Assessment of Local Health Capacity: Resilience and Adaptation Needs for Climate Change

Climate Variability and Health Impact Assessment: Tools for Planning and Adapting for the Future – Massasoit Community College

April 30, 2013

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Outline

I. Introduction

II. Background on Climate Change and Health in Massachusetts

III. Results of Local Health Climate Change Survey Statewide and for Region 5

IV. Highlights of Existing Capacity and Areas in Need of Enhancement

V. Examples of MDPH Tools in Development to Assist Local Health Departments

VI. Summary

I. Introduction

Emerging Issues

Fire

Flood

Oysters

Mosquitos

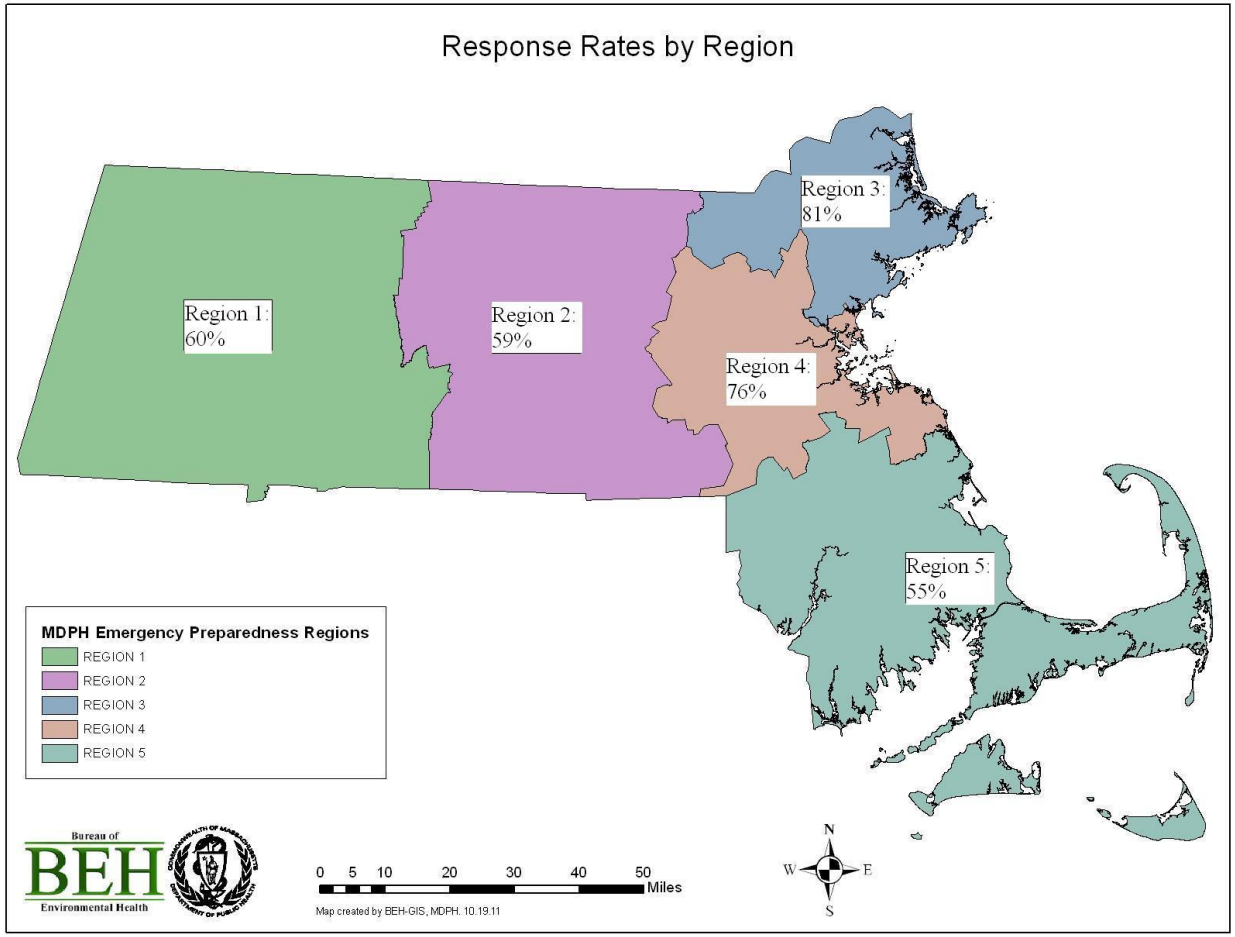
II. Background on climate change and public health in Massachusetts

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

- Potential climate change-related health impacts specific to Massachusetts include:
  - increased heat stress;
  - increased respiratory and heart diseases;
  - elevated levels of ozone and particulate matter;
  - higher pollen counts;
  - increased vector-borne diseases
  - more outbreaks of water-borne diseases;
  - degraded surface water quality
  - bacterial contamination impacting shellfish
  - extreme weather events can disrupt power, sanitary conditions, health care services, access to safe and nutritious food, and damaging homes and property

- MDPH awarded funds from US Centers for Disease Control and Prevention to assess capacity of local health to respond to climate change impacts

