Collaborative on Health and the Environment – Washington (CHE-WA)

Quarterly Meeting
Antioch University Seattle, Room 100
January 4, 2007
2:00–5:00pm

Focus: Climate Change and Health

Participants

- *Anne Alfred*, Public Health – Seattle and King County
- *Jason Allen*, University of Washington
- *Karl Arne*, US EPA-Region 10
- *Mary Bartholet*, Washington State Nurses Association
- *Marcia Bailey*, US EPA-Region 10
- *Morgan Barry*, Public Health – Seattle and King County
- *Anne Bikle*, Public Health – Seattle and King County
- *Marnie Boardman*, Washington Department of Health
- *Aimee Boulanger*, Institute for Children's Environmental Health
- *Gordon Clemens*, Public Health – Seattle and King County
- *Kimberley Cline*, Puget Sound Clean Air Agency
- *Diane Cortese*, Antioch University Seattle (student)
- *Eva Dale*, Washington Citizens for Resource Conservation
- *Kate Davies*, Antioch University Seattle
- *Elizabeth Davis*, League of Women Voters of Washington
- *Jennifer Devine*, University of Washington Office of Global Affairs
- *Robin Evans-Agnew*, American Lung Association of Washington
- *Steven Gilbert*, Institute of Neurotoxicology and Neurological Disorders
- *Sally Goodwin*, Institute for Children's Environmental Health (board member)
- *Ann-Marie Kimball*, University of Washington School of Public Health
- *Margaret Kitchell*, Washington Physicians for Social Responsibility
- *Kyoko Marayama*, Seattle Biotech Legacy Foundation
- *Tracee Mayfield*, Public Health – Seattle and King County
- *Elise Miller*, Institute for Children's Environmental Health, CHE-Washington Coordinator
- *Glen Patrick*, Washington Department of Health
- *Will Perry*, Public Health – Seattle and King County
- *Janna Rolland*, Institute for Children's Environmental Health (board member)
- *Roger Rosenblatt*, University of Washington School of Medicine, Department of Family Medicine
- *Juana R. Royster*, Washington State University
- *Sean Schmidt*, University of Washington Medical Center
- *Sharon Schoenfeld*, Public Health – Seattle and King County
- *Amisha Shankar*, Cascadia Consulting Group
- *Margaret Shield*, Toxic Free Legacy Coalition
- *Pam Tazioli*, Breast Cancer Fund
- *LuAnne Thompson*, University of Washington School of Oceanography

- *Heather Trim*, People for Puget Sound
- *Amy Warren*, Puget Sound Clean Air Agency
- *Margo Young*, US EPA-Region 10

Welcome and Introduction
Elise Miller, coordinator of the Collaborative on Health and the Environment – Washington (CHE-WA), welcomed everyone to the quarterly meeting and noted that this meeting's focus was on climate change and health. Elise expressed her excitement at having such outstanding presenters on the subject. She described the meeting format to include an hour and forty-five minutes of presentations, with some discussion integrated into that time, to be followed by a collective open discussion on what CHE-WA members might like to do in response to this topic and the issues raised.

Dr. Kate Davies welcomed everyone to Antioch. Kate is on the core faculty for Antioch University Seattle's Environment and Community program and chairs CHE-WA's Research and Information Working Group.

Brief CHE-WA Updates
Elise also mentioned the following:

- CHE-WA has now compiled eighteen fact sheets on specific topics related to environmental health. These were developed by the CHE-WA Research and Information Working Group, chaired by Kate Davies. Anyone wanting a bound set of these fact sheets can request a set from the Institute for Children's Environmental Health or they can simply download the fact sheets from the CHE-WA website.
- The fourth annual "Our Health, Our Environment: Making the Link" lecture series sponsored by the Seattle Biotech Legacy Foundation and organized by the Institute for Children's Environmental Health (ICEH) begins this month with the first lecture on green chemistry on January 24th at Seattle Town Hall. Dr. Terry Collins will be speaking. Those who are interested can register for the lecture series by going to www.iceh.org.
- ICEH is searching for an Office Administrator and all recommendations or expressions of interest in the position will be gratefully accepted.

