

Message from the Editor

Welcome to the new Environment, Health and Society research methods bulletin. Every quarter, this bulletin will feature a method for evaluating the interaction of human health and the environment, explaining and providing information and news about the featured method. In conjunction with the *Environment, Health and Society* Website, this bulletin seeks to bridge the gap across disciplines in an effort to transform human health. This quarter's issue focuses on Community-Based Participatory Research and will highlight EPA fellows incorporating this method into their research. Every bulletin will include conferences, resources, and articles about the research method. The bulletin listserv is sponsored by the Environmental Protection Agency (EPA) and managed through the EPA's National Center for Environmental Research (NCER) in the Office of Research and Development (ORD).

Featured Method- Community-Based Participatory Research

By Devon Payne-Sturges, Anikah Salim, Aixa Alemán-Díaz, Sabrina McCormick, Eric Schwartz

The importance of science in environmental decision making at the EPA emphasizes the need for data and information that is sound and defensible, reproducible, and informative. For environmental justice stakeholders, it is even more important that the science underlying EPA's decisions appropriately accounts for the multiple exposures to chemical stressors and cumulative impacts from such multiple exposures that they experience in their communities. However, often EPA assesses risk from exposure to one pollutant at a time and relies on default assumptions about exposure patterns, such as fish consumption rates, that may not truly reflect experiences of minority and low income populations or populations living in certain geographic areas (Holloman and Newman 2010). Contextual factors such as social, cultural, political, and economical conditions in which exposures to environmental contaminants occur is generally not considered in exposure and risk assessments used to sup-

port decision making although emerging evidence demonstrates that social context may enhance the toxic effects of both single and multiple environmental contaminant exposures (Bell and Dominici 2008; Gee and Payne-Sturges 1994; Glass et al 2009; Raugh et al 2004). Community-based participatory research (CBPR) fosters more complete understandings of the existing interactions between environmental conditions, human health and ecosystems. Researchers, practitioners, community members, and funding institutions have increasingly recognized the importance of comprehensive, holistic, and participatory approaches to environmental research and later stages of intervention. CBPR is useful because it addresses multiple types of problems within a community. This method has been highly regarded in the academic community such as in public health and social sciences namely for its association with racial and ethnic disparities in health. For EPA, applying CBPR in its scientific research and program planning promises to lead to more appropriate solutions for the persistent and uneven social disparities in health as well as access to clean and safe environments. The use of CBPR can also enhance what is known as ecosystem based management (EBAM) and ecosystem science because it integrates different kinds of information to understand the interactions between the social and ecological systems.

Community-based participatory research (CBPR) in health offers a collaborative research method that equally engages all partners throughout the research process. The goal is to acknowledge and integrate each user or groups of interest as partners. Unlike other kinds of scientific methods, the CBPR aims to make research questions to be more relevant to the community because the main goal is to bring together various knowledges, policy, and action to promote social change. For example, this kind of social change can result in improving the health conditions of a community and eliminating health disparities (Minkler et al. 2003, pp. 3-4). CBPR involves the commitment to balance power dynamics by engaging with the community as partners in the re-

In the News.....

Si se puede: using participatory research to promote environmental justice in a Latino community in San Diego, California.

See the full abstract under "Featured Science Article" p.6.

search process. Some benefits for the communities involved have been direct intervention and the translation of research findings into interventions at the local level as well as policy changes. While there are various methods to incorporate community into the scientific enterprise, CBPR has been preferred among scientists to embody more collaborative approaches in research (Israel et al. 2005. pp. 3-5).

Leading scholars working towards the CBPR model include Meredith Minkler, DrPH, MPH (University of California, Berkeley), Barbara A. Israel, DrPH (University of Michigan), and Edith A. Parker, DrPH (University of Michigan). These scholars work in a wide range of subject areas such as medicine, agricultural, biological and environmental sciences, social sciences, economics, biochemistry, genetics and molecular biology, nursing, psychology, and health professions. Articles documenting the development of CBPR can be found in peer reviewed journals such as *Progress in Community Health Partnerships Research Education and Action*, *American Journal of Public Health*, *Journal of Health Care for the Poor and Underserved*, *Health Promotion Practice*, and *Environmental Health Perspectives*.

