



BUILDING HEALTHY  
ENVIRONMENTS TO  
ELIMINATE HEALTH  
DISPARITIES SYMPOSIUM



MAY 28–29, 2003  
WASHINGTON, DC





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ENVIRONMENTS TO ELIMINATE  
HEALTH DISPARITIES SYMPOSIUM

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## **Acknowledgements**

### **For more information:**

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## EXECUTIVE SUMMARY

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On May 28 and 29, 2003 in Washington, D.C., the U.S. Department of Health and Human Services (HHS), Office of Minority Health (OMH) and U.S. Environmental Protection Agency (EPA), Office of Environmental Justice (OEJ) cosponsored the *Building Healthy Environments to Eliminate Health Disparities* symposium for senior-level Federal government employees. This symposium was the first to explore the intersection between health disparities and environmental justice and the ways in which Federal agencies can develop proactive, comprehensive, and integrated strategies to build healthy environments in communities suffering from health disparities.

The symposium built on the momentum created by HHS's *National Leadership Summit on Eliminating Racial and Ethnic Disparities in Health* in July 2002. As a direct result of this summit, the Health Disparities and Environmental Justice Task Force consisting of 20 members from various agencies was convened in October 2002. Nathan Stinson, Jr., PhD, MD, MPH, Deputy Assistant Secretary for Minority Health, HHS and Charles Lee, Associate Director for Policy and Interagency Liaison, OEJ, EPA, co-chair the task force.

The expected outcomes of the symposium were to:

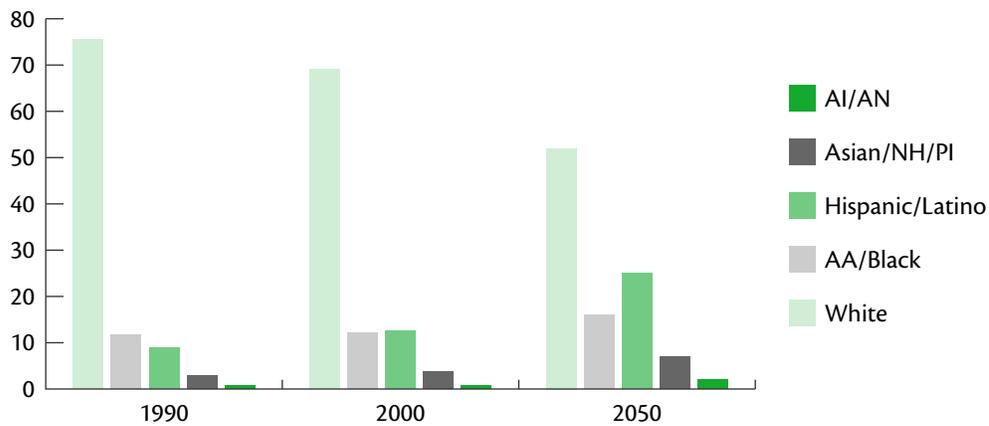
- Identify promising practices from each participating agency.
- Promote better discussion, coordination, and collaboration.
- Develop a framework for building healthy environments to eliminate health disparities, including:
  - Holistic, integrated approaches to building healthy communities by addressing both the physical and social environments.
  - Effective partnership development with and capacity building of communities to address environmental, health, and sustainability issues.
  - Improved translational implementation strategies that link programmatic knowledge and resources with action.

This symposium was the first step in a series of meetings to be organized to mobilize strong partnerships within HHS and with EPA and other Federal agencies. Over 100 individuals from over 12 different agencies participated. Future coordinated activities will be planned to further expand the knowledge base and seek the active participation of affected minority communities.

## Overview

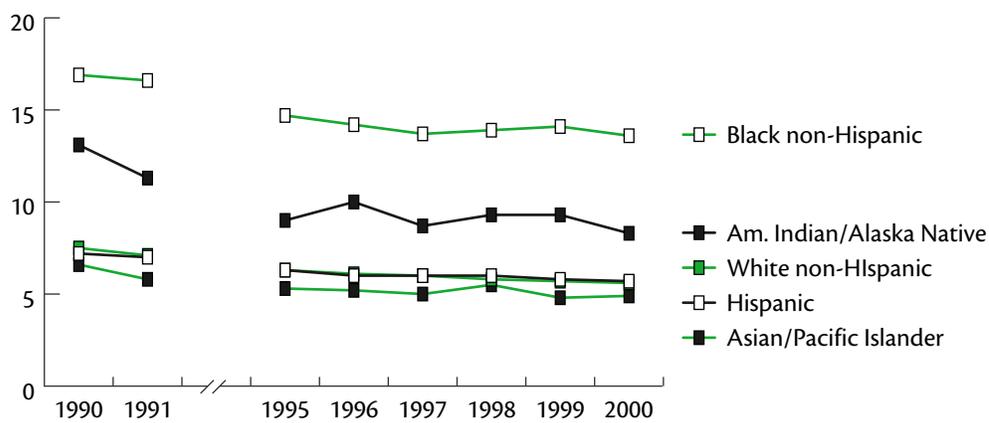
By the year 2050, the Census Bureau projects that the minority populations will outnumber Whites. Health care costs today are steadily rising, and as the U.S. population ages, there will be increased pressure on the health care system. If policies and programs that focus on the elimination of health disparities are not put in place, the strain on already limited resources will exacerbate this problem.

### Increasingly Diverse U.S. Population



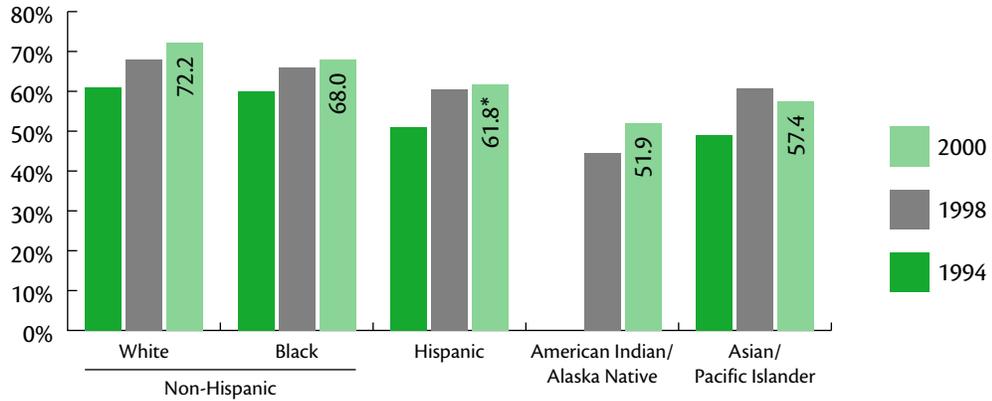
Source: U.S. Census Bureau & *Key Facts Race, Ethnicity & Medical Care*, The Henry J. Kaiser Family Foundation, October 1999

### Disparities in Infant Mortality Rates



Source: CDC/NCHS, National Vital Statistics System, Linked Birth-Infant Death data set

**Mammogram in Last Two Years Among Women 40 Years of Age and Older (age adjusted to the year 2000 standard population)**

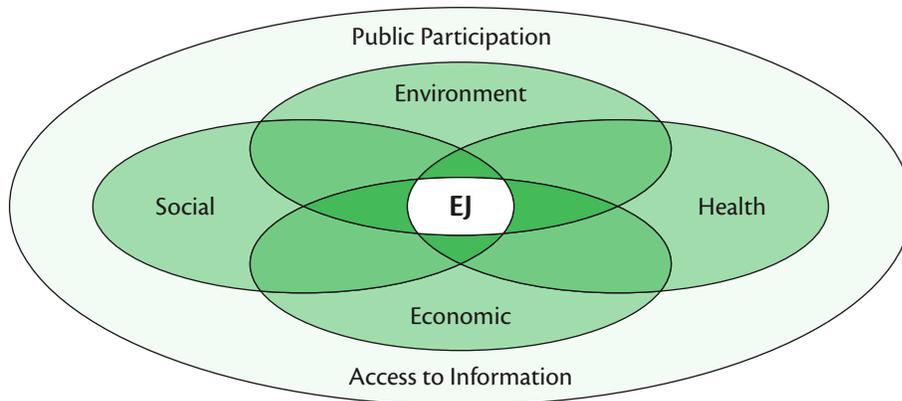


\* Estimate does not meet standards of reliability or precision

Source: CDC/NCHS, National Health Interview Survey

Over the past two decades the nation has also witnessed a remarkable growth of activities in low-income, minority, and tribal communities to create healthier and safer environments. Referred to as the environmental justice movement, these community-based efforts to improve the quality of health of culturally diverse, socially and economically disadvantaged, and medically underserved groups, can potentially play a significant role in the national quest to eliminate health disparities. EPA defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, culture, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

**Environmental Justice Perspective on Healthy Communities**



Source: EPA office of Environmental Justice

## Panels and Presentations

Over the course of two days, panels, presentations, and discussions focused on the following areas:

- **Linkages Between the Environment and Health Disparities.** Moderated by Dr. Stinson, this panel explored the linkages between the environment and health disparities through the different activities conducted by various Federal agencies.
- **Exploring the Nexus.** Dr. Stinson led this discussion with Federal leaders about holistic, integrated approaches to building healthy environments; partnerships with and capacity building of communities; improved Federal coordination and collaboration; and implementation of translational strategies.
- **Communities, Health Disparities, and Environmental Quality.** Quentin Pair, JD, Trial Attorney, Environmental Enforcement Section, Department of Justice, moderated this discussion of federally funded programs that demonstrate how community involvement in partnership development is critical for environmental justice.
- **Prospects for Federal Collaboration.** William H. Sanders, III, DrPH, Assistant Administrator, Office of Pollution and Toxics, EPA, summarized the first day's presentations and recommended practice steps to improve the Federal government's efforts to address environmental health concerns.
- **Voices from the Field.** Rueben Warren, DDS, MPH, DrPH, Associate Administrator for Urban Affairs, Agency for Toxic Substances and Disease Registry (ATSDR), Centers for Disease Control and Prevention (CDC), moderated this panel focused on community-based perspectives on how Federal agencies can better address health disparities, healthy environments, and environmental justice.
- **Current Federal Initiatives.** Moderated by Harold Zenick, PhD, EPA, this final panel provided an overview of various current Federal initiatives that include translational research activities.

## Key Themes

Six key themes that cut across the panel topics emerged from the symposium:

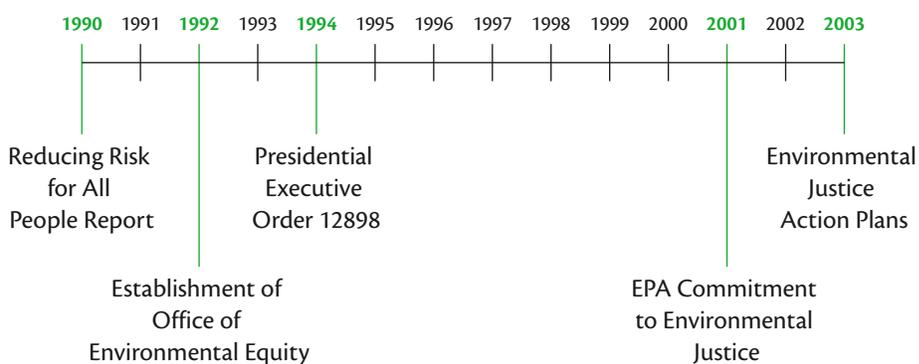
- Leadership is critical in our endeavors.
- No one has all of the answers in achieving healthy environments and eliminating health disparities.
- States look to the Federal sector for leadership in determining priorities, while still seeking to maintain control of their budgets.
- Making an impact on communities requires the collective efforts of the Federal government, states, communities, businesses, and other stakeholders.

- “Gems” exist and Federal programs are unearthing more of them.
- Tap into the local genius in the community.

### Leadership is critical in our endeavors

The importance of leadership was the first major theme of the symposium, and several government leaders expressed their commitment and interest in eliminating health disparities and building healthy environments. Phyllis Harris, JD, Principal Deputy Assistant Administrator, Office of Enforcement and Compliance Assurance, EPA, for example, discussed how EPA’s strategic plan and *Healthy People 2010* objectives are aligned for lead and neurotoxins, hazardous wastes, clean water, and clean air. She also reviewed the various milestones they have achieved in the area of environmental justice, which EPA defines as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, culture, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

### Key Milestones for EPA Environmental Justice Mission



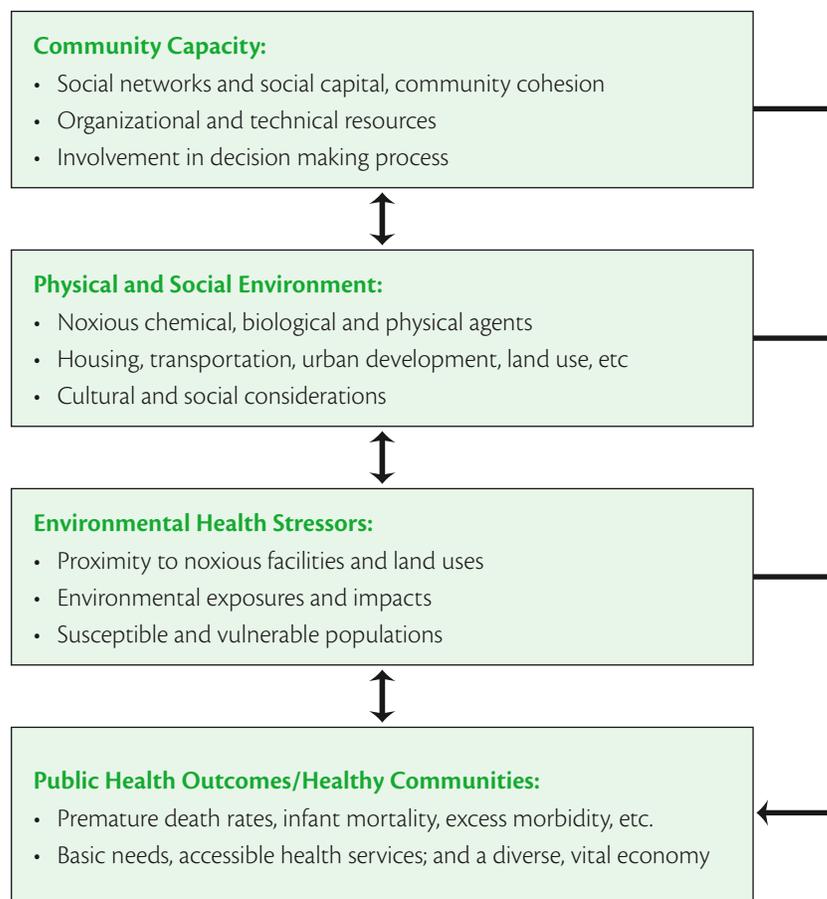
Kenneth Olden, PhD, Director, National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health (NIH) discussed how NIEHS incorporates the complex interaction of genetic, environmental, and behavioral factors in disease development into its approach, as well as how they involve communities as full partners in every aspect of research. Charles Wells, PhD, later explained how NIEHS empowers local communities through its Translational Research Programs. Also at NIH, the Office of Community-Based Research and Outreach was recently created to support community-based participatory research (CBPR), and Dr. Duane Alexander discussed how the NICHD is leading the National Child’s Health Study, the largest study to consider the environment, health, and health disparities over two decades.

Agencies outside of HHS and EPA also have a leadership role to play. Emil Frankel, Assistant Secretary for Transportation Policy, Department of Transportation (DOT), for example, explained that transportation investments and operations are directly linked to health and environmental issues; DOT has several efforts to achieve a balance between mobility, economic productivity, and safety. Roberto Salazar, Administrator, discussed how the Food and Nutrition Service (FNS), Department of Agriculture (USDA) is taking a leadership role in nutrition. He noted that there are several Federal, state, and local programs, agencies, and organizations that promote important nutritional messages, and these efforts must be better coordinated. For the first time, USDA held the national Nutrition Education Conference *Nutrition Connections: People, Programs and Science* this year to begin this type of coordination.

Cecil Corbin-Mark, Program Director, West Harlem Environmental Action, Inc. described how federal leadership in land use decision-making could positively impact the Northern Manhattan community, while Otis Cosby, MD, Meharry Medical College, discussed the need for increased leadership in training health professionals in environmental medicine. In addition, David Baines, MD, Providence Health System, Alaskan Family Practice Residency, presented feedback from tribal leaders and health providers who work in Indian Country, and he outlined several barriers in addressing environmental health issues in Indian Country and the need for Federal leadership in these areas. These barriers include cultural differences based on American Indians' integrated conception of health, spirituality, and subsistence; sovereignty issues that have allowed tribal lands to continue to be polluted; lack of financial capabilities to address these issues; inadequate health care; research challenges surrounding environmental issues and studying small populations; and poor communication between tribes, states, and Federal agencies.

### **No one has all of the answers in achieving healthy environments and eliminating health disparities**

Mr. Lee explained how developing and implementing environmental justice solutions require a holistic approach. This approach is encompassed in a Healthy Communities Model that incorporates community capacity, physical and social environments, environmental health stressors, and public health outcomes. Based on this analysis, no single agency is capable of addressing all of these factors alone, making interagency coordination and cooperation an imperative.

**“Healthy Communities” Model**

Source: C. Lee, 2003

Dr. Sanders outlined practical steps that can be taken now with existing resources and the collaboration of several organizations. He emphasized that Federal agencies must recognize that these steps will not exactly match their individual program mandates, but they must coordinate and develop the division of labor necessary to move forward.

Throughout the symposium, other Federal leaders acknowledged these limits in their program mandates and shared how they are collaborating to take this holistic approach. NIEHS, for example, has worked collaboratively with ATSDR and EPA to make environmental justice a top priority since 1991. Henry Falk, MD, Assistant Administrator, ATSDR, explained his Agency’s role identifying environmental and health problems, not solutions. Their Superfund Program focuses on sites/communities and ascertaining the exposure to, and health effects from, toxic chemicals. To work successfully with these communities, however, ATSDR recog-

nizes that it must effectively partner with other Federal agencies. As a result, it has collaborated with EPA, HHS, and other Federal agencies to address these communities' increasing concerns about access to health care and broader environmental justice issues.

### **States look to the Federal sector for leadership in determining priorities, while still seeking to maintain control of their budgets**

Discussions also focused on the need for Federal agencies to provide more guidance on how to better utilize resources at the state and local levels. Mr. Frankel explained how federal investments in highways or transit systems are driven by transportation improvement plans or programs (TIPS). Funds are balanced between transportation services, the environment, and the impact on communities, such as the creation of trails. These decisions, however, are made at the state and local levels. He also noted how non-profit organizations and local planning and state agencies need better resources, so they have built capacity building resources into proposed safety legislation, which would allow these organizations to assess the impacts of transportation on urban development, health, and environmental justice; share effective practices; and receive technical assistance.

Mr. Corbin-Mark also recommended that Federal agencies work more collaboratively with states, since land use decisions are left to local authorities without any understanding of the health impacts of these decisions. Rather than withholding money from the states, the Federal government could require an assessment of the health risks of these decisions and promote a vision of healthier communities.

Dr. Baines also discussed the need for the Federal sector to provide legislative support for tribal sovereignty since the judicial system has upheld challenges to tribal authority by states and non-tribal individuals. He also called for the acceptance and incorporation of traditional ecological knowledge into Federal and state agencies and programs.

### **Making an impact on communities requires the collective efforts of the Federal government, states, communities, businesses, and other stakeholders**

Mr. Corbin-Mark described the Northern Manhattan Environmental Justice Partnership and their goal to enhance and expand the community-driven environmental justice research agenda nationally and locally in Northern Manhattan. Their approach is to build the capacity of not only community residents, but also academic and health care institutions to effectively address environmental health concerns through research and outreach projects rooted in and responsive to community concerns. Among their major concerns are high asthma hospitalization rates, which the community residents believe are caused largely by exposure

to diesel exhaust from the various facilities that are placed in their community. The Federal government can build a stronger connection between land use decisions, communities, and the public health process while placing higher value on the community's expertise.

Betty Lee Hawks, Special Assistant to the Director, OMH, OPHS, discussed the HHS Asian American and Pacific Islander Initiative. She described a growing movement for grassroots communities around environmental justice issues. Community capacity building is required to effectively address these issues, and both the government and the community play important roles in this process. Substantial information is already available on AAPIs, but Ms. Hawks suggested that several Federal minority health initiatives could be better utilized to address environmental health and justice issues, such as programs involving Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions, and Tribal Colleges and Universities.

Other Federal leaders shared how they are already working more collaboratively with different stakeholders. Lynn Scarlett, Assistant Secretary for Policy, Management and Budget, Department of Interior (DOI) expressed DOI's commitment to developing partnerships and using a holistic, integrated approach. They work with communities to both identify their needs and manage Federal lands. DOI has traditionally invested its resources in Federal lands, but it has become increasingly evident that surrounding communities are impacted by land management decisions. As part of their holistic approach, DOI offers \$500 million in Cooperative Conservation Grants for public land managers to work with counties, cities, non-profit organizations, tribes, and other local communities to improve water quality and overall health in these areas.

Mr. Frankel named mortality rates on roads as a major public health issue and noted a particular need to conduct outreach to minority communities that have lower seat belt usage and higher fatality rates. With the combined support of DOT, state and local safety agencies, non-profit organizations, and others, fatalities and injuries in some of these communities are starting to decline. These types of partnerships are at the center of transportation planning. Similarly, David Jacobs, MD, CIH, Office of Lead Hazard Control, Department of Housing and Urban Development (HUD), discussed how the collective efforts of the Federal government, states, communities, businesses, and other stakeholders have successfully decreased lead health risks.

Deborah Winn, PhD, Acting Chief, Clinical and Genetic Epidemiology Research Branch, Division of Cancer Control and Population Sciences, National Cancer Institute (NCI), discussed NCI's approach to translating research into improved health through partner-

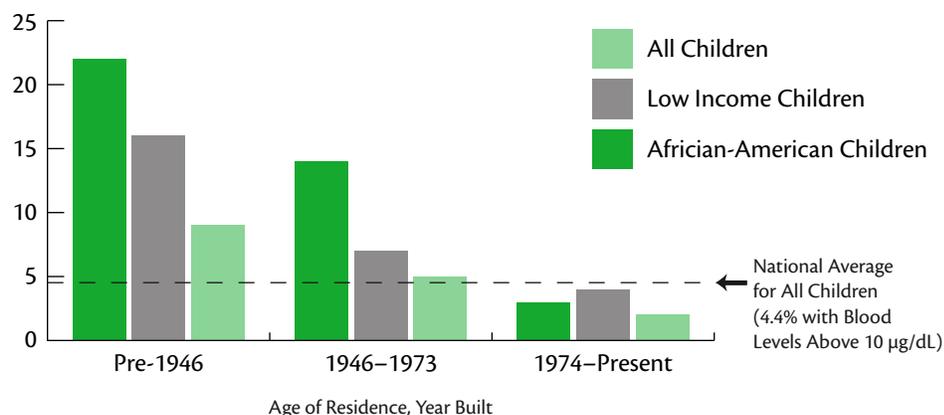
ships. The dissemination of effective intervention approaches is accomplished through the Research Diffusion and Dissemination team and efforts such as NCI's web portal, Cancer Control PLANET (Plan, Link, Act, Network with Evidence-Based Tools). Cancer Control PLANET (<http://cancercontrolplanet.cancer.gov>) is a comprehensive tool for cancer control planning, implementation, and evaluation, sponsored in partnership with CDC, the American Cancer Society, SAMHSA, and Agency for Health Research and Quality. In addition, involvement of the community and consumers in research occurs through programs such as NIEHS/NCI-sponsored Centers for Breast Cancer and the Environment and NCI's Consumer Advocates in Research and Related Activities.

