“Every Sector is a Public Health Sector”: Preventing Climate-Related Health Disparities in Detroit
<table>
<thead>
<tr>
<th>Weather Event</th>
<th>Health Effects</th>
<th>Populations Most Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat Waves</td>
<td>Heat stress</td>
<td>Children less than 5 years old, elderly 65 years old and older, elderly living alone,</td>
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<td></td>
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<td>populations at or below poverty level, population at or below 200% of poverty, people</td>
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<td></td>
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<td>with respiratory disease</td>
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<tr>
<td>Extreme weather events, (rain, hurricane, tornado, flooding)</td>
<td>Injuries, drowning</td>
<td>Coastal, low lying land dwellers, low socioeconomic status</td>
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<tr>
<td>Droughts, floods, increased mean temperature</td>
<td>Vector-, food- and water-borne diseases</td>
<td>Multiple populations at risk</td>
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<tr>
<td>Sea-level rise</td>
<td>Injuries, drowning, water and soil salinization,</td>
<td>Coastal, low socioeconomic status</td>
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<td>ecosystem and economic disruption</td>
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<tr>
<td>Drought, ecosystem migration</td>
<td>Food and water shortages, malnutrition</td>
<td>Low socioeconomic status, elderly, children</td>
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<tr>
<td>Extreme weather events, drought</td>
<td>Mass population movement, international conflict</td>
<td>Multiple populations at risk</td>
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<td>Increases in ground-level ozone, airborne allergens, and other pollutants</td>
<td>Respiratory disease exacerbation (COPD, asthma,</td>
<td>Elderly, children, people with respiratory disease</td>
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<td>allergenic rhinitis, bronchitis)</td>
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<tr>
<td>Climate change generally; extreme events</td>
<td>Mental health</td>
<td>Young, displaced, agricultural sector, low socioeconomic status</td>
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</tbody>
</table>
“The most effective adaptation measures for health in the near-term are programs that **implement basic public health measures** such as provision of clean water and sanitation, secure essential health care including vaccination and child health services, increase capacity for disaster preparedness and response, and alleviate poverty.”

-International Panel on Climate Change 2013
Transportation, Housing, Water, Education, Law, Media…

decisions in all of these sectors determine patterns of risk for climate-related health outcomes.
We are all vulnerable.

Some are more vulnerable.
65 days above 90 degrees expected by 2100
(Union of Concerned Scientists 2009)

859 Heat-Related ER Visits in Wayne County in 2013
(MDCH 2013)

14% of adults have received an asthma diagnosis—compared to 8% nationally
(MDCH 2014)

40% of population living below poverty
(U.S. Census 2010)

5.8 billion vehicle miles traveled in 2012
(Detroit Greenhouse Gas Inventory 2014)

10.6 million t CO2e total citywide emissions
(Detroit Greenhouse Gas Inventory 2014)
WHAT IS INCLUDED IN THE DETROIT GREENHOUSE GAS INVENTORY?

Nearly all of our daily activities cause greenhouse gas (GHG) emissions. The Detroit GHG inventory is an accounting of the GHG emissions from activities in Detroit. It is a tool to guide policy and management decisions to address climate change.

SCOPE 1
All activities within the City boundary that directly emit GHGs.

Forms of transportation like 1. cars, 2. trucks, 3. buses, and 4. the People Mover contribute to GHG emissions. 5. Industrial processes like refining oil also produce GHGs, as does 6. treating the water that goes down our sinks and toilets, and 7. using natural gas to heat our homes.

SCOPE 2
GHG emissions that result from the production of purchased electricity that is generated outside of Detroit (indirect emissions).

Buildings and facilities, including 8. homes, 9. commercial buildings, and 10. municipal government buildings purchase electricity for power and cooling. Electricity is also purchased to 11. pump water through pipes to our faucets. The production of this electricity, at 12. power plants outside of Detroit, emits GHGs.

SCOPE 3
Other indirect emissions.

Some electricity is lost when transmitted through 13. power lines; the production of this electricity emits GHGs. 14. Trees and other plants sequester GHGs through growth and emit GHGs when cut down. 15. Landfills outside Detroit that contain garbage from the city also emit GHGs.

EXCLUDED SOURCES
16. Boats, 17. airplanes, and 18. freight trains all emit GHGs but are excluded from the Detroit GHG inventory, as are emissions from the production of 19. food and 20. goods (like cell phones and refrigerators) that are consumed in the city but produced elsewhere.
Heat Vulnerability Index accounts for several variables, including: age over 65, living alone, % persons of color, distance to water, prevalence of respiratory illness, % less than high school education, % living below poverty, % impervious surface.

“Our work is guided by the sense that we may be the last generation in the experiment with living. But we are a minority -- the vast majority of our people regard the temporary equilibriums of our society and world as eternally-functional parts. In this is perhaps the outstanding paradox: we ourselves are imbued with urgency, yet the message of our society is that there is no viable alternative to the present.”

- Port Huron Statement, 1962
“…to encourage coalition between diverse groups—together, united in opposition to Climate Change.”

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