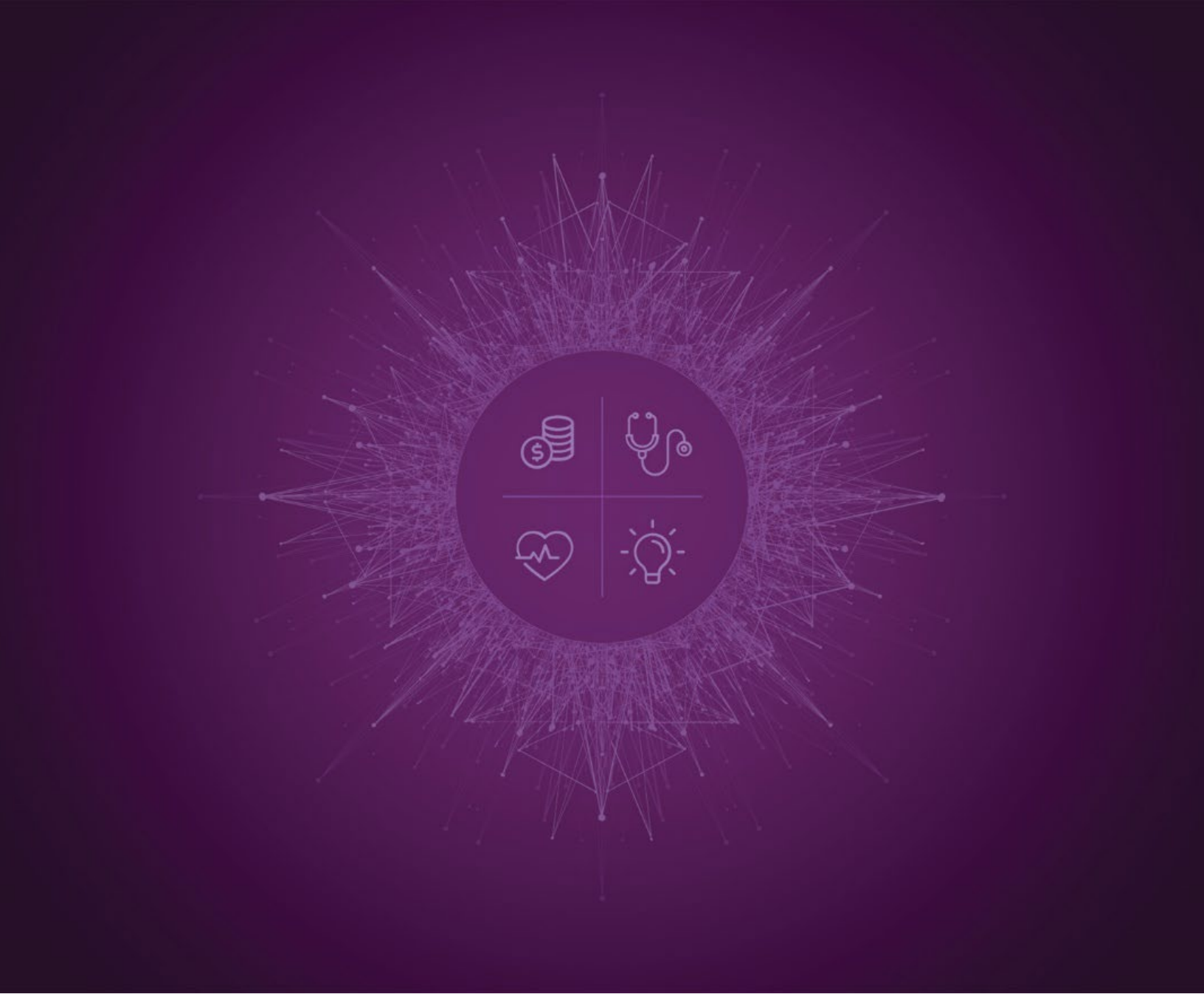


DataGen®

Insights for Healthcare

Microsoft Excel® v2016 PivotTable Training Version 1

May 27, 2022

TABLE OF CONTENTS

SECTION 1 2
Introduction To PivotTable Reporting 2
What Are PivotTables? 2
What Are The Main Parts Of A PivotTable? 3
Preparing The Worksheet For Reporting 4
SECTION 2 5
Importing .CSV Files (Part 1) 5
Report Output From The DataGen Planning Application 5
SECTION 3 8
Basic PivotTable Reporting and Formatting 8
What IS The Total Number Of Claims By Year? 8
Value Field Settings 11
Changing Column AND Row Text LabELs 13
PivotTable Styles 14
Filtering Out Blank Rows AND Columns 15
SECTION 4 16
Extending Pivottable Functionality With Subtotals AND Filtering 16
What Are The Total Claim Counts By Month, Quarter AND Year? 16
How Do I Filter My Results By Facility and Year? 18
Report Filters 20
Label Filtering Within A Result Set 21
SECTION 5 24
Frequency Reporting 24
WHAT Are The Most Frequently Used Dxcode1 Values? 24
Filtering for The Top 10 Dxcode1 Values 26
Sorting PivotTable Results 27
What Are The Top 10 Dxcode1 And Corresponding Treatment (CPTCode1) Codes? 29
Tabular Form Report Layout 29
SECTION 6 31
PivotTable Dashboard Example and Importing .CSV Files (Part 2) 31
What is a Dashboard? 31
Dashboard Design 31
A Basic Operations Monthly Dashboard 32
Importing .CSV Files (Part 2) 33
Multiple PivotTable Reports On A Single Worksheet 37
Displaying Percentages In PivotTables 39
Security When Connecting To External Files 42
Refreshing PivotTable Data 43
Refresh vs. Refresh All 43

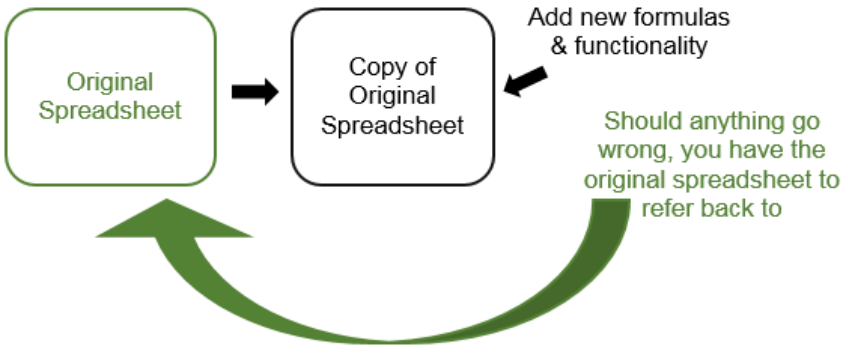
© 2022 DataGen®, Inc.

SECTION 1
Introduction To PivotTable Reporting

The following training materials are provided to assist with analysis and reporting using the data output from the DataGen® planning application.

All of the examples herein use **Microsoft Excel® v2016**. Depending on your installed version of Microsoft Excel the screenshots used in the illustrations **may not match exactly what you see on your screen.** However, **the functionality will be similar**. **The content used in all examples is not real patient data and is intended for teaching purposes only.**

Please always back up your work and save often. A good best practice when attempting any new functionality is to create a copy of the original spreadsheet and implement your changes on the copied spreadsheet. Should anything go wrong, you can refer back to the original spreadsheet. See the diagram below.

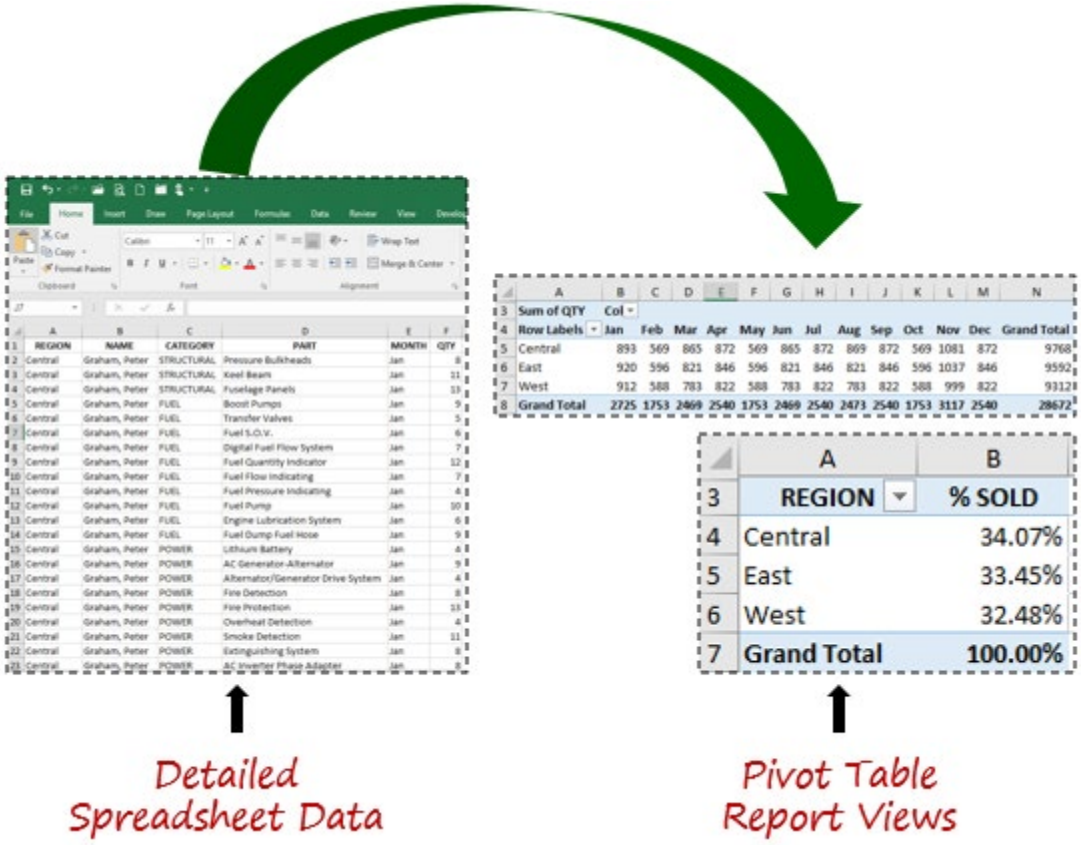


What Are PivotTables?

PivotTable is a feature within Microsoft Excel that takes individual cells or pieces of data and lets you arrange them into numerous types of calculated views. These snapshots of summarized data require minimal effort to create and can be changed by simply clicking or dragging fields within your report.

By using built-in functions and filters, PivotTables allow you to quickly organize and summarize large amounts of data. You can filter and drill down for more detailed examination of your numbers and various types of analysis may be completed without the need to manually enter formulas into the spreadsheet you're analyzing.

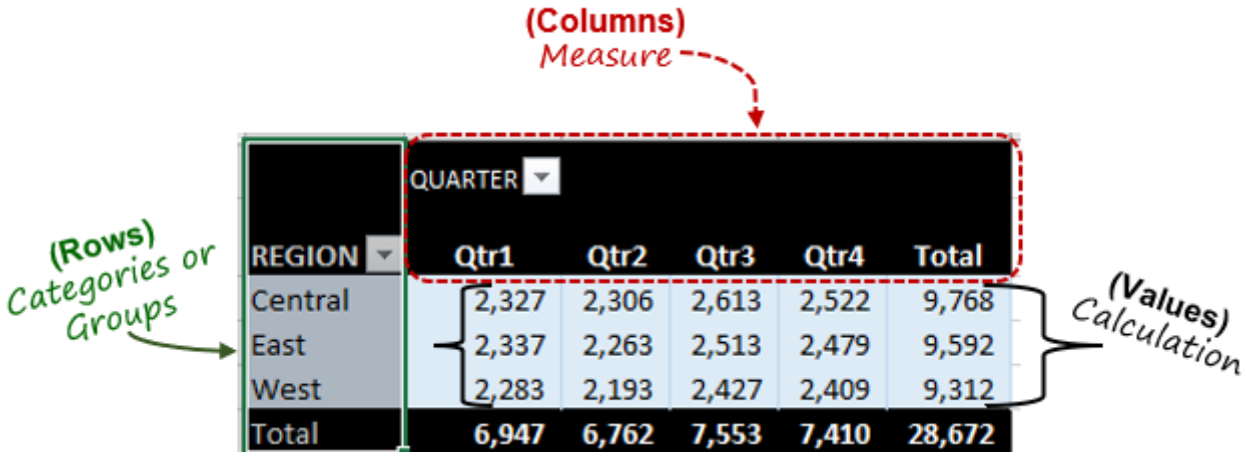
© 2022 DataGen®, Inc.



What Are The Main Parts Of A PivotTable?

There are three main components of a PivotTable:

1. **Rows:** The rows section typically represents how you would like to categorize or group your data. Examples include: employee name, region, department, part number, item, etc.
2. **Columns:** The columns show the measure in which you're displaying your calculations; often a *time period* such as a month, quarter or year, but may also be categories, product lines, etc.
3. **Values:** Values are the calculation portion of the report, these figures can be sums, percentages, counts, averages, rankings or custom computations.



REGION	QUARTER Qtr1	Qtr2	Qtr3	Qtr4	Total
Central	2,327	2,306	2,613	2,522	9,768
East	2,337	2,263	2,513	2,479	9,592
West	2,283	2,193	2,427	2,409	9,312
Total	6,947	6,762	7,553	7,410	28,672

© 2022 DataGen®, Inc.

