

# Statewide and Regional Capacity of Local Health Departments to Prepare for Health Impacts of Climate Change

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MassMutual Center, Springfield, MA

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Bureau of  
**BEH**  
Environmental Health

# Outline

- I. Climate Change and Health in Massachusetts
- II. Background on CDCs Climate Ready States and Cities Initiative (CRSCI)
- III. Results of Local Public Health Climate Change Survey for Region 1
- IV. Summary
- V. Questions

# I. Climate and Health in Massachusetts

Early public health planning to prepare for climate effects

- MDPH/BEH co-chaired the Health and Human Welfare Panel of the Executive Office of Energy and Environmental Affairs (EOEEA) Climate Change Adaptation Committee (2008-2011)

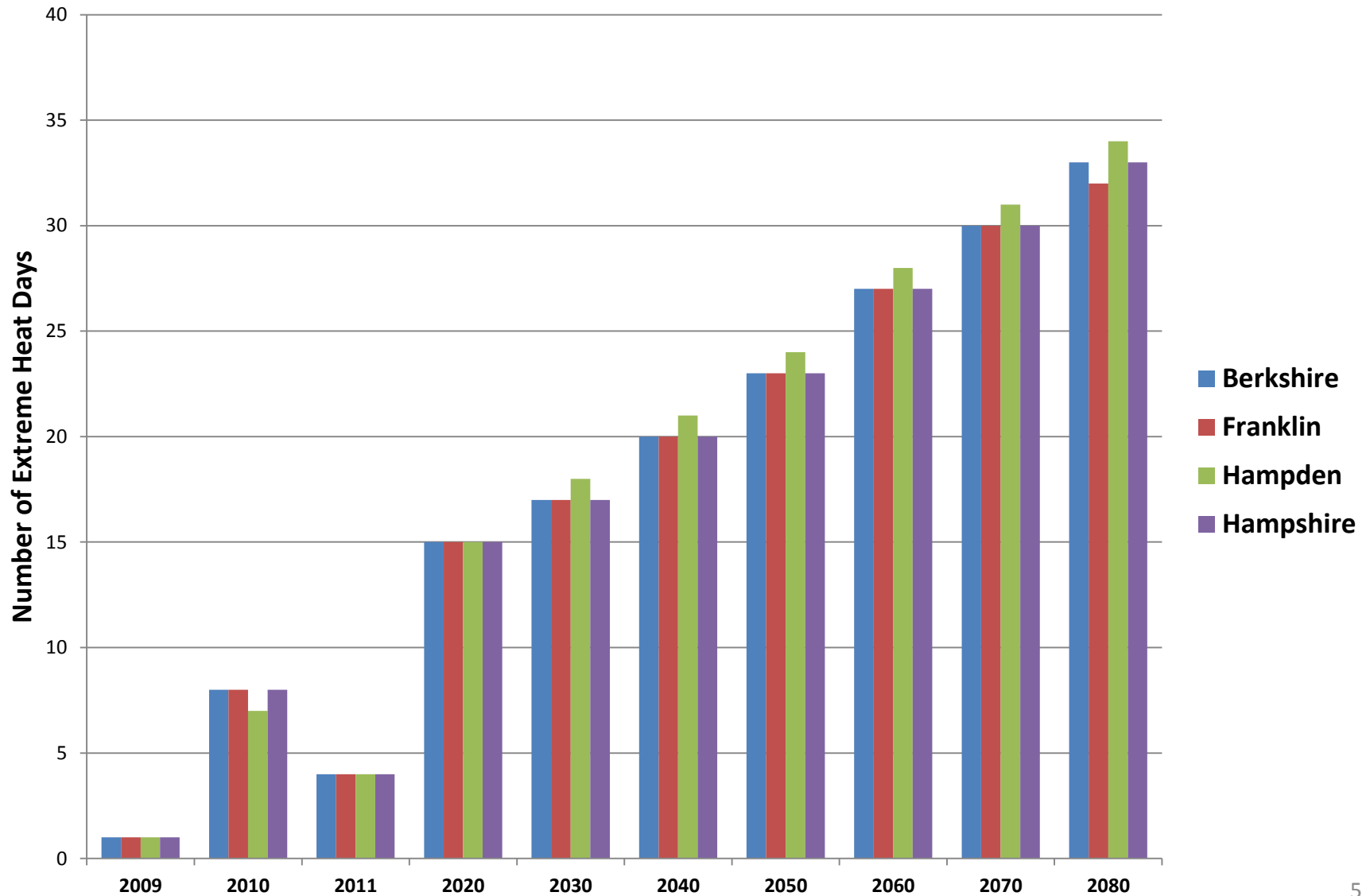
<b>PUBLIC HEALTH</b>	<b>Public health infrastructure, vector-borne diseases, heat stress, allergens, respiratory and cardiovascular diseases, extreme weather events</b>
<b>AIR QUALITY</b>	<b>Ambient and indoor air quality</b>
<b>WATER QUALITY/SANITATION</b>	<b>Drinking water, algae blooms, wastewater, water-borne diseases</b>
<b>AGRICULTURE AND FOOD SYSTEMS</b>	<b>Crops and livestock, water demand, pesticide use, new or invasive pests, food transmitted illnesses, security and safety</b>
<b>VULNERABLE POPULATIONS</b>	<b>Food security, allergens, air and water quality, vector-borne diseases, recovering from extreme weather events</b>

# I. Climate and Health in Massachusetts

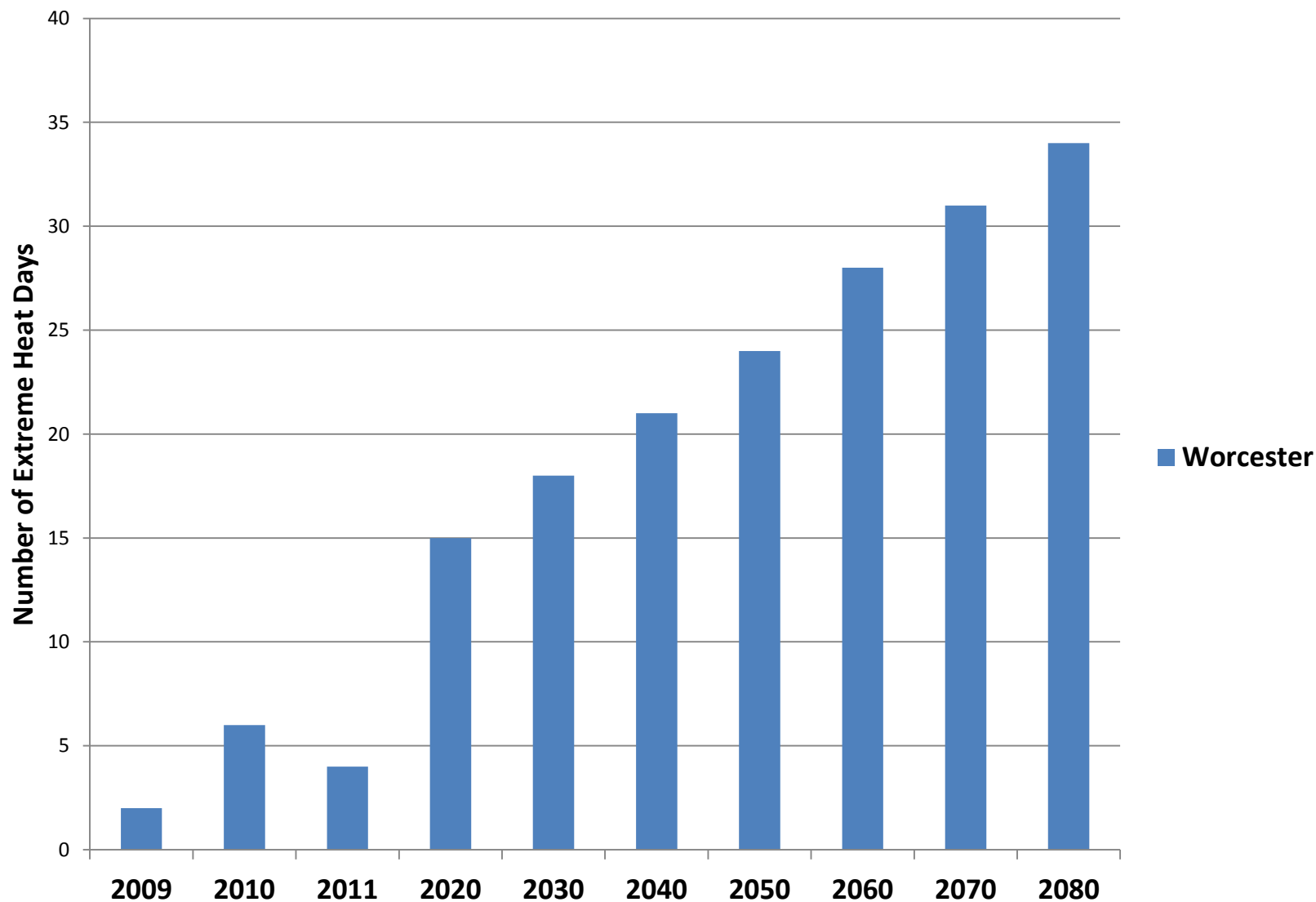
## DPH FOCUSED ON LOCAL AND REGIONAL ASSESSMENT OF CLIMATE CHANGE IMPACTS

- Climate effects more likely to impact Western Massachusetts
  - » More frequent heat waves
    - Vulnerable populations: elderly living alone, children, high school athletes, outdoor workers
  - » Increase in risk of vector-borne diseases
    - Eastern Equine Encephalitis
    - Lyme Disease
    - West Nile Virus
  - » Extreme weather events
  - » Flooding
  - » The challenge of delivering services to a less densely populated and geographically large region