III. Results of Local Health Climate Change Survey By Region



Response Rates

Cape and Islands: 61%

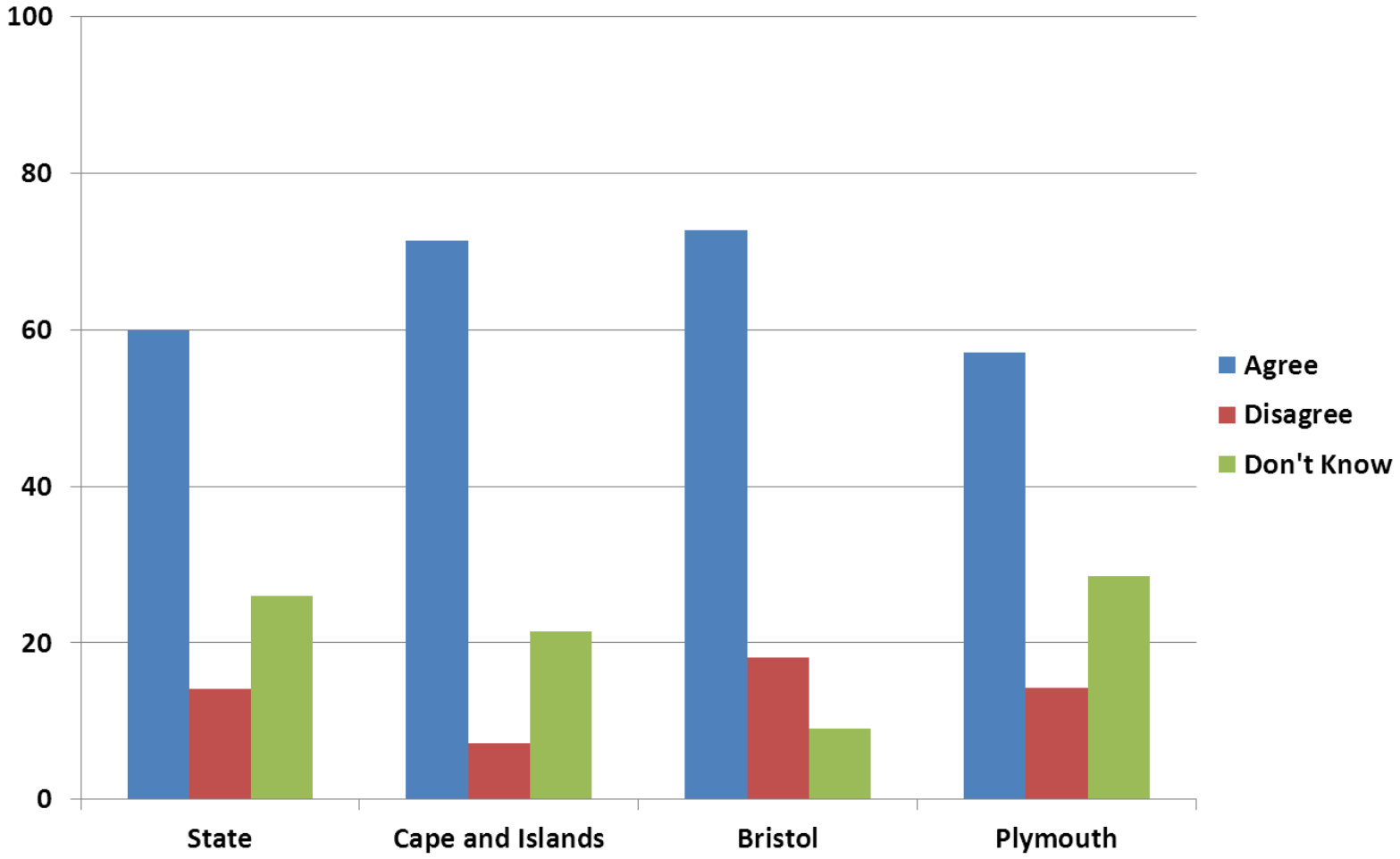
Bristol: 46%

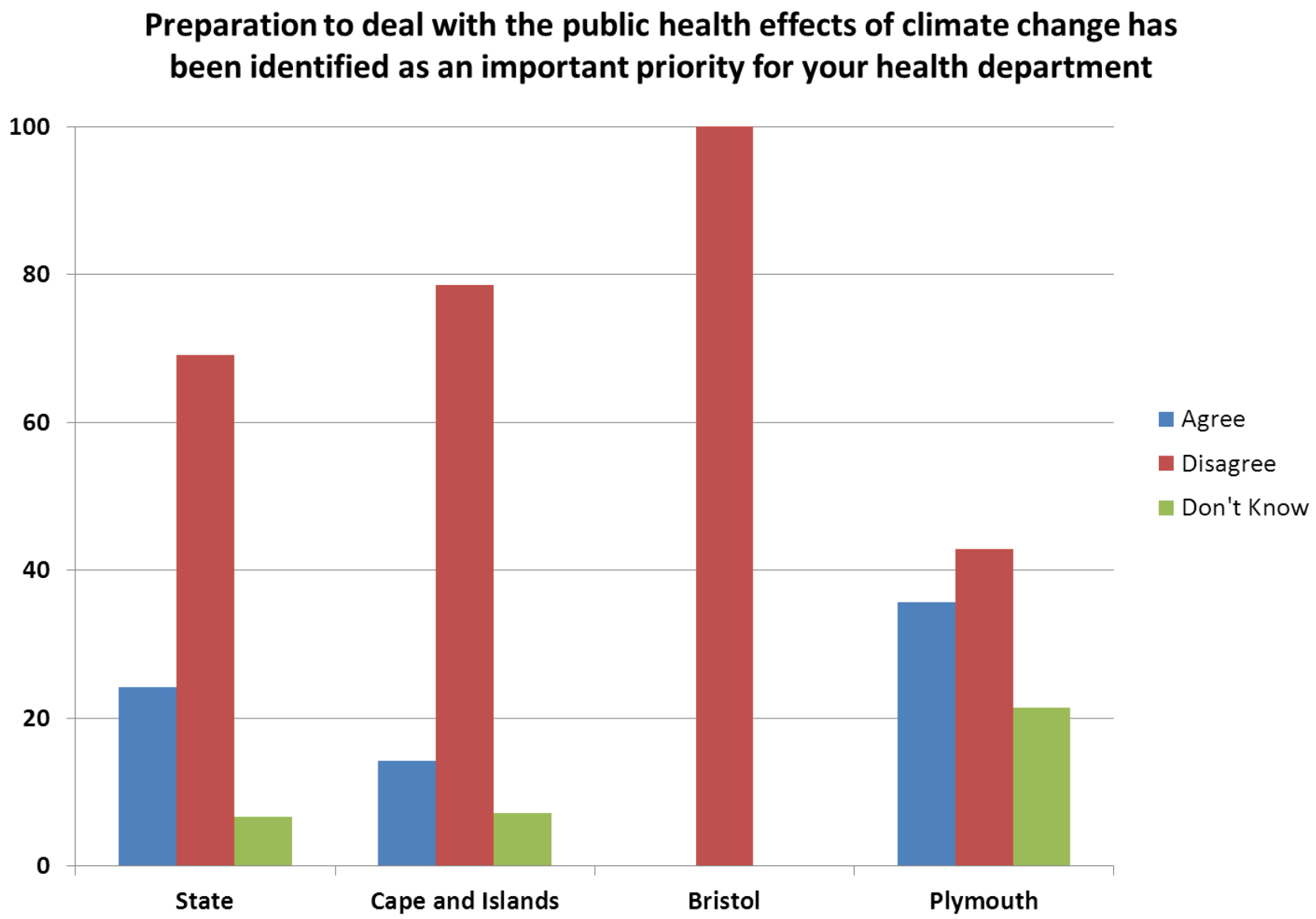
Plymouth: 58%

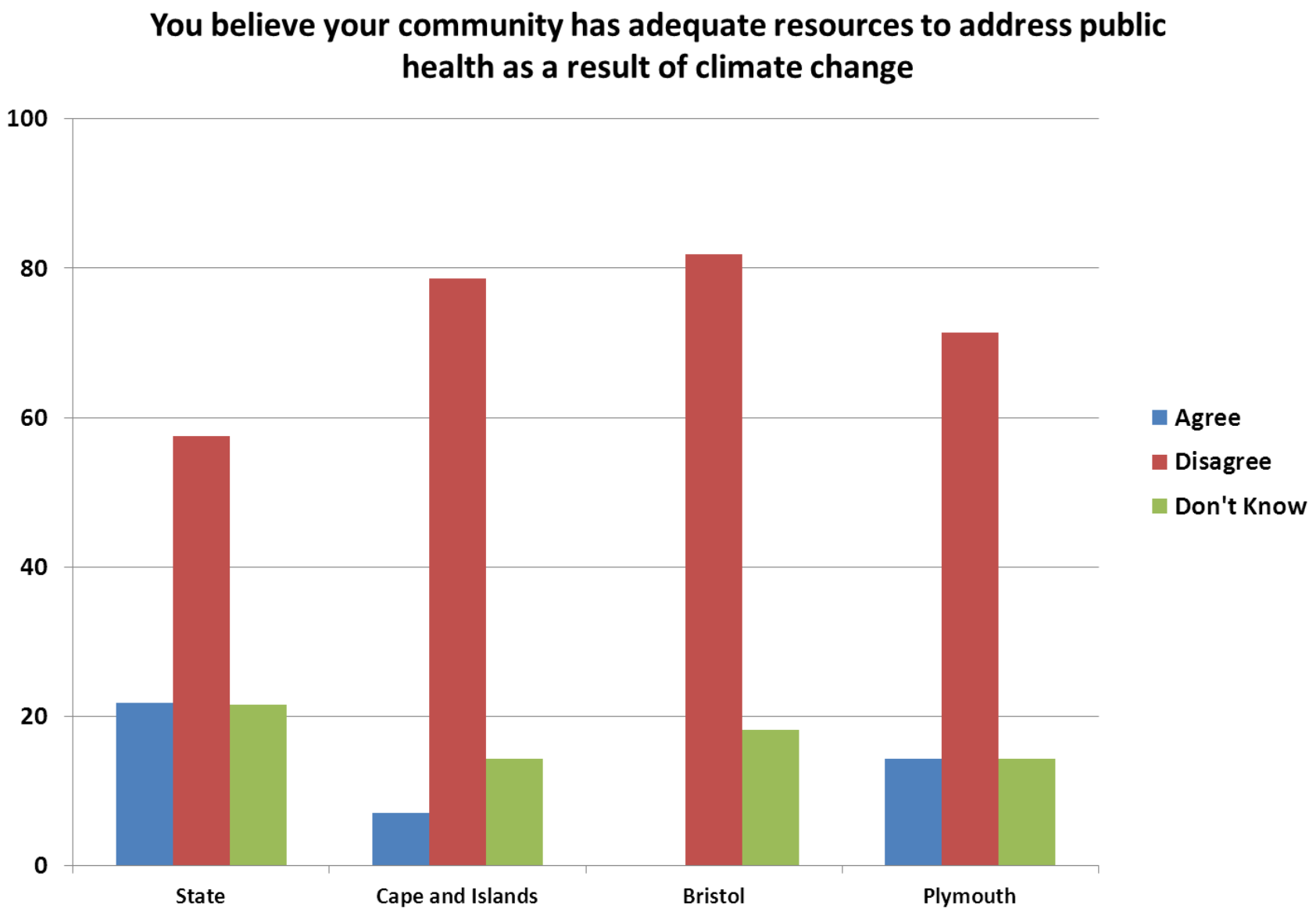
