Public Health Working Group Meeting

March 19, 2020
1:30 p.m. – 3:00 p.m.

Due to public health concerns, please join via web conferencing:
To join the meeting: https://scag.zoom.us/j/326205700
Dial-In: +1 669 900 6833
Meeting ID: 326 205 700

AGENDA

1. WELCOME, SELF INTRODUCTIONS
   Courtney Aguirre, SCAG

2. CALIFORNIA PUBLIC HEALTH ASSESSMENT MODEL (C-PHAM) – LOCAL CASE STUDY
   Larry Frank, Urban Design for Health

3. CALIFORNIA HEALTHY PLACES INDEX (HPI) UPDATE & ATP APPLICATIONS
   Bill Sadler and Helen Dowling, Public Health Alliance

4. CLIMATE CHANGE & PUBLIC HEALTH CONSIDERATIONS
   Elizabeth Rhoades, Los Angeles County Department of Public Health, Environmental Health

5. RANDALL LEWIS HEALTH POLICY FELLOWSHIP- SITE RECRUITMENT
   Courtney Aguirre, SCAG

6. CONNECT SOCAL UPDATES
   Courtney Aguirre, SCAG

TO PARTICIPATE VIA WEB CONFERENCING
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SCAG, in accordance with the Americans with Disabilities Act, is committed to providing special accommodations to those who are interested in participating in the workshop. SCAG is also committed to helping those with limited proficiency in the English language by providing translation services at the workshop in accordance with Title VI of the Civil Rights Act. We ask that you provide your request for special accommodations or translation services at least 72 hours prior to the meeting so that SCAG has sufficient time to make arrangements. For Public Health inquiries, please contact Courtney Aguirre, Program Manager, at aguirre@scag.ca.gov or by calling (213) 236-1990.
California Public Health Assessment Module (C-PHAM)
Developed by Urban Design 4 Health – www.ud4h.com

Dr. Larry Frank, President
Dr. William Bachman, Senior Analyst & Marketing Strategist
Jim Chapman, Managing Principal
Urban Design 4 Health – www.ud4h.com
March 19, 2020
www.scag.ca.gov

• Health module (connected to scenario planning software)
• Planners able to quantify community public health implications of various land use and transportation scenarios.
• Provide health impact estimates at a geographic scale useful for making local, neighborhood-level decisions
• Opens door to add health impact costs to planning process
Quantifying the Pathways


C-PHAM Basics

- Developed using SCAG area health survey results, demographic data and built environmental data
- Module within SCAG's Scenario Planning Model (SPM).
- Geographic unit of analysis
  - SCAG's Scenario Planning Zones (SPZ)
**C-PHAM 2016**

- 2015 -- version 1 created in 2015 to work with the Southern
- Applied to 2016 Regional Transportation Plan (RTP) using a base year of 2012 and a 2040 future year
- 30 counties, 150m grid cell
- Technical advisory committee

<table>
<thead>
<tr>
<th>Adults: Ages 18-64</th>
<th>No Plan</th>
<th>2040 Plan</th>
<th>Glendale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation Physical Activity - Minutes Daily</td>
<td>14.6 min</td>
<td>+ .4%</td>
<td>+ 9%</td>
</tr>
<tr>
<td>Walking - Minutes Daily</td>
<td>12.1 min</td>
<td>+ 33%</td>
<td>+ 10%</td>
</tr>
<tr>
<td>Biking - Minutes Daily</td>
<td>1.6 min</td>
<td>+ 26%</td>
<td>+ 12%</td>
</tr>
<tr>
<td>Auto - Minutes Daily</td>
<td>64.8 min</td>
<td>- 4.4%</td>
<td>- 6%</td>
</tr>
<tr>
<td>Obese Population (%)</td>
<td>26.3%</td>
<td>- 1.3%</td>
<td>- 3%</td>
</tr>
<tr>
<td>High Blood Pressure (%)</td>
<td>21.5%</td>
<td>- 1.2%</td>
<td>- 1%</td>
</tr>
<tr>
<td>Heart Disease (%)</td>
<td>4.4%</td>
<td>- 1.0%</td>
<td>0%</td>
</tr>
<tr>
<td>Diabetes - Type 2 (%)</td>
<td>6.1%</td>
<td>- 1.0%</td>
<td>- 11%</td>
</tr>
</tbody>
</table>

