

Available at: <http://www.aacu.org/public-health/2008participants.cfm>. Accessed August 10, 2009.

10. Riegelman R, Albertine S. Recommendations for undergraduate public health education. 2008. Available at: <http://www.atpm.org/resources/pdfs/Recommendations.pdf>. Accessed August 10, 2009.

11. Brown D. For a global generation, public health is a hot field. *Washington Post*. September 19, 2008. Available

at: <http://www.washingtonpost.com/wp-dyn/content/article/2008/09/18/AR2008091804145.html>. Accessed August 10, 2009.

12. Nelson R. USA faces severe shortage of public-health workers. *Lancet Infect Dis*. 2008;8(5):281.

13. Rosenstock L, Silver GB, Helsing K, et al. Confronting the public health workforce crisis: ASPH statement on the public health workforce. *Public Health Rep*. 2008;123(3):395–398.

14. Draper DA, Hurley RE, Lauer JR. Public health workforce shortages imperil nation's health. *Res Briefs*. 2008(4): 1–8.

15. Association of American Medical Colleges. Scientific foundations for future physicians: a report of the AAMC-HHMI Committee. 2009. Available at: https://services.aamc.org/publications/showfile.cfm&file=version132.pdf&prd_id=262&prv_id=321&pdf_id=132. Accessed November 6, 2009.

16. Emanuel EJ. Changing premed requirements and the medical curriculum. *JAMA*. 2006;296(9):1128–1131.

17. Hoover EL. A century after Flexner: the need for reform in medical education from college and medical school through residency training. *J Natl Med Assoc*. 2005;97(9):1232–1239.

18. Johnson TD. APHA affiliates bringing public health education to undergrads. *Nations Health*. 2009;39(4):16.

Community Engagement in Research: Frameworks for Education and Peer Review

Community engagement in research may enhance a community's ability to address its own health needs and health disparities issues while ensuring that researchers understand community priorities. However, there are researchers with limited understanding of and experience with effective methods of engaging communities. Furthermore, limited guidance is available for peer-review panels on evaluating proposals for research that engages communities.

The National Institutes of Health Director's Council of Public Representatives developed a community engagement framework that includes values, strategies to operationalize each value, and potential outcomes of their use, as well as a peer-review framework for evaluating research that engages communities.

Use of these frameworks for educating researchers to create and sustain authentic community-academic partnerships will increase accountability and equality between the partners. (*Am J Public Health*. 2010;100:1380–1387. doi:10.2105/AJPH.2009.178137)

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THE SIGNIFICANT RENAISSANCE

of community engagement in research stems from demands by community leaders, policy-makers, and funders for meaningful community involvement to address health problems facing communities. The published peer-reviewed literature and numerous reports point to the many potential benefits of community engagement in research.^{1–16}

According to the Institute of Medicine, for example, community-based participatory research increases community understanding of the issues under study and enhances researchers' ability to understand community priorities, the importance of addressing community priorities, and the need for culturally sensitive communications and research approaches.¹⁷

Several models for community engagement in research exist, including community-based participatory research,^{18,19} empowerment evaluation,^{20,21} participatory or community action research,²² and participatory rapid appraisal.²³ Some confusion exists about the definition of community engagement in research, however,

because many researchers use the terms interchangeably.

Researchers conducting community engagement in research need appropriate education and training not typically offered by traditional doctoral and master's level curricula. The field clearly needs long-term programs that integrate the knowledge and skills of experienced community and researcher partners in high-quality participatory research to build the capacity of young and traditionally trained researchers and scientists interested in pursuing community engagement in research.²⁴

Funding agencies often find it difficult to assess participatory research proposals, especially if they use traditional review criteria that are not necessarily applicable to participatory research.²⁵ A 2004 review²⁶ points out that when reviewers in typical study sections are not familiar with community-based participatory research or are even skeptical about the approach's merits, investigators find it challenging to obtain funding for their community-based participatory research projects through conventional peer-review mechanisms.

Many funders include members of the lay public in their peer-review panels to evaluate proposals from the patient's or family member's perspective.^{27,28} Lay public reviewers help scientists understand the impact of the research on the community and help them make appropriate funding recommendations that address the needs and concerns of patients, health care providers, and family members.²⁹ However, many scientists are concerned that lay peer reviewers do not have the scientific expertise required to offer an appropriate evaluation.^{30,31} A survey of the National Cancer Institute of Canada's scientific grant review panel members found that not all scientists value lay contributions and many lay members feel insecure about the importance of their contributions.³²

Because of these barriers, community engagement in research is probably underused. The National Institutes of Health (NIH) Director's Council of Public Representatives (COPR), a federal advisory committee to the NIH director, addressed these issues and produced this

article to advance community engagement in research. We describe approaches that funders and educational institutions can use to develop community engagement in research training programs and peer-review processes that can expand the community engagement in research field.