### **“Gems” exist and Federal programs are unearthing more of them**

There is a foundation for producing a tangible impact on the health of communities, and we must build on these successes. Mr. Lee described IWG-sponsored demonstration projects to develop a model that involves multiple Federal agencies to holistically address healthy communities, issues of disproportionate environmental impacts, empowerment of communities, and communities' participation in determining their future and health. Two successful projects, for example, focused on reducing toxic air exposure in Barrio Logan in San Diego, California and reducing children's exposure to lead in East St. Louis. These projects have experienced the benefits of collaborative partnerships with the community, community-based organizations, and the Federal and local government.

Dr. Jacobs explained how the Lead-Based Paint Hazard Control Program resulted in clear results on the population's blood lead levels. These results were achieved through grants to local governments, states, and tribes; training and public education; technical studies; public/private partnerships; regulatory policy development; enforcement of disclosure and lead safe housing regulations; and viability of low-income housing through the promotion of standards of care. He also described the specific solutions that were used to successfully decrease lead health risks, such as capacity building, monetizing benefits, enforcement, HUD's healthy homes concept, increased funding for the Lead Hazard Control and Healthy Homes programs, and strong partnerships.

### National Blood Lead Levels



Source: Third National Health and Nutrition Examination Survey (NHANES III), Phase 2, 1991-1994

Imani Ma'at, EdD, Director, REACH 2010, National Center for Chronic Disease Prevention and Disease Promotion, CDC presented on the Racial and Ethnic Approaches to Community Health (REACH 2010) Demonstration Program and described two successful REACH 2010 projects. The first project, *Charleston and Georgetown Diabetes Coalition: Community-Driven Activities to Improve Diabetes Self-Care*, is a community-driven, diverse, multidisciplinary Diabetes Coalition working to eliminate the health disparities of over 12,000 African Americans with diabetes through improved care and self-management in South Carolina. For this project, five community health advisors from the community were hired. The second project, *Vietnamese REACH for Health Initiative Coalition*, is another CBPR project and aims to prevent cervical cancer among Vietnamese women by raising awareness, educating the community about the benefits of early detection, and encouraging women aged 18 and older to get annual Pap tests, particularly older women. Lay health workers are at the center of this project.

### Tap into the local genius in the community

Finally, Federal agencies need to work with communities to determine what assets, tools, and strategies will help address the problems they see as real priorities in their communities.

Mary Arquette, DVM, PhD, described how the NIEHS-funded Akwesasne First Nation Restoration Initiative, is being conducted by a non-profit Native American organization composed of community-based individuals that work closely with the band council, tribal council, traditional nation council, and many other Native American groups. For this initiative, women, elders, people in the medical community, university partners, and state agencies

were brought together to document the environmental and health issues in the community, strengthen the relationships between the community's traditional cultural practices and health, and identify strategies to resolve these issues.

Similarly, Leslie Rubin, MD, Co-Director, Southeast Pediatric Environmental Health Specialty Unit (PEHSU), Emory University, described how the Anniston, Alabama Vision 2020 Children's Health Project is being led by the community through a newly formed freestanding non-profit entity with a board of directors. Stakeholders from the school system, local colleges and universities, city leadership, social services agencies, local foundations, the business community, and the medical community became heavily involved in this project. This is a Federal demonstration project for revitalization sponsored by the Federal Interagency Working Group on Environmental Justice (IWG). EPA and ATSDR formed PEHSU based on community feedback about PCB levels in residents' blood, and PEHSU worked closely with grassroots community activists to conceptualize a potential children's health initiative that made children the priority and linked community outreach and research.

In addition, Federal agencies have designed programs that "tap into the local genius." NIEHS uses a citizen-based priority setting process is used to set its entire research program agenda and emphasizes the need for both NIH and universities to reward and appreciate community researchers. Naomi Tomoyasu, PhD, discussed how NIH is trying to address this issue through the Office of Community-Based Research and Outreach, National Center on Minority Health and Health Disparities (NCMHD), which was recently established to emphasize the important role of the community in reducing health disparities by drawing on the principles of community-based participatory research (CBPR).

The REACH 2010 Program also relies on the "genius" of communities. In fact, it was developed based on the following three assumptions:

- Racial and ethnic disparities in health have persisted in spite of traditional change strategies.
- Projects ask, "Can we do better if we seriously tap into the genius of local creativity?"
- We are trying to learn from unique experiences in communities across the nation—not to apply "best practices" nationally.

In addition, NCI draws on the expertise of community and consumers in their research. The CARRA program, for example, involves cancer survivors and consumer advocates in both the science and communications. They participate in meetings to provide opinions about NCI research plans and policies, evaluate patient-oriented research at cancer research centers, and are involved in developing and reviewing cancer education pamphlets, videos, or websites.

## Next Steps

Addressing the challenge of environmental justice and health disparities is a long-term process, and to be successful, forward progress must be maintained. Dr. Stinson suggested building on the results of this symposium through the following steps:

- Build on new interagency relationships. This symposium has allowed us to develop a new network within the Federal government to maintain communication, share ideas, and help coordinate and champion these efforts.
- Make strategic investments. This symposium focused on examining how Federal agencies can make of a bigger investment in addressing specific issues—through collaborations, economies of scale, reducing overlap, and investing in the right areas.
- Begin the planning process for the next meeting. The IWG will debrief on what was learned from this symposium and begin exploring how to engage communities to identify real priorities, successes, and how to shape knowledge at the local level to provide valuable assets and tools.

## Recommendations Summary

Throughout the symposium, several recommendations were also made. These recommendations summarized in five major areas: strategic communications, strengthening the science base, building partnerships, policy development and evaluation, and linking people to health services.

### Strategic Communications

- Facilitate communications among all parties working to improve local environmental health.
- Better educate the general public, politicians, and individuals in medical education about key issues.
- Coordinate the promotion of important nutritional messages among the several Federal, state, and local programs, agencies, and organizations.
- Develop educational materials with community environmental health information that is not readily accessible.
- Create a health directory or office to help navigate through the Federal agencies involved in environmental justice and health disparity issues.

### Strengthening the Science Base

- Use a Healthy Communities Model that incorporates community capacity, physical and social environment, environmental health stressors, and public health outcomes/healthy communities and their interactions.
- Develop methods to study environmental impact using a wellness model.
- Provide long-term support and modestly increase funding for community-based, community-controlled research.
- Provide research training for community and youth and cultural sensitivity training for visitors.
- Reward and appreciate community researchers outside academia and NIH.
- Sponsor pilots to advance practice.
- Develop practical assessment tools.
- Develop methods to study small populations.
- Believe in your medicine and the future. Accept and incorporate traditional ecological knowledge into Federal and state agencies and programs.

### **Building Partnerships**

- Achieve integration of collaborative interagency and community partnerships that capture environmental justice principles and address health disparities to ensure that the resources are spent in the most productive ways.
- Build the capacity of communities through effective partnerships.
- Work more collaboratively with state officials.
- Establish ongoing method to coordinate, evaluate, and improve Federal efforts.

### **Policy Development and Evaluation**

- Ensure that attention and resources are focused in ways that produce real impact.
- Build stronger connections between land use decisions, communities, and the public health process.
- Remove the burden of proof from the public.
- Promote physical education and healthier food choices in schools.
- Recognize that action is everything for environmental justice communities.
- Determine who will pay for expensive new technologies to address health disparities and when.
- Recognize emotional and spiritual well-being when appraising acceptable risks.
- Determine acceptable level of toxins from the perspective of what is acceptable to your family.
- Provide more funds to help tribes build their own environmental management infrastructure, as well as for tribe health and surveillance.
- Achieve legislative support for tribal sovereignty.
- Establish free standing American Indian/Alaska Native (AI/AN) Committees for all Federal agencies and in states with tribal land within their boundaries
- Develop new strategies for contaminated sites that take tribal rights into account.

### Linking People to Health Services

- Identify practical solutions to common community concerns.
- Train all health care professionals in environmental medicine.
- Increase the number of summer externships and/or rotations for medical students, dental students, nurses, and other health care practitioners in the area of environmental medicine.
- Create faculty development programs in environmental medicine.
- Fund residency training in environmental medicine.
- Continue to provide continuing medical education in environmental medicine for physicians in practice.
- Adopt an interagency approach with Congress to addressing access to care and funding.
- Explore the use of tele-medicine to enable primary care physicians to consult with occupational and environmental health specialists.
- Organize training that integrates all aspects of environmental health, including partnerships, capacity building, and risk assessment.

## OPENING REMARKS

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### Speaker

#### **Nathan Stinson, Jr., PhD, MD, MPH**

Deputy Assistant Secretary for Minority Health, Department of Health and Human Services (HHS)

Co-Chair, Interagency Task Force on Health Disparities and Environmental Justice

This symposium is an outgrowth of HHS's "National Leadership Summit on Eliminating Racial and Ethnic Disparities in Health" and aims to continue building on the momentum for addressing the unequal burden of disease in communities across the country. At last year's summit, the need to examine the environment, housing, and food as contributors to health disparities, as well as to identify strategies to work more collaboratively to impact these disparities were discussed.

In these Federal efforts, it is important to think from the perspective of the individuals living in these communities. The context and basic assumptions under which many public health practitioners operate, for example, are often not aligned with the daily experiences of communities suffering from health disparities. Prescribing an antibiotic that requires refrigeration to treat a child's ear infection is not an option for individuals in a Navajo community without electricity. We cannot expect individuals to apply wet to dry dressings to burns four times a day if they have no running water and must haul water from several miles away.

Appropriate intervention points are needed for each particular circumstance. Given this need and the prevalence of health disparities, it is critical for HHS to examine these intervention points and the opportunities to work with others who can help impact these issues from a comprehensive perspective.

This symposium is the first step in a series of meetings to be organized to mobilize strong partnerships within HHS and with EPA and other Federal agencies. Over 100 individuals from over 12 different agencies participated. Future coordinated activities will be planned to further expand the knowledge base and seek the active participation of affected minority communities.



# OVERVIEW

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## Speakers

### **Nathan Stinson, Jr., PhD, MD, MPH**

Deputy Assistant Secretary for Minority Health, HHS

Co-Chair, Interagency Task Force on Health Disparities and Environmental Justice

### **Charles Lee**

Associate Director for Interagency Liaison and Policy

Office of Environmental Justice (OEJ), Environmental Protection Agency (EPA)

Co-Chair, Interagency Task Force on Health Disparities and Environmental Justice

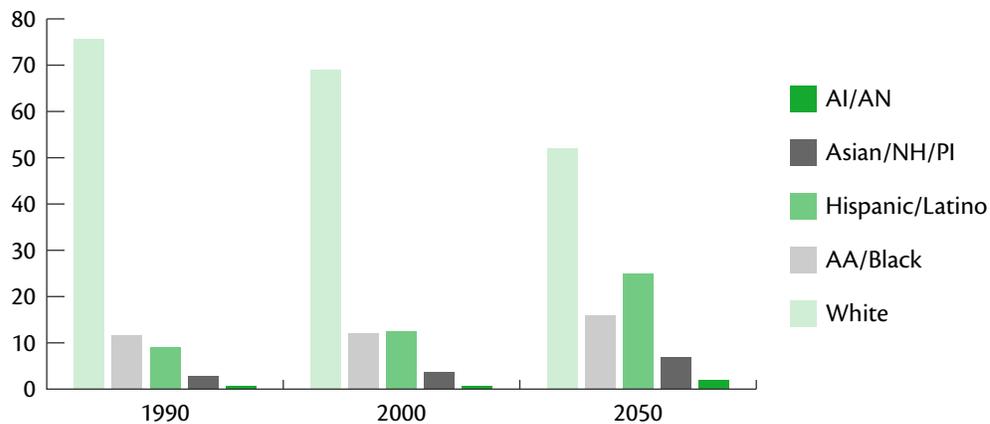
## Office of Minority Health: Eliminating Racial and Ethnic Health Disparities

Nathan Stinson, Jr., PhD, MD, MPH

### Health disparities today

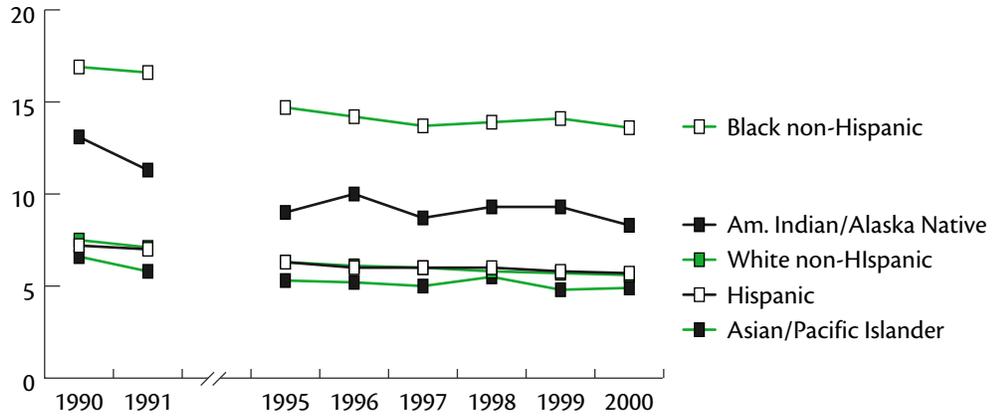
By the year 2050, the Census Bureau projects that the minority populations will outnumber Whites. Health care costs today are steadily rising, and as the U.S. population ages, there will be increased pressure on the health care system. If policies and programs that focus on the elimination of health disparities are not put in place, the strain on already limited resources will exacerbate this problem.

### Increasingly Diverse U.S. Population



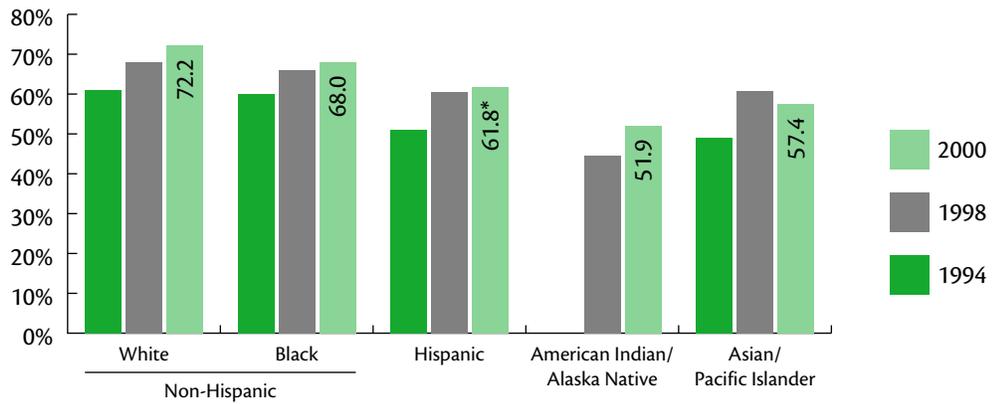
Source: U.S. Census Bureau & *Key Facts Race, Ethnicity & Medical Care*, The Henry J. Kaiser Family Foundation, October 1999

**Disparities in Infant Mortality Rates**



Source: CDC/NCHS, National Vital Statistics System, Linked Birth-Infant Death data set

**Mammogram in Last Two Years Among Women 40 Years of Age and Older (age adjusted to the year 2000 standard population)**



\* Estimate does not meet standards of reliability or precision

Source: CDC/NCHS, National Health Interview Survey

**Office of Minority Health (OMH), HHS**

Located in the Office of the Secretary, Office of Public Health and Science, OMH advises the Secretary and the Assistant Secretary of Health on minority health issues and coordinates HHS-wide efforts. Its mission is to improve the health of racial and ethnic minority populations through the development of health policies and programs that will help eliminate health disparities.

Using a number of methods, OMH pursues its mission by awarding grants and cooperative agreements, providing technical assistance and training, ensuring that adequate data on racial and ethnic populations are collected and disseminated, and seeking strategic partnerships. OMH serves the populations who disproportionately live and work in unhealthy environments, suffer more from chronic illnesses, and experience higher mortality rates: African Americans, American Indians/Alaska Natives, Asian Americans, Hispanics/Latinos, and Native Hawaiians and other Pacific Islanders.

### **OMH strategies and programs**

The *HHS Initiative to Eliminate Racial and Ethnic Disparities in Health* employs five cross-cutting strategies that are used as a means to conceptualize, direct, strengthen, and integrate actions and activities not only within and across HHS, but also across the Federal and others levels of government, the public and private sectors, health and non-profit entities, and the nation. These strategies are strategic communications, strengthening the science base, building partnerships, policy development and evaluation, and linking people to health services.

#### ***Strategic Communications***

The strategic communications strategy involves communicating both OMH activities and important messages to individuals in communities about how to improve their health. The Office of Minority Health Resource Center (OMHRC) and various health campaigns—such as *Closing the Health Gap*, *Take a Loved One to the Doctor Day*, and *HealthierUS*—are key implementation strategies in this area.

#### ***Strengthening the Science Base***

*Healthy People 2010* is a statement of national health objectives designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats. Composed of 28 focus areas, it is designed to achieve two overarching goals. The first goal is to help individuals of all ages increase life expectancy *and* improve their quality of life. The second goal is to eliminate health disparities among different segments of the population. The environmental health section bridges our goals to build healthy environments and to eliminate health disparities.

#### ***Building Partnerships***

Successfully addressing health disparities requires building partnerships among Federal, state, and local community-based organizations. OMH held the *National Leadership Summit on Eliminating Racial Ethnic Disparities in Health* to provide a national forum for such collabora-

tion; highlight best practices in reducing health disparities at the national, state, local, and tribal levels; and provide skills building training for community organizations. With 2,250 attendees and thousands more accessing the information on the website, the summit continues to draw national attention to health disparities.

### ***Policy Development and Evaluation***

OMH coordinates various activities related to White House Initiatives, the Advisory Committee on Minority Health, and building cultural competency.

### ***Linking People to Health Services***

Various OMH activities are also helping to better link minority populations to health services, including the Minority HIV/AIDS Initiative, demonstration grants, and the READII Immunization Initiative.

## **Office of Environment Justice, EPA: Building Healthy Environments to Eliminate Health Disparities**

**Charles Lee**

### **What is Environmental Justice?**

EPA has a strong commitment to environmental justice—the fair treatment and meaningful involvement of all people regardless of race, color, national origin, culture, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Over the past two decades the nation has also witnessed a remarkable growth of activities in low-income, minority, and tribal communities to create healthier and safer environments. Referred to as the environmental justice movement, these community-based efforts to improve the quality of health of culturally diverse, socially and economically disadvantaged, and medically underserved groups, can potentially play a significant role in the national quest to eliminate health disparities.

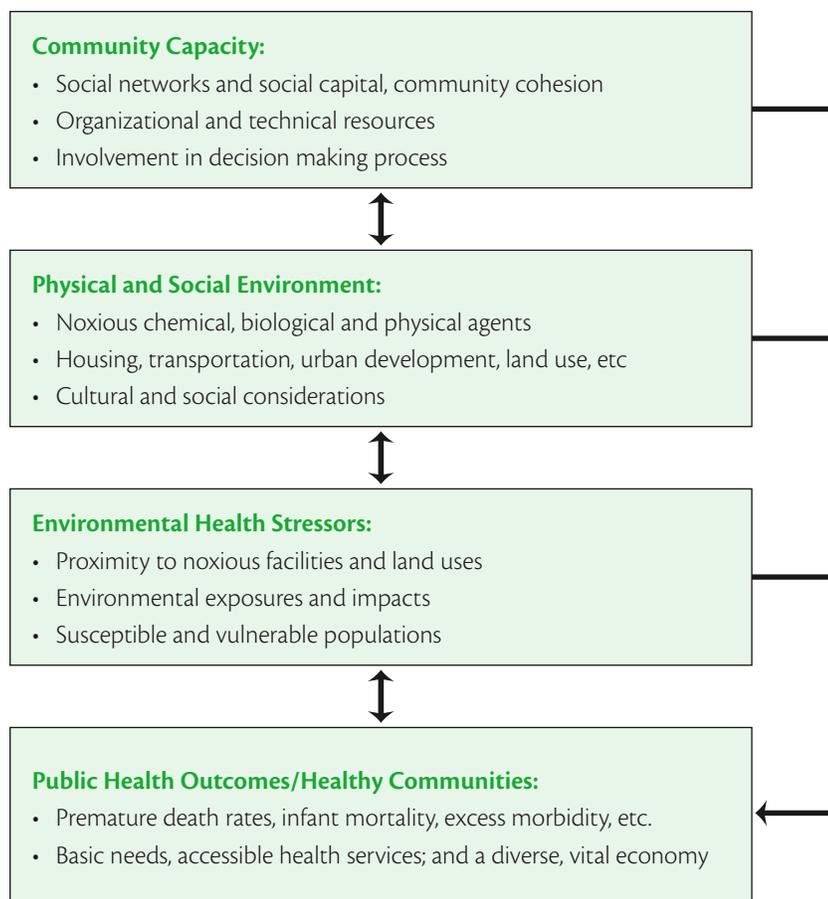
There is extensive evidence of the disproportionate environmental impacts on minority and disadvantaged populations. These impacts can be seen in facility sitings, environmental exposures, and health effects.

## Evidence of Disproportionate Environmental Impacts

Facility Siting	Environmental Exposures	Health Effects
<p><b>United Church of Christ:</b> National study found race to be most significant variable in differentiating between zip codes with treatment, storage, and disposal facilities (TSDFs) and zip codes without (1987)</p> <p><b>National Center for Geographic Information and Analysis:</b> Latinos, African Americans disproportionately represented in census tracts with Toxics Release Inventory (TRI) facilities in Los Angeles County (1993)</p> <p><b>Hamilton:</b> Percentage of registered voters statistically significant in predicting hazardous waste facility expansion (1993)</p> <p><b>UNC &amp; Concerned Citizens of Tillary:</b> Confined Animal Feeding Operations (CAFOs) more likely to be located in poorest and non-white areas of North Carolina (2000)</p>	<p><b>Burns:</b> DDT, DDE, dieldrin levels higher in Mexican Americans than Anglos in south Texas (1974)</p> <p><b>ATSDR:</b> Blood lead levels disproportionate by race and income (1988)</p> <p><b>Argonne National Laboratory:</b> Blacks and Hispanics disproportionately represented in urban non-attainment areas (1992)</p> <p><b>West:</b> African Americans higher levels of subsistence fish consumption from Detroit River (1992)</p> <p><b>Williams:</b> Contamination of water acutely problematic for Mexican American population of Tucson, Arizona; contaminants include TCE, VOCs, and chromium (2002)</p>	<p><b>World Resources Institute:</b> Estimated 300,000 farm worker suffer pesticide-related illnesses each year (1985)</p> <p><b>Robinson:</b> Latino and African American males more likely than white males to be at risk from occupational injury or illness (1989)</p> <p><b>Akwesasne Task Force on Environment:</b> Loss of subsistence consumption due to contamination contributes to rise of type II diabetes, heart disease, obesity, etc. (2002)</p> <p><b>Columbia School of Public Health:</b> African American women in South Bronx exposed to auto exhaust tended to have smaller babies with smaller head circumferences (2003)</p>

This movement, however, is moving beyond simply identifying environmental and health problems to proactively seeking solutions. Developing and implementing these solutions require a holistic approach and a Healthy Communities Model that incorporates community capacity, physical and social environments, environmental health stressors, and public health outcomes. Based on this analysis, no single agency is capable of addressing all of these factors alone, making interagency coordination and cooperation an imperative.