Presentation Notes
Elise introduced Roger Rosenblatt, MD, as facilitator for the science presentations and discussion. She acknowledged Roger's tremendous efforts in energizing CHE-WA on this topic in particular.

Dr. Rosenblatt opened with remarks framing the day's discussion. He stated that much of what we've accomplished in creating a healthy society could be swept away by the impacts of climate change. The rapidity and ferocity with which these changes are coming about are beyond what we thought possible. He said that in his opinion it is time for a CHE-WA working group to be established to address these issues in our region. Washington State lags behind California and Oregon in a coordinated effort to respond to climate change. Dr. Rosenblatt said that it's his own dream that Washington State might become a carbon-neutral innovator of technology in this area. Today's speakers were invited to help provide an overview of the basic science of global climate change and potential health impacts here in our region. Dr. Rosenblatt asked the group to

be prepared to "vote with your feet" as to whether you're willing to be part of a CHE-WA group taking this issue on.

Science Presentations

1) Richard Gammon, PhD, is a professor of chemistry and oceanography at the University of Washington. He is a leader in the cause and consequences of climate change, at both the scientific and policy levels. He is also a participating faculty member in the UW Global and Environmental Chemistry (GEC) and Astrobiology Programs, and senior fellow of the Joint Institute for Study of the Atmosphere and Ocean (JISAO).

Some highlights of his presentation:

- In the United States, 85% of our energy comes from coal, oil and natural gas.
- Disturbing recent trends in the global climate include increasing forest fires, melting permafrost, rapidly retreating Arctic and other northern snowfields and glaciers, and extreme weather events.
- We are not paying the true price of carbon emissions – in fact as Sir Nicholas Stern said, "Greenhouse gas emissions are the greatest market failure the world has seen." We must invest in the "one percent solution" (investing 1% of global GDP, or $350 billion in today's figures) to resolve this issue and reduce damage now or we will soon watch global economic failure.
- The doubling of carbon dioxide is almost certainly in our future, no matter what action we take now.
- A spectrum of perspectives on climate change include:
    - James Lovelock, who wrote *Revenge of Gaia*, said that we're mostly already doomed, and that perhaps a relative few members of our species will survive, mostly in polar areas.
    - A more moderate voice, Prime Minister Tony Blair said that global climate change is a problem of now, not the future. It will affect our children in their lifetime.
    - The United Nations Environment Program's 2001 Intergovernmental Panel on Climate Change stated that "most of the warming of the last 50 years is due to human activity." All of these suggest that significant climatic changes are certain.
- Current global temperatures have actually risen off the graph as plotted since 1000 AD. Predictions are that Arctic ice will be gone from the Arctic Ocean by 2050, thus meaning the end of the polar bears which depend on this ice.
- A change of four to five degrees Celsius in mean global temperatures is the equivalent change for going in or out of an ice age. We are currently looking at a range of projected change from 2 to 11 degrees Celsius. The level of uncertainty in the broad range is due both to uncertainty of global climate systems and also economic factors – such as how much coal China is likely to burn in the coming years.
- Greenland shows stark changes between 1992 and 2002 in the loss of icepack. The scale of this change is staggering to climatologists.
- As this kind of melting leads to a significant rise in sea levels, half the people in Bangladesh alone, a population of tens of millions, live within two meters of that sea level and this will mean significant death and displaced refugees.

Dr. Gammon closed by saying that a number of scientists fear that we may be too late to respond or this may be the last decade in which we still have time to respond.

2) Ann-Marie Kimball, PhD, is professor of epidemiology and health sciences at the University of Washington and an expert on the health implications of climate change. She spoke about the effects of global warming and climate change on human populations and the extent to which those changes are likely to effect individuals, communities and nations. She focused in particular on the how health effects might specifically be experienced here in the Pacific Northwest.

Dr. Kimball framed the issue by commenting that in looking at diseases that can be climate-driven, the local impacts are the most difficult to determine. She commented that here in the Pacific Northwest so much of our population also comes from abroad, particularly from Asia, that disease abroad is a local issue here, too.

