



An Ounce of
Prevention:
What Public Health
Means for Michigan

An Ounce of Prevention: What Public Health Means for Michigan

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Citizens Research Council of Michigan

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What is Public Health?

The definition is broad, but it might not be what you think

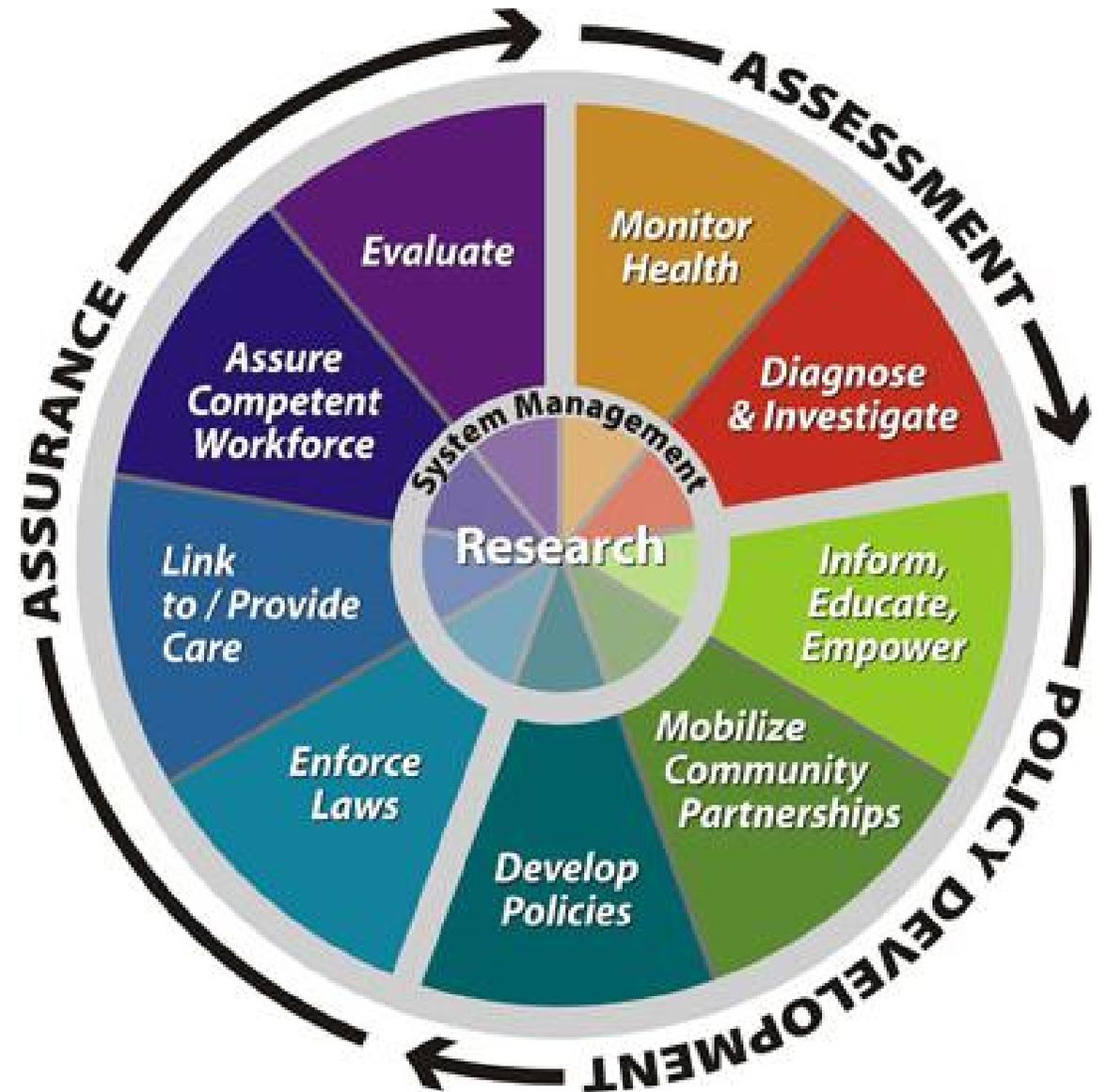
What is Public Health?

Public Health:

- Looks at the health of entire communities or populations
- Focuses on Prevention:
 - Primary Prevention (proactive) – immunization, prevent disease
 - Secondary Prevention (reactive) – health screening, arrest disease
 - Tertiary Prevention (mitigation) – rehabilitation, prevent disability
 - *Primordial Prevention (upstream) – prevent risk factors for disease*

What is Public Health?

- 3 Core Functions of Public Health
- 10 Essential Public Health Services
- Core Value: Health Equity
- Public Health as a Public Good
 - Nonrivalrous
 - Nonexcludable



What is Public Health?

