



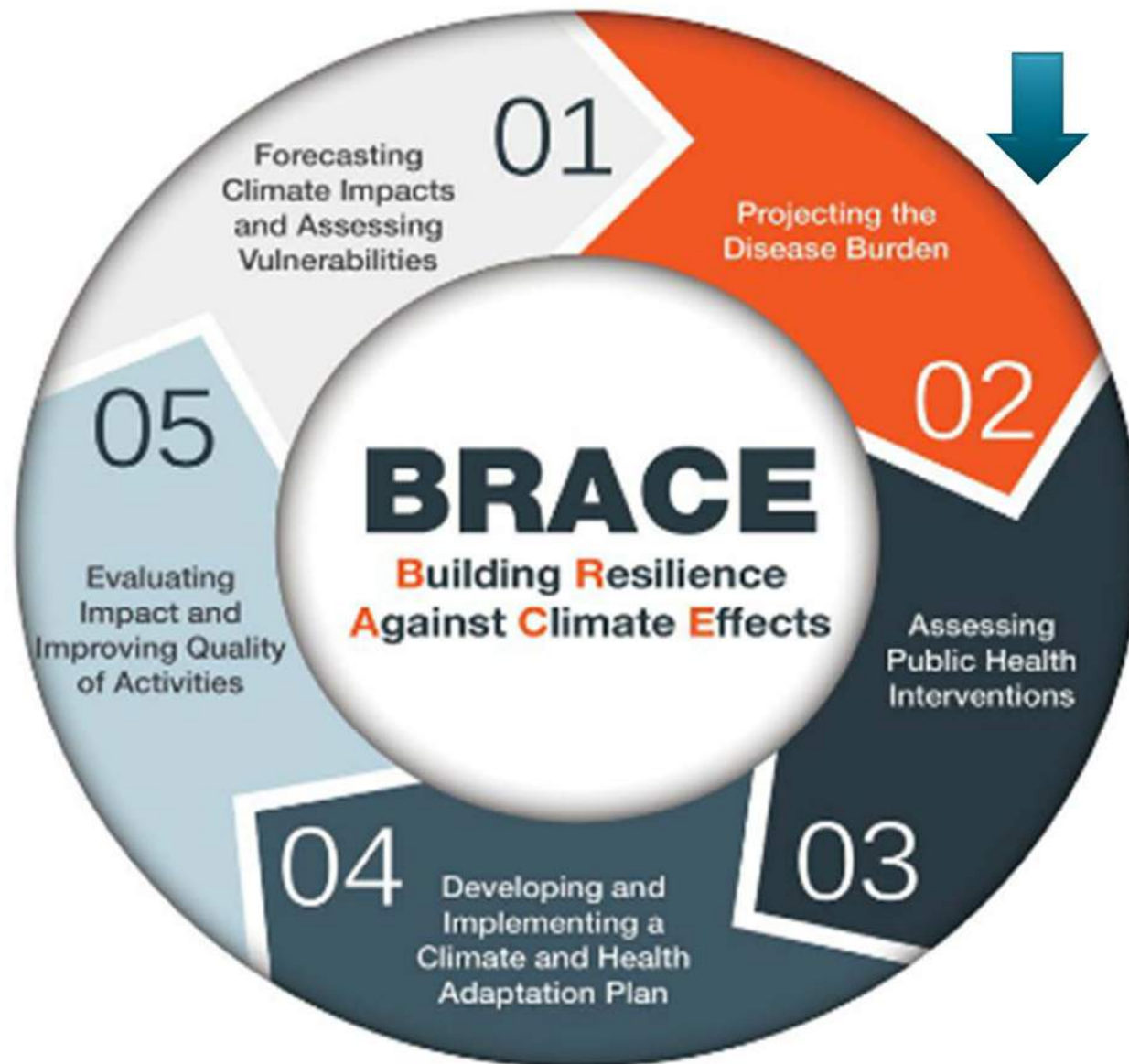
# Building Resilience Against Weather & Climate Effects in New Hampshire

Matt Cahillane, NH DHHS  
Upper Valley Community Forum  
March 30, 2016



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# Building Community Resilience



# Key Message 1

- Climate Change is happening, and expected to continue in New Hampshire





# Extreme Weather Hazards



Southern NH Ice Storm, Dec 2008



# Related Priorities in NH

- Direct Impacts

- Hot weather, and heat stress.
- Severe weather, and traumatic injury or deaths.