Region 5: 55%

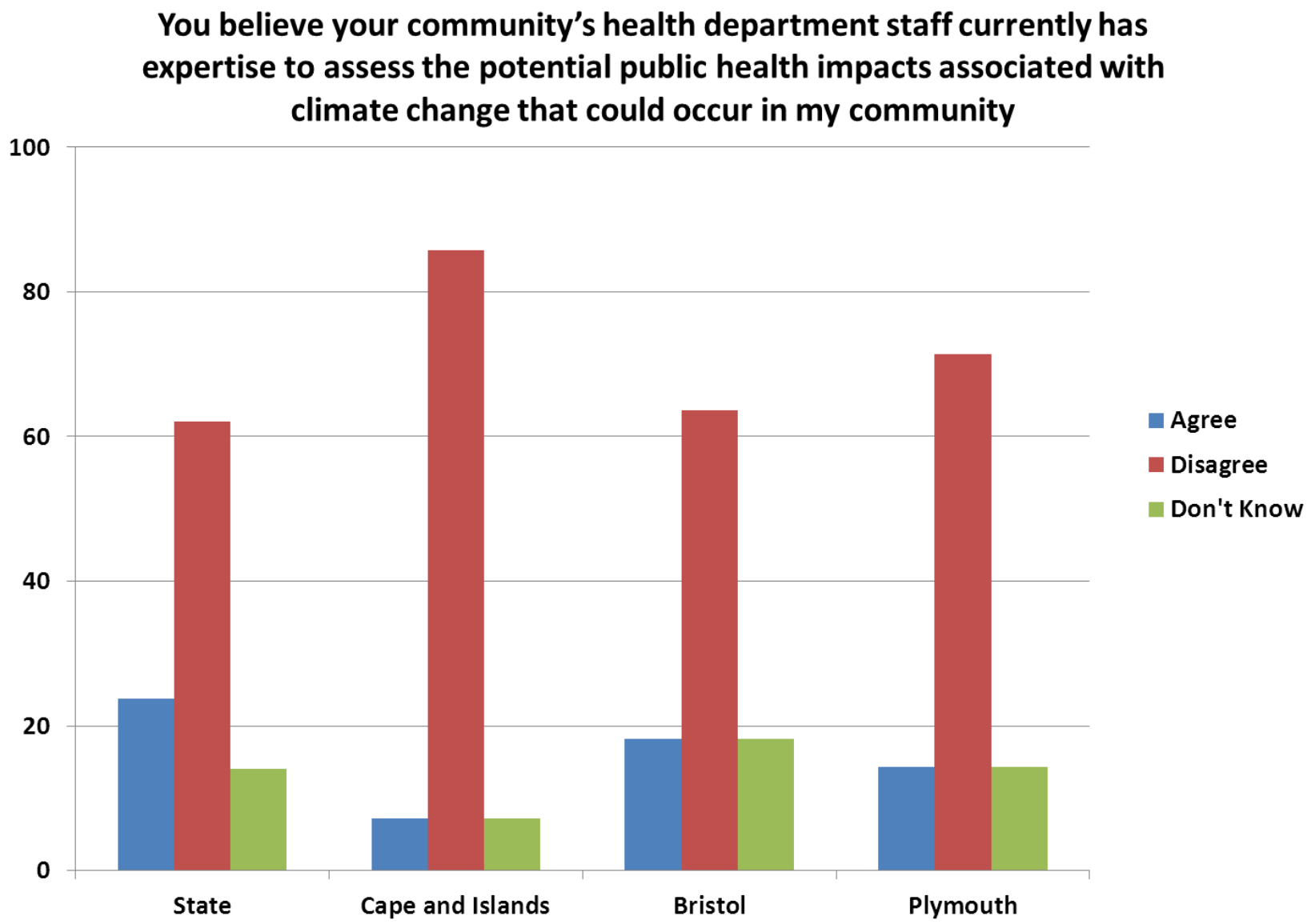
Statewide: 66%

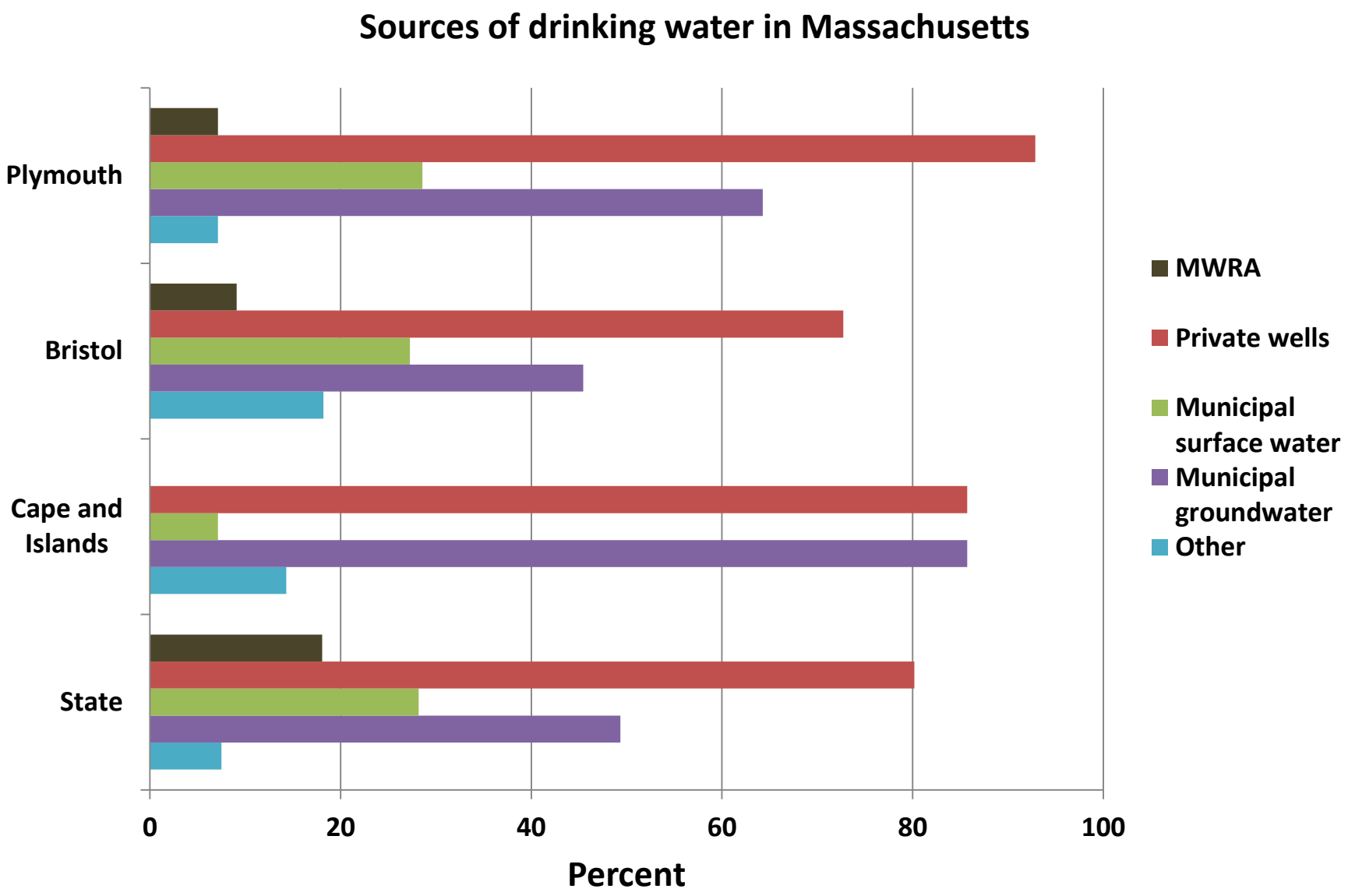
In the next 20 years, it is likely that your jurisdiction will experience one or more serious public health problems as a result of climate change

