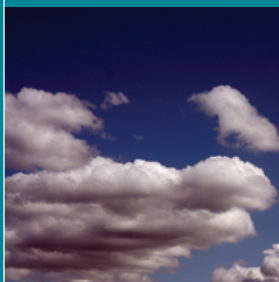
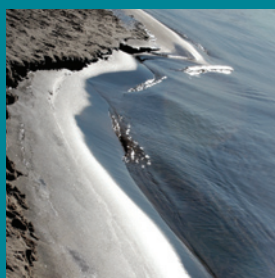




An Action Plan for Public Health:

Initial Recommendations for Involving Public Health in Climate Change Policy



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Executive Summary

Climate change may well be the greatest threat to human health in this century. With an express mission to protect and enhance the health and well-being of communities, public health practitioners have both a responsibility and an obligation to be at the forefront of efforts to reverse climate change. The potential public health disaster posed by climate change presents a unique and important opportunity to articulate a health-based climate change strategy that will improve health outcomes *and* reduce greenhouse gas emissions.

To assist the public health community in this effort, Public Health Law & Policy (PHLP) has made an ambitious commitment to provide public health practitioners with the practical tools, policy strategies, and legal resources they need to effectively participate in climate change planning activities taking place at the state, regional, and local levels. PHLP is working in cooperation with a diverse coalition of stakeholders to fulfill this goal, including experts in public health, land use planning, climate science, and environmental law.

As a first step, PHLP gathered a diverse group of more than 150 participants for a multi-disciplinary exchange of ideas and strategies with the goal of better engaging public health networks and agencies in climate change work. This *Action Plan* presents a synthesis of those recommendations and priorities.

Four opportunities for immediate action emerged:

- **Communicate the public health message.** Public health must fully articulate the connections between climate change and health – whether for public health practitioners, climate planners, policy makers, or the general public. This messaging must be rooted in larger strategic policy campaigns aimed at changing community and institutional practices that contribute to global warming.
- **Begin work on climate change now.** Public health practitioners have an immediate opportunity to integrate a climate change focus into two areas of existing public health work – food systems and land use planning. Both sectors have significant climate change and public health impacts and working for complementary solutions has great potential to create more healthy and sustainable communities.
- **Advocate for and protect vulnerable populations.** Social and economic justice are core public health values. Building on these principles, the public health community must advocate for climate change policies that eliminate health disparities and improve neighborhood conditions, reduce overall pollution levels in overburdened communities, and protect those who will be most impacted by climate change.

- **Develop infrastructure to expand this work.** To ensure effective participation in climate change policy development, the public health community must create the infrastructure necessary to support this vital work. Resources must be devoted to establish public health leadership and policy direction, provide training opportunities, and mobilize and coordinate involvement.

The goal of this *Action Plan* is to provide a preliminary health-based climate change strategy with an associated set of recommended actions. We at Public Health Law & Policy believe that this is merely the beginning; we offer this *Action Plan* as a starting point from which a robust set of strategies can evolve over time. In the meanwhile, we hope that this plan and recommended next steps will inspire and mobilize the public health community and its partners to participate in the critically important tasks of climate change planning and policy making.

Introduction

Public Health and Climate Change: Building an Agenda for Action

Public Health Law & Policy (PHLP) has embarked upon the ambitious task of providing the public health community with the practical tools, policy strategies, and legal resources it needs to effectively participate in climate change planning activities taking place at the state, regional, and local levels. To accomplish this, PHLP is working in cooperation with a coalition of stakeholders, including experts in public health, land use planning, climate science, and environmental law.

As a first step in developing a comprehensive public health approach to climate change, PHLP gathered a diverse group of more than 150 participants together on October 20, 2008, for a multi-disciplinary exchange of ideas and strategies. The objective of the gathering was to explore ways of better engaging public health networks and agencies in climate change work. Participants included leaders from major environmental groups, state government agencies, public health departments, faith-based organizations, smart growth coalitions, social justice campaigns, and distinguished universities. Through cooperative brainstorming exercises, participants were asked to formulate promising strategies for effectively involving the public health community in climate planning and policy development.

Four opportunities for immediate action emerged:

- **Communicate the public health message.** Fully articulate the connections between climate change and health – whether for public health practitioners, climate planners, policy makers, or the general public;
- **Begin work on climate change now.** Immediately integrate a climate change component into two areas of existing public health work – food systems and land use planning – because both have significant climate change implications;
- **Advocate for and protect vulnerable populations.** Ensure that low-income and otherwise marginalized communities are not negatively impacted by proposed regulatory or market-based climate change mitigation measures; and
- **Develop infrastructure to support the work.** Build the capacity and leverage resources to support the public health community's involvement in climate change planning.

A consistent theme running throughout this plan is the importance of pursuing strategies that result in “co-benefits”: outcomes that both improve health *and* reduce greenhouse gas emissions. Such an approach alters the economic calculus of climate change policy by incorporating previously unaccounted for health care



Photo by Genie Gratto

savings and costs associated with different greenhouse gas reduction measures. It also promotes outcomes that are more local, timely, and personal with the hope that this will spur more widespread and immediate action on global warming.