Preparing The Worksheet For Reporting

To use PivotTables, the information must be in an Excel spreadsheet. If the data are in a **.CSV** structure they must be converted; this conversion process is reviewed in the next section. The worksheet must also be *formatted* in a way compatible with PivotTables, meaning:

- Your dataset **should not** contain **blank rows**, **columns**, **subtotals** or **footers.**
- No cells (columns) should be merged.
- Each column heading should have a **unique name.**

For example:

Blank **rows**

Incorrect

Subtotals

	A	B	C	D	E	F	G
1							2019
2	**Institution**	**County**	**DRG_Service Line**	**DRG**	**DRG Description**	**Primary Payor**	
3	Hospital 1	Bannock, ID	Cardiology - Medical	282	Acute Myocardial I	OTHER GOVERNMENT	1
4	Hospital 1	Bannock, ID	Orthopedics - Surgical	470	Major Hip and Knee	MEDICAID HMO	2
5	Hospital 1	Bannock, ID	Orthopedics - Surgical	483	Major Joint and Lim	WORKERS COMPENSATION	1
6	**Hospital 1**	**Bannock, ID**	**Orthopedics - Surgical Total**				**3**
7	Hospital 1	Bannock, ID	Psychiatry	885	Psychoses	WORKERS COMPENSATION	1
8	Hospital 1	Bannock, ID	Pulmonology	205	Other Respiratory S	MEDICAID HMO	1
9	Hospital 1	Bannock, ID	Spine	460	Spinal Fusion Excep	MEDICARE	1
10	Hospital 1	Bannock, ID	Urology - Surgical	670	Transurethral Proce	OTHER GOVERNMENT	1
11	**Hospital 1**	**Bannock, ID Total**					**8**
8191	Grand Total						73,931
8192							
8193	Data Citations						
8194							
8195	Please note that when you download and store your data, you must also store this citation in the same location. Analyses based on this data						
8196							
8197	CPT® copyright 2019 American Medical Association. All rights reserved.						
8198							
8199	Field Names						
8200							
8201	Measures						

Footer

No blank **rows** or **columns**

Correct

No **Subtotals**

	A	B	C	D	E	F	G
1	**Institution**	**County**	**DRG_Service Line**	**DRG**	**DRG Description**	**Primary Payor**	**2019**
2	Hospital 1	Bannock, ID	Cardiology - Medical	282	Acute Myocardial Infarction	OTHER GOVERNMENT	1
3	Hospital 1	Bannock, ID	Orthopedics - Surgical	470	Major Hip and Knee Joint Re	MEDICAID HMO	2
4	Hospital 1	Bannock, ID	Orthopedics - Surgical	483	Major Joint and Limb Reatta	WORKERS COMPENSATION	1
5	Hospital 1	Bannock, ID	Psychiatry	885	Psychoses	WORKERS COMPENSATION	1
6	Hospital 1	Bannock, ID	Pulmonology	205	Other Respiratory System Di	MEDICAID HMO	1
7	Hospital 1	Bannock, ID	Spine	460	Spinal Fusion Except Cervica	MEDICARE	1
8	Hospital 1	Bannock, ID	Urology - Surgical	670	Transurethral Procedures wi	OTHER GOVERNMENT	1
86378	Hospital Def	Twin Falls, ID	Vascular Services - Surgi	253	Other Vascular Procedures v	SELF PAY	1
86379							
86380							
86381							

No **Footer**

© 2022 DataGen®, Inc.

SECTION 2

Importing .CSV Files (Part 1)

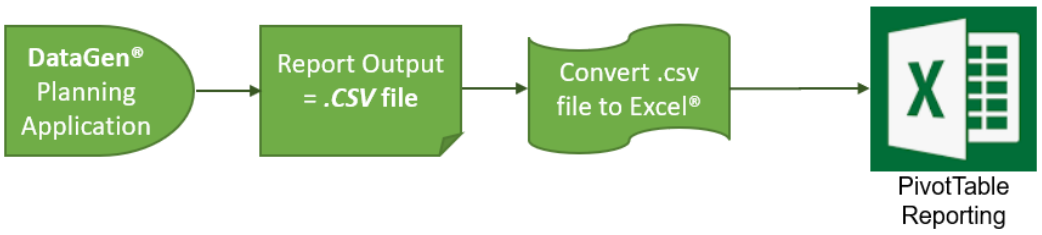
Report Output From The DataGen Planning Application

Like many tasks in Excel, file importing and parsing may be accomplished in multiple ways. In these training materials we illustrate two options for importing .CSV files into Excel.

A. The first is simply opening the .CSV file and saving it as an Excel spreadsheet. This is the most efficient approach if you need to analyze information quickly and do not intend to share your results with others.

B. If your reporting is recurring, such as daily, weekly or monthly, then importing the .CSV data directly into the PivotTable is preferred, as this method allows you to keep your existing PivotTable(s), including formatting, and add new data by using the **Refresh** feature.

We'll review **option A** first and **B** in Section 6.

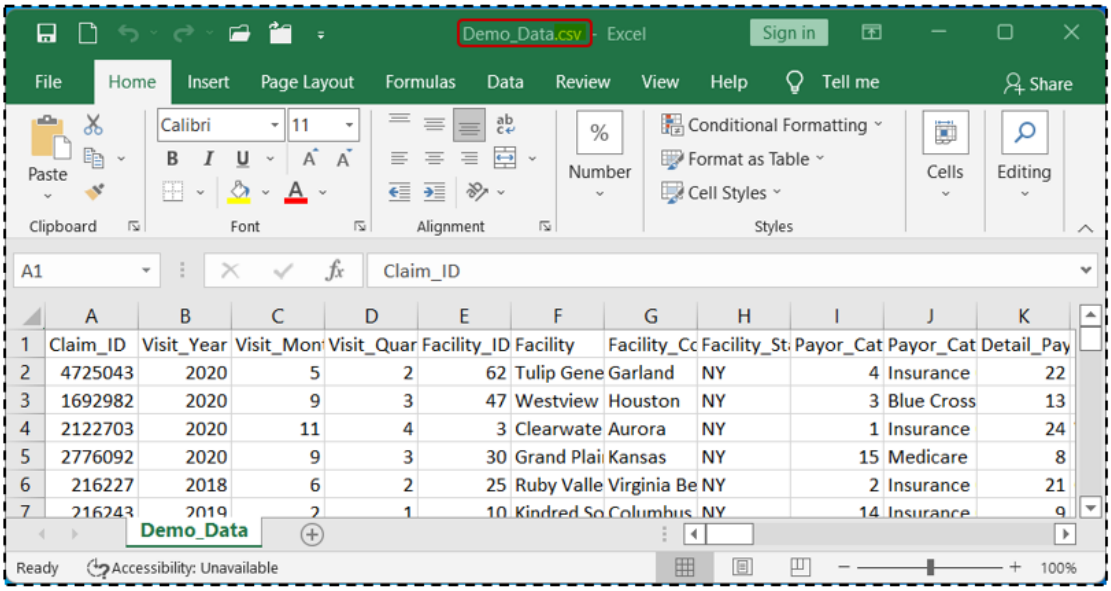


EXAMPLE:

Convert a .CSV file into an Excel spreadsheet by using the **Save as type** method.

SAMPLE DATA:

Due to space limitations **the entire .CSV file is not displayed**.

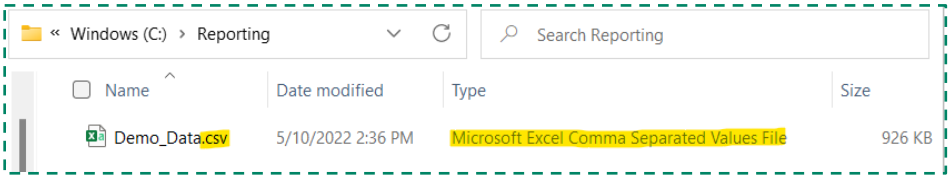


	A	B	C	D	E	F	G	H	I	J	K
1	Claim_ID	Visit_Year	Visit_Mon	Visit_Quar	Facility_ID	Facility	Facility_Cc	Facility_St	Payor_Cat	Payor_Cat	Detail_Pay
2	4725043	2020	5	2	62	Tulip Gene	Garland	NY	4	Insurance	22
3	1692982	2020	9	3	47	Westview	Houston	NY	3	Blue Cross	13
4	2122703	2020	11	4	3	Clearwate	Aurora	NY	1	Insurance	24
5	2776092	2020	9	3	30	Grand Plai	Kansas	NY	15	Medicare	8
6	216227	2018	6	2	25	Ruby Valle	Virginia Be	NY	2	Insurance	21
7	216243	2019	2	1	10	Kindred So	Columbus	NY	14	Insurance	9

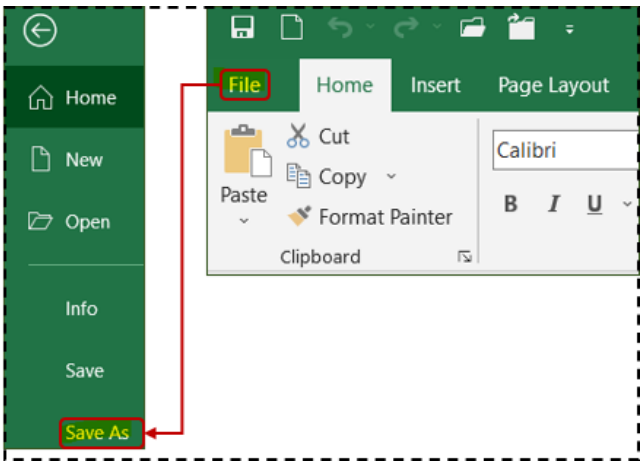
© 2022 DataGen®, Inc.

STEPS TO COMPLETE EXAMPLE:

1. Open the .CSV file; note the **Type** is **Microsoft Excel Comma Separated Values File**.

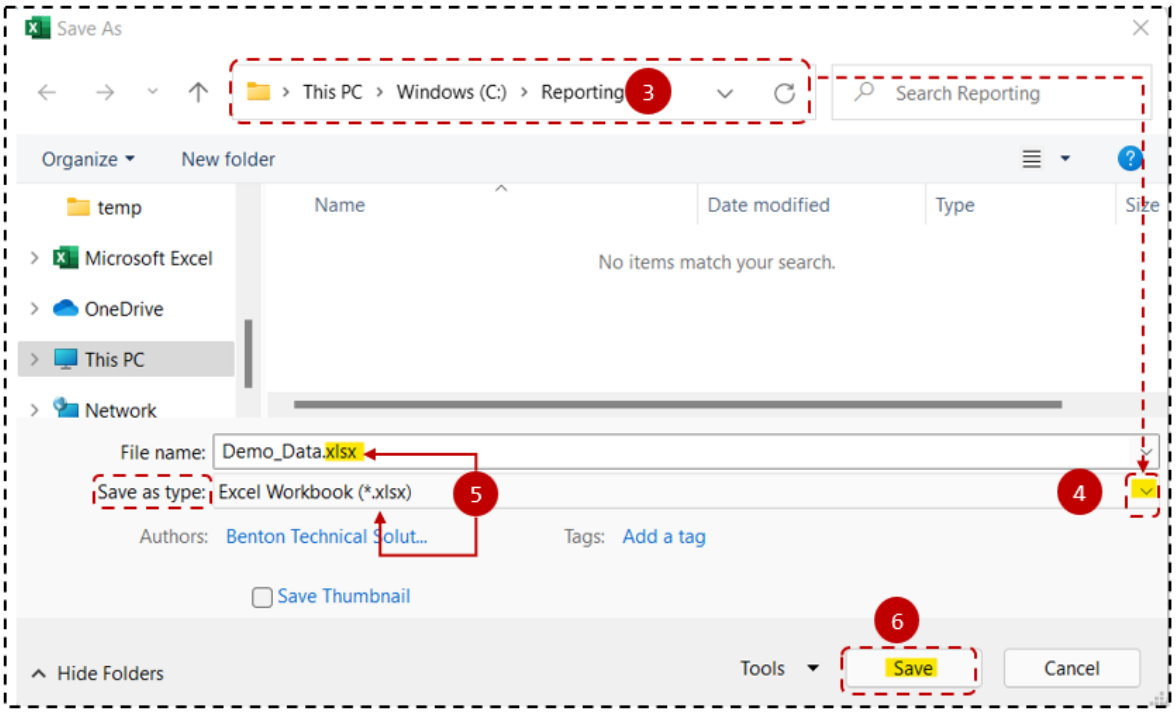


2. From the ribbon select **File : Save As**.



3. When prompted, select a file location.
4. Click the drop-down arrow for **Save as type**.
5. From the drop-down menu select **Excel Workbook (*.xlsx)**.
6. Click the **Save** button.

© 2022 DataGen®, Inc.



© 2022 DataGen®, Inc.

SECTION 3

Basic PivotTable Reporting and Formatting

Once we have the data prepared in Excel, we may begin developing our PivotTable reports. We'll start with analyzing the data at a macro level.

What IS The Total Number Of Claims By Year?

EXAMPLE:

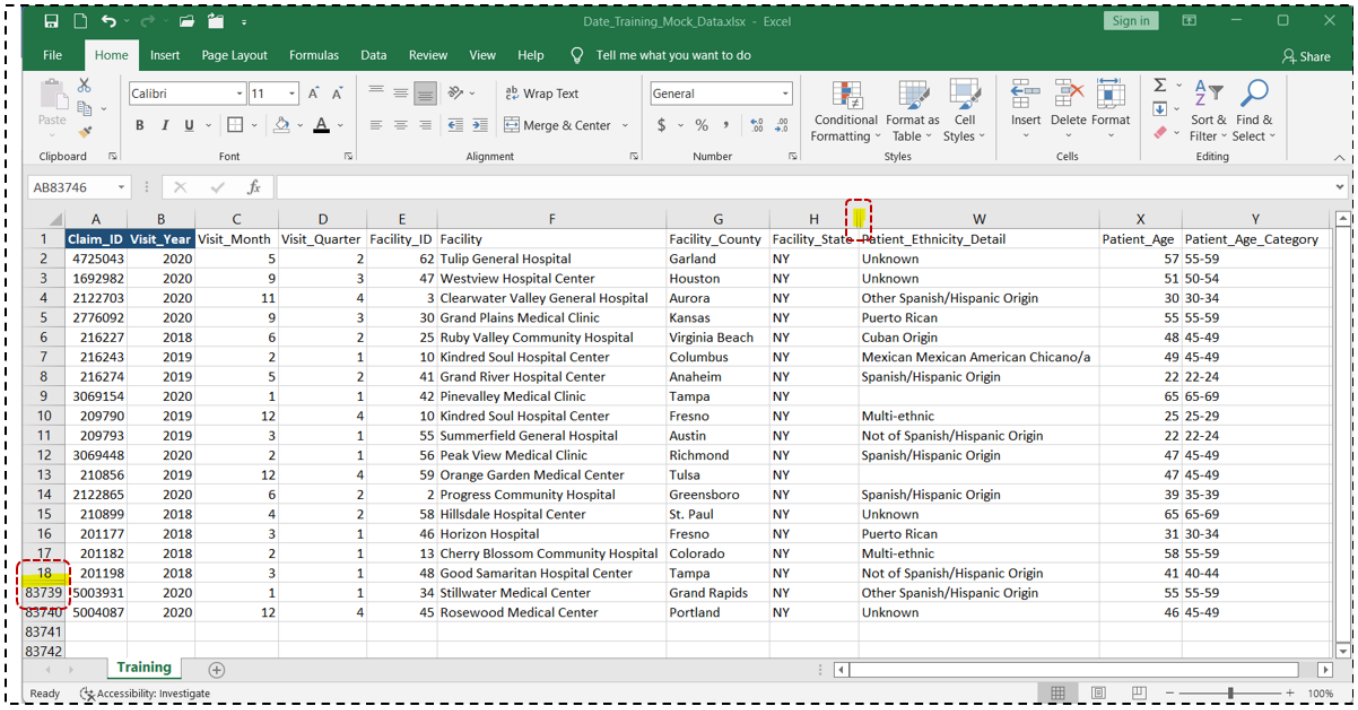
Create a PivotTable report displaying each year with the total number of claims.

