Climate Change & Health Equity: 2016 Activities and Looking Ahead

Climate Change & Health Equity Program
Policy Unit, Office of Health Equity
California Department of Public Health

CAT-PHWG Quarterly Meeting, CalEPA, Sierra Hearing Room
February 1, 2017

Participation Options

• WebEx functions

• Audio / Teleconference Line:
  ▪ (888) 204-5984
  ▪ Passcode: 6205934

Unmute / Mute: Press *6
(press once to turn on & again to turn off)
Agenda & Presentation Slides

• Available for download on the CAT-PHWG “meetings” webpage:

https://www.arb.ca.gov/cc/ab32publichealth/meetings/meetings.htm

(Or search: “AB 32 Public Health Workgroup Meetings”)

Introduction – CDPH

• Welcome

• Overview of CDPH Climate Change and Health Equity Program

• Attendees (on-site)

• Meeting Agenda
2030 Target Scoping Plan Update: Public Health Analysis
Climate Change & Health Equity

Dan Woo, MPH, MS, LEED AP
Climate Change & Health Equity Program
Office of Health Equity
California Department of Public Health
Everyone has what they need

**Equity**
Everyone has what they need

**Equality**
Everyone has the same

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**Health Inequities**

Stockton 95202
Life Expectancy
73

Irvine 92606
Life Expectancy
88

Source: The California Endowment / www.calendow.org
Addressing the Causes of the Causes

Human Health Impacts of Climate Change

- Environmental Degradation: Forced migration, civil conflict, mental health impacts, loss of jobs and income
- Extreme Heat: Heat-related illness and death, cardiovascular failure
- Severe Weather: Injuries, fatalities, loss of homes, mental health impacts
- Water & Food Supply Impacts: Malnutrition, diarrheal disease
- Degraded Living Conditions & Social Inequities: Exacerbation of existing social and health inequities, and vulnerabilities
- Changes in Vector Ecology: Malaria, dengue, encephalitis, hantavirus, Rift Valley fever, Lyme disease, chikungunya, West Nile virus
- Air Pollution & Increasing Allergens: Asthma, cardiovascular disease, respiratory allergies
- Water Quality Impacts: Cholera, cryptosporidiosis, Campylobacter, leptospirosis, harmful algal blooms
Climate Change & Health Inequities

- Climate change will impact all people, but the most vulnerable will suffer the most
- Climate change will magnify existing health inequities
- Climate change is a threat multiplier, amplifying existing risks

Achieving Health Equity through Climate Action
Achieving Health Equity through Climate Action

Transportation and Physical Activity

- Promote active transportation
- Address chronic diseases

Integrating Transport & Health Impacts Model (ITIHM)

Physical Activity

Travel Survey
Health Survey
Vehicle Emissions Model
Air Shed Model
U.S. Census
Scenarios

Traffic Injuries

Travel Demand Model
Traffic Collisions
Health Statistics

Health Outcomes, CO2, Costs

Air Pollution

Scenario vs. BAU
   • Double walking and transit and triple bicycling by 2020

2. Active Transport 2030 (AT2030)
   • Quadruple walking and transit and increase bicycling 9-fold by 2030

   • Increase active transport so that 50% of California adults get 75 minutes of weekly physical activity from active transport

   • Increase active transport so that 50% of California adults get 150 minutes of weekly physical activity from active transport

### Daily Active Travel Times and Distances

**Time**

- Baseline: 2.3 minutes
- CSMP2020: 4.9 minutes
- USSG 50%: 10.7 minutes
- AT2030: 11.0 minutes
- USSG 100%: 21.4 minutes

**Distance**

- Baseline: 0.3 miles
- CSMP2020: 0.7 miles
- USSG 50%: 1.9 miles
- AT2030: 1.6 miles
- USSG 100%: 5.0 miles

Daily Active Travel Times and Distances for a Typical Californian by Active Transport Scenario.
### Health Impacts of Active Transport Scenarios

<table>
<thead>
<tr>
<th>Disease</th>
<th>Change in disease burden*</th>
<th>Annual change in premature deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular Dis.</td>
<td>2–11%</td>
<td>1,133 – 5,555</td>
</tr>
<tr>
<td>Diabetes</td>
<td>3–13%</td>
<td>190 – 789</td>
</tr>
<tr>
<td>Depression</td>
<td>1–4%</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Dementia</td>
<td>3–7%</td>
<td>488 – 1,288</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>1–3%</td>
<td>36 – 112</td>
</tr>
<tr>
<td>Colon Cancer</td>
<td>1–4%</td>
<td>48 – 174</td>
</tr>
<tr>
<td>Road traffic crashes</td>
<td>8–24%</td>
<td>254 – 690</td>
</tr>
</tbody>
</table>

* Range reflects range of physical activity in scenarios (CSMP2020 vs. USSG 100%)

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### Fatal and Serious Road Traffic Injuries

#### Annual Number and Rate per Mile Travelled of Fatal and Serious Road Traffic Injuries by Victim Mode and Active Transport Scenario, California