This plan represents an important initial assessment of public health's abilities and limitations to fully engage in climate change work as well as a preliminary set of recommended actions. Many sectors of import – water and energy to name just two – are not included here, and a key component of climate change planning – adaptation – is only touched upon. Much more work still needs to be done to develop a comprehensive health-based approach to climate change policy; this plan is only the beginning.

Public Health Law & Policy offers this plan as the starting place from which a robust set of health-based climate change strategies can evolve. In the meanwhile, we hope this plan and recommended next steps will inspire and mobilize the public health community and its partners to participate in the critically important processes of climate change planning and policy making.

Why Public Health Involvement Is Critical to Climate Change Planning

The goal of public health is to improve lives through the prevention and treatment of disease. Public health is “the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals.”¹ It is dedicated to protecting and promoting the common good, and at its core is a deep commitment to social justice. This combination of scientific rigor and egalitarian values makes public health leaders powerful allies in promoting the communal and individual changes needed to address global warming.

The Power of Public Health

- **Public health uses science to guide opinion and bolster support.** Disease prevention begins with the science of epidemiology (e.g., surveillance of risk factors that can threaten community health). This leads to policies to create healthy environments and public education campaigns to promote healthful behaviors. Public health encourages individual change while advocating for policies that “denormalize” unhealthy practices.
- **Public health is active in policy debates that drive change.** While epidemiology informs public health practice, it is the skill and art of policy and politics that animates the profession to ensure healthy outcomes. Classic public health interventions are as varied as passing clean air or clean water legislation, vaccinating children, ensuring access to health care, and distributing condoms or clean needles. Behind each of these interventions are complex and powerful policy debates that can divide communities, pit the interests of neighborhoods against multi-national corporations, or limit individual liberties in order to protect the interests of the community as a whole. The nexus for public health is entering these debates with good science to promote the outcome that best protects community health.
- **Public health advocates for health equity.** Social and economic justice are core public health values. Because racial disparities and economic inequalities are major determinants of poor health, public health strategies include enhancing the ability of low-income communities, many of which are communities of color, to combat these conditions. Public health joins with community partners to implement programs that protect and improve the health of the most vulnerable and underserved populations.
- **Public health builds partnerships and alliances to achieve key objectives.** Public health advocates and leaders accomplish their work in close partnership with both traditional and non-traditional allies. For example, the faith community has emerged as a key partner in the prevention of HIV/AIDS;



Photo by Lydia Daniller

labor unions have become influential in promoting occupational health and safety efforts; schools have proven to be important in preventing obesity and improving childhood nutrition; and urban planners and environmental organizations have been invaluable in improving the built environment to improve community health. Public health advocates and leaders know how to build and foster partnerships to extend the reach of limited personnel and resources.

- **Public health uncovers co-benefits to secure allies and create efficiencies.**

Co-benefits arise when passionate advocates who work on one public health concern – like diabetes, cancer, or violence prevention – find that their recommended policy solution simultaneously achieves another purpose. For example, by working on land use strategies to increase walkability and bikeability within a community, public health advocates not only address concerns such as asthma, obesity prevention, and community safety, they also address transportation-related greenhouse gas emissions. Skilled public health policy practitioners can forge alliances of thought and action across interest areas and between various community-based organizations to create the political will required to create beneficial policy change.

Mutual Benefits of a Partnership between Public Health and Climate Change Advocates

Government agencies, scientists, policy makers, and grassroots advocates will benefit from public health engagement in climate change because public health practice blends the power of the bully pulpit with the organizing capacity of boots-on-the-ground.

- **Public health wields the power of the bully pulpit.** Public health agencies have the ability to coalesce epidemiological data to show trends in morbidity and mortality and to identify causal links between environmental conditions and health outcomes. These agencies have access to decision makers and politicians at the highest levels of government, and also have a direct line to the media. This creates opportunities for public health leaders to focus attention on the widespread health impacts of global warming and to call for immediate action to reverse current climate change projections. The overwhelming scientific evidence of impending death, disease, and dislocation of large swaths of the human population is a powerful driver. When combined with the credibility of the public health message, these have the potential to inspire long-overdue policy outcomes.
- **Public health organizes and mobilizes local communities.** The public health agencies that have become trendsetters across the nation are deeply engaged in the communities they serve. Unlike most other government agencies, public health departments deploy staff to conduct home visits, participate in community meetings, and organize leadership and community



Photo by Genie Gratto

Public health practice rearranges dominant social norms. Tobacco control offers a useful example of this approach. In 1964, when the Surgeon General first released his report on the dangers of smoking, the majority of men and an increasing number of women smoked.² It was the norm to smoke – it was glamorized in movies, condoned in workplaces, and tolerated in restaurants. Now, less than 25% of men nationwide smoke. In California, where anti-tobacco laws are some of the most stringent in the country, only 18% of men and 10% of women are smokers.³ California’s successful tobacco control program is the result of coordinated efforts by state and local health departments, statewide technical assistance providers, hard-hitting media advocacy campaigns, a cessation hotline, and scientific research all supported by a secure source of funding. What if the public health infrastructure and strategies that were so successful in changing smoking norms could be used as a model to change behaviors that lead to global warming?

members around shared concerns. They partner with traditional allies – such as organized medicine and voluntary health organizations – as well as non-traditional partners to accomplish their task.

