

Using PowerBI

within the VINCI Standard Workspace



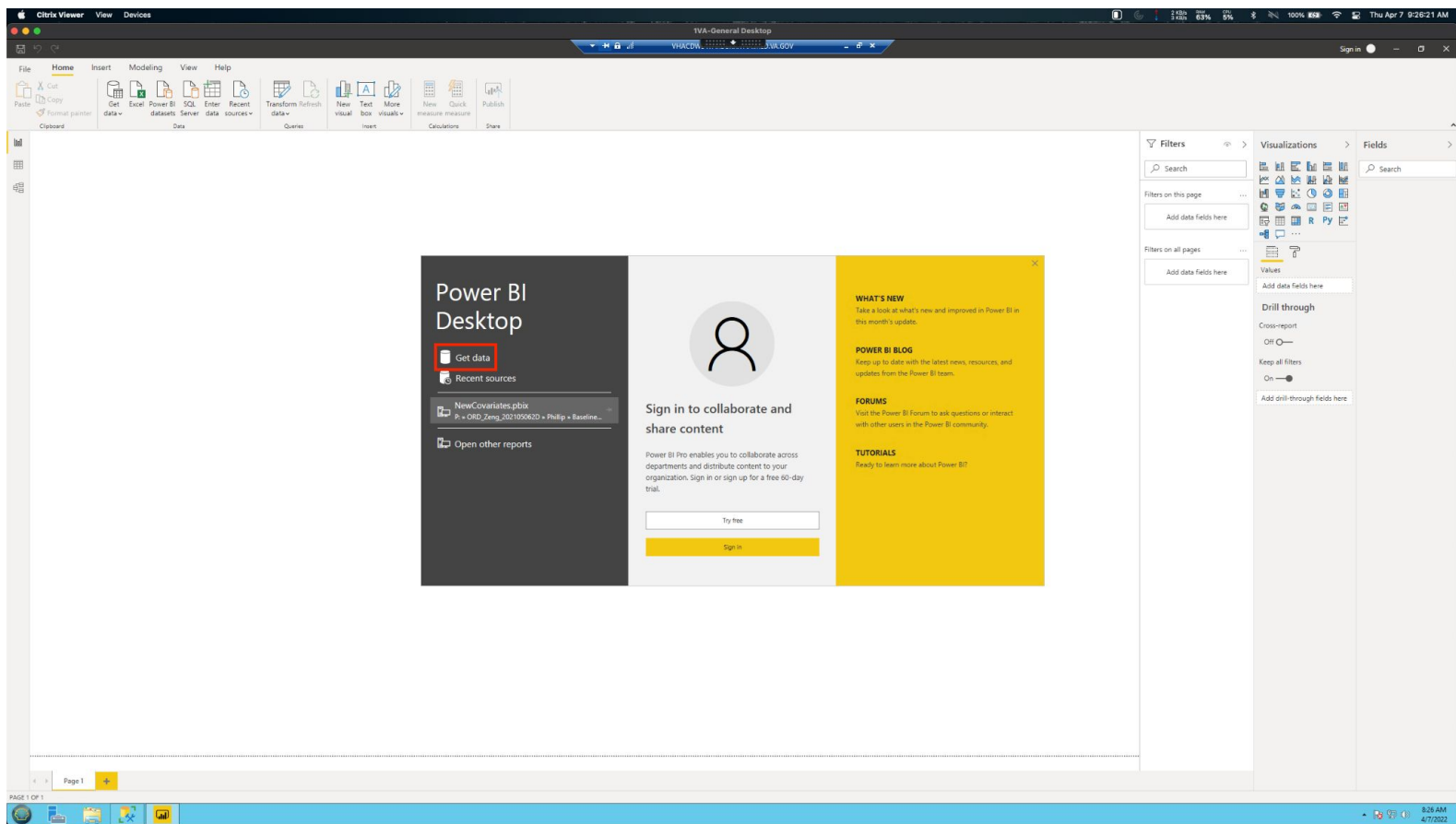
What is PowerBI?

