Using PowerBI
## within the VINCI Standard Workspace

Power BI

What is PowerBI?

- PowerBI is a Dashboard Data Analytics software package by Microsoft, a competitor to Tableau
- It can take in data from a variety of sources
- Generate Dashboards as one-off reports
- Generate Dashboards to be hosted on the internet that can reflect real-time changes to data
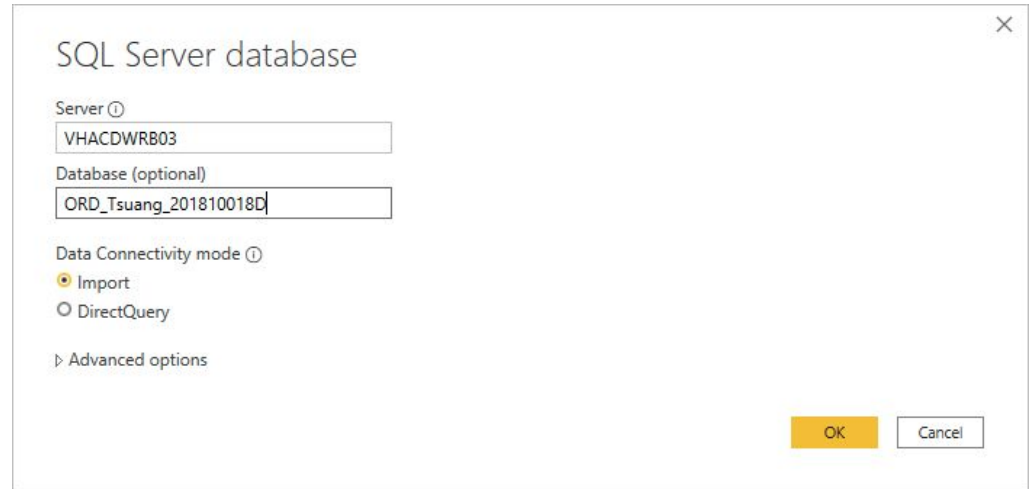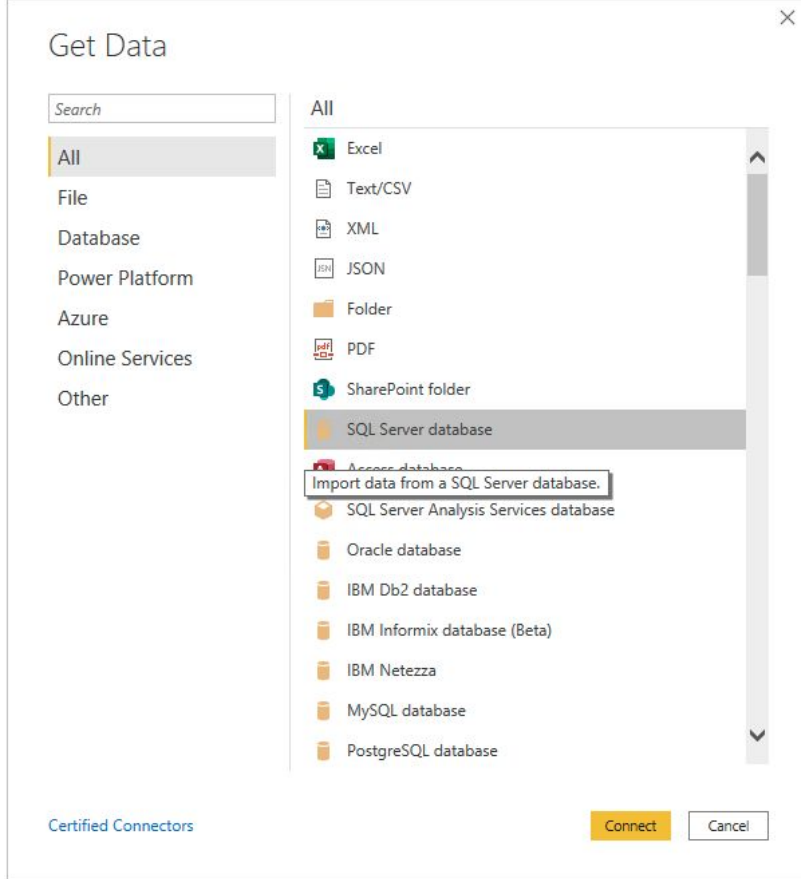
Okay cool. Why are you telling me about this Phil?

