

**2006 National Environmental Public Health Conference**  
**Advancing Environmental Public Health Science Practice in New Frontiers**  
**Monday, December 4, 2006**  
**10:30am Plenary Session 2**

**Howard Frumkin, MD, DrPH, Director, National Center for Environmental Health/Agency for Toxic Substances and Disease Registry**

Let me tell you what our schedule is now. I'll be introducing Dr. Gerberding, who will introduce Senator Reed. Senator Reed will speak but needs to leave promptly at 11:30. And so we'll continue with the earlier session between 11:30 and 12. The discussants from the first session will return to the podium and you'll have a chance for questions and comments that we didn't have earlier this morning.

So with no further adieu, it's my great pleasure to introduce my boss, Dr. Julie Louise Gerberding, Director of the CDC. And Dr. Gerberding has been Director since 2002. Before that, she was Acting Deputy Director for the National Center for Infectious Disease. And before coming to CDC, she was on the faculty at the University of California, San Francisco as a clinician taking care of patients with HIV/AIDS and as Director of the Prevention Epicenter, a multidisciplinary research training and clinical service program focusing on preventing infections of patients and their healthcare providers. Dr. Gerberding has her undergraduate and medical degrees from Case Western University, her internal medicine training at UCSF, where she was also Chief Medical Resident, and her MPH from the University of California, Berkeley. It's a great honor to have her here to introduce Senator Reed. Dr. Gerberding.

**Julie Gerberding, MD, MPH, Director, Centers For Disease Control and Prevention**

Good morning. It is really an honor to be here and obviously an honor to introduce the Senator. But I also just want to take advantage of the podium to say three things very quickly. First, I want to offer you welcome. Second, I'm going to make you a promise, and third, I'm going to ask you for something. In terms of the welcome, welcome to Atlanta, and I think Howie is right. It's an absolutely beautiful day, but it is also really exciting to share it with you in Atlanta and to really see the extraordinary network that gets bigger every year of people who are really committed to environmental health. So welcome and thank you very much.

My second issue, the promise—you heard Dr. Frumkin discuss climate change this morning in a very major way. And I think this is an important view of the world that we at CDC are integrating into some of the other extreme challenges that we're facing. Extreme climate is one. Extreme poverty in the world with the 1.1 billion people is another, and extremism is the third. And you think about how these three forces come together, the conflict that you mentioned, the emergence of infectious diseases, the natural disasters which really create a perfect storm for public health catastrophes to emerge. And we in the public health sector and particularly people in the environmental health sector really have to be thinking ahead about how these major world forces are going to influence our work, our future and the legacy that we leave behind to our children. So that is one of the messages that I heard from Howie, which is that we really are at a tipping point of having to grapple with much bigger problems than we're used to.

But we in public health also know how to do that, and I think we know that the key to success—we've learned this with polio, we've learned with lead poisoning, we've learned this with tobacco—the key to success is to first of all commit to a big goal. And we need to commit to some pretty goals if we're going to deal with these extremes. But we also know that we have to think big enough. We have to have the capacity to be successful. And that capacity isn't just about appropriated dollars. It's about taking the resources that we have and using them in the best possible way to make a difference for the science and for the action necessary to achieve results.

But most importantly, commitment, capacity is connectivity. We cannot at CDC or EPA or any federal agency do this as feds. We can't do this as the government sector. The only way that we can be successful in tackling these problems and doing our job from the public health side is to take advantage of this huge network of energy to really come together, align our efforts, share science, share practice, share policy development, to work with decision makers and to really move the needle on the dial in a powerful way. So while the situation may be extreme, I think the opportunity is glorious, and this is really the perfect time to have leaders like Dr. Frumkin and Dr. Falk following in the shoes of Dick Jackson, plus the science leadership from Tom Sinks. We really have an extraordinary opportunity at CDC and across the environmental public health community to move the needle on the dial. And the time is now and we need effective action.

So the promise that I'm making to you is that I as one of the people at CDC who has a chance to speak up about issues am going to try to use the words *climate change* in every speech that I give. Now it's going to be tricky in some context, but I think I can work it in to just about every speech that I make.

So that was a welcome and a promise. And what I'm going to ask of you is that you commit to do the same thing. I think whether that's your issue or not, we all need to speak up on these issues in honest and truthful ways. The public's confused, and there is a great opportunity for people who truly have the

expertise and the vision to come together with one voice and deliver some very powerful messages and to get ourselves on one page so that we keep our credibility intact while the rest of the world may be confused or not sure who and what to believe.