Today’s most effective public health campaigns take into account the social, economic, and community determinants of health and promote policies to change these environments (e.g., laws to create smoke-free public places or regulations that require reductions in diesel pollution). Educating individuals about good health (e.g., the traditional “stop smoking” lecture) is not enough to create healthy changes in behavior. Instead, it is public policy campaigns, not educational pamphleteering, that are the essential tools of modern public health practice. The best public health practitioners are community organizers armed with an array of policy options and political strategies.

Potential Barriers to Public Health Involvement in Climate Change Work

For all of the power of public health, it also has inherent institutional weaknesses that may impede its involvement in climate change activities:

- **Public health has funding limitations that may limit its ability to impact climate change.** Public health agencies are plagued with funding streams that constrain creative thinking and bold action. Funding for public health work is narrowly categorized by a specific disease or health issue (e.g., tobacco control, AIDS/HIV prevention, etc.) and work is only allowed within this narrowly defined “silo.” This hampers public health personnel from taking a broader and more comprehensive approach to disease prevention that would combat the multi-faceted determinants of poor health. In addition, health departments are dependent on competitive and limited general fund dollars controlled by state and local politicians and resources to address emerging issues – like climate change – do not exist.
- **Public health leaders are vulnerable to political pressures that may prevent them from acting decisively.** As powerful as public health practice *can* be, it often is not. Too often, the lack of resources also means that public health leaders are vulnerable to political pressure to support the status quo, and not to “rock the boat” or jeopardize the scarce resources that do exist.
- **Public health has no direct mandate to help fight climate change.** There has been no directive for public health involvement in climate change. Until recently, public health professionals and advocates have been mostly missing from the major policy initiatives at the state and local level. Many of the existing planning forums have not included public health practitioners, and no formal structures exist to integrate broad public health perspectives. This is compounded by the lack of dedicated public health resources and personnel to engage in climate change planning.

Public Health Law & Policy (PHLP) partners with advocates and policy makers to create healthier communities. We are a multi-disciplinary team of lawyers, urban planners, economic development and redevelopment specialists, health educators, social workers, and communications experts. We provide in-depth research and analysis on legal and policy questions, and translate complex information into practical tools and model policies. We expand the capacity of advocates, local public health and planning departments, schools, government attorneys, elected officials, and others to advance their public health goals through policy change strategies. See www.phlpnet.org for more information.

Emerging Role for Public Health in Climate Change Work

Climate change may well be the greatest threat to human health in this century. Public health practitioners have a responsibility and an obligation to be at the forefront of efforts to mitigate forecasted public health disasters. Unfortunately, because public health has been a latecomer to this work, health impacts have often been overshadowed by discussions of budget consideration or debates over specific technologies to reduce greenhouse gases. This needs to change. If the power of public health practice – its expertise, its perspective, and its partnerships – is more fully integrated into climate change planning and prevention, new opportunities will emerge to influence political leadership and mobilize community support for health-based climate change strategies that improve health *and* reduce greenhouse gas emissions.

This *Action Plan* is an initial set of recommendations and priorities to begin that process.

Building the Infrastructure to Support Public Health's Climate Change Work



Photo by Kim Williamson

The public health community brings many strengths to its work on climate change. For example, it has a longstanding practice of building close partnerships with traditional and non-traditional allies to implement successful policy solutions that result in widespread benefits. Moreover, public health professionals have deep community connections that enable them to work with local advocates to combat the myriad of social, economic, and environmental ills that lead to disparate health outcomes. In addition, health practitioners are trusted spokespersons who can leverage their roles as educators, advocates, and healers to promote policies needed to protect the health and well-being of all citizens.

While these transferable skills and policy-making experiences could prove valuable to climate change planning and implementation, several barriers limit the public health community from becoming more fully engaged in climate change policy making. To ensure public health participation in ongoing climate policy development at the state, regional, and local levels, it is necessary to create the infrastructure that will provide leadership and policy direction, training opportunities, coordinated planning efforts, and financial resources.

There are numerous factors that would enable greater public health involvement in climate change activities, including the following:

- Clarification about the roles and responsibilities of different government agencies in climate policy development to better integrate public health professionals into existing and future processes.
- Leadership development at the California Department of Public Health (CDPH) to provide direction to local health departments. CDPH could provide a clear mandate for public health involvement in climate change planning and provide support and guidance to local health departments to enable participation.
- Development of formal procedures for health-based entities to provide input on climate change research agendas, to formulate policy priorities, to comment on proposed plans, and to evaluate health impacts. A more clearly defined role for public health is necessary to integrate a broader health co-benefits strategy into climate change policy making.
- Creation of funding streams for CDPH and local health departments to work on climate change issues. Funding mechanisms need to be created to provide the fiscal resources to support the public health community's involvement in both mitigation and adaptation efforts.

- Development of best practices to guide the way local public health departments prepare for and respond to the health threats associated with climate change.

Partnerships: Joining existing coalitions and building new ones

Because the public health community has been absent from current planning efforts, it will need to network with already engaged organizations to gain a better understanding of the policy landscape. Joining existing coalitions made up of environmental justice advocates, land use planning experts, progressive business leaders, and/or mainstream environmental activists will enable the public health community to become better informed. These connections will also help formulate more effective strategies and gain allies to promote the broader health co-benefits policy agenda.