- **Baseline**, **CSMP2020**, **USSG 100%**
- **Number**
- **Rate per 10 Million miles**
DALYS BY ACTIVE TRANSPORT SCENARIO & REGION

Annual Number and Percentage of DALYs by Active Transport Scenario and Region, California (Editorial – has equity implications)

San Francisco Bay Area counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma
Southern California: Imperial, Los Angeles, Orange, Riverside, San Bernardino, Ventura
San Joaquin Valley: Fresno, Kern, Kings, Madera, Modesto, Stanislaus, San Joaquin, Tulare
Sacramento Area: El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba

-30,124 DALYs

-142,101 DALYs

MONETIZED VALUE OF LIVES SAVED & DALYS REDUCED

Annual Monetized Value of Change in Deaths and DALYs by Active Transport Scenario and Method, California
CAR CARBON EMISSIONS BY ACTIVE TRANSPORT SCENARIO

Annual Car Carbon Emissions (Million Metric Tons CO2 eq.) by Active Transport Scenario, California

* Emissions factor and population held constant at 2010 to assess independent effect of active transport on car VMT reduction (50% substitution)

CHANGE IN BURDEN OF DISEASE & INJURY (DALYS)

Annual Change in the Burden of Disease and Injury (DALYs) by Source of Health Benefit/Harm by Active Transport Scenario, Bay Area
Active transportation that replaces vehicular trips and reduces VMT, can significantly improve overall health, prevent or reduce the risk of developing many chronic conditions, reduce billions per year in statewide health care costs, and cut GHG emissions.

- **Disease reductions**
  - 3-13% of heart disease, stroke, and diabetes
  - 1-4% of depression
  - 3-7% of dementia
  - 1-3% of breast cancer
  - 1-4% of colon cancer

- **Injuries**
  - 8-24% of injuries to pedestrian and bicyclists

**SUMMARY OF FINDINGS**

- **Major public health impact**
  - USSG100% scenario: increases per capita active transport to 21.4 min/day:
    - 8,057 fewer annual deaths
    - 142,101 fewer years of life lost and disability
  - Monetary value of health co-benefits range from $1 - 15 billion (CSMP2020) to $5.7 – 59.6 billion (USSG100%)

“Achieving mobility and health goals would constitute a major public health accomplishment on par with California's successful efforts at tobacco control.” (Maizlish, 2016)
Achieving Health Equity through Climate Action

Transportation and Physical Activity

- Strategies to increase active transportation
- Implications for advancing health equity

Achieving Health Equity through Climate Action

Land Use and Community Development

- Prioritize compact, infill and transit-oriented development and include necessary anti-displacement measures
Achieving Health Equity through Climate Action

Natural and Working Lands

• Encourage local food systems and healthy diets
• Support sustainable natural and working lands

Achieving Health Equity through Climate Action

Urban and Community Greening

• Green the built environment – provide access to trees, parks, and green spaces
Homes and Buildings

- Create healthy, energy-efficient, and sustainable homes, schools, and buildings

Community Engagement in Decision-Making
Achieving Health Equity through Climate Action

Climate Mitigation Policy Priorities – Health & Equity Co-Benefits:

• Direct our climate investments to reduce income inequality and poverty, and promote economic development and health equity

• Prioritize creation of stable, permanent, living-wage jobs and employment training for local residents

Public Comments & Participation

• Scoping Plan Update
  – Public Comment Period:
    Deadline: March 6, 2017, 5:00 PM PST
    *Submit comments online or at meetings
  – Public Workshop:
    Thursday, February 9, 2017, 10 AM – 4 PM
    CalEPA Byron Sher Auditorium
    1001 I Street
    Sacramento, CA
  – Air Resources Board Meeting:
    February 16-17, 2017
    https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm
2030 Target Scoping Plan Update:
Public Health Analysis
Climate Change & Health Equity

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Public Discussion

Questions to Consider:
• What are some of the health and equity impacts you are experiencing in your communities?
• What are some barriers in advancing health and equity in your communities?
• How can we address these impacts through climate action in your communities?
• How can the State support your efforts to achieve health and equity while addressing climate change?
Integrating Health Equity into State Policy:
B-30-15 Equity Checklist for State Agency Infrastructure & Investments

Climate Justice Collaborations
What is Safeguarding California?

Safeguarding California is the state climate adaptation planning guide. This guide details the risks and vulnerabilities in ten sectors of California’s economy. The guide also includes actions, both current and forthcoming, to address them.