**C-PHAM 2019**

- Updated for SCAG region only
  - California Health Interview Survey (CHIS) 2015–2017
- Age group models (child, teen, adult, senior)
- Changed geographic unit to scenario planning zone (SPZ)
- Travel behavior models unchanged (2012 CHTS)
- Technical advisory committee
Data Requirements (SPZ geography)

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Built Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average age</td>
<td>Walkability index</td>
</tr>
<tr>
<td>Average household size</td>
<td>Transit accessibility</td>
</tr>
<tr>
<td>Average number of vehicles</td>
<td>Regional accessibility</td>
</tr>
<tr>
<td>% female</td>
<td>Park accessibility</td>
</tr>
<tr>
<td>% for each race/ethnicity</td>
<td>Major road index</td>
</tr>
<tr>
<td>% employed</td>
<td>Distance to school</td>
</tr>
<tr>
<td>% renters</td>
<td></td>
</tr>
<tr>
<td>% households with children</td>
<td></td>
</tr>
<tr>
<td>% at each income range (6 levels)</td>
<td></td>
</tr>
<tr>
<td>% disability</td>
<td></td>
</tr>
</tbody>
</table>

Model development methods

- Models developed using California Household Interview Survey (CHIS)
- Code developed by UD4H and submitted to UCLA Data Access Center (DAC)
- Two-part, binary, or Poisson regression models depending on nature of data
- Models developed for Child, Teen, Adults, and Seniors
- Models include type2 diabetes, cardiovascular disease, high blood pressure, obesity, and general health

- Retain CPHAM 1.0 demographic and BE metrics
- Evaluate significance of each individual variable
- Evaluate variables together removing one-at-a-time to achieve strongest model
- Evaluate multicollinearity
- Internal validation (face and cross)
- External validation with BRFSS
- County-level calibration (BRFSS)
Final set of models

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Seniors (65+)</th>
<th>Adults (18–64)</th>
<th>Teens (13–17)</th>
<th>Children (5–12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>any walking for transportation</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>minutes/wk transport walking for those with any</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>any walking for recreation</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>minutes/wk recreational walking for those with any</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>body mass index</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>likelihood of being overweight or obese</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>likelihood of being obese</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>likelihood of having high blood pressure</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>likelihood of having heart disease</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>likelihood of having type 2 diabetes</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>likelihood of having poor self-reported health</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>days/week with at least 60 minutes PA</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>days/week walk or bike to school</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>walk or bike to school at least one day a week</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Case Study – City of Pomona

- Evaluated impact of Connect SoCal on City
- Focus on downtown area -- largest changes in built environment (87 SPZs)
- Increase in residential density, retail/office FAR, and employment accessibility
- Demographics unchanged
- Improved all health outcomes
- No significant changes in areas with unchanged built environment
**Value to existing California communities**

**In SCAG Region**
- Ready source of baseline and Connect SoCal plan health outcomes from SCAG
- Model algorithms developed from California Health Interview Survey participants living in the SCAG area
- Opportunity to extend or expand scenarios with SCAG
- Opportunity to apply models to other custom uses with UD4H

**Outside SCAG Region**
- Model algorithms can be applied to any region that has the input data at similar geographies to the SPZ
- Region specific models can be developed through UD4H using same approach

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**Opportunity to estimate health costs of long range plans**

**Use health modeling tool** like the California Public Health Assessment Model (C-PHAM)

**Use Input–Output model**
- REMI Transight
- IMPLAN
- REDYN

**Use published Cost Of Illness Literature**
- Direct (Healthcare Expenditures)
- Indirect (Productivity)

**2016 Analysis by UD4H/AECOM**
- Greater LA Region
  - $8.41 benefit per $1 invested in active transportation
- From
  - Labor force productivity
  - Reduced health care costs
  - Reduced travel expenditure
  - Increased mobility
  - New construction
Health Related Economic Benefits of Active Transportation Investments

$1 spent returns over $8 in economic growth

$13 billion in active transportation investments will turn into $113 billion in Sales Output.