In addition, CDPH should strengthen its relationships with other agencies already tasked with responding to climate change. These would include the California Air Resources Board (CARB), the California Resources Agency, California Energy Commission (CEC), and the Office of Planning and Research (OPR). It is a promising first step that CDPH has been appointed to the Climate Action Team (CAT), the organization established to coordinate state agency climate programs.

Finally, it is critical that the public health community form a Public Health Coalition to act as an integrated hub for information sharing and strategy development. This network would serve to link efforts at the state, local, and even federal levels to create a well-defined and robust public health approach. This participatory workgroup would formulate policy priorities and mobilize the public health community to advance a health co-benefits climate change strategy. It would also be used to disseminate educational materials and develop guidelines for best practices related to adaptation planning.

Potential solutions: Laying the foundation for public health involvement

For public health to be effectively engaged in climate change activities, it is necessary to develop a structure that supports this work. Steps necessary to build the infrastructure include:

- Urge the U.S. Surgeon General, the Centers for Disease Control and Prevention, and the CDPH to make a call to action for public health involvement in climate change planning, thus creating a high-profile mandate from trusted and influential health leaders.

- Allocate staff in CDPH and county public health departments whose primary job responsibilities are to be involved in climate change planning and policy development.
- Develop the public health community’s capacity through the dissemination of policy guidance, training materials, advocacy tools, etc. to enable more informed and strategic involvement in climate change related activities.
- Institutionalize public health participation in climate change planning – both for mitigation and adaptation. Approaches might include:
 - CDPH working in cooperation with other state agencies to form working groups or subcommittees to better integrate broader health community involvement.
 - Creating formal public health advisory bodies to state, regional, and local agencies and organizations tasked with climate change planning responsibilities.
 - Requiring comprehensive public health analyses of proposed AB 32 climate change regulations and market-based approaches to identify health co-benefits, health risks, and impacts on vulnerable populations.
- Craft a public health mission statement to articulate the role, goals, and approaches the public health community will pursue and promote related to climate change policy. This declaration should be inspirational and motivational. It should emphasize public health’s long-standing tradition of using education and policy tools to promote wellness, respond to health emergencies, and advocate for healthy environments, especially for our most vulnerable populations.

Practical strategies: Identifying roles, building capacity, and securing funding

Key steps to involving the public health community in climate change planning processes include:

- Complete a survey of local public health departments to assess their current and planned actions related to climate change, as a baseline needs assessment. This will build on the data collected in two recent surveys conducted by the Public Policy Institute of California and the Environmental Defense Fund and NACCHO.
- Identify public health representatives willing to participate in state-level adaptation and mitigation planning efforts. Develop a strategy for public health involvement in regional SB 375 implementation, including possible seats on or advisory roles to Metropolitan Planning Organizations.

- Create an information and strategy exchange to provide resources and policy direction that supports public health advocates working on climate change. This forum would offer training programs and act as a clearinghouse to disseminate educational materials and policy alerts.
- Harness emergency planning resources and processes to allow for climate change planning. Negotiate with the Emergency Planning Office to allow amendments to Preparedness Program work plans to incorporate climate change adaptation measures as part of an “all hazards” plan. Explore opportunities to refocus preparedness dollars to support adaptation planning.
- Secure funding to support public health involvement in climate change. Funding mechanisms could include the AB 32 administrative fee, a carbon tax, a portion of the cap-and-trade permitting revenue, a development fee, and/or reallocation of emergency preparedness funds.

Communicating the Public Health Message

As the public health community develops its communication strategy related to climate change, the messages must be rooted in larger policy campaigns aimed at changing community and institutional infrastructures that contribute to global warming. All health education campaigns and related communications must be linked to specific and achievable policy goals. These messages need to tap into core values that provide the motivation to change the world: fairness, responsibility, equality, equity, and so forth.⁴ These values engender deep connections to an issue and provide the emotional vibrancy needed to create the political will for policy change.

Public health communications about climate change must answer three central questions (just like any other public health campaign):⁵

- 1. What's wrong?** Climate change is very complex and there is a litany of policy minutia that ultimately will have to be debated, however, the initial communications messages must grab the target audience – whether the general public or a specific decision maker – by providing a succinct statement that clearly describes what is wrong.
- 2. Why does it matter?** The effectiveness of the message will hinge upon its ability to articulate the values that are at stake. Simply relating facts won't work; the communications must convincingly illustrate why the target audience should care.
- 3. What should be done about it?** The goal is to formulate and then recommend specific policy objectives that will reverse global warming. These should be feasible solutions, even if they are incremental steps toward a larger objective to mitigate climate change.

Climate change provides ample opportunities for effective public health messaging. The devastation of shoreline communities, drought and flooding, and the redistribution of natural resources will cause unprecedented social upheaval and political conflict. Even the possibility of such disruption triggers emotional reactions and activates the core values that are so central to effective communication.

The challenge for public health communicators is to tap into these core values with messages that lead to the hope that climate change can and will be addressed. Successful communication will support public policies aimed at changing the incentives or requirements that influence public agency, corporate, and individual behaviors that lead to climate change.



Photo by Lydia Daniller

Partnerships: Creating joint messages to reach diverse audiences

As public health leaders develop specific advocacy campaigns to address global warming, they will need to collaborate with others such as environmental organizations, public utilities, and public regulatory agencies. The public health component of these joint messages must stress the significant health implications of climate change and describe the considerable health benefits that can be achieved by climate adaptation and mitigation measures.