State and Local Role in Public Health

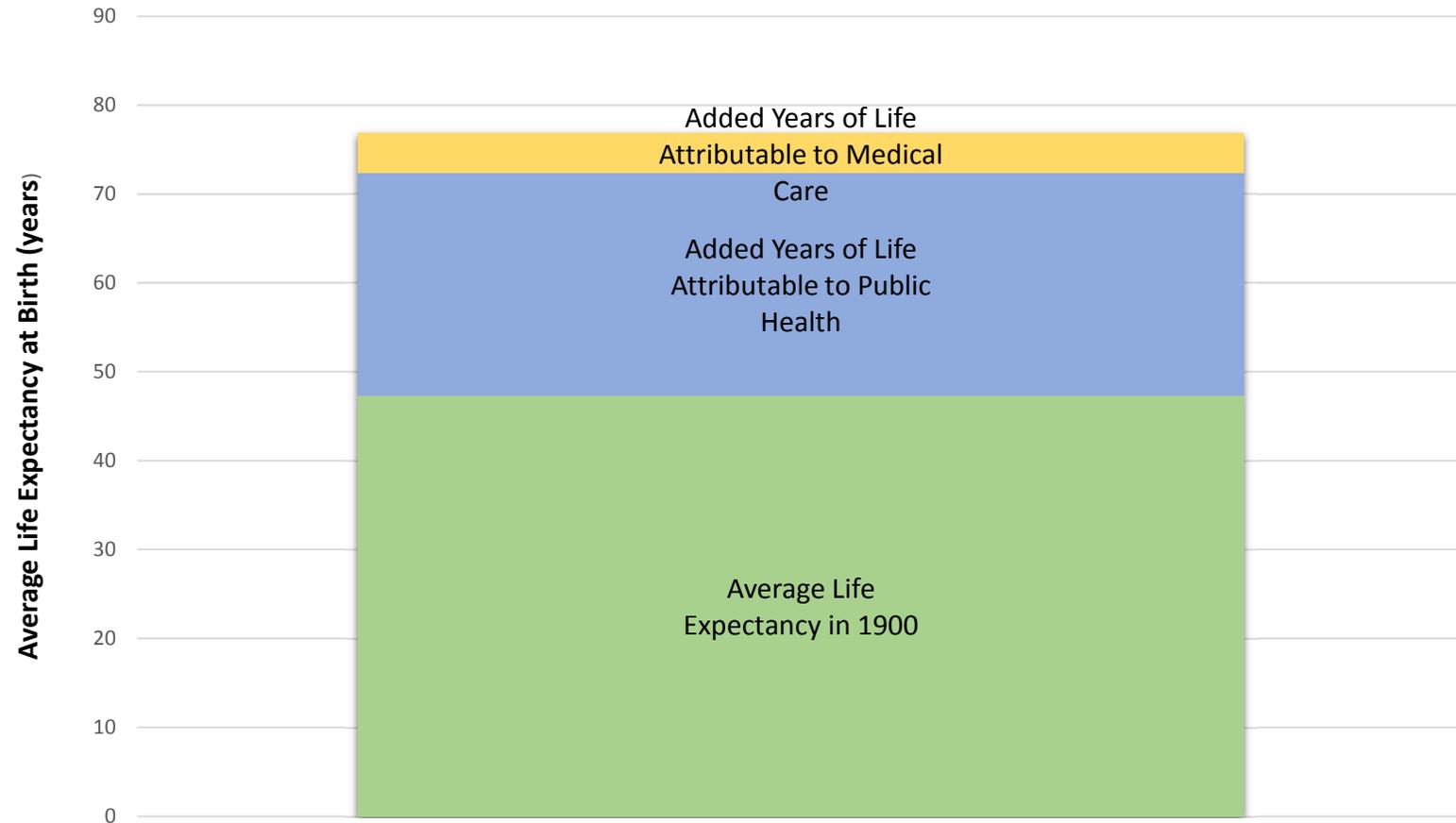
- Infectious Disease Control and Prevention
- Chronic Disease Control and Prevention
- Food Safety and Quality
- Environmental Health
- Health Facility and Professional Licensure
- Emergency Preparedness and Response
- Health promotion and reduction of health disparities

What is Public Health?

In general, this means that:

- Infectious diseases are monitored and contained
- Drinking water is safe
- Air is clean
- Sewage is contained
- Grocers and restaurants provide safe, untainted food
- Sources of foodborne illness are identified and investigated
- Health care emergency response plans are in place for natural and human-made disasters
- Children are vaccinated to protect against diseases
- Screening programs are available to identify possible health risks
- Health care services are accessible for all segments of the population
- The underlying causes of disease and injury (including social factors) are identified and addressed.