SAMPLE DATA:

Fields used in this exercise:

a. Claim_ID
b. Visit_Year

Due to space limitations **the entire Excel file is not displayed**:



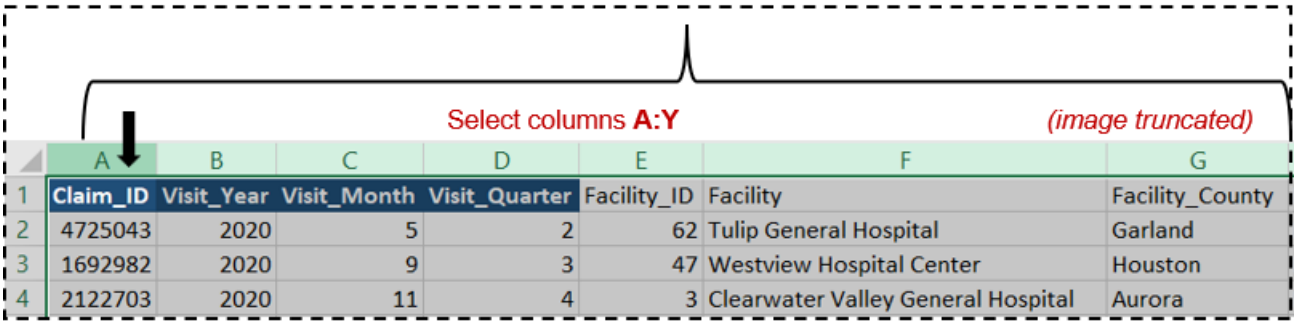
	A	B	C	D	E	F	G	H	W	X	Y
1	Claim_ID	Visit_Year	Visit_Month	Visit_Quarter	Facility_ID	Facility	Facility_County	Facility_State	Patient_Ethnicity_Detail	Patient_Age	Patient_Age_Category
2	4725043	2020	5	2	62	Tulip General Hospital	Garland	NY	Unknown	57	55-59
3	1692982	2020	9	3	47	Westview Hospital Center	Houston	NY	Unknown	51	50-54
4	2122703	2020	11	4	3	Clearwater Valley General Hospital	Aurora	NY	Other Spanish/Hispanic Origin	30	30-34
5	2776092	2020	9	3	30	Grand Plains Medical Clinic	Kansas	NY	Puerto Rican	55	55-59
6	216227	2018	6	2	25	Ruby Valley Community Hospital	Virginia Beach	NY	Cuban Origin	48	45-49
7	216243	2019	2	1	10	Kindred Soul Hospital Center	Columbus	NY	Mexican Mexican American Chicano/a	49	45-49
8	216274	2019	5	2	41	Grand River Hospital Center	Anaheim	NY	Spanish/Hispanic Origin	22	22-24
9	3069154	2020	1	1	42	Pinevalley Medical Clinic	Tampa	NY		65	65-69
10	209790	2019	12	4	10	Kindred Soul Hospital Center	Fresno	NY	Multi-ethnic	25	25-29
11	209793	2019	3	1	55	Summerfield General Hospital	Austin	NY	Not of Spanish/Hispanic Origin	22	22-24
12	3069448	2020	2	1	56	Peak View Medical Clinic	Richmond	NY	Spanish/Hispanic Origin	47	45-49
13	210856	2019	12	4	59	Orange Garden Medical Center	Tulsa	NY		47	45-49
14	2122865	2020	6	2	2	Progress Community Hospital	Greensboro	NY	Spanish/Hispanic Origin	39	35-39
15	210899	2018	4	2	58	Hillsdale Hospital Center	St. Paul	NY	Unknown	65	65-69
16	201177	2018	3	1	46	Horizon Hospital	Fresno	NY	Puerto Rican	31	30-34
17	201182	2018	2	1	13	Cherry Blossom Community Hospital	Colorado	NY	Multi-ethnic	58	55-59
18	201198	2018	3	1	48	Good Samaritan Hospital Center	Tampa	NY	Not of Spanish/Hispanic Origin	41	40-44
83739	5003931	2020	1	1	34	Stillwater Medical Center	Grand Rapids	NY	Other Spanish/Hispanic Origin	55	55-59
83740	5004087	2020	12	4	45	Rosewood Medical Center	Portland	NY	Unknown	46	45-49
83741											
83742											

© 2022 DataGen®, Inc.

STEPS TO COMPLETE EXAMPLE:

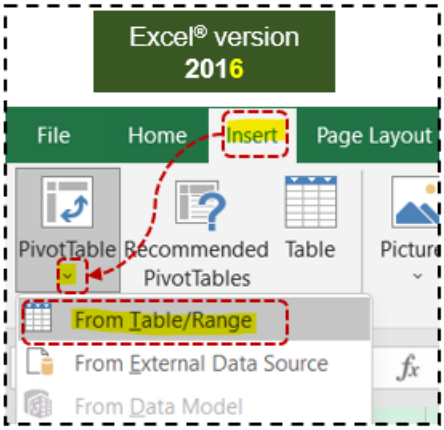
To determine the **Total Count of Claims by Year**:

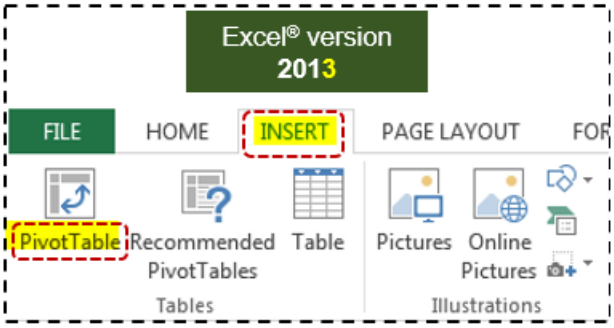
1. Open the Excel file containing the data for analysis.
2. Select **all** columns. In this demonstration, we'll be selecting **columns A:Y**.



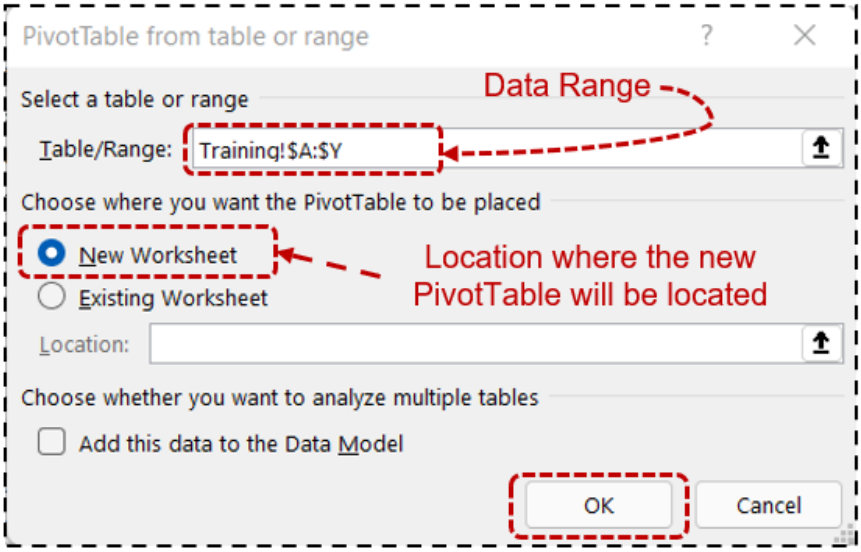
	A	B	C	D	E	F	G
1	Claim_ID	Visit_Year	Visit_Month	Visit_Quarter	Facility_ID	Facility	Facility_County
2	4725043	2020	5	2	62	Tulip General Hospital	Garland
3	1692982	2020	9	3	47	Westview Hospital Center	Houston
4	2122703	2020	11	4	3	Clearwater Valley General Hospital	Aurora

3. From the Ribbon select **Insert : PivotTable : From Table/Range**





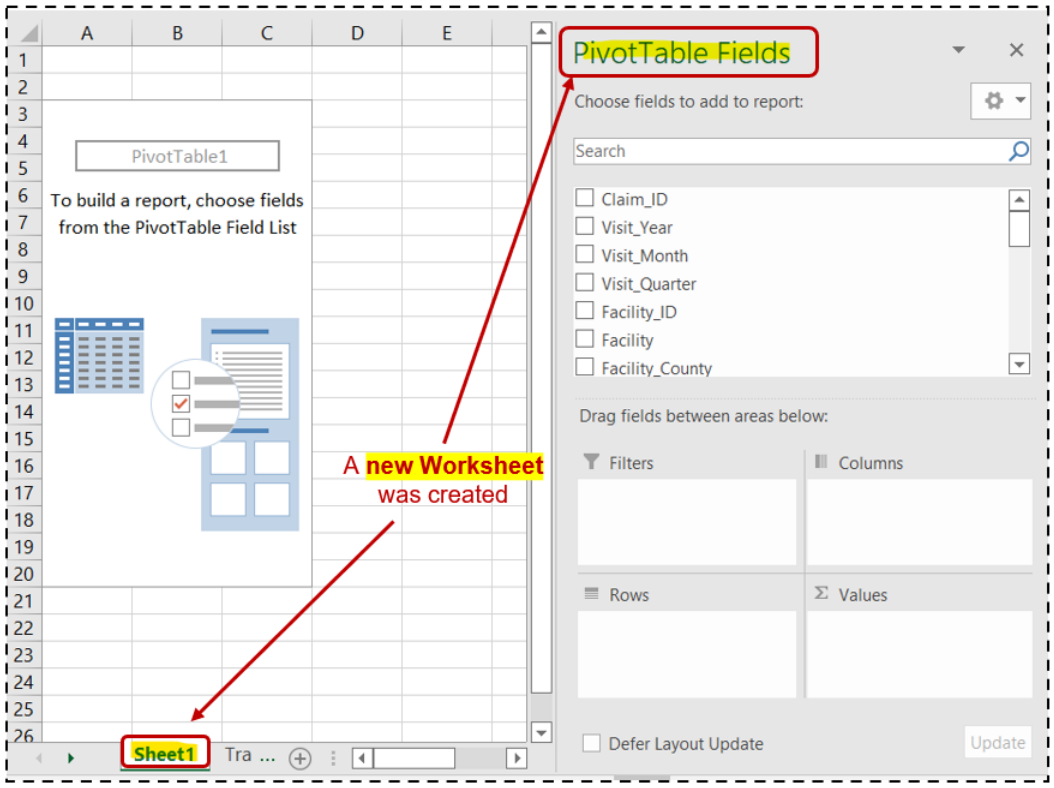
A similar dialogue box will appear. Note the **Data Range** and **location where the new PivotTable will be located**:



© 2022 DataGen®, Inc.

4. Click **OK**.

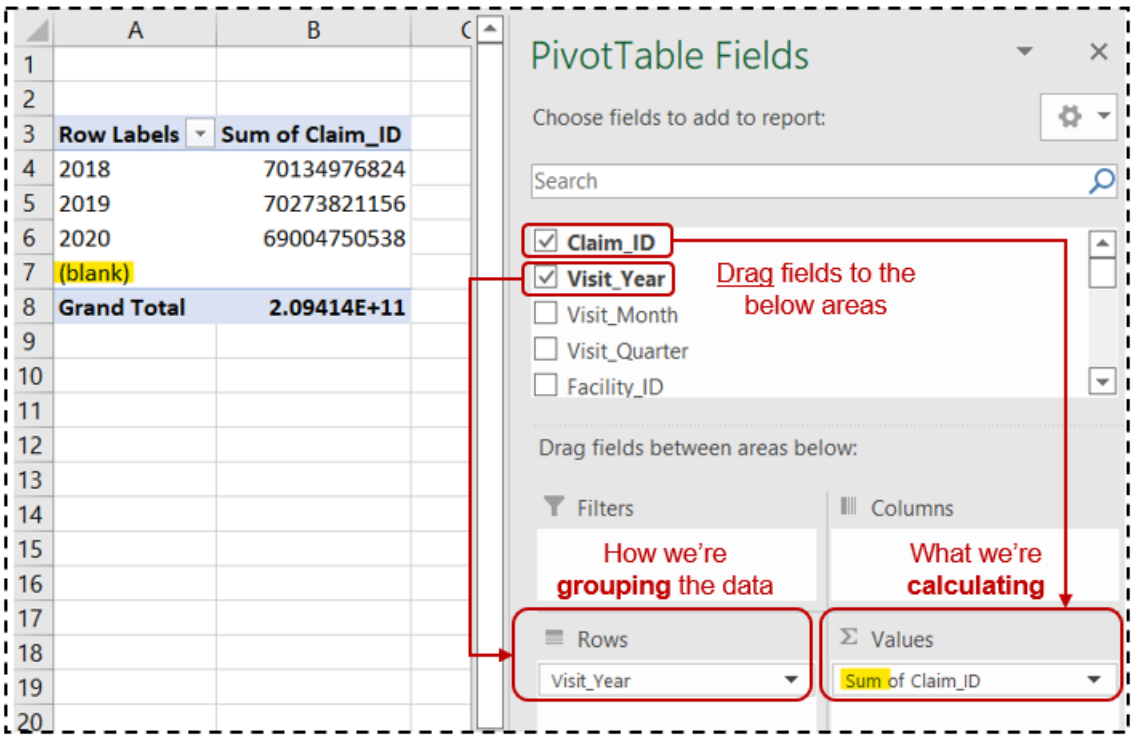
A new tab will be created and appear similar to the following. *Note the **PivotTable Fields** pane on the left side of the new worksheet.*



© 2022 DataGen®, Inc.