### “Healthy Communities” Model



Source: C. Lee, 2003

### Addressing Physical and Social Environments to Build Healthy Communities

In recent years, several discussions and studies have drawn attention to the need to address physical and social environments together. The World Health Organization’s definition of environment health encompasses many of these aspects:

“In its broadest sense, environmental health comprises those aspects of human health, disease, and injury that are determined or influenced by factors in the environment. This includes the study of both direct pathological effects of various chemical, physical, and biological agents, as well as the effects on health of the broad physical and social environment, which includes housing, urban development, land-use and transportation, industry, and agriculture.”

These issues have also been incorporated into *Healthy People 2010*:

“Physical and social environments play major roles in the health of individuals and communities. The physical environment includes air, water, and soil through which exposure to chemical, biological, and physical agents may occur. The social environment includes housing, transportation, urban development, land use, industry, and agriculture and results in exposures such as work-related stress, injury, and violence.”

As a result, *Unifying Public Health and Environment for the 21st Century: A National Dialogue* developed as one of many national dialogues to unify public health and environmental issues; it involves the Institute of Medicine, National Institute for Environmental Health Sciences, Pew Environmental Health Commission, PolicyLink, and Interagency Working Group on Environmental Justice (IWG). In addition, the IWG has sponsored a number of demonstration projects to develop a model that involves multiple Federal agencies to holistically address healthy communities, issues of disproportionate environmental impacts, empowerment of communities, and communities’ participation in determining their future and health. Two successful projects, for example, focused on reducing toxic air exposure in Barrio Logan in San Diego, California and reducing children’s exposure to lead in East St. Louis. These projects have experienced the benefits of collaborative partnerships with the community, community-based organizations, and the Federal and local government.



# LINKAGES BETWEEN THE ENVIRONMENT AND HEALTH DISPARITIES

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## Moderator:

### **Nathan Stinson, Jr., PhD, MD, MPH**

Deputy Assistant Secretary for Minority Health, HHS

Co-Chair, Interagency Task Force on Health Disparities and Environmental Justice

## Speakers

### **Phyllis Harris, JD**

Principal Deputy Assistant Administrator, Office of Enforcement and Compliance Assurance,  
EPA

### **Kenneth Olden, PhD**

Director, National Institute of Environmental Health Sciences (NIEHS), National Institutes of  
Health (NIH)

### **Henry Falk, MD**

Assistant Administrator, Agency for Toxic Substances and Disease Registry (ATSDR), Centers  
for Disease Control and Prevention (CDC)

### **Naomi Tomoyasu, PhD**

Chief, Office of Community-Based Research and Outreach

National Center on Minority Health and Health Disparities (NCMHD), NIH

### **Duane Alexander, MD**

Director, National Institute of Child Health and Human Development (NICHD), NIH

## Panel Overview

This panel explores the linkages between the environment and health disparities through the different activities conducted by various Federal agencies.

## EPA and Environmental Justice

### Phyllis Harris, JD

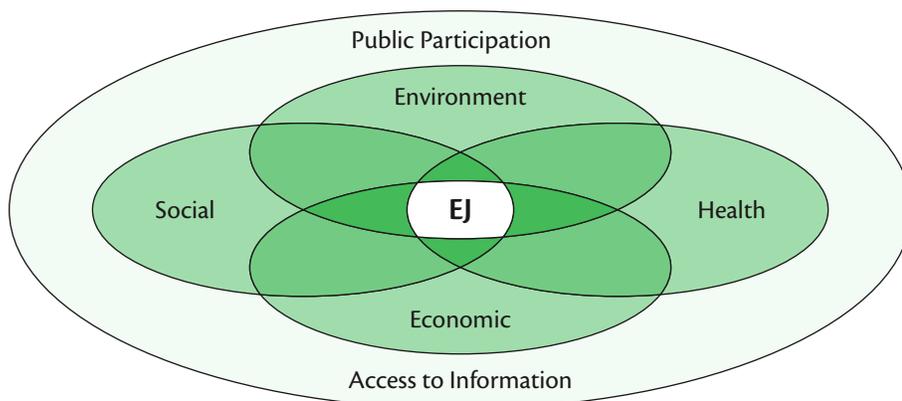
Principal Deputy Assistant Administrator, Office of Enforcement and Compliance Assurance, EPA

### EPA Environmental Justice Commitment

EPA defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, culture, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. The goals of the EPA environmental justice mission are to:

- Integrate environmental justice in all policies, programs, and activities of EPA and other Federal agencies.
- Strengthen laws, policy, assessment, research, and programmatic foundations of environmental justice.
- Promote holistic, proactive, collaborative, and integrated approaches that address disproportionate, cumulative, adverse impacts to vulnerable, susceptible populations.

### Environmental Justice Perspective on Healthy Communities

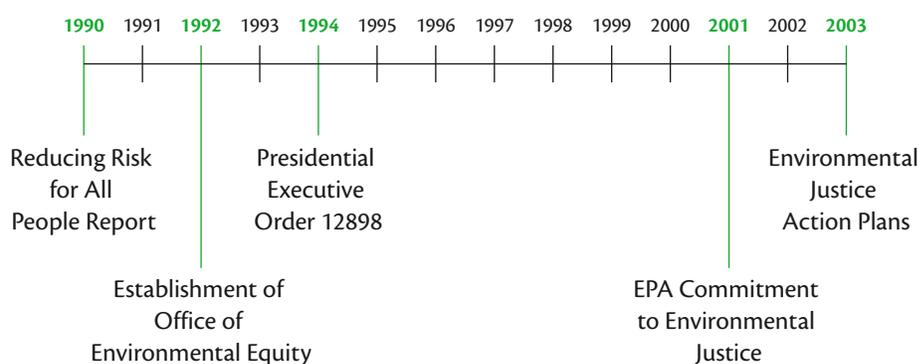


Source: EPA office of Environmental Justice

EPA has achieved several milestones in meeting its environmental justice mission, beginning with the publication of *Reducing Risk for All People* in 1990. This groundbreaking report created a link between where people live, facility sitings, and the impact on communities, and two years later, the Office of Environmental Equity, now named the Office of Environmental Justice, was created. Presidential Executive Order 12898 (1994) defined environmental justice

expectations for the Federal government, and in 2001, Christine Todd Whitman demonstrated EPA's commitment to environmental justice by issuing the first environmental justice policy statement. This policy articulated the need to ensure all people enjoy both the same degree of protection from environmental and health hazards and equal access to the decision-making process. Furthermore, the policy recognized that existing environmental statutes provide many opportunities and tools to meet the environmental justice mission. A major step in implementing these goals was achieved this year as every EPA regional and program office developed and submitted environmental action plans.

### Key Milestones for EPA Environmental Justice Mission



### Environmental Justice Relationship to Health Disparities

EPA's mission is to protect human health and safeguard the natural environment for all people, and ensure that no population bears a disproportionate burden, especially those which are susceptible, vulnerable, or socioeconomically disadvantaged. Research has shown that patterns of health disparities are not accidental and are specifically linked to facility sitings and their air toxic emissions, discharges in waterways, and other means of pollution.

For this reason, there is significant overlap in the *Healthy People 2010* objectives and the EPA strategic plan in areas such as lead and neurotoxins, hazardous wastes, clean water, and clean air (see Appendices). Enforcement of statutes is also playing a large role in meeting some of these goals, particularly for clean air. In April 2003 alone, EPA announced four major settlements related to violations of the Clean Air Act. Nearly \$30 million was also recently collected through supplemental environmental projects.

### **Building Healthy Communities: EPA Community-Based Efforts**

Disproportionately burdened racial/ethnic and socioeconomically disadvantaged communities have pressing needs, and EPA is engaging in the following community-based efforts to address these needs:

- Interagency Environmental Justice Revitalization Projects
- Brownfields, Smart Growth, and Community Revitalization efforts
- Supplemental Environmental Projects (SEPs)
- Environmental Justice Collaborative Problem-Solving Grants
- Environmental Justice Small Grants
- Dispute Resolution Training for Communities
- Regional Environmental Justice Listening Sessions
- Children’s Health Program, which focuses on lead and asthma

These activities are helping to provide access to resources, information, and opportunities for communities to become involved in achieving environmental justice goals.

### **Building Healthy Communities: Our Common Mission and Vision**

To impact health disparities, we must share a common vision to build and achieve a “healthy communities” model to protect and improve public health in minority, low-income, and tribal communities. This vision can be achieved through the following strategies:

- Integrate approaches that ensure healthy communities and address health disparities.
- Achieve integration of collaborative interagency and community partnerships that capture environmental justice principles.
- Build the capacity of communities through effective partnerships.

## The Complex Relationship Between Poverty, Pollution, and Health Status

### Kenneth Olden, PhD

Director, National Institute of Environmental Health Sciences (NIEHS), NIH

*"We need to revalue public health: we need to bring field science and laboratory science and sociological disciplines together to improve our understanding of how to control disease."* Michael Bishop, Nobel Prize laureate

Many of the diseases that are faced in inner-city and low-income communities are preventable and related to environmental justice issues. For this reason, NIEHS, one of 17 institutes in NIH, has worked collaboratively with ATSDR and EPA to make environmental justice a top priority since 1991. To understand the NIEHS role in building healthy environments and eliminating health disparities, it is important to examine the role that the environment plays in disease development and ideology and our Institute's philosophical approach to environmental justice.

### The Environment and Disease Prevention

*"Genetics loads the gun, but the environment pulls the trigger."* Judith Stern, University of California at Davis

There are three main causes of human disease: genetics, environment, and behavior, age, or stage of development. Most of the complex diseases that we are trying to address today—cancer, Alzheimer's, Parkinson's, asthma, osteoporosis, rheumatoid arthritis, and diabetes—are diseases that are complex in ideology; they are caused by the interaction of genetic, environmental, and behavioral factors. Solutions to addressing these diseases, therefore, must be developed with a holistic approach that recognizes the equal importance of these factors, and more research is required to better understand these relationships.

NIH defines the environment broadly. The environment includes the chemical, physical and biological agents to which we are exposed in our regular everyday surroundings, but also lifestyle choices, socioeconomic status, poverty, diet and nutrition, and behavior. NIEHS supports research in all of these areas, and to ensure the widespread dissemination of this definition in both the public and private sector, our institute commissioned the formation of the Institute of Medicine Roundtable on Environmental Health Sciences, Research, and Medicine.

NIEHS uses a three-pronged approach to prevent diseases that is comprised of risk factors, measures and intervention prevention strategies, and research translation for communities. The first strategy is to identify both the genetic and environmental risk factors, which has been done with some success with breast cancer. Once these risk factors have been identified, strategies must be developed to prevent or eliminate these exposures, and finally, research must be conducted to ensure these findings are effectively translated into practices that will have an impact in communities.

### **NIEHS Approach to Environmental Justice**

The underlying premise of environmental justice is twofold. Disadvantaged communities disproportionately have higher exposure to the most hazardous environments, and the scientific foundation is needed to demonstrate this relationship to the public, law and policy makers, and the healthcare industry. There are three compelling reasons to focus on disadvantaged communities. The first reason is the concern for human suffering, since the disproportionate morbidity and mortality that people are experiencing are caused by preventable diseases. Health care costs also currently exceed \$1 trillion and continue to increase. Preventing morbidity and mortality will keep our population healthy and productive and, therefore, minimized costs. Not addressing these disparities will overwhelm our health care and social systems as the ethnic minority population becomes the majority.

NIEHS employs a citizen-based priority setting process for its entire research program agenda. NIEHS Town Meetings, for example, provide opportunities to acquaint the public about NIEHS activities, gather public input on their environmental health concerns and our research agenda, and develop and promote partnerships and networks among and between Federal agencies, academic institutions, and community organizations.

### **Community-Based Participatory Research**

NIEHS supports community-based participatory research (CBPR) projects in which research is for, by, and with the community. These efforts involve the community as full partners in every aspect of research—from research design to publication and dissemination of information; in some cases, grants are based within the community. The goals of CBPR are to reduce morbidity, mortality, and health care costs; enhance productivity, employment, and community infrastructures; and translate research findings into practice. This research must also be accountable to measurable results.

CBPR produces several benefits. It enhances the relevance and usefulness of our science, brings together the strengths and expertise necessary to conduct and translate research, improves the quality and validity of the research, introduces more objectivity, enhances trust, reduces the cultural gap between researchers and community members, and may provide employment opportunities to the community.

### **Concerns for the Future**

As we continue to work towards our environmental justice goals, we must confront some key challenges. The most critical concern is that disparities will grow since new technologies, such as cell replacement and gene therapies, will be very expensive, and many Americans will not be able to afford them. Other concerns include the need to ensure that attention and resources are focused in ways that produce real impact and that community researchers are rewarded and appreciated by both NIH and universities.

## Linkages Between the Environment and Health Disparities: The Role of ATSDR

### Henry Falk, MD

Assistant Administrator, Agency for Toxic Substances and Disease Registry (ATSDR)

### Background

ATSDR was created by 1980 Superfund legislation, the congressional response to emergency releases of hazardous substances and abandoned waste sites and the only environmental legislation that created a separate public health agency to deal with hazardous waste sites.

Its mission is to serve the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and disease related to toxic substances. Specifically, its goals are to:

To meet these goals, ATSDR offers various products and services, such as public health assessments, health consultations, health studies, exposure investigations, community involvement, the National Exposure Registry, toxicological profiles, applied research, health education, and emergency surveillance and response. Its national priorities list contains approximately 2,000 sites, and citizens can petition to have their communities examined. These sites often have dozens to hundreds of hazardous chemicals with many pathways to exposure.

### ATSDR's Commitment and Role in Environmental Justice and Health Disparities

ATSDR is committed to ensuring environmental justice by promoting fair treatment and meaningful involvement of all people exposed to toxic chemicals regardless of race, ethnicity, culture, income, or educational status. Within ATSDR, the Office of Urban Affairs provides leadership in promoting the health of high-need and underserved populations and assures environmental justice related to potential exposure to toxic and hazardous substances.

In addition, an understanding of ATSDR's role in environmental justice and health disparities can be understood by examining its work at its Superfund sites.

### Vermiculite Mining in Libby, Montana

One Superfund site is a vermiculite mine that operated from the 1920s to 1990 in Libby, Montana. The mined vermiculite was used in fertilizer, concrete, and insulation, and raw ore contained up to 25% tremolite asbestos. This contaminated ore was shipped all over the U.S. and supplied 80% of the world's vermiculite.

ATSDR conducted asbestos medical testing with 7,307 people in this community, and 18% of these individuals and 51% of former W.R. Grace employees had pleural abnormalities in the lining of their lungs, making them high risk for developing mesothelioma, asbestosis, and lung cancer. In this low-income community, 23% of residents do not have health insurance, and among those that do, 30% have policies with up to or more than a \$2,500 deductible. Furthermore, these individuals must drive six hours to reach a pulmonary physician.

Much of ATSDR's role is focused on identifying environmental and health problems, not solutions, since providing healthcare services is beyond the scope of its mission. Recognizing that our agency cannot work effectively with these communities unless solutions are also addressed, ATSDR worked with HRSA to provide the Libby, Montana community with a primary healthcare clinic and with the Substance Abuse and Mental Health Services Administration (SAMHSA) to support mental health facilities.

### Chemical Facilities in Mossville, Louisiana (Calcasieu Parish)

There are dozens of chemical facilities in the low-income community of Mossville, Louisiana in Calcasieu Parish, and the citizens of this community provided the results of privately conducted blood dioxin tests to EPA; EPA requested that ATSDR review the blood dioxin results. ATSDR met with community members and conducted an exposure investigation that revealed elevations in persons living in Bayou D'Inde and Mossville. The person with the highest dioxin level lived in Mossville and had no known occupational exposure to dioxins.

One of the challenges in Mossville is the different expectations held by public health agencies and the community. From a science perspective, interpreting these dioxin levels requires several questions that will take years to research, including the effects at "low" dioxin levels, when and how the environment was contaminated, elevation of penta-chlorinated congener, relationship to nearby industry, and pathways of exposure. The community, however, is seeking political, economic, and social solutions to address the immediate living conditions in their community, including buyouts and health-care services

For ATSDR to effectively meet its goals, it must engage EPA, HRSA, and other organizations to implement solutions such as primary health care clinics in communities such as Mossville.

### **Examples of Partnerships**

ATSDR has other established partnerships to assist in meeting its goals.

#### **Cooperative Agreement with the Minority Health Professions Foundation (MHPF)**

Ten years of toxicology research from MHPF member institutions, which are Historically Black Colleges and Universities (HBCUs), has assisted ATSDR in filling data gaps for hazardous substances found at waste sites and in the environment. A new cooperative agreement will focus on applying the findings from previous years of toxicological research toward health services, including environmental medicine and health education.

#### **Environmental Justice Resource Center (EJRC) at Clark Atlanta University**

ATSDR has partnered with the EJRC for over four years to facilitate environmental justice in minority and underserved communities. A new cooperative agreement will focus on applying recommendations, strategies, and lessons learned. Environmental justice resources will be developed and shared with government agencies, non-governmental organizations, and local community members.

### **Conclusion**

The ATSDR Superfund Program focuses on sites/communities and ascertaining the exposure to, and health effects from, toxic chemicals. It has collaborated with EPA, HHS, and other Federal agencies to address these communities' increasing concerns about access to health care and broader environmental justice issues. To work successfully with these communities, ATSDR recognizes that it must effectively partner with other Federal agencies.

## National Center on Minority Health and Health Disparities

### Naomi Tomoyasu, PhD

Chief, Office of Community-Based Research and Outreach  
National Center on Minority Health and Health Disparities (NCMHD), NIH

A greater proportion of minorities and poor communities live in polluted environments and work in hazardous conditions and occupations. The National Center on Minority Health and Health Disparities (NCMHD) mission is to promote minority health and lead, coordinate, support, and assess NIH efforts to reduce and ultimately eliminate health disparities. To support its mission, it conducts and supports basic, clinical, social, and behavioral research; promotes research infrastructure and training; fosters emerging programs; disseminates information; and reaches out to minority and other health disparity communities.

Since the factors contributing to health disparities are complex and involve multiple influences, strategies and approaches to effectively address them must be integrated and comprehensive. For this reason, NCMHD established three priority areas: research capacity and infrastructure building, research, and outreach with community and community-based organizations.

### Research Capacity and Infrastructure Building

Three types of programs address the research capacity and infrastructure building priority area: extramural loan repayment programs, Centers for Excellence, and an endowment program. There are two extramural loan repayment programs, one to support an increase in highly qualified research professionals and research careers focused on health disparities; the second supports health professionals from disadvantaged backgrounds in clinical research careers. The Center's Project EXPORT also establishes Centers of Excellence to support the training of researchers representative of minority and health disparity populations, as well as facilities construction for health disparities research at designated institutions.

NCMHD also supports institutions that make significant investments in the education and training of underrepresented minority and socioeconomically disadvantaged individuals. Our endowment fund provides new investigators an opportunity to conduct pilot programs, while allowing our Center to build effective partnerships with communities.

## Research

NCMHD is enhancing and expanding its research program and will continue to support research that examines the effectiveness of health interventions that target minority groups.

## Outreach with Community and Community-Based Organizations

The Office of Community-Based Research and Outreach was recently established to address this priority area. Drawing on the principles of community-based participatory research (CBPR), this Office emphasizes the important role of the community in reducing health disparities. CBPR begins with a research topic of importance to the community and aims to combine knowledge and action for social change to improve community health and eliminate health disparities. Community members are actively involved in choosing the research topics, developing the projects, collecting the data, analyzing the data, and interpreting the results. Projects are community-driven, responsive, and designed to be culturally appropriate. Evaluation is also very critical to achieve accountability and assess the effectiveness of specific interventions.

A major challenge in these efforts, however, is that few community members and CBPR experts are doing CBPR due to a lack of incentives and capacity for both communities and academic researchers. Establishing good working relationships within communities, for example, requires time and energy, and junior faculty members are often pressured by tenure requirements to do more traditional research, despite the great need for CBPR.

The capacity for researchers and community-based organizations to partner together in these projects also must be developed. Researchers skilled in more traditional research and design may not be familiar with how to conduct research with community partners. Likewise, community-based organizations need capacity building to conduct interventions that involve effectiveness evaluation.

## Office of Community-Based Research and Outreach Initiatives

Initiatives planned for this new Office will be designed to:

- Continue to exchange information with internal and external organizations and expand the knowledge of CBPR through conferences and symposiums on health disparities and other activities.
- Redirect Federal funding for individuals, organizations, and community-based entities that are interested in conducting CBPR by blending funds from across NIH and co-funding different components of CBPR.

- Develop initiatives identified by the community to leverage their information, insight, and input on critical needs in the communities in research.
- Require genuine community partnership in applications rather than allow contrived or expedient relationships to attain funding.
- Highlight the important role that community-based organization play by enhancing their capacity to be lead applicants and fiscal agents.
- Provide more information on forthcoming request for proposals (RFPs) to help community-based organizations lead future projects.
- Provide incentives for Centers of Excellence to collaborate with community partners and link these Centers to serve as mentors for community participatory partnerships in reducing health disparities.
- Develop additional grants that address different components of conducting CBPR. These grants would broaden the range of grant applicants in the community through technical assistance and capacity building; support planning, relationship building, and partnership development; engage community-based organizations or their national organizations in the dissemination of research findings back into the community; and allow projects with intervention components to be sustained beyond the initial funding period for replication.

## National Study of Environmental Influences on Children's Health and Development (National Child's Health Study)

### Duane Alexander, MD

Director, National Institute of Child Health and Human Development (NICHD), NIH

The National Study of Environmental Influences on Children's Health and Development (National Child's Health Study) is a collaborative project across several agencies and the largest study to consider the environment, health, and health disparities over two decades. Starting in 2005, data will be gathered from approximately 100,000 families about their health, genetics, and environment in which their children are nurtured, born, grow, develop, and become adults. The outcome of these children as they become adults and the relationship to environmental factors will be examined with a particular focus on cancer, asthma, injuries, and developmental disabilities.

This study was undertaken by the Task Force on Environment Health and Safety Risks to Children, which is co-chaired by HHS and EPA. Working with a broad definition of environment that encompasses not only chemicals but family, schools, and other factors, the Task Force found a major lack of information on environmental influences on children's health. As a result, the task force proposed this new longitudinal study, which would provide an opportunity to collect data on less common occurrences and draw conclusions about causality.

### Data Collection

Data for this study will be collected during or before pregnancy and assessed during pregnancy, labor, and delivery. A sample representative of the total population will be examined with some oversampling for racial and ethnic minorities and people with particular occupational exposures. Data will be collected on the genetic constitution of the parents, child, and siblings; environmental exposure history of parents; actual exposure of the family in which the child grew up in terms of air, water, and food as potential contaminants. The children will be followed several times in the first year, several times again before school, and then at intervals of approximately three years until they reach the age of 21.

### **Core Team and Partners**

NICHD led the development of the oversight team with strong cooperation with NIEHS, CDC, and EPA. In addition to this core planning team, most of the NIH institutes, CDC centers, other HHS agencies, groups within EPA, and twelve other agencies—HUD, Department of Transportation, Department of Education, Department of Commerce, Department of Labor, and others—will participate.

### **Funding**

Though the Children's Health Act (2000) was passed with the provision directing NICHD to lead the development of a working group of Federal agencies, funds were not authorized for the study. NICHD, NIEHS, CDC, and EPA have been supporting these planning activities, and additional funding is uncertain. Implementation of the study will require an estimated \$12 million for planning, \$70 million for the first year of patient recruitment in 2005, \$200 million for the peak year of subject recruitment in 2007, and \$90 million per year to maintain the follow up for the study.