- Indirect Impacts

- Habitat change and Tickborne Disease
- Air Quality and allergy/asthma
- Water Quality and infectious disease
- Resilience and mental health outcomes



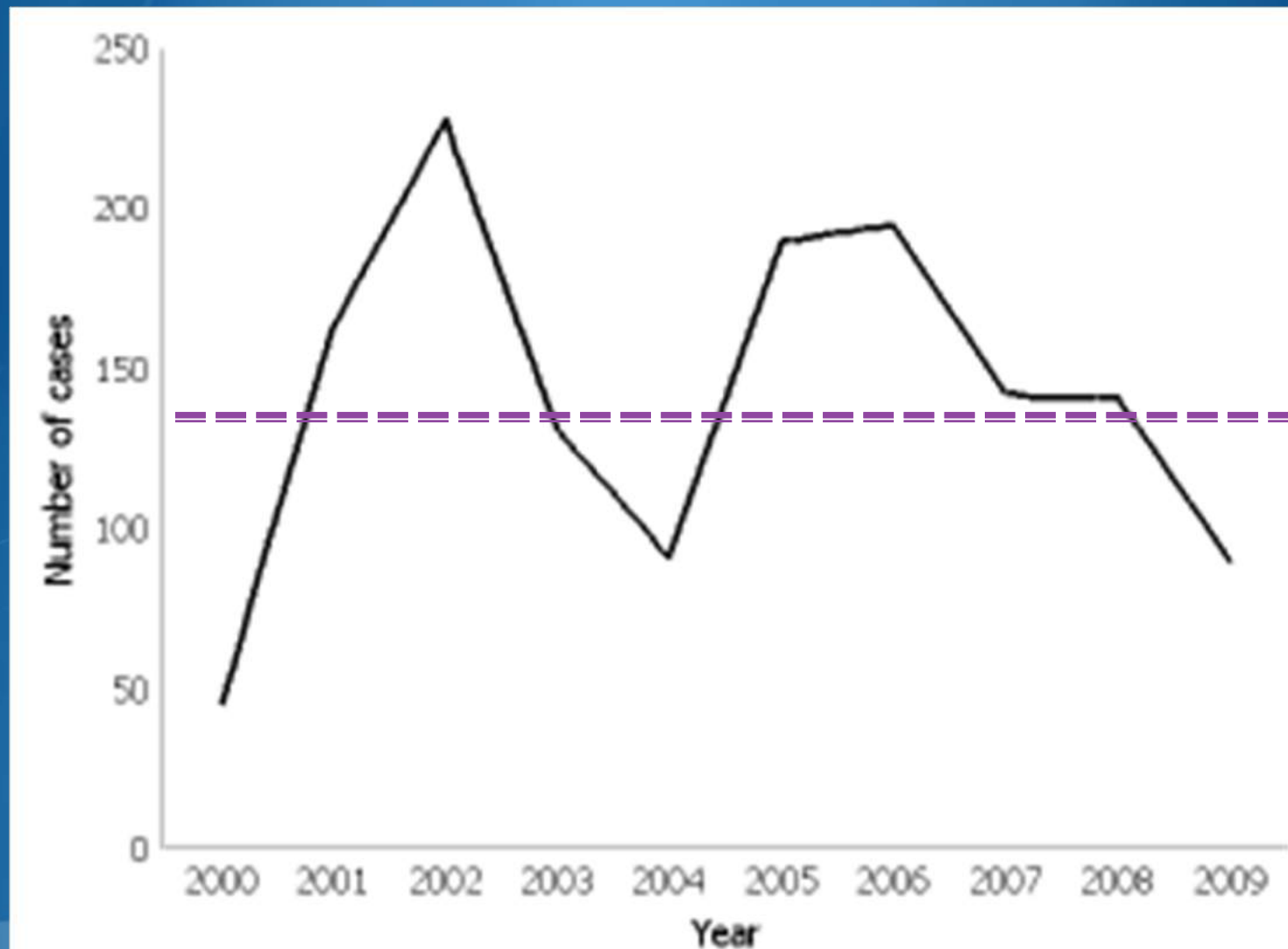
# Key Message 2

- Climate Change is increasing health risks in New Hampshire.



# Hospital Visits for Heat, 2000-2009

- Average of 141 cases per year

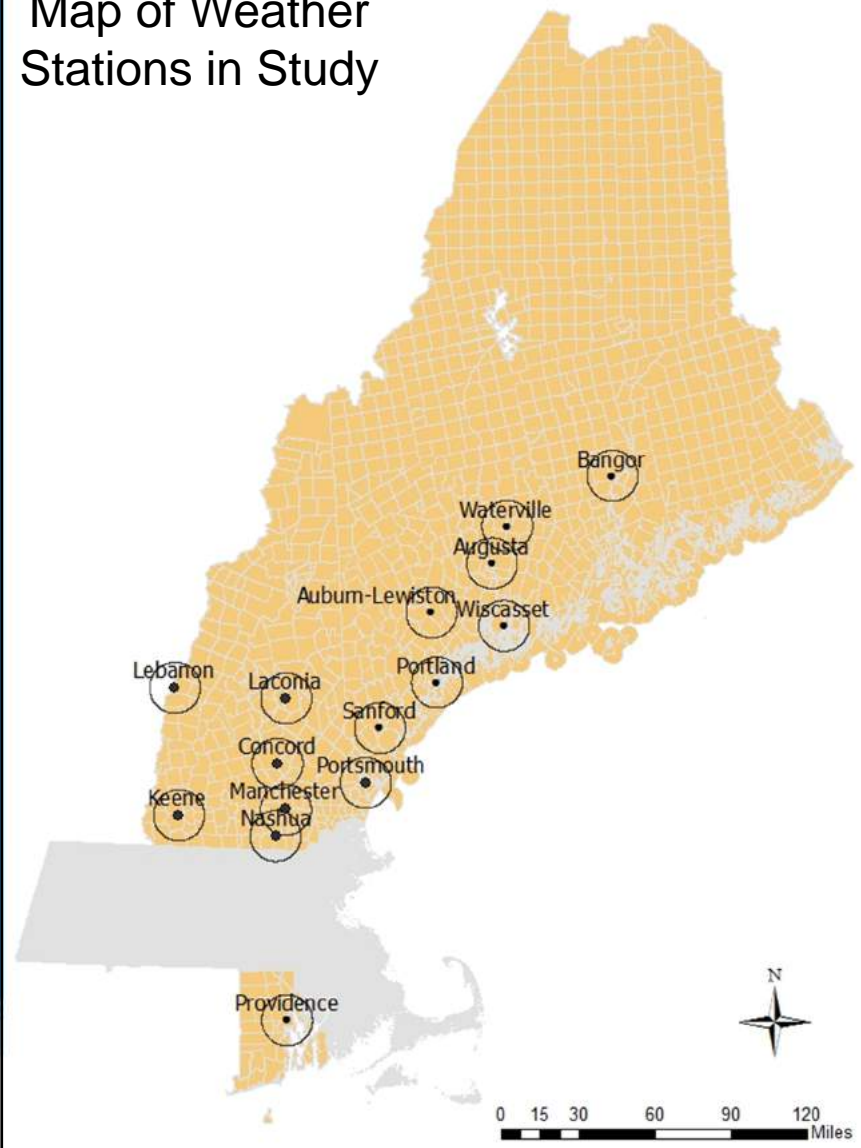




# New England Summer Heat and Health Study

- Based on a 2010 NYC study
- Goal to assess how 'moderate' outdoor heat relates to all-cause hospital visits
- Refine methods, analyze patterns, build evidence, report findings.
- Inform protective actions:
  - Share with partners
  - Raise awareness or change policies
  - State Excessive Heat Response Plan, regional or local plans.
  - NWS Excessive Heat Warning thresholds
  - Create an Early Warning Decision Support Tool

