Translating Basic Research into Community Practice: The Cornell Institute for Translational Research on Aging (CITRA)
Elaine Wethington and Karl A. Pillemer

Elaine Wethington, Professor, Department of Human Development, Cornell University,
Karl A. Pillemer, Professor, Department of Human Development, Cornell University,

Abstract
The mission of Cornell University’s Edward R. Roybal Center, the Cornell Institute for Translational Research on Aging (CITRA) is to develop new ways to translate the findings of basic social science research into programs and policies that benefit vulnerable older persons and contribute to improved health outcomes. The overarching goal is the creation of a “research-ready” group of service agencies serving older people in New York City that can be linked to medical and behavioral investigators who seek engagement with service agencies for applied and intervention studies. The CITRA “model” consists of seven overlapping steps: (1) creation of a research-ready network of service agencies; (2) a community-based needs assessment to establish a research agenda for the program; (3) development of a pool of investigators who are available and willing to collaborate with service agencies; (4) development of a model pilot study program to connect investigators to community agencies; (5) investigator development; (6) seminars, events, and research-practice consensus workshops to facilitate researcher-community partner interaction; and (7) engaging researchers and practitioners on critical issues related to aging to invigorate and sustain the partnership.

Introduction
This paper describes a community-based research partnership established in 2003, the Cornell Institute for Translational Research on Aging (CITRA). The partnership was seeded by an Edward R. Roybal Center grant from the National Institute on Aging (1 P30 AG022845). CITRA is a consortium of Cornell University-based researchers, practitioners, and community organizations working together to design and implement applied research to improve the lives of older persons in New York City. CITRA includes researchers from both campuses of Cornell University, the main Ithaca campus and Weill Cornell Medical College located in New York City and Westchester, NY. The centerpiece of the partnership is a pilot study program for engaging university researchers and senior community agencies in collaborative research.

CITRA’s major mission has been to build a community-agency network that is “research ready.” CITRA is composed of two entities: (1) a consortium of Cornell University researchers and research mentees; and (2) a network of community agencies serving older adults in New York City. CITRA’s primary community collaborator is the New York City Council of Senior
Centers and Services (CSCS). The CSCS is a citywide organization that coordinates the activities of over 265 senior centers and other member agencies throughout the five boroughs of New York. The centers and agencies of the CSCS span virtually all New York neighborhoods, serving over 300,000 older adults. Through its partnership with the CSCS, CITRA has developed and supported opportunities for university researchers to work as equal partners with senior centers and social service agencies to address problems that affect the health and well-being of older people.

Over 250 senior centers and other agencies were surveyed in the first year of the project and expressed their willingness to collaborate on research projects. Individual contacts have been made at many of these agencies. A Community Advisory Committee consisting of 30 agency directors and community leaders promotes and facilitates the creation of agency-researcher partnerships for specific projects.

Discussion

Development of CITRA

The long-term aim of CITRA is to enhance the capacity of Cornell University to conduct community-based, translational research on the problems affecting older people. Developing a community-based research approach to the issues of older people is a priority recognized by major funding organizations such as the National Institutes of Health and the Robert Wood Johnson Foundation.\(^1\) In its first two years, CITRA emphasized needs assessment and the development of an infrastructure for a community-based research partnership with service

---

agencies serving older people in New York City. In Year 3, CITRA expanded these activities, enlarging the membership of the community-based research partnership, building a working subcommittee structure to make the partnership work more effectively, and hosting meetings with partners. Additionally, CITRA put major resources into the area of investigator development, in particular into the creation and refinement of a model pilot study program to facilitate researcher–community agency partnerships. Another major activity was the development of an innovative dissemination program using practice-oriented research reviews and researcher-practitioner “consensus” workshops. Current new directions include evaluating partnership activities, and publication and other dissemination on the methods we have developed to bridge the gap between science and service.