First study in the world to show monetized benefits of healthy land use.

Urban Design 4 Health (2016). Active Transportation Health & Economic Impact Study. Southern California Association of Governments; Los Angeles, CA.
http://urbandesign4health.com/projects/health-monetization-of-active-transportation

Three Policy Levels

Regional Accessibility

Walkable, Complete Neighborhoods (Macro-scale)

Pedestrian Environment (Micro-scale)
Thank you!

Dr. Larry Frank, President
• ldfrank@ud4h.com
Dr. William Bachman, Senior Analyst & Marketing Strategist
• bbachman@ud4h.com
Jim Chapman, Managing Principal
• jchapman@ud4h.com
The California Healthy Places Index
Update and ATP Applications

SCAG Public Health Working Group
March 19, 2020

Bill Sadler, JD, MURP
Director of Operations

Helen Dowling, MPH
Data Manager

Agenda

• Introduction to the Healthy Places Index (HPI)
  – History & Methodology
  – Key Features & Functions

• Using HPI for ATP Applications
  – Characterizing Disadvantaged Communities
  – Defining Project Areas
  – Identifying Local Health Concerns

• Current Use Cases
• New Features & Functions
Every Californian should have the opportunity to live a healthy life.

CDC’s Social Determinants of Health
How can we QUANTIFY and COMMUNICATE the impact of community conditions to spur policy action?

California Healthy Places Index (HPI)
Alignment with Social Determinants of Health

CDC’s Social Determinants of Health

California Healthy Places Index
Policy Action Areas

Education  
Healthcare

HPI’s Unique Approach

Granular
Fine geographic resolution reveals the variation within cities, counties, and communities

Policy Solutions
Each indicator is supported by a wealth of policy solutions detailed in our Policy Guides

Validated
Each indicator – and the overall index – is linked to a summary health outcome: life expectancy at birth
Final California Healthy Places Index

Comprises 25 indicators that represent community conditions at the Census tract level, grouped into eight Policy Action Areas.

<table>
<thead>
<tr>
<th>Economic (32%)</th>
<th>Education (19%)</th>
<th>Transportation (16%)</th>
<th>Social (10%)</th>
<th>Neighborhood (8%)</th>
<th>Housing (5%)</th>
<th>Clean Environment (5%)</th>
<th>Healthcare Access (5%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Employed</td>
<td>• In Pre-School</td>
<td>• Automobile Access</td>
<td>• Retail Density</td>
<td>• Low-Income Renter Severe Housing Cost Burden</td>
<td>• Ozone</td>
<td>• Insured Adults</td>
<td></td>
</tr>
<tr>
<td>• Income</td>
<td>• In High School</td>
<td>• Active Commuting</td>
<td>• Park Access</td>
<td>• Low-Income Homeowner Severe Housing Cost Burden</td>
<td>• PM 2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Above Poverty</td>
<td>• Bachelor’s Education or Higher</td>
<td>• Voting in 2012</td>
<td>• Tree Canopy</td>
<td>• Housing Habitability</td>
<td>• Diesel PM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Data to Action Using HPI
From Data to Action Using HPI

Indicator Details Link to Policy Actions
Actionable Policy Guides

Economic Opportunity

$ Raise Wages and Benefits

Raise workplace standards and wages to ensure that workers can stay out of poverty.

- Find the policies that are right for you.

