

Table of Contents

Welcome and Purpose of Meeting.....	3
Agenda.....	5
Environmental Justice Projects.....	10
All Project Summaries.....	13
Participant List	120
Notes	130

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Welcome and Purpose of Meeting

Welcome – English

Yá'át'ééh– Navajo

Quyaakamken – Yupik

Tanyan yahipi– Lakota

Bem vindo – Portuguese

Hoan nghênh!– Vietnamese

Bienvenidos – Spanish

benvindus– Cape Verdean Kriolu

Welcome to the National Institute of Environmental Health Sciences (NIEHS) for the annual Environmental Justice and Community-Based Participatory Research Program grantee meeting. This year we also welcome the participation of colleagues from the Ethical, Legal and Social Implications program, as well as colleagues from the NIEHS/EPA Centers for Children's Environmental Health.

This year we come together for two important reasons: to highlight your accomplishments and to look to the future. The NIEHS has had a long history of facilitating, nurturing and supporting partnerships between and among community organizations, researchers, and health care providers with the long-term objectives of improving environmental public health and affecting health policy change. As stated in the RFA, "The environmental justice program is designed to encourage community outreach, training, research, education and evaluation efforts that will become the catalyst for reducing exposure to or reducing the health impact from environmental and occupational stressors in underserved populations." Project summaries contained in this meeting book exemplify how the EJ program has stimulated communities, researchers and health care providers to develop methods to work together to address environmental health exposures in underserved communities. Similarly, the Community-Based Participatory Research (CBPR) Program has nurtured partnerships between communities and researchers, challenging them to focus their efforts on a hypothesis-driven research project. Many note-worthy research accomplishments have come out of these two programs. Over the course of this meeting, participants will hear about a few of those positive outcomes. In addition to all project summaries that describe the impacts made over the last year, this meeting book includes lists of publications and presentations at professional conferences.

I want to thank the planning committee for their efforts in organizing the meeting. On Wednesday afternoon, we will visit a community in Eastern North Carolina that has been affected by industrial hog operations in their area. Participants will have the opportunity to hear from residents about the environmental health issues they face and how they are working with researchers and other community groups to address these problems. Thursday begins with our Key Note Panel of individuals who have been instrumental in post Katrina and Rita efforts. Then, we will hear from grantees and former grantees on the outcomes and impacts of their projects. After a day of presentations, we will have a poster session in the NIEHS lobby followed by a nice dinner in the institute's café. Friday morning will be dedicated to small group discussions during concurrent breakout sessions that are extensions from the previous day's presentations. Friday afternoon will focus on the future. Participants will hear from Dr. Schwartz about the 2006 Strategic Plan and the institute vision. Grantees will have the opportunity to discuss the valuable contributions community-university partnerships have made, and can continue making, in the advancement of environmental health sciences.

Grantee meetings are the perfect time to interact with your colleagues with a shared interest. Hopefully, you will find the time during the two-day meeting to catch-up with them and perhaps plant the seeds for future collaborations.

Planning committee members:

Eduardo Siqueira, Jonathon Ward, John Sullivan, Julia Brody, and Ted Emmett

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Agenda

Wednesday, October 25, 2006

Educational Tour

11:00 a.m. Registration and Packet Pickup

Hotel Lobby

1:00 p.m. Load Buses at Hotel and Depart for educational tour Kenansville, NC
 Meeting participants will visit areas supporting a high density of industrial animal agriculture where they will observe confined animal feeding operations and their associated liquid waste management systems; observe neighboring housing and community buildings; see carcass disposal facilities and a dead animal rendering plant; and talk with local residents who are affected by pollution from these facilities as well as by hazardous working conditions. Tour participants will also visit an organic hog farm that uses more traditional production methods. At the end of the tour participants will understand the basic functioning of industrial swine operations; routes of off-site migration of pollutants; work place hazards; and will be able to describe the potential impacts of these facilities on health and quality of life of local residents and workers. They will also understand differences between industrial animal operations and smaller, more sustainable production methods.

7:00 p.m. Return to Hotel

7 – 9:00 p.m. Registration and Packet Pickup

Hotel Lobby

Thursday, October 26, 2006

Rodbell Auditorium A, B, C

7:00 a.m. Load Buses and Depart for Meeting

7:30 a.m. **Poster set-up, registration and packet pickup**

8:00 a.m. **Welcome**

**Anne P. Sassaman, NIEHS
 Roy M. Fleming, NIOSH**

8:30 a.m. **Keynote Panel:
 Environmental Justice in the Wake of Hurricanes Katrina & Rita**

This panel will highlight the major environmental health issues and how the environmental justice community has responded and continues to respond to meet the needs of local residents.

Wilma Subra, Subra Co. – Co-Chair NEJAC Hurricane Katrina Commission

Paul Renner, United Steel Workers

Bishop James Black, Center for Environmental & Economic Justice - NEJAC Katrina Commission member.

Sharon Beard, Worker Education and Training Branch, National Institute of Environmental Health Sciences

10:00 a.m. Break

10:15 a.m. Panel #1 – Generating Positive Outcomes through Risk Communication.

This session will present various risk communication strategies and methods that have resulted in demonstrable improvement in behaviors or actions to reduce risk from environmental hazards. The particular advantages for risk communication and reduction conferred through EJ Partnerships or by the use of CBPR methodology will be explored.

Magdalena Avila & Margaret Menache, Bernalillo County Office of Environmental Health – “Evaluating Outcomes of the South Valley Partners for Environmental Justice Project”
Edward Emmett, University of Pennsylvania – “Community Exposure to Perfluorooctanate: A Successful Model for Risk Communication in CBPR Studies”
Betina Jean-Louis, Harlem Children’s Zone – “The Harlem Children’s Zone Initiative: Outcomes and Strategies”

11:45 a.m. Lunch at NIEHS cafeteria (on your own) & Nature walk around the lake (weather permitting)

12:45 p.m. Panel #2 – Immigrant Worker Health and Safety

This session will present partial results of several NIOSH-NIEHS funded EJ Partnerships to conduct research about immigrant worker health and safety in urban and rural areas. Presenters will address the contribution of these EJ Partnerships or use of CBPR methodology to study occupational hazards faced by immigrant workers and improve their working conditions.

Nargess Shadbeh, Oregon Law Center- "Taking us into Account": Voices of Indigenous and Latino Farmworkers on Occupational and Health Concerns”
Mai Hoa Nguyen, Viet Aid - “Multi-media outreach on a life and death issue: health and safety for Vietnamese hardwood floor finishers.”
Eduardo Siqueira, UMass Lowell- “The Hull House Model in 21st Century America?: Work Environment Justice for Brazilian Immigrant Workers in Massachusetts”
Alicia Salvatore, UC Berkeley – “Lessons from the Fields: A Field-based Technical Intervention to Reduce Pesticide Exposures to Farmworkers and their Children”

2:15 p.m. Panel #3 – Using community partnerships to make healthier homes

This session will present projects to assess and improve the healthfulness of home environments. The contributions of community-based partnerships to the success of these projects will be discussed. The unique aspects of community trust, cultural knowledge, appropriate communications methods, and outcomes of the projects will be considered.

Julia Brody, Silent Spring Institute – “Household exposure to endocrine disrupting compounds”
Denise Sharify, Seattle King County Public Health – “Assessing the health impact of public housing redevelopment.”
Jonathan Ward, University of Texas Medical Branch – “Value of a community-academic partnership in assisting families with exposure”

3:45 p.m. Break

4:00 p.m. Panel #4 – Sustainability is more than just a nice idea

Panel will address current national trends in funding for community-based research and explore strategies for using data, working relationships and program implementation models developed within the NIEHS EJ and CBPR framework in effective proposals to expand the scope and range of maturing partnerships. Potential funding sources will include general philanthropy and public health oriented foundations, as well as NIH and other federal agencies.

Thomas Arcury (Wake Forest University), Mercedes Hernandez-Pelletier (NC Farmworkers Project), & Melinda Wiggins (Student Action with Farmworkers) – “Environmental Justice Program Sustainability: Academic Health Researcher and Community Organization Perspectives”

Peggy Shepard, West Harlem ACTion, Inc.

Holly Wilson, U.S. Environmental Protection Agency – “The EPA CARE Program”

5:30 p.m. Recap of Day & NIEHS Program Perspective Gwen Collman, NIEHS**5:45 p.m. Poster Session**

To allow participants the opportunity to take full advantage of the poster session, we will split the session into two 45 minute halves. During the first 45 minutes, half the projects will staff their posters while the other half visits the posters. After 45 the groups will switch.

7:00 p.m. Dinner (NIEHS)

8:00 p.m. Load Bus #1 – Return to Hotel

8:30 p.m. Load Bus #2 – Return to Hotel

Friday, October 27, 2006**Rodbell Auditorium A, B, C**

7:30 a.m. Load Buses and Depart for Meeting

8:30 a.m. Workshops

Workshop A: Use of arts and education Room-A

Facilitators: John Sullivan (UTMB)

Purpose – This workshop will build upon the panel on risk communication. It will highlight successful strategies of using art and education to communicate environmental health messages resulting from research findings.

Workshop B: Transitioning from Federal to Other funding Room-B

Facilitator: Johnnye Lewis (UNM)

Purpose – This workshop will focus on the needs, questions and concerns of community organizations as they face the transition from federal support to other funding. Issues and concerns of academic institutions will also be addressed.

Workshop C: Methodology of working with the community Room-C

Facilitators: Magdalena Avila (Bernalillo Cty.)

Purpose – This workshop will address the successful methods of enhancing partnerships with community groups to have positive outcomes in public health, policies, etc.

10:00 a.m. Break

10:15 a.m. Workshops

Workshop D: Tribal and Rural projects Room-A

Facilitators: Pamela Miller(Alaska Community Action on Toxics)

Purpose – This workshop will focus on outcomes and issues specific to rural and tribal communities.

Workshop E: Scientific Review (NIEHS and CSR) Room-B

Facilitators: Leroy Worth (NIEHS) & Steven Krosnick (NIH)

Purpose – This workshop will touch upon other research opportunities within the NIH research structure. It will address questions about how best to prepare and where to submit investigator initiated applications that use environmental justice and community-based participatory research methodologies. It will identify barriers and opportunities for pursuing work in this area.

Workshop F: Grants management: Web-based Applications Computer Room

Facilitator: Michael Loewe (NIEHS)

Purpose – This session will offer participants a hands-on experience with the eRA

Commons, e-submissions, and close out procedures. As several projects approach the end of their funding period, there have been many questions about how to close out the grant.

This session will examine requirements, content, format and process. It will provide grantees with the opportunity to set up or work with their eRA Commons account. It will address the future of electronic grant submissions. Questions regarding definitions of Key Personnel will be discussed.

11:45 a.m. Lunch (on your own) & Nature walk

12:30 p.m. Q&A with Facilitators from Workshops B, E, and F

The purpose of this Q&A Session is to allow for participants who were unable to attend the workshops, to ask questions of the facilitators.

1:30 p.m. NIEHS Vision and Strategic Plan **David Schwartz, NIEHS**

40 minute presentation followed by Q&A dialogue with Dr. Schwartz

2:30 p.m. Importance of Community Participation in Advancing EHS

The purpose of this session is to demonstrate the valuable contributions that community-based projects make to advancing environmental health sciences, promoting public health, and informing policy changes by providing information based on research findings. Two brief presentations will be used to foster a dialogue with Dr. Schwartz.

4:00 p.m. Looking to the future...

Based on presentations and dialogue of the past two days, participants will discuss opportunities and actions for the short- and mid-term. These activities may be individual project efforts or they may be coordinated endeavors that bring together projects with similar goals.

5:00 p.m. Departing Comments & Thanks **Liam O'Fallon, NIEHS**

5:05 p.m. Load buses for hotel or for airport

Environmental Justice Projects

NIEHS-funded projects only.

Project #	Title	PI Name	Partners (Community, University, Health)	Issues and Population Served	Proj Start	Proj End	RFA
ES014308	Environmental Health and Justice in Norton Sound, Alaska	*MILLER, PAMELA K	Alaska Comm. Action on Toxics, SUNY Albany, Southcentral Foundation, Norton Sound Health Corp., Clarkson Univ.	formerly used defense sites (FUDS); Inupiat and Yupik, Alaska Natives	9/15/2005	7/31/2009	04-007
ES014315	Building Food Justice in East New York	MORLAND, KIMBERLY BETH	East New York, Wyckoff Heights Medical Center, Mount Sinai School of Medicine	inequitable access to healthy food; African American, Hispanic	9/19/2005	7/31/2009	04-007
ES014317	Alton Park/Piney Woods Environmental Health & Justice	*ROGGE, MARY E	Alton Park Development Corporation, The Southside Community Health Center, Howard School, Univ. TN	industrial and commercial chemical contamination; low SES	9/19/2005	7/31/2009	04-007
ES014347	South Valley Partners for Environmental Justice	*SILVA, LAURO D	Rio Grande Comm. Development Ctr., Bernalillo County Environmental Health, UNM	land-use decisions and urban sprawl; Hispanic, low income	9/19/2005	7/31/2009	04-007
ES011085	SOUTH BRONX ENVIRONMENTAL JUSTICE PARTNERSHIP	STRELNICK, A H	Montefiore Med. Cntr; Albert Einstein Coll of Med; South Bronx Cleaner Air Coalition	Air Quality, Toxic exposures; Indigent inner city population	4/15/2001	6/30/2009	00-007, 04-007
ES010010	Land Use, Environmental Justice, and Children's HealthCLEAN	*Williams, Joy	Environment Health Coalition; University of Southern California; Logan Heights Family Center	Air pollution; Latino	8/15/2000	4/30/2008	99-005, 03-007
ES008206	SOUTHEAST HALIFAX ENVIRONMENTAL REAWAKENING	WING, STEVEN B	University of North Carolina, Chapel Hill; Concerned Citizens of Tillery; NC Dept of Hlth	Livestock; Toxic waste; Industrial pollution; African American	9/1/1996	4/30/2008	96-002, 99-005, 03-007
ES013258	Linking Breast Cancer Advocacy and Environmental Justice	*BRODY, JULIA G	Brown University, Communities for a Better Environment, Silent Spring Institute	endocrine disrupting compounds, indoor air pollution, house dust; women, latinos, African-Americans	9/10/2004	4/30/2008	03-007
ES013207	Partnership to Reduce Asthma & Obesity in Latino Schools	*DAVIS, ROCHELLE S	University of Illinois-Chicago, Cook County Hospital	Indoor Air Quality, Pests, Pesticides, Toxic Chemicals; Children, Latino/Hispanic	9/10/2004	4/30/2008	03-007

Project #	Title	PI Name	Partners (Community, University, Health)	Issues and Population Served	Proj Start	Proj End	RFA
ES013210	Strengthening Vulnerable Communities in Worcester	DOWNS, TIMOTHY J	Clark Univ., Dept. of Env. Protection, Family Health Ctr., Regional Env. Council, Worcester Youth Committee	Toxic chemicals, Brownfields, social violence; low SES	9/10/2004	4/30/2008	03-007
ES013292	Environmental Justice on Cheyenne River	*HENDERSON, JEFFREY A	Cheyenne River Sioux Tribe, University of New Mexico	Mercury, Arsenic, other heavy metals; North American Sioux, Native American	9/15/2004	4/30/2008	03-007
ES013208	Dine' Network For Environmental Health (DINEH) Project	LEWIS, JOHNNYE L	Eastern Navajo Health Board, Southwest Research and Information Center, Crownpoint Service Unit, HIS	uranium, heavy metals; Navajo Nation, Native American	9/10/2004	4/30/2008	03-007
ES012574	Harlem Children's Zone Asthma Initiative	*CANADA, GEOFFREY	Harlem Health Promotion Center, Harlem Hospital Health Center	Childhood Asthma; African-American Children Central Harlem	9/30/2003	6/30/2007	03-002
ES012591	Community Exposure to Perfluorooctanate	EMMETT, EDWARD A	Grand Central Family Medicine, Decatur Community Association	Perfluorooctanates, Water, Air Pollution, Occupational; Rural Community, Children, Mothers	9/1/2003	6/30/2007	03-002
ES012578	Healthy Food, Healthy Schools and Healthy Communities	GOTTLIEB, ROBERT B	Urban & Env. Policy Institute, Blazers Youth Foundation, Ctr for Food & Justice, Occidental College	obesity, diabetes; urban, low income, Spanish-speaking	9/1/2003	6/30/2007	03-002
ES012584	Healthy Homes & Community for High Point Families	KRIEGER, JAMES W	Neighborhood House, Puget Sound Neighborhood Health Centers, King County Public Health Dept.	ETS, allergens, toxic household products, ambient air pollution; Low income	9/30/2003	6/30/2007	03-002
ES012585	Dorchester Occupational Health Initiative	AZAROFF, LENORE	Health Services Partnership, Mass Coalition for Occupational Safety & Health, Viet-AID, Cape Verdean Community UNIDO	Inhalants, Cleaning solutions; Vietnamese and Cape Verdean, Poor and working poor	9/30/2003	6/30/2007	03-002
ES012588	Work Environment Justice Partnership for Brazilian Immi*	SIQUEIRA, CARLOS E	Lowell Community Health Center, Brazilian Immigrant Center, MGH Chelsea Health Center	cleaning agents, sharp objects, lead, vibration, heavy equipment; Brazilian workers	9/1/2003	6/30/2007	03-002
ES012595	Communities Organized Against Asthma and Lead (COAL)	WARD, JONATHAN B	Demadres a Madres, Casa de Amigos Health Center, Harris County Hospital District, Texas Southern University	Asthma triggers Lead from paint, food, folk medicines, pottery; Houston, TX (Hispanic)	9/1/2003	6/30/2007	03-002

* = Projects where PI is from the Community-based Organization (8/19 projects)

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All Project Summaries

Includes: EJ¹, CBPR², ELSI³, and Children's Center⁴ Programs

Project Titles	Principal Investigators
Dorchester Occupational Health Initiative	Lenore S. Azaroff ¹
Linking Breast Cancer Advocacy and Environmental Justice	Julia Brody ¹
Harlem Children's Zone Asthma Initiative	Geoffrey Canada ¹
Partnership to Reduce Asthma and Obesity in Latino Schools	Rochelle S. Davis ¹
Strengthening Vulnerable Communities in Worcester Built Environment	Timothy J. Downs ¹
Community Exposure to Perfluorooctanoic Acid	Edward Emmett ¹
Reducing Pesticide Exposure in Farmworker Children	Brenda Eskenazi ⁴
Healthy Food, Healthy Schools and Healthy Communities	Robert Gottlieb ¹
Assessing and Controlling Occupational Risks Among Immigrants in Somerville, MA	David M. Gute ¹
Environmental Justice on Cheyenne River	Jeffrey A. Henderson ¹
Community Health Intervention with Yakima Agricultural Workers	Matthew Keifer ¹
Healthy Homes and Community for High Point	James Krieger ¹
Diné Network for Environmental Health	Johnnye Lewis ¹
Environmental Health and Justice in Norton Sound, Alaska	Pamela K. Miller ¹
Building Food Justice in East New York	Kimberly Beth Morland ¹
Community Environmental Health Studies: Finding Meaning	David Ozonoff ²
JUSTA: Justice and Health for Poultry Workers	Sara A. Quandt ¹
South Valley Partners for Environmental Justice	Catherine M. Richards ¹
Alton Park/Piney Woods Environmental Health & Justice	Mary E. Rogge ¹
Promoting Occupational Health Among Indigenous Farmworkers in Oregon	Nargess Shadbeh ¹
South Valley Partners for Environmental Justice	Lauro D. Silva ¹
Work Environment Justice Partnership for Brazilian Immigrants in Massachusetts	C. Eduardo Siqueira ¹
South Bronx Environment Justice Partnership	A.H. Strelnick ¹
South Bronx Environment Justice Partnership to Address Ethical Issues in Environmental Health	A.H. Strelnick ³
Lower Price Hill Environmental Leadership Coalition	Maureen R. Sullivan ¹
Communities Organized against Asthma and Lead (COAL)	Jonathan B. Ward Jr. ¹
Land Use, Environmental Justice, and Children's Health	Joy Williams ¹
Community Health and Environmental Reawakening	Steve Wing ¹
Community Health Effects of Industrial Hog Operations	Steve Wing ²

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Dorchester Occupational Health Initiative

Grant Number: 1R25ES012585-01

NIEHS

Principal Investigator

Lenore S. Azaroff, Health Services Partnership

Collaborators

Marcy Goldstein-Gelb
Mass Coalition for Occupational Safety & Health

Mai Hoa Nguyen
Viet-AID

Davida Andelman
Bowdoin Street Community Health Center

Project Aims

This community-based education and intervention research project is designed to assess the occupational health needs of low-income and immigrant communities in Dorchester, Massachusetts. It will involve workers; their families and small businesses in designing culturally appropriate interventions; carry out community education and evaluate the impact of these efforts on the Dorchester community as well as local policy and regulatory functions.

The project will conduct a streamlined assessment of the occupational health needs of Dorchester's low-income and immigrant communities, augmenting available current statistical data and the results of recent resident surveys with focus groups, key informant interviews and culturally acceptable methods of obtaining information.

Develop culturally appropriate models of education, communication and dissemination of occupational health information. Implement a community education and training programs.

Project Summary

Our major accomplishments for the year are providing the background research for statewide policy and program initiatives around preventing the use of flammable products in hardwood floor finishing; launching a media outreach campaign targeting Vietnamese-American floor finishers; and developing a group of Cape Verdean immigrant cleaning workers who are choosing topics for educating themselves, then developing print and video materials for educating others in the community about workplace conditions. Our youth component conducted outreach and dialogue with local small business owners, identifying fire hazards and violence as issues of local concern and incorporating these concerns into a campaign to promote fire-safe cigarettes.

Public Health Impacts

reduced sales of flammable lacquer sealers for use in hardwood floor finishing

helped reduce use of acutely toxic cleaning compounds at a large commercial cleaning worksite

increased sales of fire-safe versus non-fire-safe cigarettes

Policy Impacts

promotion of education and training requirements for hardwood floor finishers

promotion of purchase of environmentally preferable cleaning chemicals by selected cleaning contractors

restriction on sales and use of flammable lacquer sealers for wood floors

restrictions on sales of non-fire-safe cigarettes

Nail Salon Health and Safety Calendar Format: calendar Date: November 2005

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Linking Breast Cancer Advocacy and Environmental Justice

Grant Number: 5 R25 ES013258-02

NIEHS

Principal Investigator

Julia Brody, Silent Spring Institute

Collaborators

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Brown University

Carla Perez
Communities for a Better Environment

Project Aims

The project's specific aims are: to link breast cancer advocacy and environmental justice in two communities that differ in racial/ethnic and economic character, to better understand exposure to EDCs in indoor environments and the relationships between indoor measurements and outdoor sources, to report environmental monitoring data to individuals and communities in a way that supports empowerment, and to develop guidance for report-back by others.

Project Summary

Breast Cancer and Environmental Justice -- Household Exposure Study

Breast cancer advocacy and environmental justice communities are natural allies that will be linked through a new collaboration of Silent Spring Institute, Communities for a Better Environment, and Brown University that will investigate the role of household pollutants in health. The project will assess household exposure for endocrine disrupting compounds (EDCs) and develop communications tools to report results to affected individuals and communities.

EDCs from sources such as consumer products, industrial processes, and air and water pollution are a concern for breast cancer activists because many EDCs mimic estrogen, a known risk factor for breast cancer. EDCs are emerging, too, as an environmental justice concern because of disproportionate breast cancer mortality among African-American women. They may also affect asthma, fetal development, premature puberty, learning disabilities, and other aspects of reproductive and neurological health.

Indoor pollutants originate from both indoor and outdoor sources, and exposure studies can help identify the major sources. Data collection will include sampling indoor air and dust in two locations in Cape Cod, Massachusetts, which has disproportionately high breast cancer risk and has been the source of much prior attention through the work of Silent Spring Institute, and a new site in Richmond, California, which is largely home to people of color living near the Chevron oil refinery and other industrial sites. Data collection in Richmond will entail collaborating with a major environmental justice organization, Communities for a Better Environment (CBE), which has extensive experience with community environmental monitoring in neighborhoods in Northern and Southern California. Results of the studies will be shared both as aggregate information presented through community meetings, news media, and other channels, and as individual report-back to study participants.

In establishing a process for communicating study results to participants, the partners will develop a feedback protocol to maximize understanding of the scientific data and its

limitations. The protocol will address the ethical issues of ensuring community and individual autonomy, right-to-know, and ultimately the right to act on scientific information by engaging more effectively in environmental policy-making and regulation to reduce exposures.

The project team is led by a community-based environmental breast cancer research and outreach organization, Silent Spring Institute. The academic-community collaborative is multidisciplinary and includes researchers from Brown University (Department of Sociology, Department of Community Health, School of Medicine and the Center for Environmental Studies), and scientists and community outreach specialists from both Silent Spring Institute in Massachusetts and Communities for a Better Environment in the San Francisco Bay Area. By developing advisory boards in both Massachusetts and the San Francisco Bay Area, the team will engage with and solicit ongoing feedback and input from environmental justice organizations, breast cancer advocacy organizations, community residents, environmental health scientists, and healthcare and public health professionals.

The project's specific goals are: to link breast cancer advocacy and environmental justice in two communities that differ in racial/ethnic and economic character, to better understand exposure to EDCs in indoor environments and the relationships between indoor measurements and outdoor sources, to report environmental monitoring data to individuals and communities in a way that supports empowerment, and to develop guidance for report-back by others.

Public Health Impacts

The team hosted a media training for environmental health activists in Providence, RI (Fall 2005). Major topics included message development and reporter/media relations.

The team sponsored a forum entitled

The team hosted a community forum on Cape Cod (May 2006) to report results of the Cape Cod Breast Cancer and Environment Study, especially the household exposure studies, and answered questions from the public.

The team hosted a community forum in Richmond, CA to announce the household sampling program there and raise awareness about links between breast cancer and the environment and environmental justice organizing. Participants for the household exposure study were recruited at the forum.

Policy Impacts

Ruthann Rudel provided technical assistance to communities evaluating state highway department herbicide use.

Publications

Brody, J.G., J. Tickner, R.A. Rudel. In-Press. Community-Initiated Breast Cancer And Environment Studies And The Precautionary Principle. Environmental Health Perspectives, 133(8), 920-925. Format: journal article Date: August 2005

Breast Cancer Resources for Women of Color Format: handout Date: March 2005

Breast Cancer Advocacy and Environmental Justice Format: poster Date: March 2005

Breast Cancer and Environmental Justice: What's the Connection? - The Watchdog - Communities for a Better Environment's newsletter. Format: newsletter article Date: 2006

Linking Breast Cancer Advocacy and Environmental Justice Format: poster Date: September 2005

Findings of the Cape Cod Breast Cancer and Environment Study Format: report/booklet Date: July 2006

Massachusetts Health and Environment Information System Format: Interactive web mapping tool Date: June 2006

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Harlem Children's Zone Asthma Initiative

Grant Number: 5 R25 ES012574-02

NIEHS

Principal Investigator

Geoffrey Canada, Harlem Children's Zone, Inc.