So the welcome, the promise and the request, and now let me do what I was supposed to do here, which was to introduce you to the Senator, who I think has been an exemplary leader in environmental health for a long time. And it is an extraordinary opportunity for him to come before you and describe his visions for environmental health. But I want you to know that Senator Jack Reed has really been our champion in public health for a long time. He's been one of those connectors that's brought together a lot of different sector groups to come to bear on the problems. He's recently taken on the issues of healthy homes and we know what a great network that can help leverage. So we have seen evidence of his work and his principal beliefs in environmental health. And I guess green policy initiatives—you'll be happy to know, Senator, that CDC is trying to walk our talk. We have built the new facilities that Congress appropriated for us as green buildings. And it's not that easy to build green laboratories, but we've done it. We've really taken it seriously, and it's part of the inspiration and support for everything that we do as an agency. We want to be the example and we want you to be proud of us. So let me welcome you to the podium and just thank you so much for coming here to address this wonderful group of people.

**Senator Jack Reed, Rhode Island**

Well, thank you very much Doctor, for those very kind words but also for your extraordinary leadership. And I guess listening to your remarks, it was not just a coincidence that I was picked up in a Prius at the airport. This is all a plot.

I also want to recognize Dr. Howard Frumkin. Dr. Frumkin and I have had the chance to sit down and chat about these issues. And I along with Dr. Gerberding am just excited and thrilled that you're leading this effort down here, Howard, so thank you very much.

And this is a terrific opportunity to pay tribute to the CDC staff, also the agency partners and everyone who has put this conference together. And I hope that this gathering over the next few days will serve as a springboard for new ideas, partnerships and projects in the area of environmental health. I understand also that my home state of Rhode Island is very well represented here. In fact, I'm down here because there are a few Rhode Islanders to visit. So if I get a chance to say hello, I'm running for election again. That's one of my motives.

Indeed, the former director of our department of health, Dr. Patricia Nolan, will be leading a panel on Wednesday, and I congratulate her for her continued service and commitment. She did a great job in

Rhode Island and she'll continue to do that. So Patricia, congratulations.

And then let me thank all of the agencies that are here: federal, state, local, tribal, governments, community partners, international organizations. What we're talking about here in terms of environmental health policy is not an issue that can be neatly confined to any place. It is indeed a worldwide issue and one that should be dealt with. And I'm pleased that we're doing it here in Atlanta today with such a broad array of individuals.

One of the objectives of this conference is to emphasize the development and enhancement of partnerships to improve environmental public health. Our health and the health of our family, friends and loved ones are influenced by many factors. However, our environment can be one of the most critical determinants to our overall health and well-being, and we recognize that. Indeed, where we live greatly affects how we live. A June report from the World Health Organization entitled *Preventing Disease through Healthy Environments* found that environmental exposures contributed to almost a quarter of the disease burden worldwide, resulting in millions of preventable deaths each year. However, the authors of this report also rightly point out that some basic common sense public health interventions such as better sanitation and improved access to preventive health measures like immunization would yield a significant benefit to those living in the developing world as well as those across the globe in many, many places.

Similarly, the United Nations last month released its annual report measuring human well-being. The report emphasized the need for better sanitation and noted that infrastructure to support toilets and latrines is one of the most under-utilized tools in our arsenal against disease and poverty in the developing world. As a result, every year more than 2 million children die of diarrhea and other diseases directly resulting from poor sanitation.

Yet the challenges and influences in one's environment on health is not only a problem for the developing world. Cardiovascular disease, asthma and lead poisoning are health issues that also plague developed nations like the United States. It is estimated that close to 20 million Americans have asthma at some point in their lives. Asthma rates in this country have increased about 74% between 1980 and 1996. This disease accounts for an estimated 24.5 million lost work days and approximately \$11.5 billion in annual healthcare cost. While we have a myriad of treatments, once a person is diagnosed with this disease, we're only beginning to understand some of its underlying (causes).

Scientific research has resulted in greater attention to environmental factors in the home and the community that appear to trigger asthma. Chronic exposure to allergens such as mold, mice and rats, cockroaches, dust mites and even some household pets have been associated with asthma. Outside the home, air quality and exposure to pollutants can also be attributed to increased asthma rates.

However the connection between housing and health is not a new idea. This notion that where we live affects our health is one that has been referenced before. As Florence Nightingale once said, “the connection between health and the dwelling of the population is one of the most important that exists.” And it’s true today.