Some highlights from her presentations:

- Population growth is a climate-change driver, and it will also affect the way that health impacts are experienced. The world now has 6.2 billion people and is estimated to grow to 8 billion in 30 to 40 years.
- Here in the Pacific Northwest, 76 weather stations with long-term records measuring precipitation reported that almost all were getting wetter, with 2.9 inches more rainfall, a 14 percent increase over the last century. The temperature at these stations has also shown the warming trend, with an average increase of 1.5 degrees Fahrenheit. This means the possibility of a longer growing season, more landslides, reduced snowpack, higher in-stream temperatures and higher coastal temperatures (an unhealthy shift for salmon and the diseases that prey on them), and diminished forest vitality especially east of the Cascades due to drought.
- From a human health perspective, the warmer, wetter temperatures may:
    - Feed disease and the vectors for disease;
    - Increase incidence of seasonal affective disorder;
    - Bring new illnesses with in-migration of people from other places;
    - Increase both the smog and particulates carried by air currents from Asia and the cardiac and stroke implications associated with this pollution;
    - Increase mosquito-born diseases, like malaria and West Nile virus.
- In-migration of human populations from parts of the globe more heavily impacted by global warming may represent the largest stressor on the health-care system. There would be more people to serve generally, as well as more and new diseases to address.
- Other climate change events that could have less direct health implications are the growth of fungal spores and allergies, increased air pollution and rising sea levels. She described the island nation of Tuvalu as home to 11,000 carbon refugees.

Dr. Kimball finished by suggesting how we need to address these issues:

1. Increase surveillance and early alerts to watch for and respond to these increased health threats.
2. Use the information from this surveillance and other research to better understand which disease vectors will be most significant and what the human exposure might be.

3. Develop a timeline of how warming might progress and which places may be most at risk for impacts.
4. Define the risks and begin to plan to respond to those risks.

Question and Answer Period with the Science Presenters

Q: Robin Evans-Agnew of the American Lung Association of Washington first commented that in reference to earlier mention of nitrous oxides that the connection between these and asthma is still in question, and wanted simply to highlight that unknown. He then asked about the risk of tuberculosis and other respiratory illnesses that might be carried in by in-migration of people to this area, and whether Dr. Kimball or others knew whether the associated risk of this was being modeled.
A: Dr. Kimball said she didn't believe any modeling had yet been done on this, although it certainly could.

Q: Heather Trim of People for Puget Sound asked if there was anything specific that was known about the environmental justice aspects of projected impacts?
A: Dr. Kimball replied that while there has been no systematic review of these potential impacts, we can see the obvious connections and potential harm through events like Hurricane Katrina and even here in Seattle with the recent flooding. Parts of the city and country that are "un-improved" (poor) lacking sufficient services and quality housing often bear the greatest brunt of these types of weather events.
Comment: Dr. Rosenblatt added that we have exported poverty to rural areas, and when we look at a Washington map of where climate change might be felt most painfully, those areas are rural. The east side of the mountains – arid and dependent on agriculture – is particularly vulnerable. He stated that 458 of the nation's 500 poorest counties are rural.

Q: Elise Miller of the Institute for Children's Environmental Health asked the presenters if there had been any consideration of possible toxic contaminants that had precipitated out onto, and been locked into, polar ice being released with the rapid melting of ice and snow?
A: Dr. Gammon replied that sea level rise would be such a dramatic and catastrophic impact on its own that it would overshadow any particular concern with toxic contaminants or microbes that might be locked in old snow.

Q: A participant asked what the most important role governments, universities and nonprofits can play. What could be sufficient or significant to be worthwhile?
A: Dr. Kimball responded that universities could provide important work through scenario building and then translation of this information to the public (out of the ivory tower). Government's role has to be to push us forward. Since there has been no national-level government leadership on this issue in five years, state and local governments will likely need to continue to "step up" for the next few years.
Comment: Dr. Rosenblatt said that this need for state and local communities to "step up" is precisely why this group is meeting today.