Map of Weather Stations in Study





# Summertime Heat and Health – comparing risk

## Summary of Heat Index and Associated Excess Emergency Department Visits (May-September; 2000-2009)

Location	2010 Population	Heat Index (Mean)	Heatwave Events (3 days $\geq 90^{\circ}\text{F}$ ) per Year	Number of Days $\geq 95^{\circ}\text{F}$ per Year	Excess ED Visits at $95^{\circ}\text{F}$ per Year <sup>1</sup>	
<b>Lebanon</b>	<b>39,891</b>	<b>43-105 (75)</b>	<b>1.3</b>	<b>3.2</b>	<b>10</b>	
Keene	63,146	33-105 (74)	1.1	2.7	12	
Laconia	68,195	35-103 (73)	1.0	2.5	22	
Concord	107,764	43-106 (75)	1.8	4.8	45	
Portsmouth	138,744	43-112 (74)	1.7	5.8	62	
Manchester	238,059	43-105 (76)	2.1	4.4	84	
Nashua	212,615	44-113 (77)	3.0	9.4	148	



# Summertime Heat and Health – comparing risk

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<b>Lebanon</b>	<b>39,891</b>	<b>43-105 (75)</b>	<b>1.3</b>	<b>3.2</b>	<b>10</b>	<b>82</b>
Keene	63,146	33-105 (74)	1.1	2.7	12	124
Laconia	68,195	35-103 (73)	1.0	2.5	22	214
Concord	107,764	43-106 (75)	1.8	4.8	45	307
Portsmouth	138,744	43-112 (74)	1.7	5.8	62	320
Manchester	238,059	43-105 (76)	2.1	4.4	84	640
Nashua	212,615	44-113 (77)	3.0	9.4	148	660

