

THE CENTER FOR ENVIRONMENTAL JUSTICE AND CHILDREN'S HEALTH

"The end of all education should surely be service to others." (Cesar Chavez)



University of Notre Dame students, November 2006, with Cheryl Johnson, Co-Director of People for Community Recovery (PCR). From left are civil-environmental engineering major Charlotte Low, civil-environmental engineering doctoral student Paul Schramm, Cheryl Johnson, biological-sciences major Brianna Klco, finance and peace-studies double major Matt Cahill, and history major Erin Burns. PCR is located in the Altgelt Gardens Public Housing Projects in south-side Chicago -- the oldest public-housing projects in the U.S. Within one mile of Altgelt Gardens, in all four directions, are four toxic-waste dumps. Although such dumps are prohibited within Chicago city limits, the unincorporated, poverty-ridden, largely Black, south side of town is home to most of Chicago's dangerous waste. One result is that Altgelt Gardens residents have higher-than-average cancer rates. A number of Altgelt Gardens children have been born with cancer. Each of these students directed earlier U.S. pro-bono environmental-justice projects.

What Is Environmental Injustice?

Environmental injustice (EIJ) occurs when minorities, poor people, workers, or children bear disproportionate, often life-threatening, pollution.

The Mission of the Center

Focused on EIJ-related teaching, research, and service, the Center for Environmental Justice and Children's Health is a multi-disciplinary group of Notre Dame faculty, students, and friends dedicated to addressing EIJ. Working pro-bono, center faculty and students focus on three main tasks. They (i) perform risk assessments and environmental-impact analyses in poor, minority, or other vulnerable communities; (ii) help educate and empower potential victims of EIJ; and (iii) promote victims' ability both to understand the risks they face and to give or withhold informed consent to the siting or continued operation of risky facilities that may threaten their health.

EIJ is a serious problem, as evidenced by the fact that children's cancer-incidence rates (0-to-19-year-olds) are annually increasing 40-percent faster than those of adults. Cancer-incidence rates for 14-to-19-year-olds are increasing 50 percent faster than those of adults. One reason for such disparities is that children can be 10 (or more) times more pollutant-sensitive than adults are, when both receive the same exposures. Per pound of body weight, children take in more food, water, air, and therefore pollutants, than do adults. A long-term, 2002 *New England Journal of Medicine* study of 90,000 children concluded that "the overwhelming contribution" to childhood cancers, 12,000 diagnosed annually in the US, is "the environment." Minority and poor children are even more at risk. Both the American Public Health Association and the U.S. Centers for Disease Control confirm that, because of both racism and their relative socioeconomic powerlessness, US people of color and poor people often breathe air that is several times dirtier than that breathed by whites or non-poverty-level people. Partly as a result, they bear higher rates of disease and death, especially from cancer, respiratory diseases, and neuro-developmental disorders, such as ADHD.

Areas of Center Work



Hazel Johnson, on the right, with her daughter Cheryl Johnson, co-directors of People for Community Recovery. PCP is located in the Altgelt Gardens Public Housing Projects on the south side of Chicago. Hazel is known throughout the world as the “Grandmother of the Environmental Justice Movement.” For decades she has worked to protect poor people, minorities, and children from disproportionate levels of pollution.

To help alleviate EJ-related discrimination, Center faculty, graduate students, and undergraduate students (in the Colleges of Arts and Letters, Engineering, and Science) work pro-bono with community groups, throughout the world, in four main areas. These include (1) obtaining EJ-related **research** grants, (2) doing **pro-bono scientific and ethical work**, mainly assisting communities victimized by environmental injustice, (3) providing tuition-free **opportunities for minorities and poor people to study EJ** at Notre Dame, and (4) bringing EJ-related **speakers** to Notre Dame.

Regarding work area (1), **research**, Center faculty do EJ-related, multi-disciplinary **research grants** funded by groups such as the National Science Foundation (NSF) and the National Institutes of Health. Center faculty, working with European scientists, recently completed a four-year, NSF-funded research grant on workplace threats to EJ from occupational exposures to ionizing radiation. Through 2010, Center faculty are also doing EJ-related work on the \$ 3-million NSF GLOBES grant on biology, environment, and society – a grant housed in the Department of Biological Sciences. Through 2009, Center faculty are working on a research grant (from NSF) that evaluates problems with various statistical methods for assessing epidemiological risks from environmental pollution.