- 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

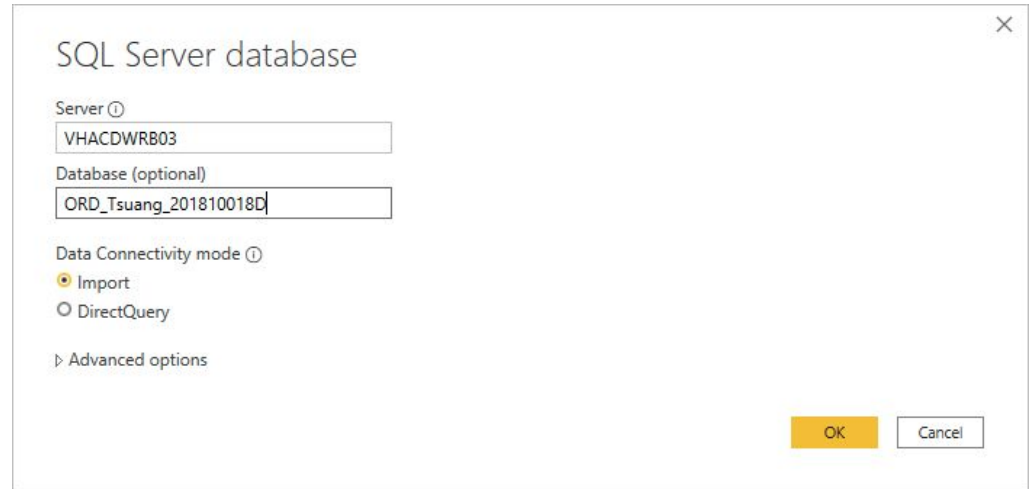
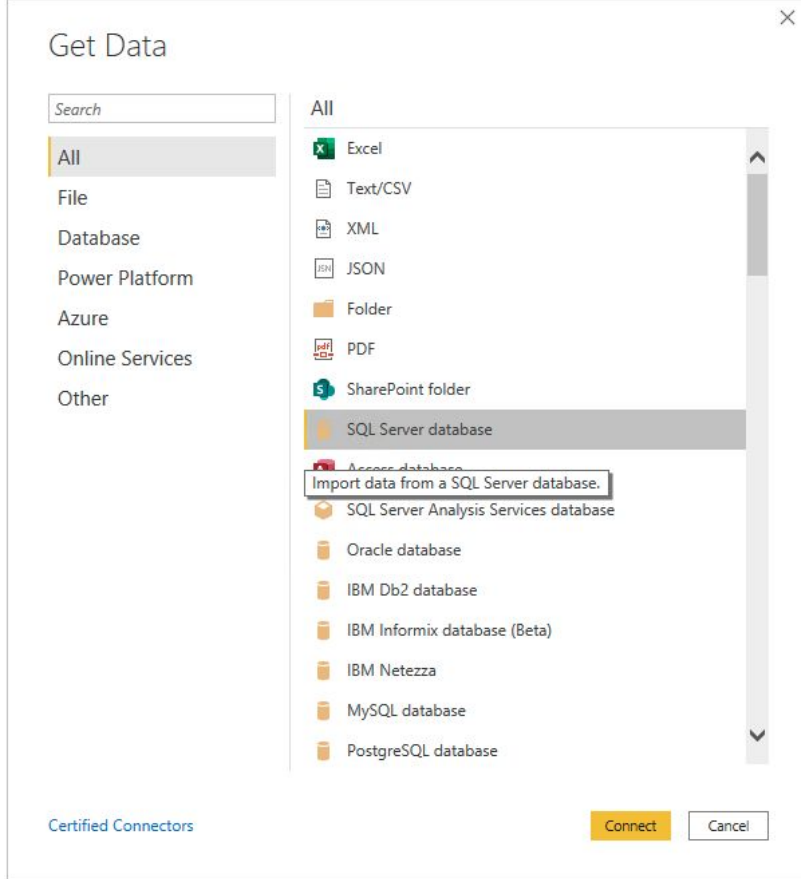


Okay cool. Why are you telling me about this Phil?

