

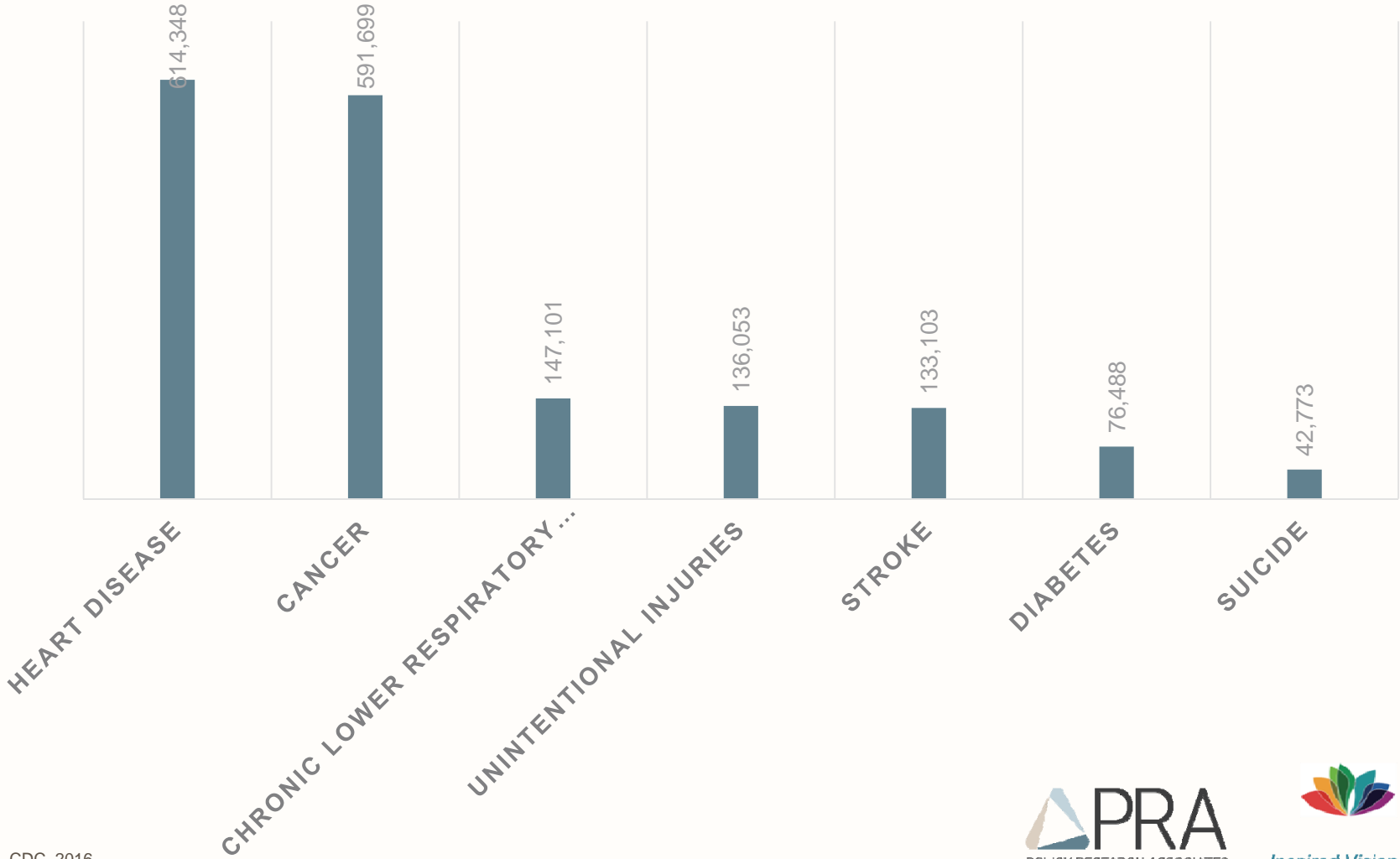
Zip Code > Genetic Code

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Cathy Cave, Inspired Vision, LLC

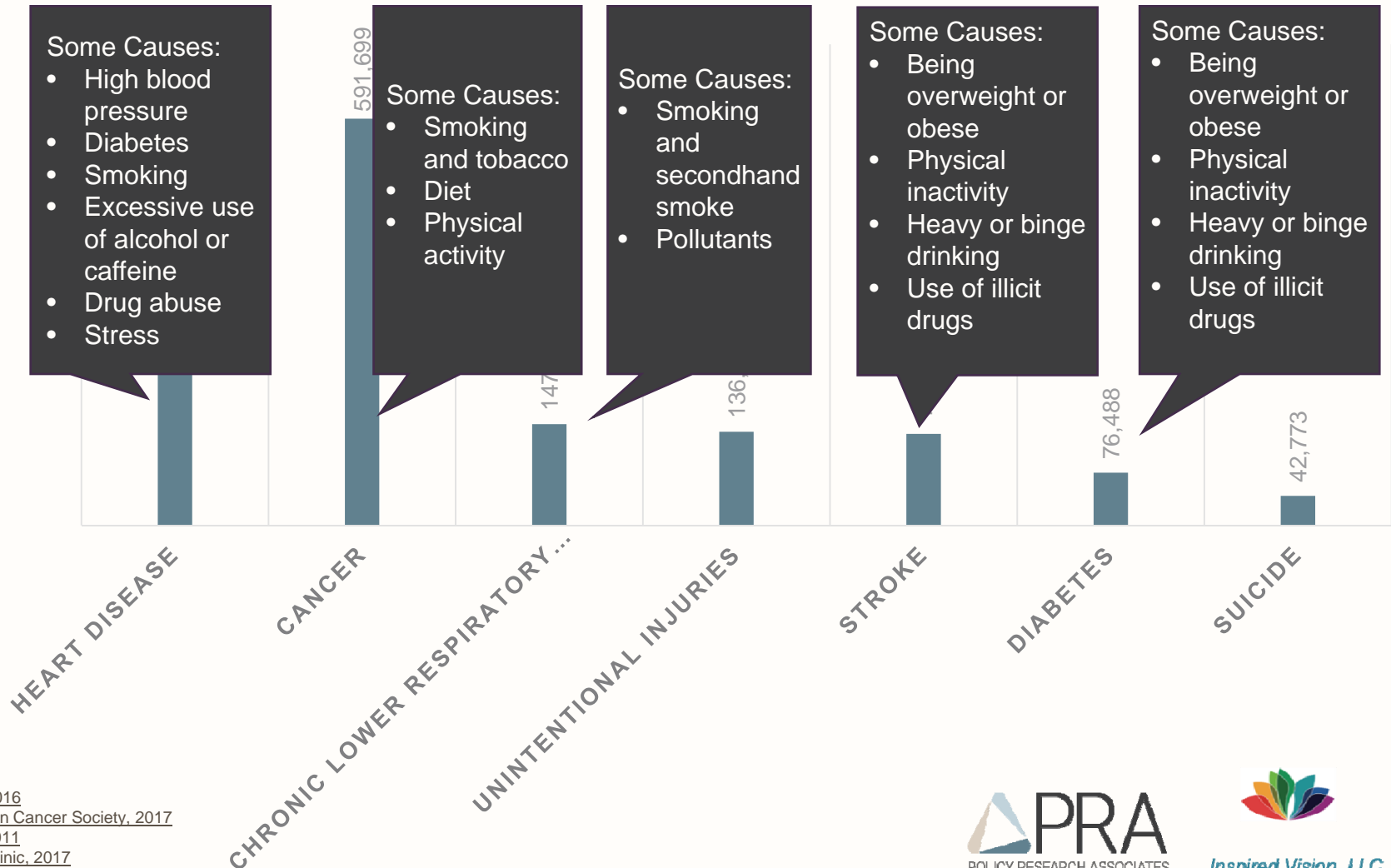
Health Behaviors

- Almost half of all deaths attributable to:
 - Tobacco
 - Diet
 - Sedentary lifestyle
 - Alcohol and substance use
 - Firearms
 - Sexual behavior

Leading Causes of Death in the U.S.



Leading Causes of Death in the U.S.



