

Population Health

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Part I

Population Health: An Overview

What is population health?

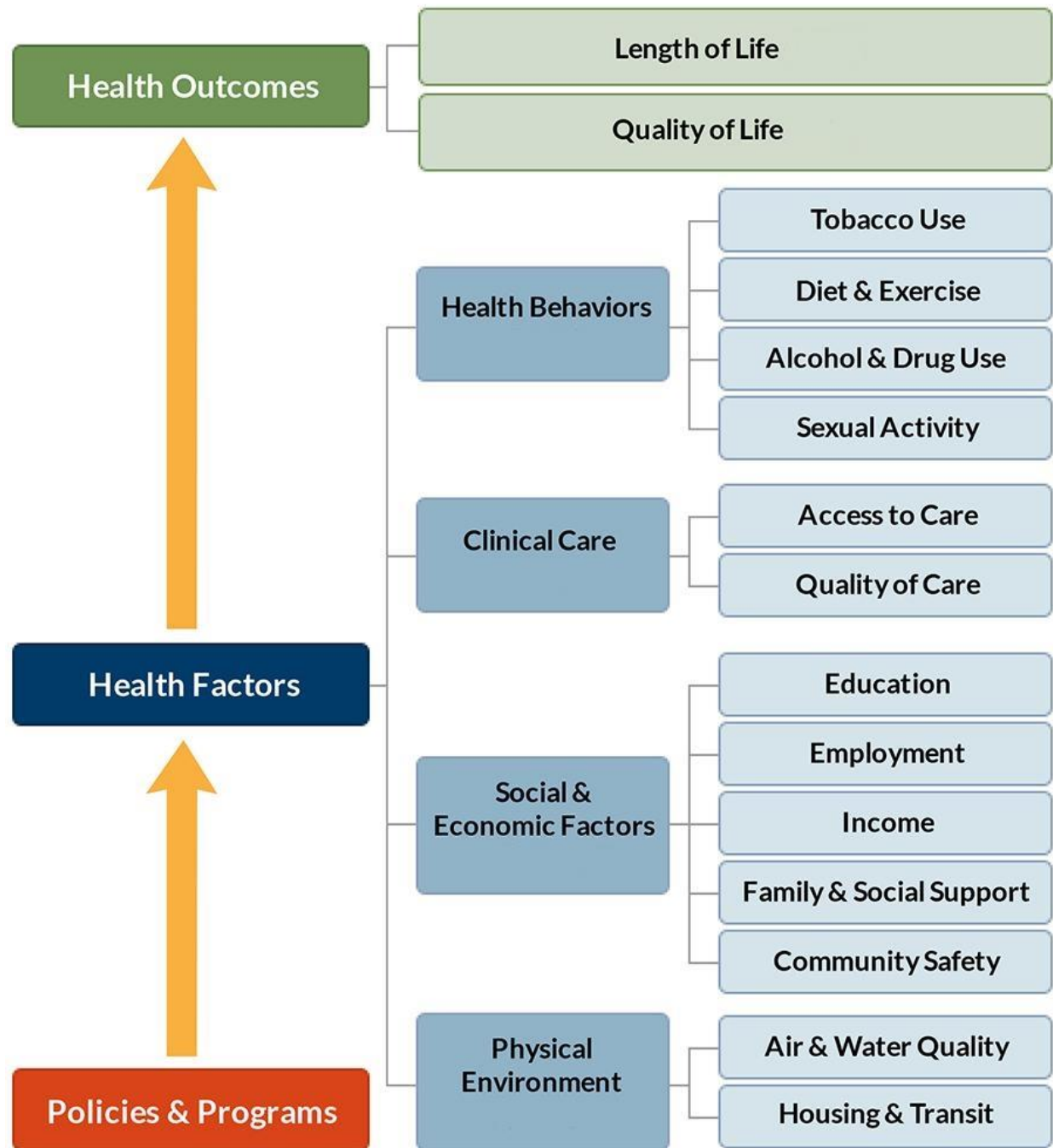
- Health outcomes at the group level
- Disparities
- Health determinants
- Policies and interventions

Measuring Population Health

- Mortality
 - Morbidity
 - Use of care
 - Self-rated health
-
- Also: Health determinant measures

Health Determinants

- Medical
 - Access to health services
 - Use of health services
 - Quality of care
- Non-medical
 - Biology and genetics
 - Individual behavior
 - Social context
 - Physical environment



Health Determinants

- Medical - ~20%
 - Access, use, & quality
 - Non-medical - ~80%
 - Biology & genetics - ~20%
 - Individual behavior
 - Social context
 - Physical environment
- } ~60%

Health Determinants: What matters?

- What makes counties where residents live longer differ from others?

Health Determinants: What matters?

HIGHER life expectancy

- **Income**
- Exercise rate
- % college graduates
- Preventive care index

LOWER life expectancy

- **Poverty**
- Smoking
- Obesity
- Medicare \$ per enrollee (risk-adjusted)