Collaborators

Mary Northridge, M.Ph., Ph.D.
Associate Professor
Harlem Health Promotion Center at Columbia University

Benjamin Ortiz, MD
Assistant Attending and Assistant Professor of Clinical Pediatrics
Harlem Hospital Health Center

Project Aims

1. Assess the prevalence of asthma in all children, 12 and under, receiving services at PS 197, an elementary school in Community School District 5, Central Harlem.
2. Enroll children, 12 and under, receiving services at PS 197 who have been diagnosed with asthma into the Harlem Children's Zone Asthma Initiative (HCZAI).
3. Implement planned medical, environmental, educational, social interventions for each child enrolled in the HCZ Asthma Initiative regardless of the severity of the disease.
4. Monitor each child participating in the HCZ Asthma Initiative at 3-6 month intervals for improvements in asthma symptoms and other specified health-related outcomes.
5. Evaluate impact of the direct service interventions on the children in the HCZ Asthma Initiative receiving interventions, anticipating the following outcomes:
6. Develop a community-wide educational campaign.
7. Continually strengthen the collaboration between community residents, the Harlem Children's Zone and its fellow partners, including Harlem Hospital and Harlem Health Promotion Center.
8. Document the HCZ Asthma Initiative, its implementation and evaluation, and develop a replicable community-based strategy for addressing asthma, and other environmental and occupational health crisis, in other socioeconomically disadvantaged communities.

Project Summary

Thus far, parents/guardians of 1,260 children connected to PS 197 or Baby College have completed surveys. Underscoring a childhood asthma crisis in Central Harlem, results show that 25% (N = 314 of 1,260) of parents indicated that their child has asthma compared to commonly reported national rates of 5 to 7 percent.

One hundred and ninety four (194) families have been enrolled in the Harlem Children's Zone Asthma Initiative at PS 197. Community Workers visit the homes regularly. In the course of their visits, they interview the parents/guardians of enrolled children at 3-month intervals.

Matched results from Baseline, 3-month, 6-month, and 9-month follow-up interviews indicate that: children were less likely to slow down or stop play because of asthma; wake up because of asthma wheezing, coughing or tightness in the chest; and miss school because of asthma. Additionally, there was an increase in reported use of asthma strategies such as having and using a spacer device, and having a peak flow meter.

Members of the HCZ community have taken advantage of many opportunities to educate school and other community members about asthma. Information dissemination has included:

- Sending flyers and mailings to the parents of PS 197 students with information on Harlem's asthma crisis and our initiative.
- Presentations at Baby College by Harlem Hospital medical staff.
- A presentation by lawyers from the Volunteers of Legal Services focusing on the role of the legal system in improving environmental conditions that may affect children's asthma.
- Staging of a special event during the week of Asthma Awareness Day designed to educate all children at PS 197 about the disease. The May 3rd event allowed children a forum to have their questions answered and provided prizes for those who successfully engaged in quizzes and games.
- HCZ Staff Training by Harlem Hospital staff; HCZ Staff Training by HCZ Nurse; HCZ Peacemaker Training by HCZ staff and Harlem Hospital staff; and PS 197 Staff Training.
- Parent Workshops at Parent-Teacher Conferences and Parent Meetings for caretakers of enrolled children. Workshops and meetings have educated parents about asthma, reviewed HCZAI services, addressed questions and concerns, and discussed the necessity for completing school-based medication administration forms.
- Health Awareness Day □ HCZAI invited other organizations to join Harlem Children's Zone in educating the community about the large variety of health issues that are of particular note to the Harlem community. Participating groups included Bike New York, New York Sports Club, and North General Hospital. Representatives from several Harlem Children's Zone programs, including the HCZ Obesity Initiative, the HCZ Family Literacy Program, and the TRUCE Fitness and Nutrition Center Karate team joined these organizations.

Public Health Impacts

Significant changes in asthma morbidity in enrolled children.

Increased awareness about asthma in Central Harlem community.

HCZAI was invited to discuss the Asthma Initiative and the New York City asthma epidemic on WNYC's Brian Lehrer radio show.

Policy Impacts

We are modeling the importance of a comprehensive approach to managing chronic disease. Our asthma initiative extends beyond education to provide social, environmental, medical, and legal supports.

Senator Charles Schumer's office sought our guidance relating to his efforts to obtain additional federal funding for asthma for New York.

Publications

What matters to communities? Using community-based participatory research to ask and answer questions regarding the environment and health. *Environmental Health Perspectives*. Format: Journal Date: March 2005

Addressing the childhood asthma crisis in Harlem: The Harlem Children's Zone Asthma Initiative. *American Journal of Public Health*, 95, 245-249. Format: Journal Date: February 2005

Improving childhood asthma through community-based service delivery: The Harlem Children's Zone Asthma Initiative. *Morbidity and Mortality Weekly Report*, 54, 11-14. Format: Journal Date: January 2005

Harlem Children's Zone: A Look Inside The Harlem Children's Zone Asthma Initiative Format: Organizational Publication Date: June 2005

Harlem Overheard Story Format: Youth-produced newspaper Date: May 2005

Team HCZ Format: Organizational newsletter Date: April 2005

Interdisciplinary planning for healthier communities: findings from the Harlem Children's

Zone Asthma Initiative. Journal of the American Planning Association, Winter 2006, 72(1), 100-108. Format: Journal Date: Winter 2006

Childhood Asthma and Extreme Values of Body Mass Index: The Harlem Children's Zone Asthma Initiative. Journal of Urban Health, May/June 2006 Format: Journal Date: May/June 2006

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Partnership to Reduce Asthma and Obesity in Latino Schools

Grant Number: 5 R25 ES013207-02

NIEHS

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Project Aims

1) Develop a better understanding of the impact of the school environment, and a large school district's policies that influence this environment, on asthma and obesity. a) Develop descriptive flow-chart on decision making process around intervention in each community. b) Validate flow-chart with key players. c) Observe how structure works and is implemented and how it impacts policy at the local school environment.

2) Develop a common language between professionals and community members/parents that will be used to motivate school administrators to take action to improve the school environment.
- Through training and on-going dialogue, promote the development of shared perspectives among various stakeholders over time.

3) Evaluate two different models of community organizing in a school-based setting.
- Develop accurate descriptions of how community based organizations worked to improve health in schools.

4) Open lines of communication and working partnerships between schools and community health providers.

Project Summary

The Healthy Schools Campaign (HSC), along with West Town Leadership United (WTLU), Little Village Environmental Justice Organization (LVEJO), Cook County Hospital, and the University of Illinois-Chicago Midwest Latino Health Research, Training, and Policy Center (UIC) propose to develop a Partnership to Reduce Disparities in Asthma and Obesity in Latino Schools.

The main objective of the project is to mobilize the two school-centered communities as a means of reducing disparities in two major chronic diseases, asthma and obesity, as related to school absenteeism, hospitalizations, and learning disabilities among youth. Due to the limitation of data for each school, a key activity of the first year is to engage in a participatory leadership development community planning process. The key goal of the School Action Planning Process is to identify the specific health disparities around outcomes that will lead to the development of a school action plan describing, among other elements, community strengths and sustained interventions needed. To accomplish these objectives, the collaborators will facilitate capacity-building by providing on-going training, technical

assistance, and consultation to organizations, as needed.

Public Health Impacts

By fostering environmental justice in schools in Latino communities, we will have a better understanding of both the physical and decision-making environments to address the disparity in prevalence of asthma and obesity in minority student populations.

By developing a common, effective language between professionals and community members/parents, they will be able to work together to deliver messages that will activate and involve administrators, and therefore reduce the incidences of asthma and obesity in minority student populations.

Because the school community is so crucial to the success of maintaining good school environmental health, it is important to identify valuable models of community organizing that work well in a school setting.

By creating a dialogue between schools and providers, the reduction of health disparities will be facilitated.

Policy Impacts

The first step will ensure commitment from local schools using a community-based approach. We realize that the technical language of the professionals must be conveyed to schools in such a way so that it is understandable and relevant to their concerns, which includes the issues surrounding asthma and obesity.

The second step of providing the school communities with tools and resources will be accomplished through the project's interventions as defined by the communities themselves; they may include asthma education training, childhood obesity prevention training, nutrition best practices, improving school health environments, and sample policy language.

The third step involves how health providers likely treat a large number of students as individual cases, rather than viewing them as a community that is exposed to the same school environmental stressors. With their participation, they will establish a dialogue between the health providers and administrators and open lines of communication that do not currently exist.

The fourth step involves several of the project's key partners that are health providers in the two Latino communities. This project is creating relationships that will yield more health resources for the schools and undoubtedly aid in the reduction of health disparities. With their participation, they are establishing dialogue between the health providers and administrators and open lines of communication that do not currently exist.

The Partnership will present its findings to the school's local school councils and the Chicago Public School Board and recommend a policy change. The Action Plan may recommend that the school implement a school wellness policy to include salad bars, reinstatement of recess and an increase of physical education, or a

If the Partnership finds that the nutritional standards of the school food program contribute to the problem of obesity or lack of physical activity it may recommend that the central CPS office adopt different nutritional and physical education standards and work with school officials to implement a new, district-wide policy.

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Strengthening Vulnerable Communities in Worcester Built

Environment

Grant Number: 1R25-ES013210-01

NIEHS

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Project Aims

General Aim:

Our overall aim is to test the following coupled working hypotheses: a) A manageable, reduced set of primary built environment stressors of a physical, chemical and socio-economic nature conspire together to drive human health/well-being vulnerability in Worcester City's Main South and Piedmont Neighborhoods; and b) this socio-ecological vulnerability system can be described and improved through a participatory process that fosters experiential learning, builds community ownership, strengthens the adaptive capacity of those at risk, and makes environmental and health promotion policies more responsive to those most in need.

Specific Aims

Our specific aims are to answer the following research and practice questions:

1. How can five stakeholder groups □ vulnerable communities, researchers, a health outreach agency, a non-governmental organization and regulators □ work together to characterize socio-ecological conditions in the pilot sites, especially primary environmental stressors and their interactions with secondary economic and socio-political stressors □ i.e. How do we build a systems-model of the vulnerability?
2. How can stakeholders design a Strategic Plan to reduce vulnerability to environmental stress by manipulating those parameters that seem to be driving its dynamics □ How do we respond in ways promising maximum net positive impact?
3. How can we build local adaptive capacity in the municipal Piedmont-Main South neighborhoods and supporting capacity to ensure interventions are cost effective, adaptive and sustainable over time?
4. How do we implement the Plan in a collaborative manner that shares responsibilities and benefits among stakeholders?
5. How do we monitor the performance of interventions (especially on public health and well-being indicators used to answer Question 1), improve our model of the vulnerability system, and re-inform the cyclical assessment, planning and action process?

Project Summary

Low-income people living in depressed neighborhoods of Worcester, MA, are disproportionately exposed to environmental stressors: 1) a major toxic chemical pollution burden; 2) unhealthy physical features like brownfields and lack of greenspace, and 3) pervasive social violence and insecurity. Compounding their vulnerability is limited adaptive

capacity rooted in socio-political and economic stress. Approaches that focus on single problems will be ineffective. Our working groups of local community representatives, researchers, city health and environment agencies, the youth center and a local NGO plan an inclusive, systems-based approach to improve adaptive capabilities in Worcester's Piedmont and Main South Neighborhoods. Worcester was once the heartland of the American Industrial Revolution, and its built environment now bears a significant historical and ongoing pollution burden. Similar conditions are found in many medium-sized cities across industrial America. The project has four stages, all neighborhood-based: 1) Strategic Assessment - detailed descriptions of the baseline; 2) Strategic Planning - identification of priority stressors and opportunities; 3) Implementation - making priority interventions and developing capacity; and 4) Performance Monitoring - measurement to detect significant changes (post- vs. pre-policy values). Products will include: neighborhood centered databases, planning documents, and evaluation reports; a practitioners manual; and research reports of observations and findings. Two hypotheses are tested: a) Primary built environment stressors of a physical, chemical and socio-economic nature conspire together to create vulnerability in Worcester's Main South and Piedmont Neighborhoods; and b) this vulnerability system can be described and improved through a participatory process that fosters experiential learning, builds community ownership, strengthens adaptive capacity of those at risk, and makes environmental and health promotion policies responsive to those most in need.

Public Health Impacts

The project has been instrumental in the formation of a multi-partner action group focused on childhood lead poisoning and making homes lead-safe in Worcester, MA. The Worcester Lead Action Collaborative (WLAC) includes representatives from the MA State Department of Public Health, the City of Worcester Department of Public Health, Property Owners' Association, the NIEHS partners, refugee resettlement agencies and several community-based organizations. The WLAC is actively engaged in outreach and dissemination of information about lead abatement programs. A subcommittee, the Immigrant and Refugee Health Group, addresses the barriers to lead-safe homes facing immigrants and refugees in Worcester.

Another of the project's working groups, Toxics Watch is made up of local residents, student researchers, Clark faculty, and Regional Environmental Council staff who are working to monitor outdoor air pollution. The group has organized a series of Walks for Healthy Neighborhoods in which residents participate in air quality sampling, learn how scientific data is collected, and get a measure of what's in the air. They also monitor and record any garbage or abandoned buildings. There is a follow-up to each walk in which participants are informed about the information collected and the ramifications for health.

The Health Outreach Working group, a partnership between residents, community-based organizations, and health care providers in Main South and Piedmont neighborhoods, seeks to better understand and address health concerns as they are impacted by environmental risks. The group has started a series of listening sessions, to link residents to wellness services, to improve the overall health of individuals, families and our community.

The A-Team, a group of young people from the Worcester Youth Center with the guidance of Clark students is working to improve recreational space in their neighborhood. This past spring they secured grant funds to refurbish a basketball court. Local residents celebrated the new court that provides a safe place for young people to play.

Policy Impacts

The Worcester Lead Action Collaborative (WLAC), a multi-partner action group focusing on childhood lead poisoning and making homes lead-safe, is working with the City of Worcester, a recipient of a \$500K lead abatement grant from HUD, to inform decisions about lead abatement efforts based on project data analysis.

Toxics Watch, another working group, is helping partners engage with residents to conduct environment sampling in their neighborhoods. This is changing the way local environmental agency connects with residents, helping it to listen and do outreach to a wider group of people.

The Listening Sessions with residents and staff of the Family Health Center, the local health care provider, are helping the health providers move toward a more dialogue-based model of engagement.

Publications

Ross, L. and Downs, T. (2006) University-Community Partnerships to Promote Environmental Health and Justice in Worcester, Massachusetts. Scholarship in Action: Applied Research and Community Change HUD Office of University Partnerships. Format: Journal article Date: 2006

Lowe, C., L. Ross, and T. Downs. Overcoming the Challenges and Harnessing the Benefits of University-Community Collaboration: Addressing Environmental Justice in Worcester, Massachusetts □ Built Environment. Journal of Higher Education Outreach and Engagement Format: Journal article Date: Submitted 9/06

Submitted a chapter in a forthcoming book, entitled Effective Practice of Adult-Youth Engagement in Social and Environmental Justice. Working title: Levels of Youth-Adult Partnership in a Participatory Community Planning Process: Developing Parks, Reducing Blight, and Creating Open Space in an Urban Built Environment.
Co-authors: L. Ross, A. Tejani, T. Downs, and C. Lowe.
Edited by Warren Linds, Ali Sammel, Linda Goulet. Format: Chapter in book Date: Forthcoming

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Community Exposure to Perfluorooctanoic Acid

Grant Number: 1R25ES012591-01

NIEHS

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Project Aims

The initial Project aims were to:

- 1) To develop and test a C8 exposure questionnaire and to administer this questionnaire to a selected sample of residents.
- 2) Measure the levels of C8 in the blood, and in the case of lactating mothers, in the breast milk, of the selected sample of residents.
- 3) Measure the levels of certain biomarkers of C8 toxicity in the blood of the sample of residents to determine if the levels of C8 are correlated with blood tests showing possible health risks.
- 4) Analyze the data obtained from the C8 exposure questionnaire and blood C8 levels in order to determine C8 levels in the residents of the LHWA district and to evaluate the association between these levels and the potential routes of exposure to C8 (air, water, occupational, other).
- 5) Compare the levels of C8 in survey participants with those previously reported in other community and occupational groups.
- 6) Analyze the association between sensitive *biomarkers of effect and the serum C8 levels to determine whether there is an observable association in this population and, if so, at what levels of serum C8 this association is found. (*Biomarker is the term used in determining whether the levels of C8 are correlated with blood tests showing health risks.)
- 7) Inform individual participants of their test results.
- 8) Inform the community and the funding agency of overall research results.

These tasks have been successfully completed. Our aims for the last year of the project include to:

1. Perform a follow-up study to determine the efficacy of control measures including the provision of bottled water to residents.
2. Determine the half-life of C8 in the serum of community residents

3. Begin to evaluate the effects, if any, of C8 on cancer incidence in the affected water district

4. To begin to address other issues with regard to C8 exposure and serum levels raised by the community and regulators.

Project Summary

Perfluorooctanoate (PFOA, also known as C8) is persistent in humans and the environment, and is ubiquitous at low levels in human serum. The source(s) of general population exposure have been unknown. No studies of PFOA effects on the health of the general population have been reported.

Residents of the Little Hocking water district in Southeastern Ohio have potential water and air exposure from nearby fluoropolymer production. We formed an Environmental Justice Partnership to perform a study of the sources and effects of PFOA in this community. We measured blood PFOA and administered questionnaires to a stratified random sample of 324 subjects from 161 households, and 54 individuals from 35 volunteer households selected by lottery, all residents of the Little Hocking water district. Blood PFOA, measured by HPLC/tandem mass spectroscopy, using a C13 internal standard, greatly exceeded published US general population medians of ~5ng/mL. Control individuals from Philadelphia had values similar to the normal population. Occupational exposure from production processes using PFOA and residential water had additive effects, no other occupations contributed. The major non-occupational source in this community was from water ingestion. Median blood PFOA levels for residents with both air and water exposure was 326ng/mL, and was 367ng/mL outside the air plume but with the same water supply, indicating negligible contribution to the blood level from air exposure. Median PFOA was 55ng/mL for current consumers of bottled/spring/cistern water. In well-water users, serum PFOA reflected well-water PFOA. The median serum/water PFOA ratio for Little Hocking water users was 105. Serum PFOA was significantly higher in children aged <6 years and those aged >60. No gender differences were observed. For residents whose sole water source was Little Hocking water, we used the General Estimating Equation to assess the contribution of other variables: the model of best-fit included age, tap water drinks per day, servings per week of home-grown fruit and vegetables, and carbon filter use. Eating locally harvested meat and game was not significant. The association with eating homegrown fruits and vegetables may reflect water use in cooking, cleaning and canning.

We also explored the relationship between the relationship between serum [PFOA] and disease biomarkers in this population. Serum [PFOA] was not significantly associated with biomarkers of potential liver, renal, hematologic, or thyroid disease or serum cholesterol. There was no significant association between serum PFOA and a history of diagnosis or treatment for liver or thyroid disease. Possible effects on cancer incidence and childhood development remain to be explored in the future.

As a result of our findings of high blood PFOA levels, bottled water has been made available to residents in the community. Studies of both exposure and human health effect variables are continuing.

Public Health Impacts

As a result of our findings of very elevated C8 levels in the blood of residents, compared with those in the general population free bottled water was made available in August 2005, by DuPont through the Little Hocking Water Association, for all who used Little Hocking Water Association water.

As of January 2006 approximately 70 percent of all residents on the system water had accepted the offer of free bottled water. The impact of this on blood C8 levels will be determined in a follow-up study in the late summer/early fall of 2006.

Findings from the study are being used for information and risk evaluation in several other communities in a number of states where pollution of water supplies by C8 has been

identified in the last few years.

Airborne emissions and emissions to groundwater of C8 from the DuPont have been dramatically reduced. In October 2005 Dupont announced it would close a Wood County WV landfill where C8 was disposed of.

Policy Impacts

Findings from our study are being used by the US EPA for risk assessment purposes. A presentation of our findings at the 2006 EPA Science Forum in Washington DC was awarded first place prize for a scientific study presented at that forum.

Findings from the study have been used as a major part of the basis of a document C* Perfluorooctanoic Acid A 2006 C8 Physician reference published in August 2006 by the ATSDR, Ohio Department of Health, and the West Virginia Department of Health & Human Resources

Our findings are being used by the State of New Jersey to set a water exposure level for PFOA(C8) for that state.

Our findings are being used by the State of Minnesota to revise the water exposure level for PFOA(C8) for that state.

Publications

Emmett EA, Shofer FS, Zhang H, Freeman D, Desai, C, Shaw LM. Community Exposure to perfluorooctanoate: relationships between serum concentrations and exposure sources. J Occup & Environ Med.46: 759-770, 2006

(Peer-reviewed article awarded fast-track status) Format: Journal Article Date: August 2006

Emmett EA, Shofer FS, Zhang H, Freeman D, Rodway NV, Desai C, Shaw LM. Community Exposure to perfluorooctanoate: relationships between serum levels and certain health effects. J Occup & Environ Med.46: 771-779, 2006

(Peer-reviewed article awarded fast-track status) Format: Journal Article Date: August 2006

Penn Study finds significantly elevated C8 levels among studied population groups in Southeastern Ohio Water is identified as the major source as the major source of contamination Format: Press Release Date: July 2005

New study finds levels of chemical up in people using water. Article in Marietta, Ohio Times Study says humans ingest C8 chemical through drinking water. Article in Charleston WV Daily Mail

Ohioans found full of C8 near DuPont plant Article in Columbus Dispatch and various other newspaper other articles Format: Newspaper(s) Date: July 2005

Chemicals: Ohio residents near DuPont Plant have high C8 levels --Study. Dow Jones & Reuters, Greenwire Factiva

Results Released for Blood Tests on C8. Parkersburg on the Web and various other news reports Format: News Reports Date: July 2005

Group to give results of C8 study: new data on chemicals health effects unveiled at public meeting. Article in the Marietta Times Format: Newspaper Date: August 2005

Summary of Community C8 study (lwbc8study.org) Warren High School Auditorium, August 15, 2005

Public meeting (approximately 400 attendees, printed summary of results and recommendation, with summary and presentation slides on study website Format: Public Summary Date: August 2005

University of Pennsylvania C8 Study Recommendations Presented to Little Hocking Customers, Article in the Marietta Times
Study: C8 not directly linked to health issues,
Parkersburg News and Sentinel

So far so Good. Article in Columbus Dispatch
Study: Avoid drinking water containing C8. Athens Messenger
Government PFOA study finds no harmful effects but...Plastics News
and various other newspaper articles Format: Newspapers Date: August 2005

DuPont agrees to finance bottled water program for LHWA Service area. Press release from
Little Hocking Water Association Inc.

DuPont to provide alternate drinking water to 12,000 Athens Messenger
Water reimbursement immediately available. Parkersburg News & Sentinel
and other articles in newspapers Format: Newspapers Date: August 2005

Quarterly community newsletters to all Little Hocking water service district residents, from
the commencement of the study. These letters also contain the items discussed at quarterly
meeting of the Community Advisory Committee, study results and our recommendations.
Newsletters are also posted on the study website. Format: Newsletters Date: Quarterly

Abstract and Poster presentation EPA Science Forum 2006 Community exposure to
perfluorooctanoate: sources of exposure and health effects. Awarded first place prize (of over
220 presentations) Format: Abstract, poster Date: May 2006

Presentations at scientific meetings

Ohio Public Health Epidemiology Conference, August 2006: Community exposure to
perfluorooctanoate

American Occupational Health Conference, May 2006, Community exposure to
perfluorooctanoate, exposure sources and health effects.

and various other presentations at scientific meetings. Format: Presentations Date: 2005-6

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Reducing Pesticide Exposure in Farmworker Children

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Specific Aims

CHAMACOS (Center for Health Assessment of Mothers and Children of Salinas) is a community-university partnership investigating children's health and the environment in the Salinas Valley, CA, a major agricultural region of California. The specific aims of the CHAMACOS Community-Based Participatory Intervention Research studies are as follows: 1) to analyze CHAMACOS exposure questionnaire data; 2) to train a team of local community members to become Environmental Health Promoters (EHP); 3) to develop an empowering education module (Education Intervention); 4) to select appropriate protective clothing for farmworkers (Technical Intervention); 5) to field-test a water heating system for providing warm water for hand washing (Technical Intervention); 6) to evaluate the efficacy of the different intervention levels; and 7) to translate findings into sustainable change for farmworkers. Specific aims 1 through 5 have been completed. Specific aim 6 is currently underway. Specific aim 7 will be completed once both interventions have been completed and analyzed.

Studies & Results

The main objectives for Year 4 of the Intervention Study were to: 1) initiate analysis of our Field Based Technical Intervention, 2) share study results with community partners, grower collaborators, study participants, and others, 3) conduct a two-arm intervention trial of our home-based Educational Intervention with farmworker parents and other household members. The CHAMACOS Community Advisory Board, Intervention Farmworker Council, and local Salinas Valley study staff have played a vital role in all Year 4 activities.

Analysis of Field-Based Technical Intervention

We conducted a preliminary analysis of the CHAMACOS Field-based Technical Intervention, a two-arm randomized trial conducted with Mexican farmworkers at two strawberry farms near Salinas, California (N = 130). The overall goal of these analyses are to evaluate how effective lightweight coveralls and gloves used at work, access to warm water and soap in the fields for hand washing, and brief educational sessions are for reducing worker exposure to and the "take home" of pesticides to farmworkers' children. Data from this study includes a pre and post Knowledge, Attitudes, and Behaviors questionnaire, standardized non-participant observation of both intervention and control group workers, regular measurements of soap and water use, worker exposure assessments, focus groups with participants, and interviews with growers, supervisors, and crew leaders. Exposure assessments included assessments of worker organophosphate urinary metabolite levels, hand wipe samples, clothing patch samples, and dislodgeable foliar residue samples from the fields.

Sharing Technical Intervention Study Results with Partners, Participants & Larger Community

We have shared initial study results from our Technical Intervention with our community partners, grower collaborators, farmworker study participants, and the larger Salinas Valley, farmworker, and public health communities. Our Intervention Farmworker Council and local study staff collaborated with university partners developing appropriate materials and strategies to share study results with the community. We held meetings with grower collaborators and held a community forum in Salinas to share study results with farmworker study participants.

Evaluations conducted at both events indicated that both growers and farmworkers are very interested in receiving study results and gaining a better understanding of the impact of pesticides on farmworkers' and children's health and learning of ways to prevent exposure. Through ongoing outreach efforts in the community and participation in scientific and farmworker conferences, we continue to share study results and educational messages with farmworker parents, service providers, growers, farmworkers advocates, and others. Community partners, local study staff, and university partners all play a role in outreach efforts. School teachers, farmworker parents, service providers, students, researchers, and farmworker advocates are some of the groups for whom we have conducted pesticide education workshops or presentations of study results. In Year 4, almost 2,000 people participated in CHAMACOS presentations and educational workshops within the Salinas Valley and other locations. In July of this year, we trained 11 multi-lingual (Spanish and indigenous Mexican languages) to use our educational flip charts to educate farmworkers and families to reduce pesticides exposures to themselves and their children.