A description of the seven components of the CITRA model follows: (1) creation of a research-ready network of service agencies; (2) a community-based needs assessment to establish a research agenda for the program; (3) development of a pool of investigators who are available and willing to collaborate with service agencies; (4) development of a model pilot study program to connect investigators to community agencies; (5) investigator development including proposal submission; (6) seminars, events, and research-practice consensus workshops to facilitate researcher-community partner interaction and promote the success of research proposals; and (7) engaging researchers and practitioners on critical issues related to aging.

1. Creating a Research-Ready Network of Community Agencies

A critically important goal of CITRA is forging successful relationships with community agencies and organizations. Most efforts are devoted to fostering and sustaining an environment in which agencies serving older people in New York City can engage as equal partners in
intervention and applied research. A critical barrier perceived at the beginning of the project was the lack of formal interaction structure to engage researchers and practitioners in a regular discussion setting. On the one hand, researchers want to locate community settings which are hospitable to conducting research. On the other hand, practitioners desire an active role in crafting research projects relevant to their needs. To accomplish these goals, CITRA staff assembled a core partnership staff and a community advisory committee. Then the partnership staff and advisory committee organized meetings to encourage community interest.

The initial proposal to the National Institutes on Aging proposed a program for developing a structure to facilitate partnerships. A critical factor leading to the success of the proposal was establishing an alliance with the New York City Council of Senior Centers and Services (CSCS). Over 250 senior centers and agencies are linked to CSCS, representing all neighborhoods in the five boroughs of New York City. In addition, CSCS provided linkages to the major city agency overseeing services for older people (e.g. DFTA, the New York City Department for the Aging) and through DFTA has linked CITRA to services such as health care, mental health, home-delivered meals, adult protective services, the visiting nurse service, and housing agencies and residential living centers.

In order to capitalize on this pre-existing network, CITRA built a core staff to develop and maintain partnership activities. The core staff of CITRA is small, but very high quality. Key members are individuals who have extensive experience conducting outreach research and maintaining relationships with service and other agencies. A Director of Dissemination develops and maintains relationships with service agencies in New York, including scheduling educational sessions and a publishing a regular newsletter. Graduate students and postdoctoral researchers based in Ithaca contribute to the development of partnership and educational activities. A
partner recruitment specialist based in New York City at the Weill Medical College is also available to researchers seeking to collaborate with community agencies, as well as staff from CSCS, who perform tasks under a subcontract to CITRA. The core staff members recruit potential stakeholders for new projects and contribute invaluable expertise gained through conducting previous CITRA activities. Statistical and research design methodologists are also affiliated with the core staff. Although geographically dispersed, staff members interact several times a week via teleconference.

Another important step was establishing a Community Advisory Committee (CAC), comprised of 30 individuals representing the breadth and depth of New York City service agencies for older people (e.g., mental health, senior centers, training, long-term care, health care). The CAC has three Subcommittees (Steering, Pilot Studies and Dissemination), each meeting several times a year via telephone conference or in person. Through this structure, the CAC has provided guidance for developing and defining research priority areas, methods for disseminating research information to the community, methods for building community agency capacity to partner with researchers, and a funding program for pilot studies mutually responsive to the needs and interests of community agencies and researchers.

2. Community-Based Needs Assessment

In the fall of 2003, CITRA and CSCS conducted a formal initiative to map out the range of issues facing senior service providers over the next 10-15 years in New York. The purpose of the assessment was to create a set of priorities that would be used to direct CITRA-sponsored research efforts in the pilot program and through other associated projects. The effort yielded a
number of important insights into the general issues of aging in cities as well as a list of priorities for New York City.

The method used to develop the list of priorities was the Concept System© practice method. Concept mapping is a mixed-methods planning and evaluation procedure that combines group discussion techniques (such as focus groups and brainstorming) with multivariate statistical analysis and mapping techniques. The result of the concept mapping is a series of descriptive maps that visualize the relative value and relationships among identified group priorities. Participants are actively involved in generating the priorities and labeling and interpreting the initial findings.