- 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'



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.

Navigator

Display Options ▾

☐ Dflt.Indep_TIU_TopicWordCt
☐ Dflt.Indep_TIU2
☐ Dflt.KT_Combined_Data
☐ Dflt.NoteTitle_Xcld
☒ Dflt.PM_Cases_PreMatch
☒ Dflt.PM_Controls_NoteCount
☒ Dflt.PM_Controls_PreMatch
☐ Dflt.PM_InitCohort
☐ Dflt.Train_2019_06_07_KT
☐ Dflt.Train_2019_06_07_KT2
☐ Dflt.Train_2019_06_07_KT3
☐ Dflt.Train_CPT
☐ Dflt.Train_DxID
☐ Dflt.Train_ICD
☐ Dflt.Train_ICD10_FY16
☐ Dflt.Train_ICD2
☐ Dflt.Train_ICD9_FY15
☐ Dflt.Train_Med
☐ Dflt.Train_StableTopic
☐ Dflt.Train_TIU

Dflt.PM_Cases_PreMatch

PatientICN	DxMin	NoteMin
	1/22/2016 11:30:00 AM	1/29/2001 2:22:00 PM
	6/30/2011 10:00:00 AM	1/23/2001 11:11:32 AM
	2/9/2018 4:00:00 PM	9/25/2003 4:30:00 AM
	12/6/2016 9:32:32 PM	11/27/2005 10:34:00 AM
	4/7/2011 1:00:00 PM	1/3/2001 10:12:29 AM
	7/15/2016 10:00:00 AM	1/26/2001 11:01:00 AM
	11/3/2011 3:00:00 PM	8/2/2006 12:46:00 PM
	4/5/2021 1:00:00 PM	4/13/2001 1:40:00 PM
	10/23/2014 9:30:00 AM	1/16/2001 11:44:00 AM
	1/19/2011 11:00:00 AM	3/14/2007 12:51:00 PM
	3/27/2020 1:59:00 PM	1/2/2001 2:52:00 PM
	4/22/2011 8:30:00 AM	4/17/2003 12:21:00 PM
	1/17/2017 11:00:00 AM	1/14/2004 1:55:00 PM
	6/30/2011 3:40:00 PM	1/31/2001 11:28:00 AM
	3/16/2011 1:59:00 PM	3/22/2001 1:43:20 PM
	6/17/2021 3:49:19 PM	8/2/2007 2:09:00 PM
	2/21/2012 10:00:00 AM	4/20/2001 9:00:00 AM
	5/7/2015 1:34:32 PM	2/14/2001 1:56:00 PM
	6/16/2016 12:13:33 PM	11/1/2010 9:16:00 AM
	9/3/2020 10:30:00 AM	3/5/2004 12:42:00 PM
	10/3/2014 9:00:00 AM	4/30/2008 12:12:00 PM
	7/10/2014 2:00:00 PM	3/13/2003 5:47:00 PM
	10/24/2005 10:40:00 AM	5/4/2001 1:13:00 PM
	6/18/2015 9:00:00 AM	7/6/2001 1:25:00 PM

Select Related Tables

Load

Transform Data

Cancel

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

Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Choose Columns Remove Columns Keep Rows Remove Rows Split Column

Queries [3] Dft PM_Controls_PreMa... Dft PM_Controls_NoteC... Dft PM_Cases_PreMatch