Home-Based Education Intervention Trial

We completed a two-arm randomized trial of the CHAMACOS Home-Based Education Intervention with over 120 farmworker households in Salinas in November, 2004. Baseline and follow-up data collection included: 1) a home-walkthrough in the home (standardized home inspection and GPS reading), 2) surface and press wipe samples from two rooms in the house, 3) urine and hair sample from the child participant (between 12 and 36 months and walking), 4) an in-depth standardized Knowledge, Attitudes, and Behaviors questionnaire with the mother. Environmental and biological samples will be analyzed for the presence of pesticides and pesticide metabolites. Participants in the intervention group (n = 60) and their household members received a series of three home education visits from a team of Environmental Health Promoters during which they will learned about pesticide exposure, potential health effects, pathways of take-home exposure to pesticides and home pesticide use, and prevention behaviors and alternatives to pesticide use. Household members developed Household Action Plans to reduce pesticide exposure to children. Participants in the control arm received a shorter pesticide education program at the end of the study. At the end of the study, six focus groups were conducted with female participants, their partners and other household members who participated in the sessions. Based on process-evaluation data and focus groups, we learned that: 1) the use of hands-on participatory activities were effective in illustrating concepts such as pesticide residues (i.e. the use of fluorescent powder and black lights); 2) the health of children is a priority to farmworker families; many families were already taking steps to reduce exposure to children in their homes; 3) many participants shared the things that they learned in the sessions with coworkers and neighbors; 4) housing density, pesticide drift, gender roles, and limited time and economic resources continue to present challenges to reducing pesticide exposure to children.

Public Health Significance

To date, interventions to prevent pesticide exposures have focused primarily on either educating workers on pesticide safety or testing efficacy of personal protective equipment for pesticide applicators. Even so, we have found that many of our study participants have not even received this level of pesticide education.

Our Technical Intervention study is among the first to document pesticide exposure among field farmworkers who are not pesticide applicators. As such, the results of this study will serve to raise the awareness of farmworkers, advocates, and researchers, and further the development of future studies and projects. A key component of the field-based Technical Intervention was the development of a low-cost water heater. Preliminary feedback from study participants and grower partners indicate that future steps to disseminate this heating system might be successful. If the warm water system is effective in increasing hand washing behaviors, this dissemination will lead to decreased pesticide exposure for farmworkers as well as improved food safety. The latter is especially relevant given the recent E.coli outbreaks in spinach. Both growers and farmworkers will benefit. The methods tested during the our field-based Technical Intervention study have the potential to both decrease the amount of pesticides that are taken home to farmworker families and children and improve worker sanitation in the fields.

Our Community-Based Participatory Intervention Study takes prevention efforts further by focusing on both in-field and take-home pesticide exposure. This intervention complements the research of the CHAMACOS study. Our goal is to translate research findings from CHAMACOS into sustainable strategies to reduce pesticide exposure to children, and thus reduce the incidence of environmentally related childhood disease.

Plans

In Year 5 we will: 1) finalize the analysis of the Technical Intervention; 2) initiate analysis of the Home Based Education Intervention; 3) develop manuals to disseminate the “best practices” and “lessons learned” from both interventions; 3) develop materials and strategies to share study results with partners, growers, participants of the Home-based Education Intervention and the larger community; 4) report findings of intervention studies in scientific journals; 5) hold a conference in Salinas to engage partners and stakeholders translating study results into actions to decrease pesticide exposures to farmworkers and their children. Community Advisory Board members, the Intervention Farmworker Council, and local study staff will continue to play a strong role in all Year 5 activities.

Scientific Publications:

Goldman, L., Eskenazi, B., Bradman, A., Jewell, N. Risk behaviors of pesticide exposure among pregnant farmworkers in Salinas, California. *American Journal of Industrial Medicine*, 2004 Jun; 45(6):491-9.

Bradman, A. Salvatore, A., Boeniger, M., Castorina, R., Synder, J., Barr, D.B., Kavanagh-Baird, G., Eskenazi, B. Field Intervention to Reduce Pesticide Exposures to Farmworkers and Potential Take-Home Exposures to their Families in Monterey County, CA. *In preparation*.

Salvatore, A, Bradman, A., Boeniger, M., Barr, D.B., Camacho, J., Vargas, A., López, J., Eskenazi, B. Occupational Pesticide Prevention Behaviors and Organophosphate Pesticide Exposures among Farmworkers. *In preparation*.

Educational Publications:

Recursos en Nuestra Comunidad/Resources in Our Community (2003) (Spanish/English)

¡Protéjase de los Pesticidas!/Protect Yourself from Pesticides! (2003) (Spanish/English)

Que Hacer Con Ropa de Trabajo/ What to do with Work Clothes (2003) (Spanish/English)

CHAMACOS Technical Intervention Field Education Guide (2003) (Spanish/English)

CHAMACOS Technical Intervention Educational Flip Chart (2003) (Spanish/English)

¡Participe en el estudio CHAMACOS!/Participate in the CHAMACOS Study! (2003) (Spanish/English)

CHAMACOS Home Education Intervention Field Education Guide (2004) (Spanish/English)

CHAMACOS Home Education Intervention Flip Chart (2004) (Spanish/English)

Household Action Plan & Pesticide Prevention Step Stickers (2004) (Spanish/English)

Protegiendo su Hogar de los Pesticidas: Folleto 1/Protecting your Home from Pesticides: Handout 1 (2004) (Spanish/English)

Protegiendo su Hogar de los Pesticidas: Folleto 2/Protecting your Home from Pesticides: Handout 2 (2004) (Spanish/English)

Alternativas de Pesticidas en Casa y Jardin/ Alternatives to Pesticides for your Home & Garden (2004) (Spanish/English)

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Healthy Food, Healthy Schools and Healthy Communities

Grant Number: R25 ES012578

NIEHS

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Project Aims

The goal of the Healthy Food, Healthy Schools and Healthy Communities is to facilitate positive, community-driven changes in local nutrition environments in Los Angeles schools and communities that suffer disproportionately from diet-related poor health conditions. The project is designed to evaluate access factors in those schools and communities; raise nutrition, environmental and food access awareness; promote school and community involvement in shaping the nutrition environment; develop and implement intervention strategies; and assess the environmental and policy impact of those strategies. Activities include the training of low-income Latino and African-American students, parents, and residents to undertake community and school food assessments; the development of appropriate and feasible action plans to address poor nutrition environments and policies; and the creation of community-based coalitions and networks to mobilize efforts to move intervention strategies forward. Project partners include Center for Food & Justice at Occidental College, Healthy School Food Coalition, Esperanza Community Housing Corporation, Blazer Youth Services Community Club, Inc, University of Southern California, and Childrens Hospital Los Angeles.

Project Summary

Year Three of this project, commonly referred to as Project CAFE (Community Action on Food Environments), has been devoted to finishing data collection and analysis of the school and community food assessments. We've also undertaken school food policy work in Los Angeles Unified School District to improve school meals in the nation's second largest school district.

- 1) Project partners developed a survey tool to examine the availability, affordability, and quality of food in neighborhood stores. Youth, adult community members, and project staff surveyed a total of 90 food stores in the three project neighborhoods. Analysis is underway to create a summary of food access in the target neighborhoods, including research briefs for community members printed in English and Spanish.
- 2) School food assessments were conducted in 5 project schools, documenting compliance with existing school food policies and gathering information for future policies and programs.
- 3) Project partners mobilized community members for passage of the Cafeteria Improvement Motion, the latest in a trio of healthy school food policies adopted by the Board of the Los Angeles Unified School District. Additionally, project participants were selected to

serve on a committee to guide policy implementation.

4) Youth project participants made a presentation at a community forum to inform the new Director of the Planning Department in the City of Los Angeles. She has invited us to meet with her planning staff to orient them to food access issues and challenges.

5) The project team identified farmers' markets on school sites as a potential food access strategy. We are working with a farmers' market association to explore the possibilities of a pilot program on the campus of a participating school.

6) Community members and project partners are analyzing the feasibility of other strategies to improve the food environment in target neighborhoods, including healthier mobile food vending, community gardens, school lunch salad bars, and higher quality school food.

7) Community-based organization project partners continued recruiting new participants to the project using community organizing and community education strategies.

Public Health Impacts

This project is a novel response to address an emerging threat to public health: diet-related poor health conditions, including overweight, obesity and diabetes.

Project staff in community organizations have shared resources to present health education to their various members and constituencies. For example, health promoters made a series of presentations about health, nutrition, self-esteem, and diabetes to parents and students at an after-school program.

Project CAFE has increased community capacity to identify unjust food access and advocate for healthy school food policy as one strategy for making improvements to food environments.

The project has identified the local community and its settings, such as schools as an important arena to develop local level policy-making to improve public health.

Project partners are committed to a participatory process to shift people's thinking beyond individual illness to consideration of health-food connection for the community and illuminate the community's capacity to improve conditions for a healthier public, which is essential for success.

Policy Impacts

Project partners place a high priority on social responsibility for health and have identified community and school food assessments as a organizing and research tool to increase public understanding of the determinants of health and empower community members to be active in decisions that influence their health.

Project partners have made a connection with the new planning director in the City of Los Angeles, and we will be meeting her and other Planning staff to explore ways that the Planning Department can utilize neighborhood plans and other policy tools to increase access to health and affordable foods.

Project partners were instrumental in the passage of LAUSD's Cafeteria Improvement Motion through helping to draft the policy, meeting with board members to urge their support, providing testimony, garnering support from other organizations, and organizing for a public presence for at Board meetings. The new LAUSD policy will improve the nutritional standards for school meal programs and implement mechanisms for student feedback.

Project partners and student participants were selected to serve on a District-sanctioned Cafeteria Improvement Committee to guide implementation of the new policy.

Student participants and project staff participated in Hunger Action Day, meeting with elected

officials in Sacramento to advocate for legislation to improve fresh food access.

Publications

Students Seek Food That's Fresh, Not Fast Format: newspaper article Date: March 10, 2005

Healthy School Food Policies: A Checklist Format: UEPI Working Paper Date: June 2005

Robert Gottlieb, Mark Vallianatos, and Margaret Masch, Farm to School: Strategies for Urban Health, Combating Sprawl, and Establishing a Community Food Systems Approach, Journal of Planning Education and Research, Summer 2004, Vol. 23, No. 4. Format: journal article Date: Summer 2004

Robert Gottlieb, FORCING THE SPRING: THE TRANSFORMATION OF THE AMERICAN ENVIRONMENTAL MOVEMENT, REVISED EDITION, Island Press, 2005. Format: book Date: 2005

Peas in our time : South-central bulldozing suggests we need more planning for community gardens. Robert Gottlieb. LA Times. June 25, 2006. Format: newspaper op-ed Date: June 25, 2006

Let a thousand habaneros bloom. Robert Gottlieb. Los Angeles Times. Oct 2, 2005. Format: newspaper op-ed Date: October 2, 2005

Farm to School and Walking and Biking on the Freeway: Reframing the Connections Between Food, Transportation, Health, and the Environment, Keynote Presentation, Healthy Communities by Design conference and tri-county summit, Salinas, California, May 1, 2006 Format: presentation Date: May 1, 2006

Shaffer A, Vallianatos M, Azuma AM and R Gottlieb. Changing the Food Environment: Community Engagement Strategies and Place-Based Policy Tools that Address the Influence of Marketing. Loyola Law Review. 39(1): 2006. Format: journal article Date: 2006

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Assessing and Controlling Occupational Risks Among Immigrants in Somerville, MA

Grant Number: 5 R25 OH008776-02

NIOSH

Principal Investigator

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Project Aims

1. Create and implement an annual on-going needs assessment that will characterize and track changes in the understanding of occupational risks and job-related work practices among immigrant populations residing in Somerville.
2. Establish a Teen Educator-based sustainable community capability for gathering and disseminating information on work and health among these immigrant populations.
3. Create a community-based organizational structure, a cooperative, to address work-related risks to immigrant workers in Somerville. The initial focus of the Cooperative will be to address the needs of women housecleaners.

Project Summary

Tufts University, in concert with its partners, the Immigrant Service Providers Group (ISPG) as the community-based organization and the Cambridge Health Alliance as the health care provider will implement a four-year, three-part program to address occupational health risks to immigrant workers in Somerville, MA. Somerville, known as a gateway community due to the diverse variety of immigrant populations and community organizations, as well as remarkable temporal shifts in its immigrant population, represents a unique laboratory for this activity. For example, this project leverages existing peer youth and adult educational training and advocacy programs for immigrants. These programs have been successfully implemented by certain members of the ISPG (Haitian Coalition and the Community Action Agency of Somerville) on issues ranging from tobacco use to ambient environmental hazards. We are extending the impact of these successes in designing a sustainable, community-based capability to assess, characterize, and reduce occupational health risks in immigrant populations. Further, we believe that the very structure and organization of work influences such key issues such as immigrant empowerment and the sustainability of interventions aimed at lessening the impact of occupational injury, illness and mortality. As a result, we will launch a pilot Green Cleaning Cooperative to address occupational risks encountered by female immigrant workers engaged in domestic services. This aspect of our project will leverage the work of the Collaboration for Better Work Environment for Brazilians (COBWEB) project based at the University of Massachusetts at Lowell and at the Brazilian Immigrant Center in Boston. Also, the Massachusetts Coalition for Occupational Safety and Health (MassCOSH) will be a key partner by contributing occupational content, materials and training to this grant. This partnership establishes a link to the Dorchester Occupational Health Initiative another nearby work and environment project. Our project builds upon past successes of our partners (peer leadership) and leverages investments made in nearby projects. We will use an annual immigrant occupational assessment to identify needs and best practices in Somerville and actively seek to disseminate this information to other cities

and towns with substantial immigrant populations in concert with the Massachusetts Executive Office of Environmental Affairs and the Boston Public Health Commission.

As we enter Year Two of the grant significant progress has been achieved. A complement of Teen Educators (N = 8) have been hired and trained. The Teen Educators have been interviewed with regards to knowledge and interest in occupational health and safety. The Teen Educators have piloted a survey instrument (N = 44) of their own design. Key Informant interviews (N = 6) have been completed with the community partners and other individuals knowledgeable about immigrant health in Somerville. Preliminary data from these activities will soon be available. Two series of training sessions have been held with prospective members of the Cooperative. In addition, extensive training materials have been devised and translated. The interaction between Tufts faculty and the community is not just restricted to the work reported on here. The conducting of research and the planning of possible grant submissions has been initiated in the areas of child development and nutrition.

Public Health Impacts

Establish a better understanding of the distribution of occupational health and safety problems among immigrant populations in Somerville, MA.

Create among the Teen Educators a reservoir of talent for leadership within the community on occupational health and safety issues that affect immigrant populations.

Assess the utility of a Cooperative business model for improving occupational health and safety among selected groups of workers.

Policy Impacts

Raise the consciousness of local policymakers with regards to the importance of occupational health and safety problems among immigrant populations and in addition to share information which may be useful in ameliorating these problems.

Extract from the Somerville experience useful models for interventions which can be implemented in communities within the Boston metropolitan area.

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Environmental Justice on Cheyenne River

Grant Number: 5 R25 ES013292-02

NIEHS

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Project Aims

The primary goal of this proposal is to foster among Cheyenne River Sioux tribal members an awareness and appreciation of prominent environmental health issues sufficient to drive an organized agenda of environmental health activities, planning, and policy, for the betterment of tribal members' health and the ecology of the reservation. This goal will be accomplished through the performance of several tightly linked Specific Aims:

- 1) To develop, using a social network-based lay health advisor model, a cadre of tribal members that will be able to educate and train others about prominent environmental health issues;
- 2) To conduct, utilizing these environmental health-trained tribal members, a broad survey of tribal members' knowledge, attitudes, and behaviors relating to a range of environmental health issues;
- 3) To implement an organized multi-media campaign intended to reach tribal members and broadcast environmental health information, keying particularly on findings from the survey; and
- 4) To promote, using participatory action research methods, the development of a tribal environmental health advisory board that will act in a liaison role with tribal government to inform environmental health policies.

Underlying these aims are explicit plans to leave in place a set of enhanced skills and understanding, a program of environmental health-related activities, and momentum toward an actively managed tribal environmental health policy agenda, which together will have a high likelihood of being sustained beyond this grant.

Project Summary

" The community-based survey that will underscore our community education and outreach efforts has been launched. After some time setting up our survey instrument for optical scanning (Tele-Form), Kim White Wolf and Brenda Veit entered the field this past November. Through the end of August, 2006, they have completed ~ 650 door-to-door surveys. They are using GIS technology to geocode participants' location and survey responses. Our UNM partners have received from EPA geocoded, digitized maps of the reservation, and we will be linking the survey results to the reservation map, which includes all water flow and source information, and 6 years of mercury monitoring test results from the Tribe.

" Our UNM partners traveled up to Cheyenne River in November, 2005, and May 2006, to deliver the first two lay health worker trainings. Based on feedback from the first training, we modified both the curriculum modules that are used to educate and train a cadre of tribal environmental health lay workers, and we are re-doubling our community education and outreach efforts. We will have another article in the local Eagle Butte newspaper that will

profile this project and its efforts, we just taped the first of several planned PSAs, and we have finalized the first of a series of environmental justice-themed posters that have been under development for the past six months.

" An oral presentation of the project was submitted, accepted, and delivered by Dr. Henderson to the American Public Health Association's 2005 annual meeting in Philadelphia.

" Conference calls have been coordinated with BHCAIH and UNM at least once per quarter.

During PY-03 we will address several primary objectives. First, we will finish our community-wide survey of approximately 1000 Tribal members, and analyze the data. Second, our UNM partners will travel to Cheyenne River on three more occasions to train a cadre of Tribal members as environmental health lay health workers. Third, we will undertake further efforts to engender widespread awareness and knowledge about the Environmental Justice on Cheyenne River project, through news accounts, radio promotions, and a three-part poster series.

We will continue to work closely with communities on the Reservation as we undertake these activities. This project is truly community-based and participatory, so there will be plenty of community meetings and planning sessions with the Tribe and key community members. Also, regular presentations will continue to be made to the Tribal Council to keep them apprised of our progress.

Public Health Impacts

Our work is slowly changing the knowledge and attitudes of tribal members with respect to environmental health, and local mercury contamination in particular.

An enhanced set of skills is being fostered among tribal members with respect to environmental health, such as survey administration, GPS techniques, public outreach approaches, and collaboration building.

The project is shining the light on water quality issues for many of the reservation's 13,000 residents.

Policy Impacts

We are working with the Tribe to strengthen enforcement of the Clean Water Act requirements by the local water municipality, Tri-County Water, that has recently been taken over by the Tribe.

We are awaiting the outcomes of new Tribal elections this fall to engage the Tribe in a discussion of the possible creation of a new quasi-independent environmental health board with both regulatory and enforcement authorities, in accordance with our final Specific Aim.

Publications

Righting a Century's Wrongs: Environmental Justice on the Cheyenne River Indian Reservation. The 2005 GWS George Wright Society Conference, Philadelphia PA. Format: Abstract (accepted as a Poster) Date: 10/13/04

Environmental justice on Cheyenne River. The 2005 Annual American Public Health Association Conference Format: Abstract (accepted for verbal presentation) Date: 04/15/05

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Community Health Intervention with Yakima Agricultural

Workers

Grant Number: 1R25OH008143-2

NIOSH

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Project Aims

1. Develop structures and processes to facilitate the Hispanic community's involvement in the identification and prioritization of occupational and environmental stressors among farmworkers in Yakima Valley;
2. Create opportunities and mechanisms for this community to understand and actively participate in decision-making related to their occupational and environmental health;
3. Develop an issues driven action plan that focuses on the needs articulated by Hispanic agricultural workers;
4. Cultivate a cadre of new investigators with preliminary training related to the investigation and remediation of occupational and environmental health threats; and
5. Develop a sustainable partnership among the following entities: the Hispanic community in Yakima Valley, community organizations: Northwest Communities Education Center / KDNA and Heritage University, health care providers from the Yakima Valley Farm Workers Clinic (YVFWC), and scientists from the University of Washington.

Project Summary

El Proyecto Bienestar (The Well-Being Project) is community-based participatory research (CBPR) project with the goal of identifying, prioritizing and addressing the occupational and environmental health issues of concern for Hispanic farmworkers and their families in the Yakima Valley, Washington. El Proyecto Bienestar was born in 2003 when a community activist approached researchers at the University of Washington about a grant opportunity through the National Institute for Occupational Safety and Health (NIOSH) to address environmental justice issues.

A Core group of partners was formed by representatives of four organizations: Heritage University, a four-year, independent, liberal-arts school in Toppenish, Washington with a commitment to providing higher education to the local community; NCEC/Radio KDNA, a community-based, nonprofit organization and public Spanish-language radio station with over 25 years of service to the community; PNASH (Pacific Northwest Agricultural Safety and Health) Center, part of the University of Washington (UW) School of Public Health and Community Medicine and a NIOSH-funded agricultural center; and The Yakima Valley Farm

Workers Clinic (YVFWC), a community/migrant health center located in the Yakima Valley. El Proyecto Bienestar also has a Community Advisory Board (CAB) that is made up of volunteers with a wide range of backgrounds from across the Yakima Valley area. The CAB meets on a regular basis to review research and provide input on study design, analysis and communication of results.

El Proyecto Bienestar has several aspects which make it unique:

"The Connecting Students to Health Careers (ConneX) is a program for Yakima Valley undergraduate students interested in perusing health careers. The program was created and is administered by the YVFWC. El Proyecto Bienestar added a UW-accredited course on Environmental and Occupational Health. The final project of the course is a field work project related to El Proyecto Bienestar. Students learn how to design a study, collect their own data, carry out basic analysis and then present their findings to the CAB and Core. Many of these students stay active in the project after finishing the course.

"Data collection for El Proyecto Bienestar has included a variety of methods to identify and understand all possible concerns before prioritizing them. ConneX students have carried out over 600 community surveys over the course of three summers. Two sets of key informant interviews were also conducted to gather more in-depth information. All data collection instruments are reviewed by CAB and Core.

"A Town Hall Meeting was held in April 2006. The Core and CAB presented a list of the findings and then an open microphone session allowed participants to add other issues they felt were not adequately represented. New issues were added to the list and participants then voted on the most important issues for El Proyecto Bienestar to work on. This was the beginning of the prioritization portion of the project.

"Consensus decision making serves as the model for all decisions made by El Proyecto Bienestar. All partners review decisions, written material, study design, and data analysis. Any partner may block a decision or an action.

Public Health Impacts

Town Hall Meeting held, increasing public participation in decision making and priority setting regarding environmental and occupational health research.

Policy Impacts

Local Partners involved in environmental and occupational health research have policy to approve all decisions via consensus.

Publications

Karen Snyder, Samuel Martinez. El Proyecto Bienestar: A Community Health Intervention with Yakima Agricultural Workers. Hartford, CT: Crossroads: Critical Issues in Community-Based Research Partnerships. Format: Poster Date: 6/11/04

Matt Keifer, Samuel Martinez. El Proyecto Bienestar: A Community Health Intervention with Yakima Agricultural Workers. Albuquerque, NM: Annual Grantee Meeting of the Environmental Justice and Community-Based Participatory Research Programs. Format: Presentation Date: 6/14/04

Benavides, M., J. Crowe, C. Daniel, M. Padilla, V. Ruiz. El Proyecto Bienestar: A Community Based Participatory Research Project, Portland, OR: Western Migrant Stream Forum n2006. Format: Presentation Date: 1/30/06

Noe Cardenas, Maria Valencia, Marisela Guzman (ConneX students). An Initial Investigation of Environmental and Occupational Health Concerns among Yakima Valley Residents by

ConneX Students. Troutdale, OR: Cultivating a Sustainable Agricultural Workplace. Format: Poster Date: 9/12/04

Julie Postma. Community Based Participatory Research and Process Evaluation: A Review of the Literature. San Diego, CA: Western Migrant Stream Forum. Format: Poster Date: 1/29/05

Noe Cardenas, Jon Hofmann. An Initial Investigation of Environmental and Occupational Health Concerns Among Yakima Valley Residents by ConneX Students. San Diego, CA: Western Migrant Stream Forum. Format: Poster Date: 1/29/05

Matt Keifer, Jon Hofmann, Noe Cardenas. Yakima Valley Students Speak Out: Increasing Community Participation and Improving Research Strategies through Student Involvement in El Proyecto Bienestar. San Diego, CA: Western Migrant Stream Forum. Format: Presentation Date: 1/30/05

Jen Crowe, Matt Keifer. Proyecto Bienestar □ Un Proyecto Comunitario Colaborativo con los Trabajadores Agrícolas Hispanos en el Valle de Yakima, Washington, EEUU. Costa Rica: III Conferencia de Salud Ocupacional y Ambiental en las Americas 2005 (Third Annual Conference on Occupational and Environmental Health in the Americas 2005). Format: Poster Date: 2/6/05

Julie Postma. Community Based Participatory Research & Process Evaluation: A Review of the Literature. Seattle, WA: Education and Research Center, University of Washington. Format: Presentation Date: 2005

Julie Postma. Consensus as a decision making model in El Proyecto Bienestar. Portland, OR: Western Migrant Stream Forum Format: Poster Date: 1/29/06

Jennifer Crowe. Key Informant Perceptions of Environmental and Occupational Risks for Agricultural Workers in Yakima Valley, Washington as a part of El Proyecto Bienestar. Seattle, WA. Format: Thesis Date: June 2005

Liz Hom. Preliminary analysis of environmental and occupational health concerns in key informant interviews with Community Advisory Board (CAB) members of El Proyecto Bienestar, Portland, OR: Western Migrant Stream Forum, 2006. Format: Poster Date: 1/29/06

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Healthy Homes and Community for High Point

Grant Number: 1R25ES012584-01

NIEHS

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Project Aims

The primary aim of our project is to implement and understand how multi-level strategies at High Point, a public housing site, can improve the health and environment of an ethnically diverse and low income community in West Seattle, Washington.

The multi-level strategies include a healthier community, innovate new housing for people with asthma, clinical asthma care, in-home education and resident empowerment. The goal is to improve the health of the community through capacity building of residents and community partners, community-based and peer education, in-home asthma intervention, new construction and scientific evaluation. High Point, formerly a 716 unit public housing project, is being rebuilt into a 1600 unit mixed-income and mixed-use neighborhood.

In addition to NIEHS funding, Neighborhood House, in partnership with Seattle Housing Authority, University of Washington and Public Health Seattle & King County, received a \$850,000 grant from Department of Housing and Urban Development-Healthy Homes and Lead Hazard Control Program. The grant is supporting the construction of 35 specially designed Breathe Easy Home that address the needs of individuals and families with asthma. We are using a longitudinal cohort design to evaluate the effectiveness of these homes in reducing asthma morbidity.

