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Community-based Participatory Research:

An Approach to Intervention Research With a Native American Community

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Abstract

Community-based participatory research (CBPR), with its emphasis on joining with the community as full and equal partners in all phases of the research process, makes it an appealing model for research with vulnerable populations. However, the CBPR approach is not without special challenges relating to ethical, cultural, and scientific issues. In this article, we describe how we managed the challenges we encountered while conducting a CBPR project with a Native American community. We also suggest criteria that will enable evaluation of the project.

Keywords

action research; elder mistreatment; ethnogerontology; family interventions; health disparities; Native Americans; research methodology; rural nursing

It is well documented that people of ethnically and racially diverse minority groups experience poorer health than do the majority population. In 1998, President Clinton took a bold approach to this long-standing and unacceptable inequity by introducing an initiative that set, as a national goal, the elimination of racial and ethnic health disparities in 6 areas by the year 2010.¹ One of the steps outlined in this Presidential initiative was the need to augment existing knowledge and best practices with the development of new approaches to addressing health inequities. Current research strategies, with “outside expert” perspectives, have proven to be poorly suited to address the issues that are related to racial and ethnic health disparities.² New methods and models for conducting research among people of minority groups are needed.

In accord with the national goal of eliminating health disparities, the National Institute of Nursing Research (NINR) and the National Center for Minority Health and Health Disparities (NCMHHC) convened a multidisciplinary workshop in November 2001. The focus of this meeting was to explore the use of community-partnered interventions in nursing research as an approach that might be effective for conducting research in minority populations. One outcome of that meeting was NINR's announcement, in July 2002, inviting applications for community-partnered interventions to reduce health disparities in racial and ethnically diverse minority populations.³

Community-based participatory research (CBPR), with its emphasis on partnering with communities, provides an alternative to traditional research approaches that assume a phenomenon may be separated from its context for purposes of study. Such approaches, arising from a positivistic philosophical framework, lie at the base of separating research from practice. In contrast, CBPR recognizes the importance of involving members of a study population as active and equal participants, in all phases of the research project, if the research process is to be a means of facilitating change. CBPR shows promise as an approach that can be used to work toward the reduction of health disparities.

The purpose of this article is to (a) situate the CBPR approach within a historical context, (b) define CBPR and discuss principles of the approach, (c) describe how this approach was used to explore the issue of elder mistreatment in a Native American community, (d) describe some of the challenges that were encountered when using this approach and how these were addressed, and (e) discuss which evaluative criteria can be applied to a CBPR project.

Historical Context of CBPR

CBPR falls under the rubric of action research. The beginnings of action research have been credited to Kurt Lewin, a social scientist, who, in the 1940s, developed the method as a way to use research for making planned social change.⁴ Lewin used action research to blend the experimental approach used by social scientists with “programs of social action to address social problems.”^{5(p1)} Approaches to participatory methods of inquiry are multiple and are employed in such diverse fields and settings as the social sciences, education, organizational science, nursing, and public health. Names for this methodology include terms such as *action research*, *participatory research*, *participatory action research*, *community-based research*, *action science*, *action inquiry*, and *cooperative inquiry*. Some authors use the terms action research and participatory action research synonymously. Others distinguish between them, placing the 2 terms on opposite ends of a continuum, with action research representing utilitarian, problem-solving approaches on one end and participatory action research representing emancipatory or transformative action on the other end of the continuum.⁶ Others assert that action research represents a broad umbrella under which participatory research may be subsumed.² Despite the apparent difficulties in determining a taxonomy of types of action research, it can be asserted that all, at least, belong to the same genre. They all emanate from the same ontological paradigm, one embracing a participative reality.⁷ They rely on an epistemology of experiential and participative knowing,⁸ informed by critical subjectivity and participatory transaction.⁷ All link action with research, and all recognize the importance of involving members of the study population in the research process. Additionally, knowledge gained from participatory approaches to research continues to increase understanding of what it means to work within the subjective spaces created when people from diverse cultures collaborate to work toward a common goal.^{9,10}

Definition and Principles of CBPR

Israel et al defined *CBPR* as focusing on social, structural, and physical environmental inequities through active involvement of community members, organizational representatives, and researchers in all aspects of the research process. Partners contribute their expertise to enhance understanding of a given phenomenon and integrate the knowledge gained with action to benefit the community involved.^{11(p182)}