Figure 1. Life Expectancy at Birth by County, 2014

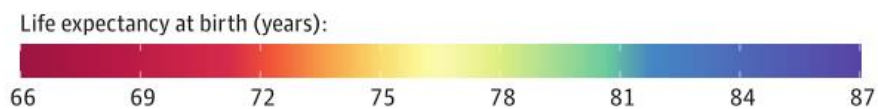
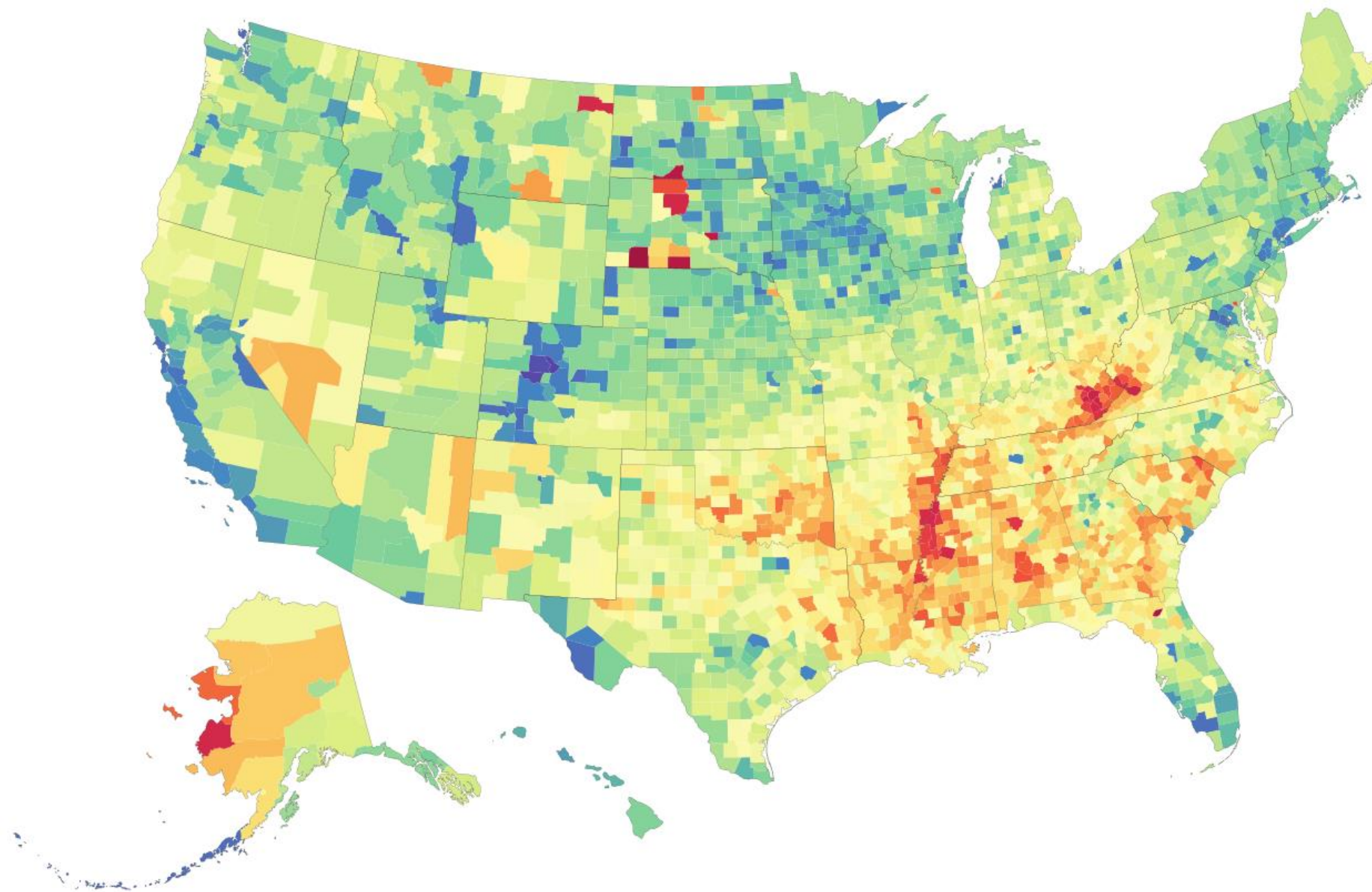
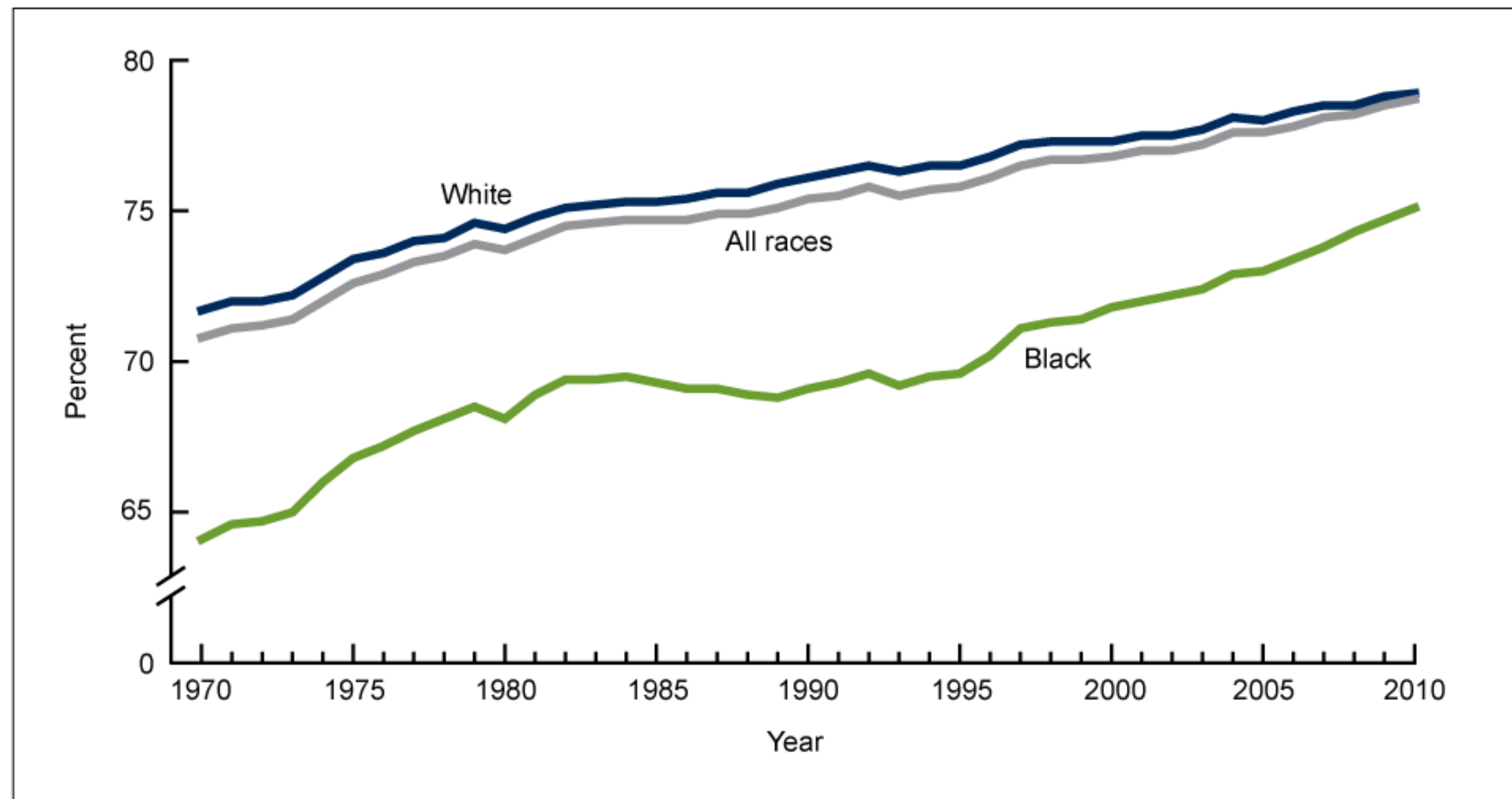
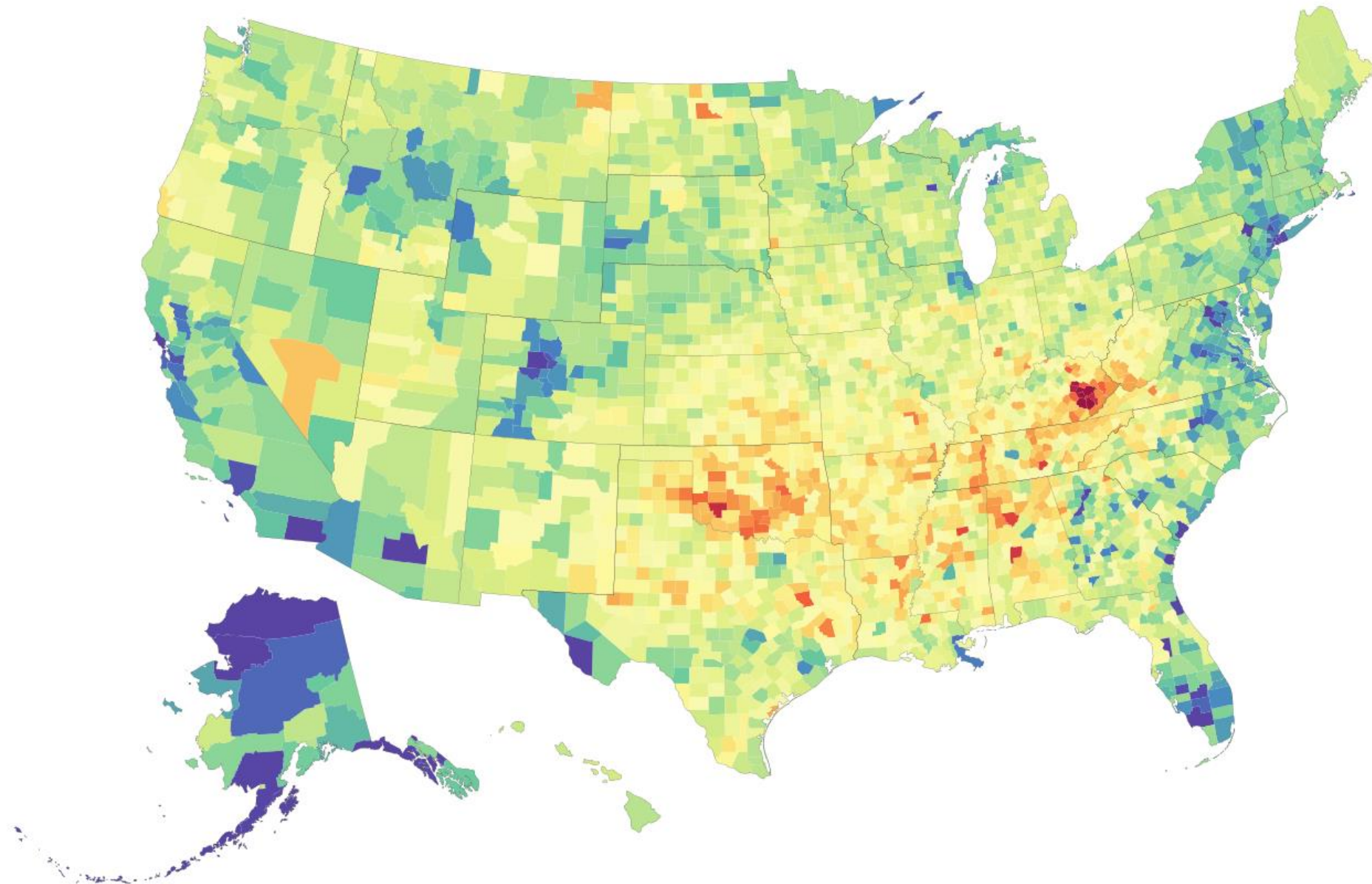