CBPR has been applied in environmental health research, particularly to study environmental justice. Organizations such as WE ACT in New York City have engaged in the application of CBPR. WE ACT, for example, has served as a bridge between community residents and the scientific community in order to build capacity among members of communities of color in urban areas. This capacity building attempts to identify and reduce the disproportionate risks posed to a person's health status by environmental hazards and pollutants (O'Fallon and Dearth, 2002). Moreover, CBPR method has influenced environmental health policy change. When research questions are based on a conversation between scientists and community members, various studies have shown that there is greater likelihood that the findings can impact policy and directly benefit the health of the affected community. The changes that CBPR have made to policy making can be amplified if the community themselves can develop their voice because it improves the prospects for environmental justice in urban communities (Minkler et al. 2010).

In recent years, conventional top-down approaches have changed into more collaborative schemes using public participation in environmental decision-making processes not only in the United States (US) and other parts of the world (Pomeroy and Douvere 2008; Jentoft 2007; Arnstein 1969). Similar to CBPR, the use of another method called participatory action research (PAR) has been popular in the US (Field Museum PAR Guide 2009). A unique example of PAR and ecosystem research is a five-year cooperative agreement between the U.S. EPA and the Society for Applied Anthropology (SFAA) in 1996 (Johnston 2010; Society for Applied Anthropology Bulletin; Society for Applied Anthropology website 2011). Inherent to PAR, the goals of engagement and praxis are central to conduct research and in this cooperative agreement. For example, we refer that this effort was "...problem-focused work using anthropological tools and techniques to address specific public-interest needs and to produce concrete outcomes." (Johnston 2010:S238). Barbara Johnston (2010), a cultural anthropologist affiliated with The Center of Political Ecology, has documented briefly this EPA-SFAA cooperative agreement in her 2010 article about the social responsibility of anthropologists to informants. Some of her findings suggest that there are meaningful ways for producing credible scientific outcomes by applying more collaborative and participatory frameworks and actions throughout the scientific research process (Johnston 2010). This is true of methods like PAR that are built upon this participant-research relationship. For example, the EPA-SFAA effort turned out to be a successful example of anthropology done in our "backyard" all over the United States (Johnston 2010:S239; U.S. EPA Office of Water 2002). By developing more than 30 community-based environmental health projects, this agreement equally weighed the interests of these institu-

tions, SFAA and EPA, and the public. Also, this cooperative agreement brought together a suite of faculty members and students to form a partnership based on collaborative goals. No long term effort like this cooperative agreement has a one-fits-all template on how to apply PAR and CBPR efforts. Nonetheless, what is most important from this cooperative agreement is the example of an effort that is collaborative and integrates various sectors (e.g. academia, public sector). This cooperative agreement developed more flexible, adaptive, and, ultimately, collaborative ways for conducting scientific research and programming that best addresses the risks and vulnerabilities of U.S. communities and individuals, which connects health, society, and the environment.

Although CBPR has been shown to be a valuable method to enhancing research, it can be quite challenging. One of the common issues of CBPR is mistrust. In the past, community members have been excluded from engaging in the research process and the research has caused harm to communities involved as opposed to benefiting them. Researchers should be aware that community members risk their credibility through joining the partnership. Both groups must devote time and energy to relationship building; otherwise the challenges of CBPR process may become “overwhelming and self-defeating.” Through honest discussions and a process marked by transparency, groups can develop healthy productive relationships. Another common challenge in this type of research is the sharing of power and decision-making. One of the core principles of CBPR is the belief that each partner has the potential to contribute something of equal value to the research project. Community partners are more likely to commit to and participate in projects if they have a voice in framing the research questions and conducting the research. Some researchers may believe that involving laypersons is doing a favor to the community; a view that undermines the integrity of the project. Researchers must genuinely believe that community members have something valuable to offer to the research and partnership (Horowitz et al. 2009).

One of the primary characteristics of CBPR is equitable inclusion of all community members in all stages of the research. This includes data collection, sharing, and analysis. However, this can be the most challenging in terms of group involvement. Because of the diverse backgrounds of community partners, it is imperative that researchers provide information to all partners and take necessary time to explain results and findings so that all may understand. Furthermore, all partners should agree to allow the expert researchers to make independent decisions regarding the data and analyses, understanding that the rationale would be explained, and trusting that it will be sound (Manual for Community-Based Participatory Research).