Attendees at the annual conference of CSCS were asked to generate 5-10 ideas about the future needs of aging New Yorkers. This resulted in 249 returned questionnaires and 1512 individual statements. The 1512 statements were examined for duplication and clarity and relevance and reduced to 95 ideas. Then the members of CSCS and a group of researchers were asked to sort and rate these 95 ideas into categories and to rate each for “importance” and “feasibility.” The preliminary analysis of these data led to the identification of 13 clusters of activities, for example, housing, access to benefits, economic security, mental health and special needs, transportation, attitudes to toward aging, and engaged lifestyle (social integration). A group meeting of CSCS members, sponsored by CITRA, refined the set of 13 into a final document for dissemination to the community. The 13 clusters encompassed 2 major levels of strategies for assisting aging adults, (1) policy and programmatic aims to implement at the

---


government or agency level, and (2) specific programs to maintain social integration and engagement among older adults.

3. Developing a Group of Researchers

Developing a base of investigators committed to translational research on aging is at the core of CITRA’s mission. In 2003-2004, we conducted a thorough survey of research expertise at the three collaborating research sites. In addition, we developed CITRA programming material intended to help overcome some of the barriers that emerged preventing the engagement of researchers with community agencies.

As a first step, CITRA staff initiated contact with a list of over 70 Cornell investigators who make up the potential pool of collaborators. These scientists represented a wide variety of disciplines from various colleges and departments across the university and across the three geographically-dispersed Cornell campuses. This group, termed affiliates, received information describing CITRA's ongoing program activities and the pilot study RFA. Informal meetings were conducted throughout the year to inform the affiliates about current CITRA research activities and provide the opportunity to learn more about the benefits of participation. The database of investigators has been continuously updated with current information about these affiliates, including names, contact information, and evolving research interests. This group of affiliates is called upon to work with interested agencies who wish to conduct research with a Cornell partner during the pilot study solicitation process (see below).

Three additional steps were taken to develop researcher interest. First, the Pilot Studies Subcommittee of the CAC, CITRA staff and the CITRA Pilot Study Director developed a mentored pilot grant program to promote community-research partnerships (described below).
Second, CITRA affiliates were invited to a monthly Work-in-Progress Seminar that was established to mentor investigators in proposal and publication efforts. Third, CITRA sponsored a number of lunches and “get-acquainted” events to introduce investigators to CITRA core staff, resources available at Weill Medical College to facilitate research in New York City, and key community partners.

These efforts and the discussions generated by them identified a number of barriers that discourage researchers and service agencies from conducting collaborative research. On the researcher side, the major perceived barriers revolve around the tenure and promotion processes at universities: (1) the time it takes to make connections to the community in comparison to more traditional survey or laboratory research, (2) the lack of credit given to the time and effort it takes to create and maintain research ties in the community, (3) perceived lack of rigor in applied research, and (4) the need to publish research as rapidly as possible. On the community side, the major perceived barriers are the perceived time and staff commitment to cooperating with researchers, particularly when the agency is short-staffed.

The CITRA response has been to develop a network to which researchers can connect through the efforts of CITRA core staff rather than building community ties from scratch. CITRA has also learned through its efforts that agencies are enthusiastic about collaborating with researchers if there is support from the researcher to promote and sustain these activities and minimal extra duties placed on agency staff. Thus another important role for CITRA has been to educate potential partners about differing expectations for collaboration and to mentor investigators and agencies in the partnership process.

4. The Pilot Study Program

5 M. Viswanathan et al., Community-Based Participatory Research, 5-6.
A central component of CITRA’s investigator development activities is forging successful relationships with community agencies and organizations. The aim is to create an environment in which elder service agencies in New York City provide a “living laboratory” for intervention and applied research. Over three years, CITRA has funded eight new pilot studies and has mentored these investigators. Further, through interaction with community partners, we have refined our pilot study program so that it now more explicitly promotes community-research partnerships.

In the Pilot Study Program, Cornell-affiliated faculty members may apply as investigators. A condition of receipt of pilot study funding is joint participation in the project by the Cornell researcher and at least one community agency in New York City. CITRA provides ongoing support to both the investigator and the agency in developing a successful partnership. Further, we provide technical support to research investigators through CITRA’s methodology core and monthly work-in-progress seminars. The program’s goal is to support 2-3 pilot studies each year (of approximately $20,000). In some cases, additional travel funds are awarded to help researchers develop a collaborative relationship with a community agency.