Possible solutions: Motivating change through powerful messages

When integrating public health messaging within a broader climate change policy campaign, public health communications should:

- Publicize the specific health-related consequences of climate change (e.g., extreme and prolonged heat waves, spread of vector-borne diseases, etc.).
- Demonstrate how reductions in greenhouse gas emissions can have immediate health benefits (e.g., decreasing the number of vehicle miles traveled will reduce climate pollution, enhance air quality, increase physical activity, and improve overall health) thus providing positive incentives for change.
- Inspire new constituencies to advocate the adoption and implementation of strong climate policies at the state, regional, and local levels to actively protect and improve public health.
- Promote a “social norm change” strategy where powerful media messaging is used to “denormalize” common and unhealthy practices (e.g., building communities dependent on driving) while creating a different expectation of “normal” (e.g., ensuring walkable and bikeable neighborhoods with easy access to essential public services). Public health professionals have broad portfolios of techniques and expertise developed in the successful tobacco control campaign that can be applied to messaging related to climate change.

Practical strategies: Crafting communications that lead to action

Public health leaders can formulate a communications strategy that:

- Identifies specific public policy targets to reverse climate change. Public health leaders need to prioritize a short list of the most essential policy changes needed to reduce greenhouse gas emissions. The policy targets should be specific and have a clear link to improving public health outcomes.

- Develops a communications platform that answers the three core questions articulated above for each of the policy targets. Such a campaign will utilize:
 - Focus groups to test messaging and effectiveness with different audiences. This will ensure that information is presented in a culturally and ethnically appropriate manner. The goal will be to create a policy change campaign that will successfully communicate to multiple ages, cultural groups, and language speakers.
 - School and youth outreach to disseminate a message of hope and action. Surveys of young people already indicate that they feel despondent and powerless to confront the dire climate change predictions. A policy change campaign needs to provide meaningful opportunities for youth engagement and political mobilization.
 - Messaging that creates a new “social norm” for institutional and individual practices to replace old standard modes with more climate responsible behaviors.
- Coordinates with other institutional leaders such as the California Air Resources Board (CARB), the California Energy Commission (CEC), and public utilities to employ parallel communications strategies that foster the political will necessary for policy changes.
- Organizes media advocacy opportunities to highlight the connections between public health and climate change. Tactics include legislative hearings; student forums; letter writing campaigns; and viral networking through YouTube, Facebook, and other social media outlets.

Creating a Safe and Sustainable Food System



Photo by Genie Gratto

The food system is a key component of a policy agenda to impact climate change and improve public health. Public health organizations have already marshaled significant resources and developed strategies to increase access to healthy foods and, in turn, help to create sustainable and local food systems. Now, as the connections between health, food and climate change are becoming clear, a climate focus could readily be incorporated into this existing work. The results of this synergistic approach would be to increase access to healthy, safe food; protect farm worker health; reduce the use of petroleum-based chemicals and other practices that compromise sustainable agricultural; and decrease the number of food miles traveled.

There are numerous ways that public health, agriculture, and climate change concerns are interconnected, including the following:

- Long distance transportation of food results in significant greenhouse gas emissions and reduced air quality. Food shipped over long distances decreases in nutritional quality.
- Lack of affordable and readily available healthy food in low-income communities contributes to obesity-related chronic diseases such as diabetes, hypertension, and heart disease.
- Federal food subsidies incentivize agricultural production systems that produce cheap food with low nutritional value.
- Industrial food systems rely on fossil-fuel based fertilizers, pesticides, and herbicides that both contribute significant amounts of greenhouse gas emissions and threaten farm worker and consumer health.
- Beef production results in significant methane gas emissions, a powerful global warming gas, and meat consumption is a major contributor to cardiovascular disease.
- Climate change may result in the spread of agricultural pests and diseases, thus threatening food security. Food-borne illnesses may also increase as a result of climate change.

Partnerships: Building alliances around shared goals

To reshape the current food system into one that is healthy for both communities and the planet, alliances between public health advocates and agricultural stakeholders will need to be formed. In addition, partnerships with farm workers and related advocacy organizations will be vital to give voice to “climate justice” considerations and ensure that climate change planning monitors the impacts on

and affords protections to communities already heavily affected by environmental and economic degradation.

Growers will be another important partner. Their input will be vital in formulating policy goals and economic incentives that will cause a shift to more environmentally sustainable growing methods. Their expertise will also be needed to develop climate adaptation plans that will ensure reliable and affordable food production while adjusting to changing growing conditions caused by climate change.

Potential solutions: Slowing climate change while improving public health

There are numerous approaches to create economically and environmentally sustainable food systems that simultaneously reduce greenhouse gas emissions and improve overall public health. These include:

- Expand opportunities for urban agriculture to increase the supply of locally and sustainably grown produce, especially for underserved, inner city communities. This would result in improved nutrition, decreased rates of obesity-related diseases, and reduction in transportation related greenhouse gas emissions.
- Decrease the use of petroleum-based chemicals in food production to reduce farm worker exposure to toxic chemicals; decrease agricultural related pollution in rural communities; reduce reliance on fossil fuels; and decrease the carbon footprint of our agricultural sector.
- Diversify and localize agriculture production to ensure food security. With changes in rainfall, pest, and disease patterns, it will be critical to have a regionally based and resilient food system.
- Protect agricultural lands from encroaching development and preserve local foodsheds by incentivizing compact, transit-oriented development in urban and suburban communities, while building robust markets for local food.
- Invest in “food system infrastructure,” including distribution and wholesaling, processing, retailing, and composting to reduce food miles and ensure a secure and dynamic local food system.
- Create a public health education campaign that reflects diverse food cultures and that emphasizes “buy fresh, buy local” to promote healthy choices. The campaign would highlight how food production and diet choices can affect both personal and climate health.

