Overall Discussion, Limitations, and Conclusions

This section highlights several themes across the studies, addresses the limitations of the studies, and provides overall conclusions and recommendations. All recommendations convey Macro's interpretation of the interview comments and data collected for evaluation. The recommendations are addressed largely to the PRC Program office; however, some recommendations concern the PRCs, their academic institutions, and their partners, and such distinctions are made as needed. In the final section, Macro's recommendations for future evaluation are also included.

Overall Discussion

Two overarching themes emerged from the four studies: (1) resources and support for the PRCs and (2) community engagement and research. This section provides highlights of the themes and recommendations related to them, followed by implications for the PRC Program logic model.

Resources and Support for PRCs

The CDC cooperative agreement provides core funding to support the PRCs' infrastructure, research, training, and other activities. While the initial authorization for the PRC Program in 1984 and the 1997 IOM report recommended that each PRC be funded at $1 million per year, no PRC has ever received that level of core funding. The studies provide information about the financial and other resources PRCs receive from CDC and their academic institutions. Funding challenges are also revealed.

CDC Support for PRCs

- Few funding mechanisms support the time- and labor-intensive process of CBPR. The studies demonstrate the importance of having at least five years for the funding cycle and programmatic commitment to this type of research. The program recognizes and understands the nature of PRC research by:
    - Facilitating the development of partnerships among PRCs' academic, community, and public health partners.
    - Creating an environment that increases community confidence that researchers are committed to long-term research activities and can focus on their work with the community without being preoccupied with funding.
    - Allowing the PRCs to spend time on involving the community in research design and participant recruitment.
- Support over multiple funding cycles fosters sustainability, and most PRCs expand on their previous research when developing new research projects. Sustained support allows for the continual development of relationships with communities and other partners, and enables PRCs to build their research over time.
- PRCs believe the level of annual funding is insufficient and creates challenges for high-quality participatory research. Examples of concerns are listed below:
    - Funding, in addition to that provided for basic infrastructure, is needed to engage communities in a meaningful way, provide training for community members, and provide TA on research or non-research topics.
    - Limited monetary support, combined with the time it takes for community engagement, can prolong research activities and thus delay publication of research.

- Many of the PRCs' community partners are located hours away from the centers' academic institution. Substantial resources are used to travel to the research communities, and spending time in the community is essential to building relationships and trust.
- Funds are not always available to adequately support PRCs' administrative activities. The limited funding can mean that researchers need to also manage administrative functions, interfering with the conduct of research.
- The PRCs' academic institutions may be unable to compensate for the lack of resources for core research and related activities.

Recommendations

Given the comments on support summarized above, Macro advises the following:

- Partners of the PRC Program need to advocate for support for the PRCs and for funding sufficient to cover all activities.
- The PRC Program office should recommend that PRCs have staff dedicated to administrative functions so that researchers can concentrate on their research projects.
- The PRC Program office should disseminate information explaining the importance of sustained funding to effectively conduct CBPR, and future evaluation of the PRC Program should include case studies about long-term funding.
- The PRC Program office and the program's advocates should seek to identify effective practices for working with communities and distribute these as recommendations to the PRCs and beyond.

Academic Institutional Support for PRCs

- Support from the host institution can be critical to enhancing a PRC's infrastructure and activities. In the funding announcement for the 2004–2009 funding cycle, indication of institutional commitment (e.g., provision of space and technologic resources) was one evaluation criteria. The studies demonstrated that academic institutions' support often exceeded resources for basic infrastructure but varies across PRCs. Examples of tangible and intangible institutional support for PRCs included:
  - Returned or reduced indirect cost rates, support of faculty time, and stipends for students.
  - Office space, facilities, and information technology support.
  - Acknowledgment of the PRC work with communities through academic institution communication and dissemination materials, such as an article in the school magazine.
  - Space for PRC training and TA.
- A few respondents described academic institutional support for CBPR at the PRC, such as adding a community member to the Institutional Review Board. Several other respondents discussed the benefits of the community partnership to the PRC's host institution, such as rebuilding community trust that had been damaged in the past. Overall most

respondents believed institutional support for CBPR was more in theory than in practice, with only a few respondents able to provide concrete ways their academic institutions demonstrated support for CBPR.

Recommendations

Regarding institutional support, Macro makes two recommendations.

- The PRC Program office should assess and describe the types of institutional resources and support that affect a PRC's ability to successfully implement research and other activities and reach their goals.
- The PRCs should share approaches they have used to communicate about and promote their activities within their academic institutions that have led to increased support and resources.