Characteristics of the CBPR approach include (a) recognizing the community as a unit of identity, (b) building on the strengths and resources of the community, (c) promoting colearning among research partners, (d) achieving a balance between research and action that mutually benefits both science and the community, (e) emphasizing the relevance of community-defined problems, (f) employing a cyclical and iterative process to develop and maintain community/

research partnerships, (g) disseminating knowledge gained from the CBPR project to and by all involved partners, and (h) requiring long-term commitment on the part of all partners.¹²

The strengths or advantages of CBPR are that it allows for the innovative adaptation of existing resources¹³; explores local knowledge and perceptions^{11,13}; empowers people by considering them agents who can investigate their own situations¹³⁻¹⁵; the community input makes the project credible, enhancing its usefulness by aligning it with what the community perceives as social and health goals^{11,13}; joins research participants who have varied skills, knowledge, and expertise to address complex problems in complex situations¹¹; provides resources for the involved communities¹¹; through its collaborative nature, provides a forum that can bridge across cultural differences among the participants¹¹; and helps dismantle the lack of trust communities may exhibit in relation to research.^{11,15}

Orientation to the Caring for Native American Elders Study

The idea for our research project came from a Native American woman who works with Native American families. She is a master's prepared social worker who has extensive experience in using and teaching a model for family conferences that is used with Native American families who have difficulties related to child mistreatment. This model provides a way for families to resolve problems while maintaining self-determination. Because of her work, this social worker had the opportunity to observe many Native American families and listen to their stories. As a result, she became concerned about the treatment of some elders who lived on the reservation. She wondered if the child-oriented family conference model, with some modification, might be appropriate for families who were struggling with the care of an elder or who were mistreating an elder.

Armed with this concern, and through word of mouth, this social worker met the nurse scientists who eventually became involved in the project. Thus, from its inception, beginning with identifying a problem and then suggesting the use of a family conference model as an appropriate intervention modifying and then implementing the resultant family conference model, this Native American woman worked continuously on the Caring for Native American Elders project as a full partner in the research team. Her expertise with the family conference model and her knowledge of how to make the research culturally acceptable to the Native American community were crucial to the project.

This research team completed 2 phases of a pilot project that formed the basis for a larger investigation currently underway. The first phase was designed to generate background and contextual data in which to ground the second phase involving the implementation and evaluation of the family conference intervention. Lying at the heart of the CBPR project was the intervention we named the Family Care Conference (FCC). The FCC was based on 2 family conference models that had proved to be effective child-focused interventions: the Family Group Model^{16,17} and the Family Unity Model.¹⁸ Although similar, the Family Group Model and the family Unity Model have some core differences. The Family Group model was developed in New Zealand by the Maori people who felt Western European-driven models of child welfare undermined their families. The Family Group model emphasizes the family group consisting of immediate family, relatives, friends, and other close supports¹⁷ who, together, and without the presence of service providers, decide what steps are necessary to stop the abuse or neglect of the child.

In contrast, the Family Unity Model brings the extended family together with service providers to develop a plan of care for the best welfare of the child. Unique to the Family Unity Model is a series of follow-up sessions during which the group evaluates and makes needed revisions

to the plan developed at the first meeting. Descriptive studies indicate that family conferences based on these 2 models protect the child while helping to unify the family group.^{17,19}

Since the family conference has been used successfully as an intervention to address issues of child mistreatment, it seemed logical that this intervention could also be used as a supportive means of addressing elder mistreatment. Core elements of the 2 models, the Family Group Model and the Family Unity Model, were adapted and integrated to tap the strengths of each. The Family Group component of having providers leave the meeting while the family develops its plan of care was combined with the Family Unity model option of follow-up sessions to modify those parts of the plan that are not working. Adaptations also were made to the Family Group and the Family Unity models, with regard to handling of guardianship issues. Depending upon the circumstances, the child or children who are the focus of concern may or may not attend the family conference. Unlike the established models developed for children, the focus of concern in FCCs is the older adult who may well be self-governing and autonomous. This was taken into account with sensitivity regarding the active participation of the elder in the pilot FCC. Among other things, the pilot project provided insights into how and/or whether the elder will be a part of the FCC.

