Climate Action for Health, Equity & Community Resilience

Linda Helland, MPH, CPH | Chief
Dan Woo, MPH, MS | Team Lead
Climate Change & Health Equity Section
Office of Health Equity
California Department of Public Health

Scoping Plan Public Health Workshop
February 15, 2022
Climate Change Is The Greatest Threat To Public Health, Top Medical Journals Warn

September 7, 2021 · 5:01 AM ET

The Washington Post  October 20, 2021  Updated October 21, 2021 at 11:25 a.m. EDT

Inaction on climate change imperils millions of lives, doctors say
Top medical journal warns that rising temperatures will worsen heat and respiratory illness and spread infectious disease

The 2021 report of the Lancet Countdown on health and climate change: code red for a healthy future

https://www.lancetcountdown.org/2021-report/

“Where climate threats collide with forward leaning health practices and policies that visibly turn the tide toward community resilience.”

THE CALIFORNIA BLUEPRINT

CALIFORNIA’S EXISTENTIAL THREATS
1. Fighting COVID with Science
2. Combating the Climate Crisis
3. Confronting Homelessness
4. Tackling the Cost of Living
5. Keeping our Streets Safe

California’s Health & Human Services Agency
Pollution & Increasing Allergens
Asthma, allergies, cardiovascular and respiratory diseases

Extreme Heat
Heat-related illness and death, cardiovascular failure

Drought
Water supply impacts, dust storms, Valley Fever

Environmental Degradation
Forced migration, civil conflict, loss of jobs and income

Wildfires & Wildfire Smoke
Injuries, fatalities, loss of homes, cardiovascular and respiratory diseases

Degraded Living Conditions & Social Inequities
Exacerbation of racial and health inequities and vulnerabilities, loss of employment

Changes In Vector Ecology
Lyme disease, West Nile Virus, hantavirus, malaria, encephalitis

Food System Impacts
Malnutrition, food insecurity, higher food prices, foodborne illness

Severe Weather & Floods
Injuries, fatalities, loss of homes, indoor fungi and mold

Water Quality Impacts
Harmful algal blooms, campylobacteriosis, cryptosporidiosis, leptospirosis

IMPECTS OF CLIMATE CHANGE ON HUMAN HEALTH

Rising Temperatures
Rising Sea Levels
Increasing GHG Levels
More Extreme Weather
Stress, anxiety, depression, sense of loss, post-traumatic stress disorder, strains on social relationships

CDPH (Adapted from CDC, J. Petz)
Confluence of Climate Change Impacts
California Climate & Health Impacts: EXTREME HEAT

Emergency department visits due to heat, California, Age-adjusted rate per 100,000, 2005-2019

Number of Heat-Related Deaths, 2005-2019, California

TrackingCalifornia.org
California Climate & Health Impacts: WILDFIRES & SMOKE

Wildfire Fatalities, California, 2008-2020

Source: CalFIRE

Heavy, Medium, and Light Wildfire Smoke Exposures in California | June 01 2010 - September 12 2021

Wildfire Smoke Exposure ( Millions of Persons Under Smoke Plumes)

California Climate & Health Impacts: INFECTIONOUS DISEASES

Valley Fever Cases and Incidence Rates by Year of Estimated Illness Onset, California, 2001-2019

Source: 2019 Valley Fever Epidemiologic Summary Dashboard (ca.gov)
Reported West Nile virus human cases, California, 2010-2020

Source: Westnile.ca.gov | California West Nile Virus Website

Source: CDPH IDB Yearly Summaries of Selected Communicable Diseases in California, 2011 to 2019
CLIMATE CHANGE IS ALREADY HARMING HUMAN HEALTH.

PEOPLE FACING INEQUITIES HURT FIRST AND WORST.
Doctors put a price tag on the annual health impacts of climate change. It’s $820 billion. And that’s an underestimate.

“[K]iller heat waves could add more than 11,000 heat-related deaths a year by 2050 in California, and carry an estimated $50 billion annual price tag.”

How Climate-Related Health Costs Add Up:

- **Premature deaths** (e.g., from heat waves, wildfires, smoke, etc.)
- **Medical care** for treatment of physical and mental health conditions (e.g., injuries, PTSD after a disaster)
- **Rehabilitation** and **home health care**
- **Prescription medications**
- **Lost wages** and **worker productivity**
- **Downstream health costs** (e.g., delayed care, homelessness)

Climate action can result in **significant health cost savings.**
Equity mechanisms:

- Prioritized financial incentives, investments, or resources
- Higher levels of service
- Facilities
- Capacity building or training
- Jobs
- Decision-making power

“Cash, capacity, control”
A Low-Carbon, Climate-Resilient Community is...

- Healthy, energy efficient, & affordable housing!
- Clean air, green spaces for recreation!
- Urban and community greening to keep cities cool.
- Where there are good jobs, and safe neighborhoods.
- Healthy built environment including walkable & bikeable communities!
- Kids have safe places to play and learn.
- Access to affordable, healthy foods.
- Where people know and care for one another.