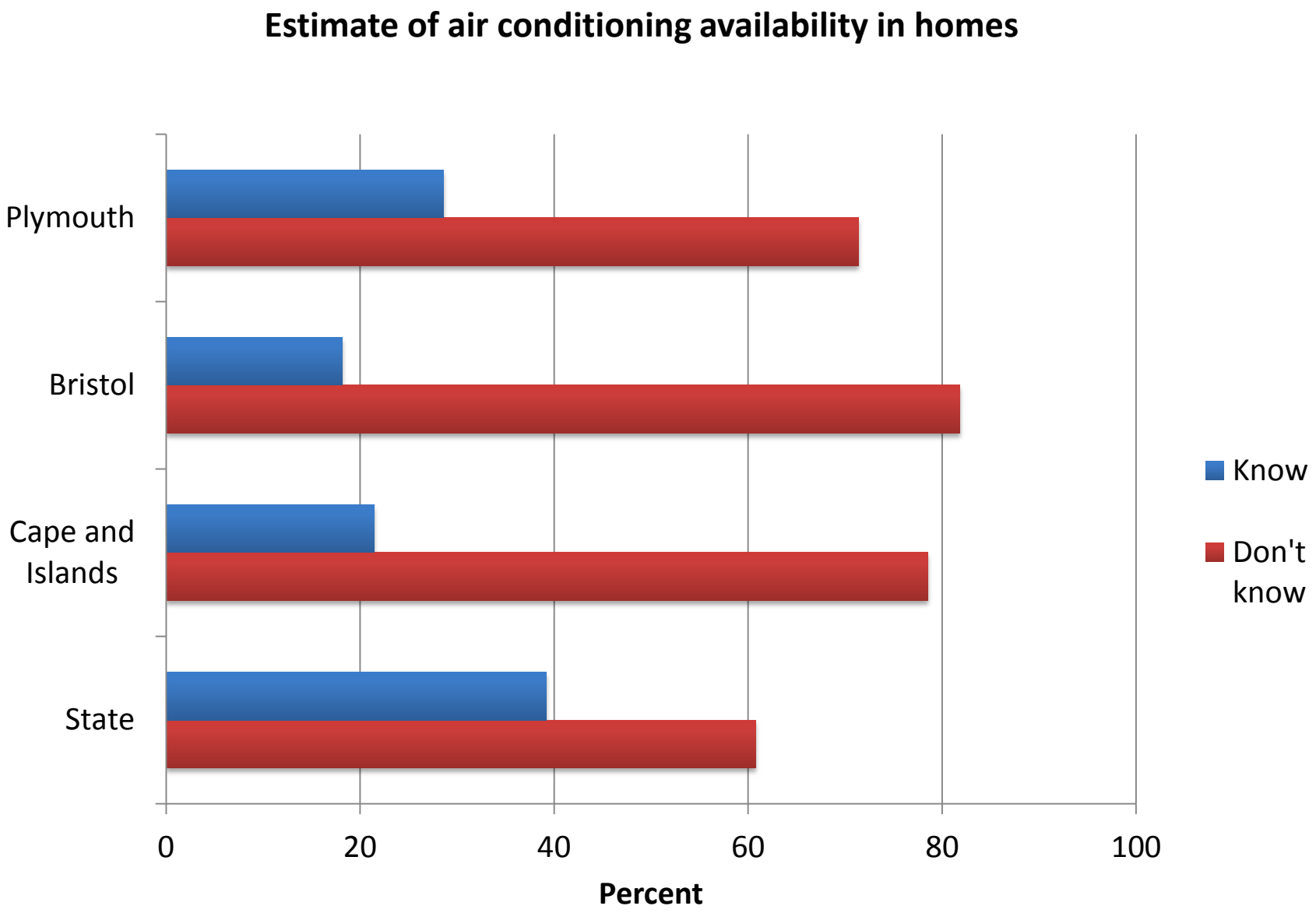


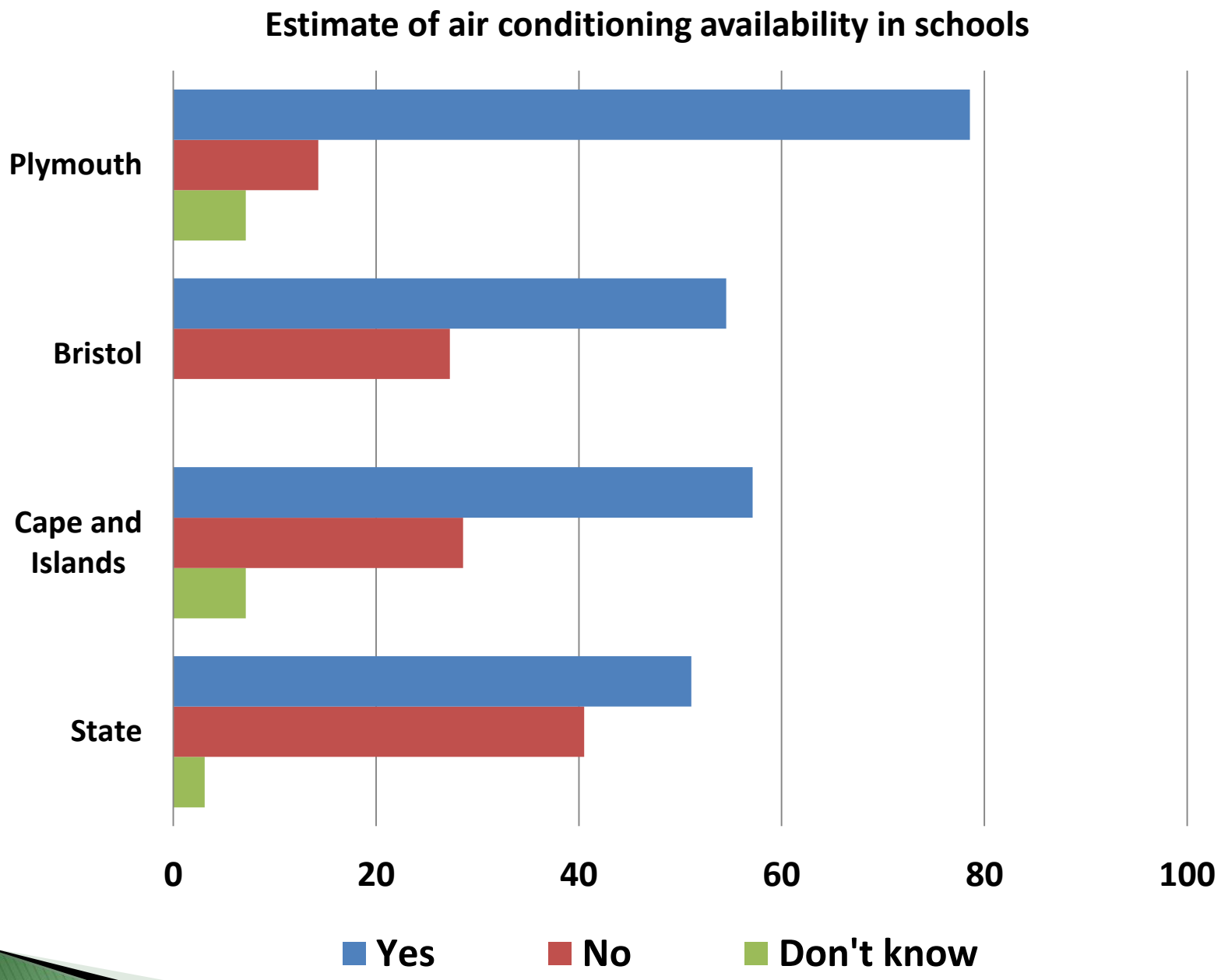

Preparation to deal with the public health effects of climate change has been identified as an important priority for your health department
100
80
60
40
20
0
State
Cape and Islands
Bristol
Plymouth
Agree
Disagree
Don't Know

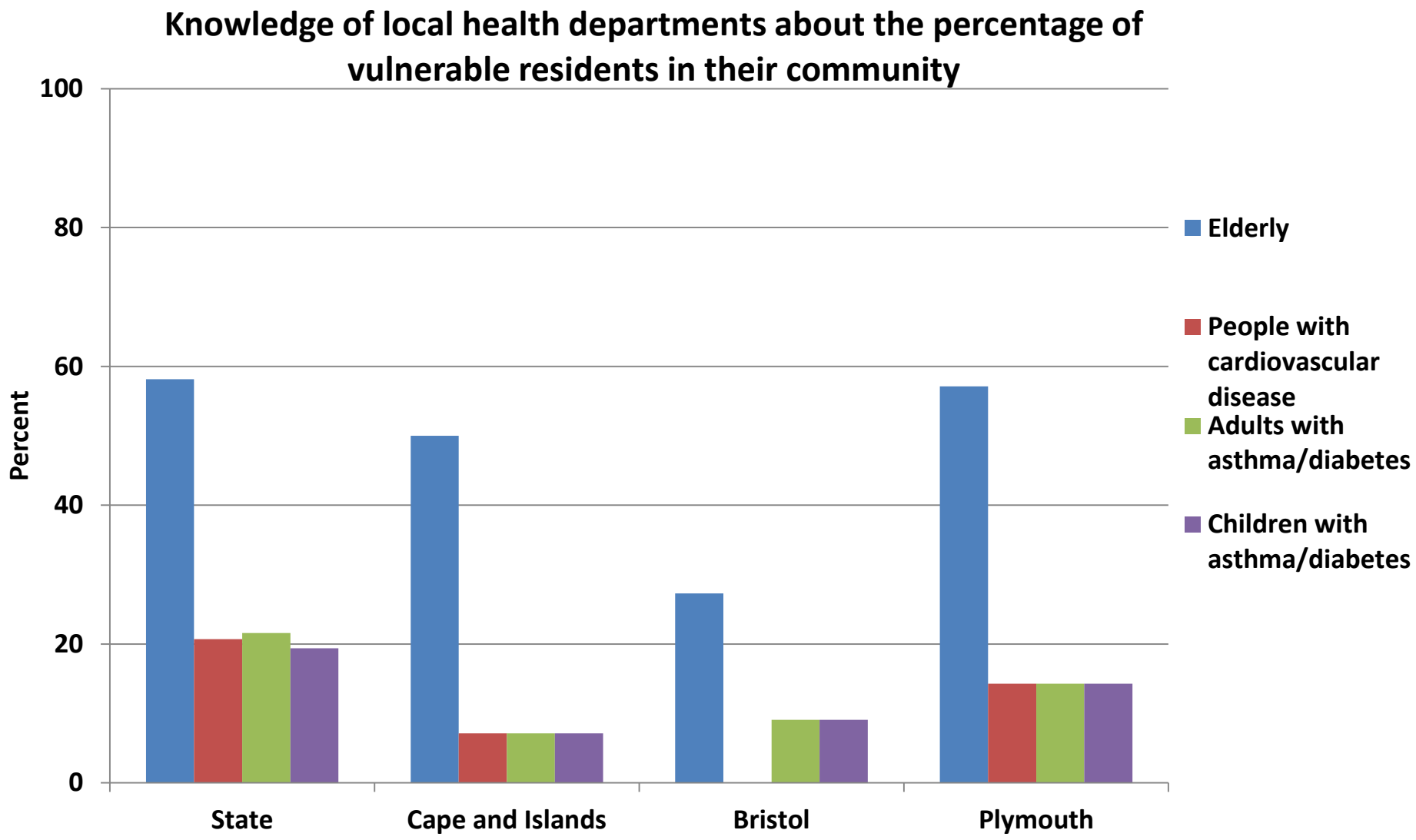

You believe your community has adequate resources to address public health as a result of climate change
100
80
60
40
20
0
State
Cape and Islands
Bristol
Plymouth
Agree
Disagree
Don't Know