# I. Climate and Health in Massachusetts – Region 1



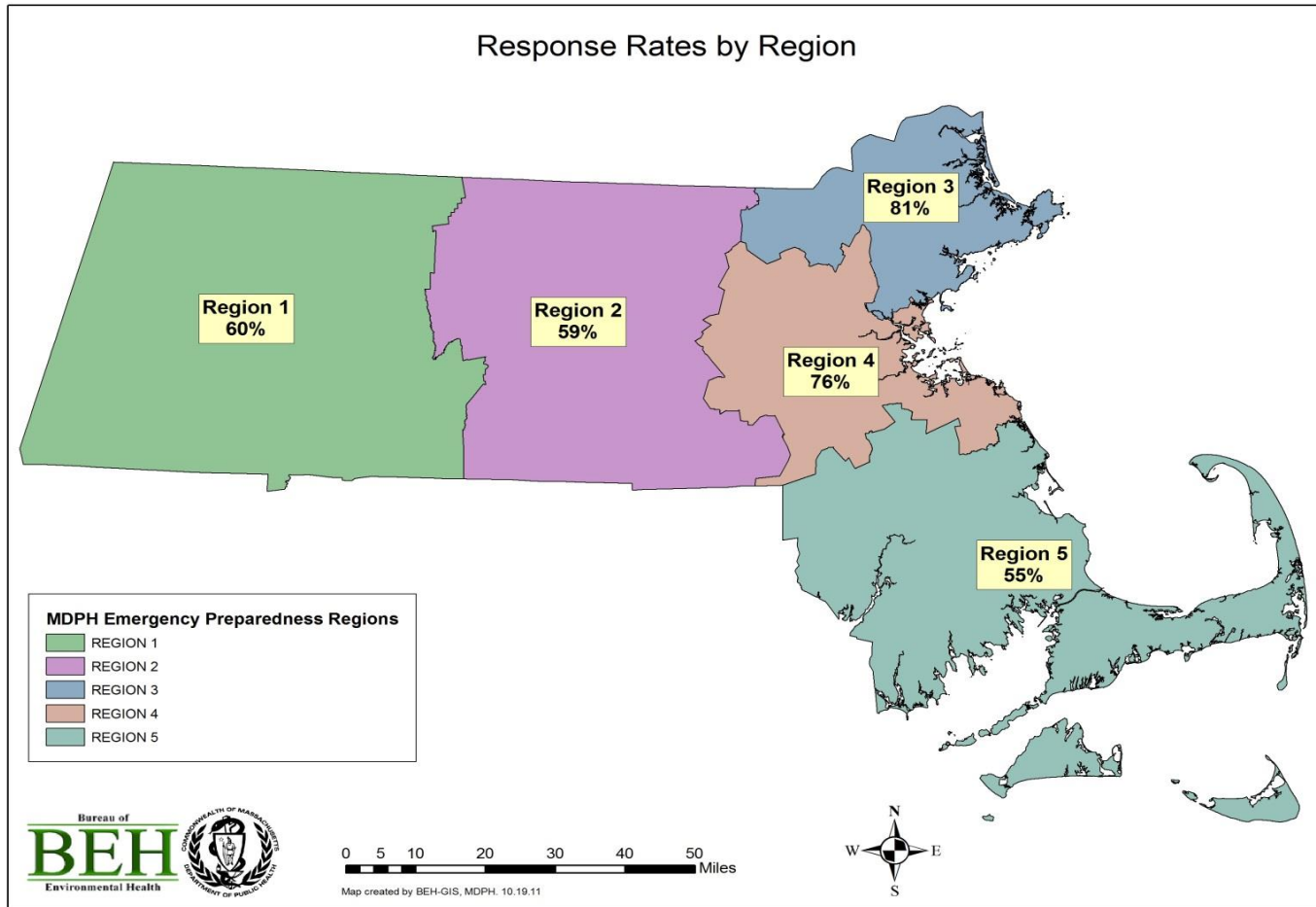
# I. Climate and Health in Massachusetts – Region 2



## II. Background on Climate Ready States and Cities Initiative

- In 2010 MDPH was one of ten states/cities awarded funds from US Centers for Disease Control and Prevention
- MA Goal: assess capacity of local health to respond to climate change impacts
- MDPH developed a survey to collect information from Massachusetts local health officials:
  - » Perceptions of climate change related health risks and capacity to address those risks
  - » Community's characteristics
  - » Baseline operations, emergency planning, and communication systems
- Surveys were returned from 227 (65%) of communities
- Surveys were returned from 58 (60%) of communities in Region 1
- Surveys were returned from 44 (59%) of communities in Region 2

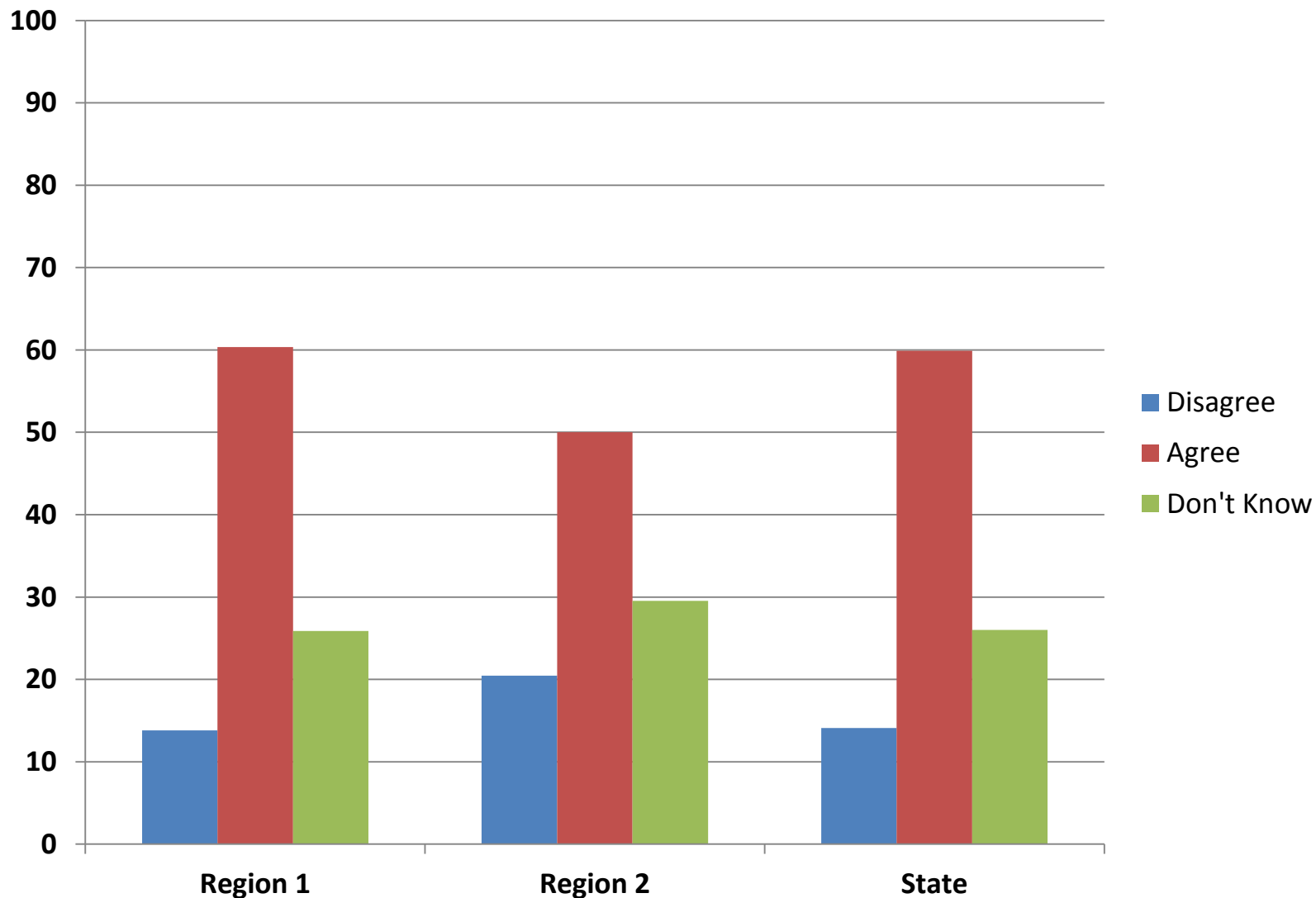
# III. Results of Local Health Climate Change Survey