Practical strategies: Leading the dialogue and elevating the message

The following are recommendations for practical, next steps to formulate food system policies that will improve public health and reduce greenhouse gas emissions:

- Organize a summit that brings together public health and agriculture interests, to begin formulating a shared policy agenda to create a more nutritionally sound and climate-friendly food system. This meeting would be the first step towards articulating and identifying joint policy approaches, research priorities, and opportunities for cooperation.
- Advocate for the adoption and implementation of local food purchasing policies by institutions such as schools, hospitals, jails, and other public agencies and community organizations.
- Create educational materials describing the important linkages between health, food production, and climate change. One approach might be to highlight the Governor's stated policy priorities to reduce greenhouse gases and prevent obesity.
- Develop or participate in a local food policy council to form partnerships with others interested in the regional foodshed and develop policies that promote public health goals and reduce greenhouse gas emissions. A California state-level food policy council (similar to models in New York State and elsewhere) could coordinate local efforts with state and federal efforts.
- Draft model food system policy guidelines for communities to integrate into their climate action plans. These guidelines would provide recommendations for regulatory, zoning, and economic incentives needed to create a sustainable local food system that reduces greenhouse gas emissions while increasing access to healthy food and reducing obesity-related chronic disease rates.
- Use Health Impact Assessment (HIA) tools and life-cycle analysis to conduct a "farm-to-table" evaluation of the climate change and public health effects of proposed food system changes.
- Harness the existing involvement of public health in zoning and land use planning to ensure access to healthy foods in low-income communities with an added focus on reducing greenhouse gases. Policy approaches could include:
 - Promoting zoning regulations that encourage urban agriculture and the preservation of land for regional growers;
 - Developing incentives and assistance programs that facilitate improvements in local corner markets to provide locally and sustainably grown produce;

- Adopting land use regulations that support distribution networks for locally grown foods, including zoning for farmers' markets;
- Work to reduce pesticide usage through changes in growing methods, product reformulation, economic incentives, and regulations. Partner with environmental health professionals, farm worker advocates, organic growers, and integrated pest management programs.

Designing Healthy and Environmentally Sustainable Communities



www.pedbikeimages.org/Dan Burden

Across California and around the country, public health professionals are using land use planning tools and economic development policies to improve health by addressing factors within the built environment that contribute to chronic disease and obesity rates. As part of this ongoing work, public health advocates have a meaningful opportunity to spur changes in the built environment and transportation infrastructure that will *also* help to mitigate climate change.

For example, public health practitioners already advocate for community design that ensures access to nutritious foods and opportunities for physical activity by supporting measures that allow for farmers' markets and neighborhood grocery stores or ensure that sidewalks and bikeways are available to encourage active transport. A major co-benefit of this type of healthy community design is that it results in fewer vehicle miles traveled (VMT) – an important way to decrease greenhouse gas emissions – by making it convenient and safe to walk, bike, or use public transit. By promoting compact urban design with mixed use retail, public health practitioners are encouraging more human-scale neighborhoods where people can reduce the amount they drive, utilize other modes of transport, and increase their physical activity levels.

A primary focus of public health's built environment strategy is to improve the infrastructure within low-income communities and communities of color, where such changes can significantly improve health outcomes. Public health practitioners work with community partners to identify changes to the built environment that can eliminate health disparities and improve neighborhood conditions. To implement these changes, public health advocates urge planners and elected officials to include health language in general or comprehensive plans, revise zoning codes to encourage bikeable and walkable streets, and harness economic incentives to support healthy food retail.

Factors that may limit the influence of public health on environmental policy

Although there is tremendous potential to create healthier and more sustainable communities with this approach, the public health community is keenly aware of factors that may limit its full integration and engagement in both land use planning and climate policy development. These include:

- Lack of a formal process to examine the broad public health implications of proposed land use or climate change measures. Although the built environment and global warming can have profound impacts upon our health, there is no requirement for a complete health analysis of proposed policies. As a

result, health effects – both positive and negative – are not adequately considered when evaluating alternatives or making decisions.

- Limited opportunities for public health departments to influence policy. While public health departments are primarily organized by county, land use policy decisions are made at both the county and city level, creating potential complications regarding inter-jurisdictional collaboration. Other key decisions related to the built environment, such as transportation, are made by local governments and by special districts or regional planning entities. Most major climate change policy is being formulated at the state level, with local governments also stepping forward and creating climate action plans. Public health professionals face an ongoing challenge as they seek to advocate for a coherent set of health-protective measures that can be integrated throughout this dispersed and sometimes disconnected policy-making network.