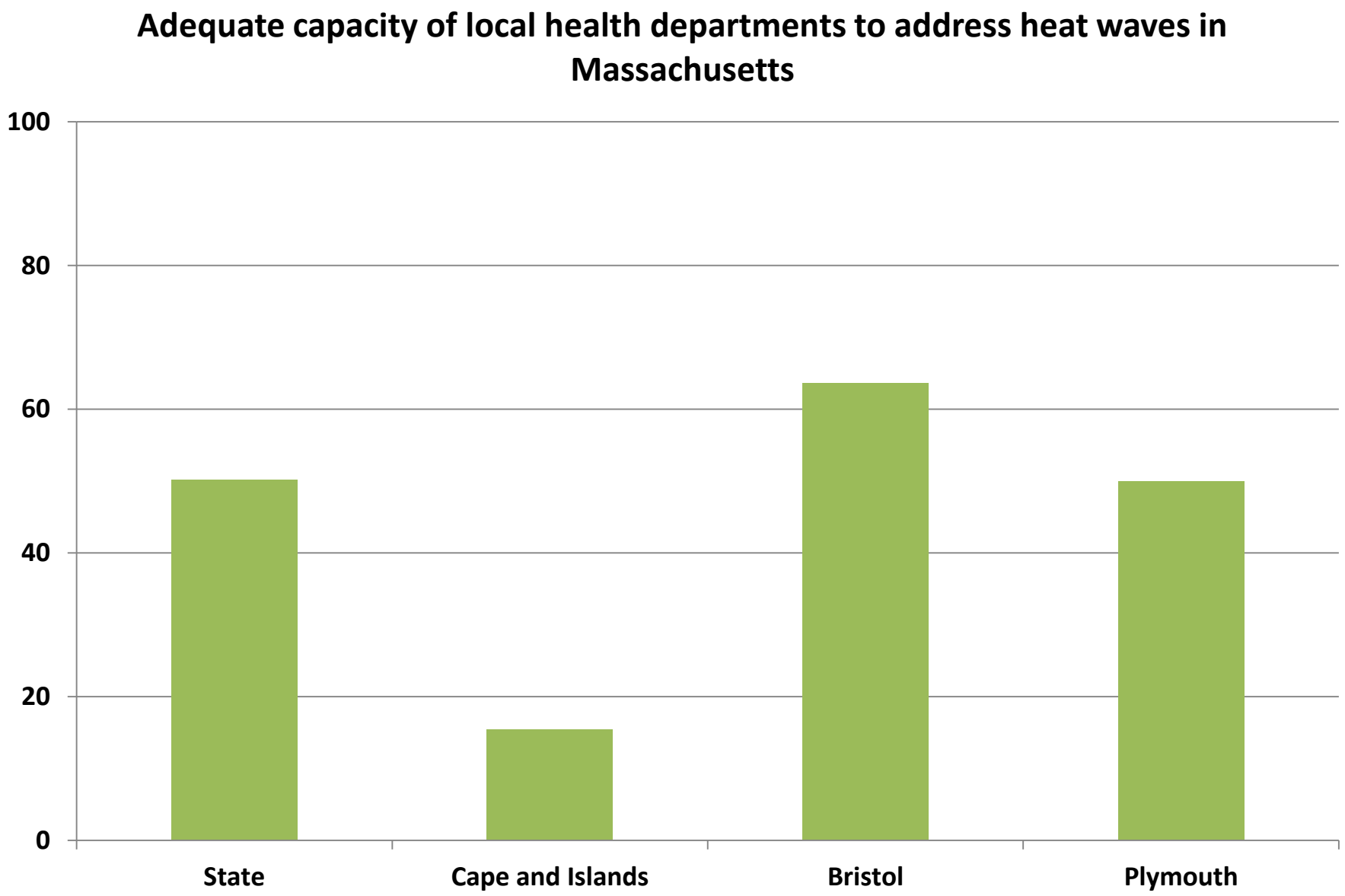

You believe your community's health department staff currently has expertise to assess the potential public health impacts associated with climate change that could occur in my community
100
80
60
40
20
0
State
Cape and Islands
Bristol
Plymouth
Agree
Disagree
Don't Know


Sources of drinking water in Massachusetts
Plymouth
Bristol
Cape and Islands
State
0
20
40
60
80
100
Percent
MWRA
Private wells
Municipal surface water
Municipal groundwater
Other

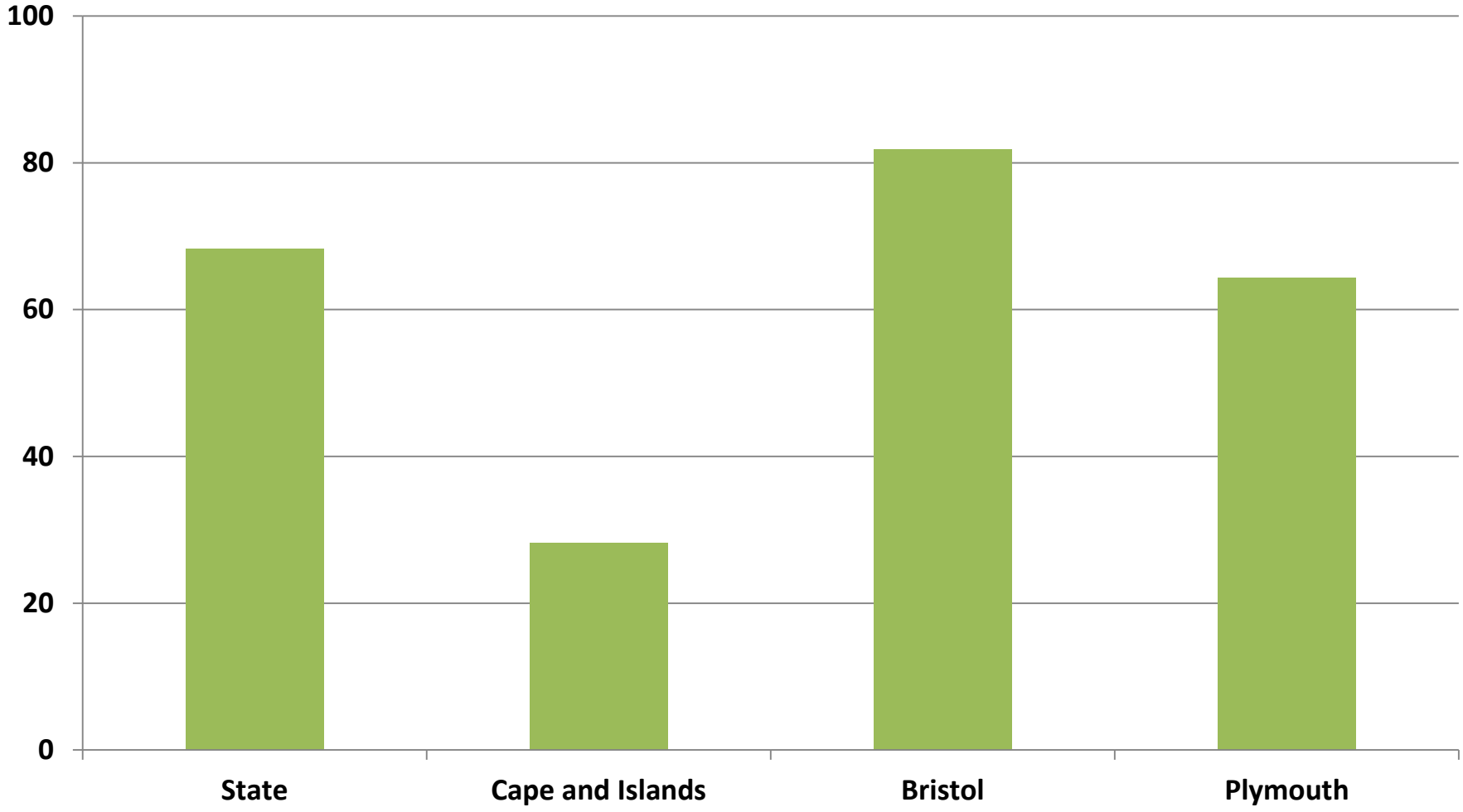

Estimate of air conditioning availability in homes
Plymouth
Bristol
Cape and Islands
State
0
20
40
60
80
100
Percent
Know
Don't know


Estimate of air conditioning availability in schools
Plymouth
Bristol
Cape and Islands
State
0
20
40
60
80
100
Yes
No
Don't know

