**neighbourhood-prescribing-inhalers – README for code repo**

Files required:

* **data-provided**
  + OP\_prescriptions.csv [AVAILABLE ON REQUEST]
  + OP\_measures
    - environmental\_inhalers.csv
    - icsdose.csv
    - saba.csv
* 00.0\_source\_prescribing\_data.Rmd
* 00.1\_get\_OP\_codes\_from\_file.R
* 00.1\_get\_OP\_codes\_from\_scrape.R
* 00.2\_get\_NHSBSA\_codes.R
* 00.3\_get\_BNF\_info\_from\_OP.R
* 00.4\_get\_OP\_prescriptions.R
* 01.0\_source\_practice\_and\_demographic\_data.Rmd
* 01.1\_get\_ONS\_CCG\_shapes.R
* 01.2\_get\_NHS\_CCG\_patient\_numbers.R
* 01.3\_get\_QOF\_data.R
* 01.4\_get\_LSOA\_patient\_data.R
* 01.5\_get\_LSOA\_IMD\_data.R
* 02.0\_calculate\_prescribing\_measures.Rmd
* 03.0\_generate\_plots.Rmd

Software required:

* R (last run on version 4.3.2 (2023-10-31 ucrt))

Libraries required (run 00.0\_install\_libraries.R):

* DBI
* Dplyr
* Ggpubr
* gridExtra
* htm2txt
* httr
* jsonlite
* lubridate
* mgsub
* RCurl
* Readxl
* rmarkdown
* RSQLite
* rstudioapi
* sf
* stringr
* tidybayes
* tidyverse

**Running the code**

There are four R Markdown (.Rmd) files which call the other R scripts to run all of the operations. These are:

* 00.0\_source\_prescribing\_data.Rmd
* 01.0\_source\_practice\_and\_demographic\_data.Rmd
* 02.0\_calculate\_prescribing\_measures.Rmd
* 03.0\_generate\_plots.Rmd

Run the .Rmd files in order to run the project from start to finish.

The final task of 00.0\_source\_prescribing\_data.Rmd is to scrape the OpenPrescribing API, which could take ~9 hrs per year collected. We will therefore make the original data we downloaded, ‘OP\_prescriptions.csv’, available on request as it is too large for the repo. Copy OP\_prescriptions.csv into a folder named ‘data’ in the same directory as the R scripts. If this file exists, 00.0\_source\_prescribing\_data.Rmd will skip this step.

NOTES: OpenPrescribing only provides data from the past 5 years. The default for the script that scrapes the API (00.4\_get\_OP\_prescriptions.R) is therefore from 5 years ago to the present day. This can be should therefore be adjusted in the script if less data are required as this script takes a considerably long time to run.

The ‘OP\_measures’ folder is also provided in the ‘data-provided’ folder – this contains the BNF codes from the OpenPrescribing website that were previously scraped from the internet. The interface has since changed making this impossible, so we provide the codes manually exported to .csv format.