CDC, 2016
 American Cancer Society, 2017
 HHS, 2011
 Mayo Clinic, 2017



Linking Physical Health and Mental Health

- Physical health outcomes and mental health outcomes are correlated
- People with mental health challenges may be at much higher risk of heart disease and stroke

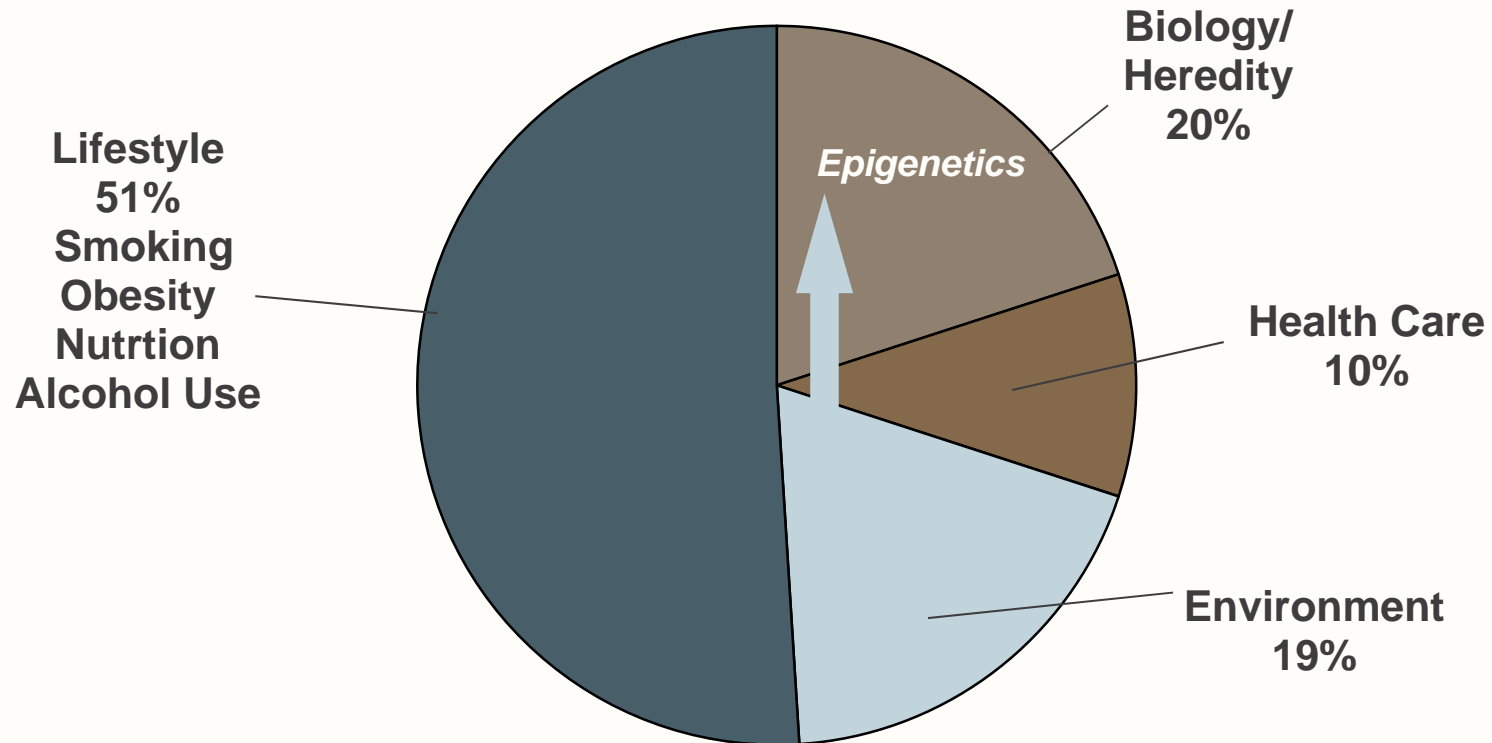


Linking Physical Health and Mental Health

- Dying from cardiovascular, or heart, disease is as strongly associated with depression as it is with classic risk factors like obesity and high blood pressure
- More than 1 in 3 adults with a mental illness smoke cigarettes, compared with about 1 in 5 adults with no mental illness



Actual Causes of Death in the United States



Source: McGinnis, J.M and Foege, W.H. (1993). "Actual Causes of Death in the United States." Journal of the American Medical Association.

Mokdad AH, et.al. Actual Causes of death in the United States, 2000. JAMA. 2004; 291:1238-1245.

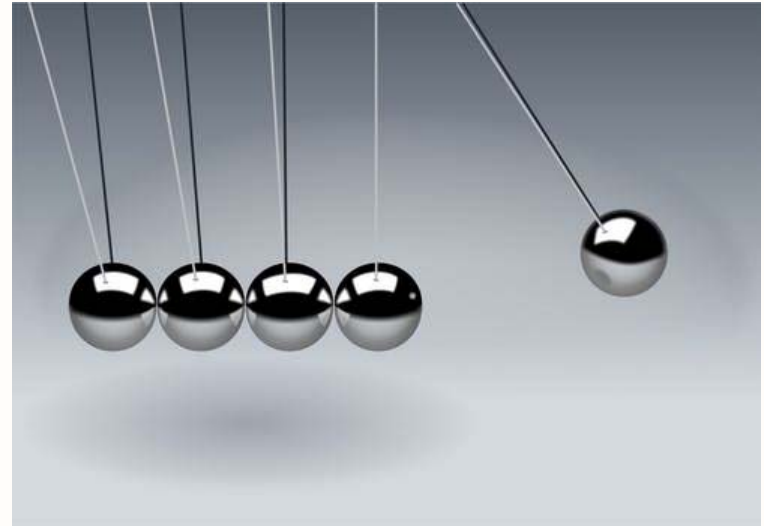
Wait... What's Epigenetics?



Minute
Earth

Allostatic Load

- Refers to the wear and tear that the body experiences due to repeated cycles of allostasis as well as the inefficient turning-on or shutting off of these responses
- **Allostasis**
 - "maintaining stability (or homeostasis) through change" was introduced by Sterling and Eyer to describe how the cardiovascular system adjusts to resting and active states of the body

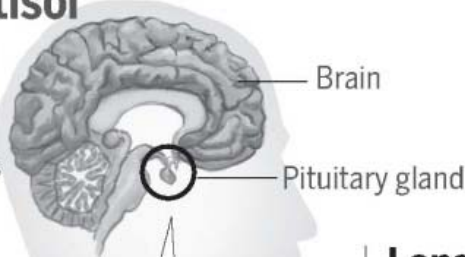


The stress effect

Middle-class people aren't living as long as wealthier people in the same area. One explanation is **chronic stress** — those experiencing more financial hardships and dealing with more everyday worries aren't as healthy as wealthier people. Over time, chronic stress can lead to a condition called **allostatic load**, which becomes even more pronounced in people lower on the socioeconomic ladder.

Stress and cortisol

In response to stress or perceived danger, hormones produced by the adrenal glands (including cortisol and adrenalin) work together when the body must react quickly to sudden threatening situations.



1 The brain and the body react to stress.

Long-term effects of high allostatic load

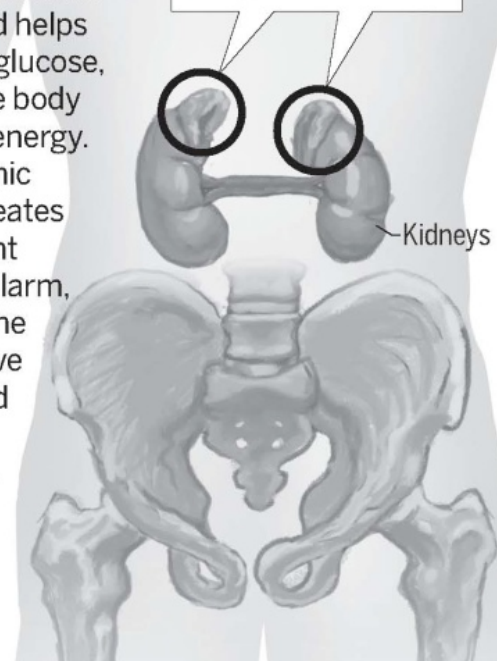
■ Elevated levels of cortisol can create a feeling

Cortisol and craving

The hormone cortisol is secreted from the adrenal gland and helps regulate glucose, which the body uses for energy. But chronic stress creates a constant state of alarm, making the body crave sugar and carbohydrates.

2 Adrenal glands

In a flight-or-fight response, the adrenal glands produce cortisol (and other hormones) to give the body more energy.