Public health in the developed countries has been greatly advanced by improved housing standards--standards regarding ventilation, sanitation, occupancy, structural soundness, lightening, and other habitability criteria. Many of these early standards were created as a response to the concentrated slum housing around factories in the big cities during the industrial revolution. In many ways the public health and housing movements have common roots in the sanitation movement that worked to clean up squalid housing conditions in the 19th Century. Faced with epidemics and tuberculosis outbreaks in big cities like New York, sanitary-minded health reforms started to push for major changes in building construction and sanitation. These reformers noted the correlation of slum housing districts with high rates of disease and came to believe that improved sanitation in the form of street cleaning, drainage, sewage, ventilation and water supplies would prevent outbreaks of disease and improve the health of the working class. And they were very much right. They pushed for improved building regulations and ultimately for the creation of modeled dwellings and the dispersal of the poor from slums--ideas that would repeated and elaborated on throughout the 19<sup>th</sup> and 20<sup>th</sup> centuries.

However, the flowering of the housing and public health reform movement occurred in the early years of the 20<sup>th</sup> Century. There are several pieces of federal legislation that shaped the current framework for federal public health and housing policy. The Marine Health Service Act of the 19<sup>th</sup> Century was originally established because a healthy merchant marine was necessary to protect our national security and economic prosperity. In 1912, this service became the Public Health Service and was given clear legislative authority to investigate the diseases of men in conditions that influence the propagation and spread thereof, including sanitation and sewage and the pollution either directly or indirectly of the streams and lakes of the United States. During the Great Depression, President Roosevelt signed several major pieces of legislation to improve both health and housing conditions in the United States—again that connection between health and housing.

As living conditions in the cities worsened during the Depression, more and more families had to resort to living in makeshift shelters. The federal government responded with a public housing program to alleviate unemployment and eliminate unsafe and unsanitary conditions. Construction of large scale high-rise apartment buildings began in many cities, and soon public housing of cities within cities was being created throughout this country. In 1935, the Social Security Act was passed and included grants to build a system of state and local health departments to stimulate the development of health services, training public health

workers and undertake research on health problems.

Another legacy of the Public Health Service during World War II was the need for malaria control around military camps in areas, mostly in the South. And having spent several years at Fort Benning, I can attest to the need to control mosquitoes and other forms of flying nuisances. During the war, the malaria control program was based in Atlanta. It proved itself to be so successful that its responsibility expanded to include other communicable diseases such as yellow fever, dingo, and typhus. At the end of the war, the program was converted to the Communicable Disease Center. And over the next 50 years the program's mission went beyond communicable diseases into areas such as nutrition, chronic disease and occupational and environmental health. Today, the Centers for Disease Control and Prevention is the cornerstone of federal health surveillance, health promotion and disease prevention efforts. And I'm very pleased to see this extension into the realm of global warming, of healthy homes, of environmental quality, because the nexus, the connection between where we live, is critical to how well we live.

Post-World War II there was another major effort to increase and enhance the housing stock of the United States, again with an eye on not only good shelter but also improving the living conditions of the American people. The National Housing Act of 1949 stated that there should be a decent home and a suitable living environment for every American family, a goal that we still have not achieved but still must be committed to. This is a period post-World War II where a myriad of housing programs were created to try to help get people into their own homes, get them in to better rental properties, and again not far beyond the housing agenda was the agenda of safe and healthy homes for all Americans. One of the bigger changes occurred in 1970 during the Nixon administration, when the Section 8 Rental Assistance Program was adopted. This was giving people a chance now to move from less than attractive conditions into better housing, better rental housing. That program is still with us, and again it has to be supported and expanded.

There's another point too that I want to mention. That was the passage in 1991 of the Lead-Based Paint Poisoning Prevention Act, which has helped dramatically to decrease lead poisoning in children over the past 15 years. The Act required the Secretary of the Department of Housing and Urban Development to establish and implement procedures to eliminate lead hazards from public housing.

In 1992 Title 10 of the Housing and Community Development Act authorized major changes in federal law on the control of lead-based paint hazards and the reduction of lead exposure. Title 10 defined *hazard* in such a way that it included deteriorating lead paint and the lead-contaminated dust and soil that the lead paint generates. It also mandated the creation of an infrastructure that would help correct lead paint hazards in all our nation's housing. In particular, Title 10 required coordinated action between several federal agencies regarding lead poisoning, including HUD, the Environmental Protection Agency, and the CDC. And here is an example of trying to pull together various federal agencies and through them local

community agencies to address an environmental health issue which was attacking so many children, too many children in this country.