Proportion of Increased Average Life Expectancy Attributable to Public Health

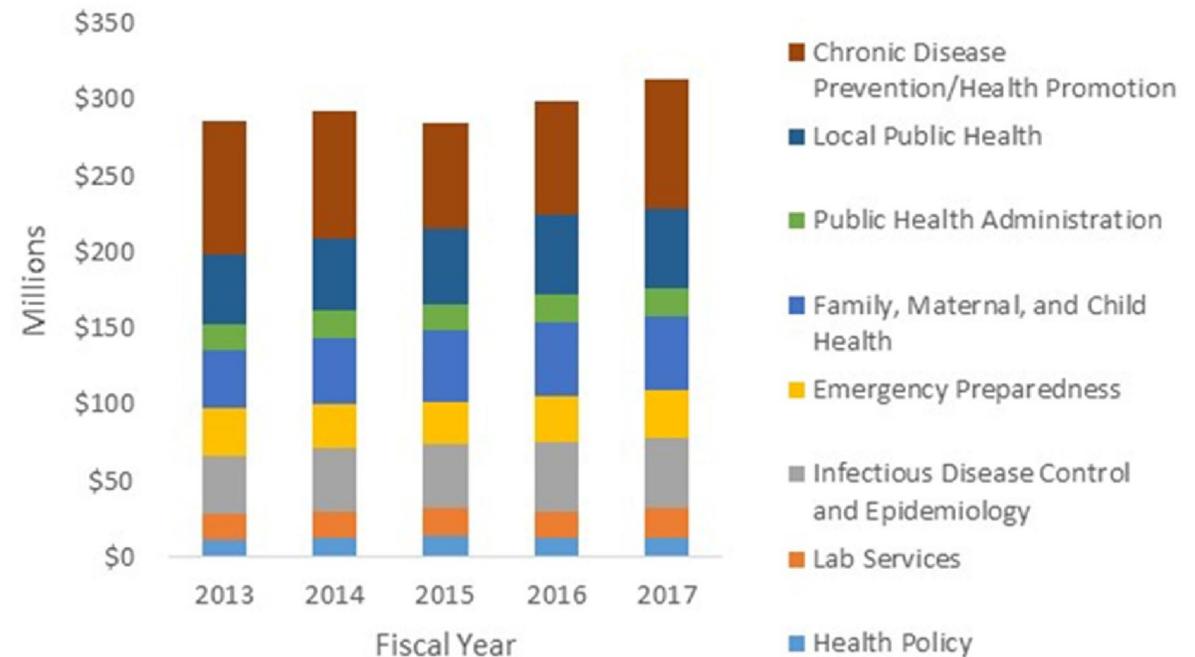


Public Health Investment in Michigan

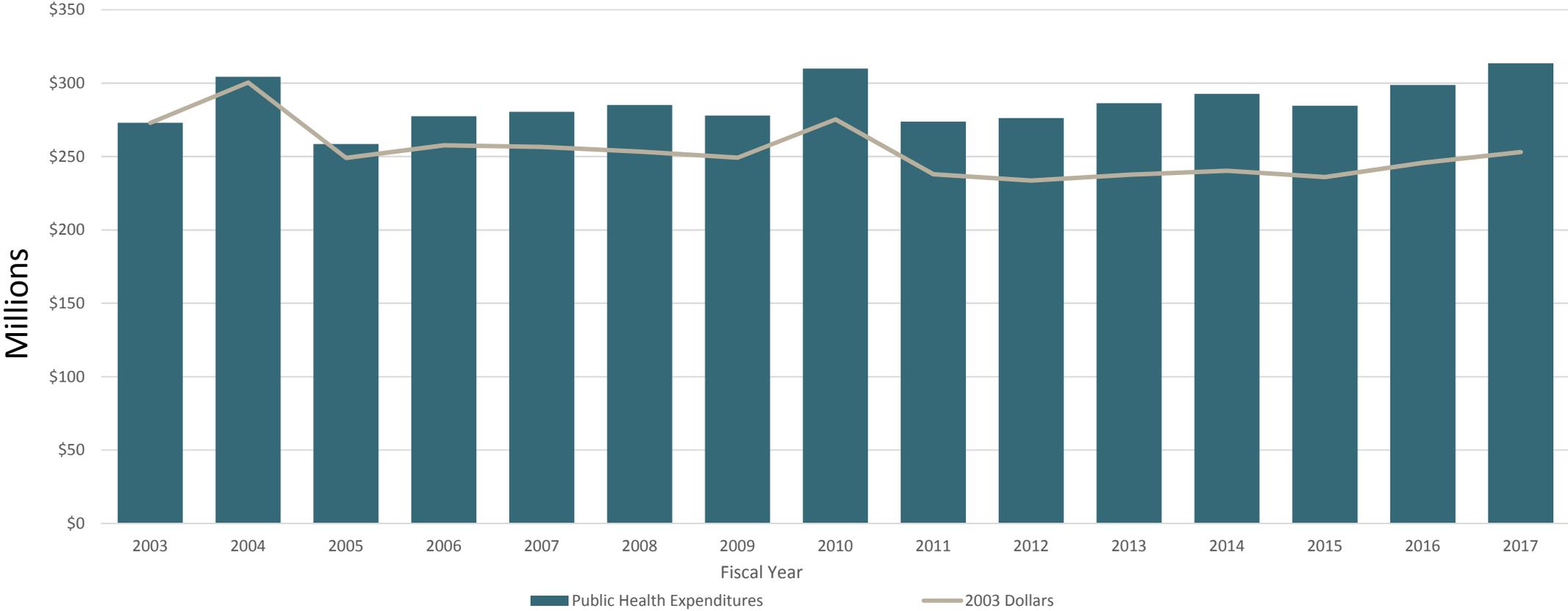
15 years of stagnant funding

Public Health Expenditures by Area, FY2013-2017

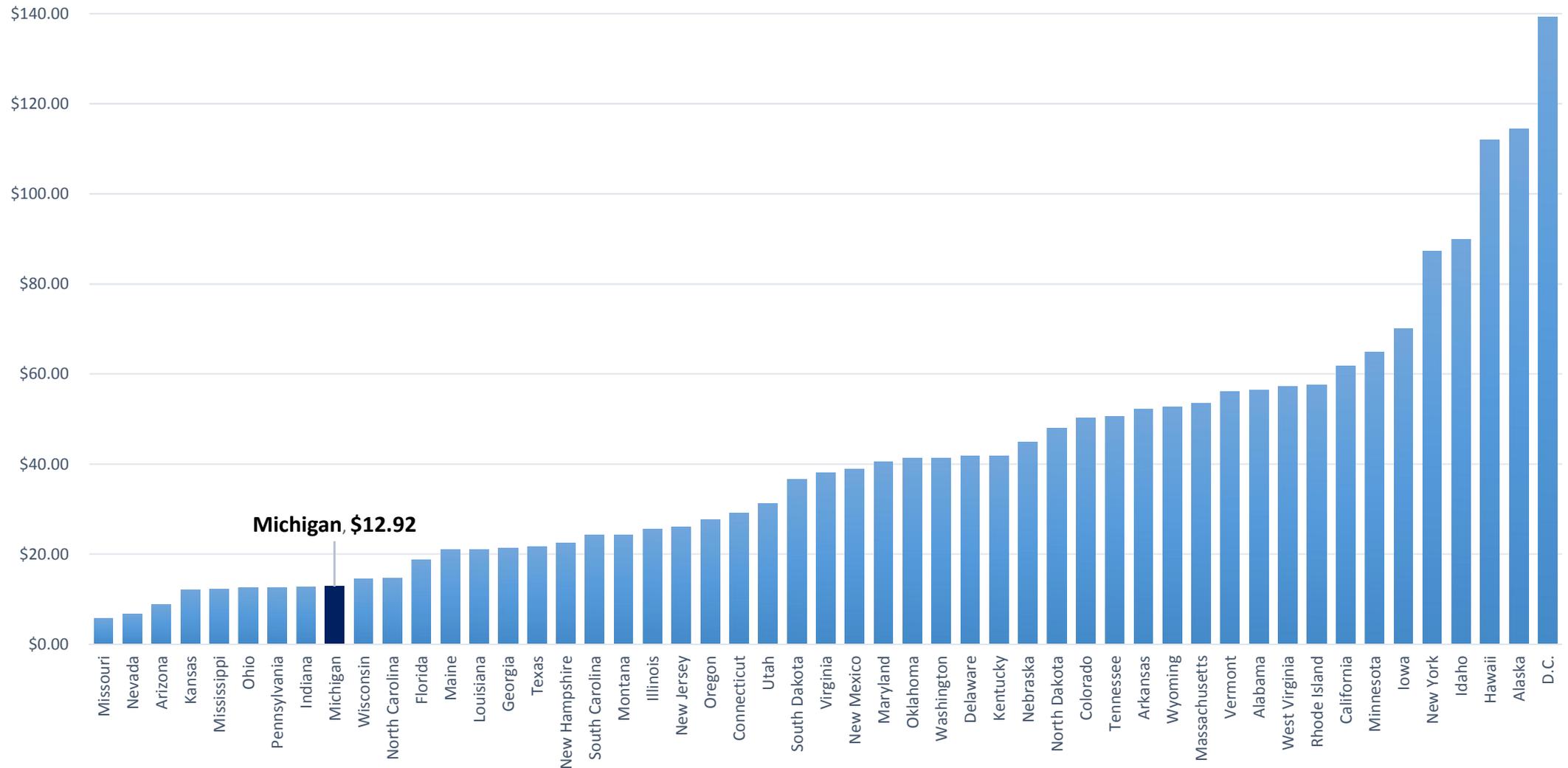
- Recent growth isolated in three areas:
 - Family/Maternal/Child Health (25.7% increase)
 - Infectious Disease Control (21.7% increase)
 - Local Public Health (15.7% increase)
- Little new investment in chronic disease prevention, emergency preparedness, state laboratory, or health policy
- 20 percent reduction in funding for vital records/health statistics since FY2008