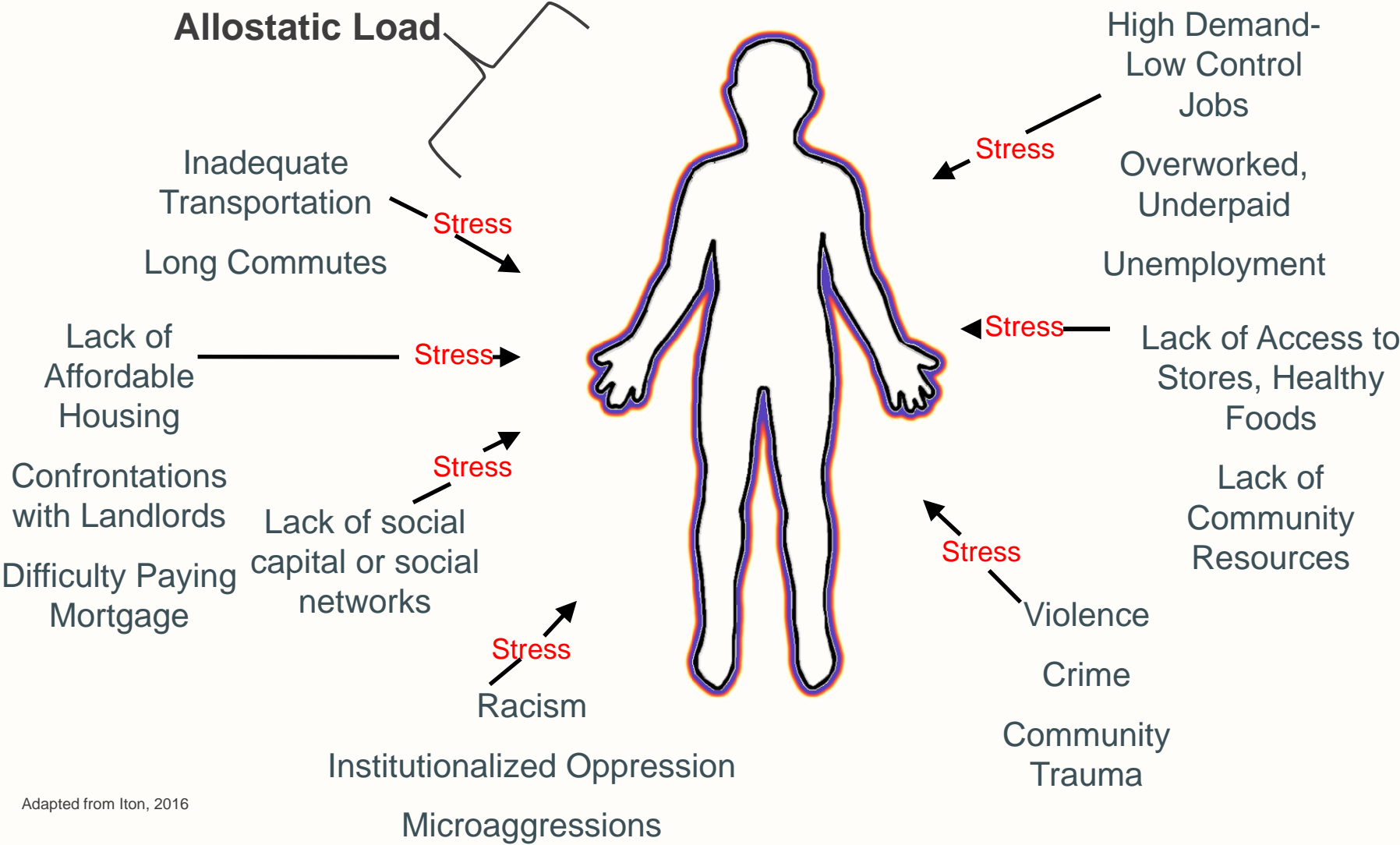


of hunger, leading to overeating and obesity.

- High blood pressure
- Poor glucose regulation: Under stress, people crave sugar and carbohydrates, which give a quick boost, but then lead to a drop in energy. Over time, this increases the risk of developing diabetes.
- Lowered immune system resistance: can lead to inflammation and increased odds of developing many diseases.

Source: Adler, N. (n.d.) MacArthur Research Network on Socioeconomic Status and Health. As cited by Iton, 2016

Community Factors That Influence Mental/Health Status



Adapted from Iton, 2016

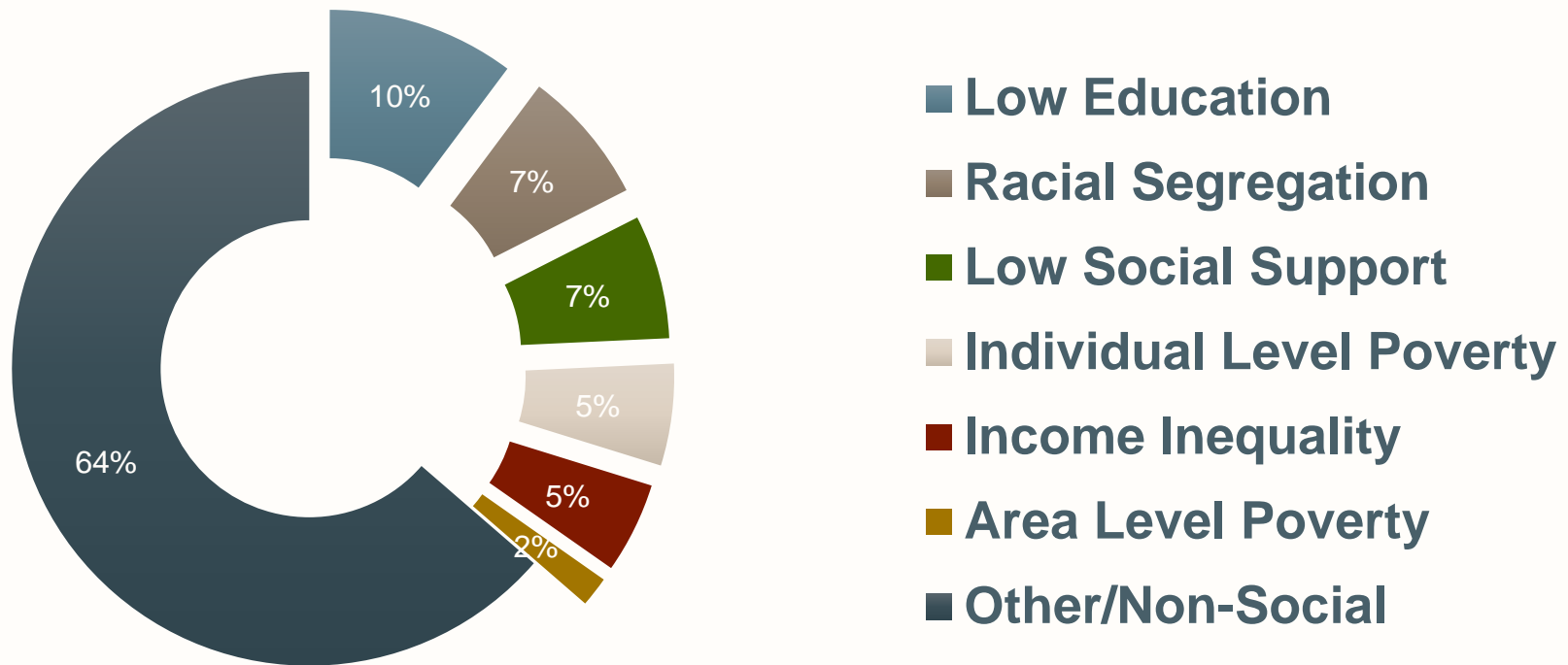
Weathering

- Early health deterioration
- One study found poor and nonpoor Black women had the highest and second highest probability of high allostatic load score
- “Persistent racial differences in health may be influenced by the stress of living in a race-conscious society; these effects may be felt particularly by Black women because of “double jeopardy” (gender *and* racial discrimination)”

“We found that about half of all deaths that occurred in the United States in 2000 could be attributed to a limited number of largely preventable behaviors and exposures.”