Issues and Challenges Related to CBPR

Community-based participatory research, as a relatively new methodology, presents with unique issues and challenges for those who are interested in conducting this type of investigation. These concerns relate to functioning within a cross-cultural setting, quality and equality of collaborative partnerships, ethics, and methodological issues. Harrison^{20(p57)} suggested the following guidelines for fieldworkers who engage in collaborative research:

1. Be flexible but recognize that everyone has limits.
2. Be willing to collaborate by sharing authority, responsibility, and credit for success.
3. Give thoughtful attention to the ethical implications of your actions.
4. Apply the concept of culture in everyday working relationships.

Inherent in each of these guidelines are challenges that need to be addressed. In our CBPR project, we faced scientific, ethical, and interpersonal issues that were related to these guidelines, as well as some additional challenges.

Flexibility and self-awareness

Being flexible but knowing one's limits invokes the need for self-awareness when working with diverse groups. This guideline also includes developing perseverance and tolerance for discouragement, particularly when things do not go according to plan. The need for flexibility in our research project was demonstrated multiple times. One example included the need for flexibility in the interviewing process. Although we had identified which potential participants would be interviewed as individuals and which as members of a focus group, in actuality interviews that had been scheduled with an individual often included additional participants, because the individual had invited others to participate. We soon learned to conduct interviews as they naturally evolved. This strategy provided a rich source of data. Another example of the need for flexibility related to obtaining informed consent. Institutional review board (IRB) requirements for informed consent resulted in a 5-page document, which seemed unwieldy. However, in all cases, we received written informed consent prior to interviewing, except one. In this particular instance, a group of elders had convened for an interview. Once the project had been explained to them, they immediately entered into a lively conversation, in essence providing implicit consent. After a few minutes, the researcher was able to break into the conversation to ask the elders if they would give their permission to have the interview

audiotaped. They readily gave verbal consent, and so the tape recorder was started and the interview resumed. Interrupting the interview with a 5-page document to read and sign seemed inappropriate. Following the interview, a brief form was faxed to one of the elders, who provided written witness that all the elders had given a priori verbal consent.

We fostered self-awareness by building time for interpersonal reflection into the project meetings. During these times, we discussed and clarified various points of stress such as those related to multiple roles among the team members; establishing trust that each team member had an equally respected voice within the team; resolving differences of opinions related to field entry, data ownership, and access issues; and determining what to include as data in field notes. We learned from each other as we found a way to balance the bureaucratic formality associated with the research process with the casual informality of the people. Additionally, the Native research team member helped the non-Native research team members understand respectful ways of honoring the people who were participants in the projects.

Collaboration

Willingness to collaborate by sharing authority, responsibility, and credit for success means adopting an attitude that will allow this to happen, even when decisions are made that the researcher may deem unusual. This does not mean that the researcher suspends judgment, rather that the researcher joins in a collaborative discussion with all opinions being given respectful consideration.¹⁸ For our project, an example of this issue related to decision making, which was done by consensus. This process established a norm of equality for all members of the research team. We also were aware that any other means of decision making, most likely, would have been unworkable because each of the team members held unique spheres of power within the group. This recognition, in tandem with an understanding of common goals, including belief in the worthiness of the project; dedication to conduct the research in a scientifically rigorous and ethical manner while maintaining cultural congruence; and a sense of altruism, kept the project moving through various stages of both stress and accomplishment. This project was grounded in a commitment to social justice.^{9,10,21}

Ethical issues

Being mindful of the ethical implications of the research project involves issues related to informed consent, confidentiality, and ownership of intellectual property. In action research there may be difficulty gaining true informed consent. Because it is the nature of action research to allow the project to evolve as the research progresses, it is not easy to specify explicitly what involvement in the research will mean for the participants.^{4,19} In this project, informed consent was addressed in 2 ways. First, the Native research team member approached the tribal chief and the director of senior services. Both of these individuals supported the idea of the project and wrote 2 separate letters indicating their support. Because the first project was so small and there was no certainty that it would come to fruition, the Native research team member did not wish to give it the publicity it would have received if a community advisory board had been developed. Rather, she opted to let people know about the project via the interviewing process and the FCC intervention conducted during the pilot project. By the time the pilot study was completed, people had become familiar with the idea. When funding for the second, expanded project was secured, the Native research team member recruited a group of tribal people who were most willing to serve as a planning committee for the next stage of the project's development.