### **Potential Implications of the National Children's Study**

The potential implications that this study will have on environmental justice issues and health disparities are vast. It provides the ability to gain information that clearly links different types of environmental exposure to different kinds of developmental disorders and diseases, and it will identify points of intervention. These data will help elucidate the relationship between the environment, genetics, disparities in race and community, geography, and socioeconomic status.

In addition, the opportunity to plan this extensively for our research is unprecedented and will allow us to test hypotheses rather than just gather data for future analyses. There are 20 working committees with both Federal and non-Federal scientists who will develop the study's protocol. These committees report to the study's advisory board of distinguished scientists from different fields.



## EXPLORING THE NEXUS

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### **Moderator:**

#### **Nathan Stinson, Jr., PhD, MD, MPH**

Deputy Assistant Secretary for Minority Health, HHS  
Co-Chair, Interagency Task Force on Health Disparities and Environmental Justice

### **Speakers**

#### **Phyllis Harris, JD**

Principal Deputy Assistant Administrator, EPA

#### **Kenneth Olden, PhD**

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#### **Henry Falk, MD**

Assistant Administrator, Agency for Toxic Substances and Disease Registry (ATSDR)

#### **Naomi Tomoyasu, PhD**

Chief, Office of Community-Based Research and Outreach  
National Center on Minority Health and Health Disparities (NCMHD), NIH

#### **Duane Alexander, MD**

Director, National Institute of Child Health and Human Development (NICHD), NIH

#### **David Jacobs, PhD, CIH**

Director, Office of Lead Hazard Control, Department of Housing and Urban Development (HUD)

#### **Roberto Salazar**

Administrator, Food and Nutrition Service (FNS), Department of Agriculture (USDA)

#### **Lynn Scarlett**

Assistant Secretary for Policy, Management and Budget, Department of Interior (DOI)

#### **Emil Frankel**

Assistant Secretary for Transportation Policy, Department of Transportation (DOT)

### Panel Overview

Forming sustained partnerships requires time and commitment, and to be successful, these partnerships must be based on shared priorities with clear results and contributions from each partner. This panel addresses these issues by discussing ways to more effectively:

- Promote holistic, integrated approaches to building healthy communities by addressing both the physical and social environments.
- Partner with and help build the capacity of communities to address environmental, health, and sustainability issues.
- Ensure better coordination and collaboration between Federal agencies.
- Implement translational strategies which link programmatic knowledge and resources with action.

### David Jacobs

Director, Office of Lead Hazard Control, HUD

Housing is a key component of the environmental and a significant health risk for low-income and minority populations. HUD is attempting to bridge the gap between housing and health communities, which has been critical in our lead poisoning prevention efforts. With public health concerns, the solution can be a housing intervention, as indoor plumbing helped to eliminate water-borne diseases.

HUD is broadening its focus on healthy homes through its urban development activities. We engage the local community through consolidated plans—plans used by local communities to determine their community development and housing needs over a five-year period and the local use of HUD funds. As part of its capacity building activities, HUD is planning to incorporate preventative health measures into routine housing, finance, maintenance, and rehabilitation systems that are already in place.

Federal-level involvement is also important. The President's Environmental Health and Safety Risks to Children, for example, published the first Federal interagency strategy to eliminate childhood lead poisoning, and this 10-year plan is in the process of being implemented.

**Roberto Salazar**

Administrator, FNS, USDA

The FNS mission is to increase food security and reduce hunger in partnership with cooperating organizations by providing children and low-income people access to food, a healthful diet, and nutrition education in a manner that supports American agriculture and inspires public confidence. We serve a very distinct and defined population through our nutrition assistance programs. Over half of the entire USDA budget, approximately \$42 billion annually, is invested in nutrition assistance for those most in need, affecting one out of every six Americans. Included in the goals of these programs are to provide needy persons with access to a more nutritious diet and to improve the eating habits of the nation's children.

There are several Federal, state, and local programs, agencies, and organizations that promote important nutritional messages. This work must be coordinated to draw on the marketing principle of space repetition, learning about nutrition through repetition. For the first time, for example, USDA held the National Nutrition Education Conference *Nutrition Connections: People, Programs and Science* this year to bring practitioners from around the country together to begin this type of coordination.

**Lynn Scarlett**

Assistant Secretary for Policy, Management and Budget, DOI

Partnerships are at the center of all DOI activities. There are 540 wildlife refuges and 388 national parks around the country, and we work with communities to both identify their needs and manage these lands. For example, there is an increased focus on cities, such as our Rails to Trails program that converts old rail lines to trails that will integrate green space and recreation opportunities in cities. Our city park efforts are the result of fundamental partnerships with state, county, city, and non-profit organizations.

One of DOI's biggest challenges has been to engage disadvantaged communities that traditionally have little knowledge of how to fully participate in parks and open spaces. In one effort, DOI is disseminating information on hazardous waste through the U.S. Geological Survey. We are also partnering with American Indian communities to disseminate information these communities need to participate in the decisions impacting the lands that are important to them.

DOI has also traditionally invested its resources in Federal lands, but it has become increasingly evident that surrounding communities are impacted by our land management decisions. As part of our commitment to developing partnerships and using a holistic, integrated approach, DOI offers \$500 million in Cooperative Conservation Grants for public land managers to work with counties, cities, non-profit organizations, tribes, and other local communities to improve water quality and overall health in these areas.

### **Emil Frankel**

Assistant Secretary for Transportation Policy, DOT

Transportation investments and operations are directly linked to health and environmental issues, and we need to achieve a balance between mobility, economic productivity, and safety. Though mortality rates on roads have decreased, approximately 43,000 Americans still die on our highways annually, which is comparable to a health epidemic. The recently introduced SAFETEA (Safe, Accountable, Flexible, Efficient, Transportation Equity Act) bill, which reauthorizes DOT service transportation programs, provides grants to improve safety. It also creates a system of performance incentives for the two most significant safety factors, driving under the influence and seat belt usage.

There is a particular need to conduct outreach to minority communities that have lower seat belt usage and higher fatality rates. With the combined support of DOT, state and local safety agencies, non-profit organizations, and others, fatalities and injuries in some of these communities are starting to decline. Promoting safety as a public health issue is a key initiative that will benefit all communities in the U.S. Partnerships such as these are at the center of transportation planning, which is supported by the Intermodal Surface Transportation Efficiency Act of 1991. Federal investments in highways or transit systems are driven by transportation improvement plans or programs (TIPS). Funds are balanced between transportation services, the environment, and impact on communities, such as the creation of trails. These decisions are made at the state and local levels.

## Questions and Answers

### Partnerships and Collaboration

**Charles Lee, OEJ, EPA:** Phyllis Harris presented how the *Healthy People 2010* objectives and EPA's strategic goals are aligned. Do other agencies think it would be valuable to also examine how *Healthy People 2010* objectives align with their strategic goals?

**David Jacobs:** HUD's lead hazard program uses a bio-marker in its performance measures, which is the population blood lead level. The President's Task Force on Environmental Health and Safety Risks to Children and the Environmental Justice Task Force are possible venues to explore the overlap in our missions. The prospect of formulating government-wide goals is both intriguing and daunting.

**Roberto Salazar:** *Healthy People 2010* continues to influence the development of annual corporate priorities for the Food and Nutrition Service.

**Marybeth McPhee, National Cancer Institute:** What is the role of the business community in developing solutions to building healthy environments and eliminating health disparities? Where do large corporations, who contribute in many ways to these problems, become involved? What has been done and what kinds of responses have agencies received from businesses? What should be done in the future?

**Duane Alexander:** Business and industry have been deliberately included in the National Children's Study through two members of the Advisory Committee. These members believe this study is important for them and want to ensure that their products are not causing harm. They believe that some of the accusations that they have faced are not correct and that a longitudinal study would provide some exoneration.

**Nathan Stinson:** OMH has also been working with the Washington Business Group, which has some major corporate members like Pfizer. They are part of the community and excluding them will likely not be effective in the long term.

**Henry Falk:** For the Superfund Program and ATSDR, the role of industry is complex because of liability and enforcement actions. The business community, however, has been helpful in filling research gaps in toxicology profiles for specific chemicals. They have also been actively involved in peer reviews of toxicology profiles and minimal risk levels.

**Nathan Stinson, OMH, HHS:** Dr. Alexander discussed the landmark Child's Health Study. Are there other examples of NICHD activities that are contributing to the development of a comprehensive, integrated view of addressing the environment and health disparities?

**Duane Alexander:** Infant mortality is a major health disparity, and NICHD is engaged in activities both alone and with other NIH institutes and the Center for Minority Health and Health Disparities. To examine infant morbidity and mortality factors, a committee chaired by HRSA is being formed with NICHD to improve coordination and collaboration on research related to low birth weight and preterm birth. There is an international disparity in infant mortality, and it is suspected that the major cause of this disparity is related to environmental factors.

One of the simplest strategies implemented to reduce infant mortality is the *Back to Sleep* campaign, an environmental intervention that was started in 1994 and has reduced Sudden Infant Death Syndrome (SIDS) rates by half. The environment has even more impact than just the sleeping environment, which is the focus of this campaign, so we believe an even greater impact can be made on infant mortality. Health disparities also still exist between African Americans and Whites, since the rates have declined proportionally. NICHD is partnering with communities to develop teaching kits and community-based interventions for African American and American Indian communities.

**Nathan Stinson:** OMH and Indian Health Service have also been working with NICHD to reduce SIDS rates in the Mississippi Delta and several American Indian communities around the country. It is also important to consider other vital partners, so we are also working with the Association of American Indian Physicians, who play a leadership role in their communities.

## Research Challenges

**Judy Wilson, Director, FNS:** The National Child's Health Study is a tremendous opportunity that will be a major resource of information in the future. What kind of outreach is being done to ensure that minority groups are adequately represented in both the planning and implementation of the study?

**Duane Alexander:** We are making sure that there is substantial representation from minority groups in the work groups for the planning process and on the study's Advisory Board. In addition, we have a communications program that will ensure that the outreach about the study includes messages targeting minority communities. The recruitment for the study will also have to include adequate representation from diverse groups for the analyses, so we may utilize strategies such as oversampling in certain instances.

**Tim Kramer, Agriculture Research Services, USDA:** I am a Field Project Coordinator of a nutrition intervention research initiative in the lower Mississippi Delta. Two issues that I confront daily by working with a community trying to use Community-Based Participatory Research (CBPR) is the lack of both education and racial inclusiveness. How can we work together to improve these two issues?

**Emil Frankel:** From a broad perspective, one key element is our infrastructure—the whole network of transportation, network services, parks, recreational activities, and others. It is also important to partnership and planning to invest in the environment and quality of life in ways that bring communities together. Non-profit organizations and local planning and state agencies need better resources. For this reason, resources for capacity building are built into proposed safety legislation, which would allow these organizations to assess the impacts of transportation on urban development, health, and environmental justice; share effective practices; and receive technical assistance. These are not all of the issues, but conceptual decisions made in the planning process either unite or divide communities.

**Nathan Stinson:** This question is at the heart of our activities and of how we perceive individuals in the community react to these activities. We need to address two major barriers to improve the health of communities: the level of health literacy across the country and the lack of trust. We cannot assume that if we put the correct message out that it will be received

the way it is intended, and studies have shown that many people believe that there are resources, such as an AIDS vaccine, that are being withheld from the public.

## Resource Development

**Nathan Stinson:** The new Office of Community Based Research and Outreach, NCMHD, NIH has the opportunity to play a significant role in translating research for communities. How do you see your office acting as a resource both within HHS and to other Federal agencies working on environmental justice and health disparities?

**Naomi Tomoyasu:** In my work as a state public health administrator, I tried to apply theory-driven, curricula-based interventions, but they were not effective in the communities. We had to re-evaluate what is and is not effective by going back to the community to ask them why these “best practices” do not work. In this new Office, we will explore providing more planning grants to identify what is needed to translate the empirical research findings over the past 25 years.

**Quentin Pair, DOJ:** Has there been any thought to creating a health directory or office for questions from non-HHS agencies? The Interagency Working Group on Environment Justice (IWG) developed a directory that lists all the environmental justice coordinators in major agencies. Communities call me about questions about other agencies and find it a major challenge to navigate the labyrinth of the Federal government.

**David Jacobs:** All children’s health research conducted by the Federal government and initiated under the President’s Task Force on Environmental Health and Safety Risks to Children is captured in a database. This is research-focused, and there is a need to examine other aspects of health.

**Lynn Scarlett:** DOI is involved in the development of various resources that will consolidate access to information. For the first time, DOI is creating an inventory of its grant programs, including descriptions of eligible applicants and the purpose of each grant. From this information, we plan to develop a common electronic application. We are also a part of a pilot program for General Services Administration’s (GSA) USA Services, an inter-agency integrated information resource. USA Services will, at a minimum,

refer inquiries to the appropriate place and eliminate the need to navigate the Federal government labyrinth. We may want to explore piloting it by topic rather than agency.

**Alexa Gale, National Network of Environmental Studies Fellow, EPA:** Since these environmental justice and health disparities are important issues for future generations, how are we going to train future leaders to understand and become involved in these areas?

**Emil Frankel:** We can do a better job through education as well programs such as your fellowship opportunity, as well as with broader education of the public. The media can play a large role by not just reporting on transportation conflicts and failures. Elected officials respond to public opinion, and the media heavily influences public opinion.

**Lynn Scarlett:** Education happens in a range of venues, from schools and universities to our daily lives. At DOI, we view our education role through experiential knowledge—using the 507 million acres of land as a laboratory for learning about the environment. For example, we have programs in which individuals work side-by-side with DOI staff to learn how to monitor water quality on their own. We also bring young people in for day- or week-long programs to learn about the parks. This is, however, just one aspect of the need to address health, education, and the environment.

### Cultural Sensitivity and Information Accessibility

**Lorena Rosalia Romero-Cedeno, NEJAC Program Assistant, ECO Intern, EPA:** How are you targeting Latinos and addressing the linguistic gap?

**Lynn Scarlett:** The DOI manages 20% of U.S. land with a particular presence in the Southwest where there is a large Latino population. First, we are forming a workforce that reflects the community in which DOI works. In addition, in the areas of recreation, resource protection, and resource use, where healthy land leads to healthy people and communities, we are increasing our outreach to several specialized Hispanic groups who focus on connecting their community to resource protection issues. These organizations have enabled us to become students to certain communities and populations.

**Roberto Salazar:** Many of the people served by FNS are of Spanish-speaking decent. We recognize the need to insure that our products and services reach our customers most effectively, whether it be food stamps or technical assistance and nutritional guidance for mothers through our Women, Infants, and Children (WIC) program. Making these resources accessible requires communicating in the various languages that our customers speak. For this reason, these materials and our website are being translated into 35 different languages, including Spanish.

**Henry Falk:** ATSDR has also translated several of its education materials, fact sheets, toxicology information sheets, and website into Spanish and other languages. Materials have also been produced for work with specialized communities, such as an Arabic fact sheet on depleted uranium in the Middle East or Greek educational materials for Tarpin Springs, Florida.

**Patty Ironcloud, Office of Minority Health:** I would like to remind that panelists that not everyone has access to a computer, and for my community in Pine Ridge, printed materials are still needed. Also, what are Federal agencies currently doing in tribal communities to eliminate health disparities and build healthy communities?

**Roberto Salazar:** FNS recognizes the unique nutrition challenges in tribal communities and ensures that its products and services are culturally sensitive. Some of our greatest successes have been in Indian country where we have formed successful partnerships. With the Zuni, for example, we developed a successful model for using breastfeeding as a nutritional start for children. We are also aware of the challenges in our food distribution program in Indian country and are working to improve the quality of these products and to address cultural sensitivity issues.

**Lynn Scarlett:** DOI and the Bureau of Indian Affairs realize that our decisions and activities have a large impact on the lives of much of the American Indian community. There is a gap between the needs and our current abilities, but there are two priorities: enhance resources dedicated to education programs and American Indian school facilities and economic development. DOI has managed to build approximately six new schools annually, but we recognize that there is a desperate need for investment in this area. There are also tremendous problems with unemployment and health problems resulting from poverty. Programs include developing and

allowing them to sell renewable energy, resource protection and landscape health as part of the Healthy Forest Initiative, and stewardship contracting authority.

**Emil Frankel:** SAFETEA includes provisions for investing in American Indian road systems with a safety emphasis. Again, however, the resources devoted to Indian country pale in comparison to the need. We at least have a forum for discussing the appropriate level of investment and the resources available.

**David Jacobs:** HUD is active with several agencies to examine mold and illness in Native American housing. In fact, the CDC mold assessment tool was developed by a HUD Healthy Homes grantee. HUD is also continuing to fund community development activities.

### Specific Health Issues

**Wendy Johnson-Taylor, Division of Nutrition Research Coordination, NIH:** A recent New York Times article noted the concentration of poverty in inner city Washington, DC and the lack of grocery stores and access to healthy food. These are also the areas with less space to exercise and the largest proportion of people who are overweight or obese. I am involved in a Memorandum of Understanding (MOU) with NIH and the National Parks and Recreation Association that has been successful so far. There are different agencies that we do not traditionally work with, however, and we need more collaboration. What interagency efforts can be done to address the epidemic of obesity?

**Roberto Salazar:** Acknowledging obesity as an epidemic is a simple but major first step. Approximately 61% of adults are overweight or obese, resulting in 300,000 annual deaths. The rates are increasing among youth and children. One way to positively impact children is to create a healthier nutritional environment in schools. Schools are often challenged financially and become increasingly dependent on less healthy food products. We must find a way to create incentives to offer healthier food choices. Illinois is also the only state that still requires physical education in school. Schools need to be a focus for us to address the health and environmental risks for future generations.

Obesity also relates to national security issues. In the past, young men and women were turned away from the armed forces for being underweight. Today, they are being turned away for being overweight and obese.

**Lynn Scarlett:** Recreation and exercise are important to this issue, and the President's *HealthierUS Initiative* is part of this effort. This initiative is attempting to bring outdoor opportunities to underserved communities by partnering with non-profit groups to engage inner city youth in the outdoors. For example, the Earth Conservation Corps in Washington, DC is bringing inner city youth to the Anacostia River to give them their first experience in a canoe, build their understanding of the outdoors, and involve them in the river's restoration. DOI is also working to bring National Parks in or around cities.

**Henry Falk:** On the environmental side, people are concerned about urban sprawl and lifestyles, which involves housing, transportation, health, and the environment. There are several interagency efforts to examine these issues broadly and coordinate our efforts, including an Institute of Medicine roundtable on which Dr. Olden and I participate.

**Kenneth Olden:** NIH has or is planning to conduct outreach to several agencies such as CDC, HUD, USDA, and DOT. We plan to meet with them to discuss obesity and the built environment, particularly for children. Transportation and energy policies are important in these issues and require partnerships.

**David Jacobs:** At HUD, one of the issues we are facing with our community development block grant program is defining the performance measures for resources spent at the local level. These funds are used for housing, rehabilitation, and community developments, which impact health outcomes that are not tracked. One strategy we have explored is working collaboratively to encourage communities to use some of these funds on housing and community development efforts that are expected to have a health outcome. We can better promote both affordable, high quality housing and public health.

**Charles Lee:** I once gave a presentation to elected officials in New York City about quality of life, and the issue of green space never came up. This highlights the importance of involving the community in these efforts and understanding their needs and aspirations. They also are concerned about the lack of green space and advocate for integrating this issue into planning and community revitalization. In fact, in Spartanburg, South Carolina, they are developing a health clinic in conjunction with a wellness center and a green way. There are other communities like Spartanburg around the country, which is a positive sign.

**Marian Johnson-Thompson, Education and Biomedical Research**

**Development, NIEHS:** Obesity is a serious issue that leads to health disparities from cardiovascular disease to diabetes to cancer. When I raise the need for physical education in the public school system in my community, the response is that they don't have time. I encourage you to think about how to address this need in your respective communities and get it on the health agenda.

**Larry Shannon:** One area that has not been addressed is toxic chemicals in fish. Recognizing this is within the states' role, can the Federal government also play a role through DOI, EPA funding, water quality, or other environmental issues?

**Henry Falk:** ATSDR's Division of Health Education and Promotion works with many state health departments and EPA to put out fish advisories. There have also been programs to evaluate the fish consuming public and what they understand from these advisories. The health impact of chemicals such as PCBs and mercury also relate to this issue.

**Charles Lee:** The Office of Environmental Justice requested that the Environmental Advisory Council examine this issue, and over the past two years, it has received much attention. Subsistence fish consumption is important for tribal communities, and these cultural issues need to be considered. The Akwesasne community in New York state showed that finding an alternative food source is not an adequate solution, since the alternatives contribute to other diseases such as type 2 diabetes. It is also an issue among urban, Southern, and Asian American communities.

**Lynn Scarlett:** This issue underscores the need for DOI's work to clean water and remedy this health issue by improving the environment for fish. Our partnerships with organizations like the Chesapeake Bay Foundation, for example, will have long-term impacts.

# COMMUNITIES, HEALTH DISPARITIES AND ENVIRONMENTAL QUALITY

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## Moderator:

### **Quentin C. Pair, JD**

Trial Attorney, Environmental Enforcement Section, Department of Justice

## Speakers

### **David Jacobs, PhD, CIH**

HUD Lead Screening and Abatement Program

Director, Office of Lead Hazard Control, Department of Housing and Urban Development (HUD)

### **Mary Arquette, DVM, PhD**

Akwesasne First Nation Restoration Initiative

Principal Investigator, Akwesasne Task Force/Environment, Akwesasne Mohawk Territory

### **Leslie Rubin, MD**

Anniston, Alabama Vision 2020 Children's Health Project

Co-Director, Southeast Pediatric Environmental Health Specialty Unit, Emory University

## Panel Overview



Community involvement in partnership development is critical for environmental justice. Different Federal agencies often enter communities to solve a problem and then leave the community in a worse situation than it was in before. To effectively build collaborative partnerships with communities, Federal agencies must coordinate efforts to leverage and conserve resources, holistically address a community's problem, and engage these communities in a dialogue to gather input and empower them to take action. In addition, more time and resources need to be invested in these community efforts. This approach will rebuild the trust that

communities have in the Federal government, and with this trust, the communities help ensure the success of our programs and projects.

The Federal Interagency Work Group on Environmental Justice (IWG), for example, selected 15 communities two years ago to work with at least two Federal agencies to define problems and issues and how the grassroots community would be integrated throughout the process. Another 15 communities were selected this year, and communities and their partners were invited to submit nominations. Two of these projects are addressed on this panel.

## Moving Toward a Lead Safe America

### David Jacobs

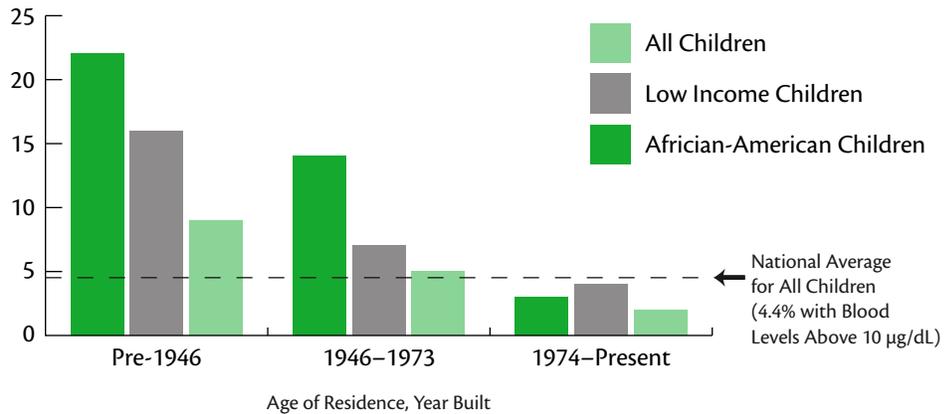
HUD Lead Screening and Abatement Program, Office of Healthy Homes and Lead Hazard Control, Department of Housing and Urban Development (HUD)

*“Until effective standards for the domestic environment are devised, it is likely that children will continue to be employed as biological indicators of substandard housing.” Donald Barltrop, 1974*

Located in the Office of the Secretary, the HUD Office of Healthy Homes and Lead Hazard Control has crosscutting authority over approximately 85 different housing programs. Its mission is to eliminate lead-based paint hazards and other housing conditions to prevent childhood disease and injury, assist other HUD housing programs, and coordinate with Federal, state, and local government and the private sector. The Lead-Based Paint Hazard Control Program has resulted in clear results on the population’s blood lead levels, earning it the Office of Management and Budget coveted green light rating.