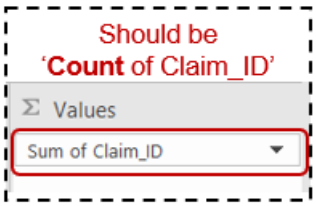
Next, we'll **categorize** our report and select a **calculation** value.

5. In the **PivotTable Fields** ***pane*** select the following fields:
   - **Visit_year** *(Rows section)*
   - **Claim_ID** *(∑ Values section)*



Value Field Settings

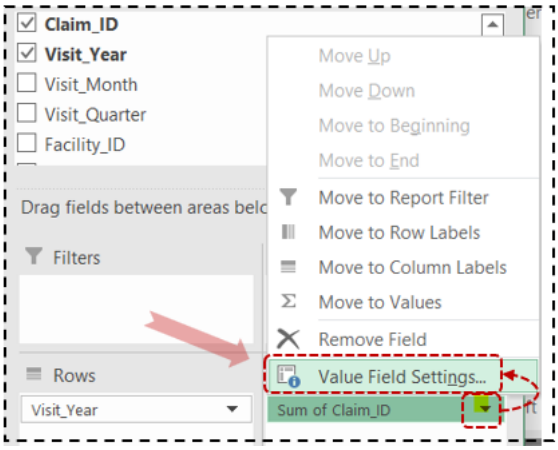
When we added the **Claim_ID** to the ∑ *Values section*, Excel® is incorrectly reading this field as numeric and summing the records instead of counting them. To fix, we're going to select a new *summarization type* using the **Value Field Settings…** option.



© 2022 DataGen®, Inc.

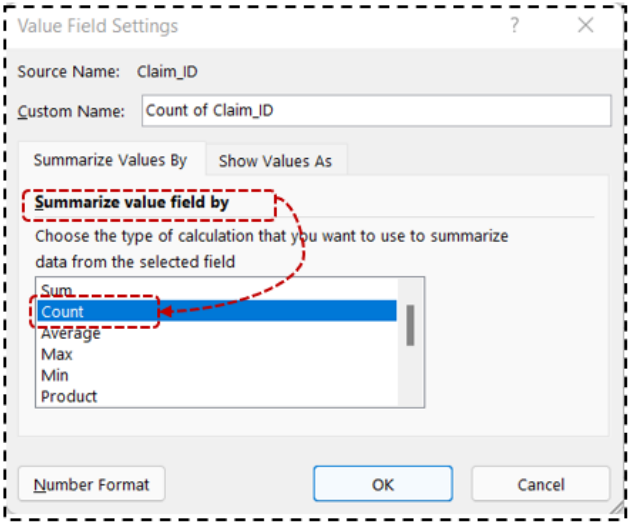
To change the ∑ **Values** section from **sum** to **count**:

1. Click the **Sum of Claim_ID** drop-down arrow; then, from the sub-menu select **Value Field Settings...** option.



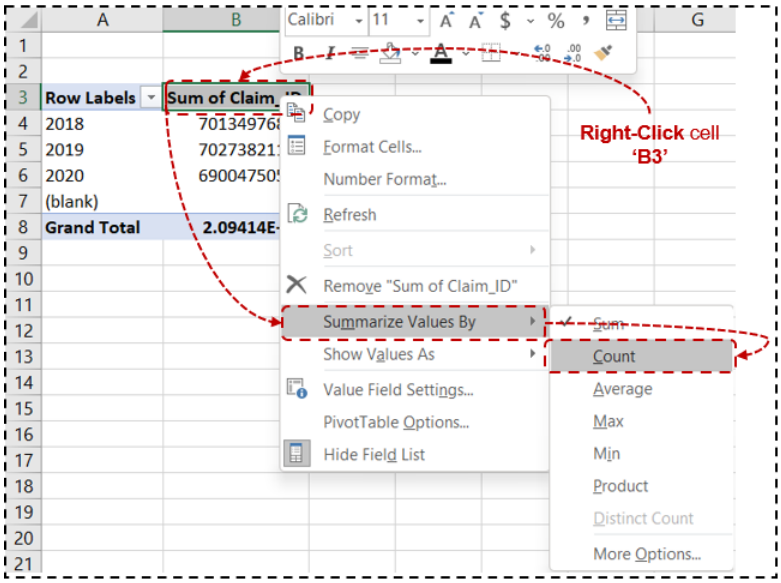
The following **Value Field Settings...** dialogue box will appear:

2. From the **Summarize value field by** list, select the **Count** option.
3. Click **OK**.



© 2022 DataGen®, Inc.

Alternatively, you may *right-click* cell **B3** and from the sub-menu select **Summarize Values By** and then the **Count** option.



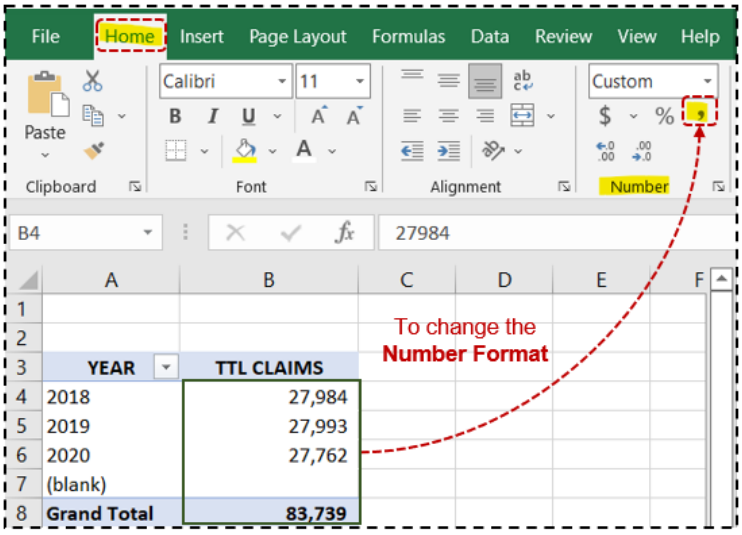
Changing Column AND Row Text LabELs

A PivotTable will be on the right side of your screen. *Note: the format is difficult to read*.

	A	B
1		
2		
3	**Row Labels**	**Count of Claim_ID**
4	2018	27984
5	2019	27993
6	2020	27762
7	(blank)	
8	**Grand Total**	**83739**

© 2022 DataGen®, Inc.

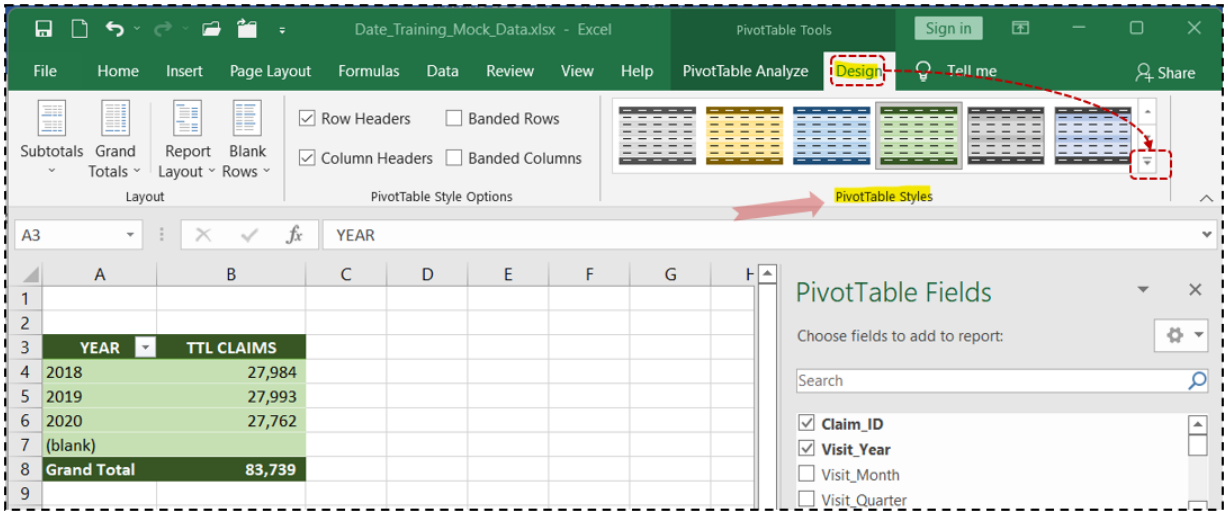
1. To change the column names and format of the numbers:
   - Select cell **A3** and change the text from **Row Labels** to **YEAR.**
   - Select cell **B3** and change the text from **Count of Claim_ID** to **TTL CLAIMS.**
   - You may also change the number format in cells **B4:B8.** In the below example, the format was changed to **Comma Style** with *zero* decimal places.



PivotTable Styles

To change the format (style) of a PivotTable:

1. Select cell **A3** and from the **PivotTable Tools: Design** ribbon, select the **PivotTable Styles** drop-down arrow.
2. Select a style (format) of your liking.

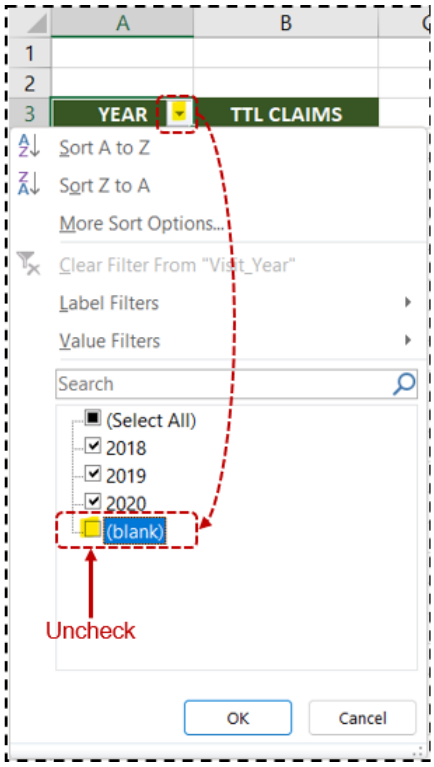


© 2022 DataGen®, Inc.

Filtering Out Blank Rows AND Columns

Next, to further improve the readability of the report, we'll want to hide the **(blank)** row. To accomplish this, we'll simply filter out these blank records.

1. Click the **YEAR** (cell **A3**) drop-down arrow; then from the sub-menu uncheck the **(blank)** box.
2. Click **OK**.



© 2022 DataGen®, Inc.

SECTION 4

Extending Pivottable Functionality With Subtotals AND Filtering

In this section we'll demonstrate how to extend PivotTable functionality by adding *subtotals* and *filters*.

What Are The Total Claim Counts By Month, Quarter AND Year?

EXAMPLE:

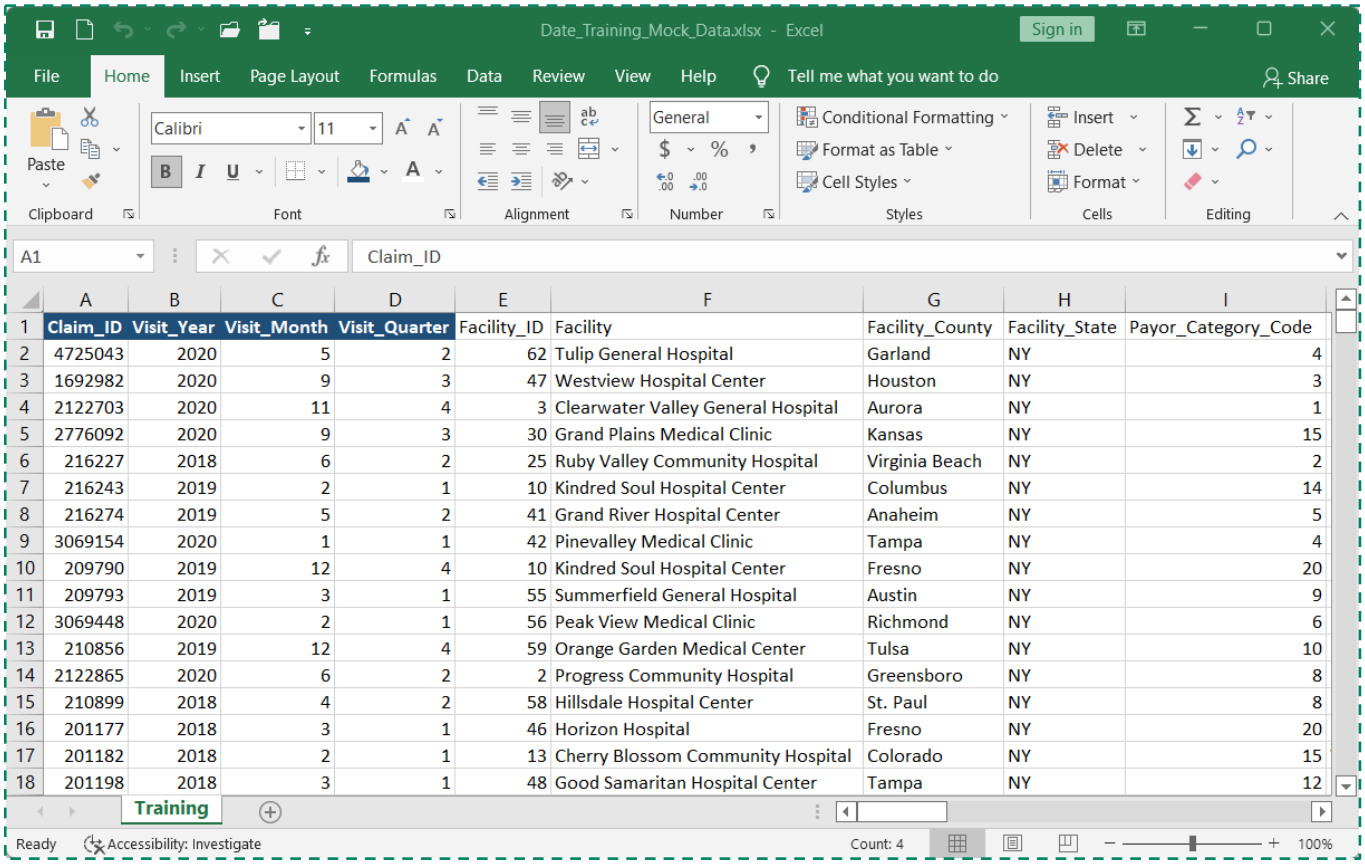
Create a report displaying each month's total number of claims, *subtotaled* by quarter, with an annual grand total.