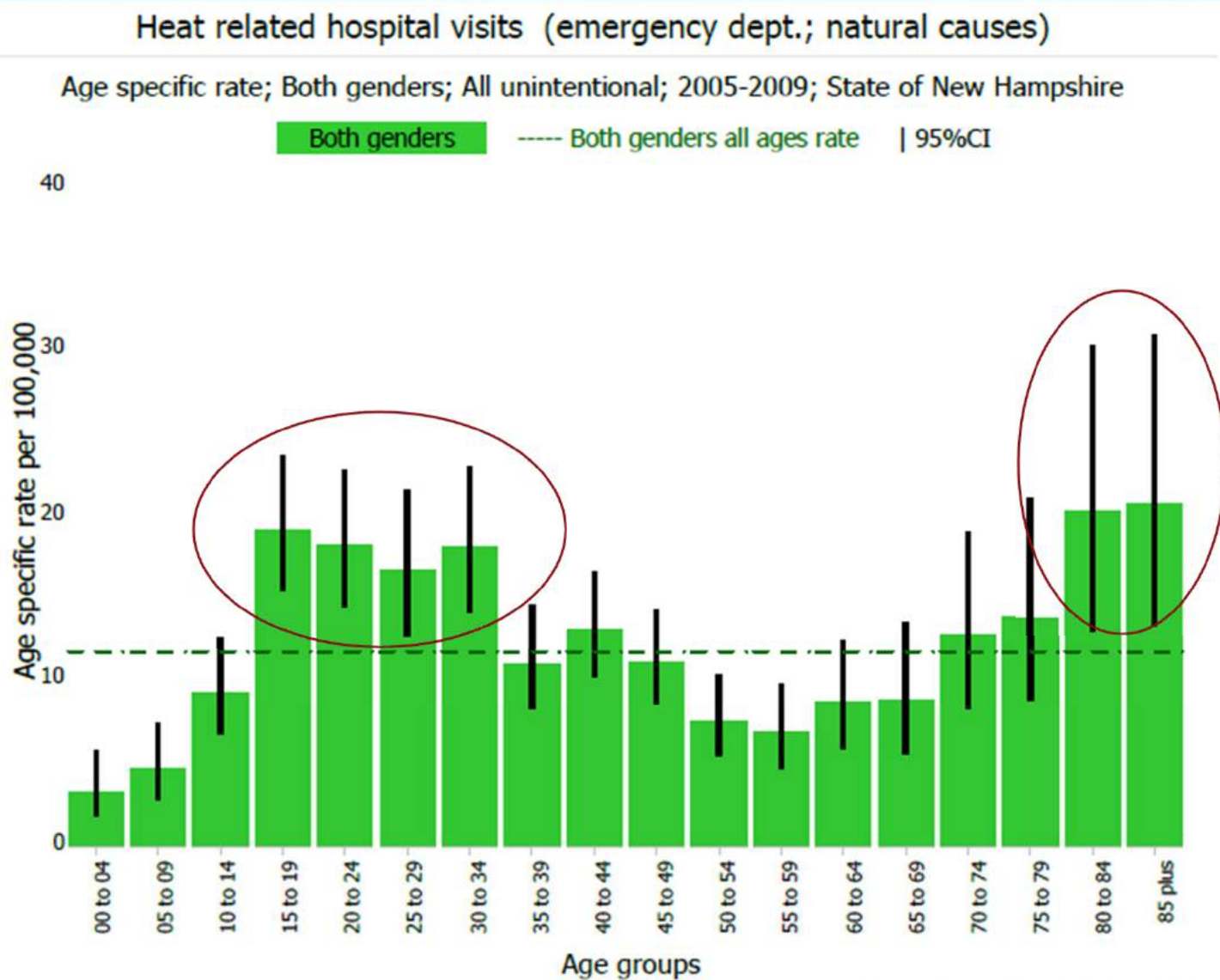


# Key Message 3

- Climate Change is a threat to all, yet some people more vulnerable to certain effects.