Both NIEHS and HUD grants operate under the umbrella of High Point Healthy Homes and Community Project.

Project Summary

We are building community capacity to improve health by building a durable, multidisciplinary, collaborative partnership that includes residents, community based organizations, health professionals, environmental scientists, public housing staff and local government agencies.

Project activities include:

1. Establishing a partnership where community residents are active participants with decision making power, involved in implementation of projects and participate in interpretation and dissemination of evaluation findings.
2. Mobilizing residents and community-based agencies to understand identify and address environmental justice and health issues.
3. Providing culturally and linguistically appropriate peer education and assistance to help residents improve indoor and outdoor environmental quality and community health.
4. Developing an intergenerational team of community members that reaches out across linguistic and cultural differences to engage the entire community, in improving environmental quality and reducing asthma risk factors. Team members provide home visits to assess

indoor environmental quality and support residents with information and resources to improve it. Other activities include street and pedestrian safety and community stairway to promote physical activity.

5. Creating 35 new homes with special features to address the needs of children with asthma.
6. Creating new patient assessment and education protocols at the High Point Community Clinic to address asthma related health concerns.
7. Evaluating the effectiveness of the Project Action Team and clinic interventions using a mixed-methods case-study design.
8. Assessing the impact of the High Point redevelopment on the quality of the built environment, physical activity and health using a repeated-measures cross-sectional survey.

Public Health Impacts

Building community capacity to recognize and address environmental health and justice issues.

Increasing community knowledge of indoor and outdoor environmental quality, participation in community education, community building and community cohesion.

Increasing physical activity and actions to reduce exposure to environmental hazards.

Decreasing asthma morbidity.

Developing empirical data to understand the impact of the built environment on health.

Policy Impacts

Improve the quality of public housing with a focus on improved indoor environmental quality.

Improve the public housing built environment to promote physical activity, community safety and community cohesion.

Involve community residents in decision making.

Develop resident capacity to influence public housing and neighborhood safety.

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Diné Network for Environmental Health

Grant Number: 1 R25 ES013208-01

NIEHS

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Project Aims

The goal of the DiNEH Project is to build environmental health capacity in the Eastern Agency of the Navajo Nation through collaborative work focused on the identified community concern of safety of unregulated drinking water sources. The project will educate community members and leaders about the possible role of water-borne toxicants in disease causation, increase community capacity to carry out environmental health studies and influence public policies to promote safe drinking water, and increase communication among project participants and other groups in the region that are addressing environmental health concerns. These goals will be realized by undertaking the following Specific Aims:

1. To inventory and map unregulated water sources in 20 chapters of the Eastern Navajo Agency and determine human use of those water sources for drinking water through point-of-use surveys;
2. To assess water quality in 60 water sources used for human consumption by members of those chapters;
3. To estimate public exposure to uranium and other toxicants from water-use patterns, location of residences near uranium mines and other contaminant sources, and past and current occupational histories;
4. To reduce exposure to unsafe drinking water through identifying safe alternatives.

Project Summary

The DiNEH Project has completed surveys in 9 of the 20 chapters of Navajo Nation participating in the project, with 3 in progress and 2 in recruitment and scheduled for completion by the end of the year. 14 water sources have been analyzed to date and evaluated for safety as drinking water, livestock water, or domestic water sources. Remaining sampling has been delayed to ensure that those source most used by the survey participants are captured. A system for notifying chapters of water quality has been developed whereby the utility of the water source for each of the uses is graded with a red stop sign (unsafe), a green go light (good for that use), or a yellow caution sign (use source with caution). Results are reported back to the chapter along with a photo of the water source. Cumulative results from all media are presented in a binder that will be available for reference at each chapter house. Additional resources have been added to the project through participation of students from Stanford and Tufts. The Stanford effort has allowed us to collect soil, sediment and air samples in one of the chapters, identifying potential risks from elevated soil concentrations of uranium in one community. The Tufts effort is elaborating on that initial sampling by developing complex transport and deposition models including natural and anthropogenic source points identified in one chapter. The detailed

assessment from this effort will improve our ability to identify factors contributing most heavily to contaminant transport, thereby improving our predictions of exposure in other chapters.

The capacity building efforts of the DiNEH project have resulted in elevating the level of awareness of environmental health concerns associated with exposure to natural and anthropogenic sources of uranium throughout all participating chapters, as well as in a variety of agencies within Navajo and the state of New Mexico. Project community staff have presented on scholarship to international and national meetings, and have been invited to return and present again to the International Network of Indigenous Health Knowledge and Development at their annual meeting in New Zealand.

The capacity building supporting through the DiNEH project will also expand through a planned transition to an RO1 funded assessment of Kidney Health as a function of exposure to uranium and other heavy metals through occupational and environmental exposures. That work was funded in July of 2006 and will extend the work of the partnership to develop an integrated exposure model, identify markers of kidney damage specific to the proximal tubules, and ultimately develop an integrated model of risk factors for kidney disease in this population. Partnership with the local I H S area office and local hospitals will allow this information to be integrated into early diagnosis and treatment of disease as results are obtained.

Public Health Impacts

Identification of risks associated with use of specific water sources and communication of this information to chapters to ensure users are informed of risks and can modify their use.

Identification of risks from uranium in soils in one community have led to not only chapter level meetings to present results, but in-home meetings to discuss exposures and risks. Residents have requested sampling of plant and animal tissues to identify safety of their food sources, and the project is in the process of requesting approval for those analyses from Navajo Nation Human Research Review Board.

The network developed by the project, and the continual updates to the chapters, have become recognized beyond Navajo Nation. Dr. Lewis has been invited to present grand rounds on heavy metals, uranium, and kidney health at Rehoboth McKinley Christian Health Care Services (RMCHCS). RMCHCS includes the hospital (Rehoboth McKinley Christian Hospital)(small community and rural non-profit), three outpatient clinics (College, Red Rock and Vanden Bosch), three dialysis units (in Gallup, Zuni and Crownpoint), a behavioral Health Services and a Home Health/Hospice unit. They are an 89 bed hospital that employs 650 full time employees with over 60 physician employees. Learning about the project was the first introduction of this group to environmental health as something necessary to incorporate in their practice. The group also invites adjacent Gallup Indian Health Service physicians and staff to participate in their grand rounds.

Policy Impacts

Soil data collected by the project showing elevated uranium in one community at concentrations posing health risks to residents have been used by the community in discussions with EPA region 9, requesting clean-up of an adjacent mine site be expanded to include the contaminated soils.

Project documentation of usage patterns for unregulated water sources, combined with water quality data and health risk information generated by the project has led Navajo Nation EPA in conjunction with I H S to request collaboration with the project in identifying areas most in need of expanded public water supplies based on usage and water quality. Because of this interest, Navajo EPA will contribute resources to DiNEH in the coming year for sampling of additional water sources.

Publications

Lewis, Johnnye L. Briefing on Status of Uranium Research on Navajo Nation
Prepared by request of Joe Shirley, President, Navajo Nation Format: Report Date: Feb 2005

Sesschillie, Bess; Manning, Thomas; Elwood, Jerry; Adeky, Sarah. Briefing to Chapters
Powerpoint presentation to update participating chapters on project status Format:
Presentation Date: May 2005

Lewis, Johnnye L.; Chris Shuey; Edward Carlisle; Thomas Manning . Environmental Health
Capacity Building in the Eastern Agency on the Navajo Nation. in Disparities in Vulnerable
Populations: Responses in Home, School, and Community Settings, American Public
Health Association Annual Meeting, Washington DC, Nov 2004

Poster presented by 4 Navajo Community members, SRIC and UNM staff, All participants
also helped to staff NIEHS COEP booth at the meeting Format: Poster Presentation Date:
Nov 2004

Lewis, J. Science/Community Partners: Building Capacity & Resolving Environmental
Injustice. oral presentation in symposium Format: Invited Oral Presentation Date: Jan 2005

Water, Land Use, and Health

Survey Instrument in English and Navajo

Also being utilized in part to identify water-use patterns by the Cheyenne River Sioux Tribe
Format: Survey Instrument Date: June 2005

Lewis, Johnnye L.; Manning, Thomas; Sesschillie, Bess; Elwood, Jerry; Shuey, Chris; and
Adeky, Sarah. DiNEH Project: Diné Network for Environmental Health. Oral presentation to
Navajo Nation Human Research Review Board Annual Research Conference, Window
Rock, AZ, June 2005 Format: Oral Presentation Date: June 2005

Manning, Thomas; Shuey, Chris; Lewis, Johnnye. DiNEH Project: Diné Network for
Environmental Health. National Institute of Environmental Health Sciences Annual
Environmental Justice Grantees Meeting, Albuquerque, NM. June 2004 Format: Poster
Presentation Date: June 2004

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Environmental Health and Justice in Norton Sound, Alaska

Grant Number: ES014308

NIEHS

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Project Aims

With this project, we focus our work on known and previously unexamined contaminants that may be important factors affecting the environmental health of Alaska Native communities in the Norton Sound region, including Brevig Mission, Diomedes, Elim, Gambell, Golovin, Koyuk, Saint Michael, Savoonga, Shaktoolik, Shismaref, Stebbins, Teller, Unalakleet, Wales and White Mountain. The Nome Eskimo Community and the villages of Council, King Island, Solomon and Mary's Igloo are also included in the scope of this project. (The governing councils for these four villages and the Nome Eskimo Community are based in Nome.) The purpose of this project is to work in partnership with the fifteen communities of Norton Sound and the five village councils based in Nome to find effective means to limit the release and mitigate the human health effects of environmental contaminants.

The project has these specific aims:

1. Work with village leaders and regional health care administrators to increase the capacity of the health care system in Norton Sound to diagnose and treat human health problems associated with environmental contaminants.
2. Through the development of an environmental health care curriculum and sponsorship of a series of seminars on environmental health problems, provide forums for health care professionals in the Norton Sound region (including village health aides) to discuss diagnosis and effective treatment of the human health effects of environmental contaminants.
3. Work with regional health care professionals and village leaders to design protocols for conducting research on contaminants that may be important factors affecting the health of the communities so that Norton Sound residents can be fully engaged in health studies planned for the region.
4. Sponsor teleconferences and meetings to foster communications among the Norton Sound villages and with other communities throughout the global Arctic in order to enhance capacity to reduce the impacts of globally transmitted contaminants and the effects of global warming on the transport of contaminants to the health and well being of Arctic people.
5. Describe the contaminants that exist at FUDS on St. Lawrence Island to better inform ongoing remediation efforts there and to provide a checklist for what contaminants may be expected at other FUDS in the Norton Sound region.
6. Describe other FUDS in the Norton Sound region and collect data regarding the nature and extent of contaminants that were left at these sites.
7. Collaborate with leaders of villages in the Norton Sound region to develop strategies for securing effective state and federal action to address FUDS near their communities and to get these sites remediated to the highest levels possible.

8. Develop training programs in partnership with Norton Sound communities to achieve effective community oversight of state and federal programs designed to assess and remediate FUDS.
9. Assist Norton Sound communities in securing the training and tools needed to establish independent programs operated by the villages to monitor contaminants in their communities.
10. Provide a model for a regional strategy to address impacts of environmental contaminants that can be applied throughout rural Alaska where subsistence economies are predominant.

Project Summary

Our project builds on the successful work we did with funds provided in 2000 by the NIEHS Environmental Justice: Partnerships in Communication grant program to assist the Yupik villages of Gambell and Savoonga on St. Lawrence Island, Alaska in addressing the impacts of two abandoned military sites on the island. Over the course of four years from 2000 to 2004, we collaborated with the Yupik of St. Lawrence Island to identify sources of contaminants affecting their communities, including contaminants from the formerly used defense sites as well as contaminants transported throughout the circumpolar Arctic by oceanic and atmospheric currents. The collaborative research team worked with village leaders to develop strategies for engaging the U.S. Department of Defense in remediating the formerly used defense sites (FUDS) and preventing new sources of contamination, and the team provided training to village environmental health research technicians. The technicians assisted the research team in the collection of samples and data, and represented the villages in meetings with government agency staff engaged in remediation efforts.

In the course of this project, we are working with regional health care providers to examine the potential human health impacts of contaminants, focusing on incidences of birth defects among the region's population (including low birth weights) and the presence of contaminants in breast milk of new mothers in the region. We are working together with community leaders to identify FUDS in the Norton Sound region and develop strategies for getting these sites remediated in order to limit further contamination. We are also working with community health care providers to develop a training program for village health care aides to identify and treat environmental health problems, and we will use the model we developed on St. Lawrence Island to train village environmental health research technicians in other Norton Sound villages who can assist in the collection of samples and data at FUDS near their villages. These technicians serve as key contacts for state and federal agencies engaged in remediation efforts and for researchers engaged in other contaminants and environmental health research efforts in the region.

During the first year of the project, the research team initiated communications with the community leadership of Norton Sound, Alaska villages by providing written and oral summaries of the environmental and health research plan and obtained advice for the design of upcoming field research concerning the formerly used defense sites. We obtained resolutions for collaborative environmental and health research from villages in the Norton Sound region. We prepared Freedom of Information Act (FOIA) requests to obtain information on the nature and extent of contamination from the formerly used defense sites in the Norton Sound region. The research team prepared a detailed report--Formerly Used Defense Sites in the Norton Sound Region: Location, History of Use, Contaminants Present, and Status of Cleanup Efforts. We conducted environmental research in the field from July 24-August 4, 2006 and environmental investigations of formerly used defense sites on Saint Lawrence Island (Northeast Cape and Gambell), Wales, Elim, and Unalakleet. Field research included sampling of air, water, sediments, and plants in the vicinity of the formerly used defense sites. Analytical work includes congener-specific PCB analysis, pesticides, and heavy metals.

Public Health Impacts

The project provides identification of chemical contaminants from formerly used defense sites and long-range atmospheric transport into the Arctic that have potential adverse health effects on the people living in the villages of Norton Sound, Alaska. We are identifying potential exposure pathways to contaminants through air, water, and traditional foods in order to prevent adverse health outcomes.

The project team is conducting an analysis of contaminants in breast milk, blood serum, meconium, thyroid screening. Working with our Project Advisory Group and regional health care providers, we are designing and conducting a pilot study to analyze the levels of contaminants in breast milk of new mothers in the region. We will collect a maximum of 20 breast milk samples per year over the four years of the project and analyze the samples for congeners of PCBs, including those found at FUDS in region, as well as other persistent organic pollutants.

Researchers are reviewing data from the Alaska Birth Defects Registry extending back to 1970 to document the incidence of birth defects in the Norton Sound region, focusing on those defects known to result from contaminants exposure (unless other causes are specified, such as fetal alcohol syndrome), and compare the frequency of these reported birth defects to national averages. Then working with our Project Advisory Group, we will design and conduct an active surveillance study to gather data on current incidences of birth defects in the region by surveying children's health care providers at the Alaska Native Medical Center and the hospital and clinics in Nome, and Village Health Aides. This work will lay the foundation for future studies and provide baseline data to track trends over time.

Ultimately, the research team aims to reduce and eliminate harmful exposures to contaminants associated with formerly used defense sites and long-range transport.

Policy Impacts

We are working with community leaders in the Norton Sound region to develop strategies for securing effective state and federal action to remediate formerly used defense sites (FUDS) near their communities. This includes training to provide effective community oversight of state and federal programs designed to assess the extent of contamination at FUDS and develop remediation plans, such as training for villagers who are chosen to serve on the Restoration Advisory Boards (RAB) normally established by the Corps as part of a FUDS remediation effort. It also involves linking St. Lawrence Islanders to other Norton Sound communities to discuss their experiences, including the importance of being actively involved in a FUDS RAB.

Residents of the Norton Sound region can minimize exposure to and mitigate the effects of environmental contaminants from military wastes abandoned at formerly used defense sites and from the long-range transport of contaminants throughout the circumpolar Arctic by developing and implementing environmental justice initiatives and health care programs in collaboration with research scientists and health care providers.

The project aims to reduce the impacts of globally transmitted contaminants and the effects of global warming on the transport of contaminants to the health and well being of Arctic people.

The research team is working collaboratively to educate health care professionals about the latest science concerning links between environmental exposures and health outcomes, as well as to diagnose and treat potential adverse health effects that might be related to environmental exposures to toxic chemicals.

Publications

Carpenter, D.O., A.P. DeCaprio, D. O'Hehir, F. Akhtar, G. Johnson, R. Scudato, L. Apatiki,

J. Kava, J. Gologergen, P.K. Miller, L. Eckstein. 2005. Polychlorinated Biphenyls in Serum of the Siberian Yupik People from St. Lawrence Island, Alaska. International Journal of Circumpolar Health 64(4):322-335. Format: Publication Date: 2005

Formerly Used Defense Sites in the Norton Sound Region: Location, History of Use, Contaminants Present, and Status of Cleanup Efforts (July 2006) Format: Publication Date: July 2006

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Building Food Justice in East New York

Grant Number: ES014315

NIEHS

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Project Aims

We propose conducting a series of projects that will address food justice for ENY. The community advisory board and working groups are the cornerstone of this initiative and are ultimately responsible for the visualization and actualization of the goal, increased food justice in ENY. It is through the community outreach activities that the food co-op will be developed, community capacity activities will be formed and communication will transpire. We plan for these components of our model to result in the following outputs: a sustainable food co-op; expanded community capacity around food justice and developed products to communicate research process and findings. We believe these components will result in the goal of increased food justice for the ENY community.

The initiative will consist of projects to characterize the extent of the inequitable healthy food access in ENY; introduce a community driven solution (a sustainable food co-op, health education and screening); and the evaluation of the process and outcomes associated these interventions and their effect on ENY residents.

We will:

- Develop a community advisory board that will expand the members of the ENY-FPC as well as develop sub-committees to actively guide the assessment, implementation, communication and evaluation of the project.
- Conduct a community assessment where we will measure: (a) the local food environment in terms of food store/restaurant location, cost and quality of foods; and (b) the attitudes, perceptions, and knowledge of ENY residents with regard to nutrition and health as well as measure dietary intake.
- Implement (a) the opening of a food co-op in ENY; (b) nutritional and health information classes for ENY residents (including cooking and other nutrition classes); (c) the health screening and services module; (d) training program for medical students and college students on how to collaborate with community organizations; and (e) plans to incorporate the local government to instigate new policies related to food equity for minority neighborhoods.
- Develop and implement a communication and dissemination plan for the food co-op members, ENY residents, health care providers, researchers and advisory board members such that bi-directional communication between groups offers a collaborative partnership for the initiative.
- Evaluate the process and outcomes associated with the implementation of the interventions including: (a) communication; (b) capacity building of community members,

researchers and service providers; (c) changes in individuals attitudes, perceptions, knowledge the relationship between nutrition and health; (d) changes in ENY residents food purchases and diet; (e) impact on students of training program; and (f) impact project has on local, state and regional policy development.

The proposed project is based on work started by Ms. Jones-Daley at the Local Development Corporation of East New York (ENY-LDC). As a community organizer of LDC-ENY and long time resident of ENY, Ms. Jones-Daley has been involved with community members for many years regarding issues of environmental injustice. Through the LDC-ENY, Ms. Jones-Daley has developed the ENY-FPC, with a mission to improve the quality of life of the community through food justice. The ENY-FPC is an action group that develops activities, programs, and workshops to inform community residents and improve food habits. In addition, the Council supports food policies that positively impact and shape ENY community's food access and nutritional health.

Project Summary

During the first year of Building Food Justice in ENY we completed the following program goals.

1. First, elections for the Executive Committee for the ENY Food Co-op Board of Directors has taken place. The ENY community has decided that the ENY Food Policy Council and the ENY Food Co-op Planning group can advise the Executive committee but have no voting power related to the development of the ENY food co-op. The ENY Food Co-op planning group will continue to share the responsibility for the goals of 'Building Food Justice in ENY'.
2. Regarding community assessment, we have conducted food surveys of food stores located in ENY to measure the availability of produce. We are in the process of collecting restaurant menus in ENY to develop a community resource guide to healthy eating and evaluate the food environment. Food access maps continue to be created. We have developed a cross sectional survey questionnaire including the following sections: demographic; health and medical history; purchasing groceries in ENY; perceptions of the neighborhood food environment; 3 day 24 hr recall; self efficacy and nutrition knowledge. In addition, we have conducted focus groups.
3. Regarding implementation, the food co-op location has been rented and will be open in August with a grand opening planned for September, 2006. The health screenings and nutrition education classes were to take place at the ENY Food Co-op, however we have begun implementing the screenings/workshops within the ENY community prior to the opening of the co-op.
4. Finally regarding implementing the training program, we currently have a number of medical students, an anthropology student and masters students who have worked or are currently working on the project.
5. Regarding communication, (a) we have been in negotiations with Rainlake, LCC to develop a contract for their services to film and produce the 40 minute documentary. In addition, Rainlake has expressed an interest in creating a longer film to be funded externally; (b) we have also developed and distributed volume 1, issue 1 of our biannual newsletter in addition to developing informational brochures; (c) ENY food store assessment findings were presented at the American Public Health Association Conference, December 2005; (d) Ms. Jones-Daley was interviewed by National Public Radio, which was broadcasted on WNYC on Thursday December 1, 2005 (All Things Considered);
6. Conducted a school-wide competition for the ENY Food Co-op Logo.

Public Health Impacts

Community organizing around the issue of access to healthy foods and excitement about the ENY Food Co-op.

Health screening and cooking workshops have increased awareness about the food co-op in addition to providing public health education.

Policy Impacts

None at this time.

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Community Environmental Health Studies: Finding Meaning

5 R25 ES12084

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Project Aims

Health studies are among the most common forms of assistance requested of state health departments and non-profit organizations by distressed communities. Beleaguered and understaffed agencies are often skeptical of the value of such studies and their efforts are often unsatisfactory to those who asked for them. It is apparent there are differing expectations and understandings among practitioners and community members about what a health study is and what it can provide.

Working with collaborators with considerable experience in negotiating and using the results of health studies, this project has the following Specific Aims:

1. Obtain information via focus groups and interviews about participants' knowledge regarding health impacts of environmental exposures, and perceptions about what community health studies can and cannot do to determine health impacts in specific communities.
2. Analyze the results of focus groups in partner communities on the North Shore, Massachusetts concerning their perceptions of environmental health studies, supplemented with review of historical material on environmental health studies.
3. Develop, test and produce new educational methods and materials for community groups regarding ethical and scientific challenges and opportunities in environmental health studies.
4. Establish mechanisms for establishing fruitful and satisfying community-researcher relationships.

Project Summary to date

Research on Health Studies: Interviews & Focus Groups

Health Link is a community organization founded to address health concerns on the North Shore, Massachusetts, and their link to emissions from the coal-fired Salem Harbor Power Station in Salem, Massachusetts. Two studies were conducted on the North Shore to address such concerns. *Evaluation of Breast Cancer, Leukemia, and Melanoma Incidence in Marblehead and Swampscott, Massachusetts 1987-1994* by the Massachusetts Department of Public Health, and *Estimated Public Health Impacts of Criteria Pollutant Air Emissions from the Salem Harbor and Brayton Point Power Plants* by researchers at Harvard School of Public Health and Sullivan Environmental Consulting. Project collaborators planned and conducted one dozen interviews with activist residents on the North Shore, members of the area NGOs who provided assistance to Health Link, and with agency representatives involved with the State study. We also conducted

three focus groups on the North Shore: one with “informed” residents of four towns impacted by study findings and neighboring the power plant, and two focus groups with randomly selected residents of the four towns. One group included residents of Salem and Lynn, predominantly low-income and high minority environmental justice communities. The other group included residents of the Towns of Marblehead and Swampscott which are characterized as high socioeconomic status and predominantly white.

Project coordinator Madeleine Scammell, Professor Phil Brown, an environmental sociologist at Brown University, and two doctoral students, Laura Senier and Jennifer Darrah-Okike, are leading the team in the development of two manuscripts describing the methods and findings of the interviews and three focus groups. Findings describe the role of trust in expertise, economic and political power, and tangible evidence as jointly influencing community perceptions of environmental health studies and preferences for involvement in studies. Drafts of the manuscripts were presented in August and September 2006 at the annual conferences of the American Sociology Association and the International Society for Environmental Epidemiology.

Another of Dr. Brown’s sociology students, Angela Hackel, conducted similarly modeled interviews with residents of environmental justice communities in rural Louisiana. Her interview guide was based on our project’s interview guide examining community perceptions of environmental health studies conducted in their community. Ms. Hackel’s work in Louisiana was conducted in collaboration with Douglas Taylor, Executive Director of the Southeast Community Research Center in Atlanta, GA, (and member of the project’s External Advisory Committee). Ms. Hackel defended her Master’s thesis on this topic in April 2006.

Additional focus groups include activist members of ACE (a well-established environmental justice organization in Boston) and Toxics Action Center (a New England-wide environmental health organization that works with many local groups on toxics issues) from different communities in Massachusetts where there has been an environmental health study (e.g., health survey, risk assessment, case-control or cohort study,). These focus groups address the role of environmental justice and the experience of community groups in accessing scientific expertise to address environmental health concerns. Articles describing this work are forthcoming. Community participants in one focus group became so engaged in the process, they are planning to regularly meet and share experience and strategy regarding health studies in their communities and working with scientists.

Guide for Communities on Health Studies

Project staff, Toxics Action Center and Greater Boston Physicians for Social Responsibility have drafted a seven-chapter community guide on the topic of health studies. The purpose of the guide is to help communities determine if a health study is an appropriate response to their concerns, given the scientific and ethical challenges of community environmental health research described in the guide. The guide documents both limitations and constructive aspects of community health studies so that communities can decide on the course of action most likely to be responsive to their concerns.

Chapter titles include 1) Why a health study? 2) Forming your research question 3) Choosing a health study 4) Menu of health studies 5) Who conducts health studies? 6) Key considerations of a good health study, and 7) Interpreting a health study. Incorporated throughout the text are illustrative quotes and narrative from our interviews, focus groups, and scientists working on the project. An appendix to the guide consists of three annotated epidemiologic studies (case-control, cross sectional and cohort) that translate methods and findings to community users of the guide. Leslie Somos, an MPH student at Boston University worked on the annotation with TAC. An additional collaborator on this health studies guide is Stephen Lester at the Center for Health, Environment and Justice (also a member of the project’s External Advisory Committee). Completion and distribution of the guide via hardcopy and internet is slated for Spring 2007.

Workshops and Trainings

Each year, project partners conduct a health studies workshop at the Annual Toxics Action Center conference which attracts nearly 500 participants. Workshops have been led by different members of the project team, including Ms. Scammell, Brent Baeslack, Dr. Richard Clapp. Feedback from earlier workshops has been incorporated into our health studies guide and educational materials. Materials used in workshops and developed during the course of this project include a listing of terms and definitions frequently used when discussing health studies, handouts on the time and costs associated with conducting health studies, a model health survey, and a listing of resources for residents in Massachusetts interested in conducting a health study.