SAMPLE DATA:

Fields used in this exercise:

a. Claim_ID
b. Visit_Year
c. Visit_Month
d. Visit_Quarter

Due to space limitations **the entire Excel file is not displayed**:



	A	B	C	D	E	F	G	H	I
1	Claim_ID	Visit_Year	Visit_Month	Visit_Quarter	Facility_ID	Facility	Facility_County	Facility_State	Payor_Category_Code
2	4725043	2020	5	2	62	Tulip General Hospital	Garland	NY	4
3	1692982	2020	9	3	47	Westview Hospital Center	Houston	NY	3
4	2122703	2020	11	4	3	Clearwater Valley General Hospital	Aurora	NY	1
5	2776092	2020	9	3	30	Grand Plains Medical Clinic	Kansas	NY	15
6	216227	2018	6	2	25	Ruby Valley Community Hospital	Virginia Beach	NY	2
7	216243	2019	2	1	10	Kindred Soul Hospital Center	Columbus	NY	14
8	216274	2019	5	2	41	Grand River Hospital Center	Anaheim	NY	5
9	3069154	2020	1	1	42	Pinevalley Medical Clinic	Tampa	NY	4
10	209790	2019	12	4	10	Kindred Soul Hospital Center	Fresno	NY	20
11	209793	2019	3	1	55	Summerfield General Hospital	Austin	NY	9
12	3069448	2020	2	1	56	Peak View Medical Clinic	Richmond	NY	6
13	210856	2019	12	4	59	Orange Garden Medical Center	Tulsa	NY	10
14	2122865	2020	6	2	2	Progress Community Hospital	Greensboro	NY	8
15	210899	2018	4	2	58	Hillsdale Hospital Center	St. Paul	NY	8
16	201177	2018	3	1	46	Horizon Hospital	Fresno	NY	20
17	201182	2018	2	1	13	Cherry Blossom Community Hospital	Colorado	NY	15
18	201198	2018	3	1	48	Good Samaritan Hospital Center	Tampa	NY	12

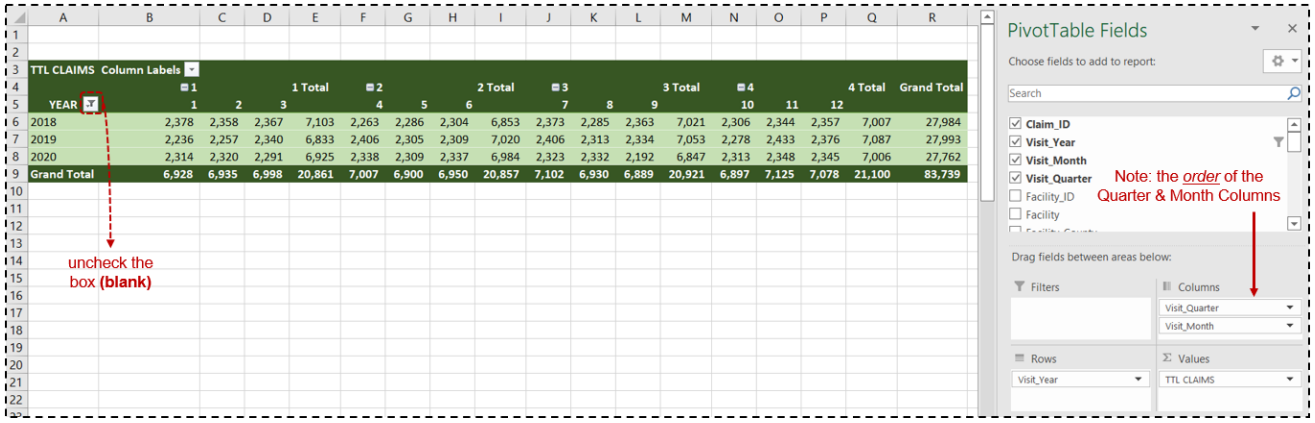
© 2022 DataGen®, Inc.

STEPS TO COMPLETE EXAMPLE:

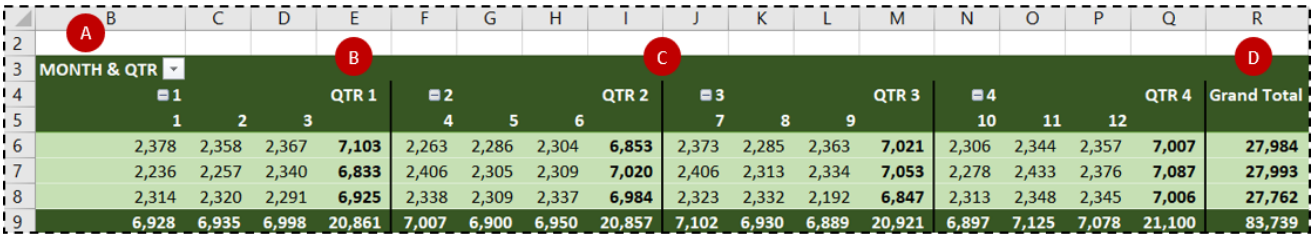
1. Open the Excel file containing the data for analysis.
2. Select **all** columns.
3. From the ribbon select Insert : PivotTable : From Table/Range.
4. Click **OK**.

A new tab will be created and appear similar to the following. We'll **categorize** our report and select a **calculation** value. **Note:** the *column order* must be Quarter first, followed by Month.

5. In the ***PivotTable Fields pane*** select the following fields:
   - **Visit_Year** *(Rows section)*
   - **Visit_Quarter** *(Columns section)*
   - **Visit_Month** *(Columns section)*
   - **Claim_ID** *(Σ Values section)*



6. Report formatting changes:
   A. Cell **B3** text changed to **MONTH & QTR**.
   B. Text prefix **QTR** added to each Quarter and **bold font**.
   C. Thick border added after each Quarter.
   D. Grand Total values formatted with **bold font**.
   E. **PivotTable Styles** style changed to **dark green**.



Next, we'll review options for *filtering records* to allow for more detailed analysis.

© 2022 DataGen®, Inc.

How Do I Filter My Results By Facility and Year?

EXAMPLE:

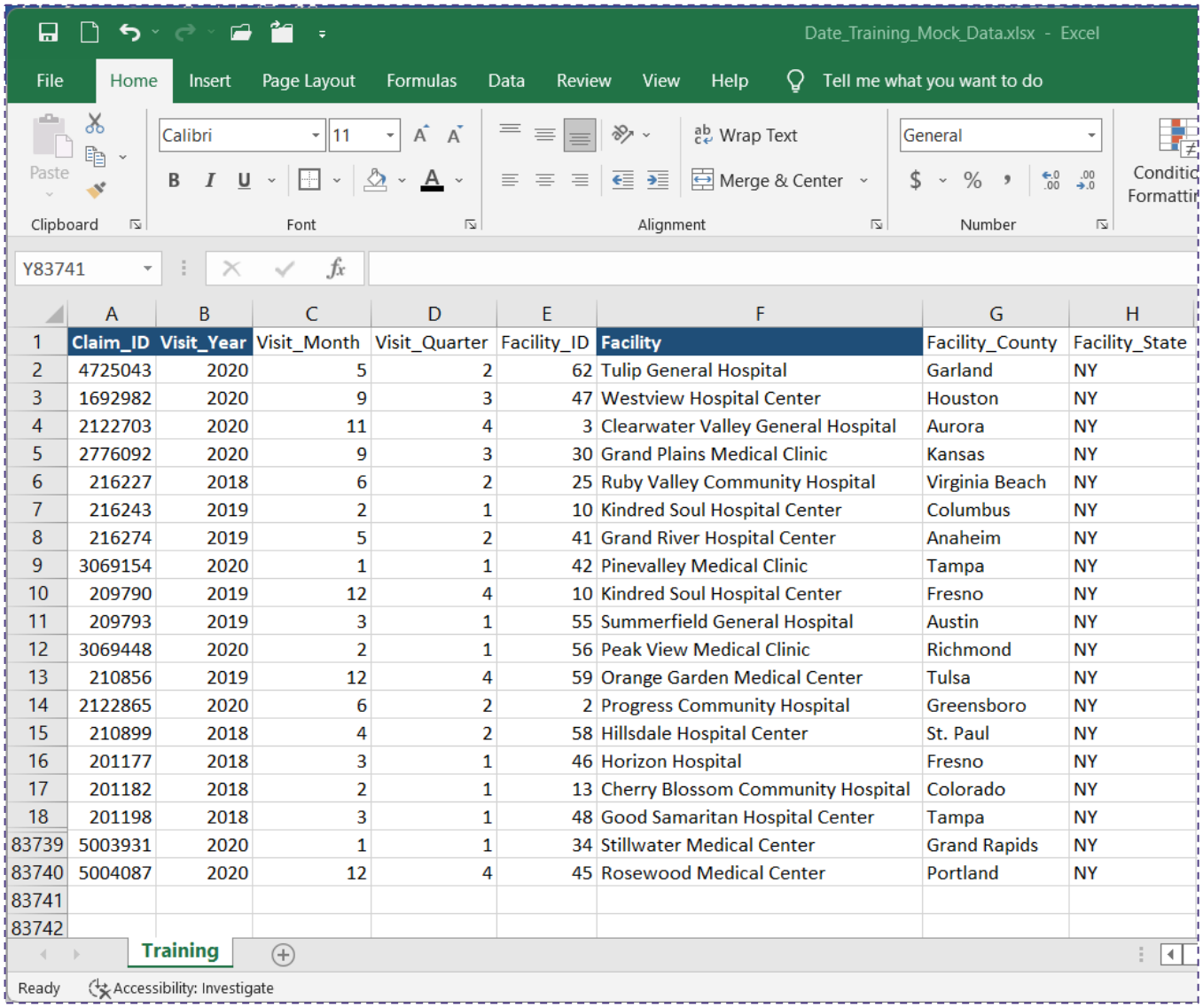
Create a report allowing a user to review only claims related to a specific facility or facilities, by a single year.

SAMPLE DATA:

Fields used in this exercise:

a. Claim_ID
b. Visit_Year
c. Facility

Due to space limitations **the entire Excel file is not displayed**:



	A	B	C	D	E	F	G	H
1	Claim_ID	Visit_Year	Visit_Month	Visit_Quarter	Facility_ID	Facility	Facility_County	Facility_State
2	4725043	2020	5	2	62	Tulip General Hospital	Garland	NY
3	1692982	2020	9	3	47	Westview Hospital Center	Houston	NY
4	2122703	2020	11	4	3	Clearwater Valley General Hospital	Aurora	NY
5	2776092	2020	9	3	30	Grand Plains Medical Clinic	Kansas	NY
6	216227	2018	6	2	25	Ruby Valley Community Hospital	Virginia Beach	NY
7	216243	2019	2	1	10	Kindred Soul Hospital Center	Columbus	NY
8	216274	2019	5	2	41	Grand River Hospital Center	Anaheim	NY
9	3069154	2020	1	1	42	Pinevalley Medical Clinic	Tampa	NY
10	209790	2019	12	4	10	Kindred Soul Hospital Center	Fresno	NY
11	209793	2019	3	1	55	Summerfield General Hospital	Austin	NY
12	3069448	2020	2	1	56	Peak View Medical Clinic	Richmond	NY
13	210856	2019	12	4	59	Orange Garden Medical Center	Tulsa	NY
14	2122865	2020	6	2	2	Progress Community Hospital	Greensboro	NY
15	210899	2018	4	2	58	Hillsdale Hospital Center	St. Paul	NY
16	201177	2018	3	1	46	Horizon Hospital	Fresno	NY
17	201182	2018	2	1	13	Cherry Blossom Community Hospital	Colorado	NY
18	201198	2018	3	1	48	Good Samaritan Hospital Center	Tampa	NY
83739	5003931	2020	1	1	34	Stillwater Medical Center	Grand Rapids	NY
83740	5004087	2020	12	4	45	Rosewood Medical Center	Portland	NY
83741								
83742								

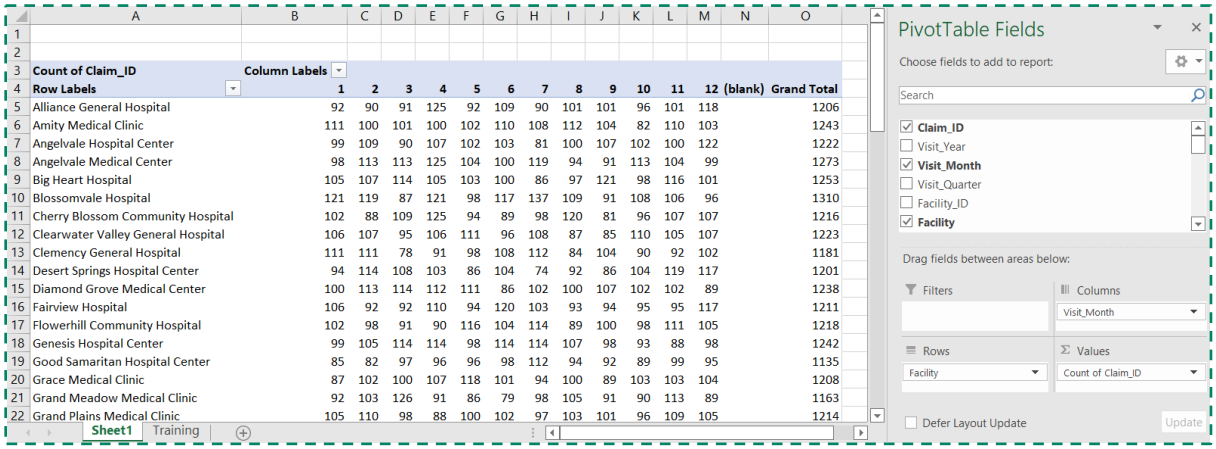
© 2022 DataGen®, Inc.