Federal efforts regarding lead poisoning and I believe in another area, child immunization, are two examples of federal investment in housing and public health that I'd like to highlight. Our interventions in childhood immunization and in lead poisoning prevention have produced significant benefits to our society while minimizing the cost of these illnesses to our society. Since the advent of the polio vaccine in 1955, the United States has invested in a national immunization campaign to rid the population of devastating diseases such as smallpox, polio, diphtheria and measles. There is no question that the individual and community protection provided by vaccine helped make immunization one of our most cost-effective public health strategies.

The federal commitment to childhood vaccination continues today through two principal programs: The Vaccine for Children Program and the Section 3-17 Program. While private insurance companies also cover childhood immunizations, the federal government still remains the single, largest purchaser of vaccines in the market for children. Children today live longer and healthier lives because of the vaccines they receive at childhood. An estimated 10 million cases of illnesses and 33,000 deaths are prevented each year through timely immunization. Vaccines are a worthwhile investment not only in terms of lives saved but also in terms of money saved. Our country, for example, saves \$14.50 in direct and indirect cost for every dollar invested in giving hepatitis B vaccine to infants at birth to 2 months of age. Every dollar our nation spends on measles, mumps, rubella vaccine generates about \$23 in total savings, approximately \$9 billion each year. And this is another example of proactive healthcare policy that has huge social and economic benefits, and the leadership is what the federal government provides, working with CDC and other state agencies, and I applaud this program.

The program I also want to mention—I've mentioned before—is the Lead Poisoning Prevention Program. This is one issue that came to my view as I was a young Congressman in Rhode Island. When people would come to me and talk to me about the nature of lead poisoning in children—educators, teachers would come to me and talk about the number of children they had in class who could not perform because they'd been exposed to lead. How their whole futures—not only their health future but their academic future—had been compromised by a preventable disease, lead poisoning. Through the efforts beginning in 1991 and 1992, we have seen a steady decline in lead exposure. As a result, the children age 1 to 6 with elevated blood levels declined from 88% to about 2% today. Still, we have to get rid of the other 2%.

Now our investments in lead poisoning prevention and remediation have produced demonstrable savings. And it's a combination not only of health policy but also of housing policy. We have been going after homes in different parts of country that all have lead-based paint, trying to get rid of that paint. Our

experience and success in reducing the exposure to lead-based paint provides a framework I think for addressing other problems that are related to housing and health. The need for action before harm occurs—the need to do exposure assessment, hazard control, surveillance, targeted public investment.

One of the things that was done in Rhode Island very innovatively to try to deal with the issue of lead exposure in homes was once a home had been identified as having lead and children were there, there were efforts made to abate the lead. One of the waivers that we receive through Medicaid was to allow the replacement of windows so that this new home could be lead-free. Because one of the major generators of lead in the air was simply raising and lowering window frames in old buildings that had lead paint. That type of housing policy, health policy connection, I think, makes a great deal of sense and it should be pursued. And I'm pleased that that context—that approach is being addressed today and will be addressed going forward.

There's another issue, and it has to do with any type of public policy, and that is not only designing the right approach for remediation. It's also ensuring that you enforce the policy. For example, only 20% of children enrolled in Medicaid are being screened for lead poisoning. One federal law requires that all children should be screened. So we have to do much, much more to ensure that all of our children, particularly those who are Medicaid recipients, are screened effectively. That's part of the enforcement as well as the remediation piece that we all have to put together.

And although we've made tremendous progress during the past 15 years in decreasing the number of children with lead exposures—elevated lead—there are still 310,000 children under the age of 6 currently lead-poisoned. Clearly, more needs to be done. In the case of lead poisoning, federal tax payers and low-income children's families are paying the price for these deficiencies in terms of added costs for special education and the long-term health and development problems of lead-exposed children. We know what to do. We just have to be bound and determined to do it and support it with resources.

Now my interest in lead poisoning prevention as well as my committee assignments on the Senate Health Education Labor and Pensions Committee, which has jurisdiction over our public health programs and the Senate housing, and Urban Development Committee has given me a vantage point on the intersection of these problems of health and housing. This context, this perspective has lead me think more about what other diseases we might be able to remediate or prevent by mitigating the source of health problems in a home. Clearly, this can be more cost-effective than dealing with the direct and indirect course of the disease or the condition.

We are again at a very important crossroads in terms of public health and how it relates to the safety and quality of homes and communities in which we live. Many of the housing problems that contributed in the

past to poor health remain today. They're resulting in asthma and respiratory problems, neural toxicity and injuries. In fact the conditions of our worst-case housing today look only modestly better than they did a century ago.

