

Lab Exercise – Social Determinants of Health

Background

Recently, we looked at cigarette smoking as a risk factor for a number of different health problems. As public health researchers and professionals, it is important to identify these kinds of direct causes of disease so we can address them. When we start to think about reducing the prevalence of things like smoking, we naturally start to think about what causes some people to perform these kinds of behaviors (why do some people smoke) while others do not. In other words, we start to look for more “upstream” causes of disease. In Module 6, we refer to these broader upstream factors as “determinants of health.”

In this lab, we will look for evidence of broader determinants of health by examining patterns of health outcomes and socioeconomic factors across population sub-groups. We will start by looking at Baltimore City, and then we will look at other cities to see if similar patterns emerge. The resources below contain maps and tables showing this kind of information for Baltimore and several other large cities.

Resources

Baltimore

Baltimore City Health Department Community Statistical Area maps

<http://baltimore.maps.arcgis.com/apps/MapSeries/index.html?appid=7c85a6d5b958496d863e738234373934>

Randy Yeip. Baltimore’s Demographic Divide. Wall Street Journal. May 1, 2015.

<http://graphics.wsj.com/baltimore-demographics/>

Other cities

Chicago Health Atlas: indicators

<https://www.chicagohealthatlas.org/indicators>

San Diego County Health and Human Services Agency Community Health Statistics

https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/

Metro Atlanta Equity Atlas

<http://atlantaequityatlas.com/maps/browse-maps/>

UTHealth - Health of Houston

<https://hhs2010.sph.uth.tmc.edu/SingleMapReport/>

Exercise

Using the resources above, study the patterns of health outcomes (use life expectancy for this lab) and major socioeconomic factors across several U.S. cities, beginning with Baltimore City. Find information about these factors:

- **Life expectancy – the health outcome we will use for this lab**
- **Average income and/or poverty rate**
- **Educational attainment or high school completion rate (if available)**
- **Employment or unemployment rate**
- **Racial segregation**

1a. What, specifically, do you observe about geographic differences in life expectancy across Baltimore City? Describe which areas have higher and lower life expectancies, in terms of their geographic location within the city.

1b. Is what you observed what you expected to see? Why or why not? Explain.

2. Now look at differences in income or poverty across Baltimore City. What do you see? Repeat for employment or unemployment. Repeat for educational attainment (or any measure you can find indicating education level). Looking at the geographic differences in income, education, and employment across the city, are there any patterns that emerge? In other words, does the map look similar when you look at each of these three different factors? Explain.

3. Compare the patterns in income, education, and employment across Baltimore (#2 above) with the patterns in life expectancy (#1a above). What do you observe? Explain.

4. Now look at the map of racial segregation in Baltimore City. What do you observe? How does this map compare with the income, education, employment, and life expectancy maps? Explain.

5. Look at data maps for two of the other cities listed above and examine the geographic distribution of the same things: life expectancy/health outcomes, income, education, employment, and racial segregation (you may use proxies if you can't find data on the exact measures you used for Baltimore). What do you observe? Do similar patterns exist in the other cities? What do you think explains these patterns? Please expound. Be specific.

6. From a public health perspective, what are the implications of the patterns you observed today? What should public health professionals be concerned about?

7. What questions has this exercise raised? What do you want to know more about?