

Community-Action for a Renewed Environment: Improving the Environment and Health by Empowering Local Communities

Dressel A^{a*} and John SA^b

^a*Center for Global Health Equity, College of Nursing, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, USA*

^b*School of Public Health, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, USA*

*Corresponding author: banda@uwm.edu

ABSTRACT: The United States Environmental Protection Agency's CARE (Community Action for a Renewed Environment) programme is an innovative way for local communities to improve the environmental health of their neighbourhoods. The CARE programme is designed as a Cooperative Agreement with the Environmental Protection Agency and utilizes a community-based participatory action approach to address risks from multiple sources of toxic pollution in local environments. This is accomplished through partnerships created between community residents and various local organizations, including non-profits, businesses, schools and government to implement local solutions to reduce releases of toxic pollutants and minimise people's exposure to them. The CARE programme offers two levels of Cooperative Agreements. Level I Cooperative Agreements assist communities in creating partnerships to identify environmental problems and solutions. Level II Cooperative Agreements assist communities in implementing solutions and reducing risks that are sustainable. This paper provides an overview of the CARE programme, and discusses a successful CARE project that has been implemented in the Westlawn community, a low-income, minority neighbourhood in Milwaukee, Wisconsin, USA. The CARE approach to address environmental health issues can be adapted in other communities to improve the environment and health of populations around the world.

Keywords: environmental health, community empowerment, community-based participatory action, environmental justice

Introduction

In 1970, the U.S. Environmental Protection Agency (EPA) was established in response to rising concerns about environmental pollution. As a federal agency, the EPA develops and enforces regulations related to environmental laws passed by the U.S. Congress. The EPA also conducts and supports scientific research, distributes grants, partners with other agencies, and educates the public in support of its primary mission to protect human health and the environment.

With its headquarters in Washington, DC, the EPA also maintains ten regional offices located throughout the United States. Each U.S. state is overseen by one of the regional offices. Given its large mission, the EPA is subdivided into administrative units, including the offices of air and radiation, water, emergency response and solid waste, chemical safety and pollution prevention, enforcement and compliance assurance, environmental information, inspector general, general counsel, administration and resources management, international and tribal affairs, and research and development.

Since its inception in 1970, the EPA has evolved to address emerging environmental concerns. One major shift recognizes the disproportionate burden of environmental health risks which fall on poor and minority communities in the U.S. In 1994, President Bill Clinton signed an executive order, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which mandated that principles of environmental justice be incorporated into the mission of all federal agencies. The EPA defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies” and “it will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work” (EPA, 2014).

In response to the environmental justice order, the EPA launched several new initiatives, including the Community Action for a Renewed Environment (CARE) programme. Established in 2005, the CARE programme brings overarching federal mandates down to a

local, community-focused level. It allows community members to be active participants in improving the environment and health of their own neighbourhoods. In addition, the CARE programme's structure relies on the development of cooperative agreements between the EPA and communities throughout the U.S. By entering into cooperative agreements, the EPA is an active participant in the CARE process, rather than simply a grant-making or regulatory agency. The cooperative agreement structure allows local, community residents to become equal partners with the large, federal agency.

Methods

The cooperative agreement structure, on which the CARE programme is built, draws on a community-based participatory action (CBPA) theoretical framework. The CBPA framework allows for an inclusive and equitable process that leads to action to promote environmental justice and reduce health disparities (O'Fallon and Dearry 2002; Wallerstein and Duran 2006; Cook, 2008; Minkler and Wallenstein 2011; Dressel *et al.*, 2013). The focus on community residents is central to the CARE programme. In fact, the first step in the CARE process is to join together community stakeholders to form a coalition dedicated to identifying and reducing environmental health risks in the community.