— Mokdad et al., 2014

Deaths Attributable to Social Determinants, 2000



Source: Galea, S., Tracy, M., Hoggatt, K. J., DiMaggio, C., & Karpati, A. (2011).
Estimated Deaths Attributable to Social Factors in the United States.
American Journal of Public Health, 101(8), 1456–1465. <https://doi.org/10.2105/AJPH.2010.300086>

Public Health Approach to Mental Health

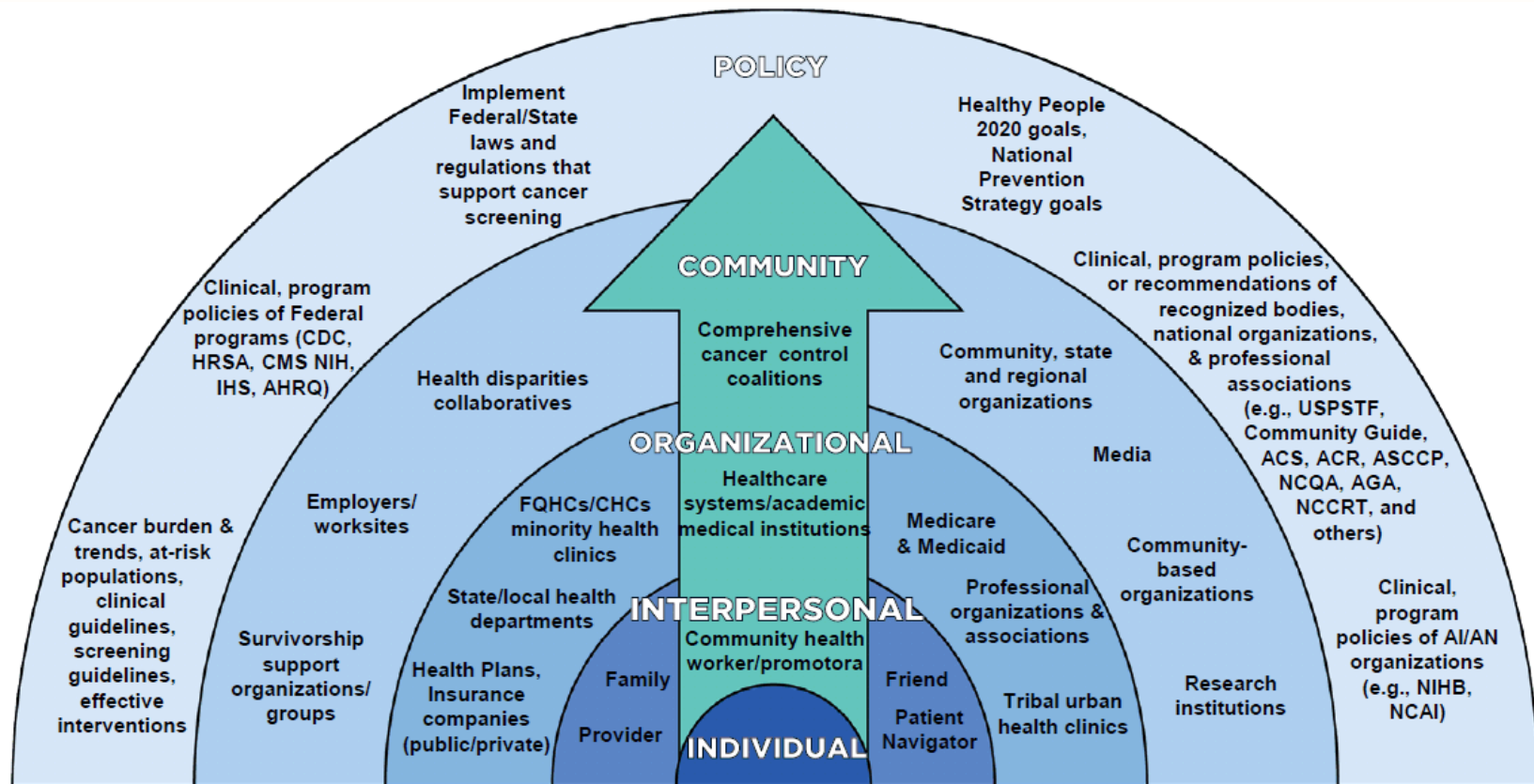
- Public health is defined as “what we, as a society, do collectively to assure the conditions for people to be healthy”
- Not about us vs. them
- Not about *their* problem
- Socioecological approach