Public Health Expenditures in Michigan, FY2003-2017



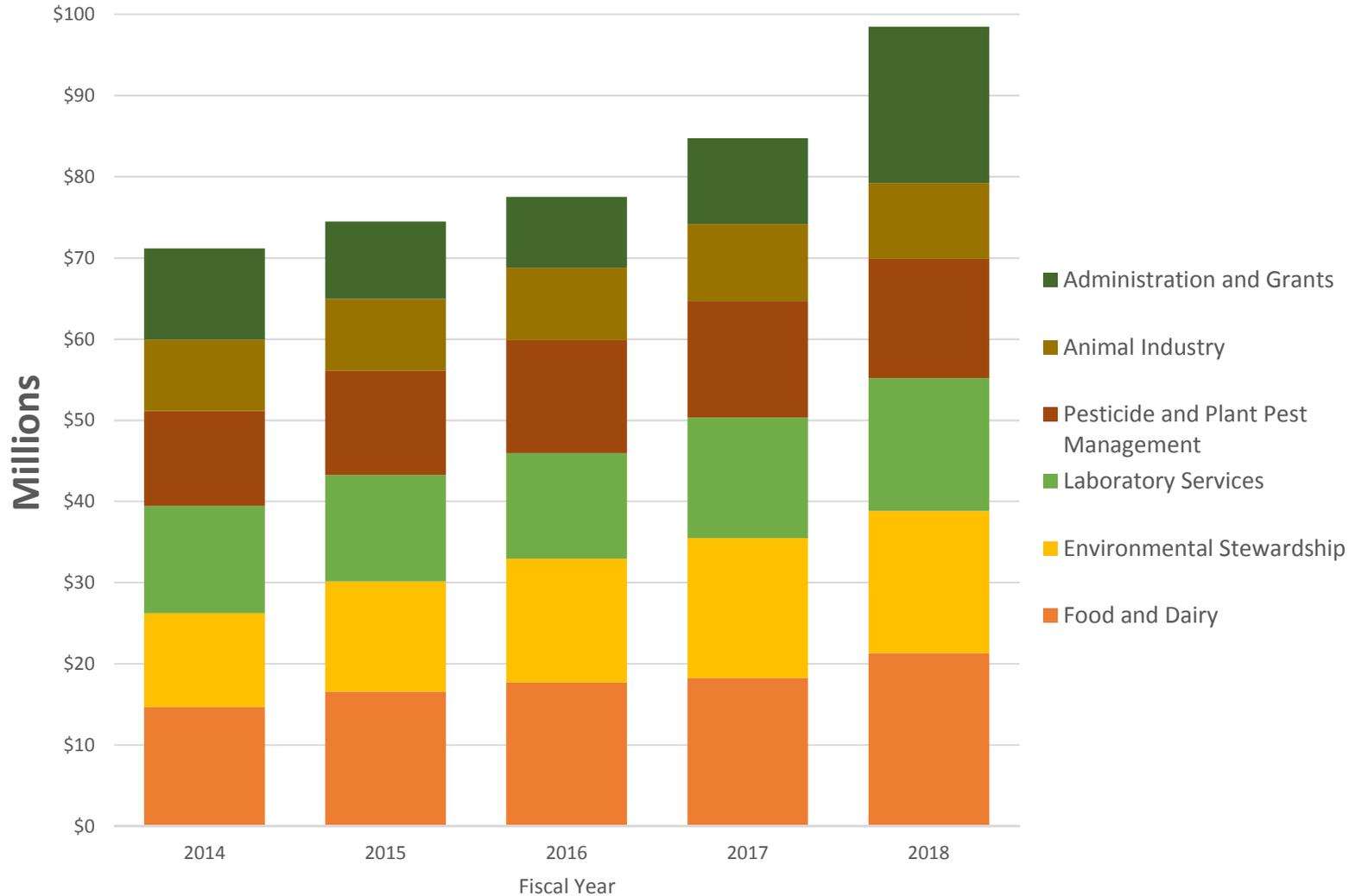
Per-Capita State Funding for Public Health, FY2017