COMMUNITY ENGAGEMENT IN RESEARCH AT THE NIH

Many of NIH's 27 institutes and centers encourage some investigators to engage the public in their research. For example, NIH sponsored the Partners in Research Program, which supports partnerships between academic or scientific institutions and community organizations to study methods for improving public understanding of research and enhance outreach to the public by scientists.³³

Several NIH institutes and centers, particularly institutes with large clinical research portfolios, offer training in community engagement for NIH-sponsored investigators.^{34,35} However, NIH has no centralized training programs dedicated to enhancing researcher or community skills in community engagement in research.

Although NIH-sponsored investigators are not required to include community members in clinical research, except as research participants, some NIH institutes and centers encourage community participation in some of their programs. The NIH has no centralized policy, however, requiring the involvement of communities in NIH-funded clinical research when community engagement is relevant to the study.

The NIH sometimes creates a special emphasis panel or an ad hoc committee to review applications submitted in response to

a request for applications or a very specific research topic.²⁶ These reviewers are typically experts in the request for applications focus area and receive specific instructions related to the proposals that they are asked to review. The NIH also includes public representatives in some of its peer-review panels.

Several NIH institutes and centers have developed special review criteria for proposals involving community participation in research. For example, reviewers of the Clinical and Translational Science Award proposals are asked to consider whether the centers will effectively involve the Clinical and Translational Science Award's community in "clinical and translational research priority setting, participation, and follow-up."³⁶

In 2007, NIH initiated a formal review of its peer-review system. The final draft of the 2007–2008 Peer Review Self-Study for NIH included "continue piloting the use of patients and their advocates in clinical research review" as one recommended action to enhance reviewer quality.³⁷

THE ROLE OF COPR IN COMMUNITY ENGAGEMENT IN RESEARCH

The NIH Director's Council of Public Representatives consists of 21 members of the public who advise, recommend, and consult with the NIH director on medical research, NIH policies, and programs that involve the public. This group has a deep interest in community engagement in research, as illustrated by the 2004 workshop, "Inviting Public Participation in Clinical Research: Building Trust Through Partnerships," that COPR sponsored

in partnership with the NIH Public Trust Initiative. The council issued the workshop proceedings and a report with recommendations.^{38,39} In addition, two COPR members, Marjorie Mau, MD, and Syed Ahmed, MD, DrPH (one of the coauthors of this article), were members of the Working Group of the Advisory Committee to the NIH Director on NIH Peer Review.

In discussions with former NIH Director Elias Zerhouni, MD, COPR emphasized the importance of participation in research and recommended that the NIH adopt a fourth "P," for "participation," in NIH's vision of medicine as being "more Predictive, Personalized, Preemptive, and Participatory."⁴⁰ The council went further to establish the Role of the Public in Research work group to explore how to operationalize the fourth "P" and address concerns about community engagement in research by producing the following deliverables:

1. Definitions and operating principles of "community engagement" and "public participation,"
2. Guidelines for educating researchers and the lay public on community engagement, and
3. Criteria and guidance that peer-review panels can use to gauge community engagement.

We present COPR's three deliverables.

COPR FRAMEWORKS FOR COMMUNITY ENGAGEMENT IN RESEARCH EDUCATION AND PEER REVIEW

The Role of the Public Work Group was formed in 2006 to

produce COPR's community engagement in research deliverables. The work group included approximately 10 COPR members who volunteered to join the group because of their experience as academic or community partners in research or because of a strong interest in community engagement in research.

COPR's Methodology

The work group explored the value of public participation in research in 2006 through 2008. The group invited community and academic experts representing many sectors in community engagement, public participation in research, grant administration, training, peer review, ethics, and community-based research to meet with the work group. At these meetings, the work group learned, for example, that understanding a community's social and cultural characteristics, as identified by community members, improves research quality, ensures the research's relevance, addresses health disparities, and enhances the research's impact. However, presenters and members identified several concerns, including limited researcher understanding of public participation in research's value, limited researcher experience in this area, and limited guidance for peer-review panels on evaluating community engagement proposals.

The work group conducted a very broad search of PubMed and the Internet using many search terms (such as "participatory action research," "peer review," "partnership," and "collaboration") and combinations of these terms. This search generated approximately 650 peer-reviewed journal articles, reports from government agencies and non-profit organizations, course and

TABLE 1—Values, Strategies, and Outcomes of Community Engagement in Research (CER)