The CARE programme offers two levels of cooperative agreements. Level I agreements provide funding to build a broad-based partnership. Partnerships include community residents, as well as local businesses, elementary and secondary schools, colleges and universities, non-profit organizations, local government agencies, the EPA, and others. Partnership members vary among the different CARE communities throughout the U.S., but all are focused on the inclusion of key community members. Once the partnership is established, the group works together to identify environmental health concerns in the local community. Community members, themselves, are active participants and identify what, in their view, are the most important environmental health concerns in the neighbourhood. Together, the partnership then prioritizes the identified environmental health concerns. Given that it can take time to build a broad and strong coalition, Level I agreements allow two full years to form the partnership and identify and prioritize environmental health concerns. As a partner, the EPA provides technical assistance to CARE communities about the severity of environmental concerns in

their local neighbourhoods, as well as guidance on how to build a successful and inclusive partnership, and come to agreement on priority environmental health issues (EPA, 2013).

Once the local CARE partnership is established and environmental health priorities are identified, the CARE community can apply for Level II funding from the EPA. Level II funding provides support for the local CARE partnership to implement solutions and reduce environmental risks, based on the partnership's identified concerns. Another key component of Level II funding is for the partnership to develop a plan to become self-sustaining. The basic CARE process can be summed up in four steps:

1. Form a broad-based partnership dedicated to reducing environmental risks in the local community.
2. Identify and prioritize environmental risks in the community.
3. Implement solutions to reduce those risks.
4. Become a self-sustaining partnership that will continue to improve local environments and human health.

Results

To date, the EPA has funded CARE programmes in 90 communities in 40 different states. The geographic boundaries of each CARE community are defined by the communities themselves. The CARE community in Milwaukee, Wisconsin, USA, for example, is relatively small, geographically, but densely populated. The state of Wisconsin is located in the north-central part of the U.S. Milwaukee is the largest city in the state, and serves as the state's industrial and commercial base. The CARE community in Milwaukee includes the state's largest publicly-subsidized housing development, called Westlawn Gardens, and the surrounding neighbourhood within the 53218 postal codes.

Westlawn Community

The Westlawn community has nearly 44,000 residents, according to the 2009 U.S. Census, and is a low-income, minority community, predominantly African American, with a wide range of environmental risks including: poor air quality (person-days exceeding national air quality standard for ozone (8-hour)) resulting from power plant emissions, diesel emissions, and particulate matter from buses and trucks that can trigger asthma; above national average

for chemical releases, the number of superfund hazardous waste storage sites, and lead exposure hazards; and poor water quality affecting the watershed, drinking water, and the beaches surrounding Lake Michigan. The EPA Toxic Release Inventory (2002), ranked by Potential Human Health Risks, indicates that Milwaukee County, where the Westlawn neighbourhood is located, is ranked between the 90th-100th percentile for dirtiest to worst counties in the U.S. for the following health risks: a) added cancer risk from hazardous air pollutants, b) noncancer risks from hazardous air pollutants, c) noncancer risk score, and d) air releases of recognized carcinogens; and in the 80th-90th percentile for dirtiest to worst counties in the U.S. for the following indicators: a) cancer risk score, b) noncancer risk score, and c) air releases of developmental and reproductive toxicants.

Westlawn has a high prevalence of asthma, especially among children. Specific to the Westlawn community, the Wisconsin Department of Health Services reported a rate of 151.31 (per 10,000) hospitalizations for asthma in 2008, compared to a crude rate of 17.58 for Milwaukee County and 9.42 for the state of Wisconsin. Children living in the Westlawn neighbourhood are four times more likely to visit an emergency room for asthma attacks compared to the rest of the state; and more than three times more likely to be hospitalized for asthma compared to the rest of the state. Thus environmental health concerns, especially related to asthma triggers, disproportionately affect the Westlawn community.

In 2008, the University of Wisconsin-Milwaukee (UWM) College of Nursing was successful in obtaining funds from the U.S. EPA for a Level I cooperative agreement to facilitate a CARE community in Westlawn. UWM is a trusted presence in the Westlawn community and has operated a community nursing center in Westlawn for over 25 years. In addition to UWM, the first Westlawn CARE partners included the Housing Authority of the City of Milwaukee, which manages the public housing development; the Silver Spring Neighbourhood Center, a non-profit social service agency located in the heart of Westlawn and home to the UWM community nursing center; UWM students; and Westlawn community residents. The early partners began meeting on a monthly basis and invited more community residents and organizations to join. In 2009, the growing partnership named itself the Westlawn Partnership for a Healthier Environment (WPHE) and began the process of identifying environmental concerns in Westlawn. Over 60 environmental issues were identified, which was an overwhelming number for the group to address. Individual partnership members divided up