Areas of Center Work, continued

Regarding work area (2), **service**, Center faculty – along with Notre Dame undergraduates and graduate students – direct or cooperate in **pro-bono research projects to assist victims of environmental injustice all over the world**. Each year, the Center completes 15 to 30 such student-faculty-community collaborative projects, often at the request of some health-impacted group. Recent projects include analysis of road-building impacts on Puerto-Rican poor; evaluation of informed consent among gold miners in Africa; assessment of health impacts of expansion of an Illinois toxic-waste dump; analysis of distributive impacts and informed consent in a Louisiana African-American community targeted for a uranium-enrichment plant; evaluation of distributive, health, and ethical impacts on the Latino population, because of Los Alamos Laboratories' expansion; and analysis of health, economic, and ethical impacts of medical-waste incinerators in Gary, Indiana.

Often these pro-bono, faculty-student-community projects are done at the request of the affected community. They can take the form of air and water sampling; scientific analysis of some of the roughly 3000 annual U.S. environmental-impact assessments (EIAs) used for siting, relicensing, or expanding some polluting facility; or evaluation of guarantees for local community rights to know and rights to informed consent. Typically, affected minority or poor populations are victimized both by flawed science and unethical or illegal behavior. (Problematic ethical aspects of many EIAs include failure to obtain community informed consent; misrepresentation of, or failure to disclose, relevant risks to the community; disproportionate or unequal health impacts on poor and minority communities; pollution-related threats to due-process rights; denial of compensation for health harms; or delay of funds needed to relocate, away from some pollution threat.) Notre Dame pro-bono work helps ensure that the final projects and EIAs are more scientifically and ethically sound than otherwise they would be. The draft assessments typically are performed by those wishing to build some facility, often are of poor scientific quality, and frequently put poor or minority communities at more serious and unnecessary risk. Protection of community health, government approval of the EIA and the project in question, and determination of conditions governing facility operation are contingent on the scientific and ethical adequacy of the draft EIA. Because poor and minority communities usually are unable to fund outside scientific consultants to protect their health and to assess the ethical and scientific validity of these draft EIAs, they often are victims of both flawed science and flawed ethics that cause discriminatory pollution exposures and health impacts. Faculty and student pro-bono work with poor and minority communities typically achieves **four goals**. It helps provide more equal protection and equal opportunity to poor and minority communities who often are unable to protect their own environmental health. It "baptizes" students in social justice, so that their pro-bono scientific and ethical work is something they can continue for the rest of their lives. It teaches students how to become active, committed democratic citizens – participating in some of the many federal, state, and local hearings and evaluating EIAs that must be approved yearly at all levels of government. Finally, the pro-bono work often results in joint faculty-student publications, even for undergraduates.

Regarding work area (3), **education**, the Center has had a special arrangement with the Provost's Office since 2003, so that minority college students (from Indiana University Northwest, in Gary) are able to take, tuition free, Dr. Shrader-Frechette's environmental-justice course, offered for both biological sciences and for philosophy graduate/undergraduate credit. In the course, these students are able to learn ethical, logical, and scientific techniques for impact analysis and risk assessment – methods that help them protect their and others' neighborhoods from discriminatory pollution. This is especially important work at Notre Dame since northwest

Areas of Center Work, continued

Indiana – from South Chicago, East toward Cleveland (which includes Notre Dame) – is the new US “Cancer Alley.” It is home to a large proportion of U.S. facilities that produce, use, and release toxic chemicals. Regarding work area (4), **sponsoring EJ-related outside lecturers**, the Center has cooperated with departments in the College of Arts and Letters, the College of Engineering, and the College of Science, so as to bring two to four EJ-related speakers to Notre Dame each year. Recent speakers include former US Occupational Safety and Health Administration regional director, Adam Finkel of Princeton University; Gary, Indiana attorney Bryan Bullock, an African-American specializing in EJ and threats to people of color; Michigan State endowed chair Joan Rose, national expert on community water quality; and Gwen Pearson, President of IRATE – Illiana Residents Against Toxic-Carcinogenic Emissions.



Cancer is the leading disease killer of U.S. children and the leading killer of all Americans under age 85. (Heart disease is the top cause of death for those over age 85.) Given the same level of pollution, children are roughly 10 times more sensitive than adults. Even before they are born, children are at risk from pollution since 1 in 5 American women has blood levels of mercury (caused mainly by coal-fired plants) able to cause developmental and neurological disorders in their unborn children. One effect of such pollution may be the rapid increase in attention deficient hyperactivity disorder (ADHD) and autism. In part because of air pollution, in the last 10 years asthma has doubled among U.S. children. Asthma is the leading cause of school absenteeism in the U.S.