In the mid-1990s, the National Health and Nutrition Examination Survey found that 4.4% of all U.S. children had high blood lead levels. These rates, however, increase dramatically for children that live older housing stock (9%), are from low-income families (16%), and are African American (22%).

### National Blood Lead Levels



Source: Third National Health and Nutrition Examination Survey (NHANES III), Phase 2, 1991–1994

Significant progress has been made in decreasing the number of lead poisoned children, from over three million in the 1970s to 434,000 in 1999 to 2000 (CDC). This drop can be attributed to a series of actions, such as removing lead from gasoline and food canning and addressing industrial emissions and water sources. Today, the remaining major source of lead poisoning is lead-based paint and the contaminated dust and soil it generates.

### **Health Impacts of Lead**

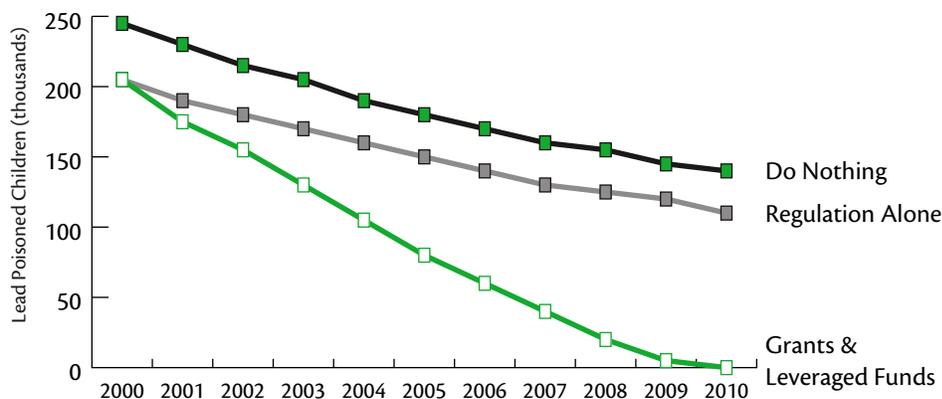
Lead exposure has been linked to reduced IQ, reading and learning disabilities, hearing problems, reduced height, kidney and hematopoietic system disease; seizures, coma, and death; and juvenile delinquency and crime. Some of these effects are irreversible. There have been two recent and controversial studies that show significant correlation between lead exposure in childhood and anti-social behavior (see Appendices).

### **HUD Lead Paint Activities**

HUD lead paint activities include grants to local governments, states, and Tribes; training and public education; technical studies; public/private partnerships; regulatory policy development; enforcement of disclosure and lead safe housing regulations; and viability of low-income housing through the promotion of standards of care.

The report President's Task Force Environment Health and Safety Risk to Children examined the impact of these activities on lead poisoning rates. The report found that if no Federal actions were taken, a long-term decrease would still result. However, federally assisted housing regulation alone would have a significant impact, since most of the units with lead paint are low-income units, but grants and other leveraged funds have the potential to eliminate lead poisoning.

## Defeating Lead Poisoning



## Solutions

The successes in decreasing lead risks can be attributed to the following solutions.

### Capacity Building

Our capacity to address this issue has also increased. Over 200 jurisdictions in the highest risk communities have active programs, and regulations for federally assisted housing are in place in 1,100 jurisdictions. Over 43,000 workers have also been trained to conduct this work safely, and HUD has documented a declining cost per unit

### Monetize Benefits

The cost of these efforts is estimated to be \$230 million annually for 10 years, at a total of \$2.4 billion for unassisted low-income housing activities. A CDC study analyzed the economic gains from reducing children's lead exposure and found that there is an IQ point increase from 2.2 to 4.7, which increased lifetime worker productivity by \$723,000 per child for a total of \$110 to \$319 billion.<sup>1</sup> The remaining challenge, however, is to enable the housing market to properly monetize health benefits in the market value of a home.

### Enforcement

HUD has targeted enforcement in high-risk areas and has collected over \$22 million in fines, private abatement, and child health improvement projects. Most of these resources are related to voluntary agreements to test and abate 160,000 units. Some of these efforts include

<sup>1</sup> Scott D. Gross, et. al. Economic gains resulting from the reduction in children's exposure to lead in the United States. National Center for Environmental Health, CDC and School of Public Health, Harvard University.

supplemental environmental projects (SEPs) or contributions to health clinics and others to purchase blood lead analyzers and other materials. There have also been criminal indictments and convictions, involving joint enforcement actions with Department of Justice and state and local governments

### **Healthy Homes Concept**

Taking a systems approach, the HUD healthy homes concept aims to recreate the bridge between housing and health, build on results of lead control efforts, and simultaneously assess and mitigate multiple housing-related children's health hazards. A substance approach focuses on the several priority hazards have been identified such as allergens/asthma, asbestos, combustion products, and many others. A housing systems approach, however, focuses on addressing controlling moisture, settled dust, ventilation, and behavior through education.

Asthma prevalence, for example, has been increasing drastically over the last 10 years. Many of HUD's healthy homes research and demonstration activities are designed to determine whether or not we can reduce the prevalence of illnesses such as asthma by changing the conditions of housing. HUD is also working the Department of Agriculture Cooperative Extension Services to disseminate information on how to protect their children's health when they cannot afford other services, as well as a training course for builders on how to build, renovate, and maintain housing to control for moisture, dust integration, and appropriate ventilation.

HUD faces several challenges in institutionalizing Healthy Homes. These issues include recreating and strengthening the housing and public health dynamic relationship, addressing whether a Healthy Home should have higher value and why Healthy Home improvements are not comparable to other home investments, and monetizing the social costs and benefits rather than allowing market pricing to dominate.

### **Increased funding for Lead Hazard Control and Healthy Homes**

Increased funding, from \$55 million in 1995 to \$176 million in 2003, has supported the success of these programs.

### Partnerships

Several strong partnerships are contributing to reductions in lead exposure. CDC introduced a new grant requirement for blood lead screening that requires local governments to submit a strategic plan. HUD is also incorporating this requirement into its programs. With strong OMB support, the President's Task Force on Environment Health and Safety Risks to Children also successfully addressed a major coordination challenge by producing an interagency budget request.

Other partnership challenges remain, however. To ensure that the resources we acquire are spent in the most productive ways, stronger relationships must be developed with community and parent organizations and underserved populations.

## **Iakoti'satstenhserá: Wis Ne Ohwéntsia: Strengthening our Relationship with the Earth**

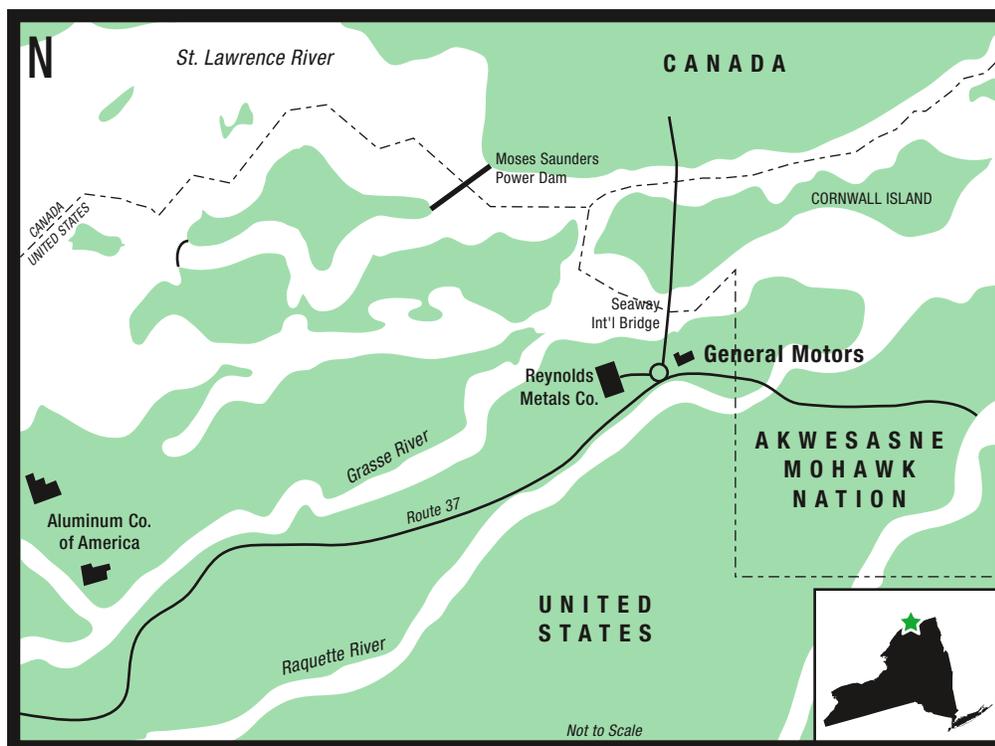
### **Mary Arquette, DVM, PhD**

Akwesasne First Nation Restoration Initiative

Principal Investigator, Akwesasne Task Force on the Environment, Akwesasne Mohawk Territory

Akwesasne First Nation Restoration Initiative is an environmental justice communications project funded by NIEHS. The Akwesasne Task Force on the Environment is a non-profit Native American organization composed of community-based individuals that work closely with the band council, tribal council, traditional nation council, and many other Native American groups. Located between northern New York state and Quebec and Ontario, this community has approximately 10,000 to 14,000 people and is an environmental justice community with a hydroelectric dam on their territory, an adjacent General Motors plant, a dump filled with PCBs on the river shore, a nearby Reynolds Metals Company facility that has had PCB and dioxin problems, and upstream Aluminum Company of America facility upstream. Though the Akwesasne community receives most of the health impacts resulting from the presence of these facilities, they receive few of the economic benefits that other communities in the area have experienced.

### Map of Akwesasne Mohawk Nation and Surrounding Areas



### Dreaming Our Future Conference: What Could A Good Mind, Body & Spirit Do To Support the Health of the Earth?

For this initiative, women, elders, people in the medical community, university partners, and state agencies were brought together to document the environmental and health issues in the community, strengthen the relationships between the community's traditional cultural practices and health, and identify strategies to resolve these issues. At the *Dreaming Our Future Conference*, participants focused on what a good mind, body, and spirit could do to support the health of the earth. Conference participants identified the following priorities:

- Support Mohawk **cultural identity**
- Increase **Mohawk language** competency and support Mohawk-controlled **education** and school systems
- Develop harmony of mind/body/spirit by supporting and strengthening **traditional concepts of health** and medicine
- **Strengthen community** government and environmental decision making processes
- **Remediate** pollution; **restore** impacted natural/cultural resources; and prevent these problems from every occurring again

### Research Questions

Building on the priorities identified at the conference, two main research questions emerged for the project:

- Can interviews with knowledgeable, culture-bearing community members be utilized to **define environmental health threats** and **build a restoration model** that is based on the attitudes, practices, and beliefs of Mohawk people so that **traditional cultural practices are maintained**, protected, and restored at the same time that **exposure to toxicants is decreased**?
- Can these research strategies be successfully shared with other Haudenosaunee communities?

### Risk Assessment

Recently, an outside expert on PCBs came to Akwesasne and congratulated our community for proactively decreasing their consumption of contaminated fish and wildlife; from the scientific perspective, the health intervention was to eliminate the exposure to eliminate the problem. However, our project contends that the community has experienced severe health impacts from the inability to interact with the natural world and access our traditional foods and medicines. As a result, the project realized that a better understanding of our community's concept of health was needed, and we developed our research methods accordingly.

### Research Methods

Our research methods for this study were designed to both collect information and restore cultural practices. These methods included visiting with elders in their native language, elicitation techniques such as using photos and maps to discuss the history of land use and fishing practices, a radio show, long term mentor relationships with elders, observation/participation, training sessions, traditional narrative analysis, creative works, field visits, surveys, mapping, and technical document review.

Staff received qualitative research training that expanded our thinking beyond interviewing. Both oral traditional and written literature, for example, were used to analyze the meaning behind cultural stories, metaphors, myths, prophecies and images and incorporate this analysis into our work. In another instance, a radio show was hosted by a skilled Mohawk speaker in the community who reached out to elders on environmental health issues. Though scientific advisors considered this a communication strategy rather than a research methodology, this process involved two-way communication. The project began to receive calls from the community, and elders approached the radio station to share their stories. The show allowed data to be collected and helped revitalize our language and strengthen cultural practices.

## The Akwesasne Concept of Health

### *Community-Based Health Model*

ATFE is developing a community-based health model that defines health from a Mohawk perspective, thus enabling us to modify the risk assessment and management framework to include socio-cultural impacts. As this model is developed, we will integrate qualitative data with the quantitative health studies previously completed by ATFE.

Our research has broadened the definition of health, and other local government organizations, such as the Department of Health, are using this new definition as they restructure existing health delivery programs. We have found through our research that the Mohawk perspective on health incorporates the complex interactions of many factors that profoundly impact health.

“Health” in the Mohawk language roughly translates as “big peace,” or when a person is brought back into balance with others in our world, including other people, plants, animals, celestial beings, and the rest of Creation. When a person becomes ill, it is the responsibility of others in the community to help bring that person into balance. Just as the earth has responsibility for people, people have responsibility for the earth.

### Recommendations

Based on the results of our research, ATFE proposes four recommendations to build healthy environments to eliminate health disparities:

- Provide long-term support for community-based, community-controlled research. Support must extend beyond the grant cycle.
- Research training for community and youth and cultural sensitivity training for visitors. This project developed its own research protocol since the academic and government scientists did not have the skills.
- Action is everything. Other communities have removed PCBs from their water and food supply, so we know action can be taken.
- Believe in your medicine and the future. Following the USDA food pyramid leads to diabetes, heart disease, and other health issues.

Validation by scientists from prestigious schools is often required to add credibility to community concerns. However, there are models of success in our community that need to be recognized.

## Vision 2020 for the Children of Anniston

### Leslie Rubin, MD

Anniston, Alabama Vision 2020 Children's Health Project  
Co-Director, Southeast Pediatric Environmental Health Specialty Unit (PEHSU), Emory University

*"We really are trying to reclaim the purity of our earth, community, and culture." Mary Arquette*

### Background

Vision 2020 Children's Health Project is a collaborative community-based project serving Anniston, a town of 24,276 people located in Calhoun County in east central Alabama. Alabama faces a range of health issues, ranking 46<sup>th</sup> nationally in the percentage of births to teen mothers, 41<sup>st</sup> for total births to mothers with less than 12 years of education, and 47<sup>th</sup> for low birthweight births. In a 2001 Health Needs Assessment commissioned by the Calhoun County Community Foundation, Anniston was found to have a rate of unmarried mothers (for 1998) of 23.4 per 1,000 births, and an infant mortality rate (for 1996-98) of 12.9 per 1,000 live births.

West Anniston, which has both a PCB and a Lead Superfund Site, has 8,000 residents; 80% are African American, with a large percentage being low-income. An EPA Environmental Justice Analysis reflects that many are living in areas above EPA Environmental Justice Thresholds for low-income (39.8%) and minority (32.1%), an indication of great challenges in breaking the cycle of poverty in these neighborhoods.

Historically, Anniston has been home to foundries, a PCB plant, and two military installations, Fort McClellan and Anniston Army Depot. Anniston Army Depot is a major chemical weapons storage site and the location for a new incinerator built to destroy chemical weapons. West Anniston has primarily been the focus of PCB and lead contamination in local soil and other environmental media. In the 1970s and 1980s, PCBs were detected in the fish and the sediment, and in the mid-1990s, several citizen groups organized in response to the significant levels of PCBs found in residents' blood. These issues and the related litigation gained national media attention and fostered conflict and divisions in the community.

## Response to Children's Health Concerns

EPA and ATSDR addressed community-based feedback about these health concerns by forming the Pediatric Environmental Health Specialty Unit (PEHSU) at Rollins School of Health, Emory University. PEHSU began to provide continuing medical education to local physicians to raise their awareness of environmental impacts on children's health. PEHSU also worked closely with grassroots community activists to create a position paper on a potential children's health initiative in Spring 2001, and two main concepts emerged. The first made children the priority, since local leaders and educators had observed frequent problems with behavior, development, school performance, and possibly wheezing disorders including asthma. In addition, there was a strong commitment to develop a program that linked community outreach and research.

A series of meetings with different stakeholders was held to gain input into the paper. These stakeholders included the school system, local colleges and universities, city leadership, local foundations, the business community, and the medical community. As a result of these meetings, a collaborative partnership was formed, and a first-of-its kind Community Forum on Children's Health was held to formulate a strategy for a community-based initiative to address children's needs in December 2001.

By January 2002, an Anniston Mayor's Steering Committee was established to further develop and implement the Children's Health Project, and the long-range plan was named *Vision 2020: For the Children of Anniston*, signifying perfect vision as well as the target year when the plan's first children turn 18 years old. The project was also selected as one of 15 national Federal demonstration projects for revitalization, sponsored by the Federal Interagency Working Group on Environmental Justice (IWG).

### **Mayor's Steering Committee members:**

- City of Anniston
- Community Against Pollution
- Mothers and Daughters Protecting Children's Health
- Jobs, Education and Training (JET) Corporation
- Calhoun County Community Foundation
- PEHSU at Emory University
- Ayers Technical College
- Jacksonville State University
- Alabama Department of Public Health, Calhoun County Health Department
- Northeast Regional Medical Center – Pediatrics

- Calhoun County Board of Health
- Calhoun County Medical Society
- Huron Valley Steel
- Calhoun County Chamber of Commerce
- EPA
- ATSDR

### **Project Objectives**

In order to empower the community to lead the project in close collaboration with existing health, education, and social services agencies and with the school systems and practicing physicians of the city, a freestanding non-profit entity and a board of directors were formed. The envisioned program would:

1. Provide the children of Anniston with world-class screening, early detection, and remedial treatment for developmental delays and learning difficulties.
2. Provide the people of Anniston with state-of-the-art information, including written material, lecture presentations, conferences, and workshops to promote self-reliance and optimize the use of community resources.
3. Develop programs that promote comprehensive prenatal care and parental involvement.
4. Conduct rigorous scientific research on the association between environmental exposure and developmental delays, learning difficulties, and lung function.
5. Be community-led and based on a true partnership of researchers and service providers.

### **Accomplishments**

The close partnerships established among the various community stakeholders in Anniston, as well as the planning and organizing process, are major accomplishments for this project. Additionally, two Children's Health Fairs have been held in West Anniston with over 2,000 residents attending. The events included over 20 health and environmental education booths; health screenings for pulmonary health, dental health, hearing, and height and weight; a children's entertainment program; and refreshments.

# PROSPECTS FOR FEDERAL COLLABORATION

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## Recommendations for Practical Steps to Improve the Federal Government's Efforts to Help Local Governments, Communities, and Tribes Address Environmental Health Concerns

**William H. Sanders, III, DrPH**

Deputy Assistant Administrator, Office of Pollution and Toxics, EPA

This historic meeting is a key step for the crucial integration of Federal efforts to address and achieve breakthrough successes in environmental health. This presentation reflects on the first day's panels to explore how individual public health professionals can work together to further their missions. Four major themes that have emerged from the panels: capacity building, partnership, integration, and community-based efforts.

### Current Federal Efforts

*"I did the best I could at the time; when I knew better, I did better."* Maya Angelou

Federal agencies made their best efforts to provide valuable assistance to local governments, communities, and tribes. However, separate organizations and media-specific mandates make it difficult to integrate our efforts, and the information we provide is fragmented and incomplete, placing a very high burden on local communities to integrate this information.

The emerging shape of current Federal efforts includes integrated assistance, partnerships, and capacity building. Federal agencies are beginning to better coordinate their efforts to provide integrated assistance to local communities and are increasingly working in broad partnerships with other governments and organizations to leverage their limited resources. More efforts are also being designed to build capacity of local governments and communities to take initiative by providing the technical assistance and information they need to solve their own problems.

### EPA Role in Emerging Efforts

Though environmental justice is considered in meeting goals for individual programs such as lead hazard control, brownfields, and other community-based projects implemented by regional offices, we must move away from our tendency to operate in “silos” or “stove pipes.” An increased focus on health disparities would enable EPA to both integrate program efforts to match community needs and integrate agency efforts into broader Federal health initiatives. Several new developments in EPA support this shift.

Two recent publications prioritize community partnerships and collaboration. *Framework for Cumulative Risk Assessment* provides a new deliberative model for risk assessment and is one of the first documents to examine risks from the community perspective. New National Environmental Justice Advisory Council (NEJAC) completed its report on Pollution Prevention (P2) and environmental justice and recommends a collaborative model. New air initiatives are also fostering partnerships at the community level. In addition, planning has begun at EPA for a possible new 2005 multi-media budget initiative.

### Practical Steps to Implement Now

There are practical steps that we can take now with current resources and organizations. To accomplish this, we must recognize that the steps will not exactly match our individual program mandates, and coordinate and develop the division of labor necessary to move forward. Five overarching HHS strategies were discussed earlier: strategic communications, strengthening the science base, building partnerships, policy development and evaluation, and linking people to health services. The Office of Environmental Justice also identified four key elements in the healthy community model: community capacity, physical and social environment, environmental health stressors, and public health outcomes/healthy communities.

We can build on these strategies through the following practical steps that can be taken now:

- **Facilitate communication among all parties working to improve local environmental health.** This communications will promote sharing experiences, successes, and failures; provide efficiency; and improve quality of our work. Websites, newsletters, regular meetings, and other communication strategies can transform overwhelming tasks into a national collaborative effort.
- **Organize training that integrates all aspects of environmental health, including partnerships, capacity building, and risk assessment.** Comprehensive training is needed for community and government staff on an ongoing basis. These will also be opportu-

nities to promote communication between all sectors of a local partnership. Examples of training media include a Community Environmental Health Academy, metropolitan workshops, and a CDC video conferencing series.

- **Develop educational materials with information on community environmental health, which is not readily accessible.** A comprehensive picture of what we know about community environmental health would create a common language and an informed starting point. This could be accomplished through a centralized primer or a virtual neighborhood website summarizing stressors, exposures, risks, and possible solutions.
- **Sponsor pilots to advance practice.** There are particular needs to develop models of community environmental health assessments, improvement projects, and partnerships, such as the IWG. Pilots could be accomplished through cross-agency teams and partnerships with public health schools.
- **Modestly increase funding for community initiatives.** Funding can be broadened, and existing funds could be used in a more focused, collaborative, and efficient ways. Dr. Olden raised the issue of who is going to pay, and a key question to accompany his question is when and how much will we pay? The cost of addressing these issues will increase if we do not address the problem when it is more manageable.
- **Identify practical solutions to common community concerns.** We can summarize current solutions and organize efforts to address risks that have no solutions through a solutions website and increased coordination.
- **Develop practical assessment tools and focus more research on community concerns.** Communities need tools to help identify and prioritize risks, including tools for evaluating acute, cumulative, and comparative risks. Dr. Arquette discussed reinventing successful research methods in the Native American community, for example, even though these methods are contrary to what scientific experts view as appropriate approaches. A better understanding is also needed of exposures from different sources, such as small businesses that are common in urban environments. Businesses such as auto refining and repair shops are having a large impact on individual communities. A key question for EPA is whether their own Office of Research and Development can provide the organization with a joint Federal effort to develop these tools and studies to answer particular community concerns.
- **Establish ongoing method to coordinate, evaluate, and improve Federal efforts.** Once key areas and the division of labor are identified, a cross-agency planning committee and an annual meeting could be established.