A Healthy, Equitable Community

Images adapted from ChangeLab Solutions http://www.changelabsolutions.org/publications/HiAP_Collaborative-Health
Linking Emissions Reduction & Climate Adaptation

EMISSIONS REDUCTION SCENARIOS

1.5°C
Low emissions scenario

2°C
Moderate emissions scenario

3°C
High emissions scenario

4°C
Adaptation insufficient to reduce risk

CLIMATE RISK LEVEL

Very high
High
Moderate
Undetectable

Adapted from 2021 UNEP Adaptation Gap Report
Public Health: Trusted Messengers & Ready to Address Climate Change

- **Protecting health is the top reason** Americans select for supporting climate solutions (EcoAmerica):
  - 76% motivated by health
  - 71% motivated by good paying jobs
- **68% of Americans trust health professionals** for information on climate change
- Local health departments and other public health partners are **eager to participate in climate change planning** to simultaneously reduce emissions and increase health and equity

Climate Impact Regions
- North
- North Coast
- Bay Area
- Central Coast
- Northern Central Valley
- Southern Central Valley
- Northern Sierra
- Southeast Sierra
- South Coast
- Desert
- Bay-Delta Region

Sources: CA Natural Res Agency

Vulnerability
California Counties based on levels of both an exposure variable and a population sensitivity variable.

The plot illustrates the intersection of hazard (from an aspect of climate change) and vulnerability (from circumstances of the population or place that tend to increase susceptibility to the hazards of climate change). Counties are aligned to the bottom (least), middle, or top (most) third for both exposure and sensitivity. The most vulnerable counties are in the top and right-most portion of the figure. Points are sized according to the population living in that county. Hover over points for the county name, population, and indicator values.

Some examples of important combinations to consider:
- Heat + elderly
- Air pollution
- Wildfire smoke
- Indoor flooding
- Sea level rise

Combined Vulnerability from Exposure (Projected number of extreme heat days) and Sensitivity (Percent of population aged 65 years or older)

Actions & Tools to Address Climate Change & Health Equity
Meeting 2017 Scoping Plan’s 2030 Scenario: 4x Walking & Transit; 9x Cycling:

Typical CA resident replaces short car trips by increasing current levels of weekly walking and cycling from 41 to 181 minutes.

- Annual increase of 790 fatal injuries to pedestrians and cyclists – underscoring continued need for active travel safety measures
- Projected annual health benefits valued between $8 billion and $108 billion

11,307 fewer chronic disease deaths and 157,958 “disability-adjusted” years of life gained annually

Less car driving would improve air quality and prevent 19 additional deaths annually

Replacing short car trips with walking, cycling, and transit would also decrease annual car carbon emissions by 10 MMT

*Quantified health benefits produced by the California Healthy Mobility Options Tool, using the CARB 2017 Scoping Plan Update (2030) model scenario and expected California population and disease trends for the year 2030.
The California Healthy Places Index (HPI) 

HPI Score: 7.3 Percentile

This tract has healthier community conditions than just 7.3% of other California census tracts.

Tract information
Zip Code: 95822
Census Tract FIPS: 06067004100
Population: 5,015

Policy Action Areas are ordered by their contribution to the overall HPI Score:
- Economic
- Education
- Transportation
- Social
- Neighborhood
- Healthcare Access
- Housing
- Clean Environment

http://healthyplacesindex.org/
# Climate Actions to Improve Public Health, Equity, and Community Resilience

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<th><strong>Emissions Reduction Strategy</strong></th>
<th><strong>Health Determinants Potentially Affected</strong></th>
<th><strong>Health Conditions Potentially Improved</strong></th>
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<tbody>
<tr>
<td>Parks &amp; Greening</td>
<td>Physical activity, heat, noise, air pollution, social cohesion</td>
<td>Cardiovascular, respiratory, heat-related illness, mental health, hearing</td>
</tr>
<tr>
<td>Housing &amp; Buildings (affordable housing, residential stabilization, weatherization, green buildings)</td>
<td>Housing availability, quality, ‘heat or eat dilemma’, exposure to pests, hazards, and toxins, commute times &amp; modes</td>
<td>Mental health, cardiovascular, respiratory, injuries, poisonings, cancer, infections, headaches, heat-related illness</td>
</tr>
<tr>
<td>Land Use &amp; Transportation</td>
<td>Physical activity, access to healthy foods, commute times &amp; modes, safety, air quality</td>
<td>Cardiovascular, cancer, osteoporosis, respiratory, mental health, injuries, birth outcomes</td>
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<tr>
<td>Green Jobs &amp; Economic Development</td>
<td>Employment, working conditions, stress, economic security, wealth inequality</td>
<td>Occupational illnesses/injuries, mental health, life expectancy, overall health</td>
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<tr>
<td>Reducing Co-Pollutants of GHGs</td>
<td>Air quality</td>
<td>Cardiovascular, respiratory, heat-related illness, birth outcomes, cancer</td>
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<tr>
<td>Community Engagement</td>
<td>Social cohesion, power, self-efficacy, policy/economic changes, living conditions</td>
<td>Mental health, overall health, health inequities</td>
</tr>
</tbody>
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Key Take-Aways

• Health is determined primarily by **social determinants of health**:  
  ▪ Living conditions – physical, social, economic environments; access to services and resources (structural racism, income/jobs, housing, transportation, decision-making power)

• Climate change **disproportionately harms those facing inequities**

• Carbon neutrality is necessary to **avoid the worst health impacts of climate change**

• Climate change policies affect social determinants of health, and represent a significant opportunity to advance public health, equity, and community resilience
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Linda.Helland@cdph.ca.gov
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Thank You!