# Rate of Heat Injury by Age



Source: wisdom.dhhs.nh.gov



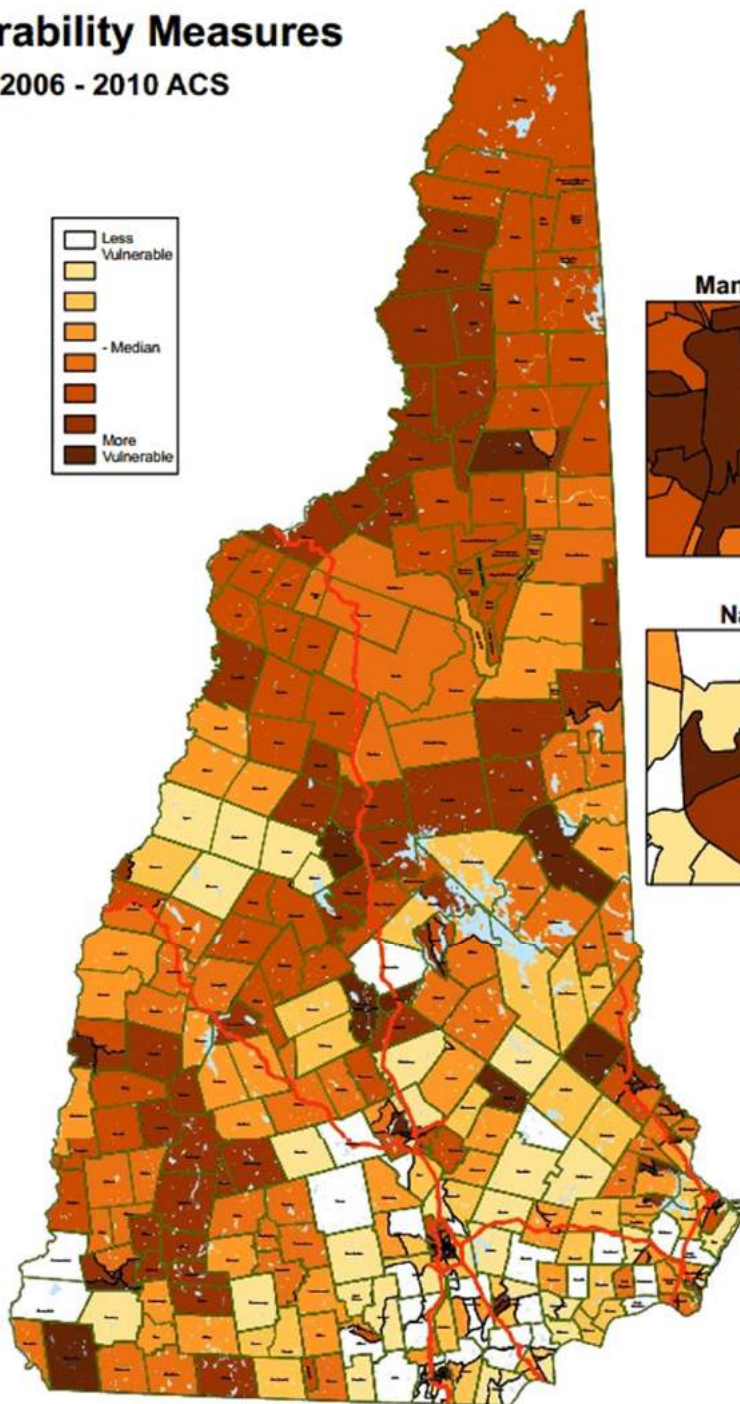
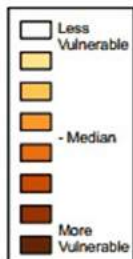


## Social Vulnerability Measures

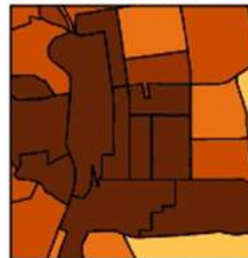
Based on 2006 - 2010 ACS

### Vulnerability Measures:

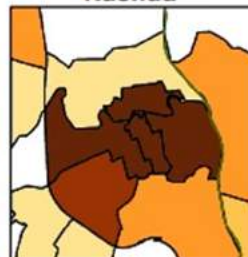
% Below Poverty Level  
% Unemployed  
% Per Capita Income  
% No High School Diploma  
% 65 or Older  
% 17 or Younger  
% Disabled  
% Single Parent Households  
% Minority  
% Don't Speak English  
% Multi-Unit Housing  
% Mobile Homes  
% Crowding  
% No Vehicle  
% In Group Quarters



Manchester



Nashua



## SVI by Town in NH

- Darker shade indicates greater vulnerability to the health impacts of disasters



# SVI Map

- Upper Valley PHN Area

We are  
here!