Public Health Responsibilities Across Departments

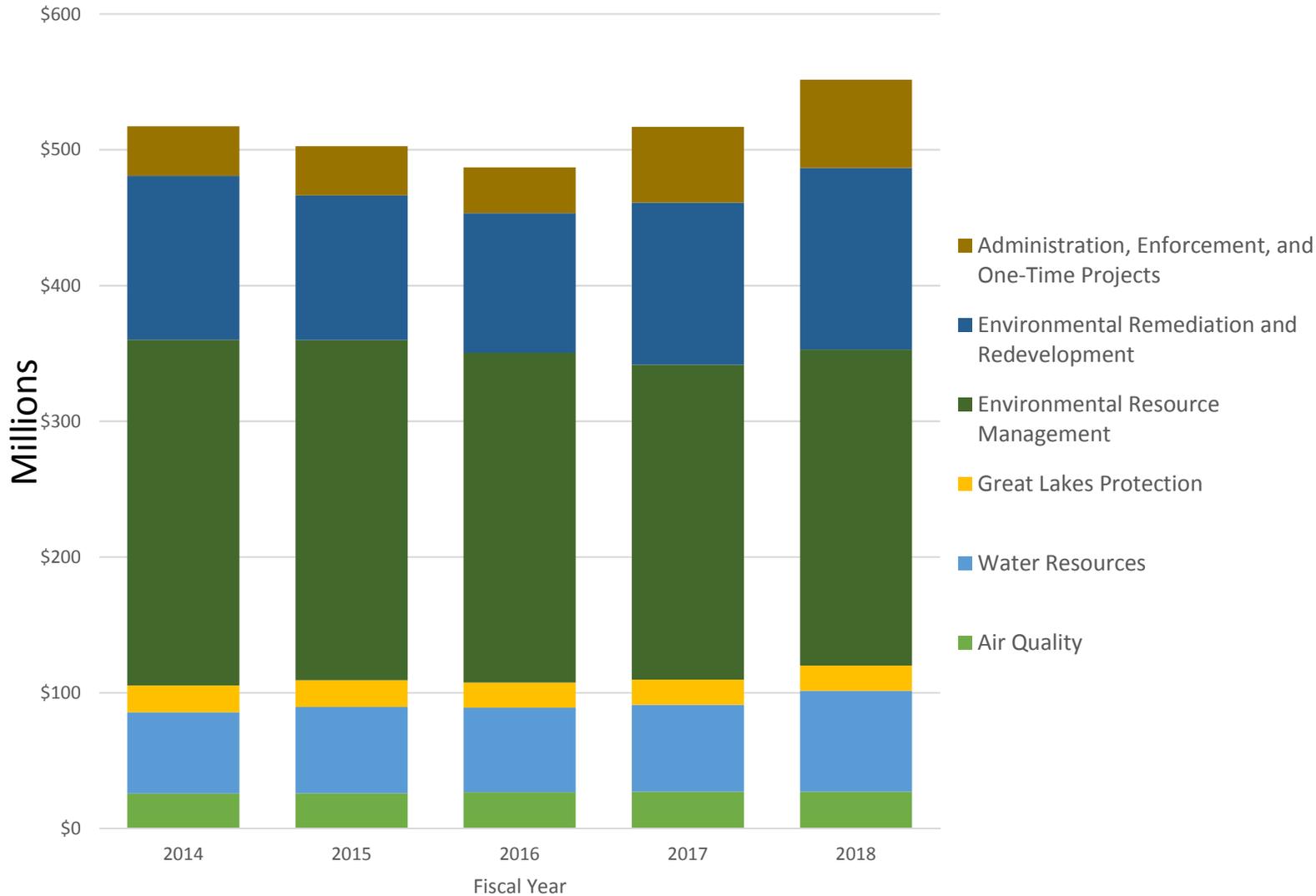
- The Michigan Department of Agriculture and Rural Development (MDARD) is responsible for food safety investigations and assuring safe food production:
 - Food safety investigations
 - Assurance of food quality and safety
 - Animal disease surveillance
 - Pesticide management
 - Environmental stewardship
- The Michigan Department of Environmental Quality (DEQ) is responsible for ensuring a safe environment, including management of air quality, water quality, and elimination of various toxins and pollutants:
 - Drinking water tests and regulation
 - Air quality monitoring
 - Inspection and remediation of environmental hazards
 - Environmental protection
- The Michigan Department of Licensing and Regulatory Affairs (LARA) is responsible for a variety of regulatory functions, including health professional licensure and occupational health/safety.
 - Health professionals and facilities licensing
 - Regulation of certain hazardous materials
 - Michigan Occupational Safety and Health Administration
- The Michigan State Police (MSP) is responsible for responding to emergencies and disasters that may threaten the health and safety of the public.
 - Hazardous materials training and planning
 - Local Emergency Management program
 - State Emergency Operations Center
 - Highway safety planning

MDARD Appropriations, FY2014-2018



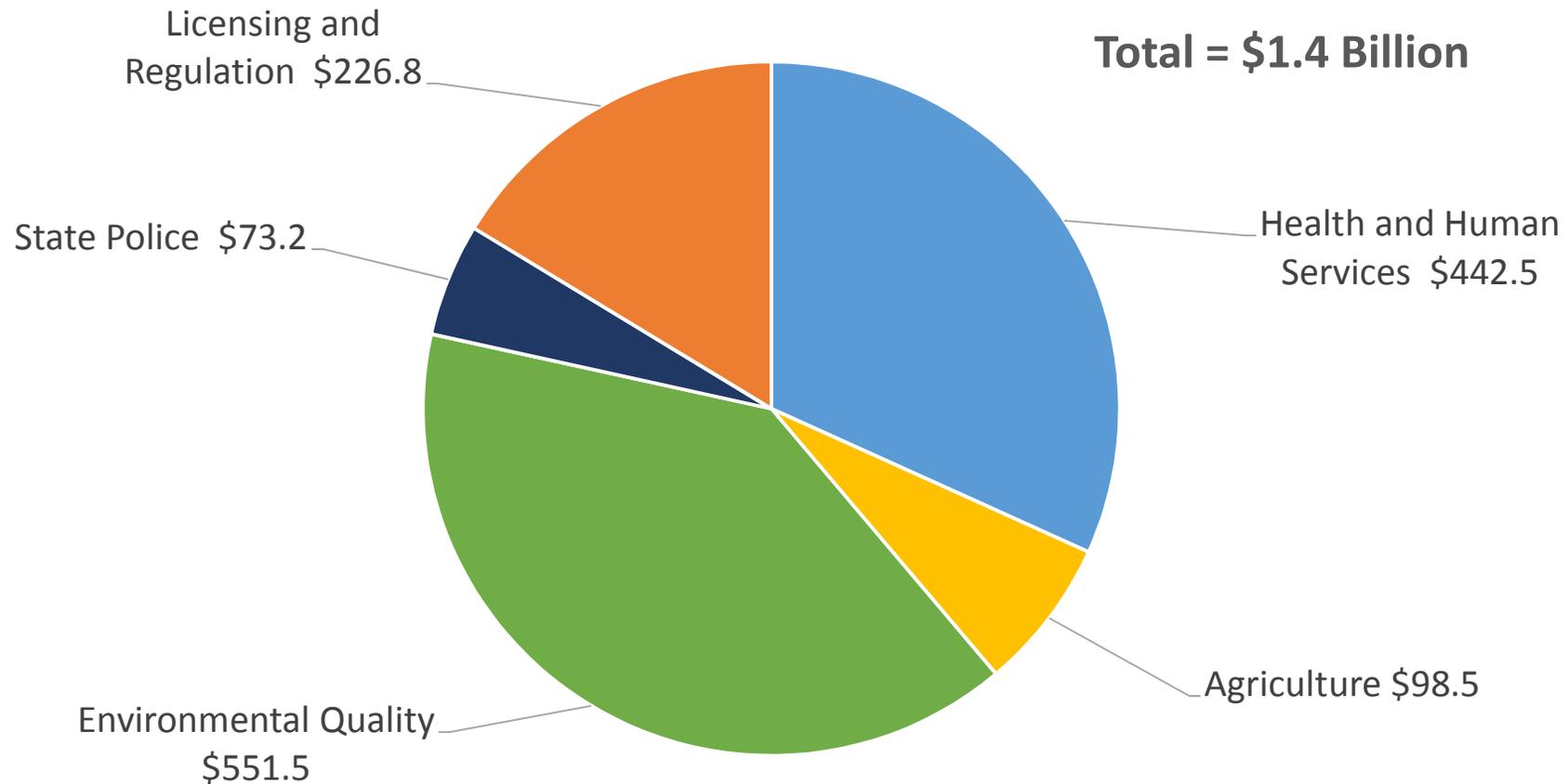
- MDARD performs many traditional public health functions, most notably: food safety.
- Appropriations units for Fairs and Exhibitions and Agricultural Development are excluded from this analysis.
- Appropriations have grown steadily over the past five years.
- Even at the line item level, it is difficult to completely assess the proportion of dollars used for public health vs. those for industry support in agriculture.