The second manner in which informed consent was addressed was through the conventional IRB process. Approval of the project with the attendant informed consent forms was provided via the completion of a detailed application process. We were fortunate to have a review board that was sensitive to cultural concerns and therefore allowed us the necessary flexibility to

conduct this project. Other review boards, however, may be less flexible. In addition to requiring that all written materials, such as advertising fliers, letters of invitation, and examples of thank-you notes, receive a physical stamp of approval, IRBs may mandate that prospective phone calls have written scripts.* Such close management of a research project by an IRB can significantly reduce the successful conduction of a CBPR project, which needs to have sufficient leeway for the project to follow its natural evolutionary course.

The issue of confidentiality also is of concern. The collaborative nature of the research may often endanger confidentiality. Thus, participants active in the project, with dual roles of community member and research collaborator, may be privileged to generally inaccessible information.⁴ This was the case in our situation. We addressed this issue in a couple of ways. As professionals, we held to principles of confidentiality. We also discussed what confidentiality meant for this project. During the course of the project, we decided that because of the sensitive nature of the topic of elder mistreatment, we would use a pseudonym when referring to the reservation. This spawned other discussion with regard to when to use the pseudonym. We decided to use it in all cases when referring to the study, and not simply when discussing the results of the project. Additionally, by having all team members read through reports, we were able to provide a system of checks with regard to what might constitute identifying information.

Another ethical issue related to CBPR is how to handle information that might cast the community in a negative light. Reporting this type of information may well be damaging to the community, or could weaken the community's trust in the research process. Furthermore, there is the possibility, when working across cultures, that the interpretation (or cultural misinterpretation) of the data could depict the community in a negative manner.^{4,22} In our project, we anticipated encountering the dilemma of what to report and what not to report. To address this issue, we developed a Memorandum of Understanding that clearly delineates how we will handle reports and publications resulting from the research project. If any of us wish to publish or present results or submit a subsequent grant related to the project, we will present a 1-page concept paper to the other members of the research team for review and consensus. All of us will be listed as coauthors. In this way, each of us will edit and review each manuscript and/or presentation to ensure that information that might be harmful to the tribe is not included. As an additional safeguard, and in an effort to reduce the Native research team member's stress of being the only spokesperson for the Native American community, the Memorandum of Understanding provides the option of recruiting another tribal member to serve as a cultural reader or reviewer of manuscripts.

Another ethical issue concerns ownership of the collected data. This issue needs to be contextualized in terms of instances of exploitation that have occurred as a result of past research in which traditional knowledge has been taken and used for profit with no compensation to the people who owned the knowledge in the first place. Additionally, some knowledge is sacred and central to a community's cultural identity. Sharing this knowledge with outsiders who are unable to understand the context may erode the cultural identity.²⁰ One way to protect against the harmful sharing of knowledge is to have local representatives approve anything that is to be published from the research in terms of papers, reports, or presentations. We addressed this issue as described above via the Memorandum of Understanding. In addition, we agreed to request exemption from the norm of data sharing for secondary analysis by other investigators in National Institutes of Health (NIH)-sponsored projects. Request for exemption was based on the probability that the collected qualitative data could contain personal and sensitive content, the possible identification of individuals or communities because of the small size of the community, and the potential for insensitive or judgmental

*This statement is based on the personal experiences research team members have had with multiple IRBs.

analyses/report being generated by an outside investigator not familiar with the project or community.

When approaching difficult ethical decisions, Harrison suggested that researchers attend to “the credo ‘First do no harm’ and make their best efforts to behave in accordance with the professional, indigenous community, and personal standards of the time.”^{20(p70)} Since we were working within a somewhat new research approach, we found this suggestion to be invaluable.

Working within a culture other than one's own

The final guideline, application of the concept of culture in everyday working relationships, at first glance seems logical and straightforward. However, it is complex. Although it is important to understand differences across cultures, it is equally important not to assume that every person within a culture will exhibit characteristic cultural beliefs and behaviors. Caution is needed when trying to use culture as a framework for understanding individual behavior.²³ Particularly in today's world, with rapid communication and travel abilities, people have opportunities to experience and learn from many different ways of thinking and behaving. Equally important is the need for awareness of one's own cultural thinking and behavioral patterns. Additionally, it is important to be aware of the “culture of government bureaucracies and other institutions”^{20(p228)} that influence the cultural group as a whole and/or the development of a given project. Working with culturally diverse groups requires a multicultural orientation on many levels and brings a degree of complexity to the project that first demands our awareness and secondly requires skillful navigation.