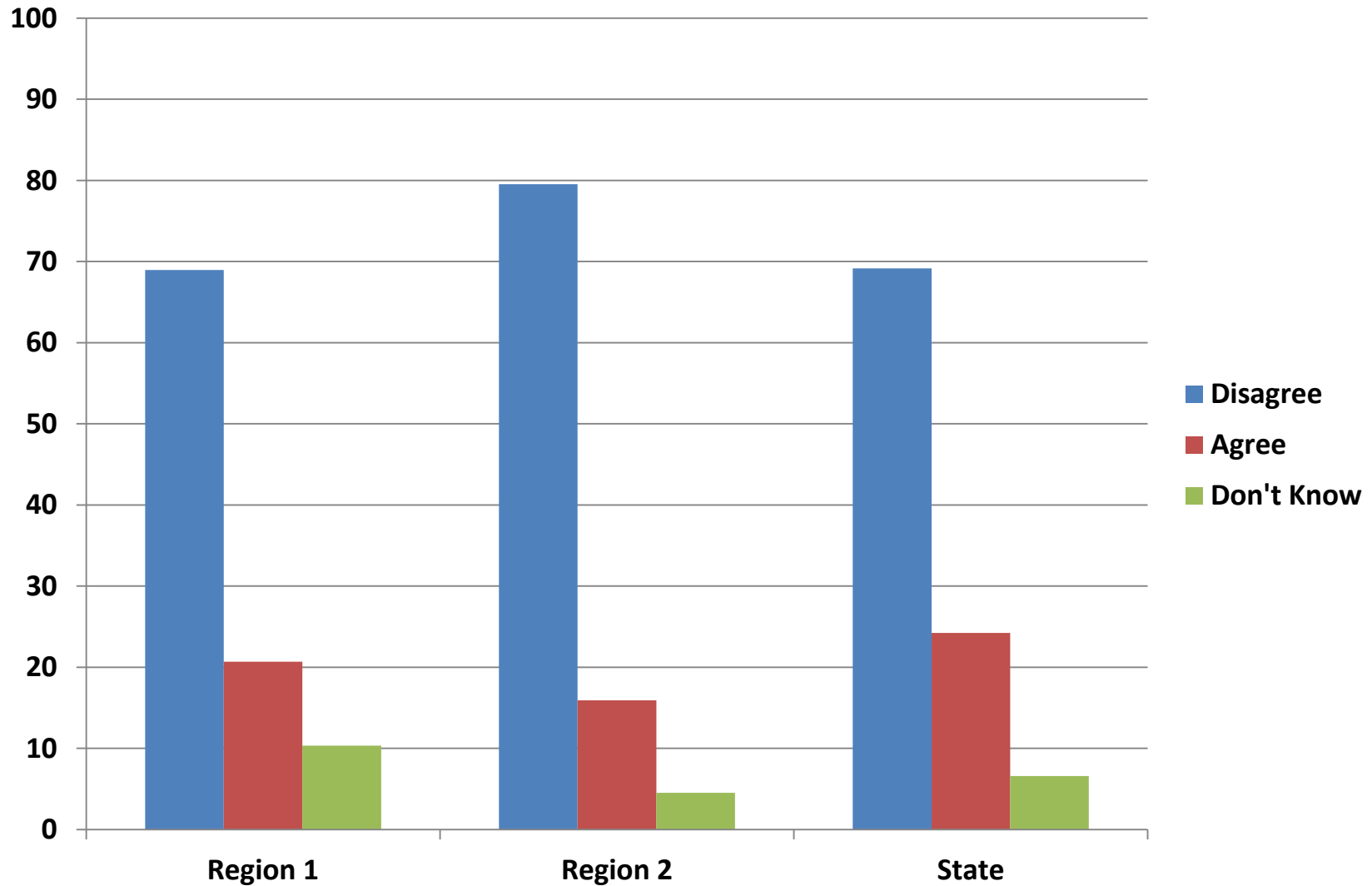
**Statewide Response Rate: 65%**



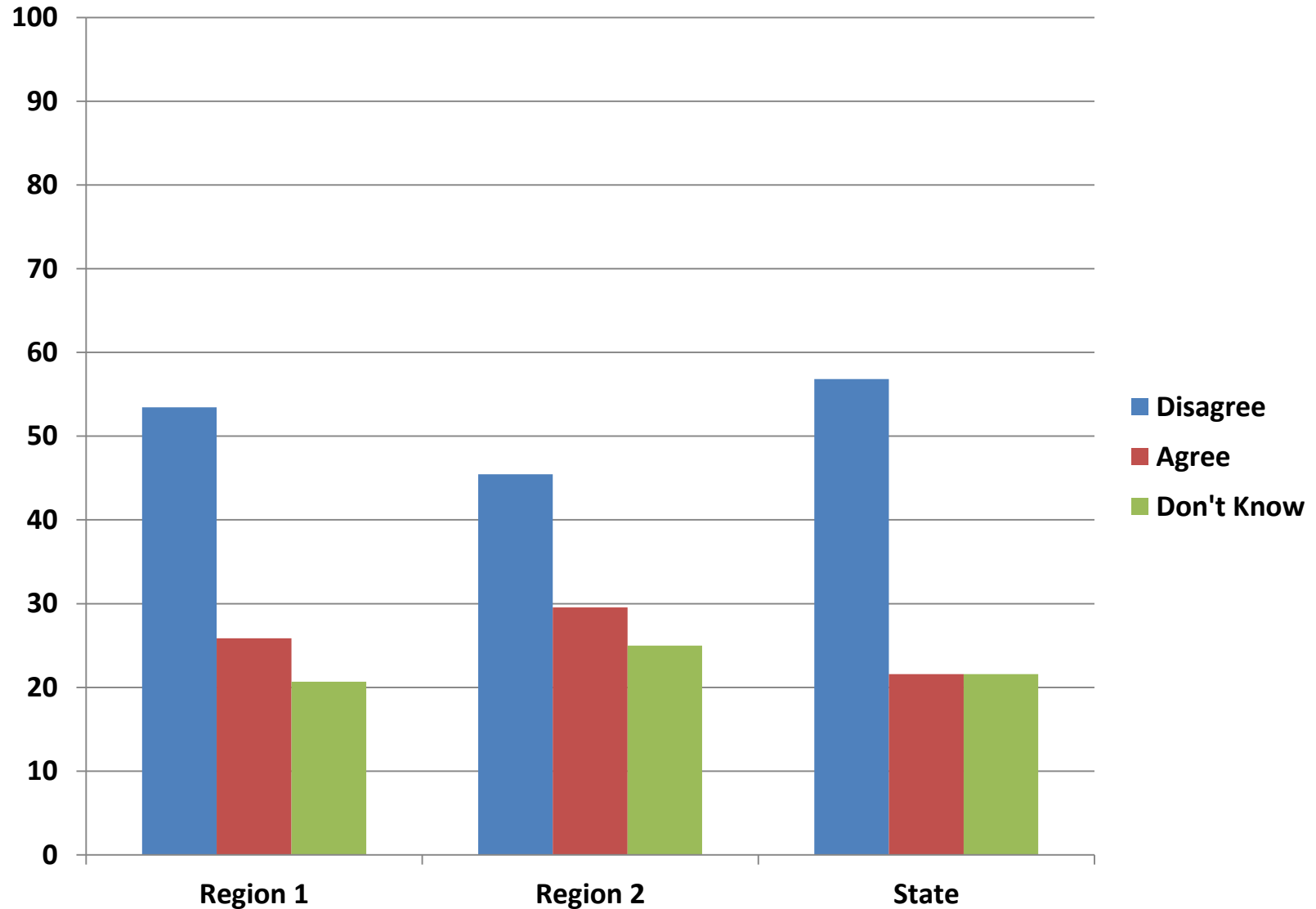
# In the next 20 years, it is likely that your jurisdiction will experience one or more serious public health problems as a result of climate change



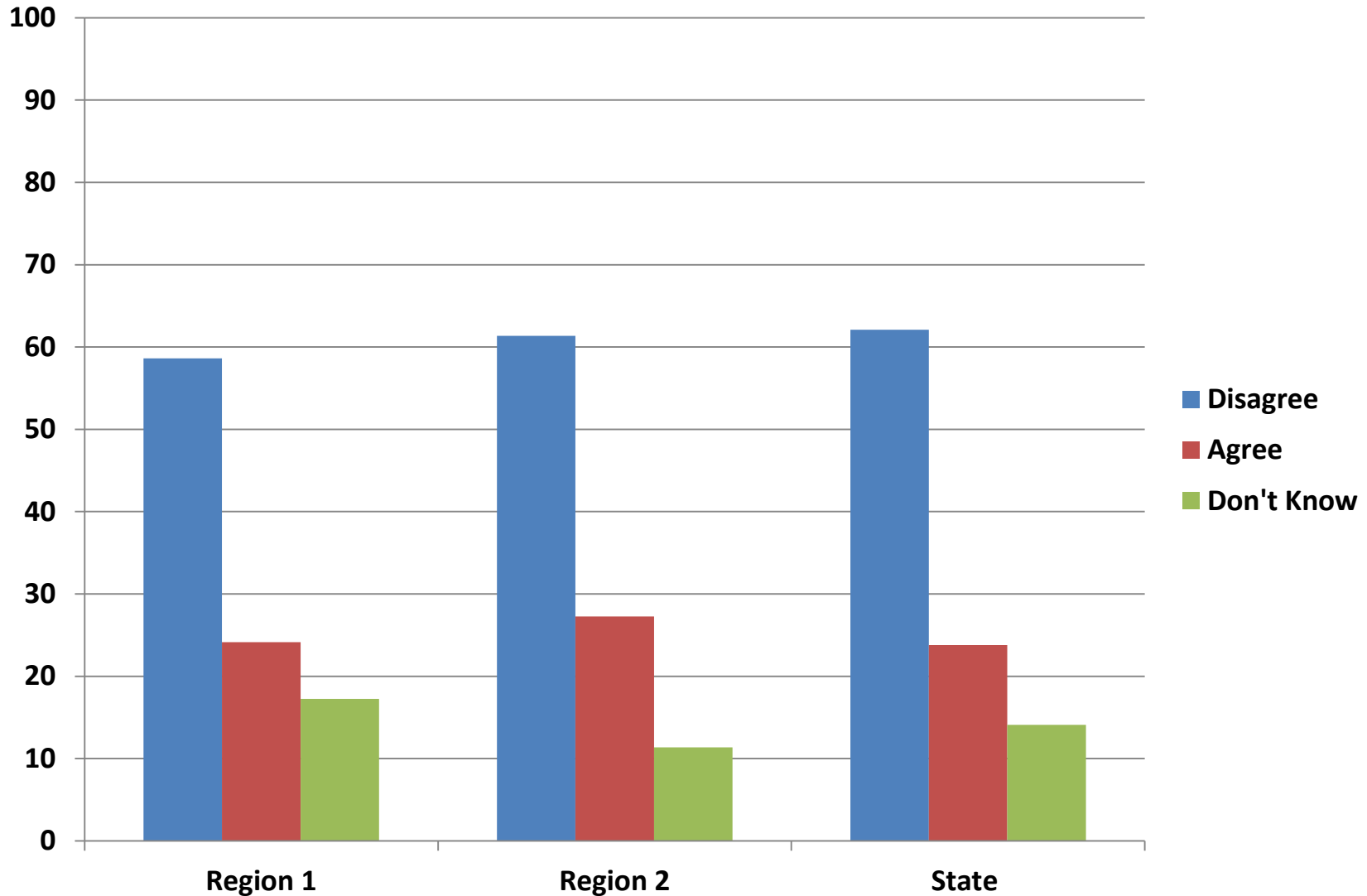
# Preparation to deal with the public health effects of climate change has been identified as an important priority for your health department