CITRA’s pilot studies have been successful both at providing service to agencies and also at generating additional research support. For example, an applied study of body weight and obesity in older populations has resulted in a career award to the lead investigator. A study to improve treatment of geriatric depression in home health care has led to a successful proposal submission and to two published papers. Another pilot study to speed translation into practice settings of non-drug therapies for older adults with chronic pain has led to a new behavioral intervention, Problem Solving Therapy for Pain and Depression, for use by community-dwelling older adults. Preliminary results indicate that older adults with co-morbid pain and depression are
willing to engage in and indeed benefit from this treatment. The investigator has actively pursued funding to sustain this promising line of work.

CITRA has also sponsored the first study to document the range of abilities and needs of 17,000 frail older people in New York City who receive home-delivered meals. The research project was carried out in close collaboration with CityMeals of New York City, and allowed CITRA to gain valuable experience in community-based research partnership methods.

In addition, CITRA has several other projects still in data collection phase. One pilot study has developed an intervention to increase physical activity and healthier eating among older African-American and Hispanic women residing in East Harlem. It is carried out in collaboration with several neighborhood agencies. A second study is collecting data on a sample of older East Asian Hindus, in cooperation with a senior center in Queens, NY that serves this population. A third ongoing study aims to identify factors associated with self-neglect, and to test the feasibility, reliability, and validity of the Cornell Scale for Self-Neglect (developed by the investigator), a tool for detection and assessment of severity. A secondary aim is to develop strategies for recruiting self-neglecters into research studies, which is often difficult. A fourth project conducts the first needs assessment of aging artists in the New York metropolitan Area. The project will utilize an innovative methodology, Respondent-Driven Sampling (RDS).

Finally, CITRA is developing a study of physicians working with under-served communities in the Bronx to assess their recognition of depression symptoms in older people and

---

a study of how Structured Life Review\textsuperscript{8} may be used to improve the quality of life of older adults with minor cognitive impairment.

As described above, input from community partners has been critical to investigator development. Following the principles of community-based participatory research, CITRA organized volunteers from the Community Advisory Committee in the new Pilot Studies Subcommittee. The committee’s advice has been essential for all phases of the development of the program. A review committee consisting of both researchers and practitioners (who are recruited by the Pilot Studies Subcommittee) evaluates the proposals. In 2005, CITRA and the community Pilot Studies Subcommittee re-focused its pilot study solicitation to generate studies more specifically on its key areas of interest: social integration and social isolation.\textsuperscript{9} Our future efforts will focus on: (1) alleviating social isolation among older people; (2) promoting social integration; and (3) increasing utilization of existing services for older people in New York as a way to alleviate social isolation or promote social integration. This theme has borne fruit by attracting additional investigators to the program as well as New York agencies who have not had previous contact with CITRA.

5. Investigator Development

A monthly work-in-progress seminar is the focus of investigator development efforts. The purpose of this seminar is to assist all CITRA investigators with successful funding proposals and article submissions. In each seminar, two or three works are reviewed and critiqued. These works can include grant proposals, articles, research protocols, study designs


and questionnaires. Presenters provide background materials in advance for the core participants to review. A core group attends the seminar and critiques submissions, offering a “mock study section” for applicants.

The seminar is conducted via videoconference in order to overcome the geographical distance between the Cornell campuses. As part of the mentoring process, pilot investigators must attend the monthly seminars and present progress on their projects. They are encouraged to bring their community partners to the seminar so that attendees learn more about the perspectives and needs of the agency collaborating with the project.

In addition to the seminars, core CITRA investigators mentor young investigators in proposal submissions. In the past three years, over a dozen proposals have been mentored by CITRA investigators. The mentoring continues after the pilot projects are completed. In order to develop its partnership network, CITRA also encourages potential applicants for pilot projects to attend the seminars so that studies can be mentored prior to submission.