It is important to be able to measure the effectiveness of the partnerships and the impact of the research on the community. The NIEHS Partnerships for Environmental Public Health Evaluation Metrics Manual provides guidance on this type of evaluation. It describes a partnership logistics model with three major components: Activities, Outputs, and Impacts. Activities are actions to create and maintain partnerships, outputs are direct products of partnerships activities, and impacts are benefits and changes resulting from the outputs and activities. In order for the partnership to work, there must be cultural and social sensitivity, creativity, compromise, and aligning of objectives. It is important for collaborators to respect the time each partner has to give and be flexible. Understanding and addressing contentious issues instead of ignoring them in collaborations leads to effective, stronger and more productive partnerships (Partnerships for Environmental Public Health).

Featured STAR Grantee/Fellow

A Conversation with Mari Eggers

By Eric Schwartz



L to R: Vernon Hill, Brandon Good Luck, Alex Birdinground, Urban Bear Don't Walk, Crescentia Cummins, Ada Bends, Mari Eggers, Sara Young, Larry Kindness, Ronald Stewart, John Doyle

With the aid of Community Based Participatory Research (CBPR) methods, EPA STAR (Science to Achieve Results) fellow Margaret Eggers seeks to measure, communicate, and mitigate the risk of contaminated water on the Crow Reservation in south central Montana. Clean water matters. Without it, the health of people and the whole environment suffers. “The goal is to reduce exposure to water contamination on the reservation,” said Eggers, a doctoral candidate at Montana State University and research associate with Little Big Horn College.

Chemicals and bacteria in the wells and rivers of the reservation cause many health issues in the community. “I’ve lived with bad water,” said Eggers, who moved to the area in 1993. “Measuring contamination and reducing exposure to bad water is really important.” Eggers is part of an MSU-based research team led by Dr. Tim Ford and Dr. Anne Camper. They examine water on the reservation for everything from coliform and other disease-causing bacteria to dangerous chemicals like mercury and manganese. To gather data they not only test water directly but conduct interviews and surveys with people using the water to better gauge their current health and the possible effect of the water upon health. Even before beginning the research, data indicated that around 40 percent of the wells were contaminated and that river water was problematic as well.

CBPR encourages partnership and inclusion by researchers with community groups and organizations. “We couldn’t do this work unless it has the full support of the community,” Eggers said. Tribal college science majors aid the scientists in their work and the Crow Environmental Health Steering Committee helps coordinate the many partnerships in the research. Whether raising awareness of high mercury levels in local fish or leveraging the new data to fund upgraded water treatment facilities, working with the community has been an asset at every step Eggers said. “We help identify what is needed and everyone helps make it happen,” she said.

NCER’s Science to Achieve Results or STAR program funds research grants and graduate fellowships in numerous environmental science and engineering disciplines through a competitive solicitation process and independent peer review. The program engages the nation’s best scientists and engineers in targeted research that complements EPA’s own outstanding intramural research program and those of our partners in other federal agencies. In addition, through this same competitive process, NCER periodically establishes large research centers in specific areas of national concern. At present, these centers focus on children’s health, hazardous substances, particulate matter, and estuarine and coastal monitoring.

Conferences and Opportunities

1. Pilot Studies Using Community-Based Participatory Research to Reduce Cancer Health Disparities

The American Cancer Society is committed to reducing disparities in cancer burdens among population groups and to achieving health equity through its programmatic, research and advocacy strategies. The purpose of this call for applications is to stimulate research on effective interventions to reduce cancer health disparities (at any stage of the cancer continuum), using community-based participatory research (CBPR).

Studies funded by this RFA must:

- Focus on interventions to reduce health disparities.
- Use CBPR as the research method
- Demonstrate clear evidence of how this pilot data will be used to develop an independently funded study (e.g., NIH RO1 or ACS Research Scholar Grant)

The application deadline is April 22, 2011. To view the full announcement, visit

<http://www.cancer.org/Research/ResearchProgramsFunding/FundingOpportunities/IndexofGrants/NewInitiatives/rfa-pilot-studies-using-community-basedparticipatoryresearch-to-reduce-cancer-health-disparities>.

2. MICHR Paid Summer Research

This summer, Michigan Institute for Clinical and Health Research (MICHR) at the University of Michigan is offering a paid intensive summer research experience for medical and dental students and graduate students in nursing, social work, pharmacy, and public health. Each student will work 20-30 hrs/wk with a research mentor on an ongoing project. A weekly seminar series will explore disparities questions and problems, scientific approaches, research methods, and career issues. Students will attend an actual UM IRB meeting and take field trips to partner organizations outside Ann Arbor. Students will be paid for their work as well as receive reimbursement for travel (airfare, train, etc.) and housing in Ann Arbor (for non residents and non- UM students).