Figure 1. Life expectancy, by race: United States, 1970–2010

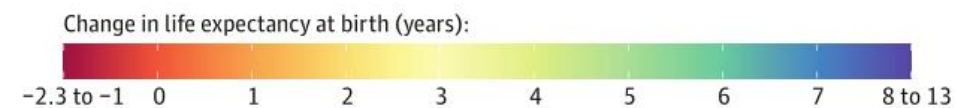


SOURCE: CDC/NCHS, National Vital Statistics System, Mortality.

Figure 2. Change in Life Expectancy at Birth by County, 1980 to 2014

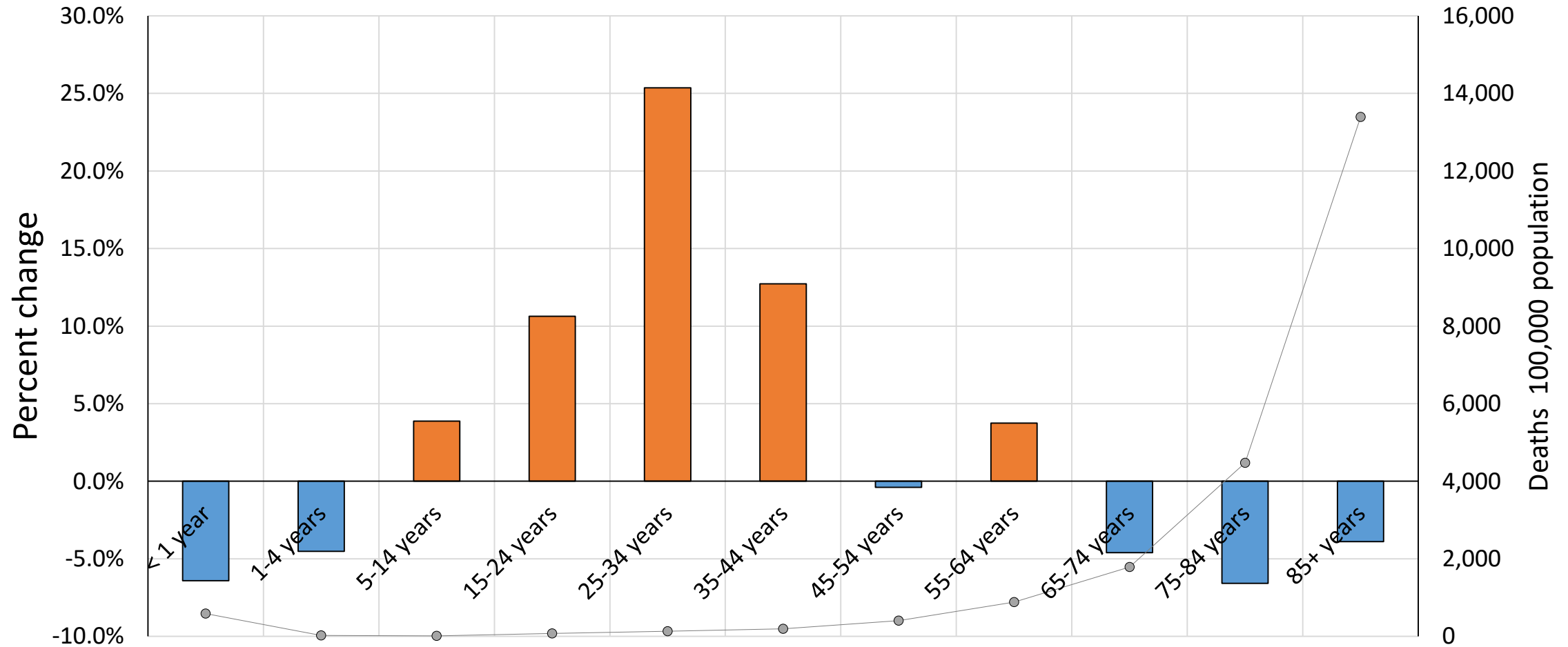


Dwyer-Lindgren et al. (2017.) "Inequalities in Life Expectancy Among US Counties, 1980 to 2014 Temporal Trends and Key Drivers." *JAMA Internal Medicine*.



Change in death rate by age, 2010 - 2016

Left axis (bars) shows change; right axis (line) shows 2016 rate



Value of Population Health Data

- Educating the community
- Engaging stakeholders
- Assessing health needs
- Planning interventions
- Evaluating interventions
- Applying for funding
- Advocating for improvement
- Developing health policy

Population Health Data Portals

- Federal: [Healthy People 2020](#)
- Other nationwide data:
 - [Robert Wood Johnson Foundation County Health Rankings](#)
 - [Institute for Health Metrics and Evaluation](#)
- State: [NYS Prevention Agenda Dashboard](#)
- Local: [North Country Health Compass](#)
 - Population health indicators
 - Best practices
 - Resources
 - Community Health Assessment reports
 - Community Health Survey reports



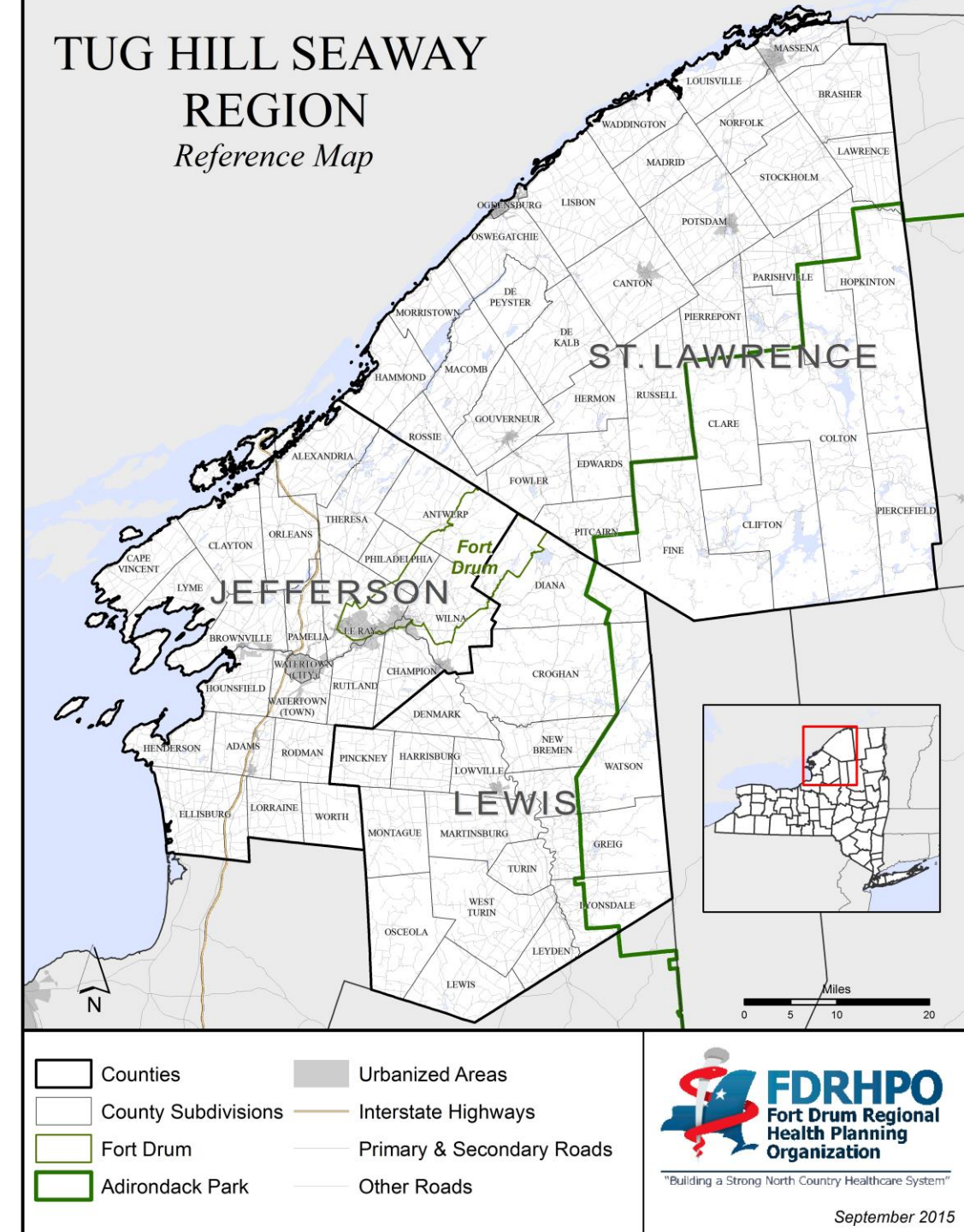
- Population health asks:
 - **Why are some groups of people healthier than others?**
 - **What can we do to improve health outcomes for everyone?**