10/27/2016 11:13:00 AM 6/17/2021 9:13:32 AM
 4/10/2019 4:52:00 PM 9/23/2019 9:39:00 AM
 7/28/2010 9:52:00 AM 6/18/2015 8:58:18 AM
 9/21/2000 1:00:00 PM 1/10/2006 4:30:36 PM
 11/12/1999 3:59:23 PM 3/31/2012 9:58:09 AM
 8/4/1998 9:56:36 AM 10/8/2001 1:16:00 PM
 11/22/1999 2:13:00 PM 7/30/2011 8:25:00 AM
 11/4/2002 2:58:00 PM 6/12/2009 12:54:42 PM
 12/27/2002 9:59:00 AM 3/4/2022 12:01:00 PM
 10/25/1999 12:13:56 PM 8/2/2000 6:48:00 PM
 11/6/2012 2:43:00 PM 3/21/2012 2:31:00 PM
 12/28/2015 4:15:00 PM 3/1/2012 11:01:17 AM
 11/13/2001 12:00:00 AM 2/26/2009 10:30:00 AM
 5/19/2005 3:51:00 PM 5/19/2005 3:51:00 PM
 3/27/2001 1:23:58 PM 8/14/2017 11:42:00 AM
 1/10/2000 1:02:00 PM 5/1/2018 3:28:00 PM
 11/2/2015 4:05:08 PM 11/2/2015 4:05:08 PM
 10/18/2018 9:50:00 AM 12/6/2021 1:50:52 PM
 4/11/2002 9:10:00 AM 9/4/2013 3:19:00 PM
 6/5/2015 11:45:44 AM 8/15/2019 6:31:41 AM
 9/27/2002 8:44:46 AM 12/13/2021 1:00:56 PM
 5/27/2016 11:02:12 AM 5/27/2016 11:02:12 AM
 3/6/2001 7:32:00 PM 4/4/2022 2:58:00 PM
 6/28/1995 6:50:00 AM 10/15/1999 3:23:00 PM
 7/21/2001 12:59:00 PM 4/4/2022 10:12:43 AM
 4/20/2006 10:24:00 AM 3/31/2022 8:08:31 AM
 1/25/2012 1:39:00 PM 12/27/2021 3:29:29 PM
 1/18/2022 10:00:00 AM 1/19/2022 10:00:00 AM
 2/12/2009 12:00:00 PM 4/4/2022 9:22:00 PM
 12/6/1999 2:14:23 PM 1/8/2012 4:20:00 PM
 2/23/2000 2:20:22 PM 7/30/2015 9:37:00 AM
 2/1/2000 1:40:17 PM 3/2/2012 11:04:30 AM
 9/25/2009 11:10:00 AM 1/30/2020 9:51:00 AM
 8/24/2007 1:13:00 PM 3/22/2022 7:36:02 AM
 3/8/2000 1:25:00 PM 2/16/2017 4:47:32 PM
 10/29/1999 9:07:30 AM 8/7/2005 7:58:00 AM
 1/22/2018 3:56:00 PM 3/29/2022 1:53:10 PM
 11/3/1999 11:10:27 AM 3/22/2022 1:26:00 PM
 11/27/2018 3:14:00 PM 10/21/2020 11:17:18 PM
 12/8/2011 9:26:00 AM 1/25/2022 9:12:00 AM
 11/24/2014 9:55:00 AM 2/18/2022 3:27:00 PM
 6/10/2004 10:35:00 AM 2/4/2022 12:00:00 AM
 3/12/2007 10:41:00 AM 1/19/2022 1:09:00 PM
 9/28/2001 2:10:33 PM 3/30/2022 2:02:51 PM
 11/5/1999 11:55:11 AM 5/30/2013 8:40:00 AM

3 COLUMNS, 999+ ROWS Column profiling based on top 1000 rows

Query Settings

PROPERTIES
 Name
 Dft PM_Controls_PreMatch
 All Properties

APPLIED STEPS
 Source
 Navigation

PREVIEW DOWNLOADED ON WEDNESDAY

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.

Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply Close & Load Close & Load To... Close & Load To...