DEQ Appropriations, FY2014-2018



- The Department of Environmental Quality took over numerous regulatory programs when it was created in 1995, including air quality, water quality, underground storage tanks, and waste management.
- The DEQ also performs environmental investigations and cleanups.
- Because of the importance of environmental health, we have included all DEQ funding in this analysis.

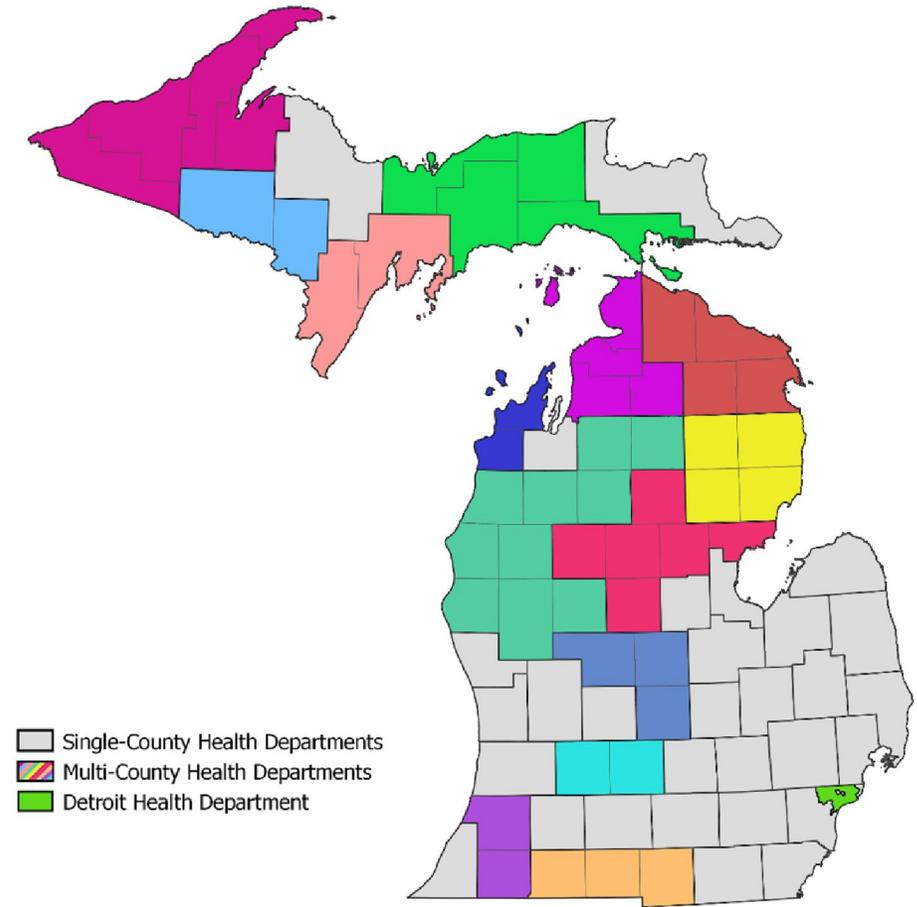
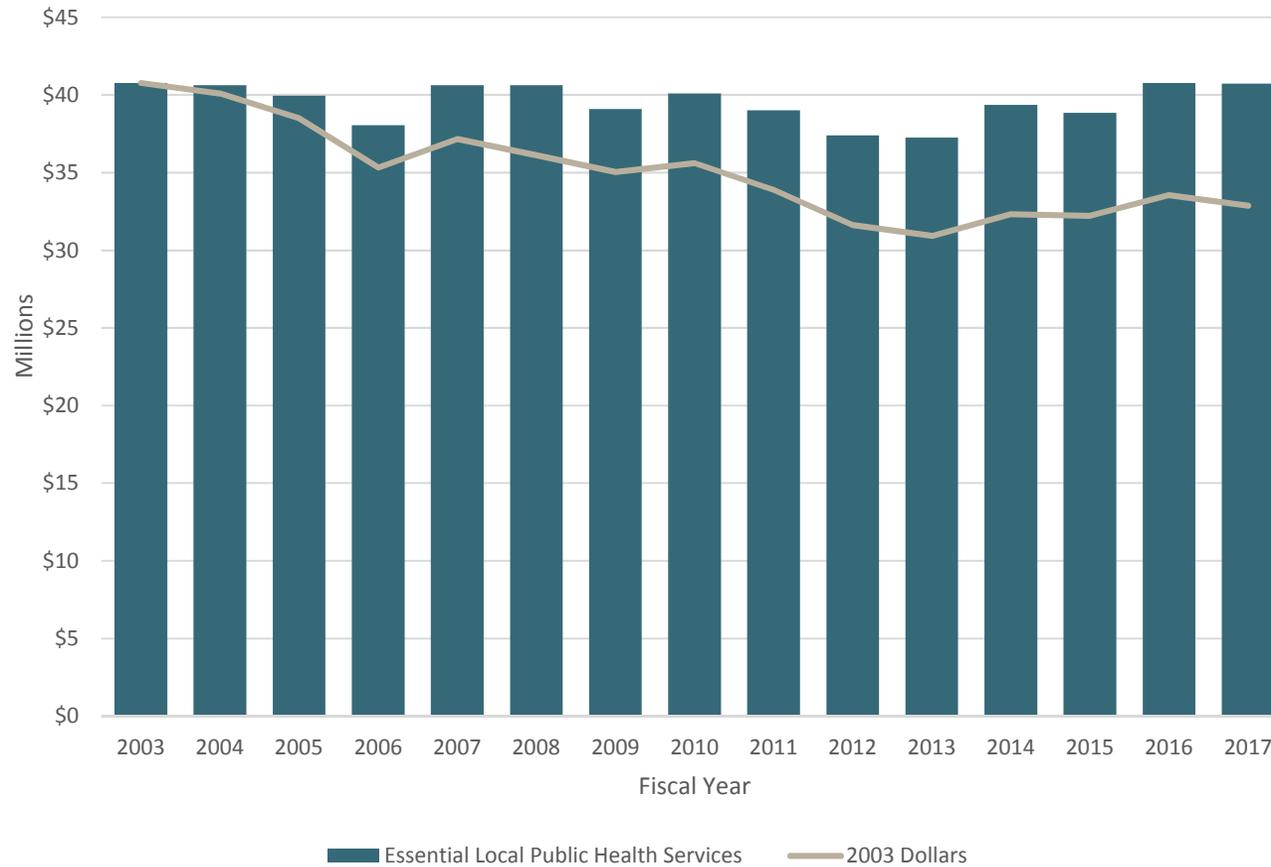
Public Health Appropriations Across Departments, FY2018