Minimum Wage Ordinances establish the minimum hourly rate of pay for employees within a jurisdiction—usually a city. Approximately 3.5 million California households (or 36% of the state) do not currently earn a wage that is sufficient to provide for their families. There is considerable flexibility in the design of a minimum wage ordinance. Some cities carve out exceptions for small businesses, nonprofits, or unions. Ordinances can propose a raise in increase, stepped increases, or flat wages to cover all employees. While the California state minimum wage will rise in increments to $15 an hour by 2022, many cities have chosen to increase wages faster than this schedule. Some ordinances also establish other minimum standards such as paid sick days. An enforcement plan should accompany minimum wage ordinances to ensure that they have the desired impact. For more information, see: The Economic Policy Institute’s Minimum Wage Tracker; the California Policy Priorities’ Effects of a Minimum Wage Increase on Employment and Family Income; and the League of California Cities’ Local Minimum Wage Laws and the Challenge of Balancing Interest, and Los Angeles County’s Minimum Wage Ordinance.

Living Wage Ordinances set wage and benefit standards for firms that benefit from public contracts, subsidies, or revenues including transportation and infrastructure projects. As with minimum wages, ordinances can take a variety of forms to suit their conditions and needs. Some newer living wages are quite large in scope, covering sick and health insurance coverage, retirement, employee turnover, protections for union organizing, enforcing wage and hours, and giving employees and existing employees who already work for a living wage the opportunity to form and join a union. For more information, see: The Bay Area Regional Property Plan Steering Committee’s Economic Prosperity Strategy; the City of Los Angeles’ Living Wage Ordinance; and Santa Clara County’s Living Wage Ordinance.

Several policy recommendations to consider

- Minimum Wage Ordinances
- Living Wage Ordinances
- Industry Driven Sector-Based Training Programs
- Ban the Box Policies
- Ban Paid Job Training and Placement Programs
- Individual Development Accounts/Matched Savings Accounts
- Early Childhood Education Tax Preparation & Outreach Programs
- High School Education

ONE policy guide = MANY recommendations

<table>
<thead>
<tr>
<th>Raise Wages &amp; Benefits</th>
<th>Build Workforce Development</th>
<th>Build Wealth</th>
<th>Develop Community Economic Capacity</th>
<th>Improve Transportation Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Wage Ordinances</td>
<td>Job-Focused Basic Skill Training Programs</td>
<td>Predatory Lending Ordinances</td>
<td>Industrial Land Preservation Strategies</td>
<td>Transportation for Economic Opportunity</td>
</tr>
<tr>
<td>Living Wage Ordinances</td>
<td>Industry Driven Sector-Based Training Programs</td>
<td>Flexible, Low-Cost and Supportive Financial Products</td>
<td>Middle-Wage Job Creation Strategies</td>
<td>Improving Transit Service</td>
</tr>
<tr>
<td>Wage Theft Policies</td>
<td>Ban the Box Policies</td>
<td>Financial Coaching</td>
<td>Small Business Retention Initiatives</td>
<td>Transit &amp; Mobility Passes</td>
</tr>
<tr>
<td>Paid Sick Day Policies</td>
<td>Paid Job Training and Placement Programs</td>
<td>Individual Development Accounts/Matched Savings Accounts</td>
<td>Worker Cooperative Support Initiatives</td>
<td>Provide Equitable, Low Cost Shared Mobility Services</td>
</tr>
<tr>
<td>Early Childhood Education</td>
<td>Tax Preparation &amp; Outreach Programs</td>
<td>Microenterprise Support Programs</td>
<td>Support for Walking &amp; Biking</td>
<td></td>
</tr>
<tr>
<td>High School Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Support for Walking & Biking

