How a Focus on Health Can Expand Collaborations and Enhance Climate Resilience

CITY OF MILWAUKEE HEALTH DEPARTMENT

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CDC Climate Change Program and Priority Actions

- Enhance the science base to better understand the relationship between climate change and health outcomes.
- Identify locations and population groups at greatest risk for specific health threats, such as heat waves.
- Develop and implement preparedness and response plans for health threats such as heat waves, severe weather events, and infectious diseases.
- Provide technical advice and support to state and local health departments, the private sector, and others in implementing national and global preparedness measures related to the health effects of climate change.
BRACE Framework

- 5 step process
- Assists state and locals in planning and strategies
- Incorporates both short and long-term climate projections
- Combines atmospheric predictions with epidemiology
Expand and enhance partnerships for collaboration (Science Advisory Group)

Climate-related vulnerability assessment tools

Provide training and technical assistance for local public health agencies

Increase awareness of the public and decision-makers on the health implications
Impact of Climate Change on Human Health

- Injuries, fatalities, mental health impacts
- Asthma, cardiovascular disease
- Heat-related illness and death, cardiovascular failure
- Malaria, dengue, encephalitis, hantavirus, Rift Valley fever, Lyme disease, chikungunya, West Nile virus
- Forced migration, civil conflict, mental health impacts
- Respiratory allergies, asthma
- Extreme Heat
- Changes in Vector Ecology
- Increasing Allergens
- Rising CO2 Levels
- Rising Temperatures
- More Extreme Weather
- Severe Weather
- Water and Food Supply Impacts
- Water Quality Impacts
- Malnutrition, diarrheal disease
- Cholera, cryptosporidiosis, campylobacter, leptospirosis, harmful algal blooms
Milwaukee Health Department
Extreme Heat Health Index

Developed in conjunction with State Health Department

Incorporates 20 variables predictive of population heat vulnerability

Integrated within Milwaukee County Extreme Heat Health Action Plan
Harvesting Rainwater for Sustainable Water Use, Food Security & Community Resilience

CLIMATE CHANGE AND PUBLIC HEALTH LEARNING COLLABORATIVE FOR URBAN HEALTH DEPARTMENTS
Local Health Departments in Kresge Climate and Health Learning Collaborative
Storm Drain
Wastewater
Stormwater

Streams and rivers rise, which contributes to flooding of homes, businesses, and critical infrastructure like sewer and storm water systems.

Floodwaters can become contaminated with agricultural waste, chemicals, raw sewage, and other pollutants.

Floodwaters can contain disease-causing bacteria, viruses, and parasites.

Sewage overflow from treatment plants, septic fields, and municipal lines can back up into people's homes.

Flooded materials in homes, schools, and businesses can cause molds to grow and be inhaled.

Climate change increases heavy downpours.
Project Overview

Signature Projects

Alice’s Garden & Guest House of Milwaukee

• Plan, design, implement rainwater harvesting systems to supply the majority of watering needs
• Maximize capture, storage and reuse of rainwater
• Outreach events to increase knowledge of climate change & health connection and adaptation strategies
Project Goals and Objectives

- Promote adaptation and community health through sustainable water use and improved food security
- Decrease storm-water runoff
- Mitigate carbon emissions associated with food transportation, water treatment and transmission

Increase knowledge and awareness of climate change & health connection and mitigation/adaptation strategies among the public
Educational Events—Teaching the Community about Co-Benefits of Climate Mitigation

The City of Milwaukee Health Department invites you to its free symposium:

Facing the Challenges Together: Climate Change Impacts on Human Health

Date: Friday, November 17, 2017
Time: 8am to Noon
Location: Harley Davidson Museum Rumble Room (above Motor Bar & Restaurant)
400 West Canal Street, Milwaukee 53203

Join us for this opportunity to hear national, state, and local representatives address a variety of issues related to climate change and health, engage in discussions about how your organization can incorporate climate and health messaging into existing programs, and learn about steps you can take to help stem the effects of climate change and live a more sustainable life.

✔ Free Registration
✔ Free Parking
✔ Free Breakfast

To register, click here.