The ten California sectors included in Safeguarding California are:
- Agriculture
- Biodiversity and Habitat
- Energy
- Emergency Services
- Forestry
- Land Use and Community Development
- Ocean and Coastal Ecosystems and Resources
- Public Health
- Transportation
- Water
Main updates to current version:
• Centered on resiliency framework
• 10 metrics for climate impact and govt. action
• 9 policy recommendations

Measuring Climate Impacts in California

1. Rate of Heat deaths, hospitalizations, and emergency room visits
2. Rate of allergic disease-related hospitalizations and emergency room visits
3. Rate of asthma diagnoses and emergency room visits
4. # Of human cases of reportable vector-borne diseases
5. # Of days with unhealthy air quality across state as aggregate or in an indicator area
## Measuring Government Action to Safeguard Against Climate Impacts

1. # Of local jurisdictions with climate action plans, adaptation plans, general plans, and hazard mitigation plans that address climate, health, and equity for vulnerable populations

2. # Of state agency plans or grant guidance documents that a.) identify populations vulnerable to climate change health impacts, b.) plan to reduce vulnerability through increased provision of resources, services, jobs or technical assistance, and c.) engage vulnerable populations in making decisions about programs, policies or funding.

## Measuring Government Action to Safeguard Against Climate Impacts (cont.)

3. # Of climate change, housing, transportation or land use investment plans or programs that incorporate measures to prevent residential and economic displacement

4. % change in tree canopy or impervious surface coverage

5. # Of low-income and senior housing units receiving weatherization and energy efficiency upgrades.
Policy Recommendations

1. Promote community resilience and health equity to reduce vulnerability to climate change through improving underlying economic, environmental and social conditions

2. Educate, empower and engage California residents, communities, organizations and businesses to take actions to reduce individual and community vulnerability to climate changes through mitigation and adaptation

3. Identify, assess impacts, and promote mitigation and adaptation strategies with public health and equity co-benefits, and assure they do not have unintended consequences for health equity

4. Establish, improve, and maintain mechanisms for robust rapid surveillance of environmental conditions, climate-related illness, vulnerabilities, protective factors and adaptive capacities

5. Improve public health preparedness and emergency response

6. Implement policy changes at local, regional and national levels.
Policy Recommendations

7. Collaborate and partner with multiple agencies and organizations (e.g. Environmental, Agricultural, Transportation, and Education at Local, State and Federal levels, as well as with Business, Labor, Schools, Health Equity, Healthcare, Tribal, Environmental Justice, and Community-based Organizations)

8. Conduct research to enable enhanced promotion and protection of human health and equity in light of climate change. Promote accessibility to the best available data.

9. Identify, develop and maintain adequate funding for implementation of public health climate adaptation strategies.

Tentative Update Timeline

End of February: Natural Resources Agency posts “Discussion Draft for 2017 Safeguarding California Update” on its website

February 28-May 26: Public comment period for “Discussion Draft for 2017 Safeguarding California Update” open

March - May: Public comment meetings held around California for “Discussion Draft for 2017 Safeguarding California Update”

July 1: Projected release date for “2017 Safeguarding California Plan”
What do you think? Let’s discuss:

- Resiliency Framing
- 10 New Metrics
- 9 Policy Recommendations
- Opportunities for Further Engagement

Frank Molina
Climate Change and Health Equity Program Associate
Office of Health Equity
California Department of Public Health
(510) 412-1497
Frank.Molina@cdph.ca.gov

CalBRACE
California Building Resilience Against Climate Effects

- Policy
- Public Health Readiness
- Health Equity
- Local & Regional Tools and Publications
CalBRACE Proposed Activities

- Policy – Safeguarding California
- Public Health Readiness – Extreme Heat
- Health Equity – B-30-15 Guidance for State Agencies
- Local and Regional Public Health Capacity - Technical Assistance, Tools and Publications

Proposed Heat Activity

- Connect State Dept. of Community Services and Development (CSD) to a local health department to pilot a program where the LHD works with vulnerable residents with uncontrolled asthma or other conditions exacerbated by climate change and unhealthy housing, to be prioritized for protective factors such as weatherization, energy assistance, or appliance upgrades.
Proposed Local and Regional Activities

- Work with partners with climate adaptation websites to visualize CalBRACE climate change indicator data at census track level through interactive maps, and in reports and plans.
  - Office of Planning and Research
  - California Environmental Health Tracking Program
  - 4/27 Fourth Assessment project 5A
  - Cal-Adapt
  - California Office of Emergency Services

CalBRACE Proposed Activities

With the California Office of Emergency Services, integrate health equity and climate change adaptation considerations for:

- State Hazard Mitigation Plan Update
- Local Hazard Mitigation Plans or General Plan Safety Elements required by SB 379
- Support jurisdictions with plan language so they are in a position to receive FEMA funds due to a climate change related disaster.
Local Health Department Partnerships

- Building capacity with CivicSpark
- Kings County
- Capital Region Climate Readiness Collaborative
  - Sacramento, Sutter, Yolo, Yuba, El Dorado, and Placer counties
- CalBRACE Assessments
  - UC Berkeley MPH student volunteers
- Training Local Health Department Management Staff
- Outside In SLO

Communicating Climate Change
Public Input to CalBRACE

We welcome your input and ideas or suggestions to develop our work further.

• In person comments
• CalBRACE@cdph.ca.gov
• 510-620-5788

Announcements

• Next Quarterly meeting
  Tuesday April 25, 2017
  1:00 – 3:30pm

• Attendee survey

Please e-mail any questions or feedback to:
CCHEP@cdph.ca.gov
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Thank you!