Public Health at the Local Level

- Counties granted authority to establish local health departments in 1927.
- All counties have been served by full-time health departments since 1966.
- Michigan's Public Health Code (1978) maintained the autonomy of existing local health departments, granting them key public health responsibilities.
- Today, there are 45 local health departments in Michigan (some serving multiple counties and 1 serving the city of Detroit).

Essential Local Public Health Services, State Expenditures, FY2003-2017



Why Don't Governments Invest More in Public Health?

- Lack of support and understanding by the general public
 - What is public health?
- Public health's benefit is sometimes *invisible* when done right
 - Everyone notices when something goes wrong!
- Tendency of governments to pursue short-term solutions
 - Public health is a long-term investment
- Libertarian streak in American politics (that cuts across parties)
 - Individually determined lifestyle preferences
 - Anti-regulation sentiment
- Public health professionals are no fun at parties
 - Don't drink, don't smoke, and avoid fried food and red/processed meat; eat your veggies!

Social and Investment in Public Health

Health in All Policies

- Collaborative approach to public health
- Broadly incorporate public health perspective into policy formulation and implementation
- Diverse policies (in education, transportation, criminal justice, urban planning) can have negative health consequences
- Planned strategically, policies can enhance/bolster community health

Public Health 3.0

- Public Health 1.0: Establishment of basic sanitation and population health improvements
- Public Health 2.0: Professionalization of Public Health Departments
- Public Health 3.0: A new strategic paradigm?
 - Collaboration across sectors
 - Strategic partnerships
 - Overcome health inequalities and inequities