We have now to take a new, bolder path. I think some of our state and local governments have been providing us with some good models. And I'm pleased that they're so well represented here today.

In my home state of Rhode Island there've been several initiatives that I'm particularly proud of. For example, in Rhode Island the state department of health and the City of Providence Code Enforcement Division, the housing inspectors, are offering quarterly training for Rhode Island School of Nursing students to identify housing hazards. They walk through the home with a standard assessment survey and evaluate the home for different environmental hazards, what has been fixed and what needs to be fixed. And this is a powerful tool of education and enforcement, a powerful tool that we can give to our healthcare professionals.

Another example is the Rhode Island Department of Health Family Outreach Program. This is a risk assessment and referral program that targets Rhode Island children from birth to age three who are at risk for poor developmental outcomes. The family outreach program works in conjunction with the state's universal screening program for newborns, which identifies babies with certain medical, social or economic risk conditions. Families with children identified as at risk are contacted by the family outreach program provided in the area and are offered a home visit. Family outreach program services are provided by a multidisciplinary team of nurses, social workers and paraprofessionals. Home visits also serve as a neighborhood follow-up for newborn screening, early intervention, lead poisoning, the immunization program, child protective services and pediatric medical services. So this combination of efforts, this focus on the home, I think, is the way to go. And these and other examples throughout the country can give us a sense of what we can pursue at the federal level.

I believe at the federal level we have to take a similar commitment as we did early in the 20<sup>th</sup> Century to boost the development and implementation of models for healthy homes and communities in the nation. There are a number of challenges that we have to face in this regard. They include the lack of coordination among federal agencies and federal programs that share similar goals and objectives—stovepipe funding mechanisms, no uniform standard or definition of a healthy home. Finally, improving the healthiness of a home makes it less affordable to a lower income family living there. As the home is improved, the price goes up and we have to deal with that phenomenon also.

And that's why I plan to introduce to the next Congress healthy homes legislation. The first step toward implementing this agenda will be a bill that I draft and I will introduce to create a federal commission on

healthy homes and communities. The bill will bring it all together [applause], and given the change in Congress, it has a chance of passing. It's a nice thing about making this speech today and not last month at this time or the month before.

This bill will bring together federal, state, and local government agencies as well as community and industry partners to build a framework for defining what are our nation's priorities and goals in order to make sure that every family and nation can live in a decent, affordable and healthy home. The commission bill is an initial step in a multi-prong legislative strategy that includes the following objectives: breaking down the barriers in federal categorical and disease-specific programs that hinder cross-disciplinary service delivery; developing incentives for increasing the production of healthy homes; building a workforce with the skills and experience to identify and remediate housing-related health hazards; and fostering basic and applied research to aid in development of an effective strategy and models for healthy housing. It's a long agenda, but we're beginning, I think, with a very positive step and that is to get the experts together at every level to think seriously, to think creatively about the path ahead.

While our nation and other nations around the globe grapple with important social, economic and international policy questions, we must keep in mind the important role public health plays in all of these issues. Without basic public health such as controlling for contagious disease outbreaks, basic sanitation and food safety, all of these other issues would be rendered if not irrelevant certainly much more complicated.

We are at a crossroads in terms of health in the environment in which we live. While scientific research is beginning to unlock some of the important questions about the connection between housing, community development, and health outcomes, there is much, much more work ahead. We need to continue to support breakthrough research on housing interventions. A concerted effort to develop a comprehensive base of knowledge through basic and applied research will provide a broader array of practical tools, models and best practices. Expanding our knowledge base will also better inform policy and the development of programs aimed at promoting healthy homes and communities.

However, this effort will not succeed unless we have the participation of all of our stakeholders, in particular our scientific community. A true and sustained impact on reducing environment exposures will require the collaboration and dedication of the public health sector and the healthcare sector. It will require also housing developers, community planners and transportation experts, among others, to become active and engaged.

I'm excited that later today Rear Admiral Kenneth Moritsugu, acting as Surgeon General, will announce a call to action regarding the importance of healthy homes to healthy people at the conclusion of this

conference. I look forward to working with you. I'm delighted that we're here today because I think you have sensed that the future lies in coming together at every level of government, invoking the private sector, heading out strongly to ensure that we have healthy homes for a healthy America. I think this conference will begin to chart a path in that direction. I applaud you for doing that and thank you very much.

**End of Plenary Two**