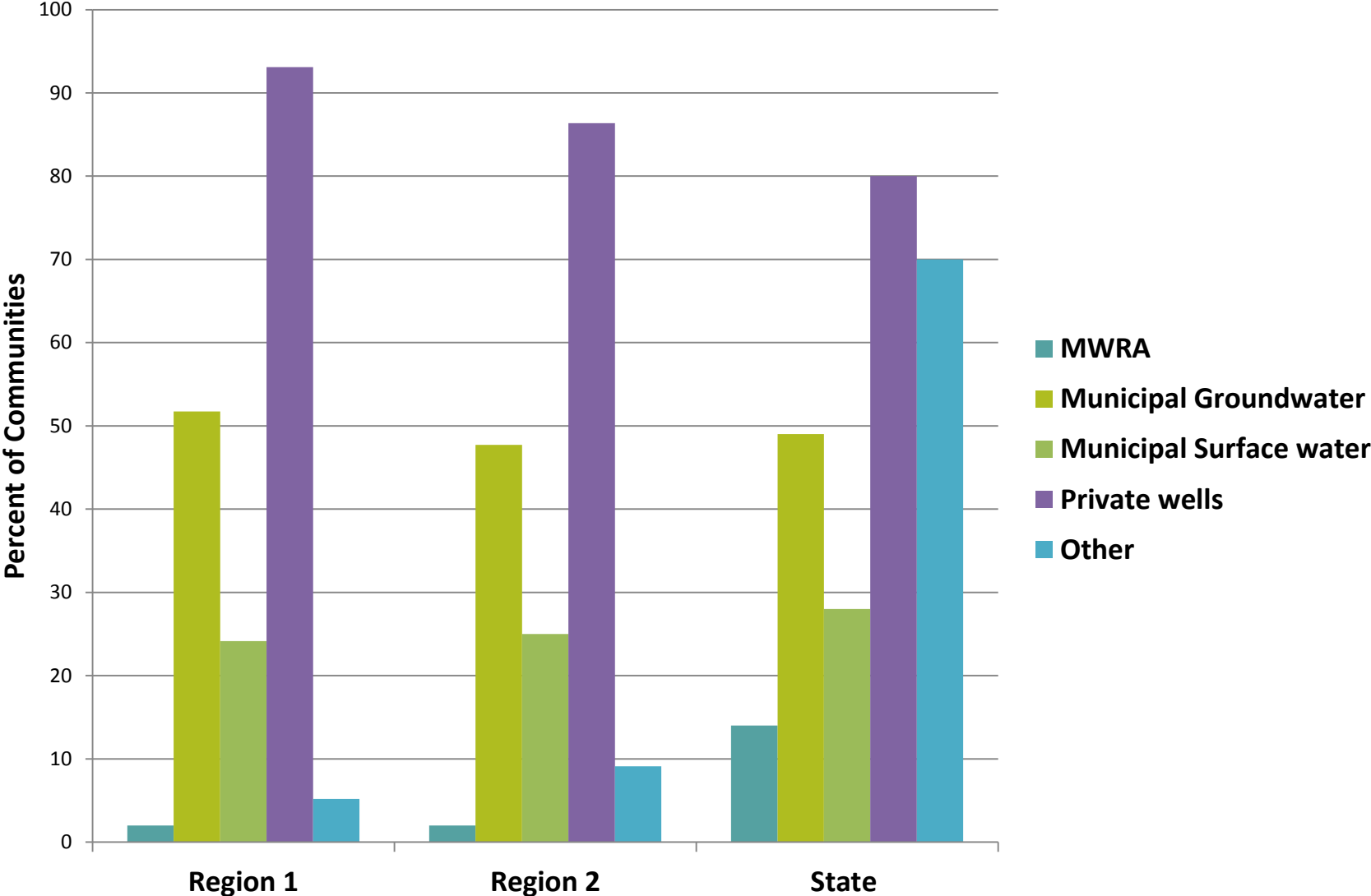
# You believe your community has adequate resources to address public health as a result of climate change



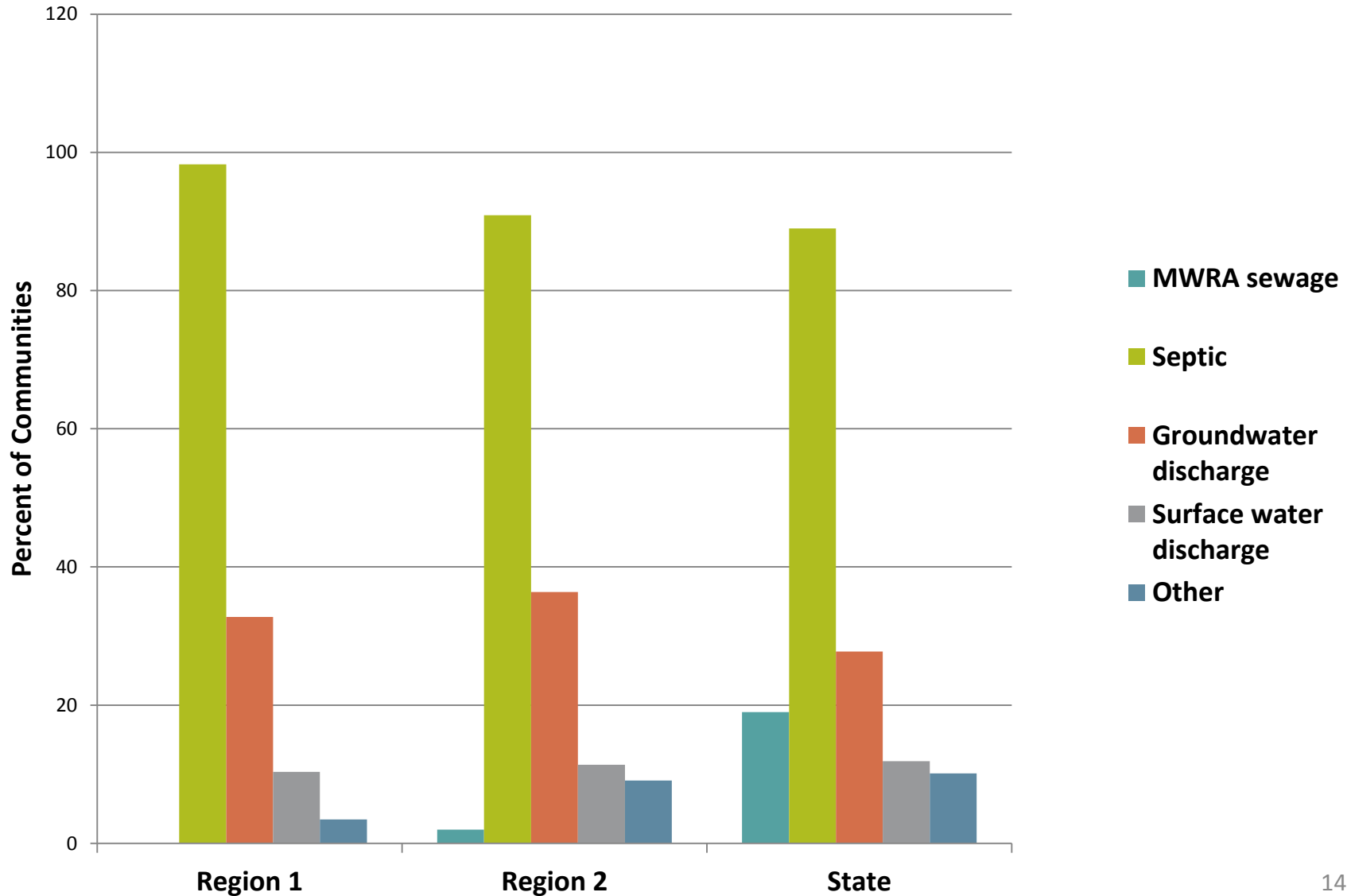
# You believe your community's health department staff currently has expertise to assess the potential public health impacts associated with climate change in my community