- I have been using PowerBI to generate reports on descriptive statistics on a few of the projects I've been asked to work on
- It connects directly to VINCI databases that you'd have access to via SQL Server/SAS
    - I had personally been exporting Row-Level tables into a csv file (onto the VINCI Project Folder), spinning up a Dev Machine, and then loading that CSV file into python to generate summary statistics, charts, and figures
    - PowerBI is faster/easier
- It provides an intuitive GUI to generate figures/charts/tables that also allows for generating various transformations of the data without needing to mutate the data within SQL Server
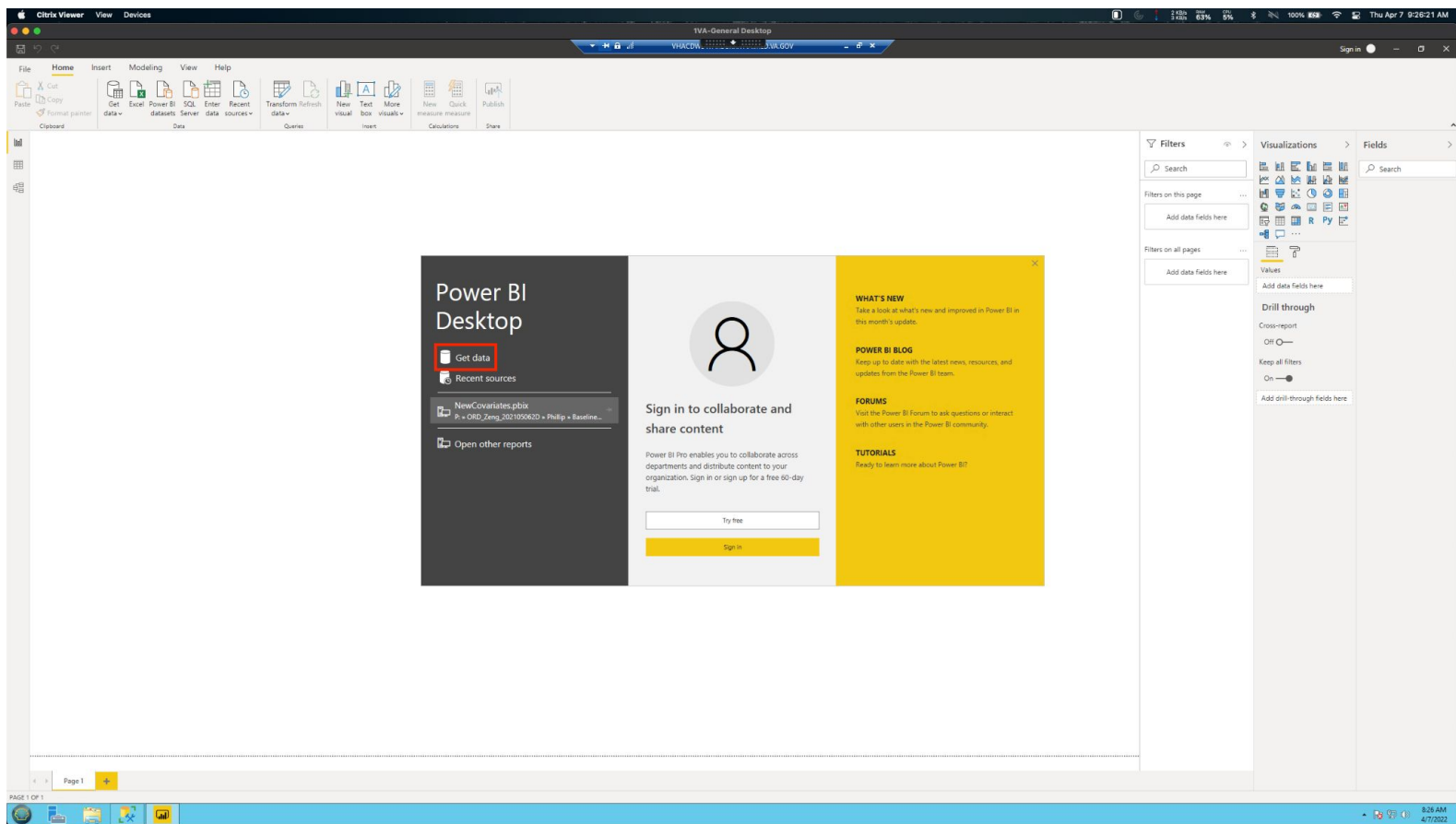
When you open PowerBI it looks like this. You can open a previous dashboard (.pbix file) or you can connect to a data source by selecting 'Get Data'

