pilot studies involving CBPR, even if supported in their implementation phase, often encounter barriers that leave the investigator short of time to return findings to the community and close the project. CITRA staff members were on call to assist investigators.

**Conclusions**

Over time, CITRA has evolved an integrated set of steps to promote CBPR in gerontology through a pilot studies program. The progress of evolution was by necessity iterative, informed by the challenges we have documented herein in case studies. The assessment of the pilot studies program described in this article shows the promise of a targeted, mentored effort to promote CBPR approaches.

The most significant finding is that program outcomes benefit from having an infrastructure that can supplement individual pilot investigator efforts with centralized resources to educate investigators and ensure proper implementation and dissemination of the research. The costs of this infrastructure are considerable. The resources required are not only financial support for a core staff and their activities, but also compensation to partnering agencies, salary or other compensation for experienced investigators who mentor younger researchers, and extensive time commitment from all parties to partnership activities and education. The financial and time resources required to maintain programs such as CITRA’s may pose barriers to establishing similar programs.

**References**


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### Appendix

Examples of CITRA Pilot Projects

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