Questions? Lindsey Page at lpage@milwaukee.gov or 414.286.5789
Health Equity and Capacity Building

Expanding community agriculture, food security, skill development and opportunities for community building

MHD Program development around Climate Change and Health

- Foster cross-sectoral collaboration
- Pool Resources
Cross-Sector Partnerships

Community organizations
● Reflo, Alice’s Garden, Guest House, Milwaukee Water Commons, Urban Ecology Center, Green Schools Consortium of Milwaukee, MMSD

Government agencies
● Environmental Collaboration Office, Dept of City Development

Academia
● University of Wisconsin-Milwaukee
CO-BENEFITS OF RAINWATER HARVESTING

As the Earth’s climate continues to warm, we will see an increase in more intense and frequent storms and extreme heat events. In Milwaukee, large rainfall events can threaten our drinking and recreational freshwater resources through increased stormwater runoff. These large storms can also damage and overwhelm old and stressed sewerage infrastructure, leading to combined sewer overflows and flooding. Rainwater harvesting is an effective strategy that can help manage stormwater where it falls. In addition, rainwater harvesting has numerous other co-benefits:

INCREASED ACCESS TO HEALTHY FOOD AND IMPROVED URBAN ENVIRONMENT

Harvested rainwater can be used to water fruit and vegetable gardens, rain gardens, and trees that improve the urban landscape. As a water source for urban agriculture, harvested rainwater supports food security by making gardens more sustainable and less reliant on city water. Green infrastructure helps clean the air through removal of carbon dioxide; protect water resources through reduction of stormwater runoff; encourage exercise and healthy eating; and beauty, connect and revitalize neighborhoods.

REDUCED CARBON FOOTPRINT AND WATER CONSERVATION

Supporting locally sourced food will help decrease carbon emissions associated with the transportation of food, water treatment and conveyance. Decreased carbon emissions means cleaner air reducing exposure to air pollutants that contribute to a number of chronic conditions including cardiovascular disease, asthma and other respiratory illnesses.

MORE RESILIENT FRESHWATER RESOURCES

Stormwater runoff and combined sewer overflows threaten Lake Michigan, Milwaukee and the surrounding region’s freshwater resource. Stormwater runoff can become contaminated with agricultural waste, chemicals (i.e. pesticides and fertilizers), raw sewerage, and other pollutants. This increases exposure to water-related infection and contaminants that can otherwise affect health. Harvesting rainwater before it collects these pollutants is one way to protect freshwater resources.

INCREASED URBAN GREEN SPACE IMPROVES COMMUNITY HEALTH

Well supported urban agriculture projects increase green space which can help address the urban heat island effect. Helping to reduce surface and air temperatures can ease the burden of extreme heat and heat-related illness on individual households and the community. Increased green space has been associated with reduced stress and tension; improved mental health; reduction in asthma and other respiratory conditions; decreased obesity and diabetes rates; increased ability to concentrate in children with attention deficit disorders; decreased rates of crime and poverty; increased property values; and reduction in noise pollution.
Community Assessment for Public Health Emergency Response (CASPER)

Goal: to rapidly determine the health status and basic needs of a community

Completed pre- or post-disaster

- Two-stage cluster design methodology
- “Quick and dirty” public health practice
- Jumping-off point to identify opportunities for future investigation
Milwaukee Metropolitan Area
Extreme Weather Task Force

Preparedness and response tasks for excessive heat events based on capabilities and sustained by lessons learned and best practices

Clearly defined alerting protocols and activation thresholds for excessive heat events

Continuing analysis and application of the Milwaukee metropolitan area’s Heat Vulnerability Index; which includes considerations for the urban heat-island effect, associated air quality issues, and climate change impacts

A strategy for the public health surveillance of heat-related morbidity and mortality

A whole community approach to communications, including how to address the hard to reach vulnerable population with alert messaging, collaborative social marketing, and public awareness campaigns
Branch Out Milwaukee Program

Supported by Kresge Foundation Climate Change, Health and Equity Initiative

- Milwaukee Metropolitan Sewerage District
- City of Milwaukee Health Department
- Milwaukee County Parks Department
- Milwaukee Riverkeeper
- Keep Greater Milwaukee Beautiful/Greening Milwaukee
- Wisconsin DNR
- US Forest Service
- Northcott Neighborhood House
- Friends of Milwaukee’s Downtown Forest
- Reflo
- Groundwork Milwaukee
- Victory Garden Initiative
- City of Milwaukee Forestry Division
- Urban Ecology Center
- Groundwork Milwaukee
- Great Lakes Opportunities LLC
- 16th Street Community Health Center
- River Revitalization Foundation
- The Park People
Future Planning

Take advantage of reorganization – expand Climate Change programming

Further collaborations – City Government departments and Community Partners

- **Department of Public Works** – Pedestrian Plan, Safe Routes To School
- **Department of City Development** – Bikeshare Expansion Project
- **Environmental Collaboration Office**

“If there were ever a problem that drove home the need for humanity to cooperate, climate change is it.” – Paul Epstein, MD, MPH

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