Get Data

Search

- All
- File
- Database
- Power Platform
- Azure
- Online Services
- Other

All

- Excel
- Text/CSV
- XML
- JSON
- Folder
- PDF
- SharePoint folder
- SQL Server database
- Access database
- Import data from a SQL Server database.
- SQL Server Analysis Services database
- Oracle database
- IBM Db2 database
- IBM Informix database (Beta)
- IBM Netezza
- MySQL database
- PostgreSQL database

Certified Connectors

Connect   Cancel

SQL Server database

Server ⓘ

VHACDWRB03

Database (optional)

ORD_Tsuang_201810018D

Data Connectivity mode ⓘ
- ⦿ Import
- ○ DirectQuery

▷ Advanced options

OK   Cancel

From here (left) you can select a variety of data sources. For this example (and many of the use cases in VINCI) we will be connecting to SQL Server Database. Enter the server and Database (right) after selecting 'Connect'. 'Import' loads all data into the dashboard .pbix file. It allows more work to be done on the data and runs faster than 'DirectQuery' at the cost of Disk Space usage.

After selecting 'Okay' you can then select the relevant tables or views to load or transform

Selecting 'Transform' allows you to do a variety of things to the data you import using PowerQuery. You can mutate/clean the data (as I am showing here), create new columns based on this or other tables, merge/join tables etc etc. This **does not** mutate data on the original tables contained in SQL Server.

