# Notes for coding map of national pharmacy deserts

## 1. Geocode all pharmacy locations

* Read in pharmacy address data, clean addresses
  + Compare to WA pharmacies to see any differences
* Divide pharmacies into states
* Run geocode in batches until I hit $200 each month
* Pricing strategy: ([link to Google information](https://developers.google.com/maps/documentation/geocoding/usage-and-billing))
  + $5 per 1000. If I want to hit $200 that means I can geocode 40,000 per month. So do over 2 months.
  + $200 free per month is automatically applied.
  + Instructions for [how to set up Google Cloud](https://developers.google.com/maps/documentation/geocoding/cloud-setup) account
    - Dashboard for my [pharmacy-deserts-analysis](https://console.cloud.google.com/home/dashboard?project=pharmacy-deserts-analysis) project
* How to

## 2. Read in shape files for all states

* Use function get\_decennial(year = 2020).
* Geography = loop function for all of US states, then counties, then tracts

## 3. Variables of census for low income and population

* Two good sites for looking up variable names for specific topics:
  + Variable table for API: <https://api.census.gov/data/2021/acs/acs5/variables.html>
  + Data explorer census.gov <https://data.census.gov/table?q=Race+and+Ethnicity&tid=ACSDT1Y2021.B02001>
* Could try R function “load variables” as outlined on tidycensus blog here ([link](https://walker-data.com/tidycensus/articles/basic-usage.html)), then search table in R to find the names of variables I want… seems tedious
  + But could look up the exact name I want from ACS and search that? Age!! Etc.
* load\_variables(year = 2010, dataset = "sf1") %>%
* view()
* Demographic and Housing Characteristics summary files, which will include other variables typically included in the decennial Census data (age & sex breakdowns, detailed race & ethnicity), expected available in May 2023 according to data.census.gov
  + Good resource for decennial notes: <https://walker-data.com/umich-workshop-2022/intro-2020-census/#1>
  + Action: for now, keep the ACS variables in the code. If I ever get to this coding stage, I can check what is available in decennial tables at that point in time.