The Public Health Model

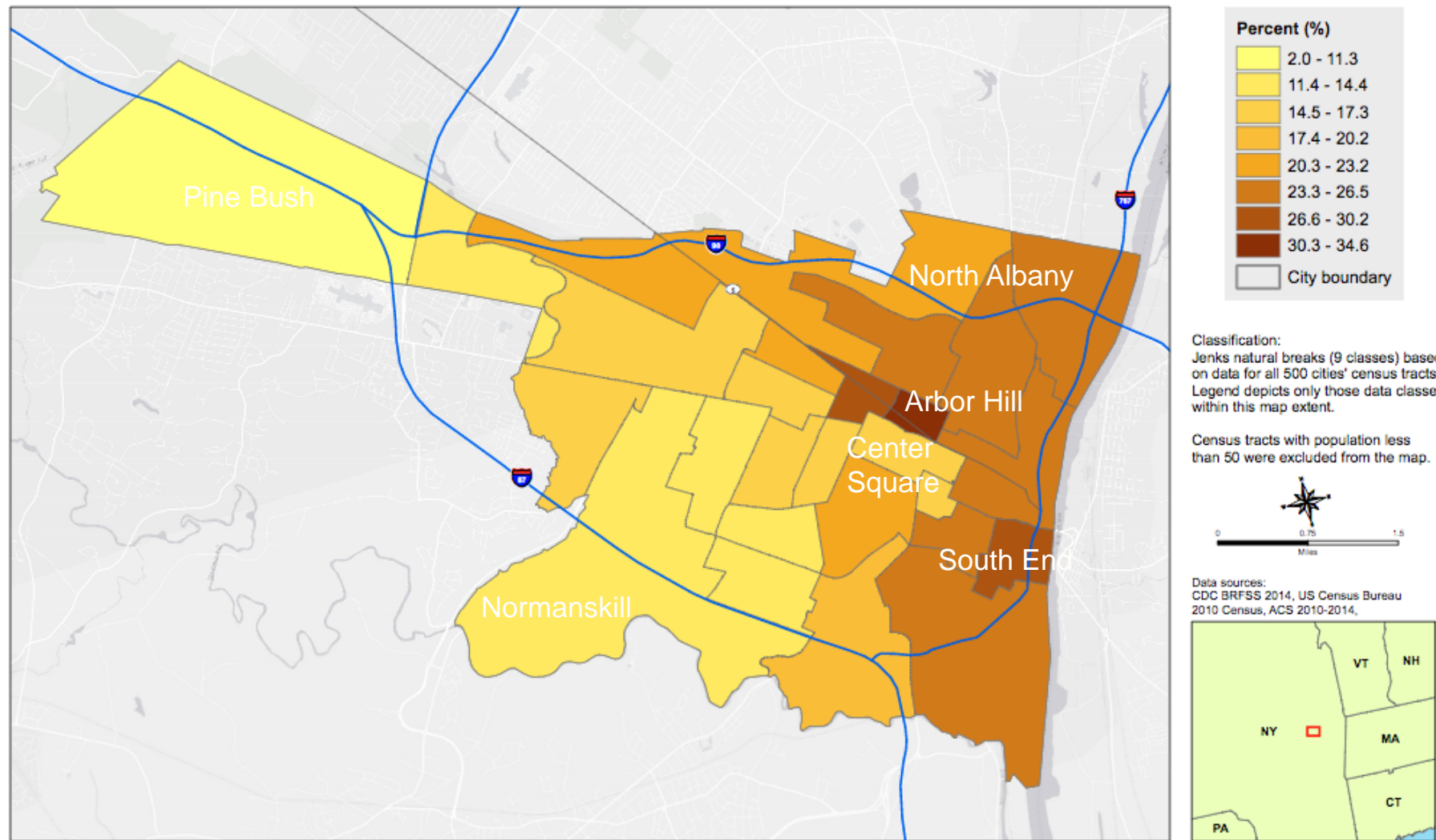


CDC Colorectal Cancer Prevention

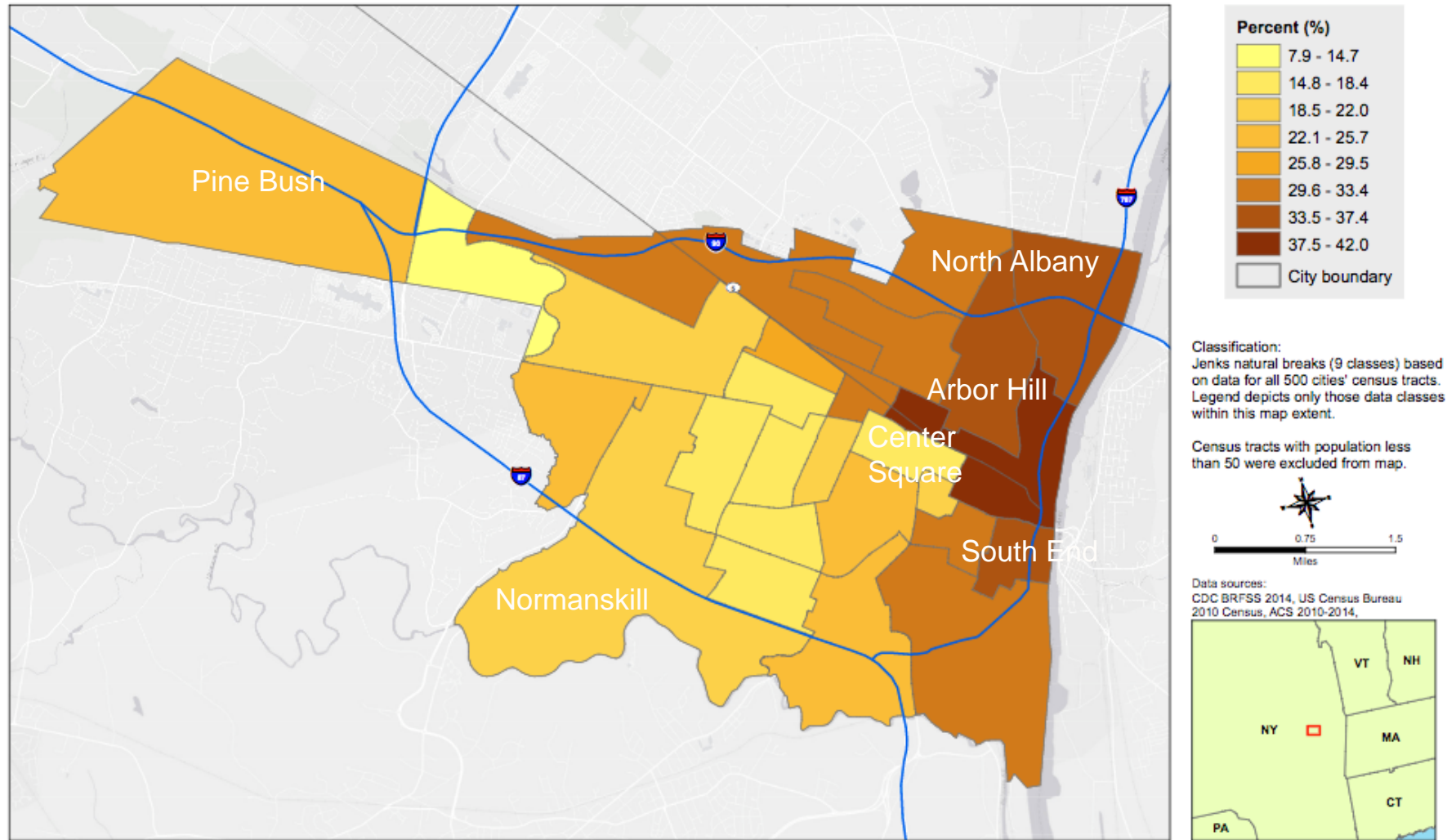


*Some groups may fit within multiple levels of this model.

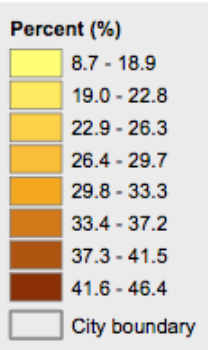
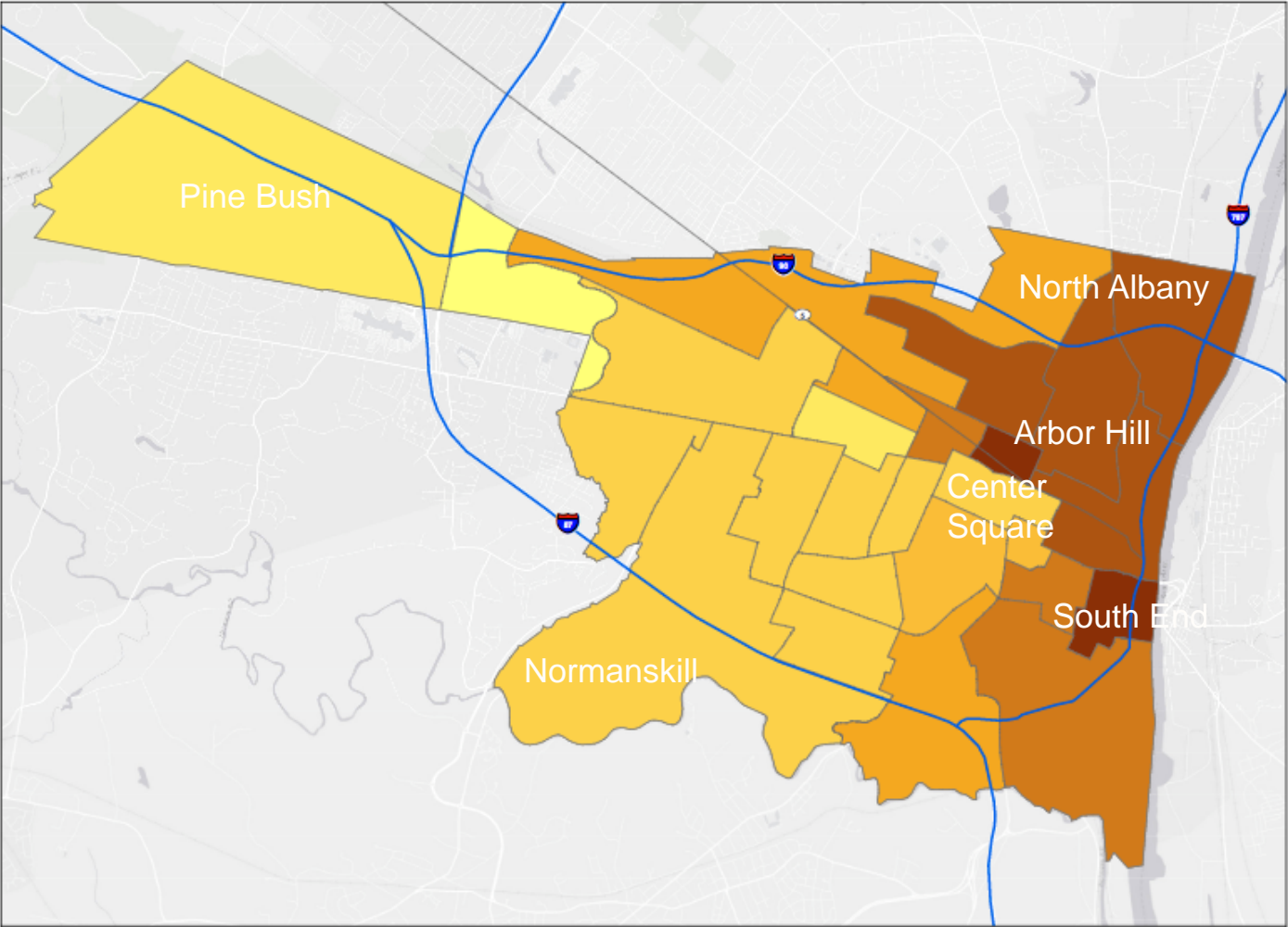
Current smoking among adults aged ≥ 18 years by census tract, Albany, NY, 2014



No leisure-time physical activity among adults aged ≥ 18 years by census tract, Albany, NY, 2014



Obesity among adults aged ≥ 18 years by census tract, Albany, NY, 2014



Classification:
Jenks natural breaks (9 classes) based on data for all 500 cities' census tracts. Legend depicts only those data classes within this map extent.