Part II

The Health of Our Region

Our Region

- 251,000 residents (2016)
 - Small cities: Watertown, Ogdensburg
 - Fort Drum military reservation
 - Villages
 - Rural areas
- Distinctive populations:
 - Military families
 - College students
 - Seasonal residents
 - Old Order Amish
 - State prison inmates



Key Community Facts

Demographics

- Median age: 34
- 89% non-Hispanic white
- 93% mainly English-speaking
- 20% of adults have a four-year degree

Economy

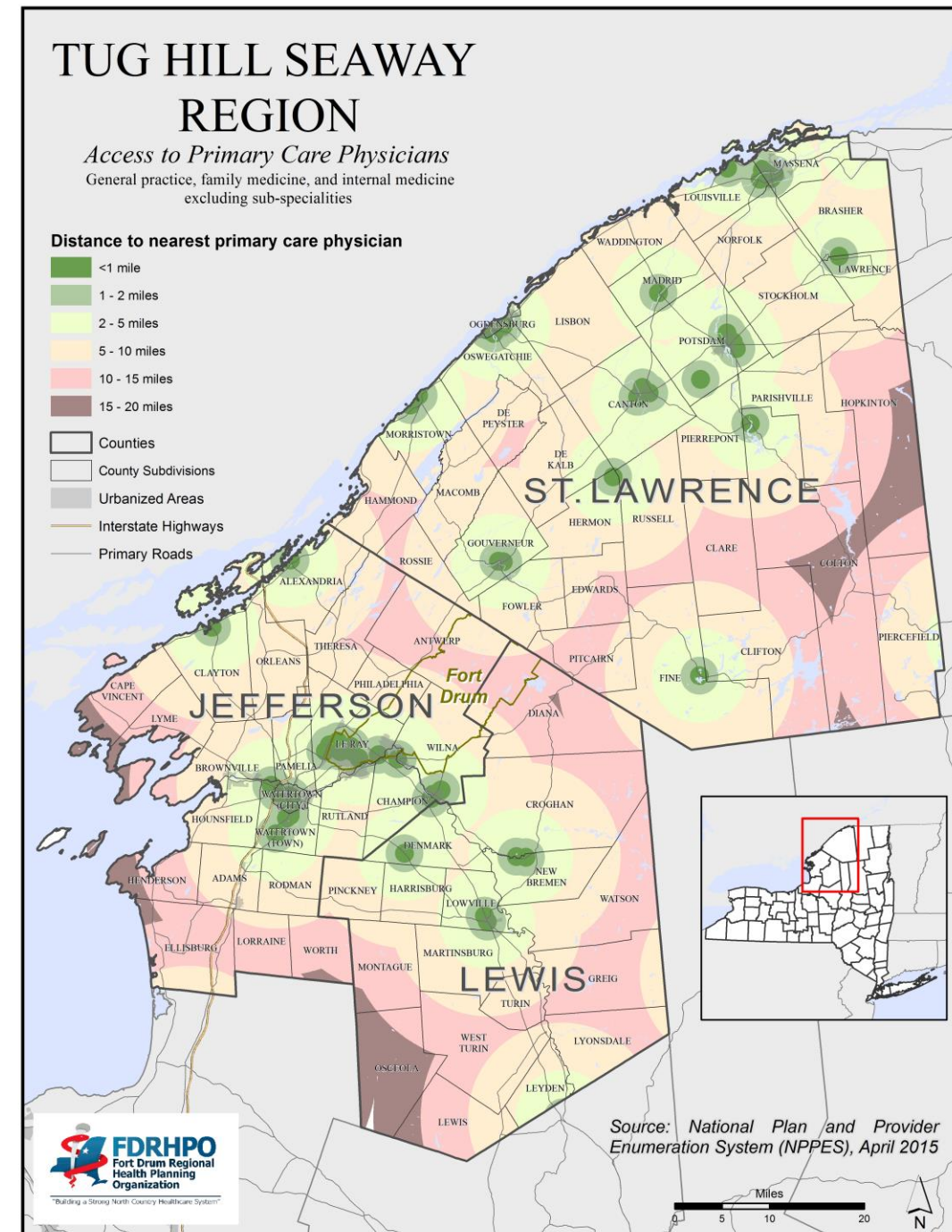
- Poverty rate = 17%
- Unemployment = 5.5%
- Median household income = \$46k

Health Challenges

- Chronic disease
- Obesity
- Tobacco use
- Alcohol use
- Drug poisoning deaths
- Availability of mental health services

Access to Care

Occupation	Region (per 100,000)	NYS (per 100,000)	US (per 100,000)
All Physicians	146	403	282
Primary Care	50	84	76
Physician Assistants (PAs)	71	56	32
Nurse Practitioners (NPs)	58	63	53
Dentists	34	76	61
General Psychiatrists	17	19	36