Community Engagement and Research

Attention to community participation in the PRC Program has evolved over time. The PRCs are now recognized as leaders in the field of CBPR and act as a resource for researchers interested in or implementing CBPR. The studies show how the PRCs and their community partners have embraced the development and practice of CBPR and suggest ways that both the PRC Program office and PRCs can further encourage and facilitate healthy, productive partnerships between academic and community partners.

Activities that Facilitate Community Engagement

Most PRCs engaged community partners in key activities and organized their center and community committee for effective community engagement. Examples include the following:

- Some PRCs had community liaisons or designated staff to coordinate community committees and community research. Having these staff may be efficient in strengthening community partnerships and coordinating community involvement in core research.
- Community committees enabled community members and partner organizations to guide a PRC and its core research project. Evaluation results indicated that one of the most common delays in the core research project resulted from difficulty recruiting study participants. Results also showed that community committees often help with this challenging aspect of research.
- Community committee guidelines provided a mutual understanding of the short- and long-term goals of the partnership and set standards for how members engage, debate, and make decisions.
- Frequent meetings provided PRC partners the opportunity to report progress and discuss needs or concerns.
- When PRCs' research, training, capacity-building, and communication activities complemented each other, working relationships between researchers and community partners could be promoted.

Recommendations

To further facilitate community engagement, Macro makes four recommendations to the PRC Program office:

- Continue to require community committees to facilitate community engagement in PRC research.
- Encourage PRCs to create or further develop formal guidelines and regularly hold meetings for community committees.
- Examine if a PRC's structure is associated with its effectiveness in community engagement.
- Share with PRCs (particularly new PRCs) examples of PRCs' structures, guidelines, and lessons learned around facilitating community engagement.

PRC Research and Community Capacity

- The studies showed that PRCs fulfilled their mandate to work with underserved and vulnerable communities, including low-income, minority, and under–educated populations, at risk for poor health outcomes.
    - PRC communities tended to be socioeconomically disadvantaged, with locations in a variety of geographic areas and variations in population size.
    - Community members often come from disadvantaged communities and brought their life experiences to the academic–community partnership. Their perspectives helped base the research in the realities of the community.
    - Vulnerable communities often had limited infrastructure and financial resources to bring to the partnership.
- The community committee members brought many assets to the research and helped do the following:
    - Build relationships with and provide access to community members.
    - Develop research tools and survey instruments.
    - Recruit research participants.
    - Influence which health priorities were selected and the type of research done in their community.
    - Develop training programs at PRCs and sometimes provide training and TA to the academic partners.
- Community members' involvement in research enhanced their abilities; many PRCs collaborated with community members to sustain community interventions.
    - Community members learned about the research process and how to develop and implement effective health promotion and disease prevention programs.
    - The PRCs provided training and TA for community members who built other community members' skills in behavioral science, social science, and public health. Skills were acquired, such as grant writing, motivational interviewing, developing social marketing plans, and conducting focus groups and community assessments.

- Many PRCs trained community members as community health workers (CHWs) who implemented the research and acted as a liaison between academia and the community. The CHWs helped accomplish research goals while building community capacity.

Recommendations

Additional recommendations from Macro are as follows:

- The PRC Program office should further investigate how PRCs build capacity in their partner communities.
- The PRC Program office also should assess the benefits of and lessons learned from implementing the CHW model in core research projects and how it relates to community capacity-building and CBPR.

Benefits and Challenges of Community Engagement to PRC Research and Researchers

- The data provide numerous examples of how community engagement in research benefits both the PRCs and the researchers.
  - Researchers and community members discussed scientific rigor and developed study designs acceptable to the community. Discussions did not appear to compromise the scientific rigor of PRC research; in fact, more than two-thirds of those PRCs conducting interventions were using research designs with control or comparison groups. These discussions also helped community members understand research and helped researchers serve the community, which could lead to increased research use.
  - Academic partners received training and TA from community members on subjects such as developing culturally competent health education curricula, understanding the roles of staff at community organizations, and working with local communities.
  - Community engagement helped strengthen existing partnerships and generated new ones for research, training, and grant opportunities.
  - Community members were an important resource, particularly for field research.
- PRCs benefited by sharing best practices among PRCs related to specific populations, research methodologies, and specific health promotion or disease prevention topics.
- Challenges to PRC researchers that resulted from working with the community included the following:
  - The time and effort needed to engage community members and learn each other's culture that impacted the timeframe within which the research could be conducted.
  - The need to overcome distrust of research and the work needed to build trust.
  - The difficulty balancing a community's desire for additional research or service with the constraints of a PRC's resources.
  - The difficulty of having regular in-person meetings with community members when communities are far from the academic institution.