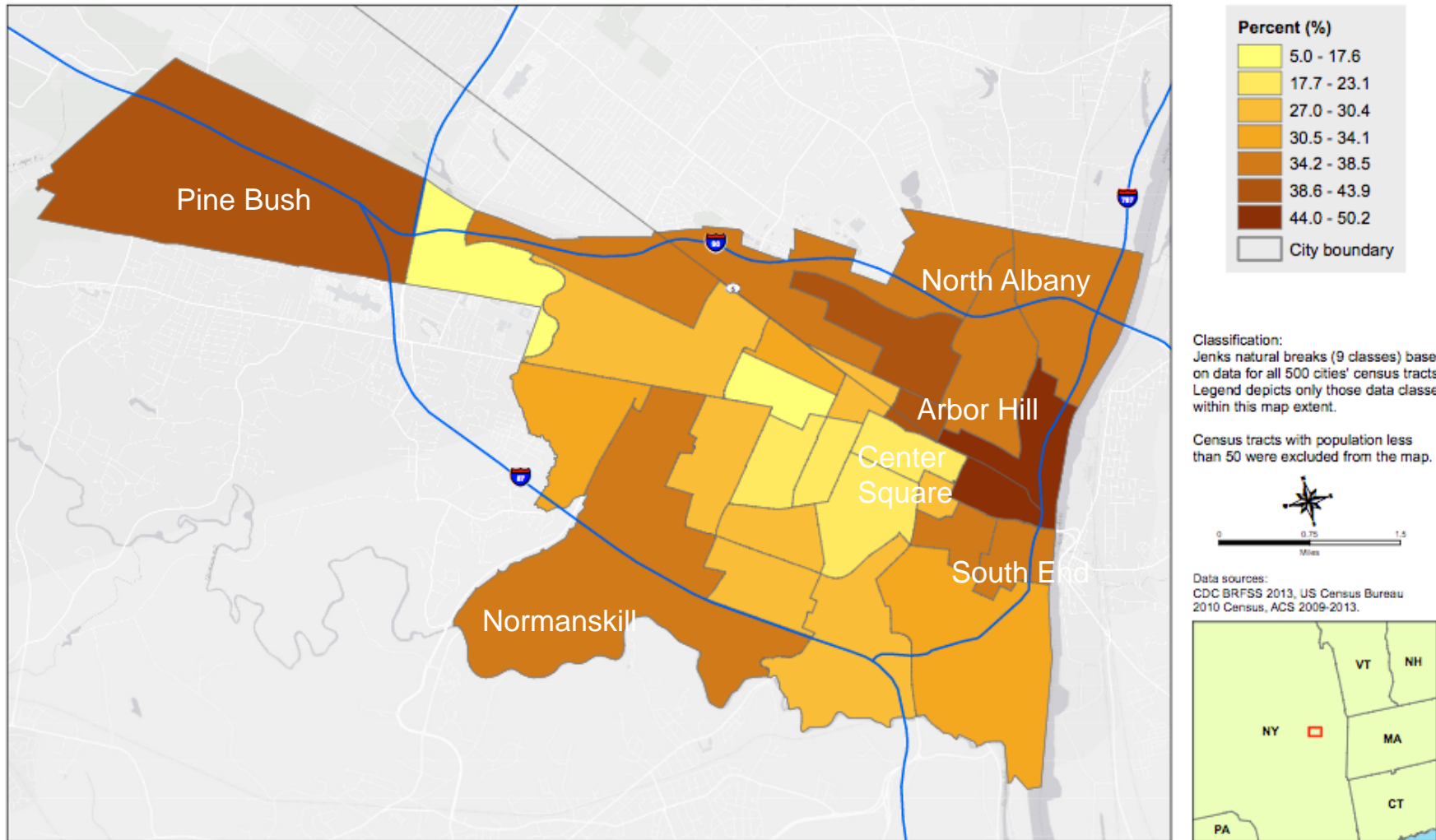
Census tracts with population less than 50 were excluded from map.



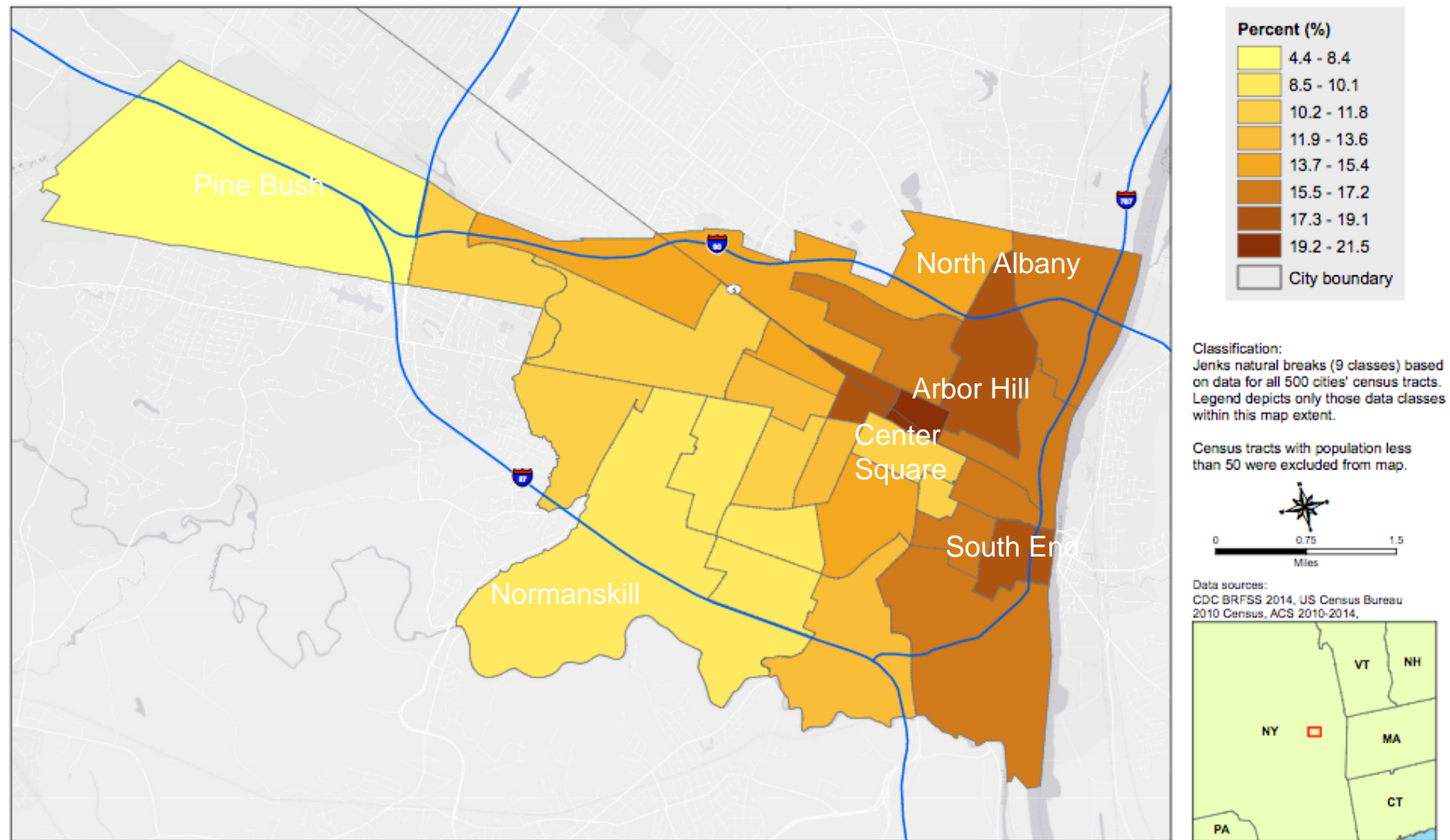
Data sources:
CDC BRFSS 2014, US Census Bureau 2010 Census, ACS 2010-2014.