Support for Walking & Biking
# HPI Policy Guides

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Indicator</th>
<th>Indicator</th>
<th>Indicator</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>Retail Density</td>
<td>Ozone</td>
<td>Fine Particulate Matter</td>
<td></td>
</tr>
<tr>
<td>Median Income</td>
<td>Park Access</td>
<td>Park Access</td>
<td>Insured Adults</td>
<td></td>
</tr>
<tr>
<td>Above Poverty</td>
<td>Tree Canopy</td>
<td>Tree Canopy</td>
<td>Extreme Heat</td>
<td></td>
</tr>
<tr>
<td>Preschool Enrollment</td>
<td>Supermarket Access</td>
<td>Safe Drinking Water</td>
<td>Impervious Surfaces</td>
<td></td>
</tr>
<tr>
<td>HS Enrollment</td>
<td>Alcohol Availability</td>
<td>Diesel Particulate Matter</td>
<td>Outdoor Workers</td>
<td></td>
</tr>
<tr>
<td>Bachelor's Education</td>
<td>Low-Income Renter Housing</td>
<td>Safe Drinking Water</td>
<td>Public Transit Access</td>
<td></td>
</tr>
<tr>
<td>Automobile Access</td>
<td>Low-Income Homeowner Housing Cost Burden</td>
<td>Sea Level Rise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Commuting</td>
<td>Housing Habitability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Parent Households</td>
<td>Uncrowded Housing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voting</td>
<td>Homeownership</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Do More With The HPI

- View data at multiple geographies
- Dive deep into local data with comprehensive decision support layers
- Quickly identify high- and low- ranked places
- Define custom project areas
- Upload your own data
How-To Videos

- Step-by-step how-to videos
- Brief 2-6 minute tutorials
- For non-technical audiences

HealthyPlacesIndex.org/how-to/

ATP Guidelines (Cycle 5)

Characterizing Disadvantaged Communities

**Healthy Places Index (HPI):** The Index includes a composite score for each census tract in the State. The higher the score, the healthier the community conditions based on 25 community characteristics. The scores are then converted to a percentile to compare it to other tracts in the State. **A census tract must be in the 25th percentile or less to qualify as a disadvantaged community.**
Identifying Disadvantaged Communities

ATP Guidelines (Cycle 5)

Statement of Need
The local health concerns responses should focus on:

– Specific local public health concerns, health disparity, and/or conditions in the built and social environment that affect the project community and can be addressed through the proposed project.

– Local public health data demonstrating the above public health concern or health disparity. Data should be at the smallest geography available (state or national data is not sufficient). One potential source is the Healthy Places Index (HPI).
Identifying Disadvantaged Communities

Decision Support Layers for Health Outcomes
Ranking

Custom Project Areas
Use Case: Riverside ATP Grant

- Used the Healthy Places Index for DAC identification
- Focused on Safe Routes to School Program

Coming Soon: New HPI Features!

- Streamlined user interface
- Support for longitudinal data
- API keys
- Improved handling of uploaded data
- Expanded export & sharing functions

Join our mailing list for updates: HealthyPlacesIndex.org/mailing-list/
Thank you!

The California Healthy Places Index (HPI)™
public health alliance of southern California
A Partnership for Healthy Places

CONNECT WITH THE ALLIANCE
Bsadler@PHI.org | Helen.Dowling@PHI.org

HPI ON THE WEB
HealthyPlacesIndex.org | Map.HealthyPlacesIndex.org

THANKS TO OUR FUNDERS
The California Endowment | Kaiser Permanente of Southern California
Health Impacts of Climate Change

Elizabeth Rhoades, PhD
Program Director, Climate Change and Sustainability
Los Angeles County Department of Public Health

March 19, 2020

Climate Change & Public Health

The Global Climate and Health Alliance:

“...the climate crisis as a health emergency and people around the world are experiencing the impacts of climate change on their health, livelihoods, and homes...