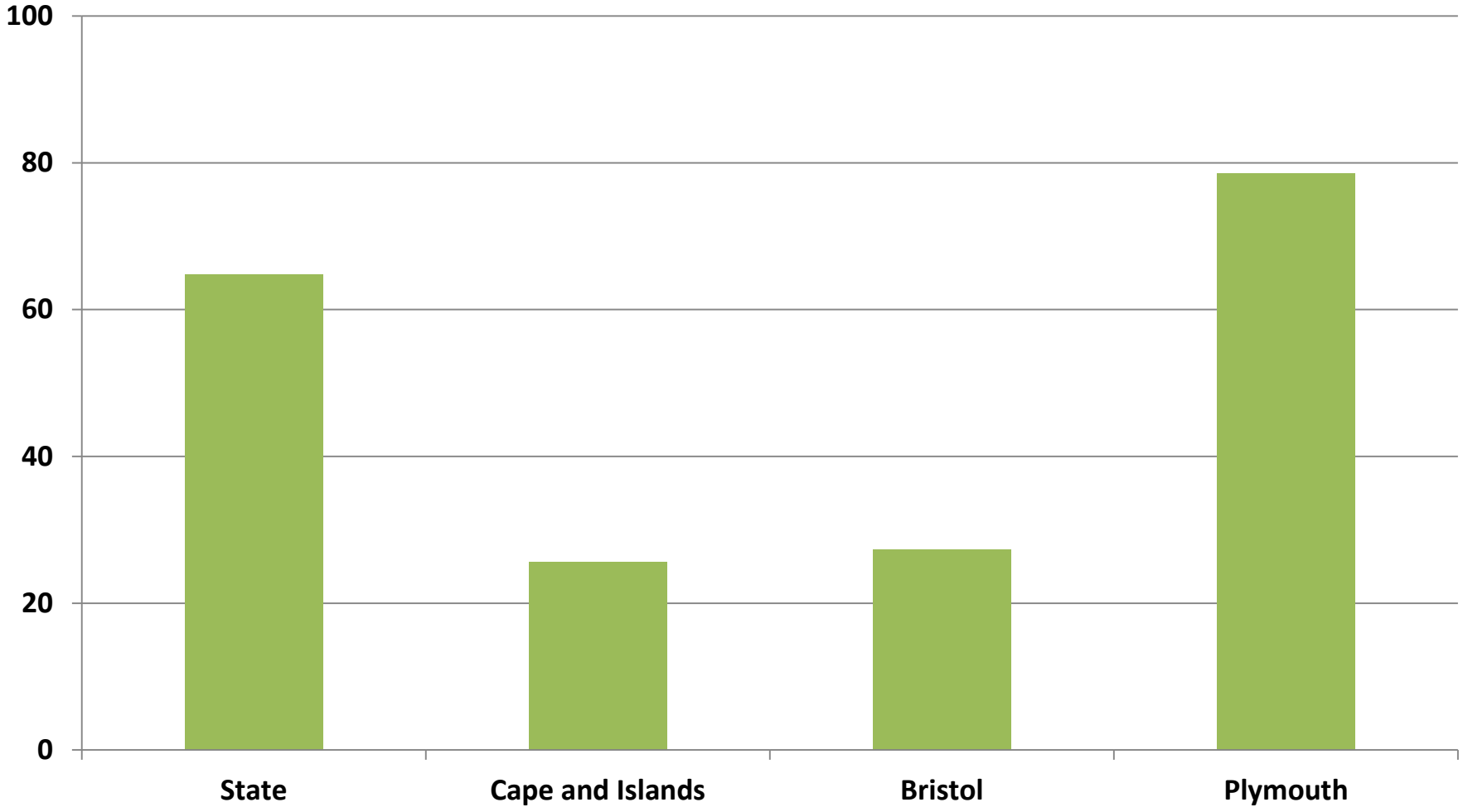

Knowledge of local health departments about the percentage of vulnerable residents in their community
100
80
60
40
20
0
Percent
State
Cape and Islands
Bristol
Plymouth
Elderly
People with cardiovascular disease
Adults with asthma/diabetes
Children with asthma/diabetes

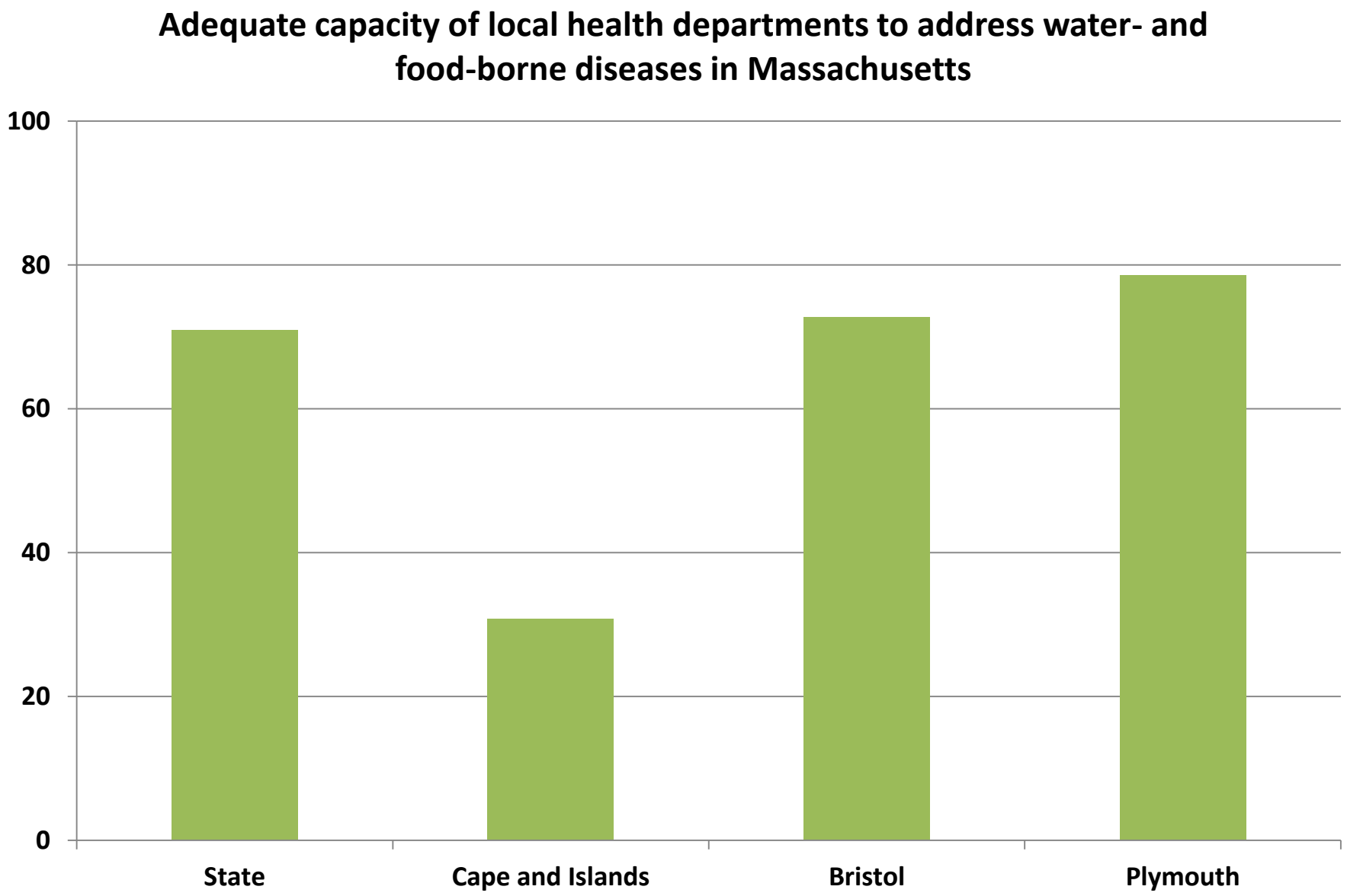

Adequate capacity of local health departments to address heat waves in Massachusetts
100
80
60
40
20
0
State
Cape and Islands
Bristol
Plymouth

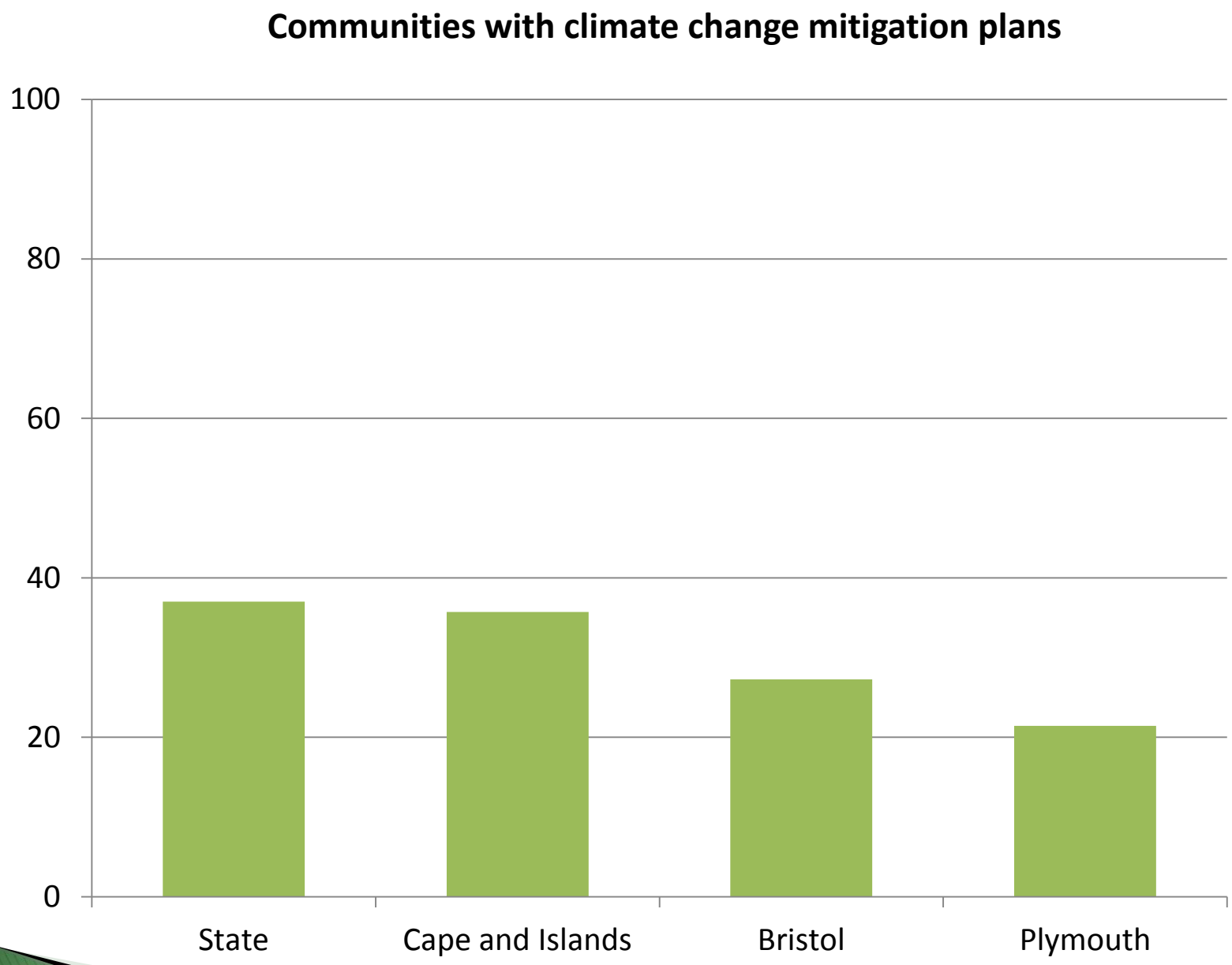
Adequate capacity of local health departments to address storms in Massachusetts