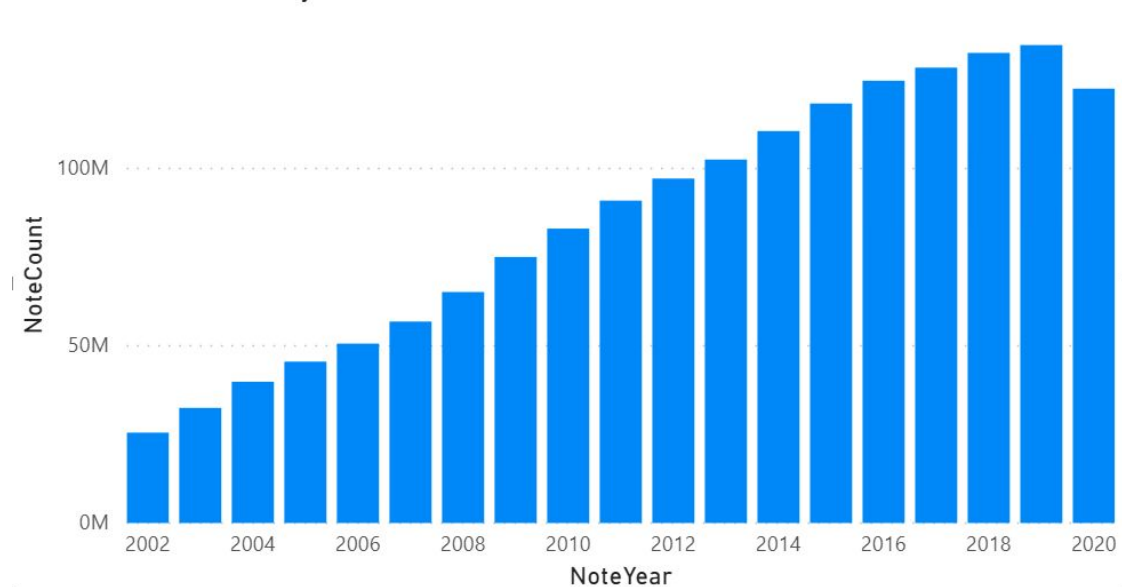
Queries [3]

	PatientID	DtMin	DtMax
1		1/22/2016	1/29/2001
2		6/30/2011	1/23/2001
3		2/9/2018	9/25/2003
4		12/6/2016	11/27/2005
5		4/7/2011	1/3/2001
6		7/15/2016	1/26/2001
7		11/3/2011	8/2/2006
8		4/5/2021	4/13/2001
9		10/23/2014	1/16/2001
10		1/19/2011	3/14/2007
11		3/27/2020	1/2/2001
12		4/22/2011	4/17/2003
13		1/17/2017	1/14/2004
14		6/30/2011	1/31/2001
15		3/16/2011	3/22/2001
16		6/17/2021	8/2/2007
17		2/11/2012	4/20/2001
18		5/7/2015	2/14/2001
19		6/16/2016	11/1/2010
20		9/3/2020	3/5/2004
21		10/3/2014	4/30/2008
22		7/10/2014	3/13/2003
23		10/24/2005	5/4/2001
24		6/18/2015	7/6/2001
25		5/18/2021	10/21/2006
26		5/27/2014	5/18/2001
27		8/11/2017	4/3/2001
28		12/6/2016	6/24/2002
29		12/10/2020	10/29/2002
30		6/2/2016	1/5/2001
31		3/25/2009	2/20/2001
32		2/21/2014	5/4/2004
33		10/27/2021	12/10/2010
34		1/28/2021	9/3/2002
35		1/24/2008	6/18/2002
36		6/19/2012	4/5/2004
37		9/23/2021	3/21/2006
38		7/13/2020	1/2/2001
39		7/17/2017	7/22/2010
40		9/13/2016	6/22/2001
41		4/1/2009	4/6/2005
42		4/27/2004	1/2/2001
43		1/28/2004	2/23/2001
44		4/19/2010	11/16/2005
45		5/30/2014	4/10/2002