Partnerships: Exploring new ways to collaborate and network

In order to better integrate health issues into land use and climate change decisions, the public health community must continue to increase its knowledge and understanding of these new subject areas. Public health needs to gain a deeper familiarity with the underlying factors which influence planning and climate change decisions so as to be more effective participants in the process. Likewise, public health needs to translate its health concerns into language and concepts that the climate change and planning communities can easily access and understand so that they can then consider and incorporate these issues into their decision-making process.

To do this, public health practitioners will want to expand existing partnerships with individuals and organizations engaged in land use and climate change planning. Through these professional relationships, public health advocates will learn to better leverage non-traditional public health approaches to promote and enhance health. This cross-discipline networking also provides an important opportunity to educate others about the health implications of land use and climate change policies and highlight the potential “win-win” outcomes available through the implementation of a health co-benefits strategy.

Public health has already built relationships with urban planners, environmental health officers, and social justice advocates, but other partnerships need to be developed or strengthened. These include alliances with traditional environmental conservation groups, climate planning agencies, metropolitan planning organizations, and local government officials involved with land use planning, such as economic development and redevelopment staff.

Potential solutions: Illustrating the connection between land use and health

There are many ways to influence land use and climate policy to integrate public health concerns. Some of these include:

- Repackaging public health data that provides scientific evidence to support a healthy community design and translating it into language that land use and climate change planners and decision makers can better use. For example, in the land use context, planning decisions are made to reflect subjective community values and aspirations, so highly technical and scientific findings about health outcomes are not likely to be as influential as if this same information were presented in a way that furthers and inspires the goals a community has for itself. While health-based information can be a persuasive tool to highlight how the built environment can improve health outcomes, it is most persuasive when presented in a way that makes it relevant to the context in which decisions are made.
- Harnessing market-based or regulatory instruments to encourage the planning and building of healthy and sustainable projects. For example, financial supports – such as investment tax credits – help developers construct transit oriented developments and could be used to include other aspects of healthy design. A “sprawl fee” based on the transportation related carbon emissions of a project could be assessed to place a direct cost on the climate and health burden of exurban developments.
- Requiring a comprehensive health analysis during land use, transportation, and climate change planning. This would provide an important avenue for public health professionals to evaluate the health implications during the decision making process and suggest changes at an early stage. It would also elevate the importance of public health with the hope of making it as relevant to the policy-making process as economic or infrastructure concerns.

Practical strategies: Expanding existing policies to reflect climate change concerns

Public health can expand an already well-developed set of land use strategies and policy recommendations to incorporate climate change concerns. In addition, it can also build upon this work to ensure that a broader public health perspective is included in climate change policy decisions. The following are recommendations for practical next steps:

- Update existing healthy land use policy recommendations to incorporate information describing how such actions also mitigate climate change. Tailor toolkits, educational resources, and trainings that describe the connections

between land use and health to include the additional link to climate change. Join with land use and community planners to formulate and disseminate model policies that will incorporate both health and climate change considerations into land use planning, economic development, and transportation decisions.

- Use health impact assessments (HIA), health checklists, and other tools to evaluate key provisions of climate change policies to highlight the effects these will have on general well-being as well as upon the health of our most vulnerable populations. Public health should continue to innovate and explore how to best measure and describe the links between land use, climate change, and health. The results of these evaluations can be used to broaden the current discussions and influence policy decisions by quantifying the health-related impacts of proposed land use and climate change plans.
- Continue to build relationships between public health advocates and urban planners, economic development and redevelopment staff, private developers, and local officials who make land use decisions. These working relationships are key avenues to influence land use decisions and incorporate approaches that both improve health and address climate change.
- Participate in policy discussions related to the built environment and climate change such as implementation of SB 375 and formulation of local climate action plans, among others. These represent important ongoing opportunities for public health to articulate approaches that improve and protect health while transforming communities to respond to climate change.

Developing Economic Incentives to Benefit Communities and Support Public Health Goals



Photo by Lydia Daniller

While market-based strategies have the potential to bring about substantial shifts in business and consumer behavior to reduce greenhouse gas emissions, significant concerns exist about the proposed cap-and-trade program because of the negative health impacts this approach could have on communities already overburdened by industrial pollution.

Public health professionals must participate in the discussion and formulation of this and other economic incentive programs to ensure that communities already confronting health inequities – especially low-income neighborhoods and communities of color – are not targets of additional pollution. Cap-and-trade should not exacerbate existing problems and should provide adequate safeguards to protect community health.

In addition, as the planning and implementation efforts for cap-and-trade move forward, the public health community must weigh in on how the revenues generated by this program will be used. The first priority must be to ensure that sufficient funds are available to implement projects that reduce overall pollution levels in overburdened local communities. These revenues must be used to support programs that improve health conditions and protect those who will be most impacted by climate change. Adequate funding must also be designated to support public health engagement in climate change adaptation and mitigation planning.

There are four broad categories where public health concerns interplay with economic considerations. These include:

- 1. The cost of doing nothing.** If rapid and significant changes are not made to our industrial, agricultural, land use, and transportation sectors to reduce greenhouse gas emissions, climate change is projected to have a catastrophic impact on both the global economy and individual health. Rising sea levels, severe storm events, water shortages, and population displacement will result in unprecedented shocks to our physical infrastructure, health care systems, and economic markets.
- 2. Market-based incentives.** The use of market-based instruments – such as investment tax credits, tradable permit systems, and product deposit refunds – can be used to encourage a shift away from fossil fuels use to energy and transportation systems that are carbon neutral and improve health outcomes. For example, financial inducements can be used to further renewable energy development and support smart growth land use planning that will reduce greenhouse gas emissions as well as create healthier communities by improving air quality and increasing active transport opportunities (biking and walking).