Q: Steve Gilbert asked if the presenters believe that nuclear power is part of the problem or part of the solution.
A: Dr. Gammon replied that nuclear power could be used as one of the "wedge" opportunities – a near-term tool to help in an effort to get carbon out of our emissions quickly.

Q: Diane Cortese noted the presentations today focused on how immigration might negatively affect our health. She expressed that concern about this might translate into tighter immigration laws and pressure on other countries to take actions that we ourselves are not taking. She then asked what the speakers thought about this and about where the United States' focus should be.
A: Dr. Kimball replied that definitely our focus for reform should be here in our own communities. One person here uses so many more resources, so reducing emissions here at home would create great positive change. However, she also commented that because there are more people in China, their impact should also not be underestimated. She also mentioned a Denis Hayes article written on the "greening" of China that was an interesting read.
Comment: Dr. Gammon added that China currently has plans to build the equivalent of one new power plant per week for the next 30 years. We certainly have no right to tell the Chinese that they can't burn coal, but perhaps we can encourage them to sequester the emissions underground.
Comment:Dr. Kimball then added that we should remember that US government policy already does too much "do as I say, not as I do," and this would be a continuation of that. We should change that! [laughter and general agreement from all]

Presentations on Current Regional Efforts
Elise Miller then framed the next set of presentations by saying this session will move the discussion from the specifics of the science to a closer look at what steps to address climate change are already happening in our region.

1) Anne Bikle, MLA is an Environmental Planner and Program Manager for the new Built Environment and Land Use Program at Public Health – Seattle and King County. She provided an overview of King County's work in preparing for climate change with an emphasis on Public Health's participation to date in this effort.

Highlights of her discussion:

- In 2001 King County studied the sources of greenhouse gas emissions in the county. Washington State is an anomaly in that most power is produced with hydro, not coal-fired power plants, so in this area the greatest contributor of greenhouse pollution is from transportation.
- King County is looking first at its own vehicle fleets, evaluating opportunities for hybrid cars, electric vehicles, and truck hybrid research.
- The traditional notion of "mitigation" has often been viewed as "wreck it and just create something else elsewhere." That definition would not fit with the ramifications of our recklessness with climate change. Instead, mitigation must include plans for how to reduce emissions in each of our endeavors. One example of this is the new Brightwater waste water treatment plant that will be powered partially by solar or other green energy.
- Seattle and King County are leaders on this issue and include "four levers of change":
  1. Transportation/transit improvement (anything we can do to get people out of cars);

2. Environmental management (for example, looking more closely at forest management in rural areas to determine the impacts of how cutting/preserving has related benefits and impacts);
3. Clean energy and economic development (recognizing that it may take up-front investment, but not to mean long-term economic hardship); and
4. Increase efficiency.

- In addition, Seattle and King County are compiling a guidebook for how local governments across the nation can address, mitigate and ameliorate climate change. They are also working with the University of Washington's Climate Change Impacts Group, and also with an NGO called Local Governments for Sustainability. In other words, the local government clearly sees the links sustainability and climate change, though others outside don't see it so clearly.
- One model that is being considered is the Chicago Climate Exchange, which is an opportunity for polluting entities to trade carbon quantities. She said that King County is keeping track of its emissions. The exchange creates an economic system to pay cash if you exceed a certain level of emissions and a benefit if you go below.
- Another opportunity is considering tax-code opportunities to reduce emissions at the individual level, but no specifics have been developed.

Anne summarized by saying that getting out of our cars – walking, cycling – is a win all around. It's a win for reducing climate change and promoting health generally. She stated that although she is not overly optimistic, she notes how public perception has shifted over the years on the subject of smoking. A robust, similar marketing campaign on climate change would be a tremendous contribution.

She also added that the challenges with language regarding climate change amongst the professional disciplines needs to be tackled. For example, those leading these efforts, including foresters and biologists, think in terms of "mitigation" and "adaptation". When it comes to climate change we need to make sure that "mitigation" translates to "prevention" of the emissions linked to climate change and that "adaptation" translates to proper planning for potential impacts. For some of them, the best approach is to talk about it through the lens of emergency preparedness.