Values	Strategies	Outcomes
Investigators and communities understand what CER means	See COPR definition of CER. Community engagement methods include community service, service learning, training, community-based participatory research, capacity building, technical assistance, and economic development. ⁶²	The research is meaningful, applicable, and appropriately interpreted. ⁶³ The definition serves as a reference when negotiating agreements. ⁶³
The community-investigator partnership is strong	Both partners understand each other's needs, goals, available resources, and capacity to develop and participate in community engagement activities. ⁶² Structures and processes facilitate sharing information, decision-making power, and resources among partners. Investigator and community member expertise is incorporated. ⁶⁵ A formal agreement addresses all aspects of the research, including ethics, roles, and responsibilities of all participants; data ownership; dispute resolution; and dissemination of results. ⁶⁶	Recruitment and retention increase. The research provides information on the phenomena being investigated. ⁶⁴ The community uses the knowledge gained to improve community members' health and well-being. Unnecessary conflicts, misunderstandings, and criticisms are prevented. ²⁰
Communities and investigators share power and responsibility equitably	The community partner is involved in all aspects of the research, from planning through dissemination of results. The investigators and the community partner commit to working in partnership toward achieving the study goals and to honor the commitments made to one another throughout the research. ⁶³ The investigators and the community partner commit to continuous communications beyond disseminating written progress reports.	Recruitment and retention increase. Traditionally underserved communities increase their power.
Diverse perspectives and populations are included in an equitable manner	All segments of the community potentially affected by the research are represented. Potential barriers to participation are addressed. Communication and program activities are culturally appropriate.	The quality and relevance of the research are enhanced. ^{67,68}
The research goals are clear and relevant	Impetus for research comes from the community partner. ⁶⁹ The study is designed to result in positive social change for the community. ⁶²	The likelihood increases that the research will solve community health problems. ⁶⁶
The research project results in mutual benefit for all partners	Benefits of the research should include improved health status or services for the community within a specified time period through interventions developed and agreed on by the researchers and community. ⁶⁴ The research provides resources and funding to train, employ, and build capacity of community members in all aspects of the research process. ⁶⁴	Investigators and the community have a stake in the project's successful completion. Investigators and the community benefit from the publication and dissemination of research findings and methodologies and development of interventions. ⁷⁰ Investigators and the community benefit from recognized contributions to advancing medicine and public health. ⁶⁴
Communities and investigators have opportunities to build capacity	Investigators and the community partner to learn from each other and share expertise and knowledge. ^{41,66} Research begins with and builds on community assets and strengths. ^{41,71} The community partner develops capacity to make decisions related to community health issues. ⁶³ The investigators learn from the community partner how to work with communities on an individual and organizational level.	Research effectiveness is enhanced. Building capacity demonstrates competency in community engagement research for funders. Building capacity supports the sustainability of health-promoting interventions. Building capacity supports the development of a policy agenda informed by community-based research.
All partners receive equal respect	Investigators respect and follow community values and time frames. ⁴⁸ Investigators ensure that all private information from participants remains confidential. Investigators explain all aspects of the project using nontechnical language before the community partner agrees to participate. All community members have self-determination rights and responsibilities. ⁴¹	Trust between communities and investigators increases.

Continued

TABLE 1—Continued

Communications are continuous	<p>Communications between the community partner and the investigators are ongoing.</p> <p>Communications are bidirectional—from investigators to the community partner and vice versa. Investigators provide regular progress updates to the community, including community members not directly involved in the research.</p> <p>The community partner informs investigators of potential concerns and offers constructive solutions to improve the research.⁶³</p> <p>Communications do not end when the project ends.</p>	<p>Communities do not drop out of the project because they do not understand the research.</p> <p>Conflicts and misunderstandings are prevented.⁴⁸</p> <p>Problems are resolved.⁴⁸</p> <p>All partners are treated with respect.⁴⁸</p>
The monitoring and evaluating process is transparent	<p>Partners develop a transparent process for evaluating progress and impact.⁴⁸</p> <p>Partners use mutually agreed-upon evaluation strategies.⁴⁸</p> <p>Potential measures of success include a continuing research partnership and community continuation of the research process.⁷²</p>	<p>A transparent monitoring and evaluation process ensures accountability. Community members enhance their ability to use evaluation techniques.⁷²</p>
The partners establish appropriate policies regarding ownership and dissemination of results	<p>Partners agree on who has access to research data and where the data will be stored.⁷³</p> <p>Findings are disseminated to all partners in understandable and respectful language.⁶⁴</p> <p>Findings are disseminated beyond the partnership. All partners serve as reviewers and coauthors of publications and copresenters at conferences.⁶⁴</p>	<p>Those who contribute to the research benefit from the results.</p>
The partners translate the research findings into policies, interventions, or programs	<p>The partners monitor the effectiveness of translation.⁶³</p>	<p>Results are used to guide the development of interventions, education, or policies.⁶⁴</p> <p>Community members benefit from the research outcomes.⁶⁵</p>
The partners sustain the relationship and the research outcomes after the project ends	<p>Investigators engage the community partner before, during, and after the research.</p> <p>Investigators release control of research outcomes or interventions to the community and help the community take advantage of those outcomes or interventions.⁴¹</p>	<p>The project has a long-term impact on the community.</p>

Note. COPR = National Institutes of Health Director's Council of Public Representatives.

curriculum descriptions, bibliographies, and Web sites from around the world.

