Collaborative Heat Resilience: The Need for Health and Design Partnerships

Integrating Health Equity into Climate Adaptation Through Cross-Discipline Partnerships

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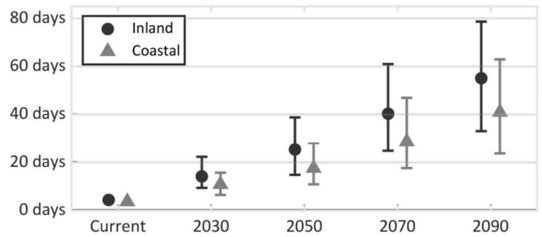
The Challenge We Face

- Extreme heat (days over 90°F) is increasing in Massachusetts and throughout the region, and will continue to do so through this century. The *MA Climate Assessment* projects that by 2050, MA summers will "feel like" those in current day Maryland – with higher temperature and humidity.
- The *ResilientMass Plan* identified heat impacts to humans as among the most urgent climate hazard impacts, especially:
  - Health and cognitive effects
  - Health effects from degraded air quality
- Social vulnerability is an important risk factor for heat-related illness and mortality.
- Increasingly, communities are adapting the build environment for resilience to flooding, sea level rise, extreme precipitation, and extreme heat. However, climate adaptation often overlooks public health perspectives.



Change in the Number of Days Per Year Over 90°F Compared to MA Current Climate
Source: MA Climate Assessment (2022)

Why Collaboration Is Essential

- Currently, adaptation practitioners (planners, engineers, landscape architects) working to design more resilient communities operate largely siloed from health professionals.
- Meaningful, impactful adaptation solutions require shared knowledge, co-benefits, and joint action.
- Health is a topic that is personal and meaningful to many people and can be used to motivate action for resilience.

Understanding (& Communicating) the Health Co-Benefits of Adaptation

- An initial step for removing silos is building awareness in the design community of health co-benefits of adaptation solutions.
- Examples of heat adaptation solutions with a nature-based solutions focus, hazard mitigation/resilience benefits, and health co-benefits are described in the table below.

Adaptation Action	Climate/Natural Hazard Addressed	Possible Health Co-Benefits
Rain Gardens & Bioswales	• Urban/stormwater flooding • Heat island effect	• Reduced risk of waterborne disease • Improved air quality • Mental health benefits
Green Space Creation/ Pavement Removal	• Urban/stormwater flooding • Heat island effect	• Reduced heat stress and illness • Mental health benefits • More walkable environments/encourages physical activity
Shade Creation (Trees, Structures)	• Extreme heat • UV radiation	• Lower risk of heat-related illness • Skin cancer prevention • More walkable environments/encourages physical activity
Wetlands Restoration	• Flooding • Drought	• Improved water & air quality • Reduced injury from flood waters • Mental health benefits

Expanding from Community Engagement to Cross-Discipline Collaboration

- Adaptation and resilience planning and design has emphasized meaningful community engagement in the last 5-10 years.
- We can move beyond health practitioners as community members to engage them as collaborators.
- Early health input improves project effectiveness for multiple benefits and can bring another dimension to prioritizing adaptation options.

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Call to Action for Collaborative Resilience

- Embed health considerations in climate policy and design standards.
- Use community health data to help guide planning and design.
- Develop joint metrics and evaluation tools, include benefit-cost analyses to quantify health co-benefits.
- Leverage health benefits for expanded funding opportunities.
- Amplify resilience as a public health intervention.
- Foster spaces for cross-disciplinary discussion and relationship building.

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