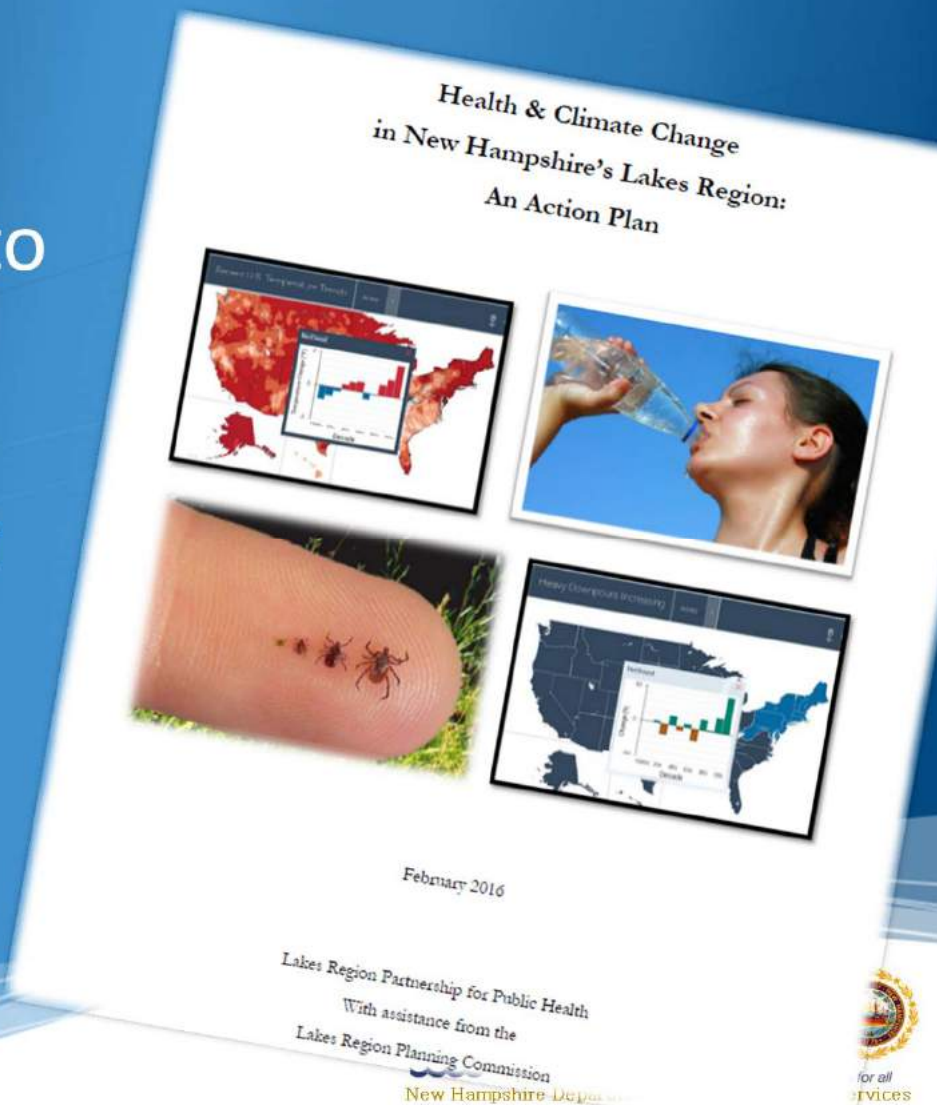
# Key Message 4

- Actions to adapt to climate change can benefit our health now, and in the future.



# Lakes Region C&H Project

- April 2015 funded to develop a climate adaptation plan
- Six month engagement to assess risks, health burdens, and priorities.
- Top concern was habitat change & Lyme Disease
- Now ready to assess interventions via youth recreation programs.