The work group produced initial drafts of its deliverables based on its internal discussions in 2007 and 2008 (including four face-to-face meetings and many teleconferences), discussions with invited experts, COPR's previous reports on public trust and human participants in research, and literature search results. Specifically, the work group reviewed definitions of "community engagement"⁴¹⁻⁵⁵ and "public participation"^{56,57} created by NIH and other experts to produce the first deliverable. The group developed the second and third deliverables

by identifying relevant strategies for educating researchers and criteria for peer review of community engagement in research proposals from the literature. The group refined these strategies and criteria by combining or eliminating some and revising others to produce the frameworks.

Work group members reviewed and presented drafts of each deliverable to the full COPR before the committee's approval of the final version. In October 2008, COPR presented its frameworks to Raynard Kington, MD, PhD, acting director and deputy director of NIH. He accepted the frameworks on behalf of NIH and recommended that NIH form an

internal work group to implement the framework. The work group cochairs subsequently developed the current article, with input from the entire COPR, to present the frameworks and describe the methods used to develop them.

Public Participation

Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process.^{58,59} Public participation is the process by which an organization consults with interested or affected individuals, organizations, and government entities before making a decision. Public

participation is a two-way communication and collaborative problem-solving process with the goal of achieving better and more acceptable decisions.

Community Engagement

Community engagement in research is a process of inclusive participation that supports mutual respect of values, strategies, and actions for authentic partnership of people affiliated with or self-identified by geographic proximity, special interest, or similar situations to address issues affecting the well-being of the community of focus.^{45,48,60,61}

Community engagement is a core element of any research

TABLE 2—Criteria for Applications for Research Involving Communities

Criteria	Evidence
Peer reviewers understand and have experience conducting research that involves community engagement, as defined by COPR	All reviewers understand the requirements of community engagement in research (CER) to be able to assess community engagement proposals.
Peer reviewers understand the value added by public review panel members	Public reviewers provide the patient or public perspective in assessing a proposal's scientific excellence. ⁷⁴
The application provides evidence of an equitable partnership between the investigators and the community partner	The community partner is identified and demonstrates acceptance of its role as a "partner in research." The community of interest is clearly defined. ⁶² Community agencies consistently work with students and faculty through projects that are part of an academic course, community-based research, community service, or other activities. ⁷⁵ Investigators demonstrate involvement in the community; they know which topics are of interest to the community and which community representatives can be brought together to discuss these topics. ⁴¹ The community partner and investigators share power and responsibilities equally.
In the application, the investigators have defined the relevant community or communities	The community is defined by using explicit criteria, such as common interest, characteristics, or health condition. ⁷⁶
In the application, the academic coinvestigators have identified the appropriate community or communities for the project, and the community coinvestigator has identified the appropriate research partner for the project	The academic coinvestigators have identified the community coinvestigators who will participate in the research as partners. ⁷⁶ The community coinvestigators have identified the academic coinvestigators who will participate in the research as partners.
Community engagement is an integral part of the research described in the application	The investigators provide a sound rationale for and record (if applicable) in community engagement. A clear link exists between community-defined priorities and the proposed research focus and approach. ⁷¹ The proposal addresses not only research methods, but also methods for building and sustaining community partnerships and community participation. ⁷¹ The proposal includes a management plan for maintaining transparent communications between the community and the academic partners. The investigators describe existing or proposed involvement with one or more community-based organizations. ⁷⁶ The investigators involve the community as an equal partner in the research process, including priority setting, participation, and follow-up. ³⁶ Community partner participation may enhance, but does not focus solely on, recruitment and retention of research participants.
The community played an appropriate and meaningful role in developing the application	The letters of support were clearly written by the community, not the investigator. ⁷¹ The proposal offers evidence that the research planning, organization, structure, and design reflect a true collaboration between the partners. ⁷⁷
The application calls for an appropriate division of funding among partners	The amount of funding going to the academic partner and the community is clear, fair, and appropriate. ⁷⁷
The research project described in the application is based on sound science	Community engagement projects meet the same rigorous scientific standards as other projects. The project addresses an important scientific health problem. ⁷⁷ Achieving the project aims will advance scientific knowledge, community health, or clinical practice. ⁷⁷
The project described in the application includes training opportunities	The application includes plans to train investigators, students, and scholars in CER methodology. ³⁶ The application includes a plan to train community partners in research methodology. The application includes a plan to train the research team in translating research findings into policy and practice.
The project described in the application will be conducted in an appropriate environment	The environment in which the research will be done enhances the likelihood that the research will succeed. ⁷⁷ The research benefits from unique features of the environment or study population. ⁷⁷ The community benefits from the presence and implementation of the research.
The project described in the application will have a measurable impact	The project will improve public understanding of research. ⁷⁷ The project will produce strategies for promoting collaboration between academic institutions and the community to improve the public's health. ⁷⁷ The research will foster long-term, bidirectional relationships between the academic institution and the community in ways that will benefit both. ³⁶ The research will support positive social change in the community's health.