The Ongoing Need for Public Health

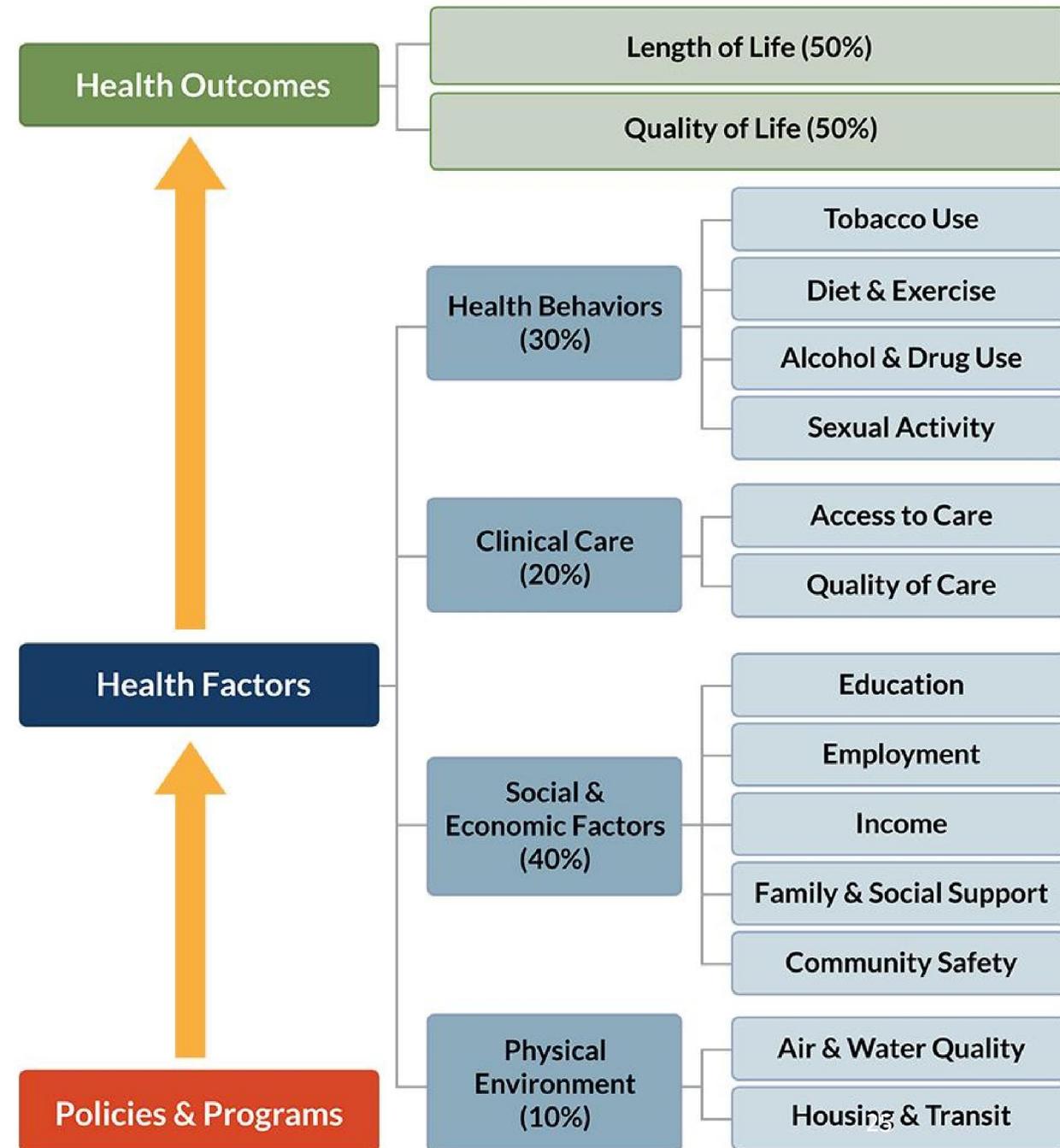
There are costs associated with inaction and disinvestment

Health Indicators in Michigan

- 8th highest rate of death due to heart disease
- 15th highest rate of cancer deaths
- Michigan exceeds national average for deaths from chronic lower respiratory disease, diabetes, kidney disease, and influenza/pneumonia.
- Also exceeds national average for drug overdoses, firearm deaths, and homicides.
- A third of adults in Michigan are obese.
- One in five adults in Michigan use tobacco
- Infant Mortality in Michigan exceeds the national average
- Residents in Michigan have a shorter average life expectancy at birth

Good Health Care, but Bad Health Outcomes

- Michigan ranks better than average on measures of health care cost and access
- Michigan also has some of the highest ranked hospitals in the nation
 - Michigan Medicine recently ranked #5 on the Hospital Honor Roll from US News Health
- Yet, clinical care only accounts for a fraction of modifiable health outcomes



Social/Environmental Factors Explain a Substantial Portion of Michigan's Health Outcomes

Impact of Social/Environmental Factors

- Obesity is strongly associated with
 - Poverty/Stress
 - Social and Behavioral Norms
 - Obesigenic Environments (e.g. unwalkable food deserts/swamps)
- Smoking is strongly associated with socioeconomic position. Consider smoking prevalence by educational attainment:
 - Less Than High School: 41.1%
 - High School: 26.9%
 - 4-year Degree or Higher: 7.5%
- Infant mortality varies substantially by community:
 - Michigan: 6.4 deaths per 1,000 live births
 - Detroit: 12.7 deaths per 1,000 live births
 - Presque Isle County: 14.7 (5-year average)
 - Kalkaska County Infant Mortality Rate: 12.5 (5-year average)

Social Determinants of Health

- Basic Needs (Safe Housing and Food)
- Economic Conditions (Poverty and the Stress that Accompanies Poverty)
- Quality of Education and Job Training
- Availability of Social Support and Community Resources (Family, Church, Public Spaces)
- Social Norms (Discrimination, Racism, Attitudes on Education, Distrust of Government)
- Public Safety/Exposure to Violence/Crime
- Language, Literacy
- Culture

Age-Adjusted Mortality Rates for the Ten Leading Causes of Death in Michigan, 2016

	U.S.	Michigan	Detroit
Heart Disease	165.5	200.8	322.9
Cancer	155.8	167.1	192.7
Chronic Lower Respiratory Diseases	40.6	44.7	33.9
Unintentional Injuries	47.4	50.8	71.9
Stroke	37.3	39.1	47.4
Alzheimer's Disease	30.3	33.8	20.1
Diabetes Mellitus	21.0	21.5	27.6
Kidney Disease	13.1	14.5	23.5
Pneumonia/Influenza	13.5	13.7	21.0
Intentional Self-harm	13.5	13.4	8.9
All Causes of Death	728.8	787.8	1,027.4

Infrastructure: Public Health Impacts

- Michigan faces around \$13.8 billion in drinking water infrastructure needs, with additional needs for wastewater infrastructure
- Road and bridge infrastructure affects safety
- Multimodal public transportation enhances health
- Broadband access is an emerging factor that affects health

According to the Governor's 21st Century Infrastructure Commission:

"The state's infrastructure system is interconnected with the health of our people, environment, and communities. Investments in communications, energy, transportation, and water networks and technologies support a Pure Michigan that, in many ways, defines the character of our state."

Conclusion

- Public health is a central and yet broadly misunderstood function of government that focuses on prevention of disease and injury, and management of environmental factors (physical and social) that affect health. Medicine improves the health of one individual at a time; public health improves the health of entire communities.
- In recent years, the state has invested little more than what was needed to draw down federal public health funding. This leaves the state heavily reliant on diminishing federal funds. This disinvestment has affected the ability of state and local health departments to provide essential services and leaves Michigan lagging the nation in both per-capita funding for public health and measures of population health.
- Improvement may be needed for Michigan's system of public health service deliver that is exceedingly fragmented between multiple state departments. A "Health in All Policies" approach should be adopted statewide so that every government policy (from schools to roads to criminal justice) includes assessment of associated health risks and/or benefits. State and local health departments should endeavor to coordinate public health across sectors and elevate the public's understanding of public health.

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