An early version of the health studies guide was presented by Ms. Hackel in the format of an evaluative focus group for residents in Louisiana involved in various local environmental justice organizations.

Other workshops include:

- Two sessions at the River Network's River Rally conference on How to Design Community Health Surveys, and Environmental Causes of Cancer.
- Two sessions at the First National Conference on Precaution in Baltimore, MD
- One evening session with residents of Claremont, NH concerned about incinerator emissions and seeking assistance with a health study.

Community Assistance Database

Over the last two years, project collaborators Alternatives for Community & Environment (ACE), Toxics Action Center and Greater Boston Physicians for Social Responsibility have been working with project staff at BU SPH to design a virtual community assistance database. The database will be located on the internet with password protection, and each of the four partners have identified 1-2 individuals from their organization who will have access to the database when assistance is requested from community groups. The database will merge the expert rosters each organization has developed from their own networks.

ACE has a formal network of attorneys who provide pro-bono legal assistance to community groups. These relationships are brokered via ACE under the auspices of the Massachusetts Environmental Justice Assistance Network. GBPSR has a similar, though less formal, network of physicians from around the country who are willing to make their expertise available to GBPSR. Toxics Action Center primarily has contact with LSP and risk assessors. Each partner organization recognizes that the health and environmental justice problems facing communities today require collaborative solutions and expertise from various disciplines. The database will build relationships between these organizations and the communities they each serve.

Access to experts beyond the reach of the three organizations will be facilitated by a group of environmental justice researchers and advocates formed by Dr. Lopez (Minority Supplement), Prof. H. Patricia Hynes in the Department of Environmental Health and Ms. Scammell. Environmental Justice Advocates and Researchers meets monthly to discuss the research needs of community based organizations and to develop collaborations among and between institutions and community advocates. Participants in the group include researchers at Brown University, Dartmouth College, Harvard University School of Public Health, Northeastern University, Tufts University, the Conservation Law Foundation in Boston, MA, and representatives of EPA Region 1.

Joe Slag, a software developer in Boston, is writing the program on an open source platform with complete documentation to allow other community-university partnerships in the country to adapt the database model.

Biomonitoring Consensus Conference

We are presently organizing a Danish-style consensus conference on the topic of human biomonitoring to take place December 9-11, 2006 in Boston, Massachusetts. Consensus

conferences are a mechanism for simultaneous education and input into science and technology-related policy questions; this will be only the second held in the U.S. It is a unique opportunity to provide non-expert input and recommendations on this important topic to researchers, government bodies, funding agencies, non-profit organizations, and others. Originated by Denmark's parliament to stimulate informed social debate on complex issues facing society to provide a mechanism for public input into science and technology policy, the goal of a consensus conference is to "broaden the debate on a given issue and include the viewpoints of non-experts in order to inform policy-making."

The process involves recruiting a representative "lay panel," to reflect the demographics relevant to the project. In this case, participants on the lay-panel will include residents of the City of Boston and nearby towns. A six page briefing paper has been written by BUSPH doctoral candidate, Jessica Nelson, to provide a comprehensive, unbiased overview of the topic and related scientific, ethical, and legal issues, including areas of potential controversy. Over two weekend-long sessions prior to the public conference, the lay panel will explore the topic via a carefully planned and well-facilitated program of reading, expert testimony, and discussion. Lay panel members develop a set of key questions about which they would like further clarification from experts in the field. The panel's deliberations culminate in a 3-day public forum – the consensus conference – during which experts address the questions posed by the lay panel. The lay panel has the opportunity to cross-examine the experts and ask additional questions. Participation by the public is also encouraged at a certain point during the conference. Over the final afternoon and evening of the conference, the panel summarizes its findings, concerns, and recommendations in a report that is presented at a press event on the third morning of the conference. In Denmark this report is addressed directly to the Parliament. Here in Boston, the report will be distributed to policymakers, the media, academics, and other interested groups.

Consensus conference topics address current controversies, are related to pending legislation or policy matters, and use experts to clarify technical aspects. For the current conference, we will ask the members of the lay panel to consider ethical, legal and social issues related to the use of biomonitoring for health and environmental surveillance in the general population, if and how results of biomonitoring studies should be communicated to individuals and to the public, how to safeguard against potential misuses of the data, and how biomonitoring data should be used in making environmental health policy. The conference follows the National Academy of Sciences report and other recent publications on biomonitoring, and will provide a distinct and important perspective, usually unheard.

Consensus Conference steering committee members include: Lois Adams, U.S. Environmental Protection Agency, Region 1.; George Annas, Boston University School of Public Health.; Tom Burke, Johns Hopkins Bloomberg School of Public Health (and Chair of the NAS Panel); David Carpenter, University of Albany in New York.; Howard Frumkin, Director, *National Center for Environmental Health, Agency for Toxic Substances and Disease Registry*; Carol Henry, American Chemistry Council.; Ted Schettler, Science & Environmental Health Network.

Publications and Awards

Clapp, R. W. 2004. Community-based Health Surveys. *River Voices* 14:17.

Scammell, M. K. 2004/2005. Roots of Community Research. *Race, Poverty & the Environment* XI:23.

Dr. Clapp was the inaugural recipient of the Science for the Benefit of Environmental Health award, which has been established by the Toxics Action Center and the New England Grassroots Environment Fund. The award honors Dr. Clapp's contributions beyond the call of duty, in his research, testimony, and broader assistance to communities and workers across New England and throughout the nation.

Dr. Brown received the 2006 Fred Buttell Award for Lifetime Contribution to Environmental Sociology from the Environment and Technology Section of the American Sociological Association.

JUSTA: Justice and Health for Poultry Workers

Grant Number: OH 008335

NIOSH

Principal Investigator

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Project Aims

The overall goal of this project is to address the health disparities faced by immigrant Latino workers in the poultry production and processing industry in rural, western North Carolina, through a partnership of community advocates from Centro Latino, environmental health scientists at Wake Forest University School of Medicine, and health care providers at Wake Forest University School of Medicine. This partnership is JUSTA, Justicia y Salud para los Trabajadores Avícolas (Justice and Health for Poultry Workers). Workers in the poultry industry in the United States experience a disproportionate share of occupation-attributed musculoskeletal, skin, and respiratory disorders. Recent trends in this industry have concentrated the injuries in a worker population that is poor, minority, and comprised predominantly of immigrants. These workers lack safety and health education aimed at their specific work and social challenges.

To bring about greater social and environmental justice for these workers, the proposed work will have two foci. The first focus is on individual workers and their families, helping them to be more resilient to stressors. This focus recognizes that individuals need to work and that they will continue to work in industries that are detrimental to their health and well-being. The second focus is on the community, strengthening community-based organizations so that they can move toward social and regulatory change and justice. Community advocates, health care providers and environmental health researchers will work together in this project to address five specific aims:

1. To encourage social action by Latino community-based advocacy groups in western North Carolina to effect policies that reduce the burden of occupational and environmental health disparities due to employment in the poultry industry;
2. To construct a foundation to design educational materials and communication strategies to prevent or reduce exposure to physical and social occupational stressors and minimize their effects among poultry worker families in North Carolina; this will include (a) documenting knowledge, beliefs, and experiences of poultry worker families in North Carolina about stressors caused by different types of poultry work as well as methods of protecting themselves and their families from exposure at work and in the home, (b) documenting exposures and outcomes of stressors among poultry worker families, and (c) documenting other occupational and environmental health concerns that arise from discussions with poultry worker families.
3. To develop culturally and linguistically appropriate educational materials and implement programs that will promote ways to prevent or reduce exposure to physical and social

occupational stressors and their effects among poultry worker families.

4. To develop educational materials and implement programs that will better prepare health care providers to recognize and treat with cultural competence illnesses caused by stressors related to poultry production and processing among immigrant families, and counsel families on ways to prevent or reduce exposure.
5. To evaluate the process and outcomes of community participation in this project so that it can be used by other community-based organizations to engage community residents in efforts to reduce environmental and occupational risks in their communities and seek environmental justice.

Project Summary

Specific Aim 1: To encourage social action by Latino community-based advocacy groups in western North Carolina to effect policies that reduce the burden of occupational and environmental health disparities due to employment in the poultry industry.

The collaborating community-based organizations (CBOs), Centro Latino of Caldwell County and (beginning 9/06) Western North Carolina Workers Center, continue to take the lead on this. The directors meet with other CBOs regularly as member organizations of COLA, the Coalition de Organizaciones Latino-Americanas, a collaborative of approximately 25 Latino-led organizations across western North Carolina intent on strengthening grassroots efforts to address problems common to the Latino community, including immigration, labor rights, education and racial discrimination. They also meet with staff from the Center for Participatory Change in Asheville, NC, in a continuing effort to ensure administrative processes and activities that incorporate issues that are central to the community. Plans are currently being developed to hold a conference sponsored by JUSTA and organized by the CBOs to review issues of environmental and occupational health that are identified by COLA organizations. These are expected to include housing, workers' rights, and repetitive motion injuries, among other topics.

JUSTA investigators and staff continue to network on a regular basis with leaders of Latino organizations that will have a state-wide focus. Francisco Rizzo, director of the Western North Carolina Workers Center, And Sara Quandt, JUSTA PI, received a grant from the Poverty and Race Research Action Council to promote the activities of the CBO to bring worker justice issues to the attention of policy maker in the state and region.

The JUSTA advisory board meets quarterly. During the previous project year, they drafted a three-level plan for social action. This includes aiming messages for social action to (1) workers, (2) local non-Hispanic community members, and (3) policy makers at the state and national level. Messages for workers are discussed below under Aim 3. To address the local community, the board has set as a goal to have at least one media story drawing attention to the need for improvement in working and living conditions of Latino immigrant workers every month in the project area. This is accomplished through the distribution of press releases following the release of working papers or publishing of peer-reviewed papers; the WFUSM public relations office has been extremely supportive in drafting and distributing these. They have attracted considerable attention from journalists throughout the state, and have led to investigative journalists following up on stories with their own research and publication. This has also alerted journalists and, through them, the public to other hazards possible for poultry workers, most notably avian flu. To address policy makers, the project continues to produce working papers that are distributed electronically and in hard copy to advocates throughout the state and nation. These advocates have a direct link to policy makers and use data to advocate for improved workplace regulations. In the past year the advisor board has taken a major role in commenting on the direction of the promotora program (Specific Aim 3).

Specific Aim 2: To construct a foundation to design educational materials and communication strategies to prevent or reduce exposure to physical and social occupational

stressors and minimize their effects among poultry worker families in North Carolina; this will include (a) documenting knowledge, beliefs, and experiences of poultry worker families in North Carolina about stressors caused by different types of poultry work as well as methods of protecting themselves and their families from exposure at work and in the home, (b) documenting exposures and outcomes of stressors among poultry worker families, and (c) documenting other occupational and environmental health concerns that arise from discussions with poultry worker families.

During Year 1, in-depth, formative interviews were conducted with 26 current and former poultry workers (all Latino) in the study area. These include persons working in egg producing farms, catchers who are responsible for catching chickens on production farms for transport to plants, and persons working in a variety of jobs at the three companies in the study area. These interviews have been transcribed, translated, and analyzed. As we reported last year, results indicate concerns about respiratory, dermatological, and musculoskeletal impairments which workers believe result from the organization of work and their reluctance to seek care because of fear of job loss, among other reasons. There is also evidence that humoral medicine and other health beliefs common in Mexico affect their interpretation of illness symptoms.

In our continuing analysis, we are examining more subtle issues in the in-depth interviews, most notably power relations in the poultry processing plants and their impact on health. Our analysis shows that workers are affected by racism (whites having power over Latinos), classism (supervisors having power over workers), and documentation status (those with good documents having power over those without documents). These are complicated by kinship (both whites and Latinos give preference to kin in the plants) and sexism (men favor women in allocating jobs and resources). This social organization within the plants puts some workers at greater risk of injury than others, as they are given the worst jobs, fewer breaks, and are intimidated so they do not report abuses. We have presented one paper at a professional meeting, and one under review on this topic.

During Year 2, a survey interview of 200 current poultry workers (100 men, 100 women) was conducted from mid April to mid June to gather further data to accomplish Specific Aim 2. To obtain representative data in this hard-to-reach population, a sampling scheme to spread interviews across residential enclaves occupied by poultry workers was developed. Community interviewers, including former and current poultry workers, were trained and employed. Data collected included: health (symptoms related to occupational illness and injury; depression; anxiety), safety practices, safety climate, work and family interaction, job characteristics, alcohol use, and personal characteristics.

Most of the respondents were less than 35 years of age and had been in the United States less than ten years. Half were from Mexico; about a third were from Guatemala.

Public Health Impacts

Results of Year 1 formative research (in-depth interviews and survey) have been used to develop culturally and linguistically appropriate educational materials and implement programs that promote ways to prevent or reduce exposure to physical and social occupational stressors and their effects among poultry worker families.

Four promotoras have been trained and are now providing lay health education to the Latino worker community.

Continuing medical education materials for health care providers will be distributed in Year 3. These materials will include (1) the recognition, diagnosis and treatment of musculoskeletal, skin, and respiratory illnesses and injuries among immigrant poultry workers, (2) background on the exposures workers receive in poultry processing work, (3) characteristics of immigrant workers and their working conditions that affect health care treatment, and (4)

worker compensation procedures.

Policy Impacts

Project representatives took part in NIOSH-sponsored conference on immigrant workers, and have contributed to published volume from this conference.

Project representatives meet regularly with worker rights advocates to increase public and governmental attention to health issues in this population.

Co-PI Risso serves on the North Carolina Governor's Advisory Council on Hispanic/Latino Affairs. This body advises the governor on a variety of topics that directly and indirectly affect health.

Publications

Quandt SA, Arcury TA. Workers in the Modern Poultry Industry. IN Proceedings from NIOSH Conference on Health of Immigrant Workers, Lowell, MA, September 2004. Format: Government Document Date: In Press

Quandt SA and others. Ethnographic, Anthropological and Other Qualitative Research Methods. IN Proceedings from NIOSH Conference on Health of Immigrant Workers, Lowell, MA, September 2004. Format: Government Document Date: In Press

Hiott A, Grzywacz JG, Arcury TA, Quandt SA. Gender differences in anxiety and depression among immigrant Latinos. Family, Systems, and Health. Format: Journal Article Date: In Press

Quandt SA, Schulz MR, Feldman SR, Vallejos Q, Marín A, Carrillo L, Arcury TA. Dermatological illnesses and injuries among immigrant poultry processing workers in North Carolina. Archives of Environmental and Occupational Health. Format: Journal Article Date: In Press

Quandt SA, Grzywacz JG, Marín A, Carrillo L, Coates ML, Burke B, Arcury TA. Occupational illnesses and injuries among Latino poultry workers in western North Carolina. American Journal of Industrial Medicine. 2006; 49:343-351. Format: Journal Article Date: 2006

Grzywacz JG, Arcury TA, Marin A, Carrillo L, Burke B, Coates ML, Quandt SA. Work-family conflict: experiences, causes, and health implications among immigrant Latinos. Format: Journal Article Date: Under Review

Grzywacz JG, Arcury TA, Marin A, Carrillo L, Coates ML, Burke B, Quandt SA. The organization of work: implications for injury and illness among immigrant Latinos in poultry processing. Format: Journal Article Date: Under Review

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South Valley Partners for Environmental Justice

Grant Number: ES10494-02

NIEHS

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Project Aims

The South Valley Partners for Environmental Justice has four primary aims: 1. To assess the environmental health risks and related health outcomes in the South Valley from community, provider, and epidemiologic perspectives utilizing a variety of methods. 2. To assess the community and health care provider environmental health training needs and to provide environmental health training based on those identified needs. 3. To recruit, train and provide a community forum of environmental health promotoras from the impacted community. 4. To develop a community advisory structure to include the promotoras and their representatives from the area.

Project Summary

Through the implementation of this grant, community residents have increased their awareness and knowledge of the important linkages between their health and environmental quality. When a convenience sample was conducted, residents throughout the South Valley of Bernalillo County consistently stated that their top environmental health concerns were: 1) water quality; 2) air quality, and 3) land use. As a result of this information, partners have worked steadily to develop baseline environmental quality data on acequias and air.

Residents of Mtn. View were concerned about their exposure to volatile organic compounds as a result of industrial emissions. The partners responded to this concern by purchasing air monitoring badges to measure personal exposure to volatile organic compounds. The partners have also succeeded in improving communication between residents in Mtn. View to address the disproportionate environmental burdens experienced by residents due to historically poor zoning decisions.

Finally, the partners continue to train residents on how to monitor their immediate environment through the use of on-site water quality monitoring equipment. The recognition by the partners of the important ties between land-use decisions and health conditions resulted in the partners applying for, and receiving, a second NIEHS grant to try and improve community involvement in land-use decision-making processes since land-use decisions directly impact the quantity of pollutants emitted and/or discharged in neighborhoods.

Public Health Impacts

Community empowerment through residents' increased awareness of their neighborhood's environmental quality.

Improved awareness on ways of minimizing indoor and personal air contamination exposures resulting in fewer exposures to volatile organic compounds.

Policy Impacts

The appointment of community residents concerned about environmental justice issues on important decision-making boards at the local and state levels.

The use of scientifically valid data and background literature by residents resulting in a stronger voice by residents in environmental decisions that directly affect them.

The development of land-use plans that consider the agricultural and cultural heritage of the South Valley.

The development of land-use plans that consider the cumulative impacts resulting from proposed, existing and planned industrial facilities and their impact on the community's health.

Publications

Report to the Community Format: hard copy Date: May 2005

Report back to the Bernalillo County-Albuquerque Air Quality Control Board from the Mountain View Air Quality Team Format: hard copy Date: May 2005

Community Profiles for Mountain View, Pajarito Mesa, Los Padillas and Armijo. Format: hard copy Date: On-going

Development of a fact-sheet on illegal dumping Format: hard copy Date: On-going

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Alton Park/Piney Woods Environmental Health & Justice

Grant Number: ES014317

NIEHS

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N/A

Project Aims

1. To create, implement, and evaluate collaboration among AP/PW neighborhood organizations, health care providers, research scientists, and policy makers to enhance trust and partnerships that promote environmental health and justice.
2. To inventory and build upon neighborhood, local, state, and other resources for adult and youth leadership, educational, and occupational opportunities within the AP/PW neighborhood with regard to research being conducted by the EHJC.
3. To create a neighborhood-based model of information exchange and community outreach about a range of technical, social, economic, environmental, political, and cultural factors with a focus on chemical contamination. This model will be structured to be sustainable over time and to facilitate simultaneously ongoing 1) knowledge, capacity, and opportunity building for AP/PW adults and youths and 2) knowledge and capacity building for public health providers, EHJC researchers, and policy makers about AP/PW neighborhood needs, strengths, and policy preferences.
4. To collect and assess data about neighbors' knowledge of chemical contamination in AP/PW, potential health effects of this contamination, and health risk reduction strategies and tactics.
5. To engage AP/PW adults and youth in data collection, information exchange, collaborative partnerships, and actions that influence policy changes toward improved ecological health and decreased health risk within the AP/PW neighborhood, Chattanooga, and other communities across Tennessee.

Project Summary

Studies and Results

Aim 1

In Year 1, the three primary organizational partners (Alton Park Development Corporation, Southside/Dodson Avenue Community Health Centers, and The University of Tennessee) worked closely together to launch the Alton Park/Piney Woods (AP/PW) Environmental Health and Justice Collaborative (EHJC), a collaborative effort among neighborhood organizations, health care providers, research scientists, and policy makers. The PI and other University of Tennessee (UT) staff completed administrative tasks pertinent to program startup and specific to payroll, purchasing, subcontracts, and general grant management. We successfully completed the Human Subjects Review through the UT Institutional Review Board. Program staff from the AP/PW community were identified and hired □ specifically, a

community organizer and two parttime administrative/technical assistants through the Alton Park Development Corporation (APDC) and an environmental health specialist and parttime outreach/technical assistant through the Southside/Dodson Avenue Community Health Centers (Center). A website is being developed to document the goals of, successes by, and opportunities for participants in the EHJC (<http://chattanooga.creek.utk.edu>).

A process investigation of Year 1 program activities has been implemented and a final report is being prepared. Interview guides and focus group formats were developed along with consent forms to assess program implementation and process. Course evaluation surveys have been developed to assess participants' reactions to and feelings about NEC course content, facilitator knowledge, and facilities/logistics. Researchers and program staff worked together to create a survey instrument to measure general knowledge about the environment (Table 7) and continue to update this instrument as specific learning objectives and goals are presented at each NEC course session. Evaluators have attended all community meetings and NEC courses to inform process evaluation findings.

Aim 2

The EHJC has begun to inventory and build upon local, state, and regional resources for adult and youth leadership and education in the AP/PW. The EHJC forged working relationships with regional leadership development organizations, such as the Southern Empowerment Project, Maryville, TN; Highlander Research and Education Center, New Market, TN; and Project South, Atlanta, GA. Members from these organizations have attended EHJC community meetings, facilitated NEC course sessions, and continue to work to develop opportunities for youth and adult leadership development. With scholarship support provided by these organizations, neighborhood staff participated in several professional development trainings: two EHJC neighborhood staff attended a 2-day leadership development training workshop at the Highlander Research and Education Center in March, 2006; the community organizer attended a youth leadership workshop with Project South in July 2006; and the environmental specialist attended a Southern Empowerment Project community organizing workshop in July 2006. With support from the Center, the environmental specialist attended the Tennessee Minority Health Conference in August 2006. We continue to build relationships with local youth organizations including Girls Inc., the Boys & Girls Club, the YMCA, and the Howard School of Academics and Technology (middle and high school). All three primary partners engage with these and other youth- and community-focused organizations serving the AP/PW neighborhood in a coalition initiated in April 2006 through the Center.

The EHJC has also forged working relationships with the University of Tennessee's (UT) leadership and summer enrichment programs for youth. Representatives from UT's Veterinary School, the School of Agriculture and Natural Resources, and Undergraduate Admissions provided information to community leaders and local high school officials about additional educational opportunities for local youth. To date, one youth from AP/PW has applied to the UT Veterinary School's 2006 summer enrichment program.

Leadership development opportunities are possible via the Neighborhood Environmental College (NEC). Course facilitators and community members together prepared pilot course materials, incorporating ideas of the newly-formed neighbors' planning committee. EHJC neighborhood staff and community members have been identified to facilitate other courses modeled on this pilot.

Aim 3

The Neighborhood Environmental College (NEC) was initiated this year by the EHJC and AP/PW neighbors. The goal of the NEC is to facilitate information exchange and community outreach about technical, social, economic, environmental, political, and cultural factors, with a focus on chemical contamination. Staff conducted a literature review about neighborhood colleges and completed an annotated bibliography to inform and drive the NEC. Community meetings were held to solicit neighbors' ideas about NEC curricula. Eleven interested

members from these community meetings volunteered to form the NEC planning committee and have worked on curricula development and logistics for the pilot course, Contamination and the Chattanooga Creek, which ran in May and June 2006. Eight community members graduated from this inaugural class on July 6 in a ceremony well-attended by graduates' families, friends, and others, including the mayor of Chattanooga and two councilpersons. A workbook based on the pilot course is under development. Based on input from and priorities of the graduates, planners, and from other neighbors during an EHJC neighborhood block party held August 26 2006 with approximately 300 neighbors in attendance, two groups of neighbors, EHJC team members, and key other neighborhood-based organizations (i.e., the Southside Recreational Center, Villages public housing) are preparing the curricula for the next two NEC courses, one on environmental health and wellness, and one on leadership and advocacy.

Aim 4

During year 1, the EHJC developed an instrument to collect and assess neighbors' knowledge of chemical contamination in AP/PW, potential health effects of this contamination, and health risk reduction strategies and tactics. Members of the NEC planning committee reviewed the instrument and made general recommendations. NEC participants will revise the instrument and use it as part of the community outreach piece of NEC courses.

Aim 5

Evolution of the EHJC to include AP/PW neighbors has resulted already in neighbors' engagement in political processes, outreach, and meetings. In conjunction with the EHJC, AP/PW residents have, for example: 1) collected petitions and spoken in successful opposition, at the 4-10-06 meeting of the Chattanooga City Planning Commission, to proposed development of a neighborhood contaminated property for residential use; 2) met with the Hamilton County Health Department on environmental contamination along Chattanooga Creek; and 3) promoted the NEC through fliers, post cards, radio spots, local newspaper, churches, and attendance at other local neighborhood meetings (see Attachment 1). During NEC course sessions, neighbors both informed and queried public officials (e.g., Tennessee Dept. of Environment and Conservation, Chattanooga Brownfields Program Grant manager) about neighborhood environmental conditions and public actions.

Significance

Ongoing environmental health-related research by EHJC collaborators will provide the members of the EHJC and AP/PW neighborhood with additional knowledge relative to sources of contaminants, pathways and exposure points, and their relationship to increased incidence of cardiopulmonary diseases. The EHJC serves to strengthen and build capacity and connections among local citizens and organizations; local, state, and federal government; and the private sector to improve environmental conditions, and by association, economic and social conditions.

Plans

We will continue to build on existing community networks (Aims 1, 2); to develop and disseminate historical data, information from secondary documents, and research findings through conference presentations, journal articles, a newsletter, and the website (Aims 1, 3, 5); and to carry out interviews, surveys, and focus groups for evaluation and NEC outreach (Aims 1-5). The APDC is a collaborator in the newly funded Chattanooga Brownfields Program Grant; we plan to collaborate closely with that Program (Attachment 2). We have begun to harmonize and amplify EHJC environmental health objectives with the research team from the Meharry Medical College/Community Network Project, funded by the National Cancer Institute's Health Disparities Program (Aims 1, 3, 5). We will expand leadership development opportunities for youth and adults (Aims 1, 2, 3, 5). EHJC staff and neighbors

will conduct a site visit to Grace Hill in St. Louis to learn about their Neighborhood College (Aims 2, 3, 5). The community member enrollment and course offerings of the NEC will be expanded (Aim 3). The survey instrument and other methods will be used to assess neighbors' knowledge of chemical contamination in AP/PW (Aim 4). New EHJC participants from the AP/PW community, health care providers, and researchers will exchange information with other communities to influence policy changes toward improved ecological health and decreased health risk (Aim 5).

Publications

Manuscripts are being prepared on technical research related to environmental contamination in AP/PW. Topics include the transport of coal tar polycyclic aromatic compounds (PAHs) during flood events and through fractured limestone-shale saprolite, and the potential effects of PAH exposure on cardiovascular health. In year 1, Dr. McKay highlighted the EHJC in two invited presentations, at the University of Texas in September 2005 and the University of Waterloo in February 2006. Manuscripts and conference abstracts are underway in regard to the neighborhood environmental college (NEC) and community-based participatory research.