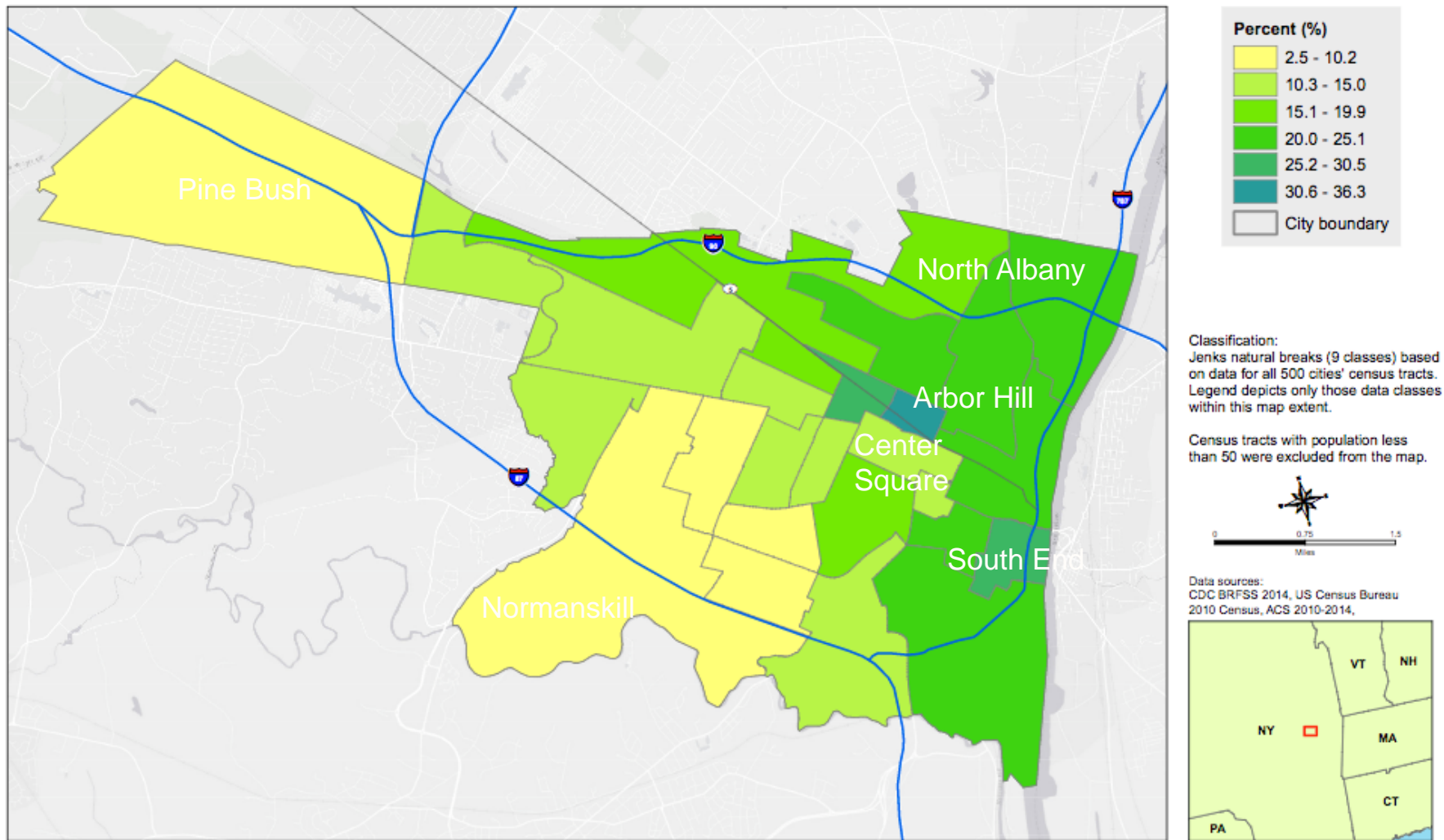
High blood pressure among adults aged ≥ 18 years by census tract, Albany, NY, 2013



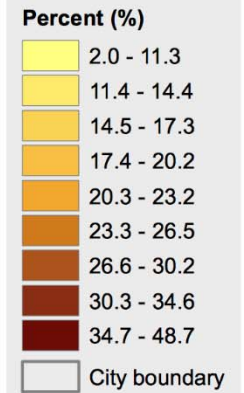
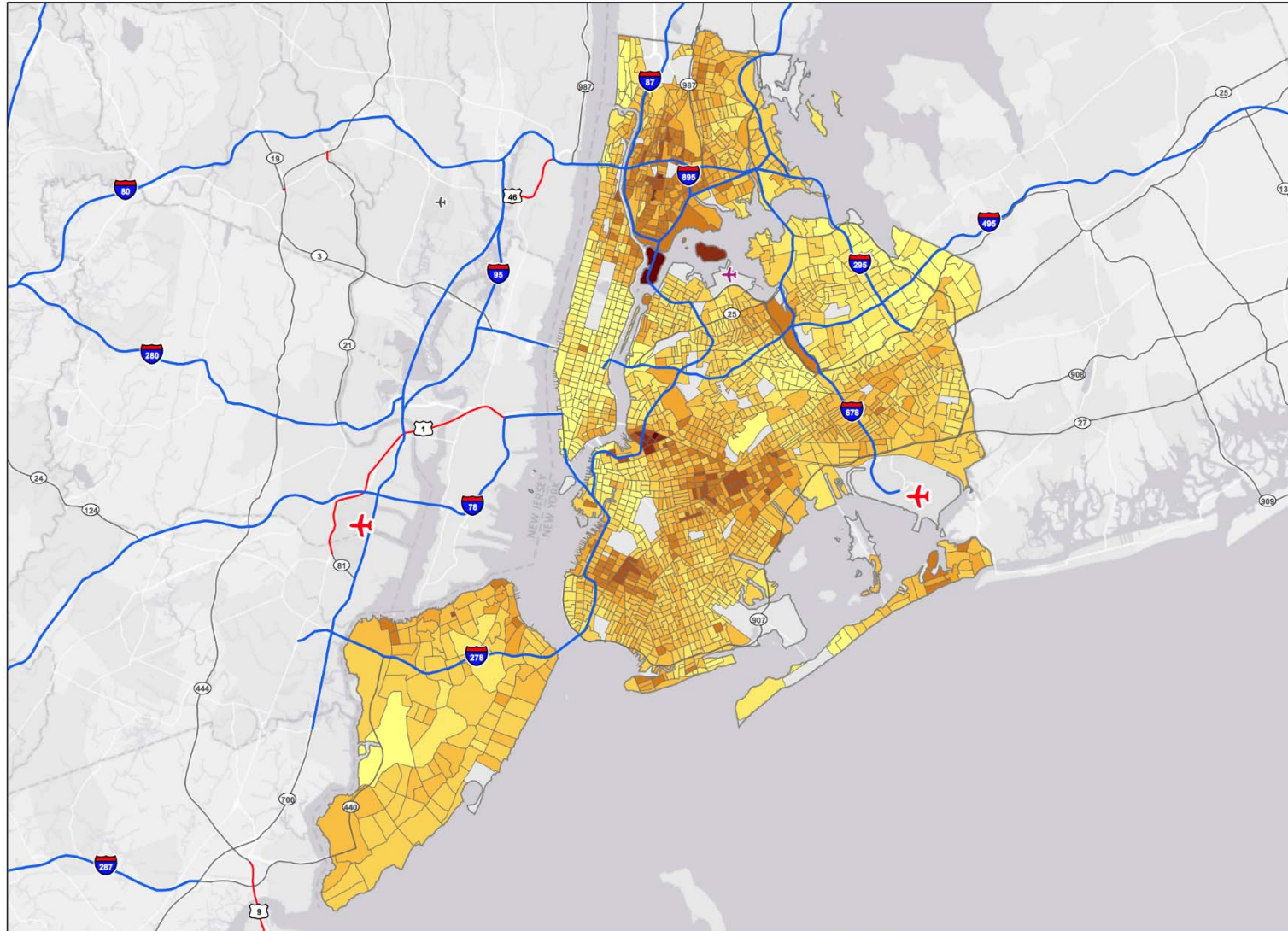
Mental health not good for ≥ 14 days among adults aged ≥ 18 years by census tract, Albany, NY, 2014



Current lack of health insurance among adults aged 18-64 years by census tract, Albany, NY, 2014

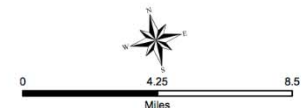


Current smoking among adults aged ≥ 18 years by census tract, New York, NY, 2014



Classification: Jenks natural breaks (9 classes) based on data for all 500 cities' census tracts. Legend depicts only those data classes within this map extent.