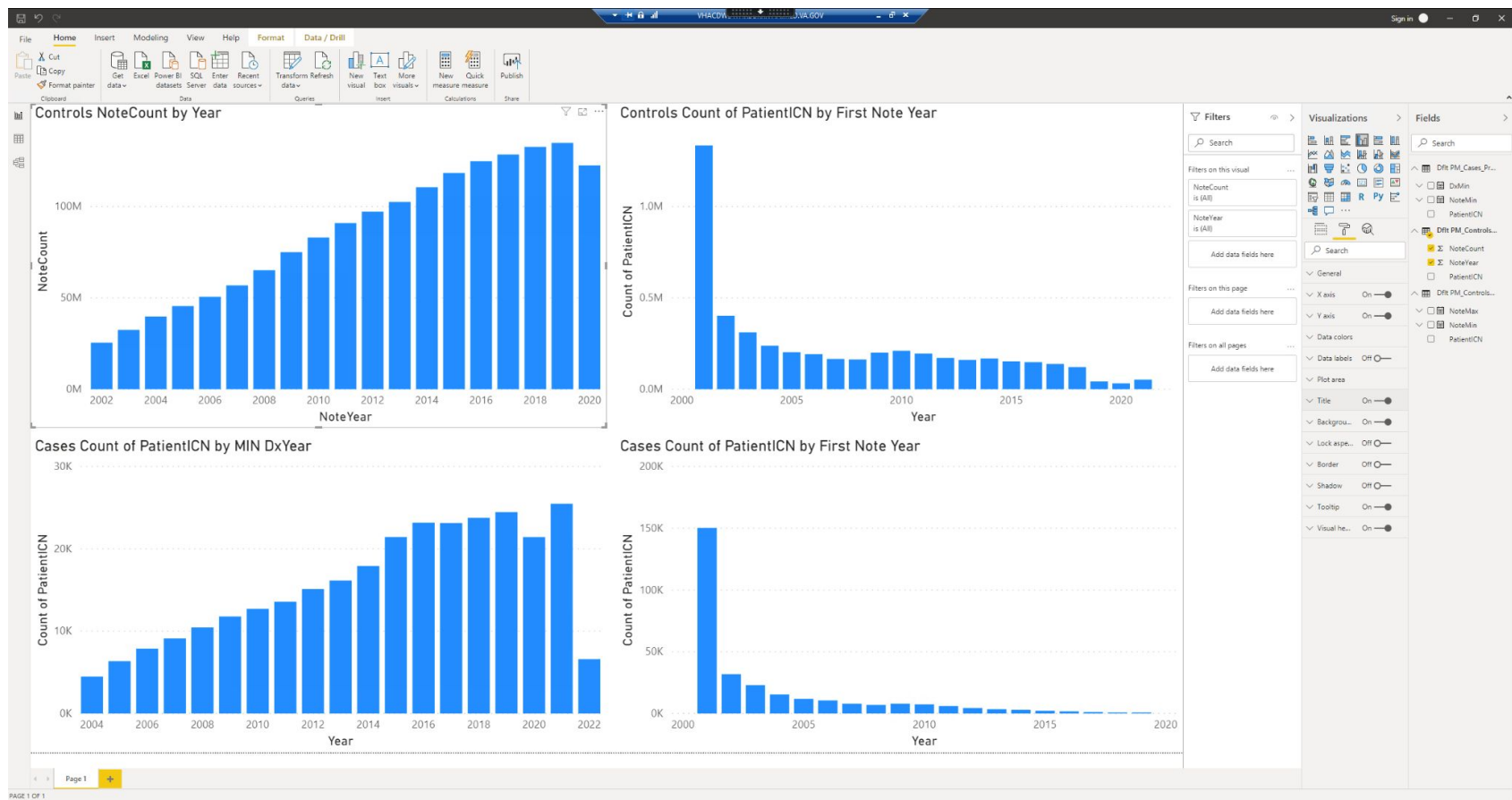
3 COLUMNS, 999+ ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 8:35 AM

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.

[illegible]

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.