Project-Generated Resources (Also see E. above)

We have initiated the NEC and other components of the EHJC's research-exchange structure. In the pilot NEC course sessions, for example, participants, staff, and researchers constructed an event timeline about conditions in AP/PW; hydrogeologists described their Chattanooga Creek research and participants informed them about Creek flooding and other conditions. We are documenting such information to use in future NEC courses, EHJC handouts, other local presentations (e.g., the EHJC has provided short session to summer-program children at the AP/PW Bethlehem Center and has been invited to meet with elder residents also), and other venues. Another strategy for disseminating information while expanding networks and neighborhood capacity is the EHJC Chattanooga Creek Environmental Research and Community Action Conference to be held in AP/PW on September 22 2006. This daylong Conference includes presenters from the AP/PW neighborhood; local, state, and federal government; and technical, social, and public health science research efforts in the AP/PW neighborhood.

Public Health Impacts

Increase resident awareness of environmental health risks, and actions to reduce individual and family risk and exposure, through Neighborhood Environmental College courses and through other neighborhood events and outreach.

Increase residents' knowledge and tools to evaluate, engage in dialogue, and contribute to decision-making processes related to assessment, remediation, and redevelopment of contaminated sites in Alton Park/Piney Woods neighborhood.

Inform researchers and public officials about residents' knowledge about and experience with chemical contamination in the the AP/PW neighborhood.

Collect and assess data about residents' knowledge of chemical contamination in AP/PW, potential health effects of this contamination, and health risk reduction strategies and tactics.

Expand the knowledge base for potential contaminant sources, pathways and exposure points, and their relationship to increased incidents of cardiopulmonary diseases through the EHCJ link to environmental research conducted in Chattanooga Creek and the AP/PW neighborhood.

Policy Impacts

Influence policy changes toward improved ecological health and decreased health risk in the AP/PW neighborhood, Chattanooga, and other communities across Tennessee.

Monitor and influence land use and economic planning decisions in AP/PW related to known or expected chemical contamination and other environmental health concerns through monitoring of city planning efforts and implementation of Brownfields initiatives.

Monitor and provide input into the cleanup of Chattanooga Creek and proposed related developments such as greenways.

Exchange information about environmental health and justice issues and policy alternatives among residents, researchers, and local to national decision-makers, through the Neighborhood Environmental College.

Publications

Neighborhood Environmental College course 1, Format: looseleaf binder and pdf file Date: projected: October 2006

Neighborhood Environmental College course 2, Format: looseleaf folder and pdf file Date: projected November 2007

Neighborhood Environmental College course 2, Format: looseleaf folder and pdf file Date: projected December 2007

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Promoting Occupational Health Among Indigenous

Farmworkers in Oregon

Grant Number: 5R250H008334-02

NIOSH

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Project Aims

1. Identify priorities for workplace safety education, interventions, and policy change for farmworkers speaking indigenous languages, health providers serving this community, and other stakeholders.
2. Build leadership and problem-solving capacity among persons speaking indigenous languages.
3. Collaborate with community agencies, activists, and advocates serving indigenous workers to develop strategies to increase the workers' knowledge and use of resources on priority issues.
4. Develop educational materials relevant to the health and safety of indigenous farmworkers and disseminate these materials via multiple mechanisms.
5. Increase the agricultural community's knowledge of the needs of indigenous farmworkers.
6. Develop sustainable programs to improve the health of this population and to create effective identified priorities.
7. Develop a successful partnership including representatives from the farmworker communities, health providers, and environmental scientists through this Project.

Project Summary

The Project works to develop community-based strategies to address the occupational health concerns of indigenous farmworkers in Oregon and to develop innovative methods to improve the capacity of migrant farmworkers who do not speak English or Spanish to understand the hazards associated with agricultural work and increase their access to economic, health and social services. During the past two years the Project's primary focus has been on investigating the needs of indigenous speaking farmworkers to identify priorities for workplace, education, intervention and policy change. We have conducted eight focus groups, six with indigenous and Spanish speaking farmworkers conducted in Spanish and indigenous languages, primarily Mixteco. Project partners, especially the indigenous speaking community educators led this effort. Additionally we are in the process of completing 150 surveys of indigenous speaking and Latino farmworkers to further identify their occupational safety and health priorities including what are the preferred methods of obtaining information and training. In the third year of the Project we will develop and implement a peer educator program consistent with our aims in building and supporting leadership and problem-solving capacity among migrant and seasonal farmworkers persons speaking indigenous languages.

Public Health Impacts

Medical provider partner in this Project has dramatically improved the access of indigenous speaking patients to its clinic through the efforts of the indigenous speaking patient/advocate who is able to provide culturally and linguistically-appropriate health education and orientation at the clinic and in the fields to indigenous farmworkers.

A recurring theme that appeared from the focus groups of indigenous farmworkers was the exposure to numerous occupational hazards and general lack of safety provisions available to the workers. The focus group participants stated that they suffered from ailments that are potentially related to occupational hazards such as runny nose, stomach aches, swollen joints and fevers. Two in particular were: exposure to pesticides and other hazards, and a lack of training and protection.

Indigenous farmworkers face greater barriers in reporting injuries at work due in part to the difficulties in communicating with supervisors and a feeling that there are no legal protections.

No formal interpreter certification program on indigenous languages exists in Oregon or nationally. However, there is a growing need for qualified interpreters of indigenous languages of Mexico in both legal and medical fields. The partners in this Project have continued their efforts to work with the State of Oregon to increase the numbers of trained indigenous speaking interpreters in the medical field drawing from former indigenous farmworkers within the community.

The focus group participants had not had much interaction in the U.S. with community health workers, or promotores de salud, but they identified the need for such community outreach worker and interpreter. The Project is working on such a model currently.

Policy Impacts

The Project's efforts has begun to open the road to better understanding of the demographics of farmworkers engaged in labor intensive crops in Oregon. This is essential and timely information for those responsible for enforcing and regulating the occupational safety and health provisions as well as health care providers and other social service organizations in Oregon.

The multi-disciplinary approach in this Project has at least locally begun the effort to examine ways in which to systematically address the occupational health and safety issues of indigenous speaking migrant and seasonal farmworkers.

This Project has provided a rare opportunity for indigenous speaking farmworkers to lead the way in examining the occupational health issues of indigenous farmworkers and explore ways in which to address the barriers to improved work environment including training, reporting and communication and distribution of relevant and timely information on occupational safety and health for agricultural farmworkers in the fields.

A re-evaluation of the training materials on Occupational health and safety materials available to migrant and seasonal farmworkers may be necessary. As an example use of cassettes tapes and CD on occupational health issues in appropriate indigenous languages appear to have much more relevant application than the written brochures in Spanish identifying a possible successful method of reaching an increasing diverse farmworker population with no uniform written languages.

Indigenous Farmworkers identified the lack of appropriate occupational training and equipment as a high priority in addressing their occupational safety and health concerns. They emphasized that much of their training is

Publications

Northwest Health Foundation 2nd Annual Conference in partnership with the Community Collaborative Research to Improve Health. (Using an interactive presentation the Project covered examples of effective outreach methods to indigenous speaking farmworkers). Portland, Oregon. Format: Presentation Date: Sept 2005

15th Annual Western Migrant Stream, the Project presented: Meeting the Unique Needs of Indigenous Farmworkers, to improve health providers' understanding of cultural traditions and health care beliefs of indigenous farmworkers and solutions on how to overcome barriers to effective care. Portland, Oregon. Format: Presentation Date: Jan 2006

National Farmworker Health Conference, Project presented: Meeting the Unique Needs of Indigenous Farmworkers, to improve health providers' understanding of cultural traditions and health care beliefs of indigenous farmworkers and solutions on how to overcome barriers to effective care. Texas Format: Presentation Date: May 2006

American Public Health Association Annual Meeting, Philadelphia, Penn. Format: Poster Date: Nov 2005

15th Annual Western Migrant Stream, Portland, Oregon. Format: Poster Date: Jan 2006

NIEH/NIOSH-Grantee Annual Meeting, Alaska. Format: Poster Date: Sept 2005

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South Valley Partners for Environmental Justice

Grant Number: ES014347

NIEHS

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Project Aims

- 1) To research the development of a community-based participatory model that integrates the community in land-use planning and decision-making;
- 2) to develop a public media campaign for involving and informing all stakeholders in the initial stages of land-use planning and decision-making;
- 3) to develop an inclusive, community-based land-use decision-making process to incorporate into the current planning and policy processes that will assess and prioritize the relationship of environmental health and quality of life issues associated with land-use decisions;
- 4) Using the community profiles developed in the previous grant develop a user-friendly geospatial database identifying hazardous waste sites, permitted release sites, existing environmental monitoring data and demographic data on socioeconomic and other risk factors;
- 5) Ensure continuity of the process by working with community partners to identify, train and develop community leadership utilizing the promotor model.

Project Summary

The hypothesis of this project is that community-based participatory methods can be used to develop an inclusive, participatory process for land-use decision-making that will lead to urban development based on Smart Growth Principles, thereby resulting in healthier, sustainable communities while incorporating the historical community's land, water and cultural traits. Through the prior work of the SVPEJ, land-use was identified as a key factor underlying the environmental injustices faced by residents of the South Valley. This prior work has set the stage for establishing an inclusive communication model that maximizes community participation in land-use decisions.

Public Health Impacts

Improved health status based on community-input and meaningful community participation into land-use decisions that have a direct impact on residents' quality of life.

Promotion of pollution-free industrial development and refinement of permitting processes by requiring a cumulative impact assessment as part of the permitting process to demonstrate no adverse affects on an impacted community's health, environment or cultural resources, leading to fewer exposures to hazardous pollutants.

Empowerment of community through the incorporation of meaningful community involvement in decisions that directly affect community residents.

Policy Impacts

Ideally, a state-wide environmental protection act that requires the preparation of cumulative impact assessments as part of the environmental permitting process.

Changes in local zoning and increased awareness of historically poor zoning decisions whereby industrial development occurs adjacent to residential properties with little or no buffer zones.

Increased awareness of state and local elected officials around environmental justice issues, namely disproportionate environmental burdens for identified communities of low-income or people of color status such as Mtn. View.

The placement of community members interested in environmental justice issues on local planning boards and air quality control boards.

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Work Environment Justice Partnership for Brazilian Immigrants

in Massachusetts

Grant Number: 1 R25 ES012588-1

NIEHS

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Project Aims

1. To collect data on demographics, workplace hazards, immigration, and cultural experiences of Brazilian immigrant workers in Lowell and East Boston.
2. To identify work environment hazards of cleaning houses and commercial businesses, gardening and groundskeeping, food preparation and service in restaurants, as well as of other workplaces perceived as priorities by community members.
3. To develop culturally, linguistically, and literacy appropriate curricula and educational materials to disseminate information on work environment hazards to the Brazilian community. We will use materials already developed by Brazilian union health and safety educators as a potential source for education materials and curricula.
4. To recruit and train a team of peer-trainers/advocates in teaching techniques and methods to educate low-literacy Brazilian immigrant workers in health and safety awareness.
5. To create a team of peer-trainers/advocates to educate Brazilian immigrant workers on work environment hazards and exposures in service sector businesses, in particular but not exclusively, in domestic and commercial cleaning, food preparation and service in restaurants, and gardening and groundskeeping businesses.
6. To design research and policy strategies to minimize occupational health risks associated with Brazilian immigrant worker exposures to job hazards in janitorial and food preparation work, gardening and groundskeeping.
7. To strengthen the partnership among primary health care providers, a community-based organization, and the university, expanding the previous work done by UMass Lowell in environmental justice to include a new work environment justice partnership with the Brazilian community.
8. To evaluate the accomplishments of the partnership and activities implemented over the course of the project with community-based participatory methods.
9. To integrate peer-leaders/advocates in the MassCosh immigrant health and safety network.
10. To facilitate communication between academics, health care providers, community groups and city and state officials interested in the immigration experience of the newcomer Brazilian community.

Project Summary

Partnership for Communication:

The Collaboration for Better Work Environment for Brazilians in Massachusetts, COBWEB

or Projeto Parceria in Portuguese, has strengthened the partnership with the original partners- the Lowell Community Health Center, the University of Massachusetts Lowell, the Brazilian Immigrant Center, and the Massachusetts Coalition for Occupational Safety and Health. It has also developed new ongoing partnerships with the Occupational Health Surveillance Program of the Massachusetts Department of Public Health, and the New England Regional Office of the Occupational Safety and Health Administration (OSHA). The joint work of these and other partners has been essential to collect and disseminate information, and to search for solutions for a variety of workplace hazards faced by Brazilian immigrant workers in Massachusetts.

Assessment Research:

The project has collected over six hundred surveys about the working conditions, demographics and health issues affecting Brazilian immigrant workers. It is expected that by the end of 2006 survey results will be available for publication and dissemination. Project staff has collected about 110 worker compensation cases and in-depth descriptions of all workplace fatalities of Brazilian workers since 1990. Analysis of this data will be finished by early 2007. In addition, project staff identified and analyzed chemical, physical, and ergonomic hazards in housecleaning and construction jobs held by Brazilians. Project staff have collaborated with the Occupational Safety and Health Administration's (OSHA) investigation of a fatality of a Brazilian worker in a granite cutting shop in Marlborough, Mass. As a result of this fatality, project staff assessed the workplace health and safety conditions of Brazilian workers in the granite cutting industry in Massachusetts. In addition, project staff assessed the workplace hazards faced by Brazilian roofers through a partnership with OSHA and a small roofing company owned by Brazilian immigrants.

Implementation:

Project staff trained over 400 Brazilian housecleaners and construction workers in the last three years, mostly in Brazilian churches. The project has held two community breakfasts- one in Lowell and one in Boston- to discuss health and immigration issues affecting Brazilians in Massachusetts. Project staff continue to do outreach to Brazilian churches in Eastern Massachusetts.

Staff have been involved in medical interpretation, referral and follow up of patients, intake and referral of worker compensation cases, and outreach work in Lowell and Allston. Representatives of MassCosh, UMass Lowell, and the Occupational Health Surveillance Program Mass Department of Health trained primary care providers from the Lowell Community Health Center in occupational health and safety in 2005. Project COBWEB staff together with the Massachusetts Coalition for Occupational Safety and Health (MassCosh) staff and teenage peer-leaders trained a new group of four Brazilian teen peer-leaders to identify and recognize hazards faced by teenagers who work in retail, especially violence in the workplace. The COBWEB teens used an interview guide to interview and do outreach to small business owners in Allston, MA.

Communication and Dissemination:

Project activities have included: a one-hour weekly radio program at the UMass Lowell radio station, weekly columns in ethnic newspapers published in Portuguese, a DVD filmed and produced by Brazilian immigrants about the work experience of Brazilian immigrants. Project staff, staff from the Brazilian Immigrant Center and from the Occupational Safety and Health Administration distributed health and safety materials, brochures, and publications during the Brazilian Independence Festivals of 2005 and 2006.

Hundreds of fact sheets have been distributed to Brazilian businesses and community members who visit the Lowell Community Health Center and the Brazilian Immigrant Center.

The PI has been interviewed by newspapers in English and Portuguese in Boston and Framingham (Metrowest Daily News). The Wall Street Journal published a report on Brazilian housecleaner businesses in Framingham, Massachusetts, in its front page. In addition, several major newspapers published in Brazil, such as Folha de São Paulo, O Globo, Correio Braziliense- interviewed project staff and published reports on activities of Project COBWEB. The British Broadcasting Corporation (BBC) published and broadcast a special report on the health and safety of Brazilian housecleaners in the Spring of 2006. The media outlets TV Bandeirantes, Radio Eldorado, and CB 21 TV channel aired the report in Brazil. In addition, the report was posted in the Portuguese version of the BBC website.

Public Health Impacts

Trained over 200 Brazilian construction workers about the most important construction job hazards faced by Brazilian construction workers.

Continued to develop bilingual safety alerts about workplace fatalities of Brazilian workers, in collaboration with the Occupational Surveillance Program of the Massachusetts Department of Public Health.

Referral of dozens of worker compensation cases to worker compensation attorneys, who have been able to work with the Brazilian Immigrant Center to collect and disseminate information about the types of health and safety violations faced by their clients.

Project COBWEB partners have worked with OSHA Region 1 to implement the Special Emphasis Program targeting the Granite Construction industry in Massachusetts and New England. This Program resulted from fatalities and injuries of Brazilian immigrant workers in the last few years.

Policy Impacts

Project partners have collaborated with MassCOSH to support legislation to reform Massachusetts Child Labor law (HB4638) to prohibit teenagers from working alone after 8:00 pm and give the state Attorney General authority to fine employers who put teens at risk. This bill is the final stages of approval.

COBWEB teens and the MassCOSH Teens@Work have collaborated in a Workplace Violence Campaign, which includes writing an ordinance to the City of Boston to increase training and protection of teenagers against violence in retail workplaces. City officials have engaged the teens in discussing ordinance language.

The Brazilian Immigrant Center, OSHA Region 1, and the Massachusetts Division of Occupational Safety's consultation program launched an Alliance on April 3, 2006 to improve the safety and health of Brazilian immigrant workers and business owners in Massachusetts.

All partners of Project COBWEB spoke and submitted written comments for the National Institute of Occupational Safety and Health (NIOSH) town hall meeting held at UMass Lowell on March 20, 2006. The town hall meeting aimed at hearing stakeholders' views regarding NIOSH's National Occupational Research Agenda (NORA). In addition, the Principal Investigators of three Environmental Justice Projects in the Boston area coordinated their joint participation in the NORA meeting. The projects are the Dorchester Health Initiative, the COBWEB project, and the project Assessing and Controlling Occupational Risks Among Immigrants in Somerville, MA.

Joint work between project partners and other immigrant rights organizations to influence the Mass Department of Industrial Accidents (DIA) to improve enforcement of worker compensation laws in the state. A coalition of immigrant worker organizations has initiated a dialogue with DIA officials to review procedures and guidelines for worker compensation cases involving immigrant workers.

Publications

Our Dream, My Reality Format: DVD Date: 2006

Saúde e Segurança do Trabalho do Brasileiro em Massachusetts: A Experiência do Projeto Parceria

Travessia, 55, 2006. Format: journal article Date: 2006

Projeto Parceria: Justiça Ambiental para o Trabalhador Brasileiro em Massachusetts. Presented at the VIII Brazilian Congress on Collective Health, Brasília, D.F., Brazil. Published in CD with proceedings of Congress. Format: poster Date: 2006

Teens Affected by Workplace Violence Format: report Date: 2005

Carlos Eduardo Siqueira: Work Environment Justice Partnership for Brazilian Immigrant Workers in Massachusetts. Giving Voice to a Nascent Community: Exploring Immigration to the U.S through Research and Practice. The David Rockefeller Center for Latin American Studies Working Papers in Latin America, No 04-05/2, 2004. Format: abstract Date: 2004

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South Bronx Environmental Justice Partnership

Grant Number: ES1105-06

NIEHS

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Project Aims

I. SPECIFIC AIMS (4/1/2001-3/31/2005)

The mission and overall goal of the South Bronx Environmental Justice Partnership (SBEJP) is to improve the health of the people who live and work in the South Bronx, beginning with children and pregnant women and expanding to other adults. The Partnership was initially a collaboration between the three founding organizations, the South Bronx Clean Air Coalition (SBCAC), Montefiore Medical Center (MMC), and the Albert Einstein College of Medicine (AECOM), but now includes For A Better Bronx (FABB) and Lehman College and has forged a much stronger affiliation with the NYCDOHMH. The Partnership was established in 2000 with funding from the NIEHS Environmental Justice Partnerships for Communication program.

The Partnership's specific aims included: (1) formalizing the collaboration between the SBCAC, MMC, and AECOM; (2) developing a community-driven, participatory, environmental health research agenda in the South Bronx informed by on-going dialogue with its scientific and clinical experts; (3) developing a similar environmental health educational agenda for both community residents and health professionals; and (4) planning and implementing environmental health clinical and public health services. Our focus has been on asthma and air quality and on heavy metals (e.g., arsenic, lead, and mercury) and other bioaccumulative toxins (e.g., household pesticides).

II. PROPOSED SPECIFIC AIMS (2005-2009)

Lehman College, a federally-designated minority- and Hispanic-serving institution, formally joins the Partnership with this proposal. FABB, Lehman, and MMC will divide all budget support equally with AECOM contributing its efforts in-kind. Our proposal seeks to address our epidemic of complex, chronic disease through communal environmental rather than individual lifestyle change.

SBEJP seeks to accomplish the following new specific aims:

1. To strengthen the Partnership and collaboration between AECOM, FABB, Lehman, and Montefiore and promote environmental health education and research at each organization. (Organizational Development)

- A. Expand the SBEJP website and link it with its Partners, expand FABB's

environmental health library and information center, and develop FABB's website for the public in the South Bronx.

B. Assist FABB to develop sufficient administrative, accounting, and research capacity, including not-for-profit incorporation and 501(c)3 status, so that FABB may serve as the lead organization for the Partnership in future grant proposals and the South Bronx community is endowed with these added skills and resources.

C. Assist Lehman in developing the environmental health components of its Masters in Public Health degree program and its Department of Environmental, Geographic, and Geologic Sciences and provide their students with community placements in environmental health.

D. Strengthen and integrate mutual education and information sharing among SBEJP partners to improve academic-community knowledge, skills building, and mutual understanding; to accelerate the process of technical and research skills transfer to FABB; and to educate professionals at AECOM, Lehman, and MMC about community wisdom and popular epidemiology.

E. Recruit additional Community Advisory Board members for AECOM's Institute for Community & Collaborative Health from other South Bronx environmental justice organizations to assure on-going community input and communication and have the Board meet quarterly to provide oversight, guidance, and integration of SBEJP activities with other Bronx health disparities programs and initiatives.

2. To conduct Geographical Information Systems (GIS) environmental health research on cardiovascular disease and diabetes related to air pollution and land use in the Bronx informed by on-going dialogue with its community. (Chronic Disease Prevention and Control)

A. Conduct epidemiological and small area analysis research that describes the geographic and spatial relationships (i.e., mapping) between cardiovascular disease hospitalizations and/or registries (e.g., myocardial infarction, arrhythmias, congestive heart failure, and congenital heart defects, etc.) and local stationary and mobile sources of air pollution and other noxious land use (e.g., brownfields, waste transfer stations, etc.) and air sampling data in the Bronx.

B. Conduct preliminary GIS studies on diabetes mellitus hospitalizations and their geographic relationship with potential sources of endocrine disruptors, air pollution, noxious land use (e.g., brownfields, waste transfer stations, TRI facilities, etc.), and mitigating features of the built environment (e.g., parks, playgrounds, community gardens, farmers' markets, etc.) in the Bronx.

C. Develop culturally- and linguistically-appropriate maps, tables, charts, and risk communication materials, media, and website for community presentations of these GIS findings to promote education and dialogue on appropriate public health and regulatory responses to the research findings in 2A and 2B.

3. To develop community-prioritized, health promoting improvements in the social and built environments in the South Bronx. (Built Environment and Sustainable Communities)

A. Conduct GIS analysis of park and land use distribution comparing North and South Bronx, community boards, health districts, and other boroughs regarding equity and access with assessment of discrepancies between official park and playground designations and

actual conditions.

B. Sponsor a series of community environmental health and youth forums, town meetings, public hearings, and focus groups to set priorities and goals (e.g., Community Visioning), share parks and playground equity analysis (3A above), and identify specific community-driven action projects for improving the social and built environment in the South Bronx.

C. Develop and implement two selected community-prioritized demonstration projects (3B above) in the built environment (e.g., community or roof-top gardens, tree planting, and/or solar heating, etc.) in collaboration with interested housing, community development, youth, and other organizations.

D. Develop and implement two model code enforcement and mitigation initiatives for improving the environment in the South Bronx (e.g., air, land use, water purity, noise, sanitation, transportation, and/or housing public policy).

E. Develop a community-based, culturally-appropriate project to health promotion and chronic disease prevention by increasing the availability and consumption of healthy foods and produce (e.g., farmers' markets, community-supported agriculture, voucher incentives, cooking classes, etc.) and access to and use of safe settings for physical exercise and recreation.

Project Summary

1. Organizational Development: FABB has submitted its 501(c)3 application to New York State. SBEJP began a series of self-assessments using an on-line instrument developed by the New York Academy of Medicine's Center for the Advancement of Collaborative Strategies in Health, called the Partnership Assessment Tool (www.PartnershipTool.org). This system allows partnerships to have members complete a Likert-scale questionnaire on various aspects of the partnership anonymously and then generates a 38 page report covering domains such as synergy, effectiveness of leadership, efficiency, administration & management, financial & non-financial resources, decision-making, benefits, drawbacks, and satisfaction. By repeating the self-assessment process every six months, we can monitor our progress. With all nine individuals registered with the system, we completed our first assessment at the end of January 2006. SBEJP scored strongest on financial and non-financial resources and weakest on administrative effectiveness and efficiency.

In response to the partnership assessment, SBEJP hired a bilingual organizational consultant, Ms. Judith Vega from Intra-Afrikan Konnection, which is based in Seattle, although Ms. Vega herself is based in Queens. She helped us plan and conduct a half-day retreat on May 2, 2006, based on the Partnership Self-Assessment Tool findings. We obtained Montefiore institutional funds for Ms. Vega's consultation and future follow-up. The retreat was very productive, especially integrating Lehman College into both SBEJP's EJ and Environmental Ethics grants. We decided upon four work groups: organizational development, GIS, mercury, and Lehman MPH. We have also begun to experiment with more structured partnership meetings and longer intervals between meetings with work group meetings in between. We continue to rotate our meeting site among our three partners and plan more mutual education seminars on food justice and other topics. Arrangements have been made for Mr. Alicea to enroll for his certificate in GIS at Lehman with Professor Juliana Maantay. Lehman College also enrolled its first MPH class in January 2006.

2. GIS Research & Analysis: SBEJP was included in Montefiore Medical Center's Office of Outcomes Analysis and Decision Support's request to the New York State Department of Health's Data Protection Review Board for the State Planning and Research Consortium (SPARC) hospital discharge and emergency room visit data from 1995-2015. This submission required the Montefiore IRB's approval. Professor Maantay and Mr. Andrew

Moroko have begun developing more sophisticated

Public Health Impacts

In conjunction with Community Board 1, the Bronx District Public Health Office of the New York City Department of Health and Mental Hygiene, and a coalition of other South Bronx community-based organizations, FABB joined in a new Community Food Assessment to improve access to quality and health food in the South Bronx and create a replicable model for other community boards to emulate.

With City Harvest additional cooking classes were provided to 5 CSA members and their children and residents using a local food pantry receiving CSA produce donated by City Harvest. Efforts are now underway to establish a new farmers market that opened in July and an organic food coop. The New York City Council has provided funding for a small revolving loan program so that low-income residents can buy CSA shares and repay the up-front costs throughout the growing season.

Also with funding from the New York City Council FABB has been conducting workshops and distributing information for the Healthy Homes, Healthy Babies program regarding access to healthy foods through farmers markets and CSAs and how to avoid toxic chemicals in food preparation and cleaning products.