the list of environmental concerns and did additional research on each topic about its prevalence in the Westlawn community. With that additional information, WPHE then narrowed down the list of environmental concerns to nine and ranked them as follows: indoor air pollution, mold exposure, access to safe and healthy food, pesticide exposure, outdoor air pollution, plastics and BPA (Bisphenol A) exposure, pharmaceutical waste (exposure through drinking water), lead (exposure through drinking water and other media), and electronic waste. Not surprisingly, four out of the top five environmental health risks were related to asthma triggers, given the high prevalence of asthma in the community, especially for children.

Thus by 2011, WPHE had successfully completed the first two steps of the CARE process by building a strong partnership and by identifying and prioritizing environmental concerns in the community. WPHE then applied for and obtained a Level II cooperative agreement with the EPA to implement solutions, improve human health, and become self-sustaining in efforts to mitigate the identified environmental concerns.

Early results of WPHE included installation of “no smoking” and “no vehicle idling” signs posted at the local community center and schools, an effort to improve air quality. WPHE applied for and obtained additional funds from the EPA’s Environmental Justice programme to support a “bed bugs” campaign to educate community residents in methods to prevent and mitigate bed bug infestations in an environmentally-friendly way. Westlawn clean-up days were convened to pick up trash and litter from around the neighbourhood. WPHE members educated children in Westlawn-area schools in methods to manage their asthma successfully and reduce asthma triggers in their homes. WPHE obtained additional funds from the Wisconsin Department of Health Services to extend asthma education to Westlawn-area childcare facilities. WPHE also obtained additional funds from UWM to offer educational programmes about the connections between breastfeeding and the environment for Westlawn mothers.

WPHE obtained additional funds from a national non-profit agency to construct a new playground for children in the Westlawn neighbourhood. Community residents, WPHE volunteers, and local university students helped to build the playground, where Westlawn children now have a safe and healthy outdoor area for play. WPHE also obtained additional funds from a local non-profit consortium to launch a bicycling programme in Westlawn that

includes free bicycle tune-ups, a bicycle club for families, and a bicycle camp for Westlawn kids. The bicycling initiative, “Get Wheelin’ in Westlawn,” encourages families to make trips by bike, rather than by car, in order to improve air quality in the neighbourhood.

In 2012, WPHE hired three community health workers (CHWs) to assist with further implementation of environmental projects. All CHWs were residents of the Westlawn community, and oversaw the implementation of Healthy Homes and Healthy Day Cares programmes. Healthy Homes is a concept embraced by numerous governmental and non-governmental agencies, and is based on the premise that everyone is entitled to live in a home free from environmental hazards. This is achieved through education about asthma triggers, integrated pest management, safety hazards, lead and asbestos hazards, policy and advocacy, and the provision of direct services to mitigate environmental hazards (EPA 2006). Given the large number of children and female-headed households in the Westlawn community, many young children spend much of their time in local childcare (daycare) facilities. WPHE implemented a Healthy Homes programme within Westlawn-area daycares, called Healthy Day Cares, to improve the environment and reduce asthma triggers in those facilities.

One of WPHE’s major results was the redevelopment of the public housing units in Westlawn Gardens. In response to the environmental concerns raised by WPHE, funds were obtained from the U.S. Department of Housing and Urban Development to raze and rebuild half of the public housing development. The new construction included bio swales, an effort to keep mold out of resident’s basements; community gardens, so that residents would have easy access to pesticide-free and healthy foods; and asthma-friendly housing units, which are smoke-free, have upgraded ventilations systems, and are made from low-VOC (volatile organic compound) materials. In February 2014, the U.S. Green Building Council awarded the redeveloped Westlawn Gardens with the world’s-highest LEED (Leadership in Energy and Environmental Design) Neighbourhood Development certification.