In our situation, we used traditional ethnographic field methods for collecting data. Originally, the plan had included a period of orientation for the non-Native research team members to become familiar with the community. When the time came to implement this part, there was considerable discomfort among the research team members. The Native research team member had experienced previous research that, in an attempt to describe the culture, had done so in a manner deemed inappropriate by the community in which it had taken place. Concern grew, among the research team members, that this period of orientation would be an exercise in futility and may even sabotage the success of the project. The Native research team member contended that it really was impossible to know the culture without living among the people for many years and even then there is danger that one may think she understands the culture but really does not. Additionally, when trying to understand and describe a culture, the people of the culture may begin to feel they are “specimens” and lose their perceived humanity within the eyes of the investigator. Finally, since the Native research team member knew the culture intimately, there was less need for the non-Native research team members to become familiar with it. Rather, with the Native research team member as guide, we were able to enter the community in a culturally appropriate manner. Relying on the Native research team member's understanding of the community allowed the non-Native research team members to meet, in a genuine manner, with the people as people, while recognizing the cultural differences between us. This marked a departure from the conventional wisdom of the traditional ethnographic approach to research.

A commitment of time

Additional concerns relevant to CBPR included the fact that it is a very time-consuming process and requires a long-term commitment on the parts of the research team members.⁴ Concerns about the ramifications of people changing jobs in the middle of the project; burnout of the research team members, especially when not relieved of some of their nonresearch-related work duties; and the extra work load placed on research team members' coworkers are all practical concerns and must be addressed.^{4,24} Countless volunteer hours were donated by all research team members, particularly prior to receiving funding. During this time, it was

important to recognize and acknowledge the altruistic motives for social justice that underlay our ultimate goal to use research to help improve the lives of the elders and their families with whom we would be working.

Change can be threatening

Finally, other concerns related to CBPR may be associated with the political process. Of change, which, at times, can be threatening to communities or groups within a community.^{4,19,20} However, being instrumental in forward movement of change may be empowering to some who have felt they do not have the power or ability to make a change.¹⁹ Learning how to emphasize that the nature of change is from the bottom-up rather than the top-down can help to alleviate some resistance to change.^{4,22,23} In our situation, we began small with the pilot project. First, we learned what community leaders, elders, and service providers thought about the issue of elder mistreatment. Was it present on the reservation? What forms did it take? What factors contributed to elder mistreatment. What were the current means of addressing elder mistreatment? Were they effective? If so, why, and if not, why not? We also asked their opinions of the feasibility of using the FCC as an intervention to enhance family unity and improve the lives of elders. We asked whether, or in what situations, elders should be included in the FCC and what qualities FCC facilitator should have. Once we had arrived at an understanding of this nature, the second phase of the pilot study began. The Native research team member set about finding referrals of a family who would be willing to participate in an FCC. For the pilot FCC, it was important to choose a family very carefully. Although many families could have benefited from participation, the Native research team member screened referrals to find a family without problems so complex that a successful outcome would be tenuous. If the FCC was well received by the family, it would provide a positive foundation from which to build a more extensive program.

Sustainability of the project

One of the characteristics of CBPR is the “cyclical and iterative process”²⁴ that is used when conducting this type of research. Kemmis and McTaggart²⁵ called this process the “action research spiral,”^{25(p596)} which is implemented in collaboration with the coparticipants. The steps are as follows: (a) planning a change, (b) incorporating the change and observing the processes and results of the change, (c) reflecting on the processes and results, and (d) replanning and making the needed changes to the original plan. The spiral continues until the planned change demonstrates that it is practical and functioning within the context in which it was begun. Israel et al²⁴ included another aspect that could be considered the endpoint of the action research spiral. This is the “establishment of mechanisms for sustainability” of the project.^{24(p180)} In other words, the project may not be considered completed until its viability can be ensured to extend beyond the limits of the research funding. This may involve searching for future sources of funding and/or training members of the community on how to access funds for the future security of the project.

In order for the project to become sustainable, the community must desire its continuation. In our case, the Native research team member kept in touch with the service providers and leaders in the community. They expressed desire to help in any way they could to see the project take hold. At the same time, once we had gained sufficient information from the pilot project, the research team set about writing a proposal for an expansion of the project. This proposal was submitted as a CBPR project under the R21 funding mechanism through the NINR. One of the key components of this project was the training and hiring of indigenous natural helpers to facilitate FCCs over the course of 1 year. The project was funded and we are one step closer to helping ensure the sustainability of the FCC project on this reservation.

