

## Health and Equity Co-Benefits of Addressing Climate Change

### DEFINITIONS

#### Health Co-benefits

*The health benefits that result from strategies that are intended to address a non-health issue.*

#### Mitigation

*As related to climate change: reducing greenhouse gas emissions to slow or lessen climate change.*

#### Readiness (also called Adaptation)

*As related to climate change: actions to increase readiness for the impacts of unavoidable climate change and to increase community resilience to confront these impacts.*

#### Built Environment

*Environments in which people live, work, and play, including buildings, parks, transportation systems, and air and water quality.*



Climate change **mitigation** and **readiness** measures are being implemented in land use, transportation, water, energy, waste, agriculture, and more. Many climate action strategies also have significant beneficial effects on public health and equity, known as **co-benefits**, making climate change action a “win-win”. Some health co-benefits of strategies to reduce greenhouse gas emissions from transportation include: decreases in obesity, cardiovascular disease, respiratory illness, osteoporosis, and improved community cohesion and mental health. If efforts are targeted to those communities most in need of the resources, benefits, and reduction of risks resulting from climate change action, health inequities can also be addressed.

Unlike the longer term effects of climate change, health co-benefits can be seen locally and felt more immediately. Research has shown that **describing the health consequences of climate change is compelling to the general public**. Making the connection between health and climate change may help to broaden support for addressing climate change.<sup>i</sup>

For these reasons, BARHII urges all public health staff to educate themselves on the connections between their work and climate change, to discuss these connections with the families and communities they serve, and to seek opportunities to integrate public health co-benefits with climate change actions, strategies, or policies. Health is a strong motivator for action, and as a health professional, your voice and opinion are powerful motivators for positive change!

### Making the Connection: Singular Actions, Multiple Results

Climate change will increasingly be addressed through local and regional built environment planning efforts. These efforts also offer various opportunities to highlight the health co-benefits of planning decisions. These include local decisions about transportation modes, housing placement, water conservation, waste recycling and reduction, energy conservation, and building efficiency. These decisions can all address changes in the built environment or in social

conditions that can then lead to positive health outcomes and the reduction of health inequities.

Quick Guide 5 will provide more information on how public health professionals can participate in climate change planning efforts.

#### Spotlight on Sonoma County

Over the past five years, the Sonoma County Safe Routes to School Program collaborative has addressed needed infrastructure improvements around 22 schools in Santa Rosa, Petaluma, Healdsburg, Windsor, Sebastopol, and Cloverdale. A recent success was a number of

pedestrian improvements around Sheppard Elementary School in Roseland. These include several crosswalk improvements, additional school zone signage, and measures to prevent parking in the red zone, all of which will help more children walk safely to school, while at the same time reducing the need for vehicle usage. The region's One Bay Area Grant (OBAG) program provides funding for transportation improvements in counties and cities that support the region's climate mitigation plan. OBAG provides \$20 million for local Safe Routes to School programs.

*A simple shift from 4 to 22 minutes per day of walking and bicycling results in<sup>ii</sup>:*

- |                              |
|------------------------------|
| <b>CLIMATE CO-BENEFIT</b>    |
| ↓ 14% Carbon Emissions       |
| <b>HEALTH CO-BENEFITS</b>    |
| ↓ 15% Cardiovascular Disease |
| ↓ 5% Breast Cancer           |
| ↓ 15% Diabetes               |
| ↓ 10% Dementia               |

## When We Confront Climate Change, We CAN Impact Health

The table below shows several climate change strategies, potential changes to the physical and social environment resulting from these planning efforts, and the positive health outcomes associated with these changes.



CO-BENEFITS OF CONFRONTING CLIMATE CHANGE<sup>iii</sup>

Area	Strategies to Address Climate Change	Potential Health Co-Benefits
<b>Transportation and Land Use</b>	<p><b>Transportation</b></p> <ul style="list-style-type: none"> <li>• Reduce vehicle miles traveled</li> <li>• Manage local traffic (e.g. Safe Routes to School)</li> <li>• Improve pedestrian and bicycle infrastructure</li> <li>• Improve access to and cost of public transportation</li> <li>• Use low carbon fuels and increase vehicle fuel efficiency</li> </ul> <p><b>Land Use</b></p> <ul style="list-style-type: none"> <li>• Increase density of housing and neighborhoods</li> <li>• Increase availability of affordable housing</li> <li>• Develop housing and jobs near public transit</li> <li>• Encourage developments that have mixed-uses (e.g. retail with residential)</li> <li>• Increase green spaces in urban environments (e.g. parks, trees, open space)</li> </ul>	<p><b>Transportation</b></p> <ul style="list-style-type: none"> <li>• Reduced traffic injuries and osteoporosis</li> </ul> <p><b>Land Use</b></p> <ul style="list-style-type: none"> <li>• Increased local access to essential services (e.g. housing, jobs, schools)</li> <li>• Reduced temperature and urban heat island health effects</li> <li>• Reduced noise</li> </ul> <p><b>Both</b></p> <ul style="list-style-type: none"> <li>• Increased physical activity</li> <li>• Reduced air pollution (e.g. reduced respiratory disease and cardiovascular disease)</li> <li>• Reduced chronic disease (e.g. heart disease, asthma, cancer, diabetes)</li> <li>• Improved opportunities to socialize</li> <li>• Increased financial resources for use on other community resources</li> <li>• Improved mental health</li> <li>• Enhanced safety</li> </ul>
<b>Food Production and Security</b>	<ul style="list-style-type: none"> <li>• Reduce food miles traveled</li> <li>• Promote local agriculture</li> <li>• Encourage less meat consumption</li> <li>• Expand farmers markets and community/backyard/rooftop gardens</li> </ul>	<ul style="list-style-type: none"> <li>• Increased access to healthy, fresh food</li> <li>• Reduced heart disease, obesity, and diabetes</li> <li>• Reduced air pollution</li> <li>• Increased local and social cohesion</li> <li>• Increased resilience</li> </ul>
<b>Energy Efficiency</b>	<ul style="list-style-type: none"> <li>• Reduce residential and commercial building energy use</li> <li>• Improve air quality (indoor and outdoor)</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced household energy costs</li> <li>• Healthy homes</li> <li>• Local jobs in green sector</li> <li>• Reduced heat-related death and illness</li> </ul>

*It is the mission of the Bay Area Regional Health Inequities Initiative (BARHII) to transform public health practice for the purpose of eliminating health inequities using a broad spectrum of approaches that create healthy communities.*

For more information, contact:  
**Bay Area Regional Health Inequities Initiative (BARHII)**  
 180 Grand Ave Suite 750  
 Oakland, CA 94612  
 (510) 302-3367  
<http://www.barhii.org>  
[info@barhii.org](mailto:info@barhii.org)

## REFERENCES

- i. E.W. Mailbach, M. Nisbet, P. Baldwin, K. Akerlof, and G. Diao. "Reframing Climate Change As a Public Health Issue: An Exploratory Study of Public Reactions." *BMC Public Health* 2010, 10:299.
- ii. Maizlish NA, Woodcock JD, Co S, Ostro B, Fairley D, Fanai A. Health cobenefits and transportation-related reductions in greenhouse gas emissions in the San Francisco Bay Area. *Am J Public Health*. Published online ahead of print February 14, 2013: e1–e7. doi:10.2105/AJPH.2012.300939. <http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2012.300939>.
- iii. Climate Action for Health: Integrating Public Health into Climate Action Planning, CDPH, Feb 2012.