# Sources of Drinking Water in Massachusetts

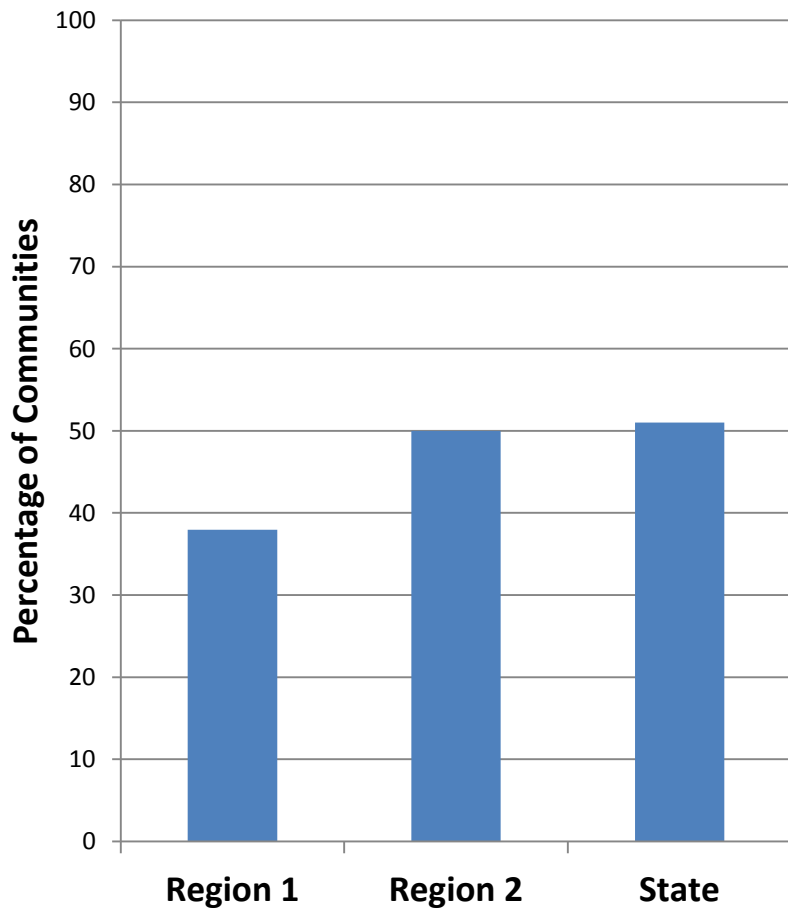


# Sewage Treatment Methods in Massachusetts

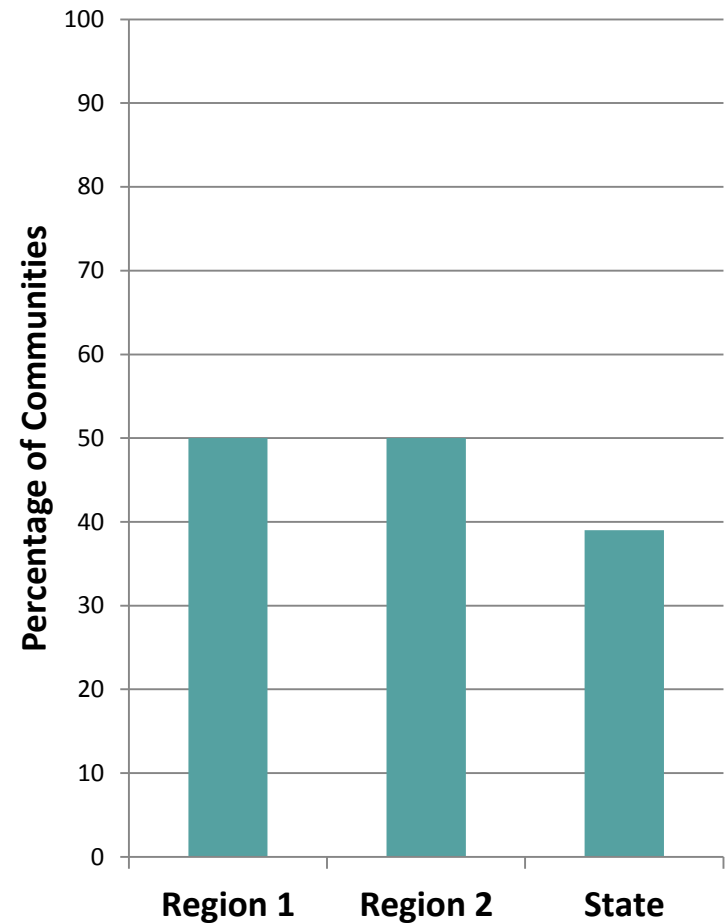


# Estimate of Air Conditioning Availability in Homes and Schools

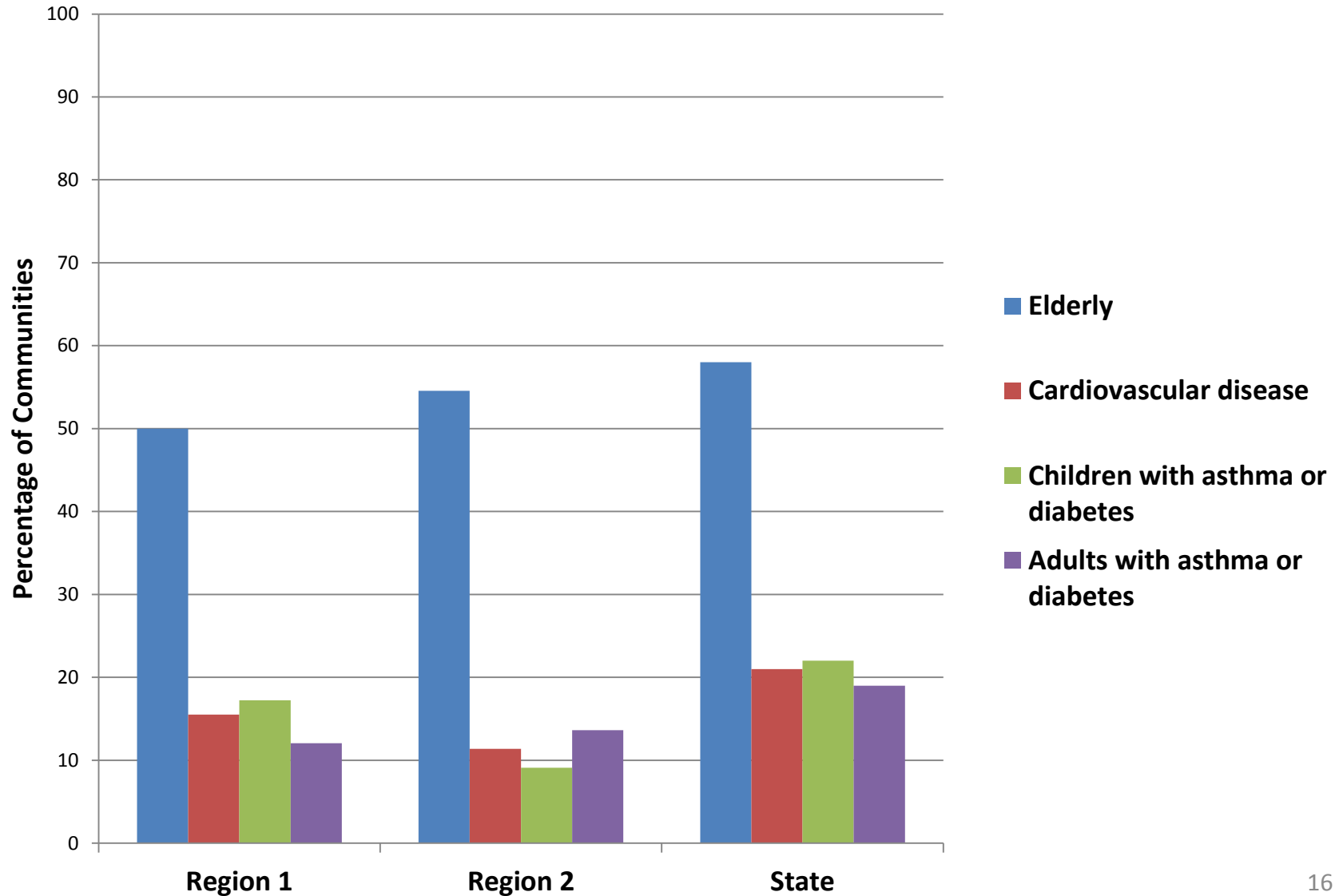
Knowledge of percentage of homes with air conditioning:



Knowledge of air conditioning availability in schools:

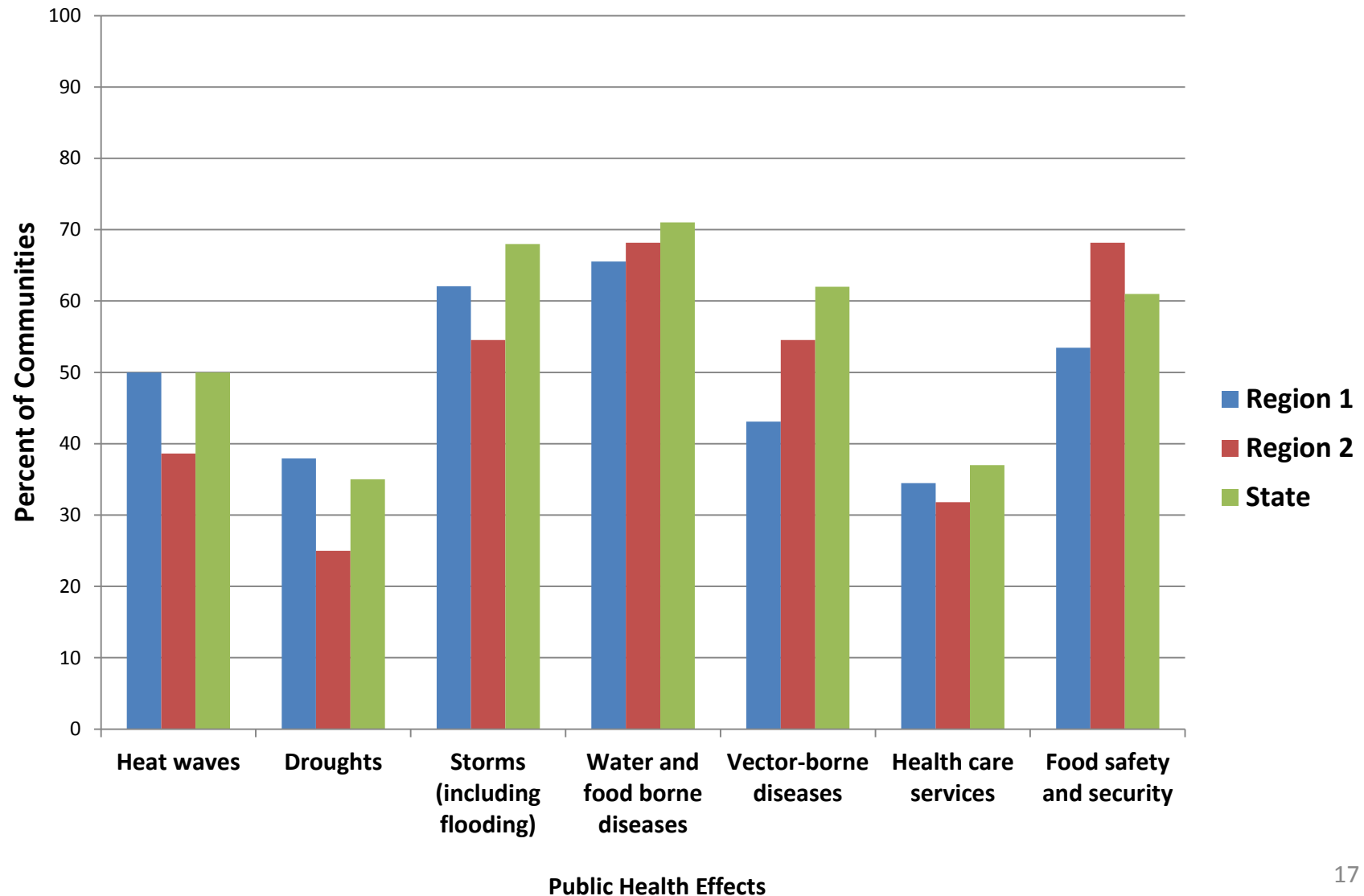


# Knowledge of Local Health Departments About Percentage of Vulnerable Residents

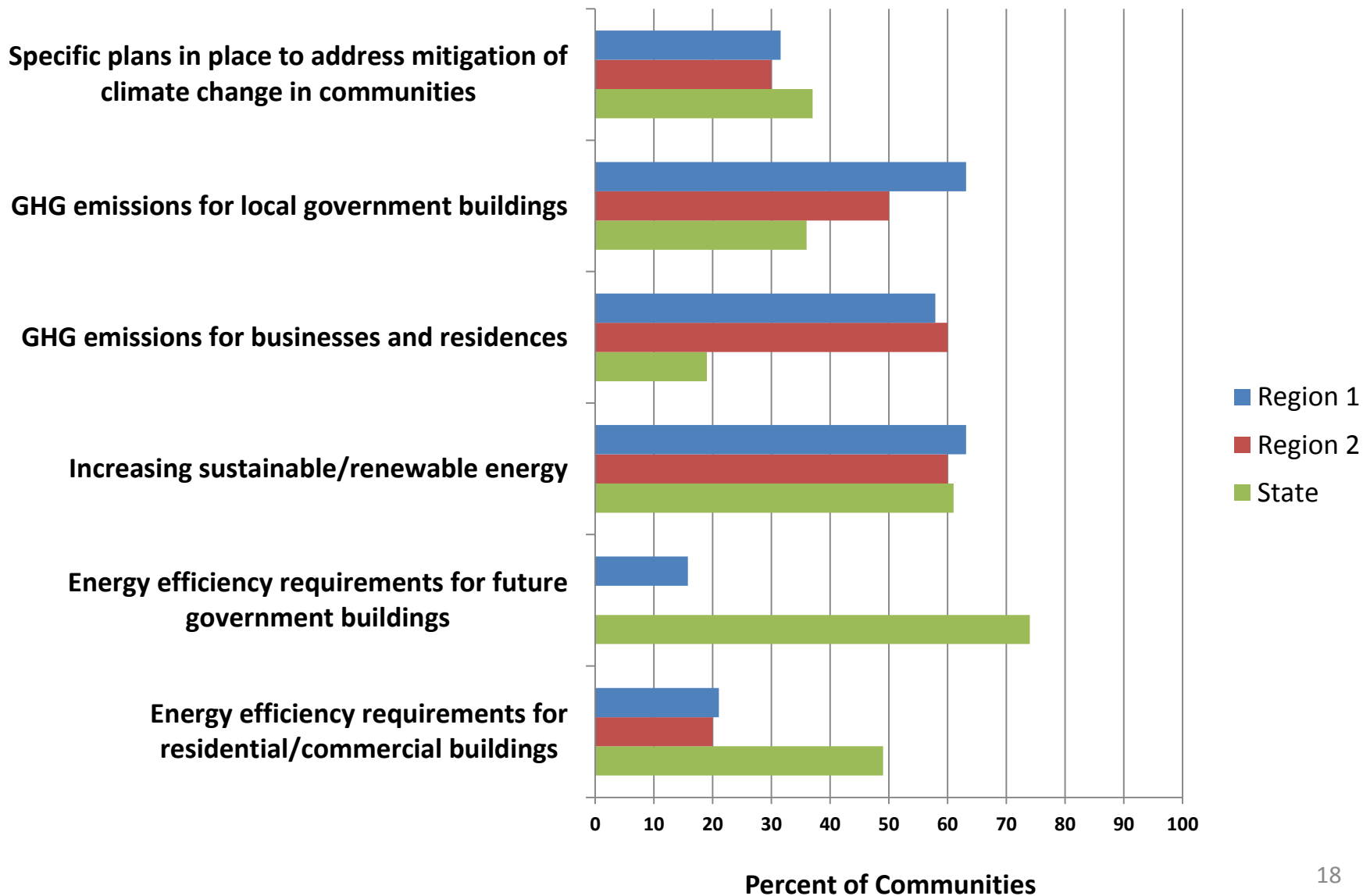




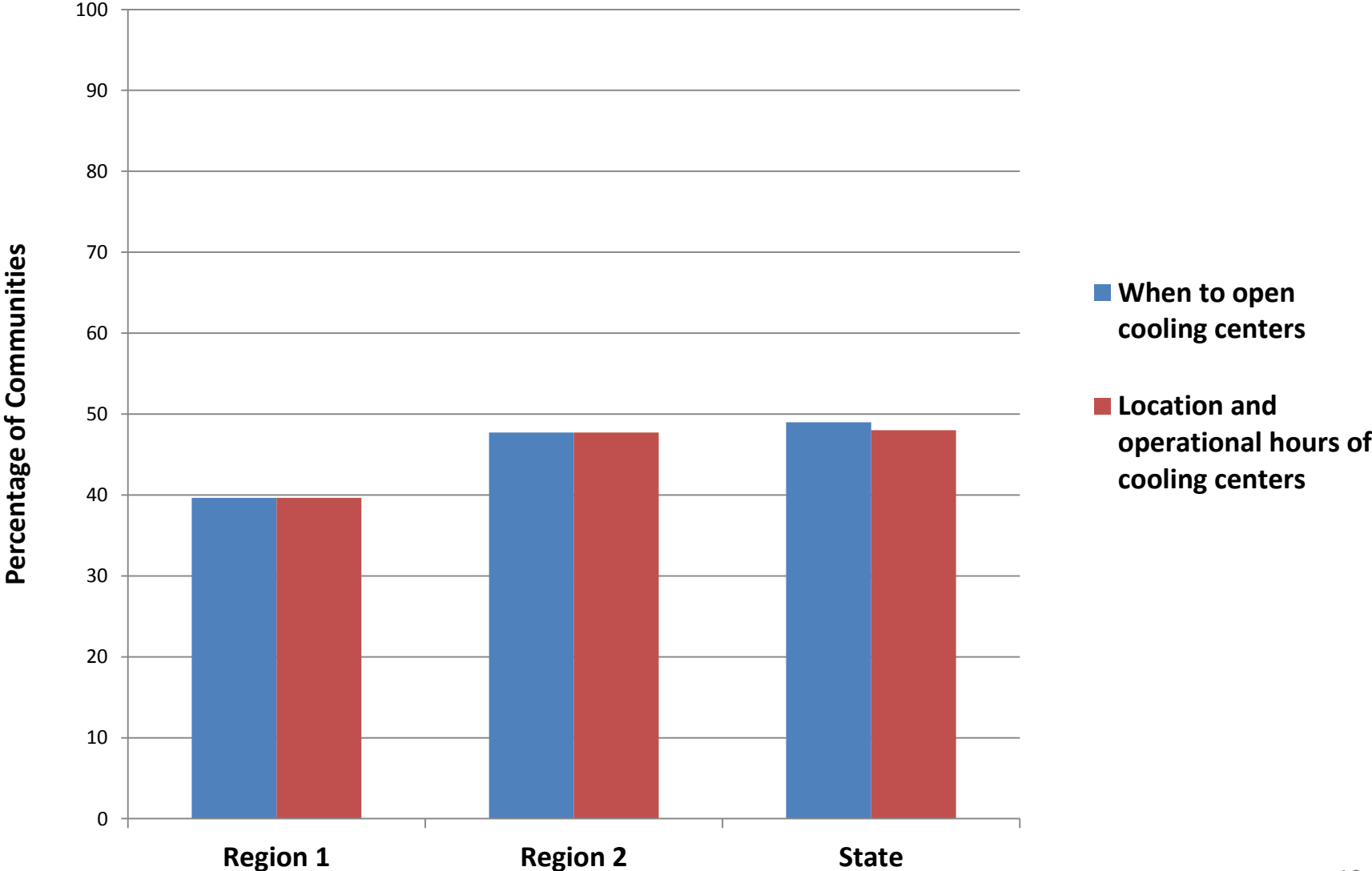
# Adequate Capacity of Local Health Departments to Address Public Health Effects of Residents in Massachusetts