Note. COPR = National Institutes of Health Director's Council of Public Representatives.

effort involving communities. It requires academic members to become part of the community and community members to become part of the research team, creating a unique working and learning environment before, during, and after the research.

Operating Principle

Community engagement is a process that requires power sharing, maintenance of equity, and flexibility in pursuing goals, methods, and time frames to fit the priorities, needs, and capacities within the cultural context of communities. Community engagement in research is often operationalized in the form of partnerships, collaboratives, and coalitions that do the following: help mobilize resources and influence systems, change relationships among partners, and serve as catalysts for changing policies, programs, and practices.

Core Principles for Education on Community Engagement in Research

The NIH Director's Council of Public Representatives' framework for education on community engagement in research targets investigators and communities. The framework is built on 5 core principles. Corresponding values are listed in Table 1.

Definition and scope of community engagement in research (values 1 and 5). Community and academic partners need to understand the definition of "community" and what community engagement involves in their program. New investigators should understand the community engagement activity and communities and academic partners must identify the project's goals, which should be based on a relevant community issue.

Strong community-academic partnership (values 2 and 8). Successful partnerships are based on a mutual understanding of partners' needs, capacities, and goals. Developing a partnership takes time, skill, and mutual respect. A formal agreement is helpful but not sufficient because relationships must extend beyond legal documents.

Equitable power and responsibility (values 3 and 4). Community engagement projects can involve community partners in all aspects of the research process, recognizing that both community and academic partners bring expertise. Depending on available expertise, infrastructure support, and interest levels, partners should take responsibility for advancing different research aspects. This creates mutual respect, willingness to share power, and accountability for each project aspect. Community engagement projects encourage, instead of merely tolerating, diverse populations and perspectives.

Capacity building (values 6, 7, and 13). Community and academic partners share resources and funding. Communities increase their capacity to address their health issues by learning about different aspects of the research process. Academics increase their own capacity to conduct community engagement research, enhance the authenticity of their data, and obtain assistance in recruiting and retaining research participants.

Effective dissemination plan (values 9, 10, 11, and 12). Bidirectional, continuous communication keeps community engagement projects moving. Transparency in all activities builds trust and both partners must own all data gathered. Partners must make joint decisions on disseminating their

research results. The translation of findings into policies or programs must be based on the research project's agreed-upon goals.

Framework for Education on Community Engagement in Research

The first framework (Table 1) describes 13 values that are relevant to community engagement and identifies strategies to operationalize each value and potential outcomes from those strategies. The process for training researchers in community engagement should be based on the five principles and the framework.

Framework for Peer Review of Community Engagement Proposals

Table 2 provides suggested criteria for reviewers to use as a framework when they are reviewing proposals involving community engagement as a key component of the research. Principal investigators might come from an academic institution, whereas coinvestigators might come from an academic institution or a community organization. This table addresses both types of investigators because an effective arrangement is one in which community engagement research projects are led by a team of academic and community partners as coinvestigators.

CONCLUSION

The NIH Director's Council of Public Representatives developed its frameworks for community engagement in research after reviewing its previous reports on human participants and public trust in research, meeting with

experts in a range of related fields, and conducting an extensive review of published and unpublished literature. The council's research results highlight the importance of educating investigators and communities on how to engage communities in research and ensuring that reviewers are familiar with the principles of community engagement in research and understand the value of this approach. In addition, COPR recognizes that the frameworks should be evaluated and the results used to refine the frameworks and increase their utility.

By incorporating the frameworks presented in this article, NIH, other funders, researchers, and communities will help expand the cadre of researchers who are well prepared to form authentic partnerships with communities and ensure that proposals for community engagement research receive a fair and appropriate review. We hope that this will increase the amount of high-quality community engagement research that researchers and communities conduct and that NIH supports. This will, in turn, have a positive impact on the health of communities. ■

