

Adaptation Strategies and Actions

The Public Health Climate Change Adaptation Work Group, in concert with the Department of Public Health, has identified the following priorities for public health adaptation for climate change. The near-term actions referenced below are those identified actions which can be initiated by 2010 (contingent on available and sustained funding). The long-term actions include those recommended actions that will require support from the state and collaboration with multiple state agencies and are identified as cross-sector strategies.

Strategy 1: Promote Community Resilience to Reduce Vulnerability to Climate Change.

Near-Term Actions:

- a. **Promote Healthy Built Environments** – CDPH should continue working in collaboration with local health departments, community based organizations (CBOs), and other state and local planning and transportation agencies to improve community planning and design to promote healthy living, and to balance integration of social, economic and environmental concerns. CDPH should identify mechanisms to institutionalize the consideration of health in local and regional land use and transportation decision-making in, for example, local general plans, regional transportation plans, or CEQA guidelines, and through the use of Health Impact. CDPH should develop guidelines for health impact assessment, for use by local health departments and other agencies.
- b. **Identify and Reduce Health Vulnerabilities** -- CDPH should provide tools for use by local health departments, other agencies, and CBOs to identify and reduce climate-related health vulnerabilities. For example, community wide assessments could identify the homes occupied by disabled persons and seniors, assess the safety, energy and water use efficiency of these homes, and modify or retrofit homes, for example weatherproofing, energy efficient appliances, and shade cover. Identification of urban heat islands could lead to targeted efforts to increase shading and reduce heat-reflecting pavement through,³⁶ for example, expansion of parks and community gardens. Increased efforts to reduce air pollution in “toxic hot spots” would also decrease vulnerability to the health effects of increased air pollution with rising temperatures.
- c. **Food Security and Quality**– CDPH should work in partnership with USDA, CDFA, and CDSS to maintain commitment to healthy foods and nutrition programs that improve access to healthy foods in low-income communities. CDPH should partner with Local Health Departments and CBOs to promote healthy sustainable local food systems through working for consideration of healthy food access in agricultural, land use, and other policies (e.g., zoning to allow farmers markets, incentives for farm to school/business/consumer, community and school gardens, and strong state support for programs such as Women, Infants and Children (WIC), SNAP-Ed, etc). CDPH should partner with CDFA and local health and environmental agencies to enhance capacity for surveillance and response for food-borne illness outbreaks.

Long -Term Actions:

- d. **Food Sustainability** – CDPH should promote sustainable local food systems to reduce reliance on food that requires a high amount of “vehicle miles traveled”. This could be done through supporting projects with mutual partners and/or through media/outreach campaigns, such as school and community gardens, peri-urban “ring” agriculture, farmland preservation, etc. CDPH should consider working in conjunction with the Natural Resources Agency and the CDFA to discuss/to develop a work group on food and climate change to assure the implementation of sustainable food practices, and policies including promoting a wider range of organic and local foods to California residents and California programs

- e. **Reduce Heat Islands** – CDPH should partner with academia, local, state and federal agencies, and other climate change experts to identify urban heat islands, and work with state and federal agencies such as CAL FIRE, USFS Urban Forestry Program and DPR (Department of Parks and Recreation), and community partners to increase ground cover and shading by expanding urban forests, community gardens, parks, and native vegetation-covered, as well as open spaces.
- f. **Support Social and Community Engagement** – The experience of Hurricane Katrina suggests how important neighbors and local support networks can be in response to climate emergencies and in rebuilding after disasters. Community-based approaches will be more likely to result in meeting the needs of all communities, rather than top down approaches administered at the state level. CDPH should incorporate concepts of social and community engagement into its work with local health departments and CBOs, and develop climate change communication tools and messages that promote active community engagement, to build resilient communities, identify vulnerable populations, and promote social support networks.
- g. **Health Access** – State departments and agencies that have a direct role in health access (e.g., Department of Health Care Services, MRMIB, Department of Managed Health Care, and CDPH) should promote increased access to health care, in order to ensure that at-risk populations are prepared for gradual and extreme climate change events. .