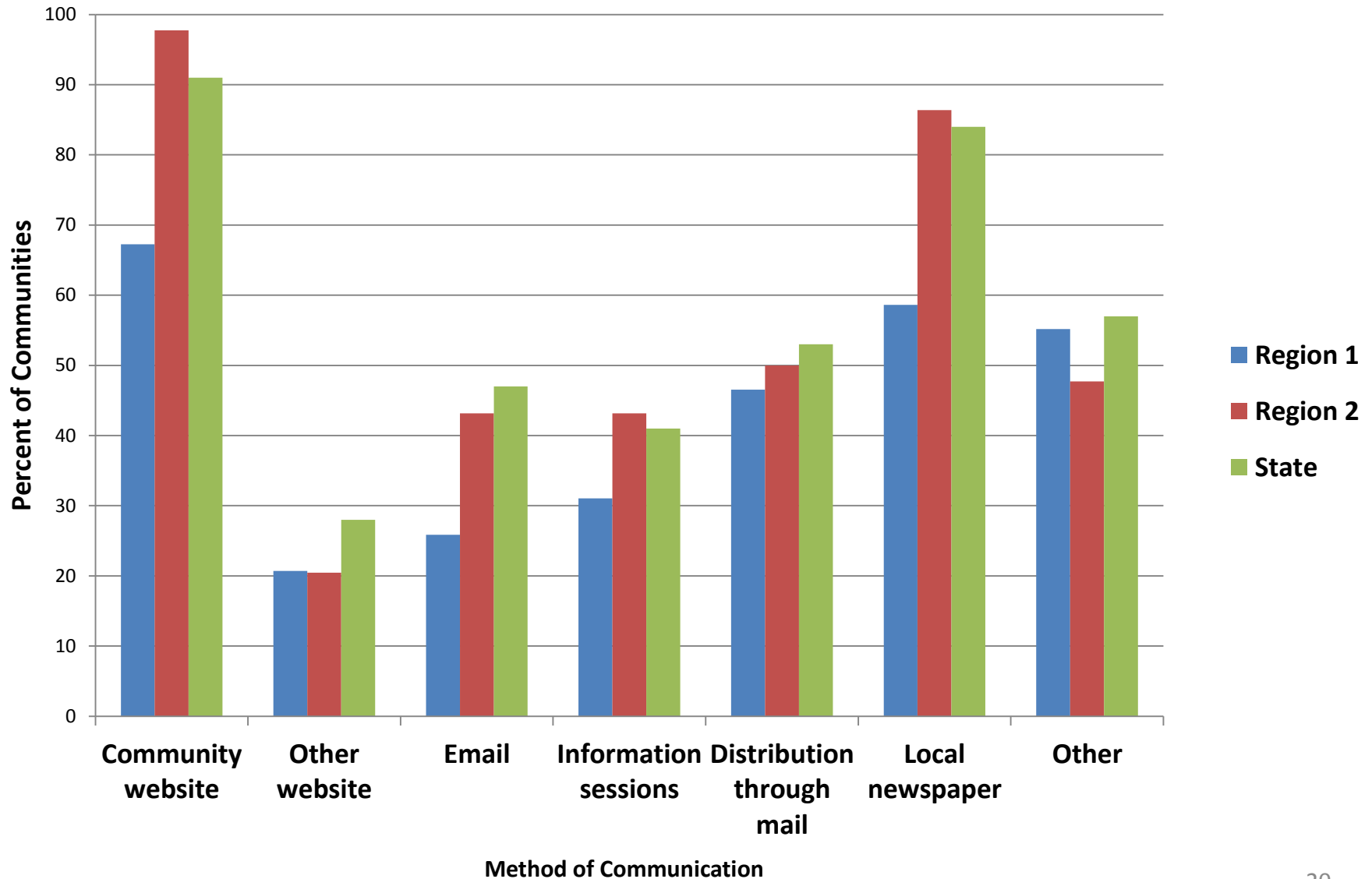
# Plans to Mitigate Community's Own Impact on Climate Change



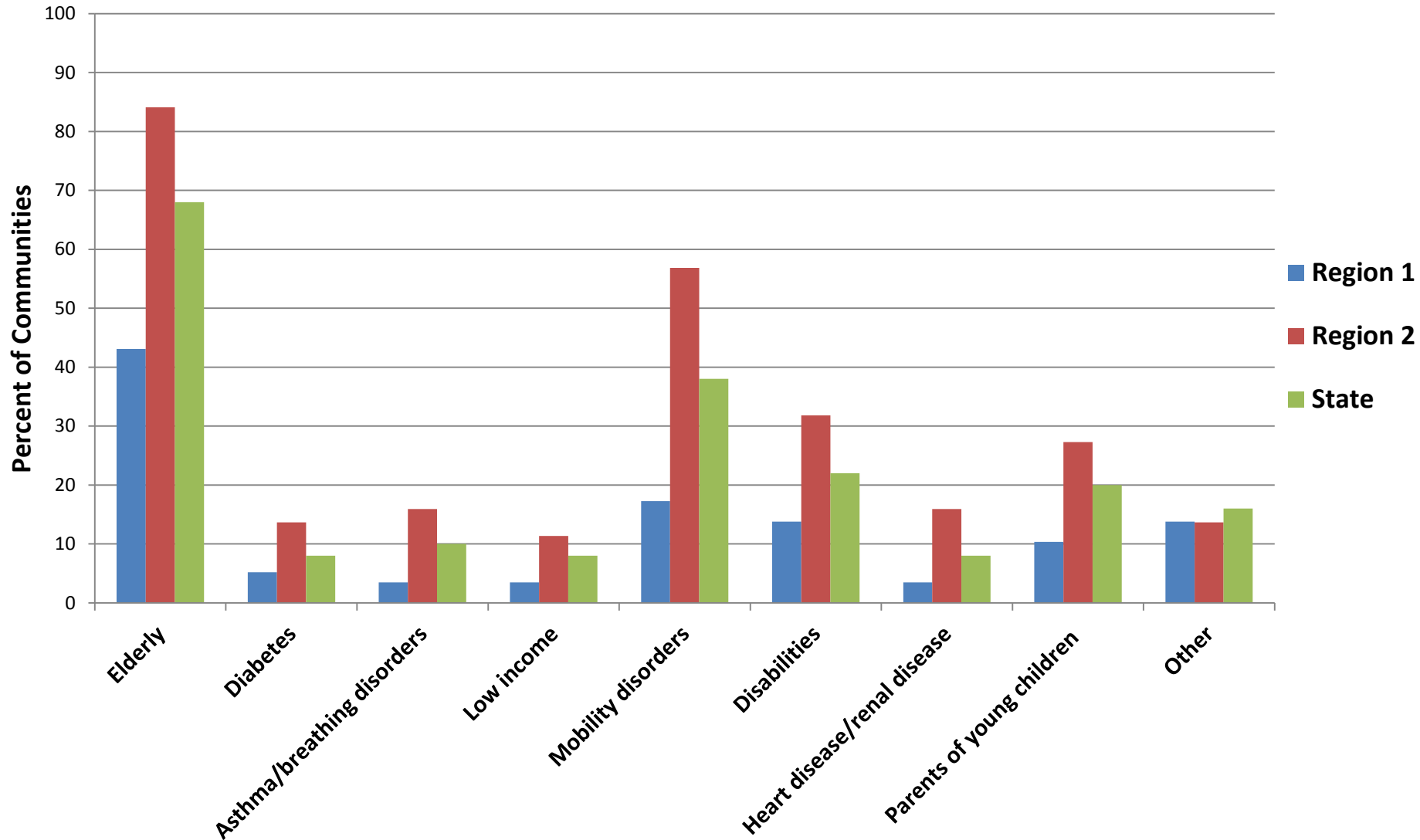
# Communities with Plans to Reduce Public Health Impacts of Heat Waves



