Introduction

The program, *qpp-npi-analyzer.ipynb*, is a python-based Jupyter Notebook that given an NPI QPP extract file created from the program, *NPI Reader - 11.ipynb*, produces an analysis of the extracted data. The analysis performed is the same information as found in the document, *2022 and 2023 QPP Data Analysis.pdf*.

The analysis output is put into an Excel file named: *<YYYYMMDDhhmm>\_analysis-output.xlsx*. You can see a sample analysis output file in the screenshot below.

* The README tab provides context on the data that was analyzed
* The Processed Data tab represents the data set that was analyzed. This is the input data set with some extra columns added at the end by the analyzer program to make the analysis easier
* The rest of the tabs consist of the various analysis results.

The screenshot below shows the analysis output file, *202406101359\_analysis-output.xlsx*, which was generated by the program *qpp-npi-analyzer.ipynb* from input file, *20240610134119 NPI-11 REPORT.xlsx,* which itself was generated by the program, *NPI Reader - 11.ipynb* from input file, *NPI-11.txt*.

All these files are provided in the repository so you can try them yourself.

A screenshot of a computer

Description automatically generated

### Prerequisites

The program was developed on a Windows machine but should run on any OS that supports Jupyter Notebook.

To run the program, you’ll need the following things set up on your machine

1. Jupyter Notebook & Python (best way to get this is to install [Anaconda](https://www.anaconda.com/download/success))

### Installation Instructions

1. To get Python, install Anaconda by going to [Anaconda](https://www.anaconda.com/download/success) and following the instructions.
2. Create a project folder (suggest C:\users\<user name>\projects\qpp-npi-analyzer) and place the following files there:

* qpp-npi-analyzer.ipynb
* 20240610134119 NPI-11 REPORT.xlsx

### Using the Program

Here are the steps to use the program:

1. Open Jupyter Notebook
2. From within Jupyter Notebook, navigate to where you stored the *qpp-npi-analyzer.ipynb* and *20240610134119 NPI-11 REPORT.xlsx* files
3. Open the Jupyter Notebook, *qpp-npi-analyzer.ipynb*
4. Make sure the input file specified in line 199 matches the input file you want to analyze (that would be *20240610134119 NPI-11 REPORT.xlsx* if you’re trying to reproduce the demo contents)

A screenshot of a computer

Description automatically generated

1. Run the program

Be aware that the *qpp-npi-analyzer.ipynb* program is very dependent on the format of the output file created by the program, *NPI Reader - 11.ipynb.*

Heads Up

* If you change column names in the qpp-npi extract result, that may cause errors in the *qpp-npi-analyzer.ipynb* program.
* The qpp-npi extract program outputs to a .csv file. The qpp-npi-analyzer program expects a .xlsx input file, so before you can input the extract file into the analyzer program, you must first manually open the .csv extract file by hand and save it as a .xlsx file type.

Potential Future Work

* To save a manual step, either change the extract program to save its output as an .xlsx file – OR – change the analyzer program to expect a .csv input file
* Add additional analysis sections to the analyzer program