- 3. Global warming fees or taxes.** New costs associated with pollution will discourage undesired activities and generate funds to reinvest in the health of our communities. By imposing a cost on climate pollution, consumers and businesses will begin to alter their behavior to avoid this expense. Revenue generated through carbon fees and other economic disincentives can be used to fund programs to prepare for the health risks related to climate change and provide necessary safeguards to our most vulnerable populations.
- 4. Cap-and-trade.** If structured properly, this proposed new economic system could lower greenhouse gas emissions and generate significant revenue to fund climate change mitigation and adaptation programs. However, a cap-and-trade approach could result in negative impacts on communities that are already unequally burdened by poor environmental conditions and poor health. The program must be structured to achieve real improvements in air quality and health conditions in these communities while creating significant decreases in greenhouse gases.

Partnerships: Building relationships and bringing thought leaders together

Public health professionals and advocates will play an important role in educating local and state policy makers about strategies to create market-based programs that impact climate change and improve community health. Public health leaders are trusted voices that can provide insight and even inspiration to elected officials as they grapple with spreading effects of climate change, decreasing health and well-being of residents, and dire economic realities. Building advisory relationships with decision makers will enable public health priorities and perspectives to be more fully integrated into the development of market-based programs addressing climate change.

In addition, public health will want to utilize its well-developed partnerships with community members to educate them about the proposed market-based climate change programs and how these strategies could impact them – both positively and negatively. Public health will also want to expand its existing relationships with social and environmental justice organizations to help local communities ensure that necessary measures to protect health are included in market-based strategies and that a significant portion of the revenues generated by these programs are distributed to improve community health.

Potential solutions: Exploring economic drivers to motivate healthy behaviors

There are numerous approaches to creating economic incentives or disincentives that will result in reduced greenhouse gas emissions and improvements in overall public health. A partial list would include:

- Fees and taxes imposed on activities that negatively affect both climate change and public health. For example:
 - Vehicle usage fees could be assessed – such as parking fees, road tolls, congestion pricing, and/or a fuel tax – which would make it more costly to drive. This would result in a decreased number of car trips with a correlated decline in greenhouse gas emissions and improvement in air quality and respiratory health. In addition, it would spur an increase in the use of alternative transportation modes such as public transit, cycling, and walking, leading to greater physical activity levels and improved health.
 - Agricultural fees could be levied – on meat production and use of petrochemical inputs, for example – to provide financial disincentives for activities that produce greenhouse gases, harm groundwater and air quality, or otherwise harm human health. These fees would generate revenue that could be used to mitigate the negative environmental impacts of these practices.
- Reformulated subsidies to eliminate economic incentives that exacerbate the causes of climate change and poor health such as the current formulation of the federal Farm and Transportation bills. Instead, financial support should promote activities that will improve health outcomes while creating sustainable energy, transportation, and agricultural systems.
- Incentives that promote smart land use planning to create healthy communities. Financial support and in-kind services should be provided to those builders and developers whose proposals will result in greenhouse gas reductions and improvements in health. These would include infill development projects and transit oriented developments. Incentives could include financial assistance in the form of loans or grants; infrastructure improvements and site preparation; and expedited or streamlined permitting processes.

Practical strategies: Ensuring equitable implementation of the cap-and-trade system

Because it appears that a cap-and-trade system will be pursued at the state, regional, and perhaps even federal or international level, public health advocates must be actively involved in the planning process to ensure protections for the most vulnerable populations and communities. Key requirements to safeguard health and improve community well-being include:

- Creation of a cap-and-trade system that does not result in greater pollution in low-income communities and communities of color that already bear the brunt of industrial emissions. A public process must be developed to identify communities most at risk for exposure to more pollution.
- Auctioning all greenhouse gas allowances at the outset of the cap-and-trade system. These funds should be used in part to compensate communities that are negatively affected by the trades. In addition, funds should be made available to support climate change mitigation and adaptation strategies that improve public health.
- Conducting Health Impact Assessments (HIAs) prior to approval of proposed cap-and-trade systems to evaluate the potential health effects on local communities. In addition, HIAs should be performed after the implementation of a trading system to assess the health impacts in those communities abutting industrial facilities that have purchased carbon credits to monitor the health of local populations.

Conclusion

Momentum is building for broader public health engagement in climate change planning and policy making. The public health community recognizes the important skills and perspectives it could bring to this process. In addition, others are discovering that public health advocates and leaders will make effective allies in promoting climate mitigation strategies that require institutional and individual change.

Public health advocates have a unique and important opportunity to articulate a health-based climate change strategy that will both improve health outcomes *and* reduce greenhouse gas emissions. It is through the promotion and implementation of this integrated approach that public health will make its most valuable contribution to climate change policy.

This plan is an initial articulation of the co-benefit strategy, complete with practical action steps to build on existing public health practice. Public Health Law & Policy looks forward to collaborating with its longstanding public health partners and its newfound climate change colleagues to pursue the further development of this important approach.

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