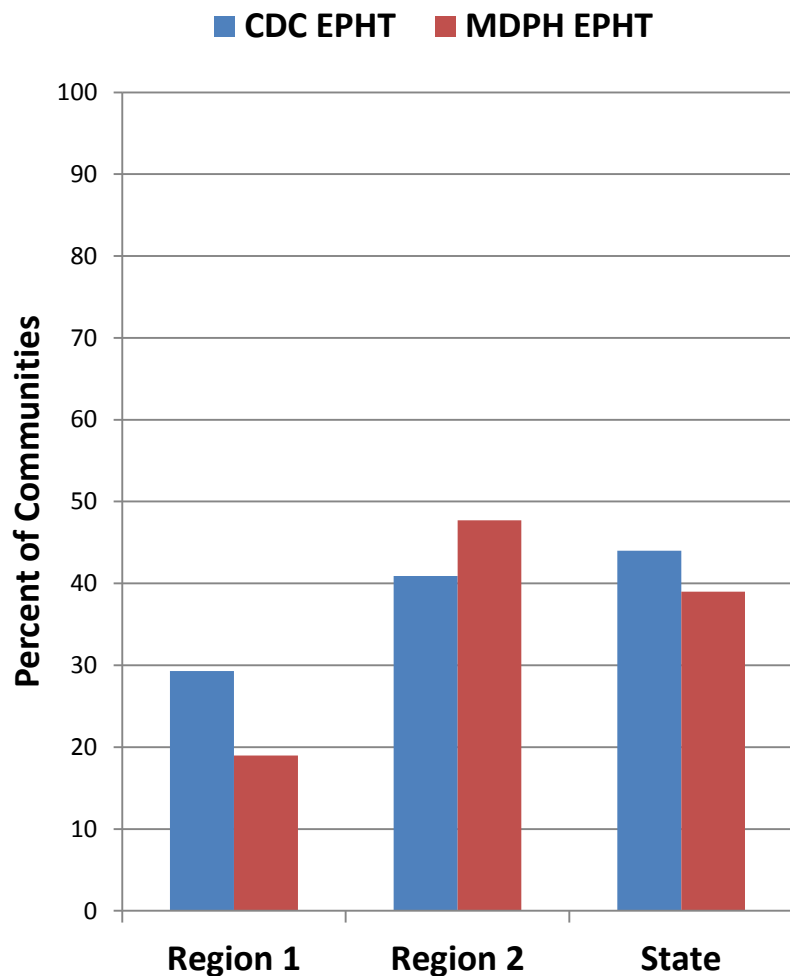
# Methods Used by Local Health Departments to Communicate About Health Information to the General Public



# Capacity of Community to Contact Vulnerable Populations During Emergencies



# Local Health Department's Familiarity with Sources of Public Health Surveillance Data

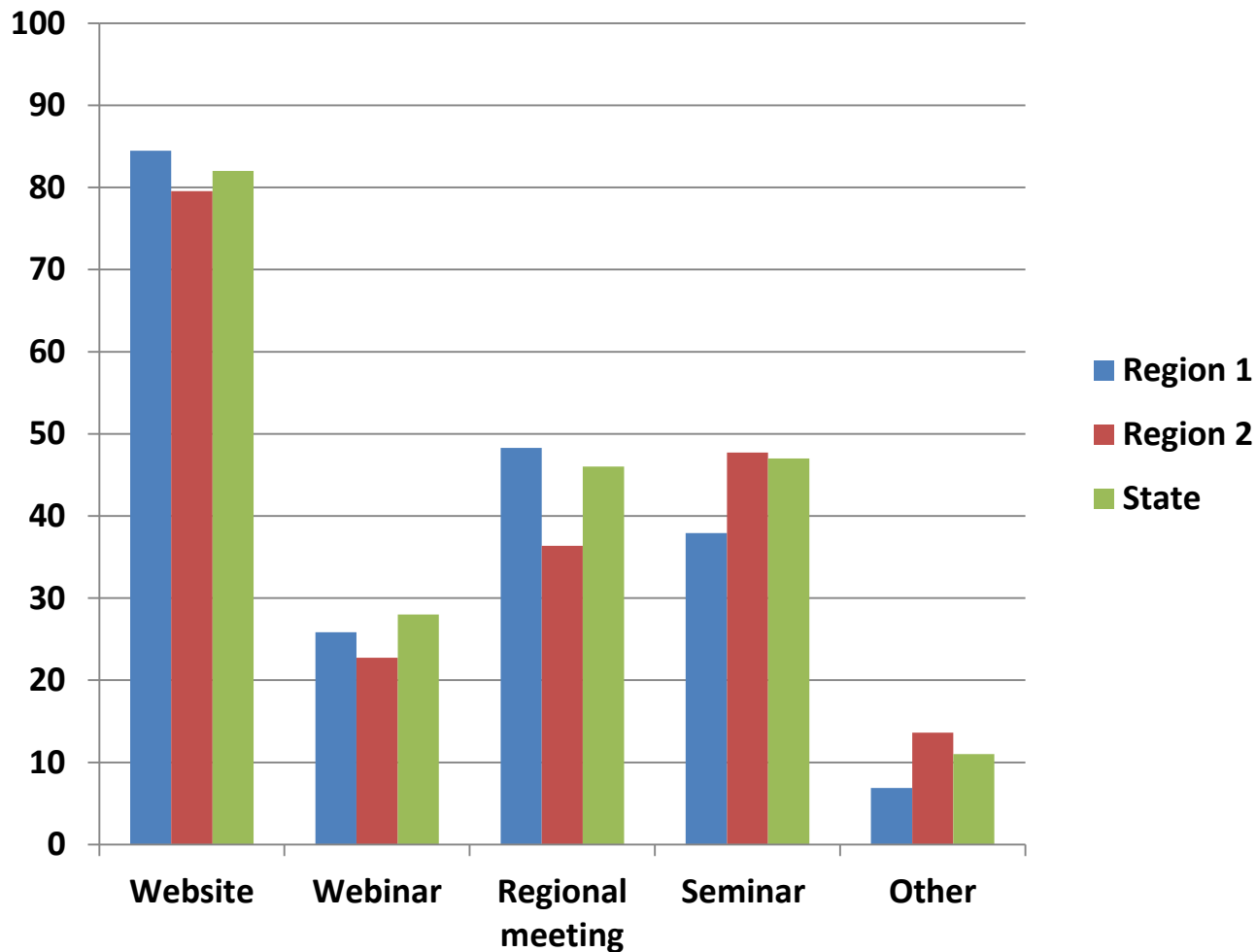


Will access to public health surveillance data be useful to local health departments?

	Percent
Region 1	81.0
Region 2	82.0
State	82.0

<http://matracking.ehs.state.ma.us/>

# Community Preference for Developing, Displaying, or Presenting Public Health Information



# Highlights of Existing Capacity And Areas In Need Of Enhancement

- About 60-70% LBOH in Regions 1 and 2 reported that they have, or are developing, specific adaptation plans including development of local flood zone regulations, and plans in place for evacuation of vulnerable populations during hazardous weather events
- However, there is an overall belief that local health departments are unprepared and under-resourced and/or lack the expertise to adequately respond to extreme weather events
- About one-third of respondents in Regions 1 and 2 indicated that their community had an initiative in place to mitigate the impacts of climate change; however, there is a need to coordinate local government officials and better integrate local public health in planning, preparedness, and adaptation strategies



# Highlights of Existing Capacity and Areas in Need of Enhancement, Continued

- Over two-thirds of participating LBOH in Regions 1 and 2 had plans, or felt they had the capacity to develop plans, to address storm responses and food/water borne diseases
- However, plans for populations that may be most impacted by climate change effects (e.g. respiratory disease, diabetes, heart/renal disease, low income) need further attention.
- About 50% of LBOH in Region 1 and 40% of LBOH in Region 2 that responded to the survey believe they have adequate resources to address heat waves in their community.
- Only 38% of school systems in Region 1 and 50% in Region 2 are aware of air conditioning availability in schools
- About 40% of responding LBOH in Region 1 and almost 50% of responding LBOH in Region 2 had plans, or were drafting plans, for cooling centers in the event of heat waves

# Development of Tools

- Enhancing the climate change webpage on MDPH website
  - » Implement BRACE framework
    - Develop climate profile and population vulnerability maps
    - Assess potential health burden
    - Develop evidence-based interventions in partnership with local health
  - » Enhanced training on data access and MDPH's Environmental Public Health Tracking portal at statewide local health meetings (1:00 pm session today)
- Review of information with MDPH Office of Preparedness and Emergency Management
- Promote use of HIAs to address climate effects
  - » Completing HIA in Western Massachusetts with focus on Williamsburg and Springfield
- Trainings and Regional Meetings are being planned for 2015

# IV. Summary

- Local health departments in both Regions 1 and 2 have made significant progress in preparing for and responding to public health emergencies; however, plans in Region 1 and in all other areas of the state will need enhancements to address impacts of climate change
- Data and information from MDPH will help to enhance these plans to better address climate impacts on health
- Training programs and enhanced website on climate change are important for furthering these efforts

# V. Questions?