Recommendations

Regarding the benefits and challenges summarized above, Macro makes the following recommendations:

- The PRC Program office should look closely at the PRCs' intervention research designs used for CBPR to assess innovation and effectiveness of the designs.
- PRCs need to allow enough time and resources to conduct background work and community needs assessment to ensure that the academic partners understand community issues and concerns before developing a research study.
- PRCs need to learn about a community's infrastructure before considering which community resources may be available and which resources the academic researchers and institution will need to provide.
- Where PRCs have selected communities a great distance from the academic institution, thoughtful planning is needed around how the researchers will establish and maintain the community relationships.

Implications for the PRC Program Logic Model

The national evaluation overall and the studies are based on the main components of the logic model for the national PRC Program (Appendix A). The logic model was first developed in 2002 and 2003. Appendix J describes how results from the studies both confirmed some elements of and informed modifications to the logic model. The 2008 revised logic model is also included in Appendix J.

Limitations

The studies provide substantial information about the characteristics of PRCs, ways in which they engage with communities, the nature of their core research projects, and training and TA activities. However, the processes used to capture these data have some limitations.

- The evaluators conducted interviews with only nine PRC academic or community representatives for each interview topic and thus the results do not necessarily represent all PRCs. However, every PRC was represented in at least one interview, and the selection criteria ensured appropriate representation of interviewees for each topic.
- The document review data represent a single point in time; however, because not all data sources cover the same time period, multiple points in time are represented in the results. In addition, the data are not causal and cannot be used to determine if certain PRC practices led to specific results.
- The 2000 U.S. Census data were the only national demographic data available for all PRC communities at the time of the report. However, 2000 demographic characteristics of some of the PRC communities are likely outdated.
- The data describe general characteristics across the PRCs and are not in-depth case studies for individual PRCs.

Conclusions

Collaborating with community partners and engaging the community are fundamental to CBPR. Basic objectives of the PRC Program are to identify community health issues, develop translatable research, and help communities adopt and sustain changes, thereby improving the lives of persons living in the research communities as well as those living in similar communities.

Even with challenging differences in culture, difficult conversations about research rigor, and fiscal and administrative limitations, the PRCs' work in the period under study reflected the mission, goals, and values of CBPR. The meetings and discussions that occurred during the research process helped both academic and community representatives understand the culture and perspective of the other, bring community realities to the research, and increase the research relevance to the community. The researchers and community members demonstrated ways to compromise with and understand each other. They also showed a commitment to CBPR, to the PRC Program, and to implementing core research that is meaningful to communities and adheres to scientific principles.

Addressing National Evaluation Questions

The studies provide data to answer aspects of the national evaluation questions, as demonstrated below:

What does the PRC Program contribute to public health practice and policy by conducting prevention research to develop and disseminate effective and translatable public health interventions?

Data from both the Core Research and the Academic-Community Partner Interaction Studies demonstrated rigorous research designs as well as community involvement in the research. Many of the core research projects built on previous research or filled gaps noted in The Community Guide and thus contributed to the public health literature and dissemination research. In addition, an outcome of many PRCs' core research projects was to change policy and environmental factors. Further, the level of community involvement appeared to be leading toward research that was directly applicable to the community and had great potential for translation from research to practice.

What does the PRC Program contribute to public health practice and policy by training the public health workforce?

The Training, Technical Assistance, and Mentoring study demonstrated that PRCs both trained and provided technical assistance to communities and public health practitioners on a broad variety of topics and skills. The data also showed that the training and TA are reciprocal; faculty and staff at PRCs are also learning from the communities and partners. Thus, the PRCs contributed to the knowledge and skills base of the public health workforce in many sectors—community, health department, and academia.

How is CBPR implemented across PRCs? How are communities and partners engaged in PRCs' activities, and how does participation build community capacity?