When you are finished transforming the data you intend to upload, you can select 'Close & Apply' in the top left corner to return to PowerBI and load the data.
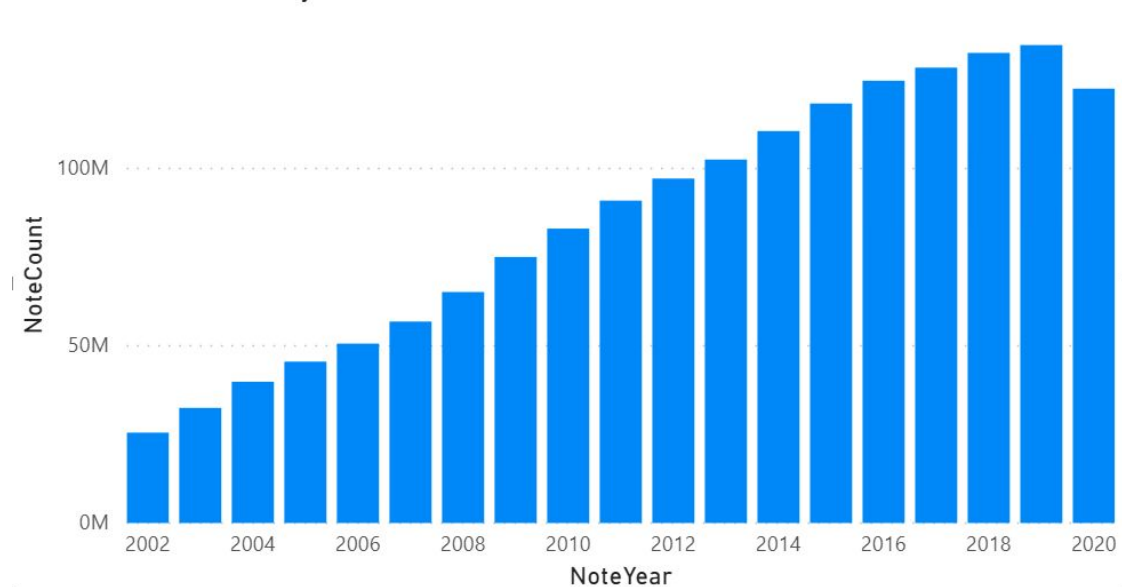
Once you have the data, you can generate a variety of figures, tables, and graphs to your liking by selecting a 'Visualization' or just selecting the data columns and allowing PowerBI to guess the best one to use. Here you can see the settings (Left) I used to produce the figure (Right). You are able to generate 'Quick Measures' such as simple arithmetic functions on or between columns and are also able to filter values for individual columns for individual figures, for the page as a whole, or for the project as a whole.
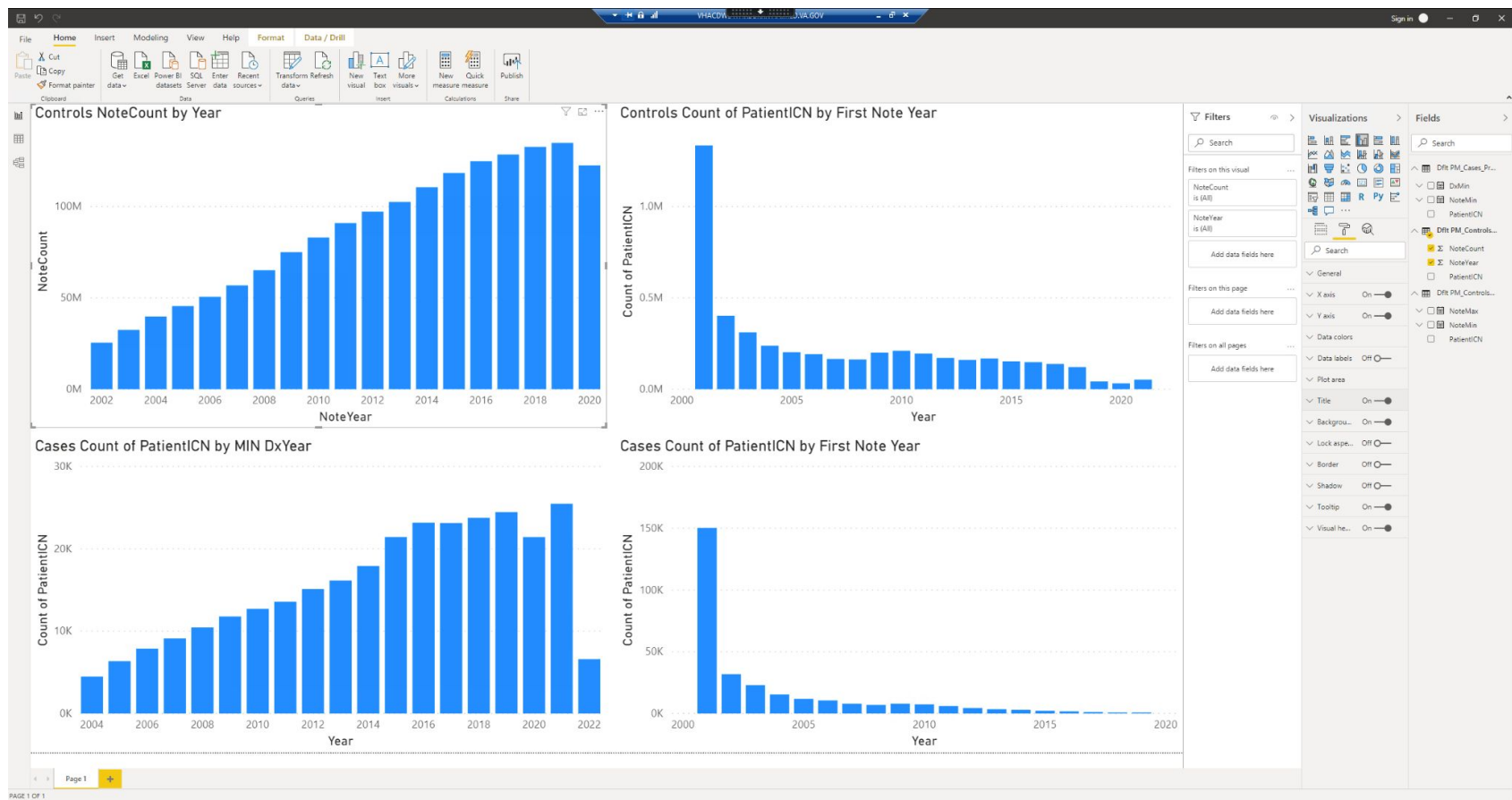
And here is what the full dashboard that I created looked like. Figures can be moved and resized as you see fit.

← New

Open report

Save

Save as

Get data

Import

Export

Publish

Options and settings

Get started

Export

 Power BI template

 Export to PDF

You can present your dashboard within PowerBI if you prefer, or export it as a PDF for downloading and sharing outside of VINCI (aggregated with no patient identifiers). Do not move .pbix files off of VINCI as the file itself contains row–level data saved within it.