Evaluation Criteria

When conducting research, there is always a question of the trustworthiness or soundness of the results. How do we know if the findings of qualitative or naturalistic research have substance beyond the investigator's mental processes? Finding a means of evaluating the trustworthiness of an investigation's findings confers some level of certainty or safety when using the knowledge that has been derived from the investigation.⁷ The following discourse aims to identify a set of appropriate criteria that may be used to evaluate a CBPR study.

Naturalistic research: evaluation criteria

As naturalistic, or qualitative, research has become more of an accepted approach to conducting research, the issue of ensuring rigor has grown as a topic of discussion. Bruyn,²⁶ in a treatise on participant observation, identified 6 indices that could be used to determine subjective adequacy. Explicating the use of these criteria or indices in a qualitative study can help to increase the study's credibility.²⁷ These indices with their concomitant hypotheses included

1. *Time*: the more time an individual spends with a group, the more likely it is to obtain an accurate interpretation of the social meanings its members live by.
2. *Place*: the closer the observer works geographically to the people studied, the more accurate the interpretations.
3. *Social circumstances*: the more varied the status opportunities within which the observer can relate to the informants, and the more varied the activities witnessed, the more likely the observer's interpretations will be correct.
4. *Language*: the more familiar the observer is with the informants' language, the more accurate the interpretations.
5. *Intimacy*: the greater degree of intimacy the observer achieves with the informants, the more accurate the interpretations.
6. *Consensus*: the more the observer confirms the expressive meanings of the community, either directly or indirectly, the more accurate the interpretations of them.
26(pp180–183)

Guba and Lincoln²⁸ also addressed the issue of trustworthiness or soundness of qualitative research. The 4 evaluative criteria Guba and Lincoln²⁸ identified for naturalistic research include credibility, transferability, dependability, and confirmability. *Credibility* refers to the assessment of fit between constructed realities of the informants and the reconstruction attributed to them. Useful procedures for ascertaining adherence to this criterion include prolonged engagement, persistent observation, peer debriefing, member checks, negative case analysis, and progressive subjectivity.²⁸ *Transferability* refers to the degree of similarity between the reporting and receiving contexts of the research findings. For example, are the findings reported in such a manner that can render them useful to the reader who may wish to apply them in another related context? Although the burden of proof rests with the reader, transferability judgments on the part of the reader may be enhanced when the reporter of the results uses thick description including careful detailing of the time, place, and context in which the data has been collected. *Dependability* refers to the stability of the analytic process over time that might occur because of inquirer exhaustion, boredom, or psychological stress. To adhere to this criterion, it is important to establish the process of analysis in a manner that makes it a trackable and documentable process. *Confirmability* refers to whether the data, interpretations, and outcomes are rooted in contexts and persons apart from the analytical processes of the investigator(s). To achieve this criterion, it is important to ensure that all data, facts, figures, and constructions can be traced back to the original sources.

There are similarities and differences between Bruyn's work²⁶ and Guba and Lincoln's work.²⁸ Bruyn and Guba and Lincoln are closest in agreement on the criteria that Guba and Lincoln call credibility and transferability. All of the criteria identified by Bruyn may be subsumed under these 2 categories. The indices identified by Bruyn that speak to sustained and close involvement with the people in the study setting—time, place, intimacy, and understanding of the language—relate to prolonged engagement and gaining the ability to provide thick descriptions of the research setting and behaviors of the participants. By identifying the indices she did, Bruyn provided a breadth to the idea of prolonged engagement that is not captured by Guba and Lincoln. However, while Guba and Lincoln discussed the concept of thick description, explicating its necessity to the criterion of transferability, Bruyn did not explicate the purpose of the indices she recommended other than to ensure accuracy of interpretation. Perhaps, Bruyn assumed that the provision of a thick contextual description allowed the reader of the research findings to form a better judgment about the utility of the information derived from the research beyond the specific context of the study.

Bruyn asserted that increased variation was another way to increase the trustworthiness of the results. If similar data are collected from a variety of sources within the research setting, then one could assume there is accuracy in the researcher's interpretation of his or her observations. Unfortunately, Guba and Lincoln placed little emphasis on variation, which may be seen as a weakness. Finally, Bruyn and Guba and Lincoln agreed on the use of member checks,²⁸ or consensus,²⁶ by which the researcher confirms interpretations with members of the community under study.