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References

- Ammerman A, Corbie-Smith G, St George DM, Washington C, Weathers B, Jackson-Christian B. Research expectations among African American church leaders in the PRAISE! project: a randomized trial guided by community-based participatory research. *Am J Public Health*. 2003;93(10):1720–1727.
- Aschengrau A, Ozonoff D, Coogan P, Vezina R, Heeren T, Zhang Y. Cancer risk and residential proximity to cranberry cultivation in Massachusetts. *Am J Public Health*. 1996;86(9):1289–1296.
- Bluthenthal RN, Jones L, Fackler-Lowrie N, et al. Witness for Wellness: preliminary findings from a community-academic participatory research mental health initiative. *Ethn Dis*. 2006;16(1, suppl. 1):S18–S34.
- Chung PJ, Travis RJr, Kilpatrick SD, et al. Acculturation and parent-adolescent communication about sex in Filipino-American families: a community-based participatory research study. *J Adolesc Health*. 2007;40(6):543–550.
- Flicker S. Who benefits from community-based participatory research? A case study of the Positive Youth Project. *Health Educ Behav*. 2008;35(1):70–86.
- Gellert K, Braun KL, Morris R, Starkey V. The 'Ohana Day Project: a community approach to increasing cancer screening. *Prev Chronic Dis*. 2006;3(3):A99.
- Kataoka SH, Fuentes S, O'Donoghue VP, et al. A community participatory research partnership: the development of a faith-based intervention for children exposed to violence. *Ethn Dis*. 2006;16(1, suppl 1):S89–S97.
- Northridge ME, Meyer IH, Dunn L. Overlooked and underserved in Harlem: a population-based survey of adults with asthma. *Environ Health Perspect*. 2002;110(suppl 2):217–220.
- Pazoki R, Nabipour I, Seyednezami N, Imami SR. Effects of a community-based healthy heart program on increasing healthy women's physical activity: a randomized controlled trial guided by community-based participatory research (CBPR). *BMC Public Health*. 2007;7:216.
- Tsark J, Braun KL. Na Liko Noelo: a program to develop Native Hawaiian researchers. *Pac Health Dialog*. 2004;11(2):225–232.
- Nyden P. Academic incentives for faculty participation in community-based participatory research. *J Gen Intern Med*. 2003;18(7):576–585.
- Hebert JR, Brandt HM, Armstead CA, Adams SA, Steck SE. Interdisciplinary, translational, and community-based participatory research: finding a common language to improve cancer research. *Cancer Epidemiol Biomarkers Prev*. 2009;18(4):1213–1217.
- Ahmed SM, Beck B, Maurana CA, Newton G. Overcoming barriers to effective community-based participatory research in US medical schools. *Educ Health (Abingdon)*. 2004;17(2):141–151.
- Horowitz CR, Robinson M, Seifer S. Community-based participatory research from the margin to the mainstream: are researchers prepared? *Circulation*. 2009;119(19):2633–2642.
- Cook WK. Integrating research and action: a systematic review of community-based participatory research to address health disparities in environmental and occupational health in the USA. *J Epidemiol Community Health*. 2008;62(8):668–676.
- Boutin-Foster C, Phillips E, Palermo AG, et al. The role of community-academic partnerships: implications for medical education, research, and patient care. *Prog Community Health Partnersh*. 2008;2(1):55–60.
- Rosenstock L, Hernandez L, Gebbie K, eds. *Who Will Keep the Public Healthy? Educating Public Health Professionals for the 21st Century*. Washington, DC: National Academies Press; 2003.
- Faridi Z, Grunbaum JA, Gray BS, Franks A, Simoes E. Community-based participatory research: necessary next steps. *Prev Chronic Dis*. 2007;4(3):A70.
- Cornwall A, Jewkes R. What is participatory research? *Soc Sci Med*. 1995;41(12):1667–1676.
- Environmental Protection Agency. Program evaluation glossary. Available at: <http://www.epa.gov/evaluate/glossary/e-esd.htm>. Accessed February 18, 2009.