There is a rising tide of doctors, nurses, and other health professionals who recognize that protecting the health of our patients and our communities now requires us to push governments to deliver the needed climate action. Our ranks will only grow, and our demands become stronger, until national leaders put us on track to a stable, healthy climate.”
Climate Change & Public Health

- Climate change is having and will continue to have significant public health impacts
  - It is our responsibility to enact strategies that protect people from those impacts
- Research shows that framing climate change in the context of health is the most effective way to talk about it so that people care
The impact of climate change on Los Angeles County

- Hotter temperatures
- Worse air quality
- More acres burned by wildfires
- More severe droughts
- Flooding
- More vector-borne disease
- Greater impact on overburdened communities
Hotter Temperatures

- Globally
  - The 2010s were the hottest decade on record
  - 2019 was the second hottest year on record
Hotter Temperatures: Health

**Current and projected temperature extremes for Los Angeles**
Average annual days exceeding 95 degrees F

<table>
<thead>
<tr>
<th>Location</th>
<th>Current</th>
<th>2041-2060 ensemble projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baldwin Hills</td>
<td>10.5</td>
<td>23</td>
</tr>
<tr>
<td>Downtown LA</td>
<td>8.6</td>
<td>23</td>
</tr>
<tr>
<td>Eagle Rock</td>
<td>13</td>
<td>42</td>
</tr>
<tr>
<td>El Sereno</td>
<td>13</td>
<td>41</td>
</tr>
<tr>
<td>Hollywood</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Porter Ranch</td>
<td>10</td>
<td>195</td>
</tr>
<tr>
<td>San Pedro</td>
<td>7.5</td>
<td>98</td>
</tr>
<tr>
<td>Studio City</td>
<td>15</td>
<td>100</td>
</tr>
<tr>
<td>Sunland</td>
<td>14</td>
<td>36</td>
</tr>
<tr>
<td>Sylmar</td>
<td>14</td>
<td>36</td>
</tr>
<tr>
<td>Venice</td>
<td>10</td>
<td>54</td>
</tr>
<tr>
<td>Watts</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Westwood</td>
<td>11</td>
<td>36</td>
</tr>
<tr>
<td>Woodland Hills</td>
<td>5.5</td>
<td>71</td>
</tr>
</tbody>
</table>

Source: UCLA LARC study, 2012; chart based on the mean/average projected by the 18 climate models

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Hotter Temperatures: Health

**Current and projected temperature extremes for Southern California**
Annual days exceeding 95 degrees F

<table>
<thead>
<tr>
<th>Location</th>
<th>Current</th>
<th>2041-2060 ensemble projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakersfield</td>
<td>2</td>
<td>133</td>
</tr>
<tr>
<td>Compton</td>
<td>4</td>
<td>134</td>
</tr>
<tr>
<td>Long Beach</td>
<td>17</td>
<td>137</td>
</tr>
<tr>
<td>Palmdale</td>
<td>13</td>
<td>78</td>
</tr>
<tr>
<td>Redlands</td>
<td>13</td>
<td>110</td>
</tr>
<tr>
<td>Riverside</td>
<td>9.5</td>
<td>130</td>
</tr>
<tr>
<td>Santa Ana</td>
<td>1.5</td>
<td>18</td>
</tr>
<tr>
<td>Santa Clarita</td>
<td>1.2</td>
<td>27</td>
</tr>
<tr>
<td>Santa Monica</td>
<td>0.4</td>
<td>96</td>
</tr>
<tr>
<td>Temecula</td>
<td>0.4</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: UCLA LARC study, 2012; chart based on the mean/average projected by the 18 climate models
• Heat waves are serious:
  – Philadelphia (1993): 118 deaths
  – Chicago (1995): 739 deaths
  – California (2006): > 650 deaths

• California’s 2006 heat wave
  – 16,166 excess ER visits
  – 1,182 excess hospitalizations
Hotter Temperatures: Health

Heat-Related Emergency Department Visits in LA County, 2005-2014

Source: Office of Statewide Health Planning and Development. Hospital Discharge and Emergency Department Visit Data, prepared by the Los Angeles County Department of Public Health.