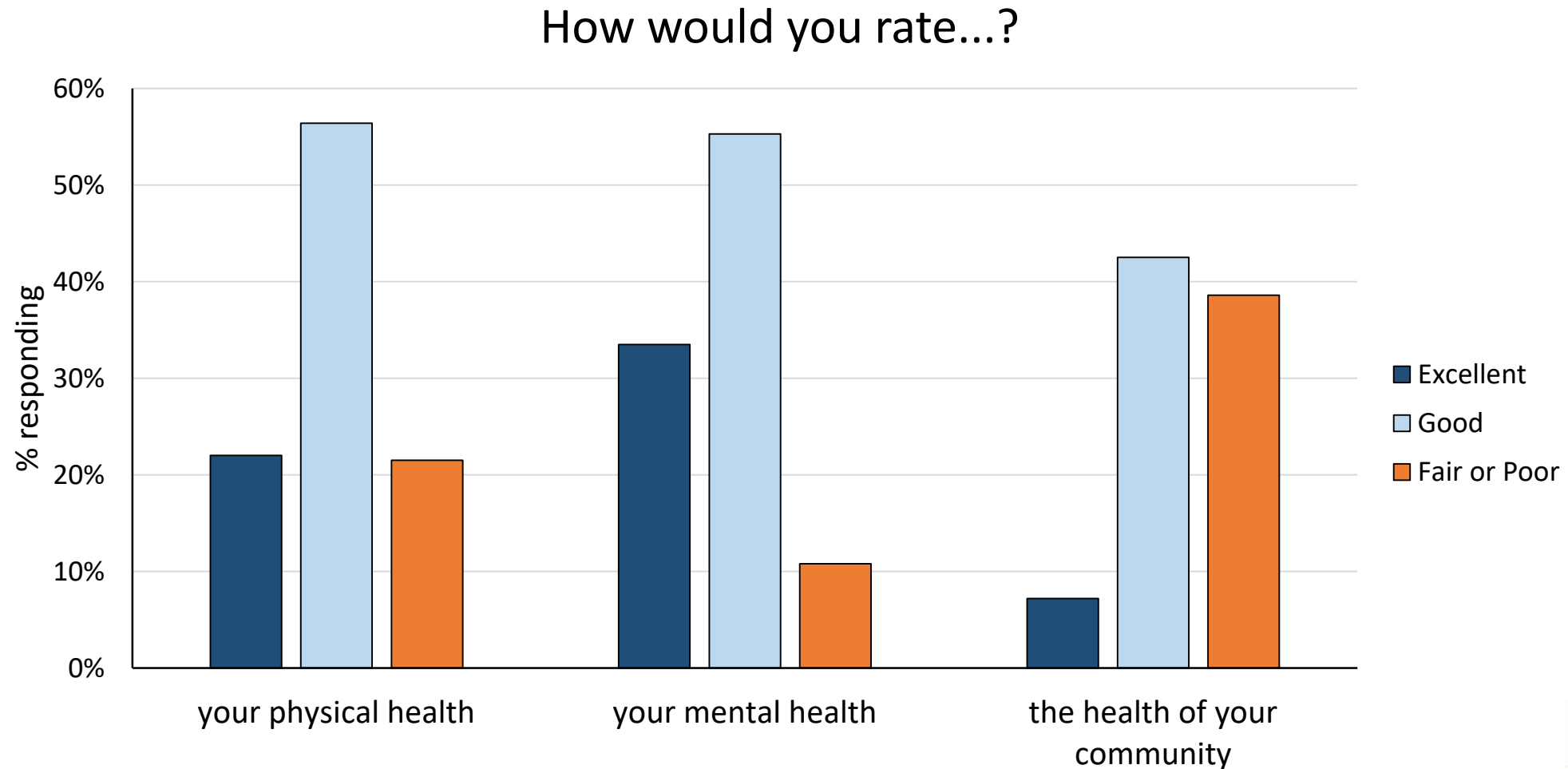
Emergency Department Payer Mix - Regional Hospitals

	Medicaid	Medicare	Tricare & other public	Total publicly insured
Canton-Potsdam Hospital	29%	19%	1%	49%
Carthage Area Hospital	33%	15%	33%	81%
Claxton Hepburn Med Center	35%	21%	2%	58%
Clifton-Fine Hospital	6%	24%	*	29%
Gouverneur Hospital	34%	17%	3%	54%
Lewis County General Hospital	27%	17%	4%	47%
Massena Memorial Hospital	25%	22%	*	47%
River Hospital	43%	23%	8%	74%
Samaritan Medical Center	35%	15%	27%	76%
Region Hospital Totals	32%	18%	13%	63%

SOURCE: NYS Statewide Planning and Research Cooperative System (SPARCS) Inpatient File (2016): Primary Type of Payment, emergency department visits only

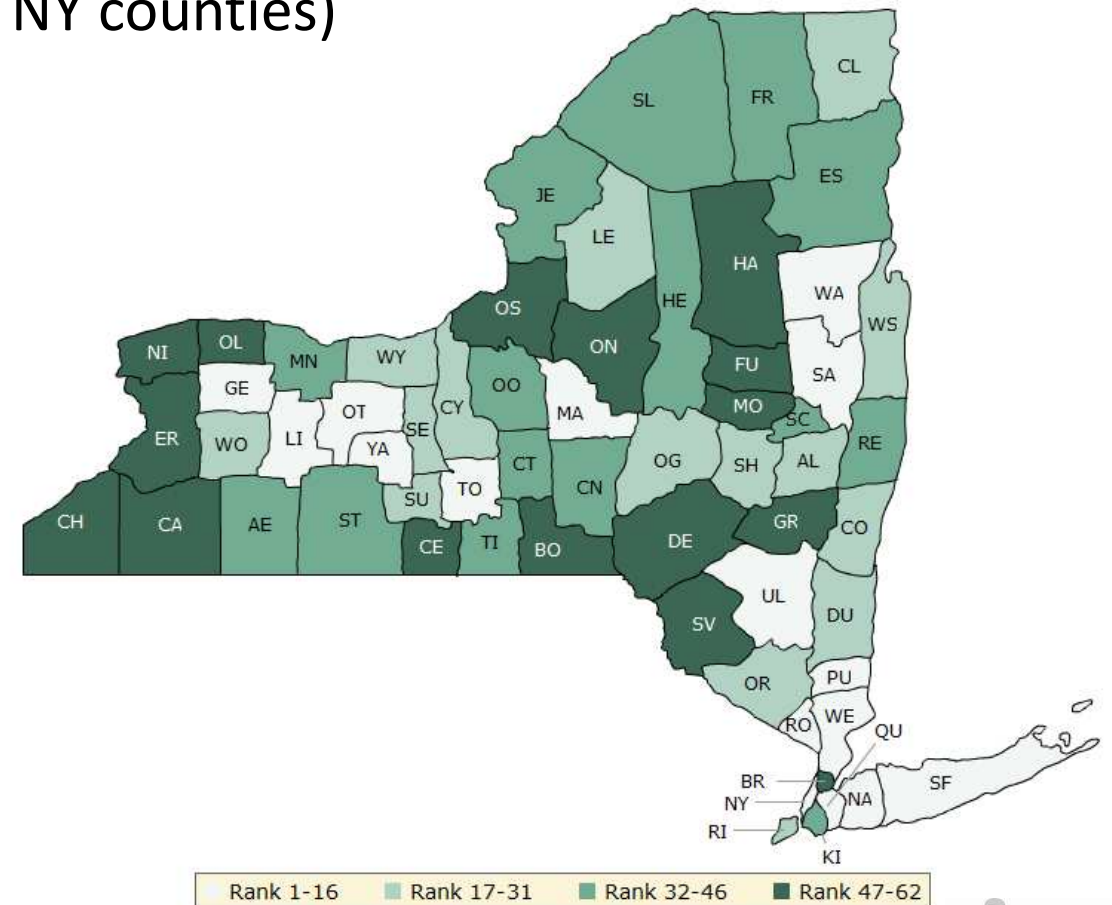
*Low volume (n < 20)

