Climate Change and Health

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Center for Climate Change and Health
“Creating a Climate for Health”
Public Health Institute
Climate Change and Health – Key Points

- Climate change is the greatest public health challenge of the 21st Century.

- “Health is the first wealth” - people care about health

- Co-benefits offer many win-win opportunities to simultaneously improve health and address climate change.

- Climate Action Planning with a “health lens” can engage communities and promote resilience.

- We need faster and more aggressive action to avert catastrophic impacts on our children and grandchildren.
“Climate change is the biggest global health threat of the 21st century... The impacts will be felt all around the world – and not just in some distant future but in our lifetimes and those of our children.”

The Lancet
Climate change: environmental and health impacts

- More extreme temperatures
- Sea level rise
- Saline intrusion
- Stronger hurricanes & storm surges
- Increased ozone concentrations & diminished air quality
- Increased pollen & natural air pollutants
- Increased precipitation and flooding
- Increased droughts and water scarcity, water contamination
- Ocean acidification
- More frequent wildfires
- Range of disease vectors
- Harmful algal blooms

Adapted from J. Patz

<table>
<thead>
<tr>
<th>Heat</th>
<th>Heat stress, cardiovascular failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme weather</td>
<td>Injuries, fatalities</td>
</tr>
<tr>
<td>Air pollution</td>
<td>Asthma, respiratory disease, CVD</td>
</tr>
<tr>
<td>Allergens</td>
<td>Respiratory disease, poison ivy/oak</td>
</tr>
<tr>
<td>Vector-born disease</td>
<td>Malaria, dengue, encephalitis, .....</td>
</tr>
<tr>
<td>Water-born disease</td>
<td>Cholera, camphylobacter cryptosporidiosis.....</td>
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<tr>
<td>Food-born disease</td>
<td>Salmonella, shigella</td>
</tr>
<tr>
<td>Water &amp; food supply</td>
<td>Malnutrition, food insecurity, diarrhea</td>
</tr>
<tr>
<td>Environmental refugees</td>
<td>Forced migration, civil conflict</td>
</tr>
<tr>
<td>Mental health</td>
<td>Anxiety, despair, depression, PTSD</td>
</tr>
</tbody>
</table>
The Climate Gap
Alameda County, CA,

Heat Vulnerability Index

Health Outcomes

Life Expectancy
- 72.7
- 76.6
- 82.7

Mortality Rate
- >95.0
- 95.0-99.9
- 95.0-99.9
- <95.0

Source: Alameda County vital statistics files, 2001-2005.

Poverty

Poverty Rate
- 30%
- 20-29.9%
- 10-19.9%
- <10%

Source: Census 2000.

Heat Index

Source: Alameda County vital statistics files, 2001-2005.
Place Matters
What is a Healthy Community?

- **Meets basic needs of all**
  - Safe, sustainable, accessible and affordable transportation options
  - Affordable, accessible and nutritious foods and safe drinkable water
  - Affordable, high quality, socially integrated and location-efficient housing
  - Affordable, accessible and high quality health care
  - Complete and livable communities including quality schools, parks and recreational facilities, child care, libraries, financial services and other daily needs
  - Access to affordable and safe opportunities for physical activity
  - Able to adapt to changing environments, resilient, and prepared for emergencies
  - Opportunities for engagement with arts, music and culture

- **Quality and sustainability of environment**
  - Clean air, soil and water, and environments free of excessive noise
  - Tobacco- and smoke-free
  - Green and open spaces, including healthy tree canopy and agricultural lands
  - Minimized toxics, greenhouse gas emissions and waste
  - Affordable and sustainable energy use
  - Aesthetically pleasing

- **Adequate levels of economic, social development**
  - Living wage, safe and healthy job opportunities for all, and a thriving economy
  - Support for healthy development of children and adolescents
  - Opportunities for high quality and accessible

- **Health and social equity**

- **Social relationships that are supportive and respectful**
  - Robust social and civic engagement
  - Socially cohesive and supportive relationships, families, homes and neighborhoods
  - Safe communities, free of crime and violence
TRY TO SEE THINGS FROM MY POINT OF VIEW.
Co-Benefits
Transportation
Shift in active transport from <5 to 22 minutes/day (2% to 15% mode share)

- 14% reduction heart disease, stroke, diabetes
- 6-7% reduction depression, dementia
- 5% reduction breast and colon cancer
- Added 9.5 months life expectancy
- 19% increase bike/ped injuries

- $1.4 to $22 billion annual Bay Area health cost savings

From Maizlish, N., CDPH
Food Systems
Urban Greening

Bellows J and Rudolph L, 2007
Annual Health Benefits of Active Transport and Low Carbon Driving in the Bay Area: Predictions from the ITHIM Model

Source of Health Benefit or Harm

- Injuries
- Air Pollution
- Physical Activity

Disability Adjusted Life Years Gained per Million Population compared to business as usual

Walking/Bicycling
- 5,939
- -783

Low Carbon Driving
- 13 Air Pollution
- 33

(Scenario 3: Active transport 15% of miles traveled)

Scenario 4
You are here
WE CAN CREATE A CLIMATE FOR HEALTH!