All four studies demonstrated that the 2004–2009 PRC core research projects reflected the PRC Program requirements for community engagement in the projects' development, implementation, and dissemination. The results provided an in-depth look at how PRCs implemented CBPR and demonstrated that academic and community partners worked hard to build relationships so that

the community could provide guidance on core research and other activities while maintaining scientific rigor. Of particular interest is that both academic and community interview respondents had some similar perceptions of learning from the community engagement process. For example, both community and academic respondents said they learned how cultural factors affected relationships and research, that communities learned how to leverage their resources in return for those of the academic institution, and that academics learned how to better involve the community. The studies also showed that structures and processes were in place to facilitate community engagement in PRC research, such as community committees, committee guidelines, and organizational structures. In addition, the studies showed that the PRC core research benefited from community capacity and that such capacity is enhanced through training, technical assistance, and involvement in PRC research.

What are the similarities and differences across PRCs concerning infrastructure, organizational factors, and how PRCs partner with communities and organizations?

The Organizational and Community Characteristics and the Academic–Community Partner Interaction Studies demonstrated that while there were differences across PRCs, there were also many similarities related to infrastructure and organization, available resources, and the ways in which PRCs worked with communities and partner organizations. For example, only three organizational models emerged; an important distinction is whether a PRC leader handled administrative functions, which helped research faculty be efficient with their time. All PRCs structured themselves to accomplish the variety of activities required by the program, often with integration and overlap of the key activities. While the overlap and emphasis varied across PRCs, most had structures in place to facilitate community engagement into research and other activities.

The studies demonstrated the importance of resources and support from the academic institution and the PRC Program to each PRC's organization. In addition, the studies showed that PRCs received support in a variety of ways and were challenged by limited resources. Of interest is the lack of concrete support for CBPR from the academic institutions, although some PRCs did identify a few specific activities of their institution to increase support for CBPR.

Use of Findings and Next Steps

The studies provide data for two main purposes: (1) accountability, so that the PRC Program and its partners can educate others about the program by using systematic evaluation data; and (2) program improvement, so the PRC Program office and the PRCs can change how the program is managed and implemented to address evaluation findings and recommendations.

Macro's recommendations from the studies fall into three categories, as organized below.

Recommendations for Future Evaluation

Infrastructure and Resources

- Assess and describe the types of institutional resources and support that affect a PRC's ability to successfully implement research and other activities and reach its goals.
- Assess how the distance from a PRC to its partner community or how working with a large or diffuse community affects the resources the PRC requires to successfully partner with the designated community.
- Clarify the representativeness of the organizational models, explore how PRCs structure themselves to engage communities and partners, and determine how the key activities relate to and support research.

- Create a Venn diagram for each PRC to help understand the similarities, differences, and benefits of different structures.
- Examine if a PRC's structure is associated with its effectiveness in community engagement.
- Assess the PRC Program indicator data and conduct additional evaluation about the types of resources (such as financial, equipment, supplies, and technical support) provided to each PRC by its academic institution to help understand both the availability and variability of resources and their effect on a PRC's budget.
- Disseminate information explaining the importance of sustained funding to effectively conduct CBPR. Future evaluation of the PRC Program should include case studies about long-term funding.

Community Characteristics

- Use 2010 census data to compare with these results in order to continually assess the racial and ethnic makeup of PRCs' communities and ensure appropriate attention to minority health issues.
- Describe the health focus of the PRCs' research across the partner communities.

Community Engagement

- Conduct an in-depth examination across all PRCs to fully describe the breadth, structure, and role of committees at all PRCs. Such a review would provide in-depth information on the activities in which the committees are involved, the mechanisms or structures in place to facilitate involvement, and the level of involvement in activities.
- Examine the level of community involvement in all core research projects, including the determination of research project topics, the role of CHWs, and the lessons learned from community assistance with research participant recruitment.
- Assess the benefits of and lessons learned from implementing the CHW model in core research projects and how the model relates to community capacity-building and CBPR.
- Explore how PRCs build capacity in their partner communities.
- Identify effective practices for working with communities and distribute these as recommendations to the PRCs and beyond.

Core Research

- Review the relationship of PRC research to new systematic reviews conducted for The Community Guide.
- Explore the results of the core research projects at the end of the five-year cycle to determine concepts such as the extent to which the results are enriched by being culturally relevant to each PRC's core research community and the strength of the results in relationship to research designs.
- Examine the PRCs' intervention research designs used for CBPR to assess innovation and effectiveness of the designs.

Training and Technical Assistance

- Assess how training and TA enhance community engagement and increase community capacity.
- Examine the training and TA provided by communities to academic partners.
- Assess community and public health practice partners' perspectives of PRC training, TA, and mentoring, including perceived benefits.

The next steps for the national evaluation are to assess the program indicator data and look at where the indicator and study data complement each other. Results will be shared with the PRCs and other constituents. Additionally, the recommendations will be used for strategic planning for future national evaluation activities, which will coincide with the next full five-year funding cycle for the PRCs.