STEPS TO COMPLETE EXAMPLE:

1. Open the Excel file containing the data for analysis.
2. Select all columns.
3. From the ribbon select Insert : PivotTable : From Table/Range.
4. Click OK.

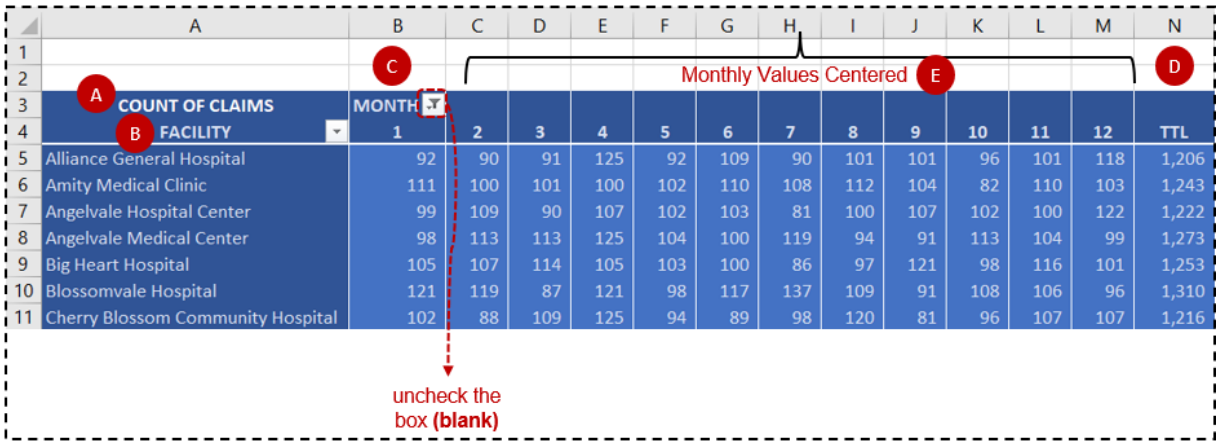
A new tab will be created and appear similar to the following. We'll **categorize** our report and select a **calculation** value.

5. In the ***PivotTable Fields pane*** select the following fields:
   - **Facility** *(Rows section)*
   - **Visit_Month** *(Columns section)*
   - **Claim_ID** *(∑ Values section)*



Count of Claim_ID	Column Labels													
Row Labels	1	2	3	4	5	6	7	8	9	10	11	12	(blank)	Grand Total
Alliance General Hospital	92	90	91	125	92	109	90	101	101	96	101	118		1206
Amity Medical Clinic	111	100	101	100	102	110	108	112	104	82	110	103		1243
Angelvale Hospital Center	99	109	90	107	102	103	81	100	107	102	100	122		1222
Angelvale Medical Center	98	113	113	125	104	100	119	94	91	113	104	99		1273
Big Heart Hospital	105	107	114	105	103	100	86	97	121	98	116	101		1253
Blossomvale Hospital	121	119	87	121	98	117	137	109	91	108	106	96		1310
Cherry Blossom Community Hospital	102	88	109	125	94	89	98	120	81	96	107	107		1216
Clearwater Valley General Hospital	106	107	95	106	111	96	108	87	85	110	105	107		1223
Clemency General Hospital	111	111	78	91	98	108	112	84	104	90	92	102		1181
Desert Springs Hospital Center	94	114	108	103	86	104	74	92	86	104	119	117		1201
Diamond Grove Medical Center	100	113	114	112	111	86	102	100	107	102	102	89		1238
Fairview Hospital	106	92	92	110	94	120	103	93	94	95	95	117		1211
Flowerhill Community Hospital	102	98	91	90	116	104	114	89	100	98	111	105		1218
Genesis Hospital Center	99	105	114	114	98	114	114	107	98	93	88	98		1242
Good Samaritan Hospital Center	85	82	97	96	96	98	112	94	92	89	99	95		1135
Grace Medical Clinic	87	102	100	107	118	101	94	100	89	103	103	104		1208
Grand Meadow Medical Clinic	92	103	126	91	86	79	98	105	91	90	113	89		1163
Grand Plains Medical Clinic	105	110	98	88	100	102	97	103	101	96	109	105		1214

6. Report formatting changes:
   A. Cell **A3** text changed to: **COUNT OF CLAIMS**.
   B. Cell **A4** text changed to: **FACILITY**.
   C. Cell **C3** text changed to: **MONTH**.
   D. Cell **D4** text changed to: **TTL**.
   E. Month values centered and column width reduced to 5.5.
   F. **PivotTable Styles** style changed to dark blue.

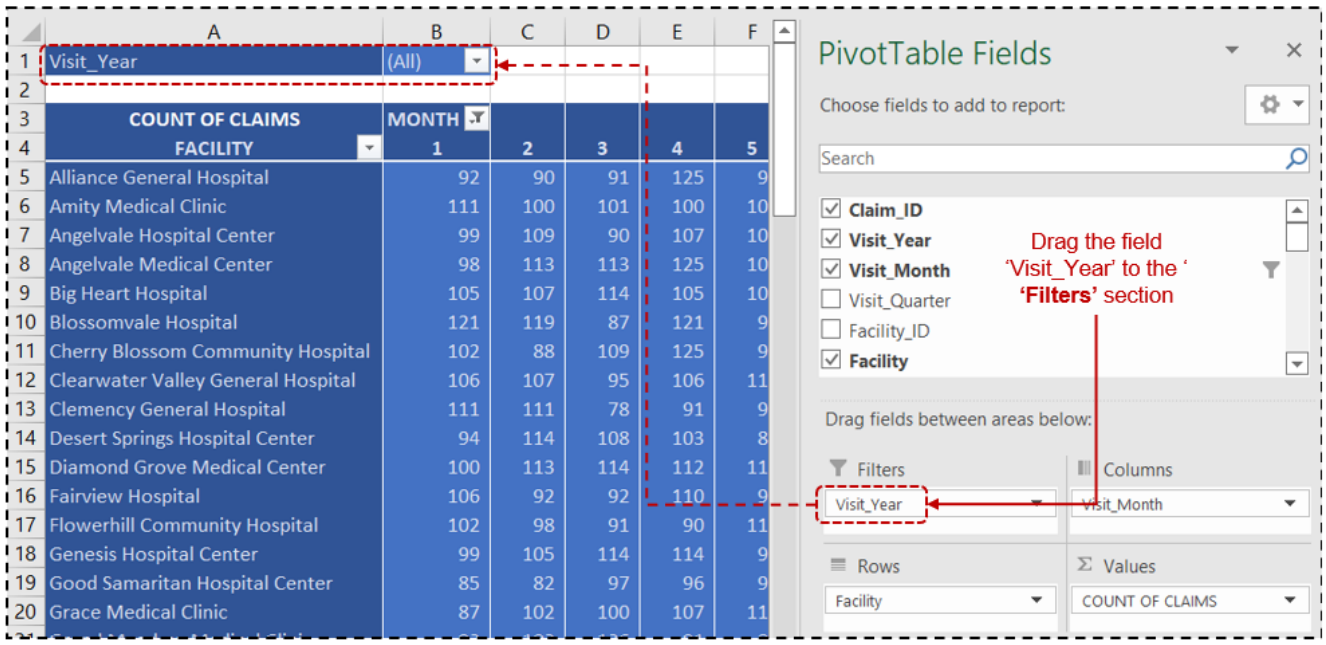


COUNT OF CLAIMS	MONTH												
FACILITY	1	2	3	4	5	6	7	8	9	10	11	12	TTL
Alliance General Hospital	92	90	91	125	92	109	90	101	101	96	101	118	1,206
Amity Medical Clinic	111	100	101	100	102	110	108	112	104	82	110	103	1,243
Angelvale Hospital Center	99	109	90	107	102	103	81	100	107	102	100	122	1,222
Angelvale Medical Center	98	113	113	125	104	100	119	94	91	113	104	99	1,273
Big Heart Hospital	105	107	114	105	103	100	86	97	121	98	116	101	1,253
Blossomvale Hospital	121	119	87	121	98	117	137	109	91	108	106	96	1,310
Cherry Blossom Community Hospital	102	88	109	125	94	89	98	120	81	96	107	107	1,216

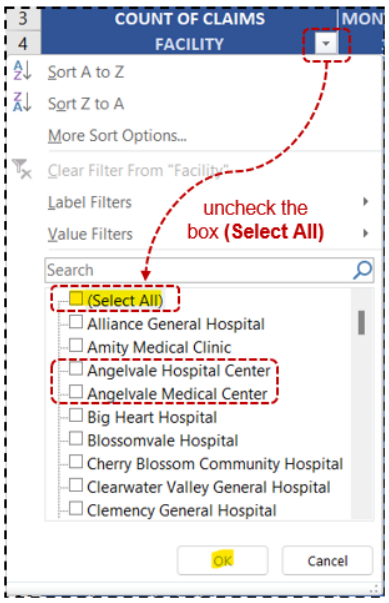
© 2022 DataGen®, Inc.

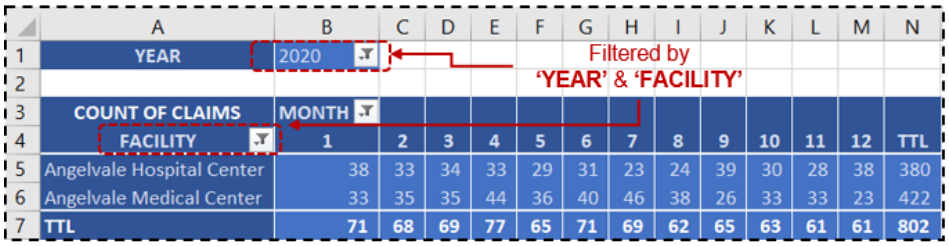
Report Filters

1. To filter the data by **YEAR**, in the PivotTable Fields pane, drag the **Visit_Year** field to the **Filters** section.



2. To filter the results by **FACILITY**, select the drop-down arrow in the **A4** cell.
3. Under the **Search** box, <u>uncheck</u> the **(Select All)** option.
4. Check the boxes for the facilities you want returned.
5. Click **OK**.





© 2022 DataGen®, Inc.

Label Filtering Within A Result Set

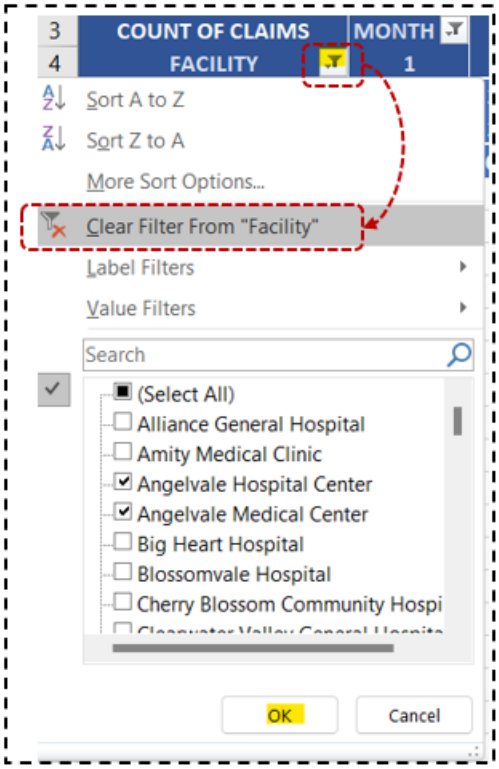
When you have long list of text values, for instance 60+ facilities, checking each location box you want returned may be inefficient. An easier way is to use the **Label Filtering** feature.

EXAMPLE:

Create a report returning *all facilities with **Clinic** in the name*.

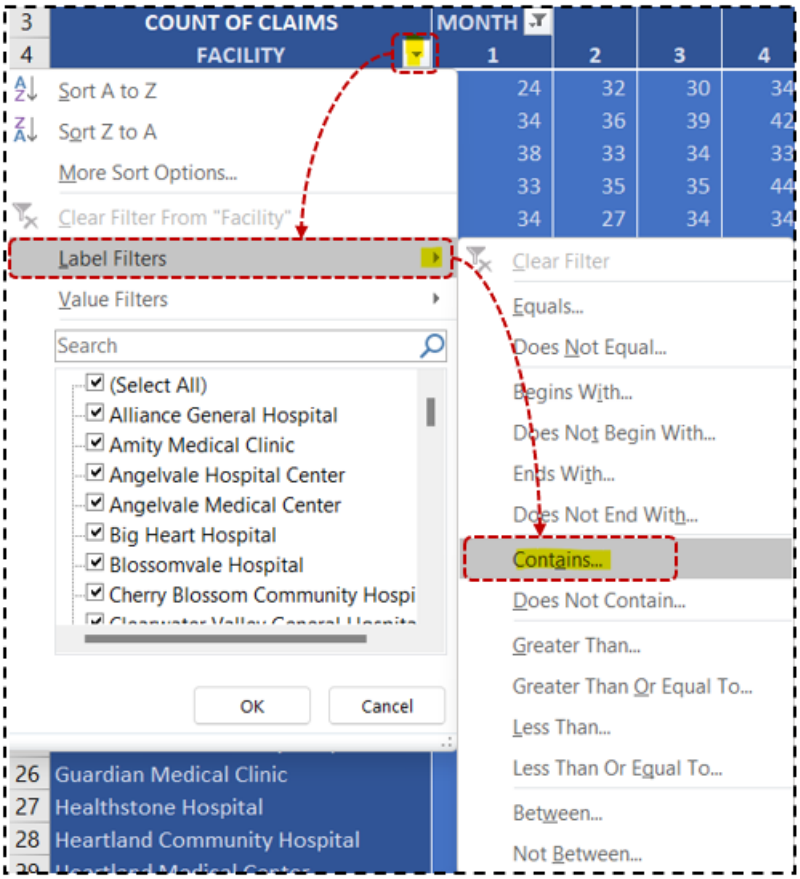
---

1. Remove the previous filter by selecting the drop-down arrow in cell **A4** and then **Clear Filter From "Facility"**

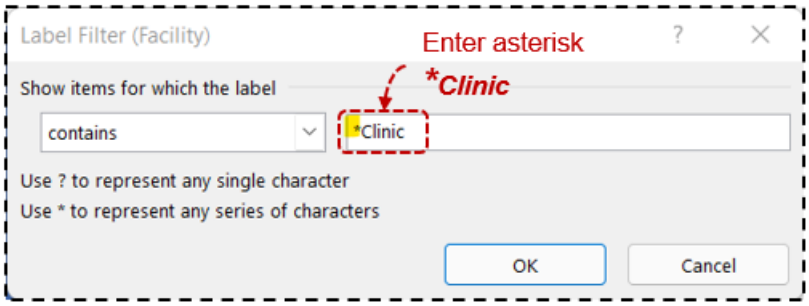


© 2022 DataGen®, Inc.