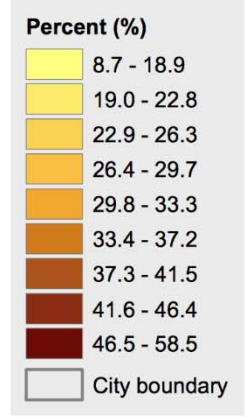
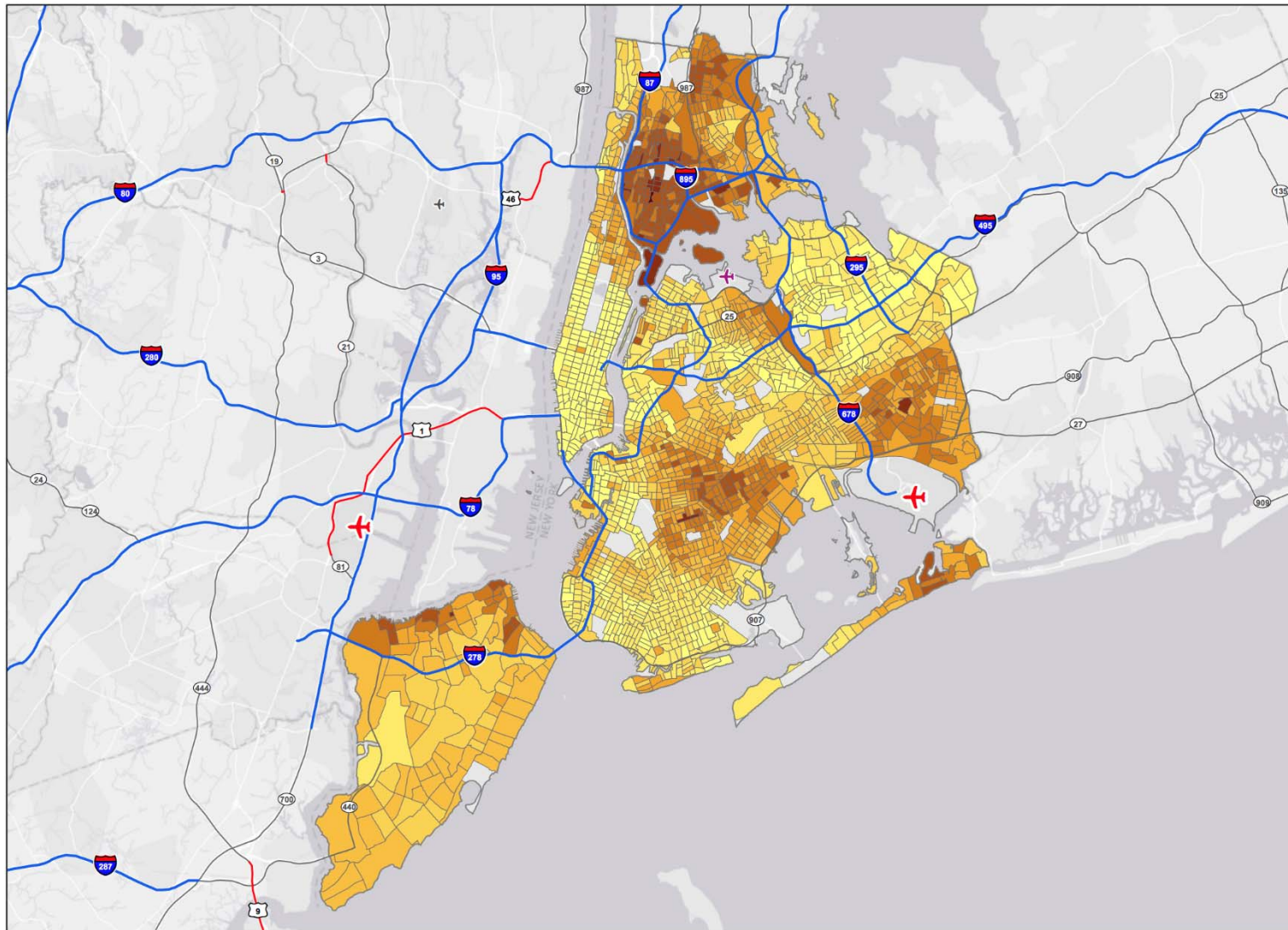
Census tracts with population less than 50 were excluded from the map.



Data sources: CDC BRFSS 2014, US Census Bureau 2010 Census, ACS 2010-2014,

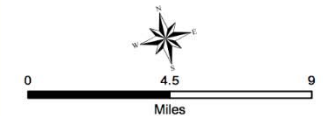


Obesity among adults aged ≥ 18 years by census tract, New York, NY, 2014



Classification:
 Jenks natural breaks (9 classes) based on data for all 500 cities' census tracts. Legend depicts only those data classes within this map extent.

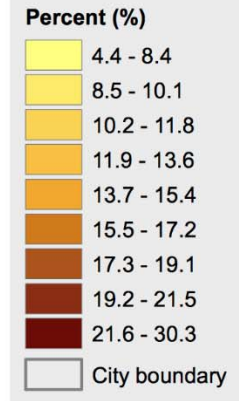
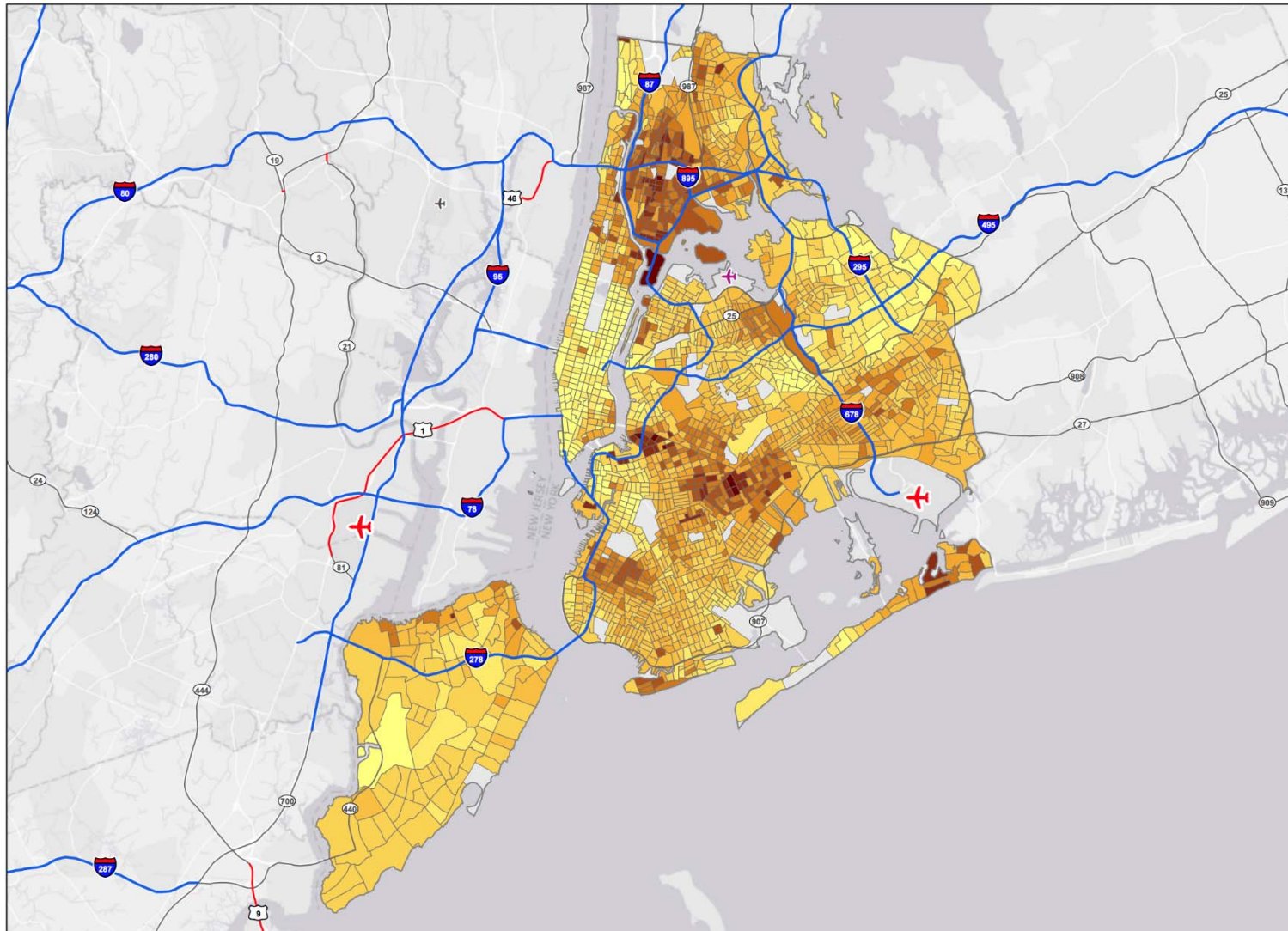
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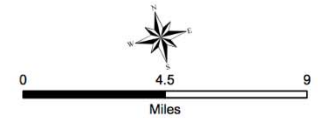


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