FABB has developed a student intern program that works with Kennedy High School's YABC program (5 interns) and Fannie Lou Hamer, Mott Hall, and Social Justice High Schools. The youth that have been working with FABB have formed their own organization, Youth Organizing & Unifying Teaching & Healing

FABB has joined coalition efforts to reduce air pollution from the New York Organic Fertilizer Company (which bakes liquified sewage sludge into fertilizer pellets vaporizing diverse pollutants), reduce more garbage being brought to the Bronx in NYC's Waste Management Plan, and opposed citing of a new jail in the South Bronx.

FABB and SBEJP have joined coalitions to prevent the destruction of an adjacent, well-used public park in the construction of a new Yankee Stadium and the mitigation of air pollution from the construction of a water filtration plant in Van Cortlandt Park.

Policy Impacts

Community Board 2 has displayed SBEJP's asthma and air pollution posters in its offices for increasing public awareness about their relationship.

FABB and SBEJP are members of the Campaign for Bronx Health--a collaborative of the NYC Department of Health and Mental Hygiene, NYC Public Health Association, and many Bronx CBOs and clinicians which meets on issues of getting policy changes that could positively impact on obesity and diabetes, such as car-free Sundays on the Grand Concourse and eliminating whole milk from the public schools.

Ms. Marian Feinberg co-authored the New York City Asthma Partnership's

SBEJP participated in the New York City Council's Bronx Infant Mortality Working Group, which held five hearings from February 8-March 8, 2005, to investigate the rise in infant deaths between 2001 and 2003, in which Mr. Alicea, Ms. Feinberg, and Dr. Strelnick participated with the latter presenting on Environmental Factors on February 16, 2005. Its report was published in June 2005. FABB then received a grant from the NYC Council under its Infant Mortality Initiative to provide environmental education to pregnant women, as a part of the Healthy Homes, Healthy Babies campaign.

FABB has joined together with other South Bronx organizations in plans to develop Green Buildings to house local non-profit organizations.

FABB has joined with the Bronx Health Link to develop a breast cancer outreach and education program with support from the Susan B. Komen Foundation.

Publications

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**South Bronx Environment Justice Partnership to Address Ethical Issues in
Environmental Health: “First Do No Harm: Resolving Conflict Between Cultural
Beliefs & Practices and Uncertain Scientific Evidence in Mercury Exposure”**

Grant Number: ES 012103-05

Principal Investigator: A.H. Strelnick, MD
NIEHS

PROPOSED SPECIFIC AIMS (2002-2007)

1. To assess the South Bronx community’s level of knowledge regarding the health impacts of environmental mercury and its sources in the local environment.
2. To develop, implement, and evaluate educational materials and programs that enhance the South Bronx’ community awareness of the ethical issues and challenges related to conducting environmental health research on mercury.
3. To develop a community-driven educational intervention to reduce childhood exposure to mercury in the South Bronx for both community residents and health professionals informed by on-going dialogue with its community and spiritual leaders, clergy, bioethicists, and scientific and clinical experts.
4. To establish an on-going and long-term dialogue between SBEJP environmental health scientists, clinicians, bioethicists, community members, clergy, and spiritual leaders on ethical issues related to environmental health research, employing the ritual use of elemental mercury as a case study or model.

Project Summary

1. Focus Groups on the “Environment”: From the series of meetings that SBEJP Key Personnel held with consultants in 2003-04, a script of questions were developed. Staff from SBEJP’s community partner, For a Better Bronx (FABB), were trained to lead focus groups and provide note-taking. Members of the target population, parents and grandparents raising children under six years of age, were recruited, and informed consent obtained for all focus group participants. The FABB staff has conducted one pilot focus group and four formal focus groups, three in Spanish and one in English, with parents, grandparents, and guardians of children six years and under. Focus groups were audiotaped and then transcribed. Each has been conducted in a different neighborhood in the facilities of a different community-based organization or church. Transcriptions in Spanish have been reviewed by FABB staff and then translated by Carlos Alicea with consultation by Dr. Arlene Caban, a bilingual psychologist. All SBEJP Key Personnel reviewed the transcripts from the English-speaking focus group and those translated from Spanish to identify themes and language for developing a questionnaire on the community’s perception of environmental health issues.

Our focus groups with South Bronx parents of young children have demonstrated their sophisticated understanding of the interaction of the physical and social environment in their community. In general, South Bronx residents do not distinguish between the social and physical environments and describe a unity of the social and built environment. For example, one participant defined “environment” as “the neighborhood—where we live—and all the things in it—the air we breathe, the trees, the buildings, cars, the food, anything we use, the garbage...” Focus group participants articulated concerns about residents lacking a sense of responsibility about the neighborhood, their children, and themselves, leading to lack of unity and respect, unsupervised kids without places for recreation, drug dealing and crime,

garbage dumping and vermin, sidewalks soiled by dogs and litter, and fear of correcting others' behavior because of perceived risk of personal harm. Inequities in power result in fewer and poorer services, sanitation and garbage collection, pollution control, and code enforcement; slower street and apartment repairs; lack of trees, parks, and recreation facilities and lack of responsiveness by police and government to community complaints.

These parents described streets, backyards, and playgrounds littered with garbage, broken glass and equipment, crack vials, and debris; noise and air pollution from trucks, buses, and cars; and excessive availability of non-nutritious food and drinks, such as "quarter waters," in local stores. Indoors, they worried about noise and "bad air" from trucks on the street, mold and fungus, animal dander, roaches and mice and their feces, all of which may worsen asthma; lack of hot water or poor plumbing; lead in paint (and lack of building inspections); and dirty hallways and broken elevators. They recommended adults looking out for each other and their kids (e.g., block and tenant watches), cleaning up local lots and discouraging garbage dumping, planting more trees and building more community centers, offering more after-school and recreational programs, decreasing truck traffic, and improving all-around law and code enforcement. While we are still conducting more of these focus groups until we reach a saturation level of these perceptions, these findings are similar to those of our sister EJ partnership West Harlem Environmental Action, and have redirected our focus towards the interaction of the social and built environment, reflected in SBEJP's Specific Aims in our NIEHS Environmental Justice grant renewal (ES-11085-05).

2. Awareness of Environmental Mercury Risks: Thus far in our focus groups, no individual has spontaneously raised the issue of mercury in any of its chemical forms (e.g., elemental, methyl-, etc.). When the focus group leaders have explicitly asked about mercury risks, no individual has responded with concerns about its use in homes or apartments, but occasionally participants have commented on risks for pregnant women and their unborn fetuses in consuming fish. While some observers have speculated that evaporated elemental mercury employed in some home rituals has exposed children to its neurological and renal toxicity, those spiritual leaders contacted informally through various networking opportunities have all indicated that elemental mercury is not used in their traditions. They have been aware of its use in sealed capsules but not of its toxicity. All have been willing to explore opportunities for encouraging safe and healthful practices of their religious traditions. SBEJP has discussed collaborating with the Bronx Health Link and its Executive Director, Ms. Joann Casado, in further exploring this issue with religious and spiritual leaders through its Perinatal Information Network. The Bronx Health Link is a Bronx-wide network of diverse service providers, organizations, coalitions, agencies, community stakeholders, residents, and students, founded by the borough's four voluntary hospitals and its Borough President in 1998, to provide a clearinghouse for Information & Referral, technical assistance, and daily E-mail communications to over 500 subscribers. FABB has also joined with the Bronx Health Link to develop a breast cancer outreach and education program with support from the Susan B. Komen Foundation.
3. Survey on Mercury Risks: With assistance from an Einstein medical student Dr. Ozuah completed a cross-sectional survey of 1000 adults (43% Black, 42% Latino, 85% women) at the Comprehensive Health Care Center in the South Bronx on their

knowledge of potential elemental mercury exposures in the environment from ritual use and from methyl mercury exposures from eating fish. They found 81% did not know that children breathed in more mercury vapor than adults living in the same household; 71% did not know that mercury should not be flushed down the toilet; 90% thought that the ingestion of liquid mercury would cause poisoning; and 88% thought that most cases of mercury poisoning were caused by handling mercury with bare hands. Overall, 47%, 44%, and 40% of the survey respondents did not know boiling mercury in a pot, burning it in a candle, or sprinkling it in their home could lead to poisoning, respectively. Regarding public fish advisories, 44% of respondents did not know children and 40% did not know pregnant and nursing mothers should limit their fish intake. Regarding limiting consumption of specific fish, 52% of respondents were unaware that tuna should be limited, 50% swordfish, 42% shark, and 53% shrimp. Clearly, risk communications in the South Bronx community need improvement.

4. Mercury in New York Harbor: An examination of 124 anglers at a half-dozen piers and fishing clubs along the lower Hudson River found that those who reported eating locally caught fish -- about 80 percent of the group -- had about twice as much mercury in their blood as the others, according to a study by a team at the Mt. Sinai School of Medicine in the June 2006 issue of *Environmental Research*. They found nearly 40 percent said they gave locally caught fish to women of childbearing age. Two of the types of fish in the Hudson that accumulate the highest concentrations of mercury, striped bass and bluefish, are also among the most popular among local anglers, surveys find. In detailed advisories over the years, the state has been warning most adults to eat those fish and others from the Hudson no more than once a month. The hurdles are also cultural. In Harlem and other popular fishing spots along the southern end of the Hudson some of the anglers come from impoverished homes where it is more feasible to pull fish from the river than to buy them. Others are immigrants from the Caribbean and Central America, who say that fishing for food has always been a way of life for them

Public Health Impacts

1. A major thrust of SBEJP has been empowering its community partner, For a Better Bronx (FABB), with the expertise and skills to conduct community-based and culturally-sensitive focus groups with the support and supervision of academically-based qualitative researchers. This research capacity-building complements FABB's community-organizing and advocacy agenda.
2. Joel Rivera, the City Council Majority Leader, initiated the Bronx Infant Mortality Working Group, which held five hearings from February 8-March 8, 2005, to investigate the rise in infant deaths between 2001 and 2003, in which SBEJP participated presenting on Environmental Factors on February 16, 2005. Its report was published in June 2005. FABB was awarded an educational contract through the New York City Department of Health and Mental Hygiene's Health Homes, Healthy Babies campaign and has been conducting workshops and trainings at WIC and health centers, hospital clinics, the New York Public Library, among other sites, on access to healthy foods (e.g., farmers markets and community-supported agriculture) and smoking cessation resources in the Bronx, avoiding toxic chemicals and cleaning produces (including lead and mercury), baby-proofing apartments, and integrated pest management. FABB is also teaching regarding access to healthy

foods through farmers markets and CSAs and how to avoid toxic chemicals in food preparation and cleaning products.

3. Because of our interest and advocacy on mercury, River Keepers asked SBEJP to join their joint press conference on a public pier in Red Hook, Brooklyn, with the New York City Commissioner of Health, Dr. Thomas Frieden, and the City's Parks Commissioner, announcing the successful campaign to get the Parks Department to post warning signs for fisherman about the potential hazards of locally caught fish contaminated with PCBs and mercury in New York's harbor and rivers.
4. SBEJP and FABB supported the NYC Coalition to End Lead Poisoning's successful effort to pass a new and stronger prevention and abatement program over the Mayor's veto, attending City Council hearings and press conferences and educating community residents and elected officials. SBEJP conducted lead poisoning prevention workshops with parents at a Head Start program in Soundview; an elementary school in the Fordham, the neighborhood with the borough's highest lead poisoning rate; and at Soundview Houses and provided technical assistance at P.S. 38 (Marble Hill) regarding siting of their children's school in a brownfield.
5. In collaboration with the New York City Health Care Without Harm, Full Circle, Inc. (a local recycling company), SBEJP held a mercury thermometer exchanges at the Children's Hospital at Montefiore. Over 250 thermometers, manometers, and vials of elemental mercury were collected with extensive local television, radio, and print coverage, including articles in the *Norwood News* and *Montefiore News Bulletin*.
6. FABB received a "Healthy Fishing" grant to develop culturally- and linguistically-appropriate educational materials to warn fisherman about the potential hazards of locally caught fish contaminated with PCBs and mercury found in New York Harbor waters around the Bronx and the importance of communities working together to clean up its rivers. In conjunction with the Bronx Riverfest, attended by hundreds of community residents, SBEJP held a Healthy Fishing Fair with a children's puppet show, educational materials, and fishing contest, based on their outreach and research with those fishing along the South Bronx shores.

Policy Impacts

1. In May 2006 Governor George Pataki proposed one of the most stringent standards on mercury emissions from coal-fired power plants, cutting the emissions by half from electricity generating stations from current rates by half by 2010 and by 90% by 2015. This compares to the Bush Administration's EPA reductions of 70% by 2018. The federal plan permits generator to trade pollution credits, while New York's proposal does not.
2. Philip Ozuah, MD, PhD, served on the EPA Task Force on the Ritualistic Uses of Mercury, which released its report on February 3, 2003.
3. Dr. J.J. Steinberg served on the EPA science advisory panel on arsenic and arsenic in playground and construction materials.
4. In September 2003, SBEJP met with representatives of the New York City and State Departments of Health and the National Association of County and City Health Officials to help plan a CDC-funded epidemiological childhood mercury exposure screening study, which was conducted in the Bronx, Brooklyn, Manhattan, and Chicago with a much larger sample but modeled on Drs. Morri Markowitz and Philip Ozuah's pilot study.
5. As noted above, over the Mayor's veto and the Health Commissioner's public opposition, the New York City Council passed a new and stronger prevention and lead abatement program.

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Key Words

Health Priorities: Asthma, diabetes, obesity, heavy metals, access to health foods,
Physical/Chemical Exposures: Mercury, lead, diesel exhaust, criterion air pollutants
Social Exposures: Social & built environments; development of community gardens, farmers markets, and food co-ops; loss of parks and green space to economic development that does not benefit the local community
Population(s) Served: Low-income, Hispanics, African-Americans, youth, immigrants

Lower Price Hill Environmental Leadership Coalition

Grant Number: 5 R25 ES07717-08

NIEHS

Principal Investigator

Maureen R. Sullivan, Urban Appalachian Council

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Project Aims

1. Develop and promote indigenous neighborhood leadership that has the skills, knowledge and resources necessary for successful community-based approaches to environmental pollution, risk communication and public health services;
2. Design, develop and conduct learning experiences which educate university-based personnel and health care providers about the environmental quality and health status problems unique to historically under served communities affected by environmental pollution and effective ways to work cooperatively with these neighborhoods to address their environmental and public health issues;
3. Identify and support opportunities for collaborative studies which promote investigative protocols addressing the real-life concerns of neighborhood residents as well as the research objectives of health and/or environmental researchers, health care providers or public policy makers.

Project Summary

The Lower Price Hill Environmental Leadership Coalition was created to use the knowledge, skills and resources of its community and institutional partners to provide leadership development, outreach, education and training, and concrete community-based research and intervention activities to enhance the capacities of community residents, university personnel and health care providers to work collaboratively to improve the environmental health of Lower Price Hill, a community disproportionately affected by environmental pollution.

The project represents a collaboration between the environmentally-challenged Lower Price Hill community, a local health care provider, and an environmental health sciences research university. The lead agency, the Urban Appalachian Council, is a cultural advocacy, research, and human services agency whose central office is located in the Lower Price Hill community. The local health care provider, the Cincinnati Health Department, is a multi-service, public health agency providing primary health care at the Price Hill Health Center and coordination of environmental nuisance complaint services in the community.

The research institution, the University of Cincinnati's Department of Environmental Health, has a long history of excellence in scholarship as well as in working with and in communities. Individuals from these organizations/ institutions formed the partnership in order to make

available to the residents of Lower Price Hill community their combined resources and to learn from each other skills and attitudes necessary for a successful collaboration.

Accomplishments: The strategy of developing, with community residents, a number of community-based groups, linked to the Lower Price Hill Environmental Leadership Coalition was affirmed and supported by community members during story circle focus groups. Based on the community story circles we conclude that those involved in the project see themselves and their community as agents for change, both in the past and in the future, and the groups seem particularly effective in developing leadership among women and girls. Story circle participants identified three primary areas wherein the community-based activities of the LPH ELC have benefited the neighborhood: environmental enforcement, improvement of health, and youth development. The common thread in each of these was leadership development/ capacity building with positive ramifications for individuals and for the community as a whole. The leadership skills acquired by participants are seen to benefit the community in areas beyond that of health and environment as traditionally defined, including safety, self-esteem (both for individuals and the neighborhood as a whole) and community life. For the Youth Environmental Project (YEP) in particular, there was little differentiation among its various projects; activities toward community education on health and safety issues, neighborhood beautification and feeding the poor were given equal weight. Adult group members focused their stories on health and environmental activities but indicated awareness of and pride in how their work strengthened individuals and the community more generally.

Leadership has been demonstrated in important ways, including the community's partnering with others in the city to pass the Title X Clean Air Act; formation of the Lower Price Hill Health Advisory Committee; vigilance in monitoring, reporting, and following up on environmental hazards; conduct of the annual community health fair; publication of a community newsletter (YEP); neighborhood clean-up and beautification (YEP); community education through both formal and informal means; and, conduct and dissemination of the results of the Women's Health Survey. The community-based research conducted by Lower Price Hill residents, supported by the university and UAC, represents a significant accomplishment of the project. Results of the survey add to the results of the children's health survey conducted during the first grant period. Both sets of data provide important resources for understanding health outcomes in the community and how they compare with health outcomes in the Greater Cincinnati area. Presentations of these data as well as presentations about the processes undertaken by the community members who conducted the survey, have served many purposes, not least of which is the continued development of the community's voice and sense of self-efficacy.

Less tangible accomplishments of the project include the development of community linkages among the community and each of the project's partners, UAC's use of the research accomplished through the project as springboards to intentionally develop a broader base of available research on the health of urban Appalachians, and UAC's gaining critical awareness of health promotion and environmental health issues of urban Appalachians and the importance of developing agendas for addressing these.

Strengths: Strengths and resources to build on for future development include more developed skills and knowledge, strengthened networks, and a vision for the future. A large part of the vision that drove the project was a common expanded definition of that allowed community participants to recognize and claim leadership qualities that already existed among members of the group. All or nearly all of the 12 community respondents to the 2004 interviews indicated they thought the LPH ELC vision was clear and included

1) a willingness and ability to grow,

- İ 2) working for the good of the whole,
- İ 3) working to understand issues and situations,
- İ 4) an understanding of when to fight and when to say no,
- İ 5) day-to-day persistence, and
- İ 6) trust for others by sharing responsibility.

Community participants reported that, since becoming involved in the project, they began to see themselves as persons who took initiative, spoke up when necessary, worked to resolve conflict, put themselves at risk to achieve group goals, and helped others become leaders. This was supported by their descriptions of the ways they demonstrated leadership in the community through formal and informal communication of information, advocacy work, community organizing, neighborhood clean-up and beautification, and practicing leadership within their own organizations.

Project participants report having learned about the status of women's health in the community, about self-care, about environmental justice, environmental health issues, and resources and solutions to tackle these issues. Those who worked on the Women's Health Survey gained new understandings of research and skills in carrying out data collection, data analysis, and the protection of human subjects. Community members identified long lists of affiliations, both in the LPH community and beyond, where they are using their leadership skills to make a difference. They feel their network has a common purpose, shows confidence and courage to take a stand, encourages others to do things, and demonstrates commitment and concern for helping others. A key to successful networking and leadership development was the community participants' willingness to accept people as they are and the groups' focus on building on strengths.

Institutional Partners also developed resources and strengths. The Cincinnati Health Department developed a better understanding and valuing of the often overlooked LPH community, and the community secured a commitment from CHD for continued dialogue on health and healthcare issues affecting the community. The University of Cincinnati environmental experts are now better known and trusted by the community and will be able to serve as resources in a multitude of ways. UAC emerged better able to address issues of health status and barriers to communication with health providers for urban Appalachians. All of the partners had an opportunity to experience and reflect on the personal and programmatic challenges of sustaining effective partnerships.

Challenges: In regard to particular challenges to the project, the following points are noted.

- İ Concern that there was a gradual shifting of focus from more acute environmental problems to more chronic health problems.
- İ Decision-making, honest communication, problem solving and accountability among the institutional partners were identified as problematic for institutional partners as well as community members.
- İ A critical need for expanding the circle of participants in activities for both adults and youth.
- İ Commitment to objectives that were overly ambitious for the level of funding that was available and the limited ability of the partners to supplement costs that resulted in obvious challenges around funding and staffing for all institutional partners.
- İ Building and sustaining partnership while providing equity of voice, effort, and accountability among community and institutional participants impacted decision making in general.
- İ Changing realities for both the neighborhood and institutional partners continue to present challenges, making all the more necessary the need to stay focused on priority objectives amid constantly changing circumstances.

In looking to the Future, the community's interest and energy is highest in regard to issues of health education, screening and advocacy. There was also consensus among the community members regarding the importance of continuing youth leadership development activities. Youth participants in the story circles suggested a future direction that would continue many of the same activities engaged in during the grant, but focus more clearly on neighborhood strengths as well as problems. They also indicated a desire for expanding participation across more age levels and expanding numbers of participants. While community members have indicated a commitment to continue monitoring the clean-up and future use of the Queen City Barrel site, it is unclear how deeply committed members are to continuing the Environmental Leadership Group. However, story circle participants expressed interest in participation in coalitional efforts with other neighborhoods to address issues of common concern.

Changing realities for both the neighborhood and institutional partners continue to present challenges, making all the more necessary the need to stay focused on priority objectives amid constantly changing circumstances. However, commitment is high for continuing project activities with both adults and youth. Current interests point to a renewed focus on health, blending aspects of this project with some new ideas. As issues that impact the community continue to grow and are addressed by a different mix of outside organizations, there is a need for community leadership to carefully prioritize among these, developing a clear focus and vision for the future, including the participation of diverse stakeholders in the community.

The LPH ELC has developed a large body of resources and strengths upon which to build for the future. Community members developed and experienced the use of skills, knowledge and personal traits that enable them to assume leadership in the community. They have the interest and support of three organizations, the project's institutional partners, who have developed deeper understandings of community issues and needs and have also developed a better understanding of strategies for working with the community and each other. The community participants have developed important networks of relationships within the community and with other important resource persons and organizations outside the community. While there is a clear need for strong, capable institutional support for the community organizations, it is not clear how the community can or will use the resources of past or new project partners and other relationships developed through the life of project. The community and any institutions with which the community decides to partner, will need to work hard to achieve an open and equal partnership with clearly determined purposes, agendas, and roles. This was an important lesson of this project. While it may take more time initially, this project has shown that it is needed to avoid frustration and loss of focus as the project moves forward.

Finally, a key strength is that the LPH ELC community participants have a shared, expansive, and passionately felt belief in themselves and their abilities to fashion the future of their community. A central challenge for the community is to continue to sharpen their vision for the community and maintain focus on that sharpened vision. This is the area in which the community would most profit from outside help.

Public Health Impacts

Included in previous reports

Policy Impacts

Leadership has been demonstrated in important ways, including the community's partnering with others in the city to pass the Title X Clean Air Act; formation of the Lower Price Hill Health Advisory Committee; vigilance in monitoring, reporting, and following up on environmental hazards; conduct of the annual community health fair; publication of a

community newsletter (YEP); neighborhood clean-up and beautification (YEP); community education through both formal and informal means; and, conduct and dissemination of the results of the Women's Health Survey.

The community-based research conducted by Lower Price Hill residents, supported by the university and UAC, represents a significant accomplishment of the project. Results of the survey add to the results of the children's health survey conducted during the first grant period. Both sets of data provide important resources for understanding health outcomes in the community and how they compare with health outcomes in the Greater Cincinnati area.

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Communities Organized against Asthma and Lead (COAL)

Grant Number: R25 ES012595

NIEHS

Principal Investigator

Jonathan B. Ward Jr., University of Texas Medical Branch

Collaborators

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Project Aims

1. Develop a collaborative partnership among the cooperating institutions to address the problems of a low income predominantly Hispanic neighborhood near downtown Houston resulting from exposure to lead (primarily from paint) and biological and chemical agents that can cause or exacerbate asthma.
2. Establish interactive communications with the neighborhood using theatrical events and traditional forms of information to ascertain local knowledge of the community, to further educate the community about these environmental health hazards.
3. Train and equip members of the community organization, Demadres a Madres to conduct home assessments for identifying sources of exposure to asthma triggers and lead and for UTMB to analyze samples for the presence of these agents.
4. Educate parents about environmental health hazards, teach them how to minimize risks from exposure and provide follow-up.
5. Work with Casas d'Amigos Health Center to develop population-based data on the incidence and geographical location of asthma and lead exposures.
6. Work with the Environmental Justice Program at Texas Southern University School of Law to identify issues that may need to be addressed by developing and advocating changes in health policy

Project Summary

Project COAL is now early in its fourth and final year. The primary aims of the project were accomplished in the first and second years: developing a home survey and analytical tests for lead and asthma triggers, training the staff at De Madres a Madres in the survey and sampling procedures, and educating the community about the project and about risk factors for lead exposure and asthma using forum theater as the primary medium. The home survey was modified from the Seattle/King County Healthy Homes Survey by adding questions related to lead exposure and adjusting for differences in housing between Seattle and Houston (e. g. no basements in Houston). In addition, we developed a short symptom questionnaire to assess the probability that children in the households being assisted have asthma. This was done because of evidence that admitting directly to having asthma may be culturally uncomfortable for many of the Hispanic residents in our project. By the beginning of the 04 year of the project we had compiled a complete record for 232 households housing 795 residents. The record was based on a general questionnaire, an asthma symptom questionnaire, a lead exposure questionnaire, a walkthrough observational survey and analysis of collected samples for lead (windowsill dust and paint chips), air quality, air particulates (primarily mold spores and pollen), and several allergens in dust samples. The initial analysis of this data set revealed two major issues that are the primary focus of education of the families in the project and the community as well as the development of policy issues.

As had been previously observed, there was a high frequency of homes in which levels of lead in dust and paint posed a significant hazard. About 83% of the homes surveyed were constructed prior to 1978. Windowsill dust wipes contained lead in concentrations exceeding the EPA guideline (250 ug/ft²) in 23% of the homes and exceeded a moderate level of 25 ug/ft² in another 44% of the homes. Thus only 33% of the homes were not contaminated with significant levels of lead. Thirty-seven percent of the homes tested for lead in exterior paint had levels exceeding the EPA guideline. The exposure risk questionnaire indicated that only 28% of 232 children surveyed had no risk factors for lead exposure. Thus, a large fraction of the children living in this neighborhood are at significant risk for exposure to lead from old paint.

The frequency of asthma or symptoms suggesting a high probability of asthma was observed in the children in this cohort. Out of 795 children in the project, 75 (9.4%) have been diagnosed with asthma by a health care provider. An additional 180 children (22.6%) were reported by parents to have symptoms suggesting that they were likely to have asthma. In this cohort almost one-fourth of the children appear likely to have asthma. This is a very high frequency for a Hispanic population. In general, housekeeping practices in these homes appear to be good. An initial analysis has not identified any household characteristics that correlate with either diagnosed or probable asthma. Because diet could influence both the uptake of lead and influence asthma, a side project was developed to initiate an assessment of food preferences in the neighborhood. This project was undertaken by a small number of UTMB medical students participating in an elective course. A short questionnaire based on food use frequencies and preferences was developed and administered to clients being served by the food bank at De Madres a Madres. No conclusions can be drawn yet from this limited data set. However, it is anticipated that it will serve as a basis for a more definitive study.