## Questions and Answers

**Quentin Pair:** Legislation was recently introduced into Congress that would require EPA to evaluate new fuel additives for cumulative risk assessment on disadvantaged communities. Based on your discussion of leadership and collaboration with other agencies, would this type of project appear to be a vehicle for bringing other health entities in to support this kind of evaluation?

**Williams Sanders:** With the work that we have done at EPA and the focus that several of our programs have, including in the Office of Research and Development, we are in a much better place to deal with these kinds of issues than we were in the past. We already have legislation, the Food Quality Protection Act, on cumulative risk that we are implementing. This legislation requires us to set tolerances on pesticides and to look at cumulative risk issues across a number of pesticides with the same routes to exposure. This work is occurring in the Office of Pollution Prevention and Toxics, and cutting-edge and controversial science is required to determine how to assess the cumulative risk.

**Charles Lee:** Dr. Sanders mentioned the EPA Framework for Cumulative Risk Assessment, and it was written with consideration to environmental justice and disparate impact issues. It calls for community- and population-based assessments and introduces vulnerability beyond biological susceptibilities to include social factors. Some suggest that cumulative risk is a multi-generational issue, and this question has been posed to the Environmental Justice Advisory Council. How do you conceptualize a model that looks at the relationship between cumulative risk and health disparities?

**Beatrice Rouse:** Your presentation noted how difficult it is to for both scientists and communities to integrate fragmented information into their work. NIEHS has allotted a certain amount of money in their grant program to provide information to communities. Are there other activities at EPA to help integrate this information for communities?

**William Sanders:** The Office of Pollution Prevention and Toxics once had a program that helped address this issue, and there was an environmental justice grants program that no longer exists. The Office of Research and Development (ORD) Science to Achieve Results (STAR) Program funds this type of work. This program provides \$100 million annually for scientists to do a wide range of work, including cumulative risk. There are likely other programs as well.

## FIRST DAY CLOSING REMARKS

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### **Nathan Stinson, Jr., PhD, MD, MPH**

During the first day of the symposium, two themes emerged. First, many Federal agencies are taking a leadership role in addressing issues related to environmental justice and health disparities. Several speakers expressed great interest and commitment to identifying real interventions that they can implement in communities. In addition, some speakers shared information on the “gems” that exist at the community level. These successful projects can help direct Federal efforts to meet community needs.



## VOICES FROM THE FIELD

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### Moderator:

#### **Rueben Warren, DDS, MPH, DrPH**

Associate Administrator for Urban Affairs, ATSDR

### Speakers

#### **Cecil Corbin-Mark**

Program Director, West Harlem Environmental Action, Inc.

#### **Otis Cosby, MD**

Meharry Medical College, Nashville, Tennessee

#### **David Baines, MD**

Providence Health System, Alaskan Family Practice Residency, Anchorage, Alaska

### Panel Overview

*"I am sick and tired of being sick and tired."* Fannie Lou Hamer, Civil Rights Activist

The Institute of Medicine's report on environmental justice articulated four research recommendations in research, education, and health policy. The fourth recommendation states:

"In instances in which the science is incomplete, with respect to environmental health and justice issues, the committee urges policymakers to exercise caution on behalf of the affected communities, particularly those that have the least access to medical, political, and economic resources, taking reasonable precautions to safeguard against or minimize adverse health outcomes."

At the same time, environmental justice and minority communities often tell us that they are "sick and tired" of dying from preventable diseases and of the government, public health community, and medical community telling them there are no data to show that their illness is associated with the environment.

This panel offers community-based perspectives on how Federal agencies can better address health disparities, healthy environments, and environmental justice.

## **The Northern Manhattan Environmental Justice Partnership: Expanding the Community Driven Research Agenda**

### **Cecil Corbin-Mark**

Program Director, West Harlem Environmental Action, Inc.

*“Visions without tasks to meet them is a dream; tasks without a vision is drudgery. When you combine the two, you hold the hope of tomorrow.”*

The goal of our project is to enhance and expand the community-driven environmental justice research agenda nationally and locally in Northern Manhattan. Our approach is to build the capacity of not only community residents, but also academic and health care institutions to effectively address environmental health concerns through research and outreach projects rooted in and responsive to community concerns. The project is carried out in collaboration with the Harlem Health Promotion Center.

### **Background on Northern Manhattan, New York City**

Geographically located north of 110<sup>th</sup> Street, Northern Manhattan is a predominantly African American and Latino community with a population of 625,000 people in an area of approximately 7.25 square miles. Every land use decision made within this area, therefore, can potentially impact the health of hundreds of thousands of residents.

The following map shows asthma hospitalization rates by zip code using 1996 data for children aged 0 to 4 years old. We examine hospitalization rates primarily because there are no data on the actual incidences of asthma. The dark shaded areas have the highest asthma hospitalization rates of 241 to 508 cases. NIEHS is currently supporting very focused studies in Central Harlem, which show that 25% of the children in this community have asthma—the highest recorded level of asthma in the U.S. Similar health outcome patterns can be seen with other issues such as the incidence of lead.

Though they are not trained professionals and their expertise has not been valued in public health policy making, these rates came to no surprise to the residents in this community, who believe that they are the true experts on their health.

## Land Use Decisions and Health Outcomes

West Harlem Environmental Action and community residents have identified what they believe are the major causes of high asthma incidence rates in Northern Manhattan. These causes are linked to land use decisions and their high exposure to diesel exhaust. With six transit authority diesel bus depots, Northern Manhattan hosts a third of the nation's largest diesel bus fleet and has the highest concentration of diesel bus depots among the five boroughs of New York City. There is also a Port Authority bus terminal that receives 600 to 700 buses on a daily basis.

In addition, the largest and third largest sewage treatment plants in New York City are located in this community; these plants process 230 million gallons and 180 million gallons of raw sewage each day respectively. Both of these plants are run by large diesel engines. Diesel truck depots operated by municipal or state facilities and a garbage marine transfer station on the waterfront also contribute to diesel emissions.

These land use decisions place a disproportionate burden on the residents of Northern Manhattan who are not the sole beneficiaries of these facilities. Two of the bus depots only run lines in downtown Manhattan, and the North River Sewage Treatment Plant was initially intended to be placed further south until land developers who were interested in transforming the Upper West Side neighborhoods objected to the plans. It was also decided to place the plant in Northern Manhattan, which has the highest elevation on the island, even though the design of New York City Sewage system favors lower elevations.

In 2000, a Title VI complaint was filed with the U.S. Department of Transportation, and the community is still waiting for a resolution. In response to this complaint, the Transit Authority claimed that there is no proof that diesel pollution has an adverse impact on Northern Manhattan residents. There are, however, several studies that identify diesel as a trigger for asthma. Furthermore, EPA has validated that diesel can contribute to the development of some forms of cancer.

This disproportionate burden on this community is supported by the lack of comprehensive considerations in land use decision-making. Decisions about the location of these facilities are made at the local level with no regard to the potential impact on people's health.

## Recommendations for Federal Agencies

Federal agencies can positively impact communities such as Northern Manhattan through the following recommendations:

- **Examine land use decisions in the context of the health burden.** Building transportation facilities is currently viewed in isolation of its health impact on the communities where they are located.
- **Work more collaboratively with state officials.** Once Federal funding is transferred to the state of New York and then to New York City, the decisions are left to local authorities without any understanding of the health impacts of these decisions. Rather than withholding money from the states, the Federal government could require an assessment of the health risks associated with these decisions and promote a vision of healthier communities.
- **Build stronger connections between land use decisions, communities, and the public health process.** The Federal government needs to play a role in building these connections while valuing the community's expertise.

[INSERT ASTHMA MAP]



[SOURCE]

## Environmental Medicine: Challenges and Strategies

### Otis Cosby, MD

Meharry Medical College, Nashville, Tennessee

Despite the increased need to address environmentally related disease, the field of environmental medicine is small and declining. Occupational Medicine programs continue to be in jeopardy on an annual basis; two programs were dissolved two years ago, and two more programs are in danger of being eliminated this year. The Meharry Medical College Occupational Medicine Program is one of fewer than 40 programs in the country and is the only program affiliated with an HBCU. It has also taken a unique and comprehensive approach by offering a three-year program and hosting one of the few inhalation toxicology laboratories in the country. At the same time, however, the program is experiencing the challenges caused by the lack of support for this field. Though it is accredited for six residencies per year, it has only secured funding for three positions.

### Challenges Faced by Environmental Medicine and Physicians in Serving Communities

Several challenges are hampering our ability to effectively serve communities with environmental health needs. These challenges are described below.

#### Lack of Trained Specialists

Since 1955, only 3,200 have been certified by the American Board of Preventative Medicine in Occupational and Environmental Medicine, compared to the approximate 300,000 physicians in the U.S. A recent study indicated that very little attention is given to environmental medicine in medical schools with 20 to 30% of schools providing only four hours of training in a four-year program. In addition, most institutions with programs in occupational and environmental medicine have witnessed decreased attention in the medical school curriculum.

#### Community Concerns

Meharry College has been involved in several activities that have made us aware of community concerns. With the support of ATSDR, for example, we have provided continuing medical education related to environmental medicine for primary care physicians and worked with communities outside of Baton Rouge, Louisiana and in Corpus Christi, Texas to address serious health concerns relating to environmental contamination.

As a member of the Association of Occupational and Environmental Medicine Clinics, our program acts as a referral site for communities that need an environmental medicine evaluation, and calls are received weekly from individuals around the country seeking expertise in this area. Communities are seeking trained and compassionate individuals that they can trust. The Federal government must play a role in making these providers available to address these community concerns.

### Strategies to Enhance the Work of the Medical Community

Several strategies can be implemented to improve both the interest and training in environmental medicine and the access to care and funding for the diagnosis, treatment, and prevention of environmentally related disease.

#### Environmental Medicine Training

- **Train all health care professionals in environmental medicine.** Administrators and faculty involved in curriculum development must be educated on the importance of including this training in their curricula. This training should include nurses and public health offices.
- **Increase the number of summer externships and/or rotations for medical students, dental students, nurses, and other health care practitioners.** These opportunities will improve their training and exposure to environmental medicine. The ATSDR fellowship program that I participated in to enter this field should be funded again.
- **Create faculty development programs in environmental medicine.**
- **Fund residency training in environmental medicine.** The National Institute of Occupational Safety and Health (NIOSH) provides some training in occupational medicine, but more focus is needed specifically on environmental medicine.
- **Continue to provide continuing medical education for physicians in practice.** All physicians need to include a thorough exposure history as part of their medical evaluations.

#### Access to Care and Funding

- **Adopt an interagency approach.** Congress should also be involved in addressing these challenges.
- **Explore the use of tele-medicine.** Tele-medicine would enable primary care physicians to consult with occupational and environmental health specialists. This is particularly critical for physicians serving rural areas.

## Environmental Issues in Indian Country

### David Baines, MD

Providence Health System, Alaskan Family Practice Residency, Anchorage, Alaska

*"We need to go beyond the rhetoric and planning and actually do something."*

Tribal Elder

Indian Country covers over 50 million acres and 560 sovereign nations and includes over 2 million people. The focus of this presentation reflects feedback from tribal leaders and health providers that work in these communities.

Understanding key cultural differences is critical in addressing environmental health issues in Indian Country. These communities do not view health as the absence of disease but rather a state of harmony or balance. This balance occurs between the self (mind, body, and spirit), others, and the environment. The loss of harmony creates a vulnerability to disease, allowing an illness to get the individual. In contrast to Western cultures that view the individual as the center of the universe, the earth plays a central role in supporting the nation, which in turn supports the family, which then supports the individual. By standing on the earth, we stand on the shoulders of our ancestors. Everything was made by the same Creator, has a spirit, and is related, so caring for the environment is seen as a mandate from the Creator.

### Barriers

In addition to cultural differences, there are other barriers in addressing environmental health issues in Indian Country. The impacts of these barriers are outlined below.

### Cultural Differences

Cultural differences impact the emotional, mental, physical, and spiritual health of American Indian communities, as well as subsistence issues. A history of broken promises and abuses has eroded the trust these communities have in the Federal government. Closely related to this emotional impact is the mental stress that results from these differences and the many physical illnesses that these communities are facing as a result of environmental issues, such as uranium mines in Navajo country and depleted uranium in Alaska. Spirituality and subsistence issues are also closely related to these issues. Health and spirituality are inseparable, so if the earth is not well, subsistence foods are not well, and the negative consequences extend to the people and the culture.

### **Sovereignty Issues**

The judicial system has upheld challenges to tribal authority by states and non-tribal individuals, which has allowed tribal lands to continue to be polluted. Federal agencies and states also do not recognize tribes as governments and has resulted in, from the perspective of American Indians, a form of Indian Apartheid.

### **Financial**

The EPA Environmental General Assistance Program provides \$75,000 to set up tribal environmental program, which is only enough to support one person and very little training. This symposium raised my awareness of a number of other programs that exist, which reflects a gap in education about available resources. Tribes, however, need their own programs that are backed by judicial authority and have more financial capabilities.

### **Inadequate Health Care**

Indian Health Service is grossly under funded and only serves approximately 60% of the eligible population; access to care is a major challenge. In Athebascan, for example, there are only two doctors to serve an area the size of Texas, and 75% of the villages in this area are only accessible by air.

Indian Country is also suffering from increased rates of cancer, diabetes, and other illnesses, as well as poorer outcomes than other groups. Many of these illnesses are a result of the movement away from traditional diets and activities. Life expectancy is also much lower in these communities with approximately 50% of American Indians dying before the age of 48.

### **Research**

A range of research challenges also exists. There is not enough research on environmental issues, and we have inadequate research tools to study small populations. Furthermore, the research agenda seems to be set by the administration in office rather than researchers. Scientists also operate under a disease model rather than a wellness model, which is a fundamental flaw in their research.

### **Poor Communication**

Poor communication between tribes, states, and Federal agencies also creates barriers.

## Recommendations

In planning for the future, it is important to remember that we are caretakers of the earth. Our actions today not only impact our health but also, as our people believe, the next seven generations. Additional recommendations from Indian Country are described below.

- **More funds to help tribes build their own environmental management infrastructure, as well as for tribe health and surveillance.** ATSDR is funding some longitudinal studies in Alaska, but more are needed in more locations.
- **Legislative support for tribal sovereignty.** This support is needed since the judicial system is not supporting tribal sovereignty. Tribes need to have designated authority over the land.
- **Free standing American Indian/Alaska Native (AI/AN) Committees, rather than just including them in minority committees.** These committees are needed in all Federal agencies and in states with tribal land within their boundaries. AI/AN involvement should occur at every level, such as with the EPA Tribal Council.
- **More education for the general public, politicians, and individuals in medical education.** More programs in occupational and environmental medicine are also needed, as discussed by Dr. Cosby.
- **Develop new strategies for contaminated sites.** Strategies used for Superfund sites do not apply in Indian Country where tribal rights are location specific. Closing off contaminated sites with chain link fences and relocation do not work for AI/AN communities.
- **Accept and incorporate traditional ecological knowledge into Federal and state agencies and programs.** Scientists, for example, were ready to eliminate whaling because they thought the whale populations had declined in Alaska. Native whalers, however, developed a positive working relationship with scientists by showing them where to find the whale populations. This provided scientists with valuable information on the whale population and maintained AI/AN access to their traditional food source.

## Research Recommendations

The following research recommendations from Indian Country are closely aligned with the four recommendations provided by *National Academy of Sciences Committee on Environmental Justice: Toward Environmental Justice*.

- Develop methods to study small populations.
- Develop a better understanding of how environmental problems and contaminants impact health and methods.
- Develop methods to study environmental impact using a wellness model.
- Recognize emotional and spiritual well being when appraising acceptable risks.

- Determine acceptable level of toxins from the perspective of what is acceptable to your family.
- Remove the burden of proof from the public.

## Questions and Answers

**Nick Nichols, EPA:** I'm unrelated to this field since I'm in the Regulatory Office that regulates the oil industry. However, every day I come into Washington, DC on a train that goes through Union Station, and the diesel pollution is unbelievable. I brought this to the attention of AmTrak, Union Station, and EPA, and nothing has been done.

In the oil industry, oil is king when it is drilled in Alaska, refined in Nashville, and reaches your gas tank in New York. We have got to do something about our dependencies on fossil fuels. Some of the solutions are bio-diesel, electric vehicles, and alternative vehicles. EPA has a shuttle service powered by compressed natural gas. There are diesel engine buses that run on vegetable oil. My solution is to explore ways to fund bio-diesel and alternative fuels for these buses in New York City, so there will be no need to move the depots and minimize emissions. What are we and EPA going to do to get away from fossil fuels?

**Cecil Corbin-Mark:** First, you are not unrelated to this field, and everyone in this room has a role to play. We just have to figure out how to integrate you into the process. Secondly, there are orders of magnitude under which you can address these problems. You have decided to choose a solution at the highest and most difficult level to address, and I applaud you for your tenacity.

Strategically, however, this is not where many of the people in this room are able to exert their leverage. Your strategy requires a very different kind of organizing and initiative, and it is critical and should happen. More importantly, however, there are ways that agency officials can impact these issues by making changes to the contractual obligations for the grants they disperse.

My organization and I are not advocates for bio-diesel because our understanding is that it still burns particulates that are triggering asthma. We are interested in solutions to these triggers.

**Artensie Flowers, Office of Pesticide Programs, EPA:** In an effort to increase the recognition and management of signs and symptoms of pesticide toxicity, our office has a national initiative called National Strategies for Health Care Providers. We are having a national forum on June 10–11 to bring together health care providers from around the country to examine some of these issues.

How can we incorporate environmental health into the patient assessment? As a result of a five-year effort, in collaboration with a non-profit organization, we have developed national guidelines for incorporating environmental health into curricula at health professional schools. We hope to recruit some champions to help get medical and nursing schools to follow some of these guidelines to increase providers' knowledge of pesticide toxicity. We also hope this can be a model that can be used for other environmental health issues.

**Cecil Corbin-Mark:** New York is an agricultural state that uses a lot of pesticides. The highest levels of pesticide use, however, are in New York City where there is very little agricultural work but where people are impacted in their homes. I would be very interested in seeing you begin discussing these issues and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) with people at HUD. As someone from outside the government, I think there may be an opportunity to look at FIFRA enforcement and explore integrated pest management approaches. Pesticides with anabolic steroids also trigger asthma.

**Beth Bowers, National Institute of Mental Health (NIMH), NIH:** I found it interesting how only a few speakers addressed spiritual aspects of health. What role do you see mental health playing in addressing some of these environmental health issues? I do not know if there are any direct links that NIMH makes with EPA. I don't think this is even an issue that is addressed when we talk about the science. It is more in the political initiatives for religious institutions receiving Federal funding. I would be interested in discussing this with Dr. Baines, Mr. Corbin-Mark, and others here.

**Quentin Pair, DOJ:** In my work as Chair of the IWG Native American Task Force and in my interaction with tribes, I am always grappling with two issues: money and communication with tribes. We have tried to keep tribal issues as part of a national dialogue on environmental justice, but with the diversity of over 560 AI/AN tribes, it is a challenge to talk to tribes collectively as a united voice. Dr. Baine, do you have any recommendations on how we can effectively collaborate on health issues by having an inclusive dialogue?

**David Baines:** That is a difficult issue because those 560 tribes each have their own culture and leadership. There are some Indian health boards, such as the national Indian Health Board and the Association of American Indian Physicians. These are two widely respected professional organizations in Indian Country. There is also the National tribal Chairman's Association. The Indian Health Service also has an annual conference where the tribal leadership comes together.

**Cynthia Hodge, Bureau of Health Professions, Division of Medicine and Dentistry, HRSA:** Some speakers have alluded to the World Health Organization's definition of health has been expanded, but even the current definition does not go far enough. There is a health definition that I do embrace and would like to share; it was developed by Dr. Rueben Warren:

*"Health may be described as a relationship, the synergist interplay between the physical, social, psychological, and spiritual elements that create the well-being of individuals and/or groups in their physical and social environment."*



## CURRENT FEDERAL INITIATIVES

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### Moderator:

#### **Harold Zenick, PhD**

Associate Director of Health, National Health and Environmental Effects Research Laboratory, Office of Research and Development, EPA

### Speakers

#### **Betty Lee Hawks**

HHS Asian American and Pacific Islander Initiative

Special Assistant to the Director, OMH, OPHS

#### **Deborah Winn, PhD**

NCI Health Disparities and Environmental Research

Acting Chief, Clinical and Genetic Epidemiology Research Branch, Division of Cancer Control and Population Sciences, National Cancer Institute (NCI), NIH

#### **Imani Ma'at, EdD**

CDC REACH 2010 Program

Director, REACH 2010, National Center for Chronic Disease Prevention and Disease Promotion, CDC

#### **Charles Wells, PhD**

Director, Environmental Justice/Health Disparities and Public Health, Office of the Director, NIEHS, NIH

### Panel Overview

This panel highlights various programs implemented by different Federal agencies in the areas of environmental justice and health disparities. A better understanding of these programs will support greater coordination both within and between agencies. A particular emphasis is placed on translational research activities.

## **Current Federal Initiatives: HHS Asian American and Pacific Islander Initiative**

### **Betty Lee Hawks**

HHS Asian American and Pacific Islander Initiative

Special Assistant to the Director, Office of Minority Health, OPHS

The HHS Asian American and Pacific Islander Initiative is part of the agency's mission to protect the health of all Americans and provides essential human services, especially for those who are least able to help themselves. Building on the AAPI goals set by HHS starting in 1997, the White House Initiative on Asian Americans and Pacific Islanders was created by Executive Order 13125 and extended under Executive Order 13216 to increase participation of AAPIs in Federal programs meeting goals related to: access to services, AAPI data, civil rights and equal opportunity protection, AAPI community capacity, Native Hawaiians and Pacific Islanders in Federal programs, and institutionalization of the initiative.

During this symposium, two questions regarding AAPIs should be kept in mind:

- What is the potential for addressing environmental health/justice issues in the AAPI communities?
- Is the environmental justice movement for AAPIs in 'American Idle' mode?

### **Asian Pacific Demographics and Health Status**

There are 12.5 million AAPIs in the U.S. with the largest concentrations residing in California, New York, Hawaii, Texas, New Jersey, Illinois, Washington, Florida, Virginia, and Massachusetts. Sixty-eight% of AAPIs are foreign born and speak dozens of different languages; 30% of Asian immigrants are uninsured.

In addition, this population has a bimodal distribution on a number of factors. Educational attainment, for example, is very high for populations that have been in the U.S. for multiple generations, such as Japanese, Chinese, and South Asian groups. College completion rates for populations such as Tongans, Cambodians, Laotians, and the Hmong, however, are less than 6%; the number of Hmong in the U.S. with a high school diploma is approximately 31%.

The leading causes of death are cardiovascular disease for Asian American men and cancer for women. Vietnamese American women have the highest cervical cancer rates of any group, and Vietnamese American men have the highest rates of liver cancer of any group. Asian Americans also account for over half of the 1.3 million chronic Hepatitis B cases in the U.S.

### **Environmental Justice Issues for AAPIs**

There is a growing movement for grassroots communities around environmental justice issues. The Asian Pacific Environmental Network (APEN), for example, is one of the strongest voices for the environmental justice movement for AAPIs. APEN has been working closely with EPA and HHS institutes such as NIEHS to address environmental justice issues.

