

# Technical Assessment

## Prompt

A client, who is a pharmaceutical manufacturer, is bringing a new drug treatment to market. They expect **only those aged 65 and over will be eligible**. They're specifically interested in the travel burden for veterans, who are likely to receive the drug at a Veterans Health Administration (VHA) Facility due to the minimal out-of-pocket costs. They'd like to know how far away most veterans live from a VHA Facility to gauge the difficulty of traveling to such a facility for this treatment.

## Data

All data was retrieved in November of 2021.

- **veteran-counts.csv**<sup>1</sup> was moderately cleaned up for this assessment. It contains United States Census Bureau estimates of the veteran population by County, Age, and Gender.
- **vha-addresses.txt**<sup>2</sup> contains the addresses of all VHAs listed, with one address per line of text.
- **zip-fips-xwalk.csv**<sup>3</sup> contains a mapping of United States Postal Service 5 digit Zone Improvement Plan (ZIP)<sup>4</sup> codes to Federal Information Processing Standards (FIPS)<sup>5</sup> county codes.

## Ask

Study the provided data using any software of your choice and perform analysis to answer the questions provided below. Some software that could be used to complete this assessment include (but is not limited to): R, Python, and Microsoft Excel. Come prepared to show your work and discuss the travel burden for a hypothetical 65+ veteran traveling to a VHA facility.

## Questions to Guide Your Analysis

- What proportion of eligible veterans live in a county with a VHA Facility?
- Which county or counties contain the highest number of veterans?
- Are there oddities or interesting points you can identify in the data?

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<sup>1</sup><https://www.data.va.gov/dataset/VetPop2018-County-Data-9L/gqxn-9m7s>

<sup>2</sup>webscraped from <https://www.va.gov/directory/guide/allstate.asp>

<sup>3</sup>retrieved from an internal resource

<sup>4</sup><https://www.dictionary.com/e/zip-code/>

<sup>5</sup><https://www.census.gov/library/reference/code-lists/ansi.html>