Project COAL's El Teatro Lucha por la Salud del Barrio created a workshop experience which we presented for 3 cafecitos groups - Clemente Martinez, Ryan and Sherman Elementary Schools - in late Spring. This workshop integrated the use of activation, sociometry and very basic image-making exercises, as well as a standard questionnaire that allowed groups of mothers and their children to respond to questions and / or statements regarding access to the project, health concepts and social and physical effects of the built environment. This workshop / survey process is not yet complete. Teatro will visit additional schools - PTAs, or special focus groups to make up the cafecitos shortfall after HISD defunded the Community in the Schools program - and survey (without the workshop component) community organizations such as the Super Neighborhood, the BOND and Holy Name affiliated groups. This information will be shared with other aspects of the project and integrated into the Winter 2007 performance concept, tentatively entitled Our Neighborhood of the Future. This performance will also incorporate an initial Photo Voice approach to identifying exposure pathways, possible point sources of pollution and community assets; photo and video material from this process will be used as display material and as multi-media augmentation for the performance.

The teatro also performed for the de Madres a Madres board in April 2006 to demonstrate the mechanics of Project COAL's outreach and the substance of the educational message.

Public Health Impacts

The high frequency of homes where the risk of lead exposure is high is a well known public health issue. This is particularly true for children in disadvantaged circumstances that may include limited English proficiency, attendance at low performing schools, and parents who are not able to provide as much assistance with education as they might wish. Dietary deficiencies may promote lead uptake increasing the risks related to exposure further. In neighborhoods like the near northside the housing stock is old and much of it is in poor

condition. The results of this project emphasize the health risks to the children in this population and the need to address these issues.

While the elevated risk of lead exposure was anticipated, the high frequency of possible asthma was surprising. The health impacts and costs for treatment for asthma are a major burden on the community. While this study has not identified correlating risk factors it has noted a high frequency of use of pesticides in the homes. Presence of biological asthma triggers is fairly common as well. Metropolitan Houston continues to be out of compliance with the National Ambient Air Quality Standard for ozone. The Mayor's Task Force on Air Quality, on which project PI, Dr. Jonathan Ward, was a member, identified diesel particulate matter as the most significant air pollutant, after ozone, in the community. Twenty percent of the surveyed homes are within a block of a freeway and 71% are within a block of a major street. Urban air pollution could be an additional risk factor that should be evaluated.

Policy Impacts

When the first evidence of the high risk of lead exposure in these homes was seen we developed an agreement with the City of Houston Childhood Lead Poisoning Prevention Program, Directed by Brenda Reyes, MD. De Madres a Madres has worked closely with this program for several years assisting them with blood lead testing and education. We agreed to offer families in lead contaminated homes the opportunity to be assisted by the city program. To protect their anonymity they are provided a release form to sign allowing De Madres a Madres to inform the city program that the residents wish to be assisted. The city program then contacts the residents for follow-up which can include assistance with lead hazard reduction. To date about 30 families have signed up for assistance from the city program. A major reason for declining appears to be concerns about adverse actions by landlords. We are currently evaluating this issue.

We anticipate that the data we have generated will be useful in assisting the city program to obtain additional funding to assist residents. One concern is that neighborhood redevelopment may not help to remove many of these families from high lead exposure risk. The neighborhoods adjacent to the Houston central business district are being rapidly redeveloped for occupancy by more affluent families. The near northside is beginning to see such redevelopment. Demolition of old housing stock for replacement by modern apartments and town homes may eliminate some of the exposure risk but many of these families may be displaced to other neighborhoods with similar housing. One strategy to protect some homes in the neighborhood has been to have them listed as historic homes. While this may protect them from demolition, it may complicate the process of remodeling and lead hazard reduction. We are also investigating this issue.

The apparent high frequency of asthma symptoms needs to be further investigated to ascertain the validity of our current results, identify causative factors, and insure that adequate medical care is available. We will be working closely with our health care partner, Casa de Amigos Health Center and with a city-operated clinic, Nueva Casa to determine whether this data is consistent with their clinical experience and to develop a plan to confirm the results as much as possible. The City of Houston and other regional governments are working vigorously to address the air quality issues in Southeast Texas. In addition to the focus on diesel particulate matter and hazardous air pollutants created by the Mayor's Task Force on Air Quality, the city is working with petrochemical chemical facilities to reduce the emissions of key pollutants such as 1,3-butadiene. In the long run we can anticipate that improvements in air quality will help to reduce respiratory problems in all Houston residents including children.

Publications

Project Coal: Communities organized against Asthma and Lead was prepared with sections in English and Spanish to explain the goals and design of Project COAL. It was presented at the EJ/CBPR meeting in Albuquerque and at the NIEHS Center Directors Meeting in

Research Triangle Park, NC Format: Poster Date: June 2004

Project Coal: Communities organized against Asthma and Lead was prepared with sections in English and Spanish to explain the goals and design of Project COAL. It was presented at the EJ/CBPR meeting in Albuquerque and at the NIEHS Center Directors Meeting in Research Triangle Park, NC Format: Poster Date: October 2004

Evaluating Transformative Effects of Participation in Theatre of the Oppressed (TO): An Analytic Process Using Grounded Theory Procedures. Pedagogy & Theatre of the Oppressed Conference / Los Angeles CA May, 2005. Format: Presentation Date: May 2005

A poster presentation of project COAL was made at the annual EJ/CBR grantee meeting in Talkeetna, AK. Format: Poster Date: September 2005

A poster presentation of the project will be made at the grantee meeting in Research Triangle Park, NC. In addition, a presentation of the project with emphasis in the significance of the role of the community partner will be presented as part of a panel discussion at the meeting. Format: Presentation Date: October 2006

A presentation about Project COAL will be made at the American Public Health Association meeting in Boston Format: Presentation Date: November 2006

A seminar describing the project and its results will be made for the NIEHS Center at the University of Texas Medical Branch in October, 2006. Format: Presentation Date: October 2006

A seminar describing the project and its results will be made for the NIEHS Center at the University of Texas Medical Branch in October, 2006.

Research as a pretext for action: using Theatre of the Oppressed to anchor & integrate community-based research collaborations

John Sullivan- Sealy Center for Environmental Health & Medicine (NIEHS) @ UTMB / Galveston TX

Maria Murillo- de Madres a Madres; Project COAL (Communities Organized Against Asthma & Lead / Comunidades organizadas contra la asma y el plomo); coordinator / co-facilitator: El Teatro Lucha por la Salud del Barrio

Bryan Perras- TEJAS: Texas Environmental Justice Advocacy Service; Nuestra Palabra: Latino Writers Having Their Say; member: El Teatro Lucha por la Salud del Barrio. 12th Annual International Conference on Pedagogy & Theatre of the Oppressed. Chapel Hill, NC Format: Presentation Date: May, 2006

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Land Use, Environmental Justice, and Children's Health

Grant Number: 5 R25 ES010010

NIEHS

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Family Health Centers of San Diego

Project Aims

Goals of the Land Use, Environmental Justice, and Children's Health Project are to:

- Create a long-term working relationship between the community, researchers, and health care providers that is based on respect of the experiences of the community;
- Empower community residents to resolve toxic pollution problems in their neighborhoods;
- Educate the community, with a particular emphasis on youth, concerning the relationships between asthma and air pollution, on proper asthma management, and on available health care services;
- Create a profile on air pollution and respiratory illness, including asthma, in the community;
- Reduce pollution sources within and adjacent to the communities;
- Improve the quality of life in the communities by creating new community plans and policies;
- Improve health care provider skills in assessing and preventing environmental exposures.

Project Summary

The grant has three major focus areas:

- (1) Environmental Health Research
- (2) Community Education
- (3) Community Empowerment and Policy Change

Land Use, Environmental Justice, and Children's Health focuses on air quality, land use, and respiratory health in three adjacent low-income communities of color in the Barrio Logan community of San Diego, the west side of National City, and the west side of Chula Vista. Children living in these areas are currently exposed to mobile and industrial air emissions that increase their risk of respiratory impairment. Plans for development in these areas could increase these risks, or, if done with community input, produce more healthful environments for children. EHC and its grant partners are working to promote the principles of environmental justice: promoting precaution, looking at the cumulative impacts of air pollution, and ensuring open and meaningful participation in land use planning issues that affect the health of their families and neighborhoods.

Environmental Health Research. In the Logan community, translation of air quality research into land use policy has continued with an effort to get the community's Vision for land use adopted as the official Community Plan, and to ensure that all new development in the area follows the Principles developed by the community. Using scientific findings provided by

SCEHSC, EHC's advocacy efforts succeeded in persuading the Port of San Diego to adopt a 1000-foot buffer zone between Port facilities and sensitive land uses such as homes and schools. The City of San Diego adopted an ordinance to ban trucks of 5 tons or more from surface streets in Barrio Logan; the ban went into effect this January and reduces the truck traffic and diesel exhaust in the community. EHC and the community are watchdogging the clean up of a former tank farm on a parcel that will become residential under the Vision plan. We are actively tracking the Port's plans for increased cargo shipping at the 10th Street Marine Terminal in Barrio Logan and the 24th Street Terminal in National City, which will bring increases in diesel trucks and traffic to the community if mitigations are not in place. FHSCD is in the second year of its QA/QC process for management of pediatric asthma patients; the process includes systematic assessment of environmental triggers in the homes and communities of patients. In National City and Chula Vista, the information needed to complete an asthma Burden of Disease analysis has been compiled, including information obtained from south bay hospitals on the numbers of patients treated in emergency departments for asthma. EHC and residents of National City's Old Town had a major victory in August, 2006, when the City Council of National City voted to phase out the autobody shops from the Old Town residential neighborhood. This will reduce exposure to emissions of car paint, metals, and solvents for the 1,000 residents of Old Town and schoolchildren at Kimball Elementary. EHC and residents won another victory in National City when the City Council adopted a National City Healthy Homes ordinance. The ordinance will require annual inspections of all rental properties in the city, ensuring that rental units are free of mold, moisture problems, and similar asthma triggers. This is the first pro-active inspection program in San Diego county to cover all rental units. In Chula Vista, computer modeling of the air quality impacts from potential replacement plants -- one 650 MW plant, one 65 MW -- for the South Bay Power Plant has been completed and results are being used by EHC to argue against siting a new, large plant upwind of homes and schools. EHC continues to monitor development of a new air toxics health risk study for BFG/Rohr, an aerospace firm that emits hexavalent chromium and is located less than 1,000 feet upwind of homes. Translational research in Chula Vista has focused on inserting land use buffer zone language into the General Plan Update; EHC succeeded in getting a 1000 foot buffer for stationary sources into the plan, and a requirement to assess impacts of development within 500 feet of a freeway. Diane Takvorian (EHC) continues to be a leader in translational research as a member of the Environmental Justice Advisory Committee at California's EPA; the focus remains on methodology for assessment of cumulative risks and application of precaution to environmental decision making. Community Environmental Health Education. In all three communities, regular meetings of EHC's Community Action Teams (CATs) have been the major vehicle for community empowerment and education. EHC's Toxic Free Neighborhoods campaign (Logan area), National City Land Use campaign (National City), and Clean Bay Campaign (Chula Vista) each has a CAT that consists of interested community residents who meet twice a month and form the backbone of EHC's organizing base in the community. The CAT members have received training in the environmental health issues, and provide leadership for both EHC and their communities. The Logan CAT is focused on an intensive effort to educate and involve the entire community, both residents and business owners, in the process to gain acceptance of their community vision. The National City CAT is taking up the land use issues as well. The Chula Vista CAT is focused on the future of the South Bay Power Plant and related land use issues on the bayfront in Chula Vista. Over the past two years, high school youth have been represented on two of the CATs; however, at this point the youth have graduated and left the CATs. Two college-age youth apprentices have recently been hired at EHC; one of their primary projects will be education and outreach to high school youth on toxic air pollution and other environmental justice issues. Education for asthma patients and their families continues at FHSCD. Education for health care providers continues; the Burden of Disease fact sheet completed last year continues to be distributed to all health care providers at FHSCD and incorporated into orientation packets for new employees. It will be offered to school nurses in the National City district as well. FHSCD also plans an educational seminar for physicians, to be given at the next available physicians' forum.

Public Health Impacts

1. EHC staff and National City community residents persuaded National City council to adopt an ordinance that will have the effect of phasing out autobody shops from the Old Town neighborhood. This will reduce exposure to emissions of vehicle paints, solvents, and metals for Old Town residents and students at Kimball Elementary School.
2. EHC staff and National City community residents defeated a proposal to put housing on a parcel of land that is immediately adjacent to the access road from the 24th Street Terminal to the I-5 Freeway. This stretch of road gets heavy diesel truck traffic; EHC acted to prevent exposure of potential residents to high levels of fresh diesel exhaust and truck safety hazards. EHC continues to work with the City and residents to identify appropriate sites for new housing.
3. EHC and residents won another victory in National City when the City Council adopted a National City Healthy Homes ordinance. The ordinance will require annual inspections of all rental properties in the city, ensuring that rental units are free of mold, moisture problems, and similar asthma triggers, as well as lead hazards. This is the first pro-active inspection ordinance in the county of San Diego, and will set a precedent for cities to do active surveillance to prevent respiratory and lead hazards in housing.
4. The Family Health Centers of San Diego continues to improve its management of asthma, as the QA/QC project instigated by grant partner Lisa Duncan of FHCSO goes forward. The project is now in its second year.
5. City Council of San Diego voted on April 4, 2005, to ban commercial vehicles weighing more than 5 tons from Cesar Chavez Parkway, a major street that runs through the heart of the Barrio Logan community, and several other Barrio Logan streets. An estimated 2,600 trucks per day are re-routed around the community since the ban has been enforced, beginning in January 2006. This action reduces the community's exposure to diesel exhaust and truck safety hazards.

Policy Impacts

1. Environmental Justice and Air Quality policies, and a required 1000-foot buffer zone for hazardous waste facilities, have been incorporated into the General Plan Update for the City of Chula Vista, as recommended by EHC. This planning document will guide land use planning in this city for the next 10 to 20 years. City staff have incorporated recommendations for 500 foot freeway buffers into the Specific Plans for two Chula Vista neighborhoods.
2. The California Air Resources Board, in a rulemaking to be finalized September 28, 2006, will adopt an Airborne Toxics Control Measure (ATCM) for metal plating operations that will, for the first time, prohibit new hexavalent chromium plating facilities within residential or mixed use zones, as well as more stringent control measures for existing facilities. EHC successfully advocated for new requirements for HEPA filters for smaller platers, and other improvements to protect communities from hexavalent chromium emissions.
3. The California Environmental Protection Agency's Environmental Justice Advisory Committee, co-chaired by Diane Takvorian of EHC, has continued to pioneer the implementation of its environmental justice policies through a series of pilot projects throughout California. The pilot projects are developing innovative methods for cumulative exposure assessment, precautionary approaches, and community participation in environmental regulation.
4. The California Air Resources Board (ARB) on April 28, 2005, approved a finalized version of its land use guidance: Air Quality and Land Use Handbook: A Community Health Perspective. EHC and other community activists throughout the state worked with the ARB on this document and fought successfully for the guidance to include, for the first time in an

environmental regulatory agency document, recommendations for specific buffer distances between freeways, distribution centers, chromium metal platers, gas stations, and other major emission sources, and the nearest sensitive receptors, such as homes and schools.

5. The ARB on December 9, 2004, adopted an Airborne Toxics Control Measure (ATCM) for flame spray operations that will, for the first time, require a buffer zone between the operation and sensitive receptors in the permitting process for this type of operation, which produces hexavalent chromium and nickel emissions. EHC fought successfully for the requirement that new flame spray facilities be no closer than 500 feet to a residential or mixed use zone.

Publications

Burden of Disease fact sheet for health care providers, produced by Nancy Bryant Wallis of Family Health Centers of San Diego, utilizing information on the respiratory health burden attributable to particulate pollution in the Logan community, developed by Dr. Rob McConnell of SCEHSC, with layout and production by SCEHSC. Format: Hard copy Date: Spring, 2005

SALTA (Salud Ambiental, Latinas Tomando Accion) curriculum on land use for the National City community, using a promotora model of popular education. Format: Hard copy Date: Spring, 2005

Barrio Logan Vision map and land use principles, developed to express the community's vision for its future, incorporating environmental health concerns and responding to the community's needs for affordable housing, more park space, and better air quality. The map is reproduced in Environmental Health Perspectives, Vol. 113, Number 5, May 2005, p.A-314. Format: Hard copy, electronic Date: Fall, 2004.

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Community Health Effects of Industrial Hog Operations

Grant Number: R01 ES11359

NIEHS

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Project Aims

The specific aim of the CHEIHO longitudinal health study (LHS) continues to be to characterize off-site exposures from swine CAFOs in North Carolina and evaluate their associations with sensation of odor and irritation, peak expiratory flow, physical symptoms, mood, immunologic function, and health-related quality of life. Other specific aims include advancement of community capacity to participate in research and education and use of scientific research in support of public health policy.

Project Summary

CHEIHO enrolled 102 volunteers from 16 different communities in eastern North Carolina between September 2003 and September 2005. To be eligible, participants had to live within 1.5 miles of at least one swine CAFO, and had to be non-smokers over 18 years of age. An 8 by 12-foot trailer was set up in each neighborhood in a central location near participants' homes. The trailer contained a TEOM/FDMS for monitoring PM₁₀ and semi-volatile PM₁₀, a Partisol for separate collection of coarse and fine particulate matter (PM_{2.5-10} and PM_{2.5}), a single point monitor for measuring hydrogen sulfide, and a weather station for recording temperature, humidity, barometric pressure, rainfall, wind speed and wind direction.

Real-time data from each instrument were electronically recorded and downloaded once per week to a laptop computer. This monitoring platform was located in a clearing behind a participant's house, hidden from the road, and was connected to electrical power from the home or a near-by out building. While environmental data were being recorded, participants collected data twice daily for two weeks. The times-of-day for data collection were chosen by each participant at a training session held prior to the beginning of the study.

Qualitative interviews were conducted with some participants, as well as with non-participating CAFO neighbors, in order to obtain more detailed narratives about impacts of swine CAFOs on neighbors and their communities.

Longitudinal study data collection was completed in September, 2005. Data analysis has begun and will continue along with report writing through the upcoming approval period.

Number of participants 102

Number of community groups 16

Number of counties 3

Number of Black participants 87
Number of White participants 15
Number of female participants 68
Number of male participants 34
Average age of participants 53
Age range of participants 19-89 years

Ethnographic Study Methods

" Multiple Conceptual Frameworks: Nuisance Law, Quality of Life (WHO Definition), Transtheoretical Models of Change, and Critical Action Theory.

" Sample: 49 participants from multiple communities in Eastern North Carolina who were selected using criterion sampling of community members who 1) lived near an industrial hog operation, 2) had experienced hog odor, and 3) were willing to articulate their conscious experience.

" Data Analysis: Observational data, field notes, and demographic information were triangulated with data from in-depth interview transcripts and key informant discussions using inter-subjective validity approach.

Ethnographic study data collection completed in August 2005.

Number of participants 49
Number of interviews 34
Number of counties 3
Number of Black participants 43
Number of White participants 6
Number of female participants 33
Number of male participants 16
Average age of participants 57
Age range of participants 32-89 years
Total interview minutes 1996 minutes
Total interview hours 33.5 hours

Community education and organizing

Information about environmental health and environmental justice was offered to participants

throughout the project □ in recruitment, training sessions, and data collection. During initial meetings the research team shared information about pollutants produced by swine CAFOs, possible health effects of these pollutants, social and economic consequences of vertically integrated agriculture, and the disproportionate location of swine CAFOs in low-income communities of color. This background information was intended to build connections between research and the daily life experiences of CAFO neighbors. During these exchanges the research team learned from participants about impacts of the industry on their lives.

Soon after data collection was completed the research team returned to each community with a preliminary report on environmental measurements and odor ratings specific to that community. Aerial photographs of the neighborhoods were created to show the locations of the monitoring trailer, participants' homes, and local CAFOs. Presentation of the study measurements with participants often led to discussion of questions of environmental injustice and community action.

Public Health Impacts

Preliminary findings from the ethnographic study suggest that participants in some communities became more involved with local organizations working to improve environmental health. Interviews suggest that increased awareness, interest and involvement was related to study participation. Such involvement indicates improved social health and potential for future policy impacts.

Policy Impacts

None yet.

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Community Health and Environmental Reawakening

Grant Number: R25 ES008206

NIEHS

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Project Aims

(1) Community education, outreach and networking

- * environmental health and environmental justice workshops and consultations will be held in communities in the coastal plain and piedmont regions of NC;
- s the state-wide NC Environmental Justice Network that is currently a project of CCT will be strengthened and expanded as an independent non-profit organization;
- * annual Environmental Justice Summits will be organized to promote education, networking, community driven environmental health research and policy change;
- * the community-led CHER Community Research Advisory Committee will be supported to help protect communities participating as partners in environmental health research;

(2) The Tillery People's Clinic

- * AWHC will expand the Tillery People's Clinic through its partnership with the East Carolina University (ECU) Department of Occupational Therapy to include occupational therapy and other allied health services to provide health education and screening for environmental health hazards;
- * special clinics will provide screening for environmental and occupational health problems prevalent in particular populations, such as repetitive motion injuries (meat packing, textile industries) and childhood lead exposure;
- * medical and allied health profession students, while providing services in the People's Clinic, will learn about environmental racism and environmental health conditions in rural African American communities ;
- * faculty and students staffing clinics will provide environmental health education, wellness education, and environmental modifications to promote participation in activities;

(3) Community-driven environmental health research

- * an environmental health needs assessment will be conducted in Tillery and surrounding areas for the purpose of improving outreach, services and surveillance at the People's Clinic;
- * statewide analyses will be conducted to evaluate whether race and income are associated with landfill siting decisions and presence of landfills, and a conceptual model will be developed to evaluate health impacts of landfills as part of the built environment;
- * a graduate level class at UNC-SPH, Community Driven Epidemiology and Environmental Justice, will bring community members and medical providers together with student researchers to conduct community driven and community based participatory research.
- * graduate level occupational therapy students will investigate relationships of the built and

natural environment to levels of home activity and community participation.

CHER will help to educate students, medical professionals and scientists about the importance of community trust in providing patient care and conducting valid environmental health research. Screening in regular and special People's clinics will provide a basis for case studies and surveillance of environmental disease in a population that has high risk but low access and utilization of medical care. A graduate level course that has led to seven masters research papers since 2000 will be enriched and expanded to promote new research. These activities will help rural southern communities in their struggles for environmental justice by improving technical skills and access to information, by building leadership experience and community alliances that cross race and class divisions, and by improving collaboration between community groups, environmental health scientists and health professionals.

Project Summary

The NC Environmental Justice Network held the 7th Annual NC EJ Summit on October 21-22, 2005. Over 100 attendees heard scientific presentations, attended workshops, and participated in plenary sessions.

NCEJN also established quarterly community meetings. There have been 4 quarterly meetings during the past 12 months, with more than 265 people attending, in Warsaw, East Arcadia, Little Washington and Snow Hill. The meetings bring groups and individuals from across the state together to discuss and act on items that impact communities suffering from environmental injustices.

Telehealth grant

Telehealth is an innovative tool to bring health care as well as health education to rural communities. This project is funded by the Golden Leaf Foundation. The People's Clinic in Tillery has received equipment that allow the physician at the Brody/ECU School of Medicine's Telehealth Center to examine and communicate with a patient in Tillery. The equipment includes an otoscope that when positioned in the patient's ear, allows the doctor in Greenville to see the inner ear on the screen, as he would if he were there with the patient. The stethoscope transmits the sound of the patient's lungs and heart to the doctor in real time, while he is directly observing the client on the screen. The Rural Telemedicine Coordinators set up the appointments, complete necessary records and transmit information needed for billing to the Telehealth Center in Greenville. This person also facilitates the exams and consultations by being in the exam room in Tillery with the patient. The equipment is valued at something over \$40,000.00, and now belongs to the People's Clinic. The Golden Leaf grant paid for the installation, including buried cable on our site. The grant also pays all maintenance and service fees for a full two years.

Youth Summer Empowerment Camp

There were 24 children aged 6-15 participated in the Summer Youth Empowerment Camp organized by CCT and AWHC. The camp was directed and staffed by former CCT Nubian Youth members. Children learned about agriculture, health, the environment, social justice.

Sludge Research Planning Workshop

On March 3 & 4, 2006, a workshop was held to discuss a plan for investigating whether health concerns of local residents are associated with exposure to land applied sewage sludge near their homes. In attendance were community members from CCT, Carolina Concerned Citizens, the Biosolids Information Group, Clean Water for North Carolina, the Commonwealth Coalition, and Loudun Neighbors Against Toxic Sludge (NATS). Also

participating were researchers from the University of North Carolina at Chapel Hill, the Virginia Institute of Marine Sciences, Cornell University, Boston University School of Public Health, East Carolina University, the NC Division of Public Health and others.

Research

Two publications have appeared based on Maria Mirabelli's doctoral dissertation which was funded in part by CHER. These papers address exposure of middle schools to air pollution from livestock operations, and relationships between adolescents' asthma symptoms and intensive livestock operations. We also published a study about paper mills, another environmental concern in the Black Belt of NC, and their association with asthma symptoms among middle school children. Jennifer Norton completed her doctoral dissertation, Environmental Injustice, Public Health, and Solid Waste Facilities in NC. One manuscript is under review and two more are in preparation.

Public Health Impacts

Weekly Open Minded Senior meetings continue to draw approximately 65 Tillery-area residents. OMS is supported by CCT and AWHC. These gatherings provide healthy nutrition, tai chi and other exercises, environmental health education, and emotional wellness.

A social work component has been added to the People's Clinic. This has permitted home assessments in collaboration with ECU occupational therapy to evaluate home safety and patients' living conditions. Approximately 6 persons per month are seen by the occupational therapist, and about the same number by the People's Clinic physician.

Policy Impacts

The NCEJN helped educate local citizens in the African-American town of Sandyfield, NC about health and environmental justice issues related to solid waste facilities. The citizens successfully petitioned their town officials which led to denial of a permit to site a new landfill there.

Actions from groups all over the state, facilitated by NCEJN, contributed to the NC Legislature's adoption in July, 2006, of a bill creating a 12-month moratorium on permitting of new landfills in the state. Importantly, the legislation also created a study commission that will evaluate the impact of landfills on low-income and people of color communities. Research conducted under CHER, which will be presented in October at the 2006 NC EJ Summit, will be considered by the commission and the NC Division of Solid Waste Management.

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