- Fetterman D, Kaftarian S, Wandersman A. *Empowerment Evaluation: Knowledge and Tools for Self-Assessment and Accountability*. Thousand Oaks, CA: Sage Publications Inc; 1996.
- Cawston PG, Mercer SW, Barbour RS. Involving deprived communities in improving the quality of primary care services: does participatory action research work? *BMC Health Serv Res*. 2007;7:88.
- Rifkin SB. Paradigms lost: toward a new understanding of community participation in health programmes. *Acta Trop*. 1996;61(2):79–92.
- Israel BA, Schulz AJ, Parker EA, Becker AB. Review of community-based research: assessing partnership approaches to improve public health. *Annu Rev Public Health*. 1998;19:173–202.
- George MA, Daniel M, Green LW. Appraising and funding participatory research in health promotion. 1998-99. *Int Q Community Health Educ*. 2006–2007;26(2):171–187.
- Viswanathan M, Ammerman A, Eng E, et al. *Community-based participatory research: assessing the evidence. Summary. Evidence report/technology assessment no. 99*. Rockville, MD: Agency for Healthcare Research and Quality; 2004. AHRQ publication 04-E022-2.
- Juvenile Diabetes Research Foundation International. Review of program project grants. Available at: http://www.jdrf.org/index.cfm?page_id=103243. Accessed December 9, 2009.
- Congressionally Directed Medical Research Programs. Consumer involvement. Available at: <http://cdmp.army.mil/cwg/default.htm>. Accessed December 9, 2009.
- Department of Defense. Congressionally Directed Medical Research Programs. Consumer Advocate Involvement. Available at: <http://cdmp.army.mil/pubs/pips/cwgpip.pdf>. Accessed February 17, 2009.
- Agnew B. NIH invites activists into the inner sanctum. *Science*. 1999;283(5410):1999–2001.
- Andejeski Y, Breslau ES, Hart E, et al. Benefits and drawbacks of including consumer reviewers in the scientific merit review of breast cancer research. *J Womens Health Gend Based Med*. 2002;11(2):119–136.
- Monahan A, Stewart DE. The role of lay panelists on grant review panels. *Chronic Dis Can*. 2003;24(2–3):70–74.
- Department of Health and Human Services. NIH Partners in Research Program (R03). Available at: <http://grants.nih.gov/grants/guide/rfa-files/RFA-OD-07-001.html>. Accessed February 19, 2009.
- Office of Behavioral and Social Sciences Research, National Institutes of Health. Leap into the Community Technical Assistance Workshop. Available at: http://obssr.od.nih.gov/scientific_areas/methodology/community_based_participatory_research/CBPR_TA_Wrkshp.aspx. Accessed July 2, 2009.
- Office of Behavioral and Social Sciences Research, National Institutes of Health. NIH Summer Institute on the Design and Development of Community-Based Participatory Research in Health. Available at: http://obssr.od.nih.gov/summerinstitute2007/SI2007_information.pdf. Accessed July 2, 2009.
- National Institutes of Health. Institutional Clinical and Translational Science Award. Available at: <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-09-004.html>. Accessed May 27, 2010.
- National Institutes of Health. 2007-2008 Peer Review Self-Study: Final Draft. Available at: <http://enhancing-peer-review.nih.gov/meetings/NIHPeerReview-ReportFINALDRAFT.pdf>. Accessed February 17, 2009.
- Council of Public Representatives. Inviting Public Participation in Clinical Research: Building Trust Through Partnerships, October 26–27, 2004. Available at: http://copr.nih.gov/reports/October_2004_COPR_WORKSHOP_Proceedings.pdf. Accessed February 18, 2009.
- Council of Public Representatives. Report and recommendations on public trust in clinical research. 2005. Available at: http://copr.nih.gov/reports/public_trust_clinical_research.pdf. Accessed February 18, 2009.
- National Institutes of Health. Strategic vision for the future. From curative to preemptive medicine. 2008. Available at: <http://www.nih.gov/strategicvision.htm>. Accessed February 18, 2009.