2. Select **Label Filters** and then the **Contains...** option.



3. When prompted, enter ***Clinic**.



© 2022 DataGen®, Inc.

4. Click **OK**.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	YEAR	2020					Claim counts for all facilities with							
2							**'Clinic'** in the name for the **Year 2020**							
3	COUNT OF CLAIMS	MONTH												
4	FACILITY	1	2	3	4	5	6	7	8	9	10	11	12	TTL
5	Amity Medical Clinic	34	36	39	42	32	37	33	38	38	20	33	37	419
6	Grace Medical Clinic	27	27	33	47	41	33	28	38	28	32	35	36	405
7	Grand Meadow Medical Clinic	36	31	31	16	27	25	33	29	29	34	34	26	351
8	Grand Plains Medical Clinic	41	41	31	27	32	37	31	35	28	33	45	30	411
9	Guardian Medical Clinic	32	30	37	28	26	28	46	36	32	34	30	39	398
10	Kindred Clinic	35	34	31	28	28	34	36	32	34	34	38	30	394
11	Lilypad Gardens Clinic	31	32	29	45	29	46	31	33	34	43	44	32	429
12	Peace River Clinic	31	29	34	37	33	37	25	33	32	32	32	26	381
13	Peak View Medical Clinic	47	38	38	39	22	29	34	42	38	22	36	42	427
14	Petunia Medical Clinic	32	26	38	34	30	25	29	44	38	38	34	27	395
15	Phoenix Clinic	29	39	35	27	31	54	44	33	37	31	31	38	429
16	Pinevalley Medical Clinic	37	32	36	26	36	32	33	42	38	29	36	29	406
17	Principal Clinic	26	40	38	25	38	32	30	25	42	43	32	45	416
18	Progress Clinic	35	35	35	28	40	28	25	39	28	25	40	44	402
19	Trinity Medical Clinic	30	33	39	41	31	35	37	38	35	40	30	33	422
20	**TTL**	**503**	**503**	**524**	**490**	**476**	**512**	**495**	**537**	**511**	**490**	**530**	**514**	**6,085**

© 2022 DataGen®, Inc.

SECTION 5

Frequency Reporting

Using diagnosis and treatment codes, we'll review how often a value is occurring.

WHAT Are The Most Frequently Used Dxcode1 Values?

EXAMPLE:

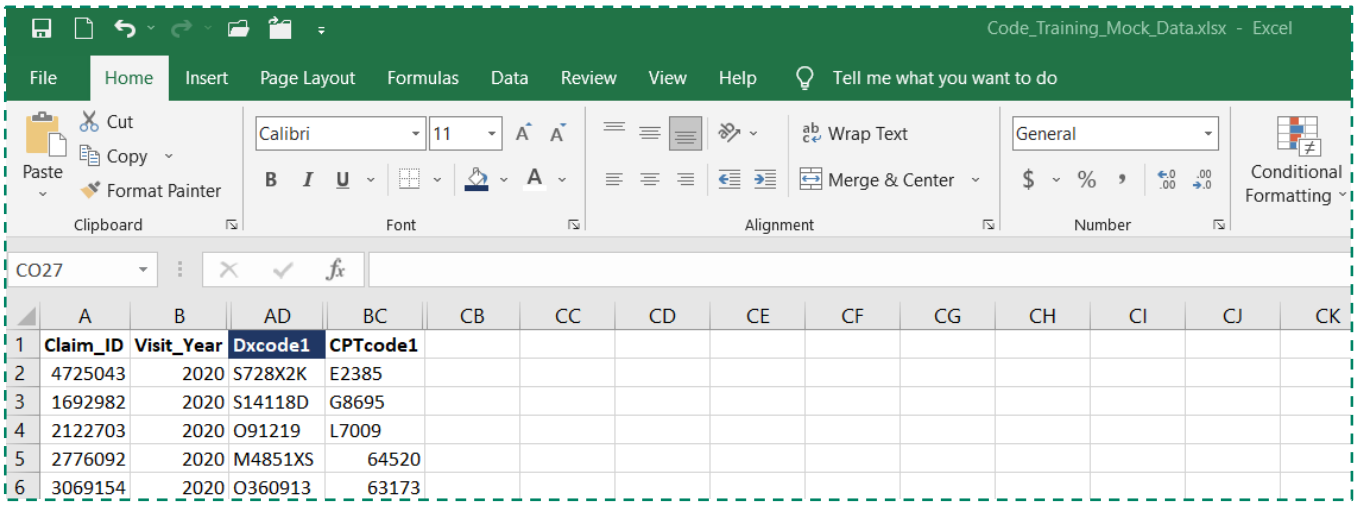
Create a report displaying the Top 10 Dxcode1 Values.

SAMPLE DATA:

Field used in this exercise:

a. Dxcode1

Due to space limitations **the entire Excel file is not displayed**:



	A	B	AD	BC	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK
1	**Claim_ID**	**Visit_Year**	**Dxcode1**	**CPTcode1**										
2	4725043	2020	S728X2K	E2385										
3	1692982	2020	S14118D	G8695										
4	2122703	2020	O91219	L7009										
5	2776092	2020	M4851XS	64520										
6	3069154	2020	O360913	63173										

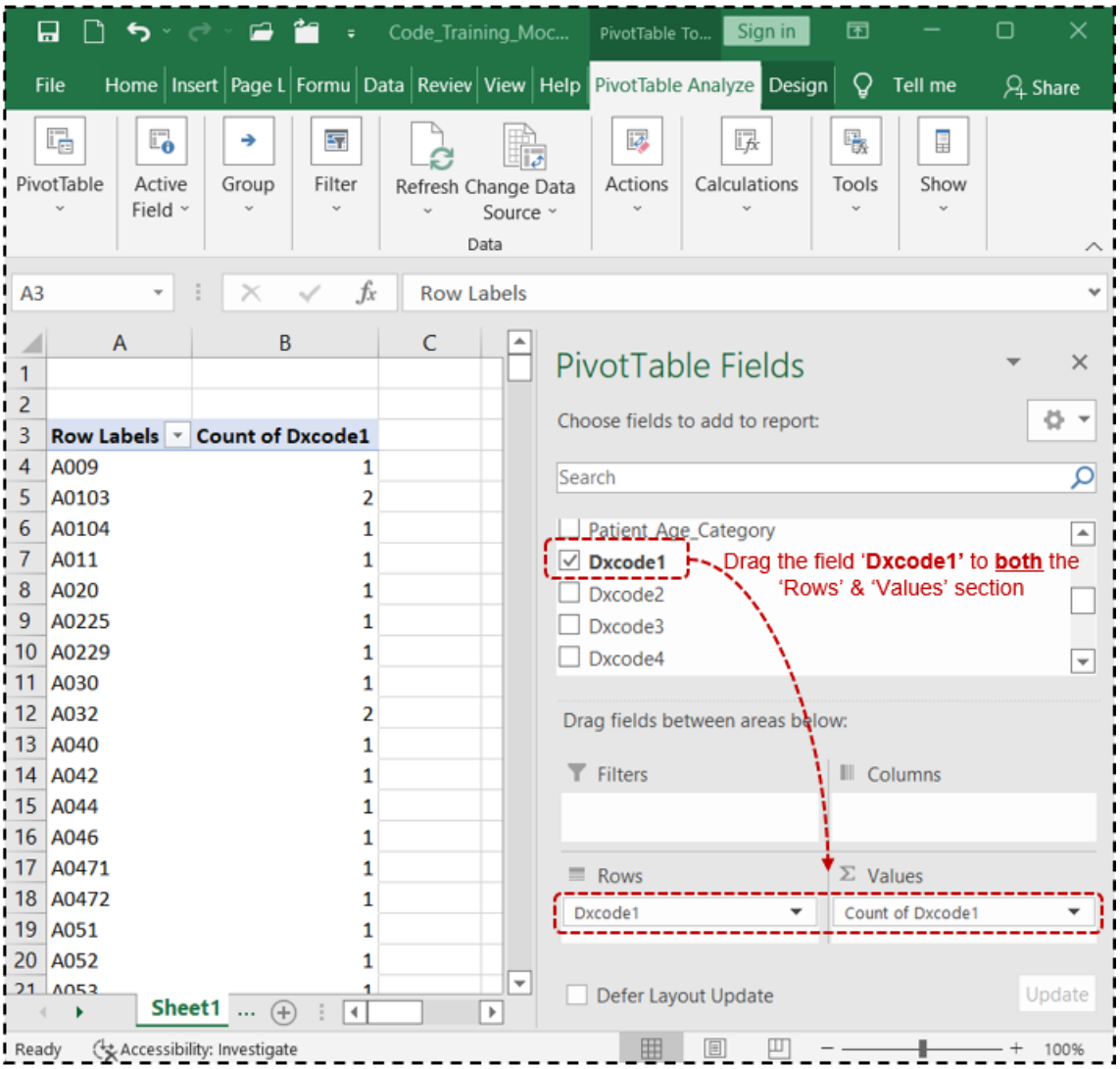
STEPS TO COMPLETE EXAMPLE:

1. Open the Excel file containing the data for analysis.
2. Select **all** columns.
3. From the ribbon select Insert : PivotTable : From Table/Range.
4. Click **OK**.

© 2022 DataGen®, Inc.

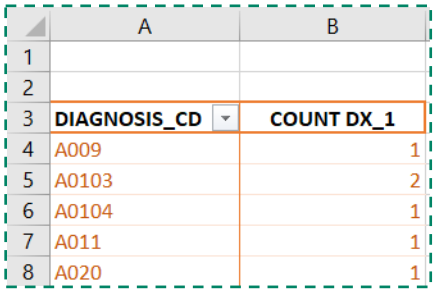
A new tab will be created and appear similar to the following. We'll **categorize** our report and select a **calculation** value. Note: Drag the **Dxcode1** field to **both** the **Rows** and **Values** sections.

5. In the ***PivotTable Fields pane*** select the following fields:
   - **Dxcode1** *(Rows section)*
   - **Dxcode1** *(∑ Values section)*



© 2022 DataGen®, Inc.

6. Report formatting changes:
   A. Cell **A3** text changed to: **DIAGNOSIS_CD**.
   B. Cell **B3** text changed to: **COUNT DX_1**.
   C. **PivotTable Styles** style changed to **light orange**.



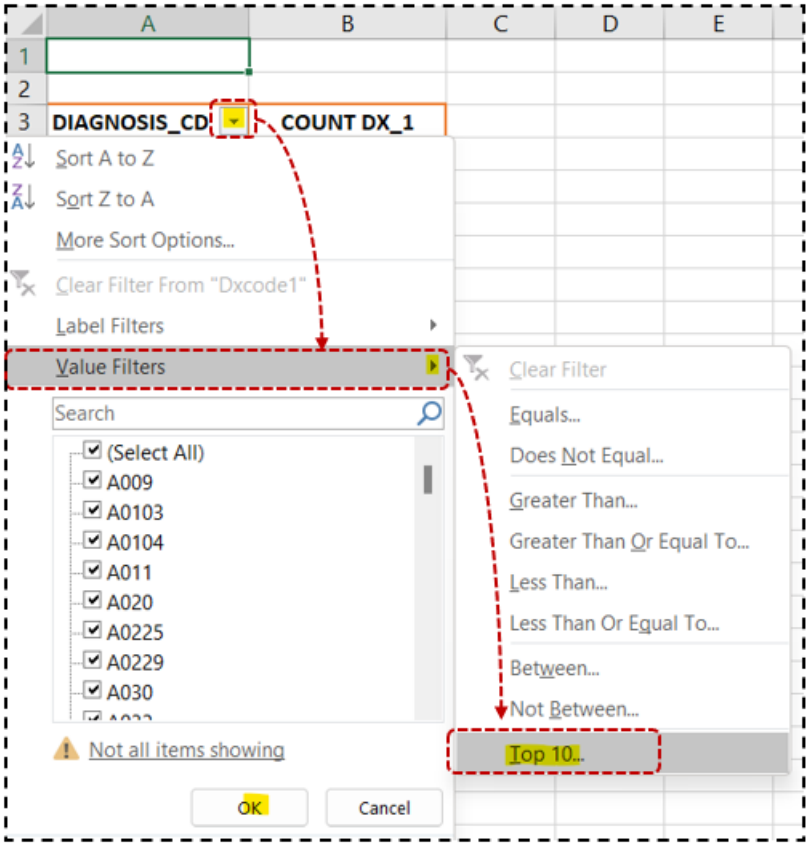
	A	B
1		
2		
3	DIAGNOSIS_CD	COUNT DX_1
4	A009	1
5	A0103	2
6	A0104	1
7	A011	1
8	A020	1

Image Truncated

Filtering for The Top 10 Dxcode1 Values

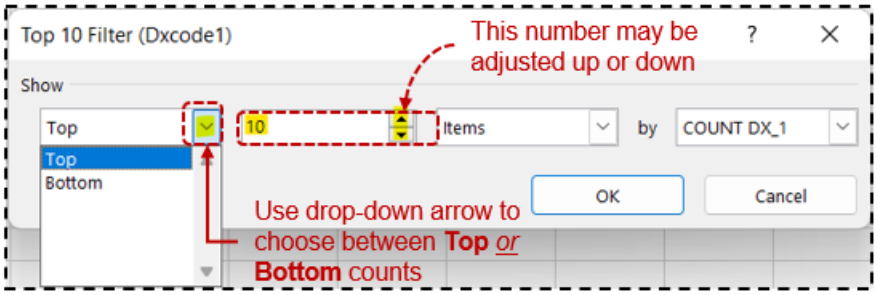
Our initial results have identified over 20K different codes used for **DXCODE1**. Therefore, to make the results more meaningful, we'll identify only the **Top 10 used diagnosis codes**.