Among the most vulnerable populations are Pacific Islanders and Native Hawaiians. Many Pacific Islanders, for example, are located in Pacific jurisdictions that are facing similar issues as developing countries. These jurisdictions have been used for strategic defense needs such as testing nuclear devices. Some of these areas are now uninhabitable, which has forced many communities to move from their homes.

Determining the communities' greatest needs, however, requires asking the communities themselves. However, substantial amount of information is already available through the EPA website and other resources.

### **Community Capacity Building**

Community capacity building is required to effectively address environmental justice issues, and both the government and the community play important roles in this process. The Federal government must assist communities by providing tools, information, training and periodic technical assistance; assisting in infrastructure development, such as budget, strategic planning, and communications; listening to the community concerns; offering constructive advice when asked; and dedicating time. Communities have a responsibility to grow their capacity both internally and externally and to assess their strengths and weaknesses. They must also identify, develop, and leverage opportunities to work with Federal agencies, develop relationships, and convey needs and suggest solutions.

### **Current Federal Environmental Health and Justice Activities**

There are several Federal activities affecting AAPIs. NIEHS is engaged in several environmental health and justice activities, including Fish Consumption Risk Communication in Ethnic Milwaukee; New Ventures Refugees and Immigrants Environmental Justice Partnership; and Health Opportunities, Problem-Solving, and Empowerment.

The National Institute for Occupational Safety and Health (NIOSH), CDC is engaged in research collaboration, and the NIOSH Health Disparities Task Force is involved in identifying priorities, impacts on AAPIs, and materials that need to be translated into Asian languages. Their Training of Occupational Safety/Health Professionals program also provides training in occupational medicine.

In addition, there are several Federal minority health initiatives that could be better utilized to address environmental health and justice issues, such as programs involving HBCUs, Hispanic Serving Institutions, and Tribal Colleges and Universities. Our efforts, however, require the involvement of community-based organizations and communities, collaborations within the Federal sector, and public and private partnerships.

## Translating Research Findings Into Better Health: NCI Perspective

### Deborah Winn, PhD

NCI Health Disparities and Environmental Research

Acting Chief, Clinical and Genetic Epidemiology Research Branch, Division of Cancer Control and Population Sciences, NCI, NIH

### Addressing Health Disparities at NCI

The National Cancer Institute (NCI) created the Center to Reduce Cancer Health Disparities to direct the implementation of and support initiatives that advance the understanding of the causes of health disparities and to develop and integrate effective interventions to reduce or eliminate these disparities.

NCI also supports research on health disparities through the Division of Cancer Control and Population Sciences. The Division's primary efforts are to:

- Monitor the differential burden of cancer among Americans.
- Promote and conduct research that identifies and addresses the economic, social, cultural, psychological, behavioral, and biological mechanisms contributing to these disparities across the cancer control continuum and throughout the human lifespan.

### Translating Research into Improved Health

The primary focus of this presentation will be on the NCI approach to promote translation of research into improved health. This translation is accomplished through two major strategies: the dissemination of effective intervention approaches and the involvement of the community, consumers, and organizational partners in research.

### Dissemination of Effective Intervention Approaches

It is important to first distinguish between diffusion and dissemination, both of which are addressed by NCI. Diffusion is the passive process by which a growing body of information about an intervention, product, or technology is initially absorbed and acted upon by a small body of highly motivated recipients. Dissemination, however, is the process through which target groups are made aware of, receive, accept, and use information and other interventions. These groups are less likely to receive information on their own.

The mission of the Research Diffusion and Dissemination team at NCI is to:

- Reduce cancer incidence, morbidity, and mortality through promoting the adoption, reach, and impact of evidence-based interventions.
- Stimulate and support both diffusion and dissemination research and the diffusion and dissemination of cancer control research.
- Close the gap between research discovery and program delivery by making scientific information easier to understand and evidence-based interventions easier to use.

To support the dissemination of effective intervention approaches, NCI developed its web portal, Cancer Control PLANET (Plan, Link, Act, Network with Evidence-Based Tools). Cancer Control PLANET (<http://cancercontrolplanet.cancer.gov>) is a comprehensive tool for cancer control planning, implementation, and evaluation, sponsored in partnership with CDC, the American Cancer Society, Substance Abuse and Mental Health Services Administration (SAMHSA), and Agency for Health Research and Quality (AHRQ). Available on this portal are steps to develop a cancer control program, including access to information about cancer in individual states, information on potential local and state partners, and a guide to community preventive services that include social and environmental health issues.

### Involvement of the community and consumers in research

Two major NCI efforts to involve the community and consumers in research include the NIEHS/NCI-sponsored Centers for Breast Cancer and the Environment and NCI's Consumer Advocates in Research and Related Activities.

#### *The Breast Cancer and the Environment Research Centers*

The Breast Cancer and the Environment Research Centers effort is an RFA designed to accomplish:

- **Basic biological research** by conducting coordinated research in two collaborative projects which fill specific gaps in our knowledge of how environmental exposures may impact the development of the mammary gland at the cellular, molecular, organ, and population level.
- **Population research** by translating findings from the biology project to the epidemiologic project.
- **Partnership with the advocacy community** to translate the findings of the research in a way that public health messages can be designed to educate young girls and women who are at high risk of breast cancer on the role of specific environmental stressors.

The community outreach and translation component has its own purpose, which is to:

- Develop and implement strategies to translate the scientific findings of the Center into information for the public and policy makers and to determine if they are effective. These strategies may include development of educational materials and newsletters, community meetings, and novel ways to disseminate information to target groups.
- Work in partnership with Center scientists to integrate consumer concerns.
- Support recruitment and retention for population study.

### ***Consumer Advocates in Research and Related Activities***

NCI values and seeks the opinions of cancer survivors and created the Consumer Advocates in Research and Related Activities (CARRA) program to encourage people affected by cancer to provide their viewpoint and ideas directly to NCI staff. This input could then be incorporated into our programs and activities. The goals of the CARRA program are to:

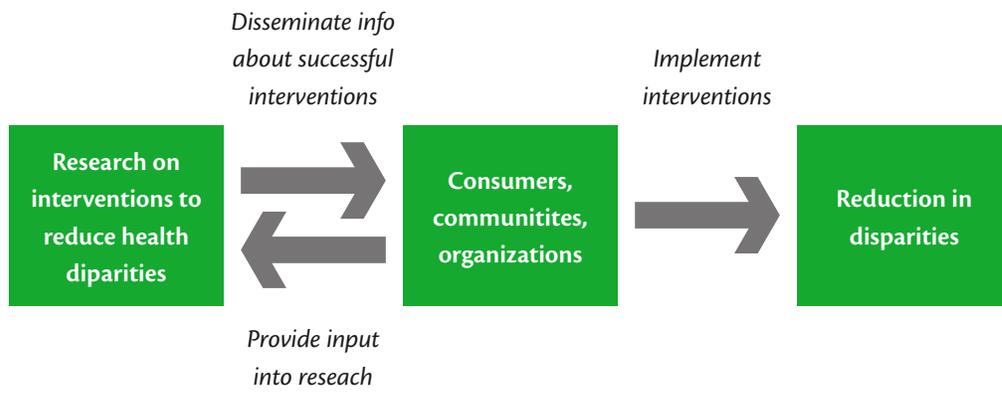
- Establish a program for consumer advocates to work as lay representatives with NCI in establishing research priorities and designing and implementing cancer programs.
- Foster an organizational atmosphere that values the contributions and perspectives of cancer survivors and consumer advocates.

The program involves cancer survivors and consumer advocates in both science and communications. They are involved in developing and reviewing cancer education pamphlets, videos, or websites. They participate in meetings to provide opinions about NCI research plans and policies, and they evaluate patient-oriented research at cancer research centers.

## **Reducing Health Disparities**

Effectively reducing health disparities requires a dynamic process. To be successful, we conduct research on interventions and ensure this information is disseminated to consumers, communities, and organizations through resources like Cancer Control PLANET. We also need these consumers, communities, and organizations to provide input into our research.

### Dynamic Process to Reduce Disparities



## Racial and Ethnic Approaches to Community Health (REACH 2010) Demonstration Program

### Imani Ma'at, EdD

CDC REACH 2010 Program

Director, REACH 2010, National Center for Chronic Disease Prevention and Disease Promotion, CDC

Started in 1999, REACH 2010 is a demonstration program that relates to *Healthy People 2010* priority areas pertaining to African American, American Indian, Alaska Native, Hispanic American, Asian American, and Pacific Islander/Native Hawaiian communities. The program funds community-based participatory research (CBPR) projects run by coalitions that must include at least one community-based organization, but also university health departments, community clinics, schools, faith-based organizations, and non-traditional public health organizations. The six priority areas for the program are infant mortality, deficits in breast and cervical, cancer screening and management, cardiovascular diseases, diabetes, HIV infections/AIDS, and child and/or adult immunizations. Currently, there are seven sites in their second year of implementation and evaluation and 24 sites in their third year.

### Development of the REACH Program

The REACH 2010 Program was developed based on three assumptions. The first assumption is that racial and ethnic disparities in health have persisted in spite of traditional change strategies. Secondly, REACH 2010 demonstration projects ask, “Can we do better if we seriously tap into the genius of local creativity?” The final assumption was that REACH 2010 is a national program to the extent that we are trying to learn from unique experiences in communities across the nation—not because we are applying “best practices” nationally.

### Examples of REACH 2010 Projects Making a Difference

#### REACH 2010 Charleston and Georgetown Diabetes Coalition: Community-Driven Activities to Improve Diabetes Self-Care

This project in South Carolina is a community-driven, diverse, multidisciplinary Diabetes Coalition working to eliminate the health disparities of over 12,000 African Americans with diabetes through improved care and self-management. The coalition's actions are organized around three themes:

- Community-driven educational activities where people live, worship, work, play, and seek health care.
- Evidence-based health systems change using continuous quality improvement (CQI).
- Coalition power built through collaboration, trust, and a sound business plan.

***The Process***

The project hired five community health advisors (CHAs) who live in the communities where they work. Minimum training/education from the system and immersion into community were required. The assets and challenges of the community were assessed, and to develop community-specific interventions, tools were selected or developed based on need. Ongoing training/education based on need is also provided.

As with all demonstration projects, evaluation and disseminating findings are important for this project. There is ongoing evaluation of the REACH Logic Model and of the RE-AIM Framework, which was developed specifically for this project.

**RE-AIM Framework**

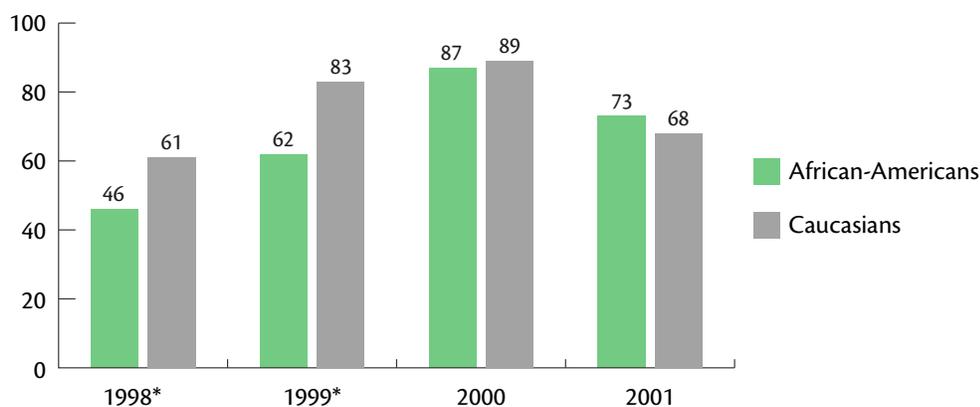
<b>REACH</b>	<b>Effectiveness</b>	<b>Adoption</b>	<b>Implementation and Maintenance</b>
<ul style="list-style-type: none"> <li>• Focus Groups</li> <li>• Stories (Story Boards, Scrapbooks, Minutes)</li> <li>• Activity Reports</li> </ul>	<ul style="list-style-type: none"> <li>• Stories (Meeting Minutes)</li> <li>• Collaboration Survey</li> <li>• Team Effectiveness Survey</li> </ul>		

***Interventions***

Several interventions were developed for this project. The first intervention for all REACH projects is planning together. Other interventions include: walk and talk groups, home and telephone visits, educational sessions, health care visits, health and information fairs, support groups, grocery store tours, library tours, and resource linkage.

***Outcomes (RE-AIM)***

The interventions reduced the gap between African Americans and Whites for one or more annual hemoglobin A1c tests, and in 2001, African Americans had higher rates of tests, which is a major accomplishment for this community.

**Percent with Annual A1c By Race \_All Sites\_ Chart Audit (1998–2001)**

### Vietnamese REACH for Health Initiative Coalition

The Vietnamese REACHing Health Initiative is another CBPR project, which aims to prevent cervical cancer among Vietnamese women by raising awareness, educating the community about the benefits of early detection, and encouraging women aged 18 and older to get annual Pap tests, particularly older women.

#### **Background**

The 2000 Census counted 1,122,528 Vietnamese in the U.S., an 85% increase over 1990. By 2030, they may be the second largest AAPI group in the U.S., numbering nearly 4 million. Approximately 40% of Vietnamese-Americans live in California, with about 100,000 in Santa Clara County.

Most Vietnamese-Americans are group-oriented and live in extended families, often joining together to participate in ethnic activities. They are avid consumers of local Vietnamese-language media (radio, television, and newspapers). They may be Buddhists, Roman Catholics, and/or Protestants and tend to be either monolingual or speak limited English. Considered industrious but struggling to survive during the recession, they are also known to strongly encourage their children to pursue higher education.

#### **Cervical Cancer Among Vietnamese**

SEER data indicate that the incidence of cervical cancer among Vietnamese-American women is five times higher than among Whites. A baseline survey found that over 80% of Vietnamese women have Vietnamese doctors, and the majority, especially older women,

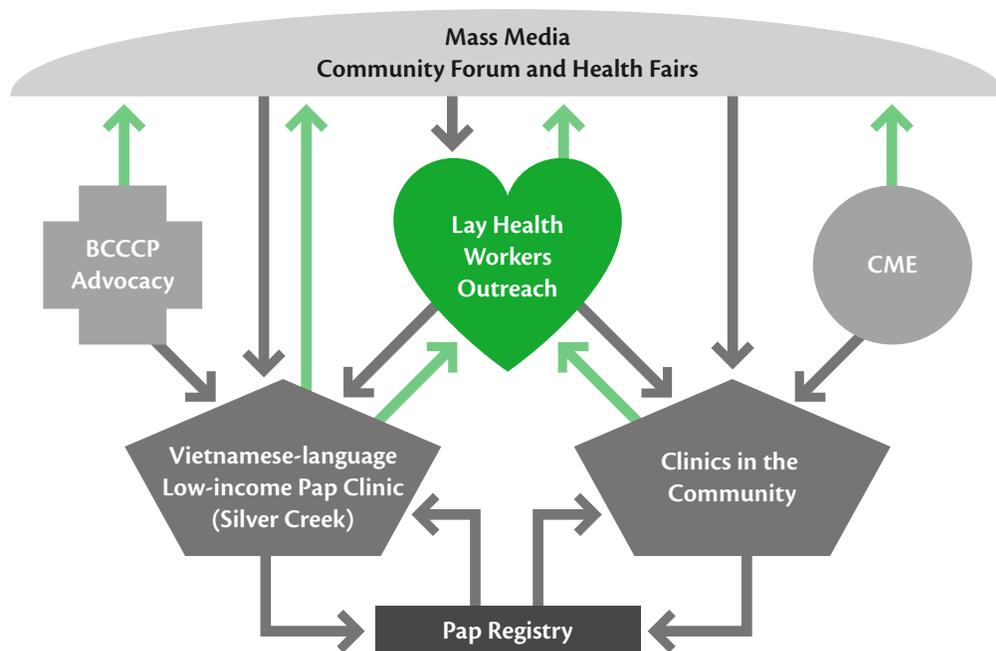
lack knowledge about cervical cancer and Pap tests. Low-income and uninsured Vietnamese women do not know where to get tests, yet a Vietnamese woman is eight times more likely to have received a Pap test if she asked for one or if her doctor offered one.

***The Process: Lay Health Worker Outreach***

Five community-based organizations were recruited to conduct the intervention. Fifty lay health workers (LHWs) were then trained to conduct outreach activities about cervical cancer and Pap testing in small group sessions. Drawing from their social networks, LHWs recruited 1,000 Vietnamese women that were aged 18 or older.

LHWs are at the center of this project's strategy since they connect people to mass media community forums and health fairs, clinics, and other components of this project. In a controlled experiment between a control group (media only) and intervention group, which included the LHWs. The control group showed no difference in obtaining a pap test over a two-month period. In contrast, women in the intervention group showed a 15% increase from 62% to 77% in the same period.

### Interaction of REACH Components



### REACH 2010 Next Steps

The strategies developed through projects such as these will continue to be tested, as will the critical dissemination of these strategies and training. Depending on funding availability, new communities will also be funded.

## Translation Research at National Institute of Environmental Health Sciences (NIEHS)

### Charles Wells, PhD

Director, Environmental Justice/Health Disparities and Public Health, Office of the Director, NIEHS, NIH

NIEHS supports a series of translational research programs through the Division of Extramural Research and Training. NIEHS defines translational research as the conversion of environmental health research into information, resources, or tools that can be used by public health and medical professionals and by the public to improve overall health and well-being, especially in communities with vulnerable populations. The basic objectives of this research are to:

- Improve the understanding of how the physical and social environmental factors affect human health.
- Develop better means of preventing environmentally related health problems.
- Promote partnership amongst scientists, health care providers, and community leaders.

### Translational Research Programs

NIEHS has been a leader in supporting research and developing grants programs to understand how poverty, environmental pollution, and health interrelate and to empower local communities to deal with the environmental health issues in their regions by providing them with more information and tools. The programs that fund these projects are described below.

### Centers for Children's Environmental Health and Disease Prevention Research

Established through a collaborative effort by the NIEHS, EPA, and CDC in 1999, these Centers combine basic and applied research. Centers possess both laboratory research projects as well as a community-based intervention project. All principal investigators are required to give lectures to students to cultivate interest in environmental health issues.

### Population Health and Health Disparities

Developed by NIEHS, NCI, and the National Institute on Aging in 2002, the program supports interdisciplinary research to elucidate the complex interactions of the social and physical environment, mediating behavioral factors, and biologic pathways that determine health and disease.

### **NIEHS Developmental Centers**

These interdisciplinary Centers conduct research that addresses the needs of underserved communities as they establish the necessary facilities to become a Core Center.

### **Environmental Justice: Partnership for Communications**

Initiated in 1993 this program seeks to foster and strengthen relationships between researchers, providers, and communities. It was developed to promote and improve communication between the government and the communities that are affected.

### **Environmental Health Sciences K-12 Education**

Initiated in 1993, this program serves two important functions. It raises student awareness about environmental hazards, and it fosters an interest in environmental health sciences. This unique program was the first to introduce environmental health sciences to grades K-12.

### **Community-Based Participatory Research in Environmental Health**

Initiated in 1995, this program emphasizes research and intervention. Projects build upon a functional relationship between researchers and community members. In 2000, the program was expanded to include etiology and exposure assessment. In February 2002, NIEHS established a Federal Interagency Working Group for CBPR. CBPR is defined as a methodology that promotes active community involvement in the processes that shape research and intervention strategies, as well as in the conduct of research studies.

### **Advanced Research Cooperation in Environmental Health**

Developed in 1999 this program strengthens the capacity of researchers at minority serving institutions (MSI) to compete for NIH research program grants. This goal is achieved by pairing the MSI with a research-intensive university. Current grants pair Southern University with the University of Texas, Xavier University with Tulane University, Florida International University with University of Miami, and Florida A&M with Wayne State University.

### **Health Disparities Research**

Initiated in 2000, this program seeks to elucidate the mechanisms by which physical and social environmental exposures impact human health. It fosters collaboration between biomedical researchers and social or behavioral scientists. Projects have a community outreach and education component.

### **Ethical, Legal, and Social Implications**

Initiated in 2002, this program seeks to bring together community groups, environmental health researchers, and behavioral/social scientists to better understand the ethical, legal, and social implications of environmental health research. The aim is to enhance the environmental health research agenda.

### **NIEHS Core Centers: Community Outreach and Education Program (COEPs)**

Developed in 1996, COEPs serve as a bridge between Center researchers and the community served. COEPs translate research findings into useful public health knowledge.

### **Superfund Outreach**

Outreach involves communicating Superfund research findings to impacted communities, EPA regulatory makers, and industry.

### **More Information on NIEHS Translational Research**

Additional information on individual projects can be found at <http://www.niehs.nih.gov>. Program Administrators can also be contacted to discuss these programs in more detail.

## CLOSING REMARKS

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### Speaker:

#### **Nathan Stinson, Jr., PhD, MD, MPH**

Deputy Assistant Secretary for Minority Health, HHS

Co-Chair, Interagency Task Force on Health Disparities and Environmental Justice

The important aspects of this symposium go back to what Cecil Corbin-Mark mentioned during his panel—visions without real actions are dreams. This symposium germinated from a telephone conversation that Charles Lee and I had a year ago around OMH efforts in organizing the National Summit on the Elimination of Health Disparities. During that call, we had similar visions about what needs to happen to improve the health of the nation.

### Key Themes

These past two days provided an opportunity to learn something new from each other and to refine our thoughts on specific issues and our vision for the future. Some of the themes that emerged repeatedly during the symposium include the following:

- Leadership is critical in our endeavors. We have heard leaders in government express their commitment and interest in addressing a clear problem.
- No one has all of the answers in achieving healthy environments and eliminating health disparities.
- States look to the Federal sector for leadership in determining priorities, while still seeking to maintain control of their budgets.
- Making an impact on communities requires the collective efforts of the Federal government, states, communities, businesses, and other stakeholders. We need an integrated and comprehensive approach to address these issues.
- “Gems” exist and Federal programs are unearthing more of them. There is a foundation for producing a tangible impact on the health of communities, and we must build on these successes.
- Tap into the local genius in the community. We can take approaches that we know work in some places and then work with communities to determine what assets, tools, and strategies will help address the problems they see as real priorities in their communities.

## Next Steps

Addressing the challenge of environmental justice and health disparities is a long-term process, and to be successful, we must maintain forward progress. We can continue to build on the results of this symposium through the following steps:

- Build on new interagency relationships. This symposium has allowed us to develop a new network within the Federal government to maintain communication, share ideas, and help coordinate and champion these efforts.
- Make strategic investments. This symposium focused on examining how Federal agencies can make of a bigger investment in addressing specific issues—through collaborations, economies of scale, reducing overlap, and investing in the right areas.
- Begin the planning process for the next meeting. The Interagency Working Group will debrief on what was learned from this symposium and begin exploring how to engage communities to identify real priorities, successes, and how to shape knowledge at the local level to provide valuable assets and tools.

## Conclusion

This symposium is the beginning of a network of action in which our different agencies can support each other and address these problems in an integrated and comprehensive manner. We must discard the historical yokes of past approaches that we have continued to use, if the benefits of these approaches are questionable. We must also consider retooling our investments in ways that will attain a greater impact on communities around the country.

# RECOMMENDATIONS SUMMARY

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## Strategic Communications

- Facilitate communications among all parties working to improve local environmental health.
- Better educate the general public, politicians, and individuals in medical education about key issues.
- Coordinate the promotion of important nutritional messages among the several Federal, state, and local programs, agencies, and organizations
- Develop educational materials with community environmental health information that is not readily accessible.
- Create a health directory or office to help navigate through the Federal agencies involved in environmental justice and health disparity issues.