41. Centers for Disease Control and Prevention. Principles of community engagement. Available at: <http://www.cdc.gov/php/pce>. Accessed February 18, 2009.
42. Centers for Disease Control and Prevention. Community engagement: definitions and organizing concepts from the literature. Available at: <http://www.cdc.gov/php/pce/part1.htm>. Accessed December 2, 2009.
43. *Linking Scholarship and Communities*. Seattle, WA: Commission on Community-Engaged Scholarship in the Health Professions; 2005.
44. Department of Health and Human Services. Institutional Clinical and Translational Science Award (U54). Available at: <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-07-007.html>. Accessed December 2, 2009.
45. Fawcett SB, Paine-Andrews A, Francisco VT, et al. Using empowerment theory in collaborative partnerships for community health and development. *Am J Community Psychol*. 1995;23(5):677–697.
46. Godard B, Marshall J, Laberge C. Community engagement in genetic research: results of the first public consultation for the Quebec CARTaGENE project. *Community Genet*. 2007;10(3):147–158.
47. Greenhill L. The Public Interest Liaison Group's contribution to the future of environmental health research. Available at: <http://www.niehs.nih.gov/about/community/docs/2005essay.pdf>. Accessed December 2, 2009.
48. Jones L, Wells K. Strategies for academic and clinician engagement in community-participatory partnered research. *JAMA*. 2007;297(4):407–410.
49. Macaulay AC, Commanda LE, Freeman WL, et al. Participatory research maximizes community and lay involvement. North American Primary Care Research Group. *BMJ*. 1999;319(7212):774–778.
50. National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health. Engaging diverse audiences in clinical research. Available at: http://www.niams.nih.gov/News_and_Events/IRPartners/Spring2007/default.asp. Accessed December 2, 2009.
51. National Institute of Child Health and Human Development and National Institute of Nursing Research, National Institutes of Health. Clarification of requirements for the NIH Partners in Research Program (R03) RFA-OD-07–001. Available at: <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-016.html>. Accessed December 2, 2009.
52. National Institute of Environmental Health Sciences, National Institutes of Health. Environmental justice and community-based participatory research. Available at: <http://www.niehs.nih.gov/research/supported/programs/justice/index.cfm>. Accessed December 2, 2009.
53. Sapienza JN, Corbie-Smith G, Keim S, Fleischman AR. Community engagement in epidemiological research. *Ambul Pediatr*. 2007;7(3):247–252.
54. The Carnegie Foundation for the Advancement of Teaching. Community engagement elective classification. Available at: <http://classifications.carnegie-foundation.org/descriptions/community-engagement.php?key=1213>. Accessed December 2, 2009.
55. Tindana PO, Singh JA, Tracy CS, et al. Grand challenges in global health: community engagement in research in developing countries. *PLoS Med*. 2007;4(9):e273.
56. Pro-Active Management of the Impact of Cultural Tourism Upon Urban Resources and Economics. Glossary. Available at: http://www.culture-routes.lu/picture/glossaire_list.php3?id_rubrique=17. Accessed December 2, 2009.
57. International Lake Ontario - St Lawrence River Study. Glossary. Available at: http://www.losl.org/boardroom/glossary_e.php?id=p. Accessed December 2, 2009.
58. International Association of Public Participation. IAP2 core values. Available at: <http://www.iap2.org/displaycommon.cfm?an=4>. Accessed February 18, 2009.
59. Creighton and Creighton. What is...? Available at: <http://www.creightonandcreighton.com/whatis.html#6>. Accessed March 2, 2009.
60. Minkler M, Wallerstein N. *Community-Based Participatory Research for Health*. San Francisco, CA: Jossey-Bass; 2003.
61. Moini M, Fackler-Lowrie N, Jones L. *Community Engagement: Moving From Community Involvement to Community Engagement—A Paradigm Shift*. Santa Monica, CA: PHP Consulting; 2005.
62. Gelmon S, Seifer S, Kauper-Brown J, Mikkelsen M. *Building Capacity for Community Engagement: Institutional Self-Assessment*. Seattle, WA: Community–Campus Partnerships for Health; 2005.
63. Joint United Nations Programme on HIV/AIDS. Good participatory practice: guidelines for biomedical HIV prevention trials. 2007. Available at: <http://data.unaids.org/pub/Manual/2007/jc1364%5Fgood%5Fparticipatory%5Fguidelines%5Fen.pdf>. Accessed February 18, 2009.
64. American Public Health Association. Support for community-based participatory research in public health. Available at: <http://www.apha.org/NR/rdonlyres/CC4CC246-0032-42A9-826F-95B24F2784B4/0/D32004.pdf>. Accessed July 2, 2009.
65. Isles. Isles research principles. Available at: http://depts.washington.edu/ccph/pdf_files/Isles%20Research%20Principles%202003.pdf. Accessed February 19, 2009.
66. Green L. Guidelines and categories for classifying participatory research projects in health. Available at: <http://lgreen.net/guidelines.html>. Accessed December 2, 2009.
67. Alliance Access Values and principles guiding research. Available at: http://accessalliance.ca/index.php?option=com_content&task=view&id=18&Itemid=57. Accessed February 18, 2009.
68. Ritas C. Speaking truth, creating power: a guide to policy work for community-based participatory research practitioners. Seattle, WA: Community–Campus Partnerships for Health; 2003.
69. Department of Health and Human Services NCMHD Community-Based Participatory Research (CBPR) Initiative in Reducing and Eliminating Health Disparities: Intervention Research Phase (R24). Available at: <http://grants.nih.gov/grants/guide/rfa-files/RFA-MD-07-003.html>. Accessed February 19, 2009.
70. World Health Organization. Indigenous peoples and participatory health research. Available at: http://www.who.int/ethics/indigenous_peoples/en/print.html. Accessed February 18, 2009.
71. Seifer S. Tips and strategies for developing strong community-based participatory research proposals. Available at: http://depts.washington.edu/ccph/pdf_files/cbpr-reviewf.pdf. Accessed February 27, 2009.
72. Macaulay M, Commanda L, Freeman W, et al. Responsible research with communities: participatory research in primary care. NAPCRG policy statement, 1998. Available at: http://www.napcr.org/responsible_research.pdf. Accessed February 18, 2009.
73. Schulz A, Israel B, Selig S, Bayer I. *Development and implementation of principles for community-based research in public health*. In: Macnair RH, ed. *Research Strategies for Community Practice*. New York, NY: The Haworth Press Inc; 1998:83–110.
74. Consumer Advocates in Research and Related Activities. Role and responsibilities of consumer advocates in peer review. Available at: <http://carra.cancer.gov/images/content/Role-of-Consumer-Advocates-in-Peer-Review.pdf>. Accessed February 17, 2009.
75. Schensul JJ. The development and maintenance of community research partnerships. Available at: <http://www.mapcruzil.com/community-research/schensul1.htm>. Accessed February 17, 2009.
76. Department of Health and Human Services. Community participation in research. Available at: <http://grants.nih.gov/grants/guide/pa-files/PAR-05-026.html>. Accessed March 2, 2009.
77. Department of Health and Human Services. Community-based participatory research at NIMH (R21). Available at: <http://grants1.nih.gov/grants/guide/pa-files/PAR-07-004.html>. Accessed February 19, 2009.

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