Recommendations for PRCs

Infrastructure and Resources

- Share strategies on budgeting and on faculty and staff recruitment and retention.
- Communicate and promote activities within their PRCs' academic institutions, which could help elevate the importance of the activities and garner support for CBPR.
- Share approaches used to communicate about and promote activities within the academic institutions that have led to increased support and resources.
- Move the primary responsibility for administrative activities from researchers, which may allow for increased efficiency and may help attract researchers from across the university to conduct research through the PRC.

Community Engagement

- Share community committee guidelines with new community and academic partners as part of an orientation process.
- Academic partners need to be patient when explaining the terminology and steps of the research process to community committee representatives or the community at large.
- Academic and community partners must discuss their respective cultures at the beginning of the study design and remain open-minded about the importance of scientific rigor and ways to achieve it throughout the research process.
- Involve community partners early and frequently in the research to help ensure it proceeds in a timely manner.
- Allow enough time and resources to conduct background work and community needs assessment to ensure that the academic partners understand community issues and concerns before developing a research study.

- Learn about a community's infrastructure before beginning work to consider which community resources may be available and which resources the researchers and institution will need to provide.
- Determine how to establish and maintain community relationships when PRCs are working with a community that is a great distance from the academic institution.

Training and Technical Assistance

- Share how institutional support for training and TA activities came about.

Over the years they have been funded, many PRCs gained knowledge about organizational structures, working with community partners, and communication and promotion of activities to encourage academic institutional support. Sharing their strategies across the PRC network may help all PRCs establish a successful infrastructure from which they can operate in pursuit of their research aims.

Recommendations for Management of the PRC Program

Infrastructure and Resources

- Provide guidance related to funding and allocation of resources, specifically on the percentage of the award that might be applied toward administrative aspects of the PRCs' work.
- Recommend that PRCs have staff dedicated to the administrative functions so that researchers can concentrate on their research projects.
- Develop tools or templates to help PRCs become more efficient with administrative tasks such as entering data into the IS.
- Partners of the PRC Program need to advocate for support for the PRCs and for funding sufficient to cover all activities.

Collaboration across the PRC Network

- Establish sessions during national meetings that emphasize interaction and the exchange of ideas among participants (as opposed to presentations) as well as other mechanisms for sharing throughout the year, such as Web conferences.
- Support or develop additional mechanisms to facilitate communication across the network.
- Develop and implement activities that increase the opportunities for community members to interact across PRCs and collaborate on grants.

Community Characteristics

- Create a map of the PRCs' reach into the states and communities to reflect the PRCs' work.

Community Engagement

- Develop recommendations for PRCs on elements to include in community committee guidelines that other PRCs find helpful.
- Encourage PRCs to share their community committee guidelines with each other to facilitate learning.

- Continue to require community committees as a way of facilitating academic–community relationships and community engagement in PRC research.
- Encourage PRCs to create or further develop formal community committee guidelines and regularly hold meetings for community committees. Guidelines and meetings enhance the participation of community representatives and the communities at large with which they work.
- Share with PRCs (particularly new PRCs) examples of PRCs' structures, guidelines, and lessons learned around facilitating community engagement.
- Help academic and community partners share lessons learned by identifying or developing tools on how to educate community partners on research concepts and academics on cultural sensitivity.

Core Research

- Encourage PRCs to use instruments that have demonstrated reliability and validity, or to assess reliability and validity of the instruments with their study population.

Many of these recommendations could be considered by the PRC Program office in collaboration with the PRC Steering Committee, National Community Committee, or other groups, and can be used to provide partners with data about the program. The PRC Program office was able to consider many of these recommendations in the development of the Funding Opportunity Announcement for the 2009–2014 funding cycle.[1] Also, the recommendations will be used in developing materials for PRCs' monitoring and guidance.

The studies reported here assessed aspects of the program that had never been systematically described before. The results give the PRC Program a basis for future evaluation and program improvements.

References

1. Health Promotion and Disease Prevention Research (U48), RFA-DP-09-001. Atlanta (GA): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 2008 Aug 1 [cited 2008 Sep 10]. Available from: http://www07.grants.gov/search/search.do;jsessionid = LTTbwrwLjdJjMGVDKKYbvppFv9J24JVqYFPjyh3sQn5w7W23tzks!-285210828?oppId = 18174&flag2006 = true&mode = VIEW