**Instructor Notes: Exploring Health Inequities and Redlining**

This project is composed of a simple worksheet containing an overview and a set of questions that will help introduce student to redlining and how historic racism may have impacted modern patterns of health. This activity is very simple, and the only tools used in this activity are several internet sites. Students do not need to be familiar with any specialized computer programs to complete this activity. Although it is a very simple activity, students with extensive data science backgrounds may still find this exploration interesting.

A secondary purpose of this activity is to show students a big picture view of the data science process, especially how data scientists can merge data from multiple sources, how visualizations can be used by data scientists to convey data in a succinct, effective, and informative way, and how much georeferenced data are available to explore.

I used this activity in a small upper-level biology course (11 students), being taught primarily over Zoom.

This activity can be completed in 90 minutes or a shortened version can be completed in 60 minutes, especially if the instructor has the students watch the redlining video ahead of time.

I followed up this simple activity with more in-depth activities where students filtered and found similar data on the same communities directly from the CDC and Census Bureau websites. I also followed up with activities that showed students how the data could be explored using ArcGIS online and EJSCREEN. These activities are not included in this project.

Suggested Budgeting of Class Time:

**Class Prior to the Activity (or Homework)**:

* Assign or watch the redlining video prior to the activity: <https://youtu.be/O5FBJyqfoLM> -
* Answer question #1 as a whole class and/or perhaps assign it as homework to be prepared for the next class time.

**Class Session Used for Activity (Note these times are a little bit too short- the activity may generate discussion & you may want to spread it out over two class periods):**

* First 10-15 minutes
	+ Introduce the activity; refresh students’ memory as to the definition of redlining covered in the previous class or homework. If spreading this out over two class periods, consider taking more time to compare definitions of redlining and systemic racism. Redlining can defined specifically in reference to the HOLC maps or it can be more broadly defined as any discriminatory practice that prevents access to resources, especially financial, based on race or ethnicity.
	+ Show the class how to use the NCRC internet site <https://ncrc.org/holc-health/>, make sure they understand how to find the information for question 4, and make sure students what to turn in and when it is due.
	+ I created video to help prepare instructors to explain the website: <https://youtu.be/A9wrYa45aHY> - and my recommendation is that the instructor watch my video ahead of time and then just explain the NCRC website themselves. However, if an instructor prefers to use my video for their class, that’s fine! Just be forewarned that it is 18 minutes long, which is too long.
	+ Try hard to keep this part of the class short – let the students explore the activity in their small groups without a lot of guidance.
	+ Focus the student’s attention on Question #5 & 7 – these are the only two questions that I had students report on when they returned to the big group.
* Middle 15-20 minutes
	+ Break the class into small groups of 3 to 4 people and let them work through the questions in their small groups.
	+ Before setting the groups free, assign someone to report back on what cities the students chose & what patterns they observed.
	+ Visit the groups to make sure they are working together on the activity.
* Last 15 minutes and/or the next class period
	+ Have each group report on their answers to question #5 and #7.
	+ Thank students for their input and ask them to complete the rest of the worksheet on their own and/or propose to finish the activity in the next class time and to submit the assignment electronically.
	+ You can always summarize or ask students to share their answers to other questions in the next class.
	+ Faculty member can combine the class data for a more quantitative comparison.
	+ Students in my class were surprised by how cancer did not follow the same pattern as some of the other chronic diseases.

This assignment was scored in an all-or-nothing effort-based grade in my class. Most of the worksheet questions include several sub-questions. I gave credit to students even if they didn’t answer all the sub-questions. There is no key to this activity because most of the questions are open-ended, and in most cases, there is no single right or wrong answer.

I really enjoyed reading the student responses.

I found the following resources particularly useful as I prepared this activity:

Domonoske, C. (2016, October 19). Interactive Redlining Map Zooms In On America's History Of Discrimination. NPR. <https://www.npr.org/sections/thetwo-way/2016/10/19/498536077/interactive-redlining-map-zooms-in-on-americas-history-of-discrimination>

Hillier, A. E. (2003). Redlining and the home owners' loan corporation. *Journal of Urban History*, *29*(4), 394-420. <https://journals.sagepub.com/doi/abs/10.1177/0096144203029004002>