Finally, WPHE is developing a long-term sustainability plan, which includes working with local, state, and national officials to affect policy changes to improve the environment and health for the Westlawn community and beyond. These activities include advocating for expanded smoke-free housing policies, development of policies to deal with the impact of

climate change on local communities, and educating elected officials about the hazards of pharmaceutical waste in the water supply and the need for regulations to address this issue.

Discussion

The WPHE CARE community exemplifies several key premises which underlie the CARE process. Time to build a strong partnership is important, and Level I funding allows two full years for this step. This allows partners the required time to develop trust and instill ethics that all partners, from local community residents to federal government agencies, are **equal** partners in the coalition. All partners have equal power and status in a CARE community, which helps local community voices, be heard and valued.

Time and equality contribute to the building of trust among CARE partners. These attributes of the partnership are central to getting the local community involved, educated, and willing to take action to address environmental issues in their neighbourhood to improve human health. CHWs help to involve other community members in the process because they are already known to communicate successfully with them as peers. In this model, CHWs educate their neighbours and motivate them to make positive changes in their home and neighbourhood environments.

The Westlawn neighbourhood, like many other inner-city communities in the U.S., is an economically-disadvantaged community. The CARE programme offers a low- to no-cost way to improve the environment and health of local communities. The CARE programme works by bringing many partners to the table and each partner contributing their own unique strengths. While funding from EPA initially supported staff to build the Westlawn CARE community, it now continues without EPA support. WPHE members voluntarily contribute their time and expertise to further the goals of the partnership. Some members write proposals to secure funds for specific WPHE programmes; some WPHE members recruit volunteers; some advocate for policy changes; and some provide education. The CARE programme is a model that empowers local communities to make lasting, sustainable changes in their own neighbourhoods.

Conclusion

A recent assessment of the CARE programme by the U.S. National Academy of Public Administration found that the CARE community partnerships have improved local environmental conditions (2009). Overarching federal regulations can be addressed at the local level by empowering local communities to take an active role in improving their own neighbourhood environments. CARE partnerships also draw on the strengths of other community stakeholders who contribute their time and talents to achieve a common goal: improving the environment and health of local communities.

References

- Cook, W.K. (2008). Integrating research and action: a systematic review of community-based participatory research to address health disparities in environmental and occupational health in the USA, *Journal of Epidemiology and Community Health*, **62(8)**: 668-676.
- Dressel, A., Anderko, L. and Koepsel, B. (2013). The Westlawn partnership for a healthier environment: promoting environmental justice and building community capacity, *Environmental Justice*, **6(4)**: 127-132.
- Minkler, M and Wallerstein, N. (2011). *Community-based participatory research for health: From processes to action*, New York: Wiley Inc.
- National Academy of Public Administration. (2009). *Putting community first: a promising approach to federal collaboration for environmental improvement*, available from <http://www.issuelab.org/resource/putting_community_first_a_promising_approach_to_federal_collaboration_for_environmental_improvement_an_evaluation_of_the_community_action_for_a_renewed_environment_care_demonstration_programme> [22 June 2014].
- O’Fallon, L.R. and Dearth, A. (2002). Community-based participatory research as a tool to advance environmental health sciences, *Environmental Health Perspectives*, **110**: 155-159.
- U.S. Environmental Protection Agency. (2006). *Healthy homes*, available from <<http://www.epa.gov/region1/healthyhomes/pdfs/healthyhomes.pdf>> [24 June 2014].

- U.S. Environmental Protection Agency. (2013). *The CARE community resource guide*, available from <http://www.epa.gov/air/care/library/care_resource_guide.pdf> [23 June 2014].
- U.S. Environmental Protection Agency. (2002). *Toxic Releases Inventory (TRI) public data release: potential human health risks by state, Wisconsin*, available from <http://iaspub.epa.gov/triexplorer/tri_statefactsheet.statefactsheet> [23 March 2008].
- U.S. Environmental Protection Agency. (2014). *What is environmental justice?* Available from: <<http://www.epa.gov/environmentaljustice/>> [23 June 2014].
- Wallerstein, N.B. and Duran, B. (2006). Using community-based participatory research to address health disparities, *Health Promotion Practice*, **7(3)**: 312-323.