In addition to following parallel thinking regarding Bruyn's discourse on how to assess the adequacy of subjectivity, the strength of Guba and Lincoln's work²⁸ lies in the emphasis they placed on providing the opportunity to examine the analytic process employed in the research process. The rigor of the analytic process can be determined only if it is open to scrutiny. First, the method of analysis must be adequately explained and documented so that the reader can assess the soundness of its logic as it relates to the data, and second, there must be the ability to trace the researcher's interpretations back to the data.

The 4 criteria identified by Guba and Lincoln²⁸ expanded the thinking of Bruyn to include the criterion of rigor related to the analytic process and they often are used as appropriate means of ensuring rigor for naturalist research. However, they focus only on methodological soundness, which keep them closely allied with the criterion for rigor from a positivistic perspective in which a sound methodology is crucial. A well-designed research project also is imperative for CBPR, but participatory research, in addition, stresses the importance of interactions among the various stakeholders involved in the research project, including community members and research teams. Guba and Lincoln identified an alternative set of criteria to be used with naturalistic research that they called *authenticity criteria*.^{28(p245)} These criteria included fairness, ontological authenticity, educative authenticity, catalytic authenticity, and tactical authenticity. *Fairness* refers to the degree to which the differing worldviews or perceptions of a situation by the various stakeholders are solicited and honored. *Ontological authenticity* refers to the extent to which individual stakeholders' worldviews or perceptions change with new understanding as the project progresses, whereas *educative authenticity* refers to the extent to which the understanding of each others' worldviews or perceptions are enhanced through the process of conducting the research. *Catalytic authenticity* refers to the extent to which action is stimulated and facilitated. Finally, *tactical authenticity* refers to the degree to which individual stakeholders are empowered to act.

Guba and Lincoln²⁸ posited these authenticity criteria as appropriate measures for evaluation research. They suggested that the last 2 criteria, catalytic and tactical authenticity, resembled criteria that could be used for “critical theorist action, action research, or participative or

cooperative inquiry, each of which is predicated on creating the capacity in research participants for positive social change.”^{7(p181)} In a similar vein, Greenwood and Levin²⁹ argued that the trustworthiness of action research is measured by the stakeholders' willingness to act on the results of the action research and whether the research-derived solution actually solved the problem that was addressed in the research project.

Guba and Lincoln's catalytic and tactical authenticity criteria relate to, but expand, Greenwood and Levin's assertion²⁹ that a participatory research project can be evaluated by the participants' willingness to act on the results of action research. Guba and Lincoln²⁸ do not limit the participant's action to how well the participants are willing to accept and act on the results of the project, but expand the notion to facilitating, stimulating, and empowering stakeholders to action. However, Guba and Lincoln's authenticity criteria do not address whether a solution was achieved to the problem that was the focus of the research as Greenwood and Levin deemed necessary. Additionally, neither Guba and Lincoln's nor Greenwood and Levin's discourse addresses the feasibility of sustaining the program²⁴ once the funding for research has ended. Finally, the issue of active and equitable involvement of all participants throughout all phases of the research project, including problem identification, research design, data collection, interpretation of results, and dissemination of results,^{11,12,24} is not addressed by either Guba and Lincoln or Greenwood and Levin.

Evaluating our CBPR project

The question for us, then, was what were appropriate criteria by which to evaluate the Caring for Native American Elders CBPR project? Guba and Lincoln's²⁸ 4 criteria (credibility, transferability, confirmability, and dependability) for methodological soundness provided direction for determining methodological rigor of the pilot project but they were lacking for other aspects of our investigation. Although methodological soundness is critical to a CBPR project, CBPR also emphasizes participation, acceptable problem resolution, and sustainability of the project.^{24,28} Guba and Lincoln's catalytic and tactical authenticity criteria addressed community participation; however, they did not specify that community involvement was needed throughout all phases of the research project. Therefore, we collapsed Guba and Lincoln's catalytic and tactical authenticity criteria into one criterion: “level of community involvement.” Then we added an additional criterion, “community voice,” to address community participation in all phases of the research. To address the remaining 2 issues, we added the “acceptable problem resolution” and “feasibility of project sustainability” criteria.