6. Promoting Researcher-Practitioner Interaction

One indicator of the success of CITRA is that CAC partners request participation from CITRA faculty and researchers at their activities and also seek CITRA as a co-sponsor for community events. These activities not only serve the agencies, but inform community agencies about the benefits of evidence-based practice. Several of these activities are:

- *Using the Internet to Locate Evidence-Based Practices.* In response to requests from community partners, CITRA co-sponsored two workshops with the Council for Senior Centers and Services (CSCS) on using the Internet to find evidence-based resources. This workshop, taught by the Acting Head of Weill Medical
College’s library’s Information Services received favorable feedback from participants and will be repeated.

• **Program Workshops.** Based on one of its successful pilot projects, CITRA co-sponsored two trainings with the Geriatrics Mental Health Alliance (a network of New York state practitioners and researchers in mental health) and the New York State Department of Health on problem-solving therapy. These workshops taught practitioners about this evidence-based clinical intervention for use with depressed elders.

• **Investigator Presentations at Gatherings for Practitioners.** CITRA’s community partners have frequently asked CITRA affiliates to speak at and participate in conferences and community events. CITRA staff use these venues as opportunities to introduce the practice community to issues of research translation. Presentations have included reviews of research on social integration, food insecurity and older persons, assessment of social isolation, and the prevention of elder abuse, among others.

• **Practitioner Presentations in Academic Settings.** Consistent with the emphasis on promoting practitioner-researcher relationships on an equal footing, we have also made it possible for practitioners to address research audiences. For example, CAC members have spoken to the faculty of the Division of Geriatrics at Weill Cornell Medical College on efforts to change policy related to geriatric mental health in New York State and about the perceived needs and problems of older persons with vision loss. Practitioners perceive these events as a way to influence research priorities.
The educational and information activities have contributed to CITRA’s goal to promote “research-readiness” in New York City agencies. In 2005 and 2006, CITRA investigators utilized the community-research partnership to plan joint funding efforts. Following participatory research principles, the aim of the collaborations is to compete for funding to support intervention and applied research studies that will sustain researcher-practitioner interaction.

For example, a CITRA affiliate began a program of research that unites researchers and community agencies in developing improved interventions to address the problem of chronic pain among older persons. This project emerged from priorities identified in the concept mapping project sponsored by CITRA, as well as from the researcher’s academic interests. Cornell researchers will partner with key stakeholders in New York City, using a community-based participatory research approach to characterize barriers to implementing pain management programs, develop and pilot test methods to successfully address them, and disseminate products generated from these activities through a broad range of community and academic venues.

7. Engaging Researchers and Practitioners on Critical Issues Related to Aging

A substantial amount of effort was devoted in 2004 and 2005 to the development and testing of a model for bridging the gap between research-based knowledge and practice-based insight. CITRA has adapted the academic consensus workshop model\textsuperscript{10} to engage researchers and practitioners in joint activities. The CITRA consensus workshop model serves two functions: (1) bringing research to practitioners in a setting in which they can engage existing empirical findings; (2) generating practice-based suggestions for new research directions that are responsive to the concerns of practitioners and their clients. The goal of this model is to create a

continuous loop of communication between research and practice such that there is joint conception of aging-related problems and solutions. We briefly outline the model here. A manuscript is in press detailing the model.\textsuperscript{11}

The CAC is responsible for selecting the topics for review, based on five criteria: (1) sufficient research on the topic; (2) relevance to practice; (3) preferably, relevance to policy; (4) compatible with the CITRA needs assessment; and (5) lack of duplication with another recent and similar effort involving practitioners in New York City. The first topic selected for review was falls prevention among community-dwelling older persons.\textsuperscript{12} The second topic was alleviating social isolation among older adults, and the third topic is strategies to overcome service resistance among older adults. Future topics will reflect joint interest in overcoming social isolation among older adults.

After each topic is selected, three \textit{community experts} who work in the area of interest are selected to aid in the review. In addition, three \textit{scientific research experts} are selected. The roles of the community and scientific research experts are to consult about existing research and major research questions, review drafts of the research review paper, help develop practice and policy recommendations, and attend a consensus workshop, bringing their own experiences and expertise to the discussion.