Strategy 2: Educate, Empower and Engage California Citizens, Organizations and Businesses to Take Actions to Reduce Individual and Community Vulnerability to Climate Changes through Mitigation and Adaptation.

Near -Term Actions:

- a. **Educational Outreach Campaign** – Incorporate climate change and public health messages into existing education and media outreach efforts. Develop diverse educational materials for diverse populations (e.g., vulnerable communities, school-age children, business, and labor) that focus on the health impacts of climate change. Conduct focused outreach to clinicians and the health sector about the health impacts of climate change, actions the health sector can take to mitigate and adapt to climate change, and prevention and management of climate-related illnesses (e.g., heat illness). Utilize existing resources to disseminate climate-related health information (e.g., bepreparedcalifornia.ca.gov., public health advisories).
- b. **Specific Outreach to Vulnerable Populations** – Identify dissemination networks (e.g., CBOs, local government, philanthropic organizations) that can reach vulnerable populations (e.g., outdoor workers and their employers, residents in urban heat islands, asthmatics, immigrants with literacy/language needs) and provide them with information on what they need to know about the risks of climate change, and what they can do to address them, both individually and at the community and state levels.

Long-Term Actions:

- c. **Proactive Social Marketing Campaign** – CDPH should encourage and participate in partnerships with local, state and federal agencies, business, and NGOs to develop coordinated social marketing campaigns to reduce greenhouse gas emissions and implement climate adaptation strategies; these campaigns should support local efforts and empower communities to act on their own behalf to minimize the health impacts of climate change.

Strategy 3: Identify and Promote Mitigation and Adaptation Strategies with Public Health Co-benefits.

Near -Term Actions:

- a. **Identify and Prioritize Strategies with Co-benefits** – CDPH should identify public health and climate change mitigation and adaptation strategies that offer health and climate co-benefits; strategies with co-benefits should be prioritized. For example, community design (“smart growth”) that promotes walking and bicycling to increase physical activity and decrease motor vehicle greenhouse gas and toxic pollutants. When possible, adaptation strategies that increase health risks and/or greenhouse gas emissions should be avoided. (e.g. promoting air conditioner use without changes in electricity production reliance on fossil fuel combustion). Strive to institutionalize the inclusion of public health considerations in all applicable climate change policies.

Strategy 4: Establish, Improve and Maintain Mechanisms for Robust Rapid Surveillance of Environmental Conditions, Climate-related Illness, Vulnerabilities, Protective factors and Adaptive Capacities.

Near -Term Actions:

- a. **Monitor Outcomes at State and Local Level** – CDPH should work with local health departments and the health care services sector to increase capacity to monitor the climate related deaths and illnesses associated with heat-related and other events, as well as other climate related illnesses, environmental risks, vulnerabilities, protective factors, and adaptive capacities. Maintain operation of the California Environmental Health Tracking Program, and incorporate the climate health indicators recommended by the Council of State and Territorial Epidemiologists.
- b. **Environmental Contaminant Biomonitoring** – CDPH and Cal/EPA (California Environmental Protection Agency) should encourage the development of the existing California Environmental Contaminant Biomonitoring Program to determine the level of contaminants in California residents to help reduce baseline illness and increase community resiliency.
- c. **Water Accessibility Information** – Maintain and upgrade the existing Safe Drinking Water Information System, which provides information about public water systems and their violations of EPA's drinking water regulations regarding maximum contaminant levels, treatment techniques, and monitoring and reporting requirements, in order to ensure safe and reliable public water resources.
- d. **Heat Warning Systems** – Work with the CDPH Emergency Preparedness Office EPO, CalEMA, and local health and emergency response agencies to develop heat warning systems for regions of the State that have not yet adopted them. These systems should be coupled with existing heat emergency response plans.