Self-Rated Health in Our Region



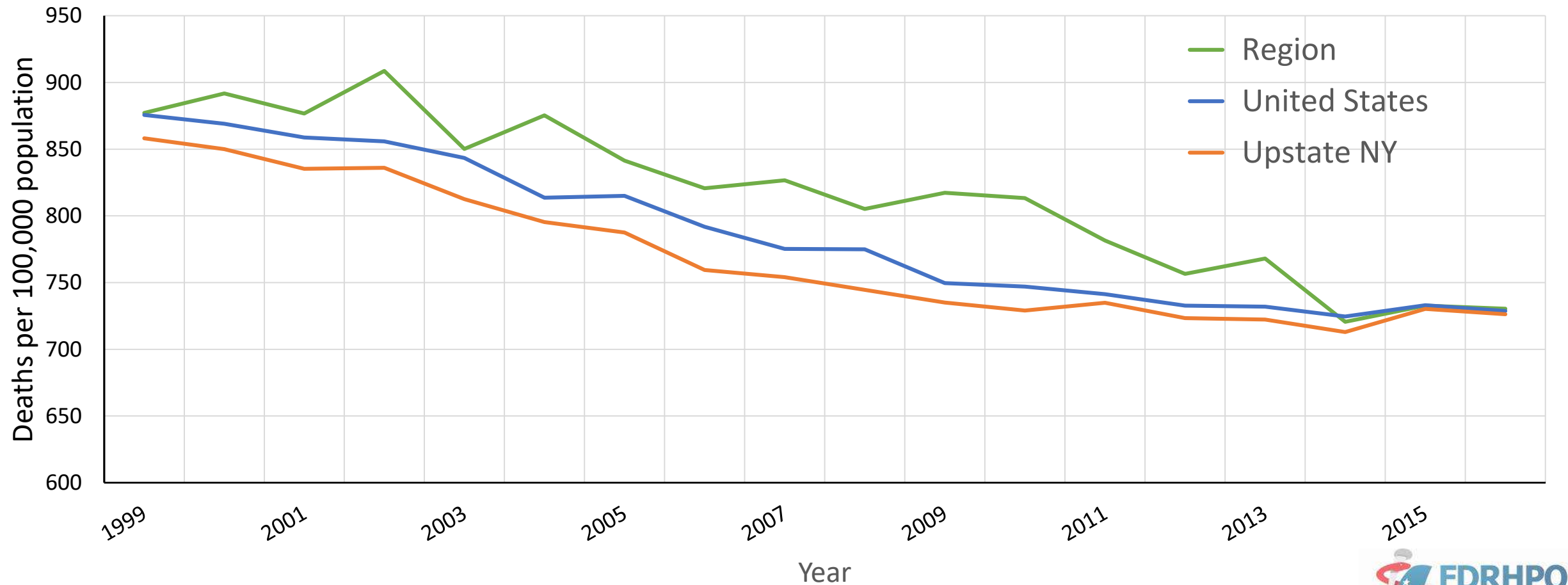
RWJF County Health Rankings

- 2017 Rankings in Health Outcomes (n = 62 NY counties)
 - Jefferson = **42**
 - Lewis = **21**
 - St. Lawrence = **45**
- For Reference
 - Saratoga = 1
 - Bronx = 62