For each topic, a literature review of randomized controlled trials (RCTs) is conducted. We have chosen to introduce the findings from randomized controlled trials to CITRA’s community partners to lay the groundwork for effectiveness studies through their agencies. (When there are an insufficient number of published RCTs, we summarize research of the best


scientific quality available.) This effort overlaps with our intention to support practitioner understanding of research methods and to encourage rigorous evaluation. The literature is summarized in non-technical language and sent to community practitioner experts, scientific research experts, and workshop participants. A consensus workshop, based on this document, is held. Recommendations of the workshop are widely disseminated.

To evaluate the activities of the consensus workshop, brief questionnaires regarding research readiness, attitudes towards research and researchers are administered before the workshop and four months later. Changes on these measures will indicate whether the consensus workshop model has been effective in increasing service-providers' research aptitude and attitudes towards research and researchers. A process evaluation is also being conducted on the qualitative content derived from the transcribed workshop and round-table discussions. We anticipate publishing the findings from the evaluation of the first several consensus workshops.

Conclusion: Future Plans

As CITRA has moved from organizational stages into a structured community-based research partnership, future plans reflect activities related to evaluating current activities, publishing results of CITRA activities and studies, and applying for funding in collaboration with community partners for applied and intervention research. The major plans are as follows.

1. Pilot Study Program Expansion

Considerable effort will be devoted to promoting the new focus of the Pilot Study Program, including outreach to investigators with expertise in research on social isolation, social integration, and service utilization. We will also maintain our efforts to match agencies and
researchers, monitor and support Pilot Study investigators, and create new opportunities for researcher-agency partnerships. We are also carefully recording tasks and accomplishments in the Pilot Study Program, as part of an ongoing process evaluation. To this end, we have created a standardized assessment instrument to assess the success of the agency-researcher partnership in each pilot project. There are ongoing efforts to raise money to supplement funds available for pilot studies.

2. Dissemination and Synthesis of the Knowledge Gained.

We anticipate intensifying our activities in disseminating findings related to CITRA’s work. Consistent with our original aims, we not only want to generate new research knowledge, but also to develop innovative methods of bridging the gap between research and practice. We anticipate submitting additional publications on methodologies developed by CITRA, including the research-to-practice consensus workshop model and the innovative pilot study program. We also anticipate publication regarding methods of enhancing the research-readiness of community agency collaborators. We also plan to expend effort on designing an effective web page for CITRA. This will serve both internal purposes for affiliates, and also as a large-scale dissemination site.

3. External Funding.

As described above, CITRA investigators and pilot grant recipients have generated a number of funding proposals and several have now been successfully funded. We will continue to mentor investigators in seeking funding for applied and translational research on aging. CITRA will focus its fund-raising efforts on the following areas: (1) our overarching interest in
the causes and consequences of social integration and isolation; (2) community-based approaches to managing chronic pain; and (3) evidence-based approaches to improving community-based elder services, with a focus on senior centers.

4. Developmental and Community Activities

We continue to plan and implement activities to develop and expand the CITRA network. Other developmental activities planned include creation of a Chronic Pain Task Force in New York City, and a conference on community-based approaches to understanding pain in Fall, 2006. A second major activity is the development of a program of intervention research on effective service provision by senior centers. Through engagement with community providers, CITRA investigators has learned that the provision of quality community services to older persons is very challenging, as agencies struggle to serve diverse groups with limited financial and human resources. This challenging environment offers the opportunity to explore new methods of service delivery. In particular, there is a need for evidence-based innovative practices that are more responsive to the preferences of aging baby boomers. Attention to the future needs of aging people in New York City is an issue critical to both future research on aging and the cost-effective and efficacious use of limited social service resources.

References

Acknowledgments: This research was funded by an Edward R. Roybal Center Grant (1 P30 AG022845, Karl Pillemer, Principal Investigator) from the National Institutes on Aging.

Published by the Forum on Public Policy
Copyright © The Forum on Public Policy. All Rights Reserved. 2006.