## Strengthening the Science Base

- Use a Healthy Communities Model that incorporates community capacity, physical and social environment, environmental health stressors, and public health outcomes/healthy communities and their interactions.
- Develop methods to study environmental impact using a wellness model.
- Provide long-term support and modestly increase funding for community-based, community-controlled research.
- Provide research training for community and youth and cultural sensitivity training for visitors.
- Reward and appreciate community researchers outside academia and NIH.
- Sponsor pilots to advance practice.
- Develop practical assessment tools.
- Develop methods to study small populations.
- Believe in your medicine and the future. Accept and incorporate traditional ecological knowledge into Federal and state agencies and programs.

## Building Partnerships

- Achieve integration of collaborative interagency and community partnerships that capture environmental justice principles and address health disparities to ensure that the resources are spent in the most productive ways.
- Build the capacity of communities through effective partnerships.
- Work more collaboratively with state officials.
- Establish ongoing method to coordinate, evaluate, and improve Federal efforts.

## Policy Development and Evaluation

- Ensure that attention and resources are focused in ways that produce real impact
- Build stronger connections between land use decisions, communities, and the public health process.
- Remove the burden of proof from the public.
- Promote physical education and healthier food choices in schools.
- Recognize that action is everything for environmental justice communities.
- Determine who will pay for expensive new technologies to address health disparities and when.
- Recognize emotional and spiritual well-being when appraising acceptable risks.
- Determine acceptable level of toxins from the perspective of what is acceptable to your family.
- Provide more funds to help tribes build their own environmental management infrastructure, as well as for tribe health and surveillance.
- Achieve legislative support for tribal sovereignty.
- Establish free standing AI/AN Committees for all Federal agencies and in states with tribal land within their boundaries
- Develop new strategies for contaminated sites that take tribal rights into account.

## Linking People to Health Services

- Identify practical solutions to common community concerns.
- Train all health care professionals in environmental medicine.
- Increase the number of summer externships and/or rotations for medical students, dental students, nurses, and other health care practitioners in environmental medicine.
- Create faculty development programs in environmental medicine.
- Fund residency training in environmental medicine.
- Continue to provide continuing medical education in environmental medicine for physicians in practice.
- Adopt an interagency approach with Congress to addressing access to care and funding.
- Explore the use of tele-medicine to enable primary care physicians to consult with occupational and environmental health specialists.
- Organize training that integrates all aspects of environmental health, including partnerships, capacity building, and risk assessment.

## Committee on Environmental Justice, Institute of Medicine Recommendations

### Recommendation 1

A coordinated effort among Federal, state, and local public health agencies is needed to improve the collection and coordination of environmental health information and to better link it to specific populations and communities of concern

### Recommendation 2

Public health research related to environmental justice should engender three principles

- Improve the science base.
- Involve the affected populations.
- Communicate the findings to all stake holders.

### Recommendation 3

Environmental justice in general and specific environmental hazards in particular be the focus of educational efforts to improve the understanding of these issues among community residents and health professionals, including medical, nursing, and public health practitioners.

This would include:

- Enhance health professionals knowledge of environmental health and justice issues.
- Increase the number of health professionals specializing in environmental and occupational medicine.
- Improve the awareness and understanding of these issues by the general public.

#### **Recommendation 4**

In instances in which the science is incomplete with respect to environmental health and justice issues, the committee urges policymakers to exercise caution on behalf of the affected communities, particularly those that have the least access to medical, political, and economic resources, taking reasonable precautions to safeguard against or minimize adverse health outcomes.

# APPENDICES

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## National Health Disparities & EPA Strategic Plan Objectives

### Phyllis Harris, JD

Principal Deputy Assistant Administrator, EPA

Health People 2010 Objectives	EPA Strategic Plan (2000–2005)
<b>Lead and Neurotoxins</b>	
Objective 8-11: Eliminate elevated blood lead levels in children	By 2007, significantly reduce the incidence of childhood lead poisoning and reduce risks associated with poly-chlorinated biphenyls (PCBs), mercury, dioxin, and other toxic chemicals of national concern
Objective 16-14: Reduce the occurrence of developmental disabilities	
<b>Hazardous Wastes</b>	
Objective 8-12: Minimize risks to human health and environment posed by hazardous sites	By 2005, reduce or control risk to human health or environment at more than 374,000 contaminated Superfund, RCRA, underground storage tank, and brownfields sites  By 2005, ensure that more than 277,000 facilities are managed with practices that prevent releases to the environment
<b>Clean Water</b>	
Objective 8-5: Increase population served by community water systems who receive drinking water that meet regulations of Safe Drinking Water Act	By 2005, protect human health so that 95% of the population served by community water systems will have safe drinking water
Objective 8-10: Reduce potential human exposure to persistent chemicals by decreasing fish contaminant levels	By 2005, reduce consumption of contaminated fish and shellfish  By 2005, reduce pollutant loadings from key point and nonpoint sources by at least 11% from 1992 levels
<b>Clean Air</b>	
Objective 8-1: Reduce proportion of persons exposed to air that does not meet EPA's health based standards for harmful air pollutants	By 2005, meet national clean air standards for CO, SO <sub>2</sub> , and NO <sub>x</sub> ; by 2012 for ozone; and by 2018 for particulates
Objective 8-3: Improve the Nation's air quality by increasing use of cleaner alternative fuels	By 2020, eliminate unacceptable risks of cancer and other health problems from air toxic emissions for 95% of population, with particular attention to children and other sensitive sub-populations
Objective 8-4: Reduce air toxics emissions to decrease risk of adverse health effects caused by airborne toxics	
Objective 24-2a: Reduce hospitalizations for asthma for children	

## History of Lead Hazards

### David Jacobs

HUD Lead Screening and Abatement Program, Office of Healthy Homes and Lead Hazard Control, Department of Housing and Urban Development (HUD)

The problems with lead paint have been known for over a century, and in 1920, most of the industrialized world signed an international convention to ban the use of lead in residential paint. The U.S. did not sign the convention and went on to coat tens of millions of housing units with lead paint, making it an expensive problem to manage today.

Previously, the definition of lead hazard was defined as the presence of lead paint, but with an estimated 64 million housing units costing \$10,000 each for its removal, the overall cost of this strategy resulted in policy paralysis. Title X of the 1992 Housing Act redefined lead paint hazard as deteriorated paint and contaminated dust and soil as further research identified these as the primary pathways to exposure. Lead paint regulations were also fragmented, covering individual aspects such as chewable surfaces or deteriorated paint or exterior surfaces; none were based on scientific research.

## Health Impacts of Lead

There have been two recent and controversial studies that show a significant correlation between lead exposure in childhood and anti-social behavior. One Cincinnati longitudinal study followed children that are now 25 years old. Though there are many causes of criminal behavior, this controversial study found that 9% of criminal behavior can be explained independently as a result of lead exposure.

HUD funded another study that examined violent crime rates with a 20-year lag starting in 1930 and the use of lead in gasoline and paint. Results also showed a covariance between lead exposure and violent crime rates. Some see this as ecological research from which we cannot draw causality, but similar trends can be found in other countries. In addition, a study recently published in the *New England Journal of Medicine* shows that the rate of IQ decline is much greater in the first 10 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ), which is the level set by CDC for lead poisoning.

### HUD Lead Paint Regulation and Grants

Funding for HUD lead paint activities has gone to Lead Hazard Control (\$103 million); Technical Studies (\$5 million with approximately 20% funding research at HBCUs); Healthy Homes Demonstration (\$5 million); Lead Outreach (\$2.2 million), which is implemented almost primarily by parent groups or community-based organizations; Operation LEAP (\$10 million); and Lead Demonstration (\$50 million), a new program for communities that are able to document the highest number of pre-1940 rental units and the largest number of lead poisoned children.

Published in 1999, HUD lead safe housing regulation (24 CFR Part 35 B-R) integrates lead-safe work practices into assisted housing maintenance, finance, and rehabilitation; bases requirements on type of assistance, rather than specific housing programs; and ensures that assisted housing does not poison children. Since the resource-strapped housing industry sees lead as public health problem, a two-year transition period was included to allow local jurisdictions to report when they cannot comply with the regulation and to seek HUD capacity building assistance. This regulation can serve as a model for non-assisted housing stock, which also remains an area of concern.

Through lead hazard control grants and funds leveraged from the private sector, the significant number of remaining lead poisoning cases can be eliminated. The HUD Operation LEAP (Lead Elimination Action Program) provides seed grants to entities that can raise additional private sector dollars for local lead hazard control programs. In its first year of operation in 2002, a \$6.5-million investment generated an additional \$17 million for these local programs, and the program's funding was raised to \$10 million this year.

A HUD National Survey shows that the number of houses with lead paint has declined from 64 million in 1990 to 38 million in 2000. This decline can be attributed to a combination of demolition and rehabilitation, the HUD Grant Program, enforcement efforts with the Department of Justice, the Disclosure Rule and public education, private action, and methodologic differences in the 1990 and 2000 surveys. The current prevalence of lead-based paint hazards in housing demonstrates that Federal standards are effective. Government-assisted housing (17%), which is almost completely low income, has almost the same rate of lead-based paint hazards as middle and upper income housing (19%). The major problem remains in unassisted low-income housing (35%), where there are no maintenance standards in place.

## Speaker Biographies

### **Duane Alexander, MD**

Director, National Institute of Child Health and Human Development, NIH

Dr. Alexander, a pediatrician, was named NICHD Director in 1986, after serving as Acting Director. Previously, he served as NICHD Deputy Director for three years and an assistant to the Director since 1978.

### **Mary Arquette, DVM, PhD**

Akwesasne First Nation Restoration Initiative

Principal Investigator, Akwesasne Task Force/Environment, Akwesasne Mohawk Territory

Dr. Arquette works for the Akwesasne Task Force on the Environment, a non-profit Native American organization. A Mohawk of the wolf clan who lives in the Mohawk nation territory of Akwesasne, she serves as Principal Investigator for the First Environmental Restoration Initiative, an environmental justice project funded by NIEHS.

### **David Baines, MD**

Providence Health System, Alaskan Family Practice Residency, Anchorage, Alaska

Dr. Baines has been in family practice medicine for over 20 years and is on the faculty of the Alaska Family Practice Residency Program in Anchorage, Alaska. He is a Native American member of the Tlingit and Tsimpsian tribes of southeast Alaska.

### **Cecil Corbin-Mark**

Program Director, West Harlem Environmental Action, Inc.

Mr. Corbin-Mark is Program Director of West Harlem Environmental Action, Inc. (WE ACT), a nonprofit organization working in neighborhoods in northern Manhattan to preserve environmental quality and to secure environmental justice.

**Otis Cosby, MD, MSPH**

Meharry Medical College, Nashville, Tennessee

Dr. Cosby is an Assistant Professor and Director of the Occupational and Environmental Medicine Division and Residency Training Program at Meharry Medical College in Nashville, Tennessee. He also serves as the Civil Service Medical Examiner for Metro Nashville and Davidson County government employees.

**Henry Falk, MD, MPH**

Assistant Administrator, Agency for Toxic Substances and Disease Registry (ATSDR), Centers for Disease Control and Prevention (CDC)

Dr. Falk has served as the Assistant Administrator of ATSDR since 1999. Previously, he served as Director of the Division of Environmental Hazards and Health Effects at the National Center for Environmental Health, CDC for 14 years.

**Emil Frankel**

Assistant Secretary for Transportation Policy, Department of Transportation

Mr. Frankel was appointed Assistant Secretary for Transportation Policy in 2002. From 1995 to 2001, he was a Management Fellow of the Yale School of Management and a Senior Fellow of the Yale School of Forestry and Environmental Studies. Previously, he served as Commissioner of the Connecticut Department of Transportation.

**Phyllis Harris, JD**

Principal Deputy Assistant Administrator, Office of Enforcement and Compliance Assurance (OECA), EPA

As Principal Deputy Assistant Administrator, Ms. Harris is the senior career official for the EPA's Enforcement and Compliance Assurance program. Prior to coming to OECA, she served as Regional Counsel and Director of Environmental Accountability Division for Region 4 in Atlanta, Georgia.

**Betty Lee Hawks**

HHS Asian American and Pacific Islander Initiative

Special Assistant to the Director, Office of Minority Health, OPHS

As Special Assistant to the Director of OMH, Ms. Hawks provides advice and makes recommendations on a variety of health issues to the Director and Deputy Assistant Secretary for Minority Health. Previously, she was the Acting Associate Director of the Division of Information Dissemination, OMH.

**David Jacobs, PhD, CIH**

Director, Office of Lead Hazard Control, Department of Housing and Urban Development (HUD)

Dr. Jacobs was appointed Director of the Office of Lead Hazard Control in 1995. He is responsible for establishing policies and programs to prevent childhood lead poisoning caused by exposure to lead-based paint hazards in housing.

**Charles Lee**

Associate Director for Interagency Liaison and Policy

Office of Environmental Justice, Environmental Protection Agency (EPA)

Co-Chair, Interagency Task Force on Health Disparities and Environmental Justice

Mr. Lee has a 25-year career in public policy research, advocacy, and direct service around environmental health and social justice concerns of minority and low-income communities. As a result, he has played a singularly unique pioneering role in creating the field of environmental justice.

**Imani Ma'at, EdD**

CDC REACH 2010 Program

Director, REACH 2010, National Center for Chronic Disease Prevention and Disease Promotion, CDC

Dr. Ma'at is the Director of the REACH 2010, a \$37 million demonstration program. She has worked for CDC for 14 years and has considerable expertise in the areas of program planning and management, chronic disease prevention, HIV/AIDS education and prevention, behavioral science research, policy analysis, writing, and technical presentations.

**Kenneth Olden, PhD**

Director, National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health (NIH)

Dr. Olden was named the Director of NIEHS and Director of the National Toxicology Program in 1991. A cell biologist and biochemist by training, he is the first African American to become the director of one of the 18 institutes of NIH. Previously, he was Director of the Howard University Cancer Center and Professor and Chairman of the Department of Oncology at Howard University Medical School.

**Quentin C. Pair, JD**

Trial Attorney, Environmental Enforcement Section, Department of Justice (DOJ)

Mr. Pair has served, since 1980, as a trial attorney in the Environment Enforcement Section for Federal civil environmental enforcement actions referred to DOJ by EPA. During his tenure, he has also served as Special Prosecutor appointed by the Assistant Attorney General for the Environment Division and is founding Chairman for the DOJ Association of Black Attorneys.

**Leslie Rubin, MD**

Anniston, Alabama Vision 2020 Children's Health Project  
Co-Director, Southeast Pediatric Environmental Health Specialty Unit, Emory University

Dr. Rubin is a pediatrician who has been active in the field of Developmental Disabilities for more than 20 years. He is Director of the Division of Developmental Pediatrics and Associate Professor of Pediatrics at Emory University School of Medicine. He is also the Medical Director of May South, Medical Director of TEAM in Chattanooga, and Co-Investigator of the Southeast Pediatric Environmental Health Specialty Unit.

**Roberto Salazar**

Administrator, Food and Nutrition Service, Department of Agriculture

Mr. Salazar was named Administrator of the Food and Nutrition Service in 2002 and oversees USDA's 15 domestic nutrition assistance programs. Previously, he was the State Director of USDA's Rural Development agency in New Mexico and the State of New Mexico's Director of Science and Technology.

**William H. Sanders, III, DrPH**

Deputy Assistant Administrator, Office of Prevention, Pesticides and Toxic Substances (OPPTS), EPA

Dr. Sanders has served, since 2002, as Deputy Assistant Administrator of OPPTS, which is responsible for the administration of the nation's pesticides, industrial chemicals, and pollution prevention statutes and programs. Previously, he served as Director of the Office of Pollution Prevention and Toxics for seven years and Director of EPA Region 5's Environmental Sciences Division for 16 years.

**Lynn Scarlett**

Assistant Secretary for Policy, Management and Budget, Department of Interior (DOI)

Ms. Scarlett has been Assistant Secretary for Policy, Management and Budget, DOI since 2001. Previously, she was President of the Los Angeles-based Reason Foundation, a nonprofit current affairs research and communications organization. For 15 years, she directed the Reason Public Policy Institute, the policy research division of the Foundation.

**Nathan Stinson, Jr., PhD, MD, MPH**

Deputy Assistant Secretary for Minority Health, Health and Human Services (HHS)  
Co-Chair, Interagency Task Force on Health Disparities and Environmental Justice

Dr. Stinson has been Deputy Assistant Secretary for Minority Health and the Director of the Office of Minority Health since 1999. As Deputy Assistant Secretary, he reports to the Assistant Secretary for Health and works closely with all agencies throughout HHS. Previously, he has served in a variety of positions within HHS, including Director of the Division of Programs for Special Populations, Bureau of Primary Health Care, Health Resources and Services Administration (HRSA).

**Naomi Tomoyasu, PhD**

Chief, Office of Community-Based Research and Outreach  
National Center on Minority Health and Health Disparities (NCMHD), NIH

Dr. Tomoyasu, a licensed psychologist, is Chief of the Office of Community-Based Research and Outreach, NCMHD. Previously, she was the Deputy Director, AIDS Administration, Maryland State Department of Health and Mental Hygiene. She was also Director of Psychological Services in Primary Care at Baltimore Veteran's Administration.

**Rueben Warren, DDS, MPH, DrPH**

Associate Administrator for Urban Affairs, ATSDR

Dr. Warren serves as Associate Administrator for Urban Affairs, ATSDR and has lead agency responsibility for Environmental Justice and Minority Health. Previously, he served as Associate Director for Minority Health at CDC and Dean and Associate Professor of the School of Dentistry, Department of Preventive Dentistry and Community Health at Meharry Medical College.

**Charles Wells, PhD**

Director, Environmental Justice/Health Disparities and Public Health, Office of the Director, National Institute of Environmental Health Sciences (NIEHS), NIH

Dr. Wells is Director of Environmental Justice/Health Disparities and Public Health NIEHS. He has more than 25 years of experience as a researcher in molecular biology and reproductive physiology. Prior to joining NIEHS in 1999, Wells was a Senior Advisor for Diabetes Prevention Research in the National Institute of Diabetes and Digestive and Kidney Diseases, NIH. He also served as a Senior Health Scientist Administrator in the National Heart, Lung, and Blood Institute, NIH.

**Deborah Winn, PhD**

NCI Health Disparities and Environmental Research

Acting Chief, Clinical and Genetic Epidemiology Research Branch, Division of Cancer Control and Population Sciences, National Cancer Institute (NCI)

Dr. Winn is Acting Chief, Clinical and Genetic Epidemiology Research Branch in NCI's Epidemiology and Genetics Research Program. She is also Senior Epidemiologist for Tobacco and Cancer Epidemiology in the Office of the Associate Director of the Epidemiology and Genetics Research Program. Previously, she was a Senior Investigator and Branch Chief for oral epidemiology for eight years at the National Institute for Dental and Craniofacial Research, NIH.

**Harold Zenick, PhD**

Associate Director of Health, National Health and Environmental Effects Research Laboratory (NHEERL), Office of Research and Development, EPA

Dr. Zenick is Associate Director of Health, NHEERL. Previously, he was Branch Chief in the Office of Health and Environmental Assessment, preceded by 13 years in academia. He serves as EPA's representative to NIEHS, NTP, NCEH/CDC, and ATSDR Advisory Councils and Boards, as well as the policy board for the recently formed Joint Institute for Food Safety Research.

## Web Resources

Agency for Toxic Substances and Disease Registry (ATSDR), HHS	<a href="http://www.atsdr.cdc.gov/">http://www.atsdr.cdc.gov/</a>
Akwesasne Task Force on the Environment (ATFE)	<a href="http://www.slic.com/atfe/atfe.htm">http://www.slic.com/atfe/atfe.htm</a>
Association of American Indian Physicians	<a href="http://www.aaip.com">http://www.aaip.com</a>
Cancer Control PLANET	<a href="http://cancercontrolplanet.cancer.gov/">http://cancercontrolplanet.cancer.gov/</a>
Center to Reduce Cancer Health Disparities, NCI	<a href="http://crchd.nci.nih.gov">http://crchd.nci.nih.gov</a>
Department of Interior	<a href="http://www.doi.gov/">http://www.doi.gov/</a>
Department of Justice	<a href="http://www.usdoj.gov">http://www.usdoj.gov</a>
Department of Transportation	<a href="http://www.dot.gov/">http://www.dot.gov/</a>
Division of Cancer Control and Population Sciences, NCI	<a href="http://dccps.nci.nih.gov/od/healthdisp.html">http://dccps.nci.nih.gov/od/healthdisp.html</a>
Environmental Protection Agency (EPA)	<a href="http://www.epa.gov/">http://www.epa.gov/</a>
Food and Nutrition Service, USDA	<a href="http://www.fns.usda.gov/fns/">http://www.fns.usda.gov/fns/</a>
Healthy People 2010	<a href="http://www.healthypeople.gov/">http://www.healthypeople.gov/</a>
Interagency Working Group on Environmental Justice	<a href="http://www.epa.gov/compliance/environmentaljustice/interagency/">http://www.epa.gov/compliance/environmentaljustice/interagency/</a>
Meharry Medical College, Department of Occupational and Preventive Medicine	<a href="http://www.mmc.edu/medschool/ClinicalSci/OccPrevMed/">http://www.mmc.edu/medschool/ClinicalSci/OccPrevMed/</a>
National Cancer Institute, NIH	<a href="http://www.nci.nih.gov/">http://www.nci.nih.gov/</a>
National Center on Minority Health and Health Disparities (NCMHD), NIH	<a href="http://ncmhd.nih.gov">http://ncmhd.nih.gov</a>
National Children's Study	<a href="http://nationalchildrensstudy.gov/">http://nationalchildrensstudy.gov/</a>
National Indian Health Board	<a href="http://www.nihb.org/">http://www.nihb.org/</a>
National Institute of Child Health and Human Development (NICHD), NIH	<a href="http://www.nichd.nih.gov/">http://www.nichd.nih.gov/</a>
National Institute of Environmental Health Sciences (NIEHS), NIH	<a href="http://www.niehs.nih.gov">http://www.niehs.nih.gov</a>
National Institute of Mental Health, NIH	<a href="http://www.nimh.nih.gov/">http://www.nimh.nih.gov/</a>
Office of Enforcement and Compliance Assurance, EPA	<a href="http://www.epa.gov/compliance/">http://www.epa.gov/compliance/</a>
Office of Environmental Justice (OEJ), EPA	<a href="http://www.epa.gov/compliance/environmentaljustice">http://www.epa.gov/compliance/environmentaljustice</a>
Office of Healthy Homes and Lead Hazard Control, HUD	<a href="http://www.hud.gov/offices/lead/">http://www.hud.gov/offices/lead/</a>
National Institute for Occupational Safety and Health	<a href="http://www.cdc.gov/niosh/">http://www.cdc.gov/niosh/</a>
Office of Minority Health (OMH), HHS	<a href="http://www.omhrc.gov/">http://www.omhrc.gov/</a>
Office of Prevention, Pesticides and Toxic Substances (OPPTS), EPA	<a href="http://www.epa.gov/oppts/">http://www.epa.gov/oppts/</a>
President's HealthierUS Initiative	<a href="http://www.healthierus.gov">http://www.healthierus.gov</a>
REACH 2010, CDC	<a href="http://www.cdc.gov/reach2010/">http://www.cdc.gov/reach2010/</a>
Southeast Pediatric Environmental Health Specialty Unit (PEHSU) at Emory University	<a href="http://www.sph.emory.edu/PEHSU/">http://www.sph.emory.edu/PEHSU/</a>
West Harlem Environmental Action Inc.	<a href="http://www.weact.org">http://www.weact.org</a>

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