2) Margaret Shield, PhD, director of the Toxic Free Legacy Coalition, spoke to the group about policy priorities and opportunities in this session of the Washington State Legislature.

She first mentioned that for the past four years environmental organizations doing work in Olympia have coordinated efforts to identify key priorities for each legislative session. This year all of the priorities have human-health impacts associated and include:

1. Save Our Sound: Governor Gregoire will have a package of legislation related to engaging all agencies and other stakeholders that oversee/influence the health of the sound. This legislation will improve septic systems and clean up contaminated shellfish beds. In a separate bill is the issue of flame retardants, but the governor does link flame retardants to sound protection.
2. Increasing money for Washington wildlife and recreation: This is obviously a more traditionally environmental bill, but health connections are obvious.

3. Eliminating toxic flame retardants: This is the third year a bill dealing with this issue has been introduced. Flame retardants are used in consumer products including televisions, electronics, mattresses and furniture. The bill would eventually ban three forms of PBDE flame retardants in different types of consumer products.
4. Clean Air, Clean Fuels: This bill is the most closely associated with climate change. It would create incentives to switch to cleaner vehicles and fuels. This package should excite many people for different reasons: there is the compelling issue reducing foreign oil dependence, the idea of capitalizing on keeping dollars in state, the effort to protect children's health (particularly through cleaning up bus emissions), the reduction of greenhouse gas emissions and the creation of cleaner county fleets. There is a diverse, energized group moving the bill that seems to be a strong coalition. There is also broad interest from legislators on both east and west sides of the state. In addition, the group Climate Solutions is a leader in pushing this bill and they are certainly framing the issue this way. There is some caution about how the bill is being framed so that it's not viewed as "just another environmental" bill for political reasons, and instead keeping the emphasis on economics.

Dr. Shield closed by mentioning that the state House of Representatives has just formed a new House Select Committee on Environmental Health, broadly tasked to look at environmental health. There is no parallel in the state Senate. Already this committee is holding hearings on PBDEs, toxic clean-up and air regulations. The leaders of the committee are coming to organizations to ask what their priorities might be. This is a real opportunity for all of us.

Discussion on Whether to Form a CHE-WA Working Group on Climate Change and Health

Dr. Rosenblatt led the discussion and began by asking the group to honestly consider whether there was an interest and excitement in collectively tackling the issue of climate change and human health impacts. In this context, Elise Miller explained the structure of the CHE-WA working groups and that climate change and health could be a new working group if we agree such a group would be value-added and not duplicative in any way to other existing efforts.

After some thoughtful discussion, the group expressed consensus that having a CHE-WA Climate Change and Health Working Group would be useful. This group would tasked with inserting the health agenda and information into existing initiatives, efforts and groups rather than creating a whole new and independent effort.

Suggested initial priorities are:

1. Drafting a white paper on climate change and health, which doesn't currently exist, that could serve as a reference and resource for policy change and marketing.
2. Developing a social-based marketing campaign on what climate change means on the personal level.

Other ideas included:

1. Trying to make this group as carbon-neutral as possible in terms of our meetings, etc.
2. Highlighting personal stories of those who are being affected already by climate change.
3. Involve insurance agencies – they could be our allies in this.

Next steps:

1. Dr. Rosenblatt agreed to take on the responsibility of drafting the new white paper and working with the CHE-WA Research and Information Working Group to prepare it for the larger group. He also agreed with a suggestion that the white paper include an environmental justice component and that he would work with the CHE-WA Environmental Justice work group toward this end.
2. Others interested in participating in the working group placed a star "*" next to their names on the sign-in list.
3. Karl Arne from EPA-Region 10 offered to share information on timing and focus related to his new grant program.
4. Elise Miller said today's decisions would be shared with the broader group so that others not in attendance today might participate if they would like to do so.
5. Dr. Rosenblatt will get back in touch with those who have indicated their interest in being part of the CHE-WA Working Group on Climate Change and Human Health

Elise Miller thanked everyone for their time and perspectives. The meeting was adjourned.