Long -Term Actions:

- e. **Electronic Surveillance Systems** – The CDPH should continue actions to improve disease reporting, management and surveillance by replacing the current paper based system with a secure electronic system, (CDC is exploring ways to develop rapid surveillance by coordinating with larger entities such as the Regional Health Information Organizations (RHIOs) and Health Information Exchanges (HIE).
- f. **Expand the Electronic Death Reporting System** for the continuous monitoring of abnormal death patterns, asthma, and heat deaths. Actions should be taken to consider mandatory reporting of climate-sensitive morbidity and mortality.

- g. **Emergency (Event) Monitoring** – Build a real-time data collection system for the daily monitoring of emergencies based on daily hospitalizations data, emergency department care, and diagnostic, laboratory, and prescription information.

Strategy 5: Improve Public Health Preparedness and Emergency Response

Near -Term Actions:

- a. **Preparedness Response** – CDPH and local health departments should refine existing emergency preparedness plans and conduct exercises to augment preparedness for events likely to increase with climate change (e.g., heat waves, wildfires, floods), and should develop plans for anticipated impacts such as sea level rise, saline intrusion into drinking water, etc. Public health agencies should also be prepared for the more frequent occurrence of severe heat events in geographic areas where they have previously been very rare (e.g., coastal areas). Formally request the Centers for Disease Control and Prevention to incorporate climate change response and preparedness as an acceptable use of federal funds for public health preparedness.

Strategy 6: Work in Partnership with Multiple Agencies (e.g., Environmental, Agricultural, Transportation, and Education at Local, State and Federal levels, as well as Business, Labor, Schools and Community-based Organizations).

Near -Term Actions:

- a. **Institutional Capacity** – CDPH should work with appropriate state and local agencies to expand training and education to build capacity to respond appropriately to the public health risks of climate change. Institutional capacity needs should be addressed in local health departments, health and social services providers, and mental health agencies (e.g. for post-disaster recovery).

Strategy 7: Conduct Research to Enable Enhanced Promotion and Protection of Human Health in Light of Climate Change.

Near -Term Actions:

- a. **Vulnerability Assessments** – CDPH should conduct detailed vulnerability assessments for all the leading climate-change health outcomes (e.g., heat morbidity, valley fever, flooding, wild fires) utilizing locally scaled-down emergency and environmental shift scenarios, including assessments of impacts on vulnerable populations and cumulative impacts, and risk and resilience factors.
- b. **Research Collaboration:** – CDPH should encourage the California Energy Commission PIER program to devote more substantial attention to a public health research agenda. CDPH should develop a closer working relationship with the University of California and other universities and NGO's involved with climate change analysis and impacts, and provide greater input to federal agencies conducting climate change research to increase funding and focus on public health impacts.

Long -Term Actions:

- c. **Assess Local Impacts of Climate Change on Health** – Apply downscaled climate change predictions and modeling to provide analysis of anticipated local impacts on health.

Strategy 8: Implement Policy Changes at Local, Regional and National Levels.

Near -Term Actions:

- a. **Policy Collaboration:** Work with stakeholders to develop federal and state policies to implement adaptation strategies that reduce public health risks related to climate change.
- b. **Occupational Safety Standards** – Advise and revise occupational health and safety standards to identify occupations at risk due to climate change.

Long -Term Actions:

- c. **Model Policies & Training** – Identify model adaptation policies for local communities, and provide supportive training and technical assistance to facilitate implementation.
- d. **Public Engagement** – Initiate the engagement of all sectors of government, thereby including public health issues in all climate change policies they that offer possible co-benefits for climate change adaptation.

Strategy 9: Identify, Develop and Maintain Adequate Funding for Implementation of Public Health Climate Adaptation Strategy.

Near -Term Actions:

- a. **Funding Mechanisms** – Develop a comprehensive funding strategy for public health adaptation strategies that utilize a broad range of funding strategies including fees, taxes and grants. Funds should be allocated to both statewide and local efforts, and specifically to local health departments.

Long -Term Actions:

- b. **Funding Mechanisms/AB32** – Develop proportional funding proposals for public health research, adaptation and climate resiliency education that addresses Environmental Justice, and is based upon market mechanisms such as carbon auctions and carbon trading.