May lead to:

- Allergies
- Respiratory illness

Poor Air Quality

- More creation of ground-level ozone
- Temperature inversions
- Wildfires
- Disproportionate impact on low-income communities, communities of color
Wildfires

Overall burned area projected to increase 60% for Santa Ana wind-driven fires, and more than 75% for other fires.
Wildfires: Health

- Injuries and deaths
- Destroyed homes
- Mental health problems from trauma
  - PTSD
  - Anxiety
  - Depression
- Poor air quality
  - Eye irritation
  - Respiratory illness (like asthma, COPD)
  - Allergies

Particulate Matter Concentration following Woolsey Fire
Drought

- Caused by
  - Warmer temperatures
  - Changing precipitation patterns
- Impacts
  - Increases fuel for more extreme wildfires, leading to worse air quality
  - Poor water quality
  - Increased cases of Coccidioidomycosis ("Valley Fever")

Valley Fever

Suspected, Probable, and Confirmed Annual Cases

<table>
<thead>
<tr>
<th></th>
<th>Year of Estimated Onset</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
</tr>
<tr>
<td>California Total</td>
<td>8,277</td>
</tr>
<tr>
<td>Los Angeles County</td>
<td>1,046</td>
</tr>
</tbody>
</table>

Floods

- More flooding due to
  - Sea level rise
  - Changing precipitation patterns
  - Erosion
  - Wildfires

Source: City of Long Beach news release from 2017

Floods: Precipitation Patterns

- Average annual precipitation not expected to change significantly, however...
- Rainy and dry extremes expected to increase
- Frequency of atmospheric rivers may increase
- Late 21st century:
  - 25-30% more rain during rainiest day of the year
  - 40% increase in precipitation during atmospheric river events
  - Double the frequency of extremely dry years
Vector-Borne Diseases

- Warmer temperatures
  - Increase geographic range of vectors
  - Lengthen mosquito season
  - Shorten the breeding cycle

Invasive mosquito species that carry disease are now endemic to Los Angeles County and thrive in warmer weather.

Source: Map taken from LA County Rx Prevention Article: Preventing Zika Virus Infection and Its Consequences
“The disproportionate impacts of climate change on individuals with pre-existing conditions and on socially disadvantaged groups threaten to greatly exacerbate existing health and social inequities, globally and within the U.S.” – The Public Health Institute

People Most At Risk for Harm

- Low-income populations
- Communities of color
- Older adults
- Young children
- People with a chronic disease
- Athletes
- Outdoor workers
- People experiencing homelessness
- People without air conditioning
- Undocumented immigrants
**SDOH and Climate Change**

Social Determinants of Health → Climate Vulnerability → Social Determinants of Health

**SDOH - Examples**

Income → Climate Vulnerability → Income

<table>
<thead>
<tr>
<th>Extreme Heat Vulnerability</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Less likely to have A/C, or afford to use it</td>
</tr>
<tr>
<td>• More likely to live in urban heat islands</td>
</tr>
<tr>
<td>• Less likely to have access to a vehicle</td>
</tr>
<tr>
<td>• More likely to work outdoors</td>
</tr>
</tbody>
</table>
SDOH - Examples

Extreme Heat

Social Determinants of Health

Social Determinants of Health
- Illness → lost income and school days
- Higher food prices → less access to healthy food
- Higher energy bills → greater economic stress

Five Point Plan to Reduce the Health Impacts of Climate Change

Inform
...and engage the general public about the nature of climate change and the health co-benefits associated with taking action to reduce carbon emissions.

Promote
...local planning, land use, transportation, water, and energy policies that reduce carbon emissions and support the design of healthy and sustainable communities.

Provide
...guidance on climate preparedness to local government and community partners to reduce health risks and create more resilient communities.

Build
...the capacity of Departmental staff and programs to monitor health impacts, integrate climate preparedness, and improve climate response.

Adopt
...best management practices to reduce carbon emissions associated with Departmental facilities and internal operations.
DPH Climate Change and Sustainability Program

Vision
Resilient communities prepared for the health effects of climate change.