For our project, there was an additional aspect that was of importance. This related to building a cohesive research team and persevering during those times when difficulties arose. Involved in this effort was the need to be aware of negotiating in a manner that was fair to all team members; to be open to our own evolving worldview constructions and assumptions while supporting diverse perspectives; and to acknowledge our individual growth in understanding the diverse points of view that each member brought to the research team.³⁰ This manner of maintaining a cohesive team related to the first 3 authenticity criteria identified by Guba and Lincoln²⁸: fairness, ontological authenticity, and educative authenticity. Thus, these criteria provided the framework by which we evaluated the functioning of our research team. A complete list of the criteria we chose to evaluate the trustworthiness of our CBPR project can be found in Table 1 along with the means we used to meet them.

Conclusion

Health disparities among racial and ethnic minority groups represent long-standing and unacceptable inequities in the social fabric of the United States. The discovery of new knowledge through the research process provides one means of working toward the reduction of these disparities. However, traditional research models, particularly those with “outside-

expert” approaches, have proven to be poorly suited to facilitating desired changes.² CBPR offers an approach that joins with the community as full and equal partners in all phases of the research process. NINR has been supportive of this approach as having potential for addressing the health disparities of minority groups. Although the CBPR model has strengths that make it particularly appealing for research with people of minority status, it also poses special challenges. These challenges are not insurmountable, but need to be recognized and addressed with foresight. In this article, we have provided a description of how we met the challenges we faced while conducting a CBPR project. Additionally, as the CBPR approach becomes a more acceptable model for conducting research with people of marginalized status, there is a need to maintain rigor in both the methodology and the process of the research project. In this article, we have posited evaluation criteria that will allow scrutiny of the many aspects of our CBPR project in an attempt to evaluate the integrity of the results.

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Table 1

Procedures for meeting the evaluation criteria for our CBPR project*

Criterion	Procedure
Credibility	Observations and memos were kept in field notes for referral when analyzing the data (Persistent observation) The Native American team member reviewed all analyses and interpretations of the data for cultural bias. (Member checks) The 2 people responsible for data collection had formally scheduled reflective sessions to discuss the progress of the research. (Peer debriefing/progressive subjectivity) The research team met regularly to discuss the progress of the project. (Peer debriefing) Research results were discussed with the participants at a final meeting and feedback welcomed. (Member checks)
Transferability	Descriptions of the community were described to the degree negotiated, so the reader of reports generated from this project can have access to the context of the Study setting. Descriptions are available in (a) the field notes recording direct and participant observations. (b) minutes that recorded each research team meeting. (c) minutes that recorded research team reflections. (d) archival data that provided a description of services and agencies on the reservation, and (e) demographic data that provided statistical population data.
Dependability	Through the use of N-Vivo, the method of data analysis was documented and saved.
Confirmability	Through the use of N-Vivo, along with the generation of Microsoft Word documents, all forms and levels of analysis are traceable to each data source.
Fairness	The process of negotiations and subsequent resolutions (particularly the Memorandum of Understanding) were recorded and archived.
Ontological authenticity	Through the process of team reflections (at both face-to-face meetings and teleconference meetings), team members had the opportunity to describe changes and growth in understanding of one's own construction/worldview. These reflections were recorded and archived as part of the data set.
Educative authenticity	Through the process of team reflections, team members had the opportunity to describe changes and growth in understanding of the other team member's constructions/worldviews. These reflections were recorded and archived as part of the data set.
Level of participant involvement	This was measured in terms of number of people interviewed (27 people in total) and their willingness to participate in all aspects of the project. Families were referred to the Native research team member with confidence from the service providers for the Family Care Conference (FCC). Similarly, the family participating in the FCC was enthusiastic about how it had worked and requested a follow-up meeting. These observations were included in field notes as part of the data set.
Community voice	The Native research team member was involved in all phases of the research project, including problem identification, intervention development, research design particularly as related to cultural sensitivity, data collection, data analysis, and dissemination of results. This involvement was recorded in the minutes of all research team meetings.
Acceptable problem resolution	The family who agreed to participate in the FCC indicated positive results from the intervention. These results were both objective and subjective. Throughout the course of the project, as the Native research team member had continued contact with the community members, she received verbal indications of support. People would tell her they would be willing to help in whatever way they could.
Feasibility of project sustainability	With the information we gained from the pilot project, and the support we received from the community, we submitted a grant proposal to expand the project. This second proposal subsequently was funded.

* CBPR indicates community-based participatory research.