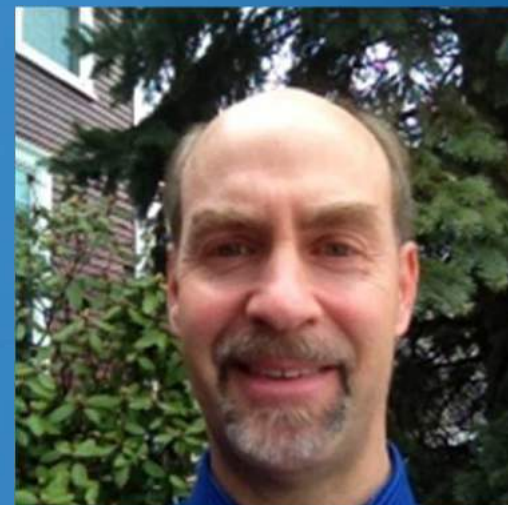


# For more information:

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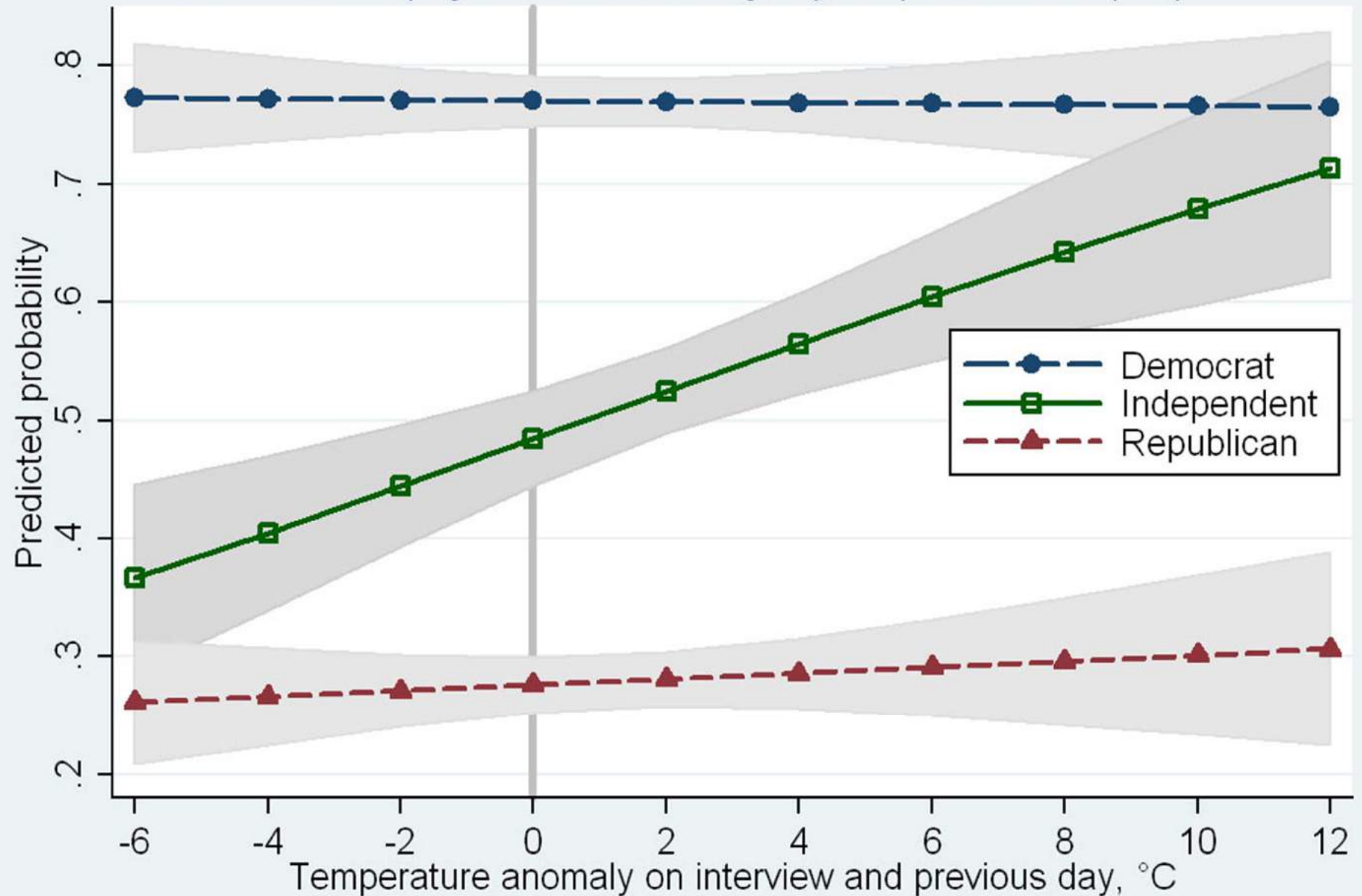


Or visit our website

[www.dhhs.nh.gov/dphs/climate/](http://www.dhhs.nh.gov/dphs/climate/)



Belief in anthropogenic climate change by temperature and party



Hamilton & Stampone in Weather, Climate & Society (2013)