For more information (to find a flyer to post) and to apply please visit

<http://www.michr.umich.edu/education/predoctoral/hdsummer>.

3. CCPH Conference

Community-Campus Partnerships for Health promotes health (broadly defined) through partnerships between communities and higher educational institutions. Join us for "Community-University Partnerships: Bringing Global Perspectives to Local Action," May 10-14, 2011 in Waterloo Region, ON, Canada!

Stay on top of the latest CCPH news through Facebook, LinkedIn & Twitter!

<http://www.ccpb.info>

4. Call for Papers

The journal Progress in Community Health Partnerships: Research, Education, & Action, has released a call for papers for a theme issue on the "Science of Community Engagement." The issue's goal is to highlight concepts that form the foundation for assessing the impact of community engagement across all forms of research conducted with the intention of improving the health of those same communities. Two issues of high priority for this issue are 1) Developing shared approaches to measuring aspects of the impact of different types of community engaged research on improving health outcomes, as well as spreading and sustaining effective practices; 2) The unique contributions of community engaged research to better understand the effect of context and heterogeneity in comparative effectiveness research.

The deadline for submitting papers is **Monday, August 1, 2011**. For more information on submitting specific types of articles or to submit a manuscript, visit <http://bit.ly/igtbbh>.

RESOURCES

1. Virtual Mentor on Community-Based Participatory Research Ethics

Virtual Mentor is the American Medical Association's open-access online ethics journal. The theme of the Feb 2011 issue is "Ethical Challenges in Community-Based Participatory Research." To access the issue, visit <http://bit.ly/hon0BP>.

2. THE CBPR listserve CBPR mailing list

CBPR@u.washington.edu

<http://mailman2.u.washington.edu/mailman/listinfo/cbpr>

3. Detroit URC Training Program

The Detroit URC Community-Academic Urban Research Center (URC) has a capacity building and training program on CBPR. For more information, visit

http://www.detroiturc.org/index.php?option=com_content&view=article&id=6&Itemid=6

4. The Community-Based Participatory Research: A Partnership Approach for Public Health CD-ROM

This CD-ROM is a free 8 hour self-paced training from Michigan Public Health Training Center. To obtain a copy of for more information, please visit https://practice.sph.umich.edu/mphtc/site.php?module=courses_one_online_course&id=386

5. EPA Desktop Library

For EPA staff, visit on the intranet EPA Desktop library which has an automatic "search" for articles re environmental justice, health disparities and community-based participatory research. See

<http://intranet.epa.gov/desktop/communities.html>

FEATURED SCIENCE ARTICLE

Sí se puede: using participatory research to promote environmental justice in a Latino community in San Diego, California.

Minkler, M, Garcia, AP, Williams, J, LoPresti, T, Lilly, J. J Urban Health. 2010 September; 87(5): 796–812.

Sí Se Puede: Using Participatory Research to Promote Environmental Justice in a Latino Community in San Diego, California.

Abstract

Community-based participatory research (CBPR) increasingly is seen as a potent tool for studying and addressing urban environmental health problems by linking place-based work with efforts to help effect policy-level change. This paper explores a successful CBPR and organizing effort, the Toxic Free Neighborhoods Campaign, in Old Town National City (OTNC), CA, United States, and its contributions to both local policy outcomes and changes in the broader policy environment, laying the groundwork for a Specific Plan to address a host of interlocking community concerns. After briefly describing the broader research of which the OTNC case study was a part, we provide background on the Environmental Health Coalition (EHC) partnership and the setting in which it took place, including the problems posed for residents in this light industrial/residential neighborhood. EHC's strong in-house research, and its training and active engagement of promotoras de salud (lay health promoters) as co-researchers and policy change advocates, are described. We explore in particular the translation of research findings as part of a policy advocacy campaign, interweaving challenges faced and success factors and multi-level outcomes to which these efforts contributed. The EHC partnership's experience then is compared with that of other policy-focused CBPR efforts in urban environmental health, emphasizing common success factors and challenges faced, as these may assist other partnerships wishing to pursue CBPR in urban communities.

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