Mission
To protect LA County residents, especially communities of color and low-income communities, from climate impacts by promoting actions that slow climate change and build resilience.
OurCounty Sustainability Plan

OurCounty

Los Angeles Countywide Sustainability Plan

ourcountyla.org

OurCounty’s Organizing Elements

Goals (12)
Broad, aspirational statement of what we want to achieve

Strategies (37)
Long-range approach or approaches that we take to achieve a goal

Actions (159)
Specific policy, program, or tool we implement to support a strategy

Progress tracking

Targets
Levels of performance

Indicators
Quantitative measures that are used to understand progress

*Strategies may support multiple goals and actions may support multiple strategies
Climate solutions

• Strategies to address climate change are “no-regret” options that lead to healthier, more resilient, more equitable communities.

Positive Strategies - I

“No-regret” options that create healthier, more resilient, and more equitable communities:

Example A: Planting trees reduces temperatures & sequesters carbon. **Co-benefit** = improved air quality, provides for stormwater capture, calms traffic, reduces noise, reduces crime, improves mental wellbeing.

Source: LA County Tree Committee
Positive Strategies - II

“No-regret” options that create healthier, more resilient, and more equitable communities:

Example B: Reducing vehicle miles traveled through active transportation lowers GHG emissions.

Co-benefit = more physical activity

Example C: Promoting cleaner fuels and energy production reduces GHG emissions.

Co-benefit = less air pollution

Questions?

Elizabeth Rhoades, PhD
Program Director, Climate Change and Sustainability
Los Angeles County Department of Public Health
erhoades@ph.lacounty.gov
Randall Lewis Health Policy Fellowship

Fact Sheet

The purpose of the Randall Lewis Health Policy Fellowship program is to ensure the development of health professionals who possess the necessary skills to influence positive change in public policy, systems, and the built environment in our local municipalities. These fellowships create educational and professional opportunities for students in health policy and related disciplines, provide for the expansion of the regional health policy infrastructure, and retain essential intellectual capital in our local communities.

Applications: Currently accepting applications for the 20-21 school year. Go to: http://p4bhealth.org/get-involved/.

Length of Fellowship: 8 months, 400 hours, typically September through May. This fellowship fulfills academic fieldwork requirements for urban planning, data science and public health students.

Stipend: A stipend is provided to fellows who complete the program. The Randall Lewis Health Policy Fellowship currently receives funding for fellow stipends from multiple sources including Lewis Group of Companies & Southern California Association of Governments (SCAG).

Nature of Work: Depending on a fellows' background, interest, experience and placement site, the field work projects can vary. Fellows might work within a Healthy Communities initiative context, such as within a city or county government. The focus usually is on development or implementation of a policy initiative. This may include projects such as:

- Research & development of general plan health elements
- Active transportation plans
- City planning and support
- Food deserts & healthy affordable food access
**Nature of Work cont’d:** Fellows may work with special populations such as youth, seniors, immigrants, low-income and communities of color. They are expected to have an understanding of how to appropriately foster inclusive community & local government collaboration standards of community engagement.

**Expectations:** All fellows are expected to do the following over the course of their fellowship year:

- Participate in an orientation session.
- Attend Fellowship meetings and trainings. Fellows meet as a group at least 6 times during the year. These learning sessions require travel within the Southern California region. The learning sessions developing leadership and professional skills, and a GIS training module.
- Submit a Scope of Work developed in conjunction with their site preceptor and approved by their university advisor.
- Attend a minimum of two external professional meetings, workshops or conferences per fellowship year.
- Attend and participate in the annual Fellowship Forum & Poster session. Fellows will present their work at an annual poster session and professional networking event held in late April each year.
- Prepare a two-page handout to be printed and distributed. Last year’s booklet is on the website: [http://p4bhealth.org/get-involved/](http://p4bhealth.org/get-involved/).
- Submission of a final narrative detailing the fellow's experience and impact (approximately 1000 words).

For more information please contact Jaynie Boren, Executive Director of the Randall Lewis Health Policy Fellowship at [jaynieboren@hc2strategies.com](mailto:jaynieboren@hc2strategies.com) or at 951-218-2064.