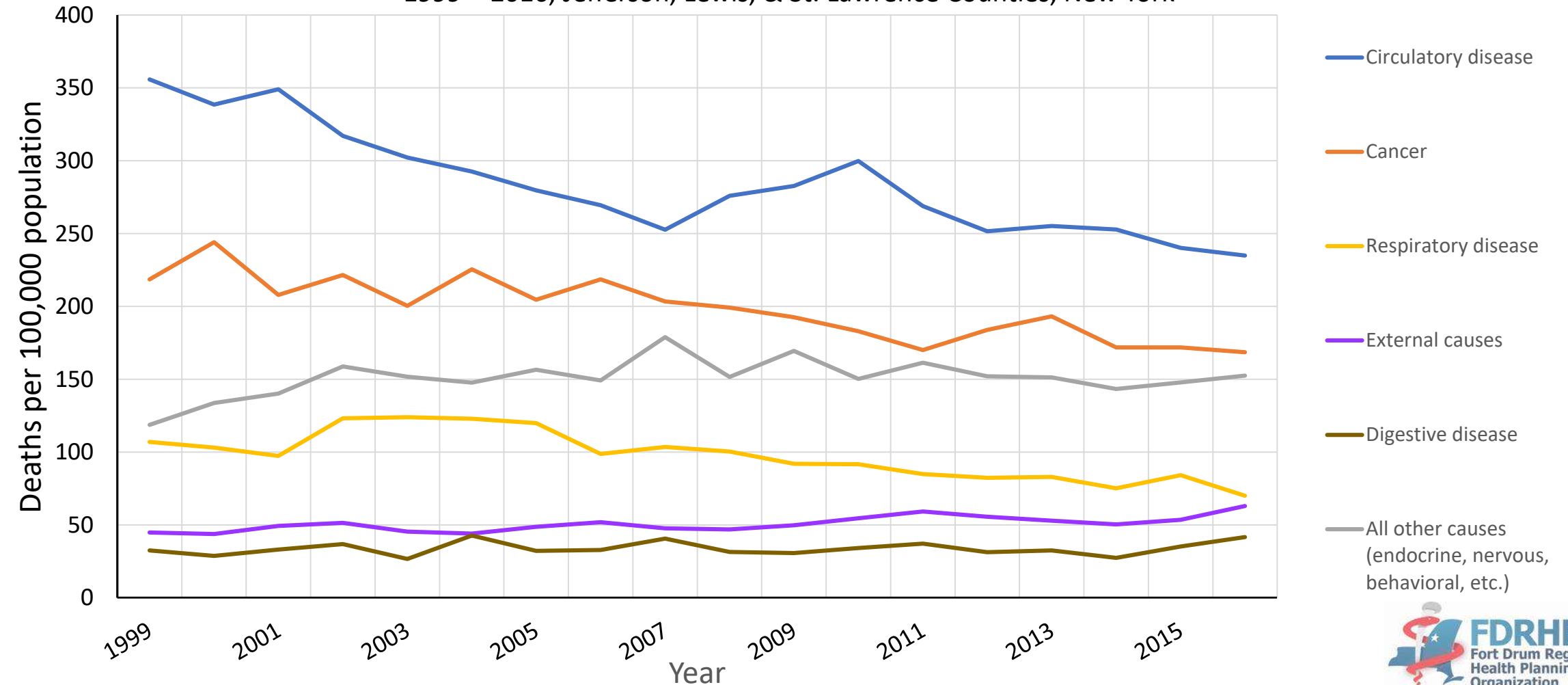
Mortality

Age-adjusted mortality by area
1999 - 2016



Causes of Mortality in Our Region

Age-adjusted mortality by cause of death (ICD category)
1999 – 2016, Jefferson, Lewis, & St. Lawrence Counties, New York



Causes of Premature Death

- Tobacco use
- Obesity (diet/activity patterns)
- Alcohol use
- Drug poisoning
- Suicide

Causes of Premature Death

Source: Centers for Disease Control and Prevention WONDER Database

	Deaths (2016)	Deaths per 100,000
Tobacco use	~480,000	148.6
Obesity	~300,000	92.9
Medical errors	~251,000	77.7
Alcohol use	~88,000	27.2
Suicide	44,965	13.9
Drug poisoning	62,069	19.2
Motor vehicle traffic	38,748	12.0
Falls	34,673	10.7
Homicide	19,362	6.0

Causes of Premature Death

Source: Centers for Disease Control and Prevention WONDER Database

	Deaths (2016)	Deaths per 100,000	Median Age
Tobacco use	~480,000	148.6	Early 70s
Obesity	~300,000	92.9	Early 60s
Medical errors	~251,000	77.7	Early 70s
Alcohol use	~88,000	27.2	Late 50s
Suicide	44,965	13.9	Early 40s
Drug poisoning	62,069	19.2	Late 30s
Motor vehicle traffic	38,748	12.0	Late 30s
Falls	34,673	10.7	Late 70s
Homicide	19,362	6.0	Late 20s

Causes of Premature Death

Source: Centers for Disease Control and Prevention WONDER Database

	Deaths (2016)	Deaths per 100,000	Median Age	Years of Potential Life Lost (YPLL) (in millions)
Tobacco use	~480,000	148.6	Early 70s	3.6
Obesity	~300,000	92.9	Early 60s	5.3
Medical errors	~251,000	77.7	Early 70s	1.9
Alcohol use	~88,000	27.2	Late 50s	2.0
Suicide	44,965	13.9	Early 40s	1.7
Drug poisoning	62,069	19.2	Late 30s	2.6
Motor vehicle traffic	38,748	12.0	Late 30s	1.6
Falls	34,673	10.7	Late 70s	0.1
Homicide	19,362	6.0	Late 20s	1.0

Causes of Premature Death

Source: Centers for Disease Control and Prevention WONDER Database

	Deaths (2016)	Deaths per 100,000	Median Age	Years of Potential Life Lost (YPLL) (in millions)	Local deaths per 100,000 (2016)
Tobacco use	~480,000	148.6	Early 70s	3.6	~150.0
Obesity	~300,000	92.9	Early 60s	5.3	NA
Medical errors	~251,000	77.7	Early 70s	1.9	NA
Alcohol use	~88,000	27.2	Late 50s	2.0	~30.0
Suicide	44,965	13.9	Early 40s	1.7	12.8
Drug poisoning	62,069	19.2	Late 30s	2.6	17.1
Motor vehicle traffic	38,748	12.0	Late 30s	1.6	7.6
Falls	34,673	10.7	Late 70s	0.1	10.0
Homicide	19,362	6.0	Late 20s	1.0	1.6

Improving Our Region's Health: Assets and Barriers

Assets

- Interagency collaboration
- Data (EMRs, Community Health Survey, etc.)
- Engaged service providers
- Treatment and prevention services
- Peer support groups
- Community organizations
- Public spaces
- Walkable neighborhoods
- Local agriculture
- Local businesses
- State and federal support

Barriers

- Poverty
- Low health literacy
- Transportation & distance
- Health professional shortages
- Rising health care costs
- Insufficient focus on prevention and wellness
- Policy uncertainty

Community Health Improvement Strategies

- Complete Streets
- School wellness policies
- School-based oral health
- Prevention & self-management programs
- Nutrition education
- Access to year-round physical activity
- Farmers' markets, community gardens
- Suicide prevention coalitions
- Tobacco prevention & cessation

What does a healthy community look like?

- Meets everyone's basic needs
 - Safe, affordable, and accessible food, water, housing, education, health care and places to play
- Provides supportive levels of economic and social development
 - Safe and healthy job opportunities, a thriving economy and healthy development of children and adolescents
- Promotes quality and sustainability of the environment
 - Smoke-free spaces, clean air, soil and water, green spaces and sustainable energy use
- Places high value on positive social relationships
 - Cohesive families and neighborhoods, robust social and civic engagement and violence prevention