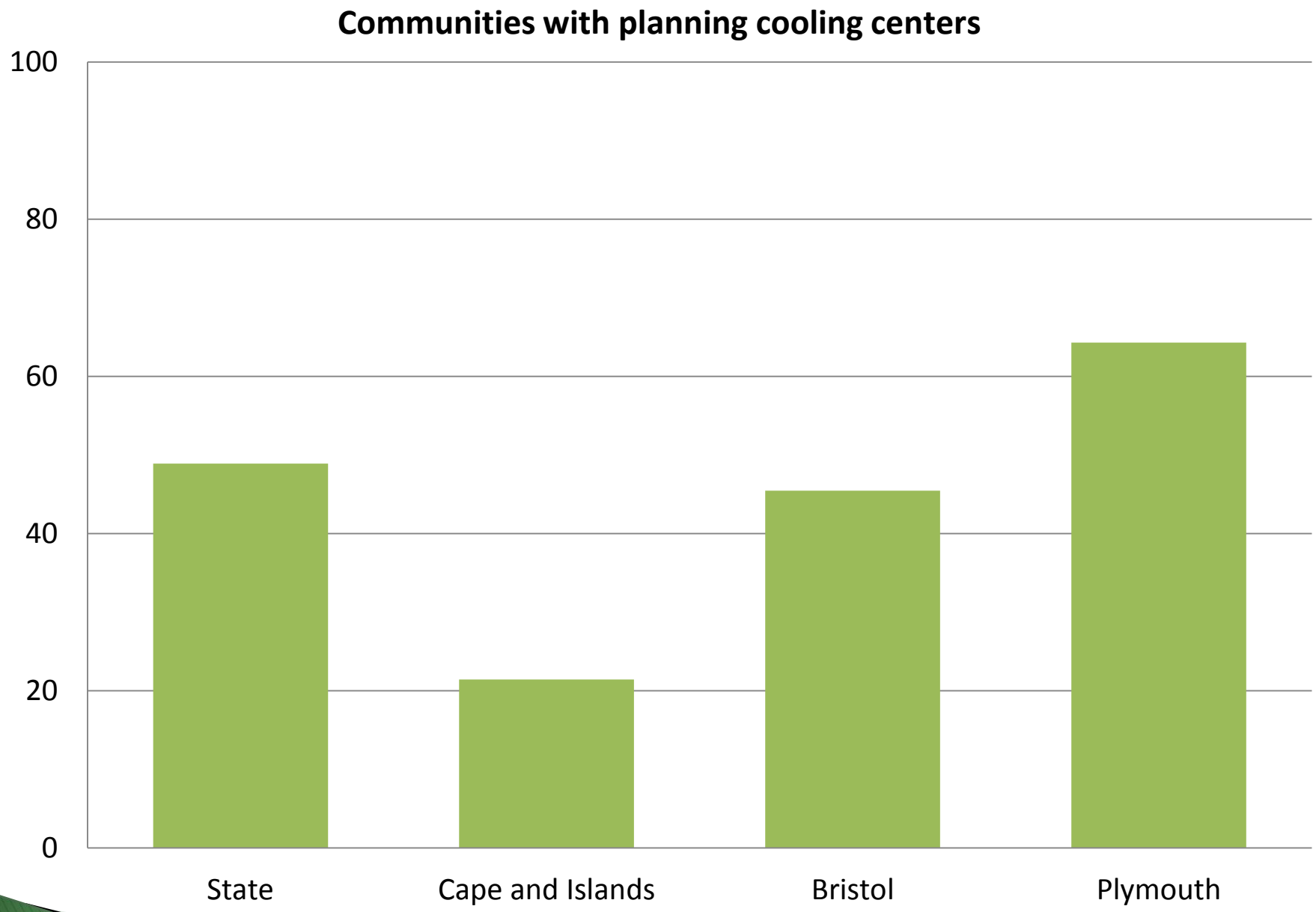


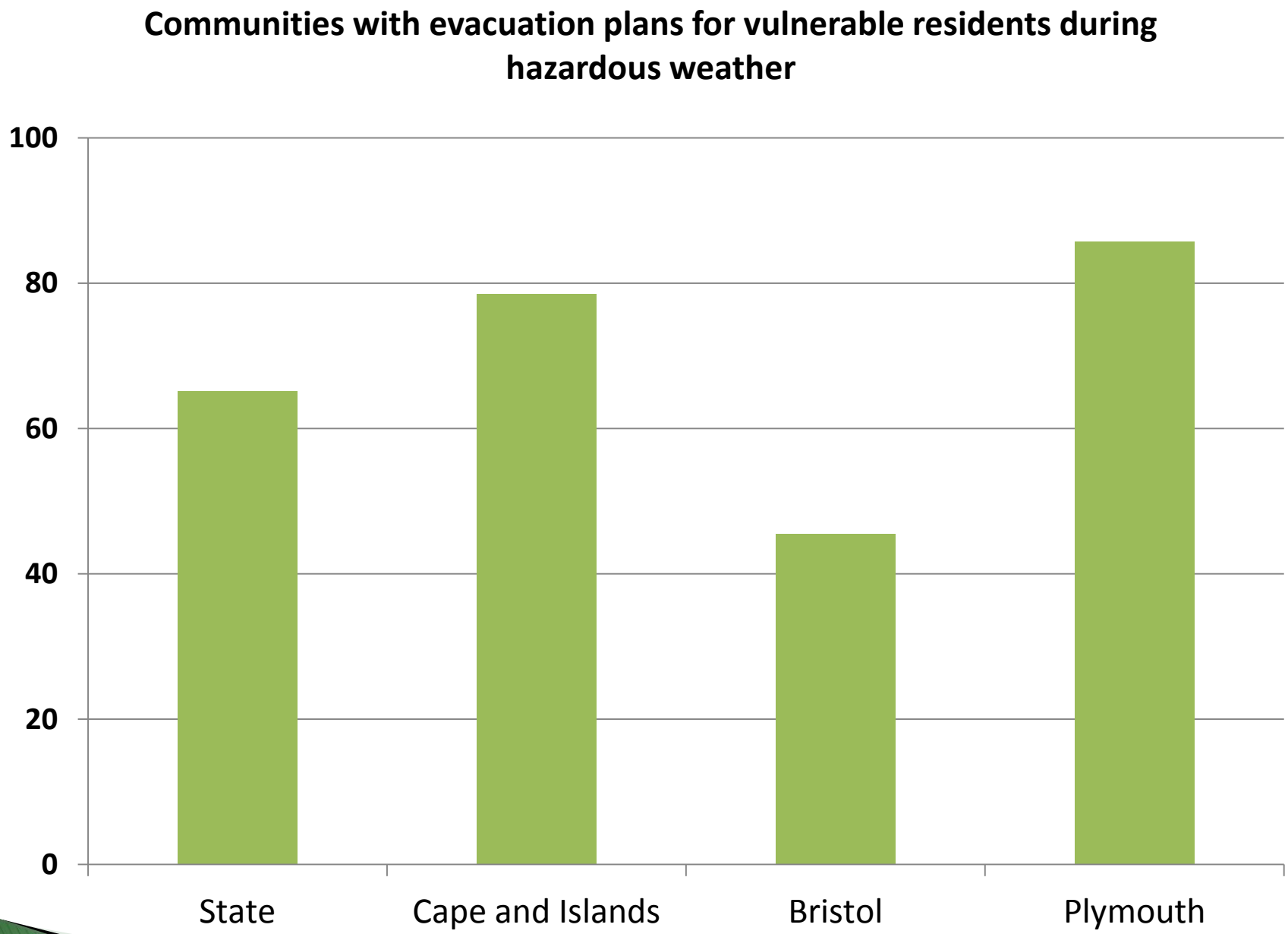
Adequate capacity of local health departments to address sewage treatment vulnerability in Massachusetts

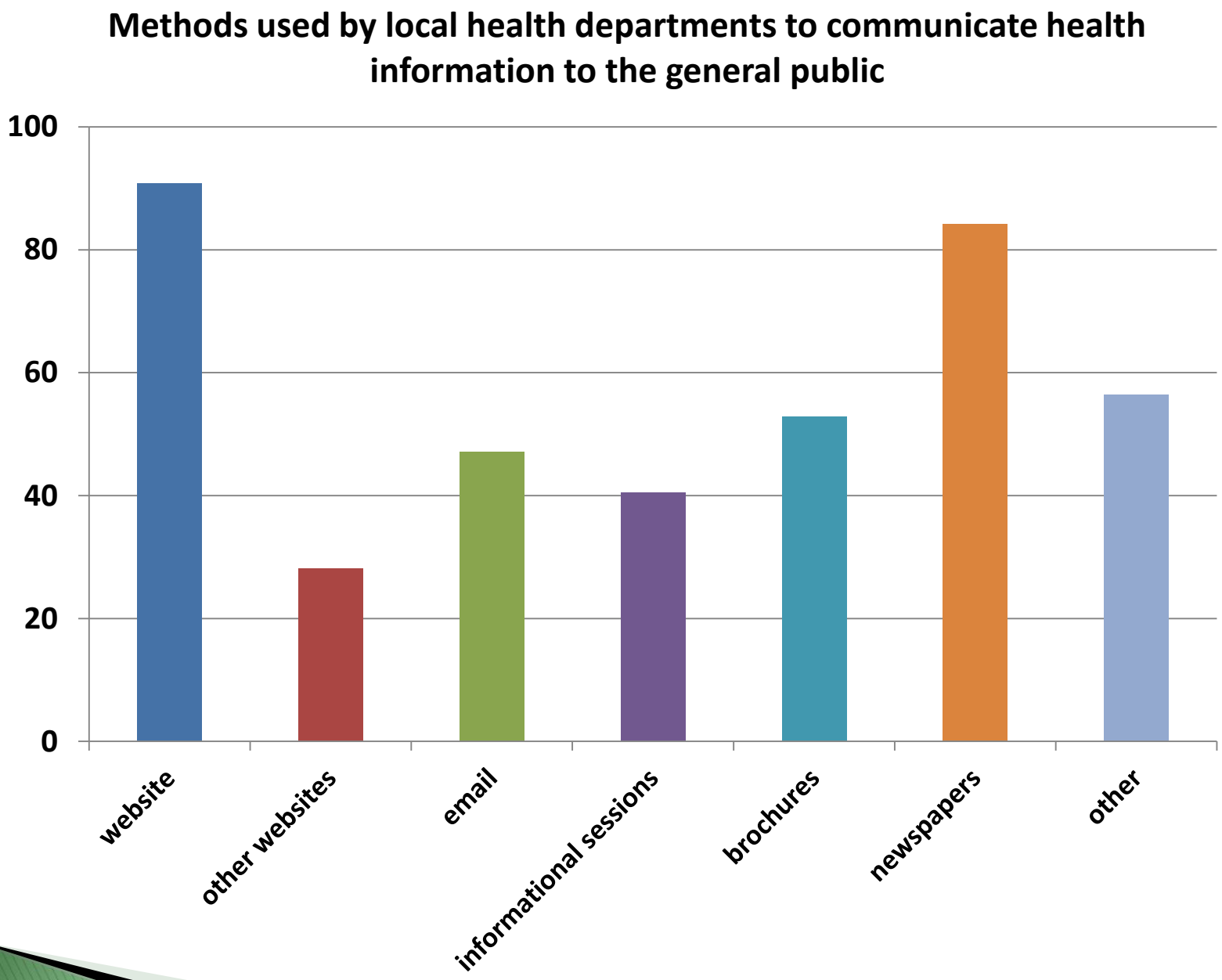


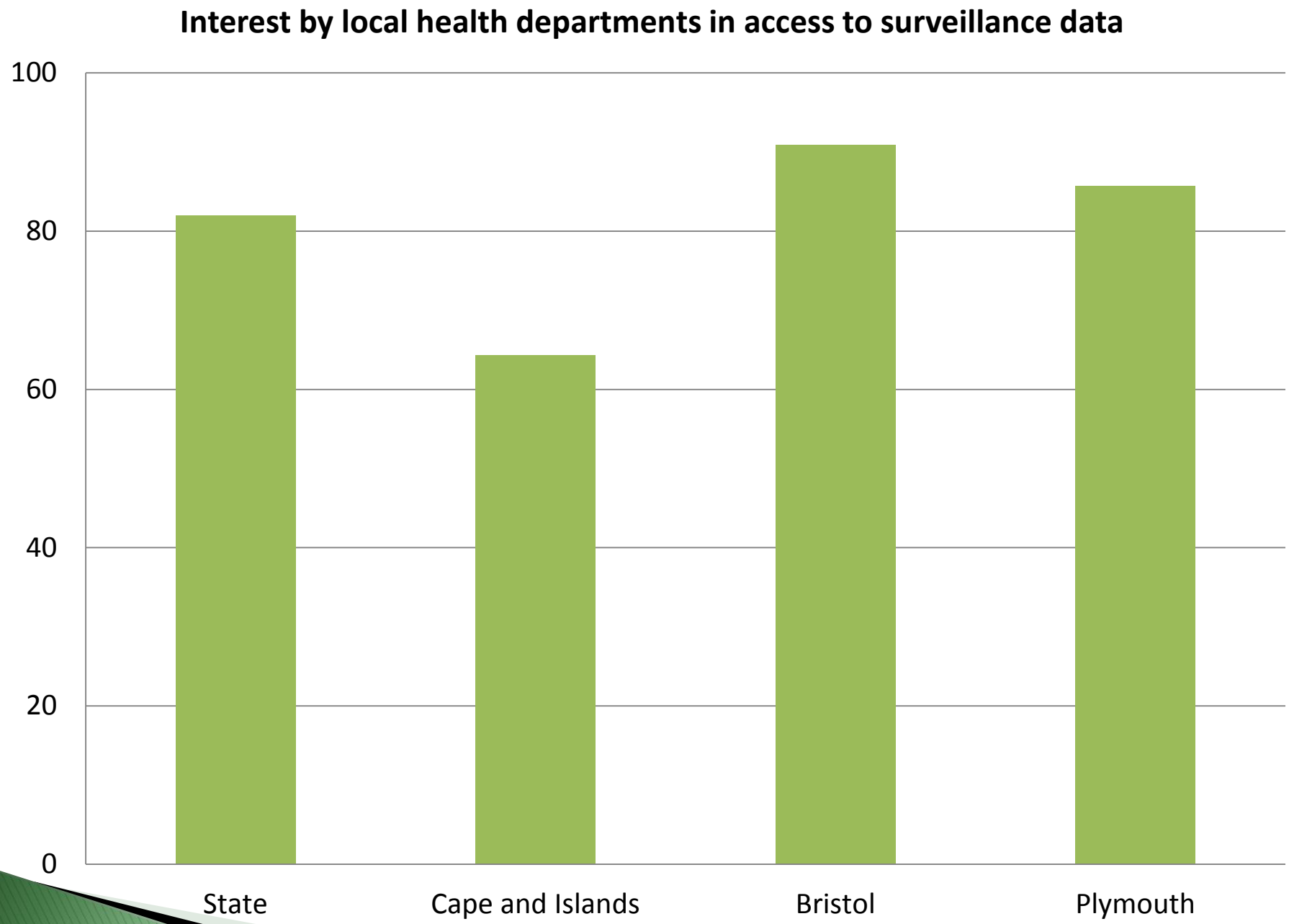

Adequate capacity of local health departments to address water- and food-borne diseases in Massachusetts
100
80
60
40
20
0
State
Cape and Islands
Bristol
Plymouth


Communities with climate change mitigation plans
100
80
60
40
20
0
State
Cape and Islands
Bristol
Plymouth


Communities with planning cooling centers
100
80
60
40
20
0
State
Cape and Islands
Bristol
Plymouth


Communities with evacuation plans for vulnerable residents during hazardous weather
100
80
60
40
20
0
State
Cape and Islands
Bristol
Plymouth


Methods used by local health departments to communicate health information to the general public
100
80
60
40
20
0
website
other websites
email
informational sessions
brochures
newspapers
other



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

IV. Highlights of existing capacity and areas in need of enhancement

- Over two-thirds of participating LBOH had plans, or felt they had the capacity to develop plans, to address food/water borne diseases, storm responses and freshwater availability and safety

- However, plans for populations that may be impacted by climate change effects (e.g. young and old with respiratory disease, young and old with diabetes) need further attention. In Southeastern, MA more officials are aware of these sensitive populations

- About half the LBOH that responded to the survey believe they have adequate resources to address heat waves in their community.
  - over 50% of school systems have air conditioning in schools
  - half of responding LBOH had plans, or were drafting plans, for cooling centers in the event of heat waves

IV. Highlights of existing capacity and areas in need of enhancement, cont.

- About half of LBOH 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 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

V. Examples of MDPH tools in development to assist Local Health Departments

- Enhanced training on data access and MDPH's Environmental Public Heath Tracking portal
- Development of vulnerability maps
- Review of information with MDPH Emergency Preparedness Bureau and other agencies
- Develop education materials and enhance the climate change webpage on MDPH/BEH EPHT website

VI. Summary

- Local Health Departments have made significant progress in preparing for and responding to public health emergencies; however, plans in all 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 are important for furthering these efforts
- Developing region-specific information is critical