1. Click the drop-down arrow in the **A3** cell.
2. Select **Value Filters** and then the **Top 10...** option.



© 2022 DataGen®, Inc.

3. When prompted, accept the *default* Top 10 Items by COUNT DX_1.
   - The filter number may be adjusted up or down, i.e., Top 5 or 20.
   - The first drop-down allows you to choose between Top or Bottom counts.



4. Click **OK**.

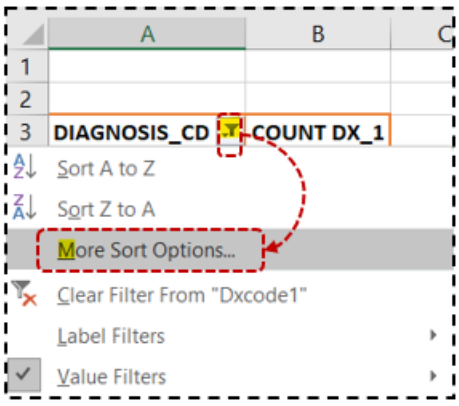
	A	B
1		
2		
3	DIAGNOSIS_CD	COUNT DX_1
4	A4851	4
5	C8268	4
6	F14181	4
7	H15841	4
8	I70628	4

Image Truncated

Sorting PivotTable Results

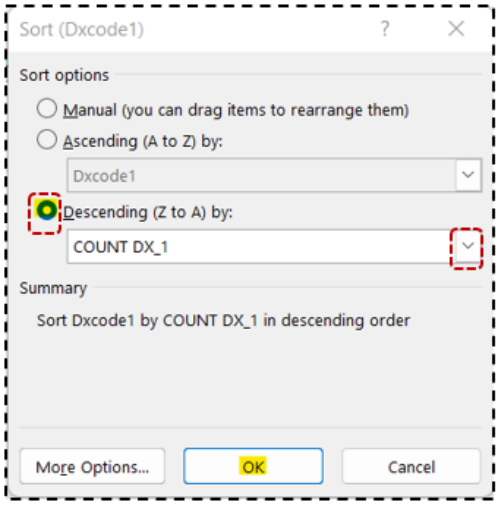
Next, let's sort the results to improve the readability.

1. Click the drop-down arrow in the **A3** cell.
2. Select the **More Sort Options...** button.



© 2022 DataGen®, Inc.

3. When prompted:
   - Select the **Descending (Z to A) by:** radio button.
   - Select the drop-down arrow and choose **COUNT DX_1**.



4. Click **OK**.

	A	B
1		
2		
3	**DIAGNOSIS_CD**	**COUNT DX_1**
4	S82041E	5
5	S89391G	5
6	V4374XD	5
7	S92144B	4
8	S62639A	4
9	W429XXS	4
10	I70628	4
11	S75121A	4
12	M05822	4

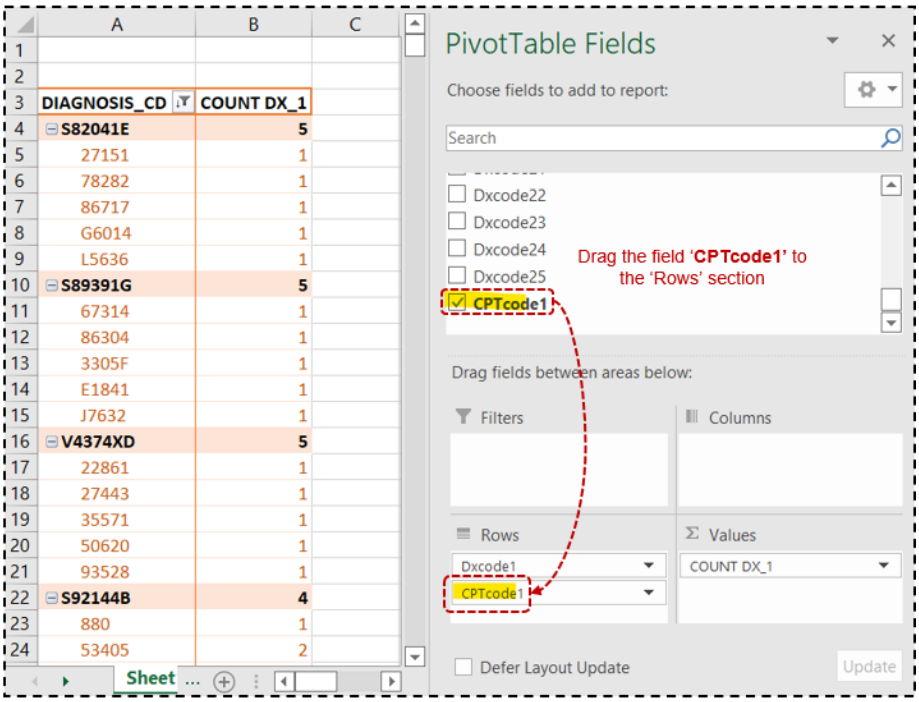
Image Truncated

© 2022 DataGen®, Inc.

What Are The Top 10 Dxcode1 And Corresponding Treatment (CPTCode1) Codes?

Lastly, let's add the treatment code that was used for each of the Top 10 Dxcode1 values.

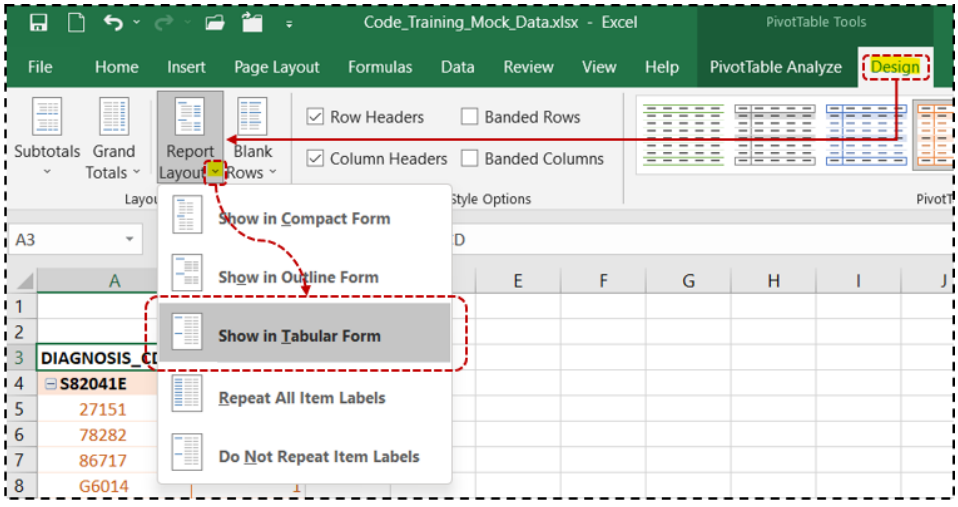
1. In the *PivotTable Fields pane* drag the **CPTcode1** field to the **Rows** section:



Tabular Form Report Layout

To display the **CPTcode1** field as a separate column:

1. From the **PivotTable Tools: Design** ribbon, select the **Report Layout** drop-down arrow.
2. Select **Show in Tabular Form**.



© 2022 DataGen®, Inc.

For each *Dxcode1 entry of "S82041"* the corresponding *CPTcode1 values* were:

- 27151
- 78282
- 86717
- G6014
- L5636

	A	B	C
1			
2			
3	**Dxcode1**	**CPTcode1**	**COUNT DX_1**
4	**S82041E**	27151	1
5		78282	1
6		86717	1
7		G6014	1
8		L5636	1
9	**S82041E Total**		**5**
10	**S89391G**	67314	1
11		86304	1
12		3305F	1
13		E1841	1
14		J7632	1
15	**S89391G Total**		**5**
16	**V4374XD**	22861	1
17		27443	1
18		35571	1
19		50620	1
20		93528	1
21	**V4374XD Total**		**5**
22	**S92144B**	880	1
23		53405	2
24		77424	1
25	**S92144B Total**		**4**

© 2022 DataGen®, Inc.

SECTION 6

PivotTable Dashboard Example and Importing .CSV Files (Part 2)

For our last section, we'll review how to add multiple PivotTables to a single Excel worksheet for a monthly dashboard. We'll include how to refresh the data and keep our current formatting and summarizations.

What is a Dashboard?

In the simplest terms, a *business* or *digital* dashboard is a display of metrics in numeric or graphical form. These metrics or what is commonly referred to as *measures*, range widely depending on the customer and type of organization.

The components of a dashboard vary, but typically include one or more of the following:

- provide an answer to a business or operations question;
- display the most current conditions of an organization, i.e., sales, calls, bookings, recruits;
- show comparisons such as this year's sales compared to last year's sales;
- the progress toward meeting a target, for example reaching a sales, production or safety goal; and
- trends such as identifying if an activity is *trending* up, down or about the same.

A dashboard is usually limited to one functional area, like manufacturing, human resources, finance, logistics, or marketing and may be static or interactive.

Dashboard Design

Elements of a well-designed dashboard include working closing with the consumers of the information to understand:

- How are they are planning to use the material in the dashboard to improve their objectives? Will they be tracking performance, monitoring progress or something else?
- How will they measure the success or usefulness of the dashboard?
- Will the dashboard be temporary or a permanent part of your customer's daily, weekly or monthly routine?
- How will your audience view or access the dashboard, at what *frequency* (real-time, daily, weekly or monthly), and what, if any, security (data access) issues will need to be addressed?

The purpose of the dashboard should be clear to anyone viewing it and include:

- a *title* or brief description of the dashboard; and
- the *time period* the data cover.

© 2022 DataGen®, Inc.

A Basic Operations Monthly Dashboard

EXAMPLE:

- Develop a report showing the total claims year-to-date by payer, attending and operating specialty.
- The report design should allow for monthly updating from a **.CSV file**.

Fields used in this dashboard:

a. Claim_ID
b. Visit_Month
c. Payor_Categorey_Description
d. Attending_Physician_Specialty
e. Operating_Physician_Specialty

The customer has requested the output be similar to the following:

Westview Hospital - 2022 Operations Summary

Periods: 1 - 12

MONTH	CLAIMS	CLAIM_%
1	53	7.3%
2	67	9.2%
3	71	9.7%
4	67	9.2%
5	60	8.2%
6	66	9.0%
7	63	8.6%
8	49	6.7%
9	57	7.8%
10	59	8.1%
11	58	7.9%
12	61	8.3%
(blank)		0.0%
TOTAL	731	100.0%

PAYER	CLAIMS	CLAIM_%
Blue Cross	6.70%	6.7%
CHAMPUS	0.55%	0.5%
Insurance Company	33.93%	33.9%
Medicaid	30.92%	30.9%
Medicare	16.14%	16.1%
Other Federal Program	0.41%	0.4%
Other Non-Federal Program	0.82%	0.8%
Self-Pay	0.41%	0.4%
Unknown	0.68%	0.7%
Workers Compensation	8.62%	8.6%
(blank)	0.82%	0.8%
TOTAL	100.0%	100.0%

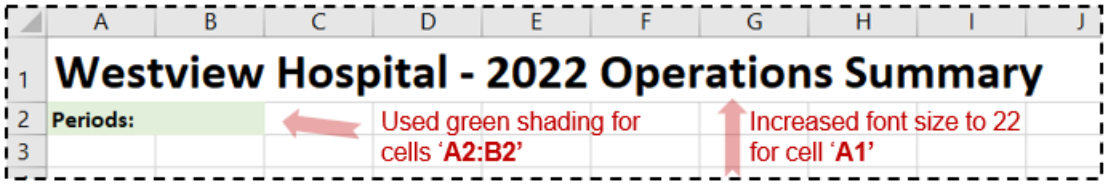
ATTENDING SPECIALITY	CLAIMS	CLAIM_%
Allergy and immunology	35	4.8%
Anesthesiology	36	4.9%
Dermatology	55	7.5%
Diagnostic radiology	40	5.5%
Emergency medicine	32	4.4%
Family medicine	43	5.9%
Internal medicine	22	3.0%
Medical genetics	38	5.2%
Neurology	38	5.2%
Nuclear medicine	37	5.1%
Obstetrics and gynecology	40	5.5%
Ophthalmology	25	3.4%
Pathology	32	4.4%
Pediatrics	37	5.1%
Physical medicine and rehabilitatio	34	4.7%
Preventive medicine	38	5.2%
Psychiatry	28	3.8%
Radiation oncology	30	4.1%
Surgery	45	6.2%
Urology	39	5.3%
(blank)	7	1.0%
TOTAL	731	100.0%

OPERATING SPECIALITY	CLAIMS	CLAIM_%
Allergy and immunology	37	5.1%
Anesthesiology	40	5.5%
Dermatology	33	4.5%
Diagnostic radiology	37	5.1%
Emergency medicine	42	5.7%
Family medicine	42	5.7%
Internal medicine	37	5.1%
Medical genetics	35	4.8%
Neurology	40	5.5%
Nuclear medicine	34	4.7%
Obstetrics and gynecology	22	3.0%
Ophthalmology	35	4.8%
Pathology	30	4.1%
Pediatrics	38	5.2%
Physical medicine and rehabilitatio	42	5.7%
Preventive medicine	28	3.8%
Psychiatry	36	4.9%
Radiation oncology	44	6.0%
Surgery	34	4.7%
Urology	40	5.5%
(blank)	5	0.7%
TOTAL	731	100.0%

STEPS TO COMPLETE DASHBOARD:

Dashboard development is an iterative process. To ensure your design has proper spacing and readability, you'll need test your PivotTable results in different worksheet locations to account for record size and for additional records to be added, such as new weeks and/or months.

1. Create a new blank Excel spreadsheet by pressing **ctrl + n** on your keyboard.
2. **Save** the file using a *descriptive name*, for example, **Monthly_Operations_Summary.xlsx**.
3. Add a title and time period; in this example, **Westview Hospital – 2022 Operations Summary**. The time period is left blank for now, as we'll update the months when refreshing the data.

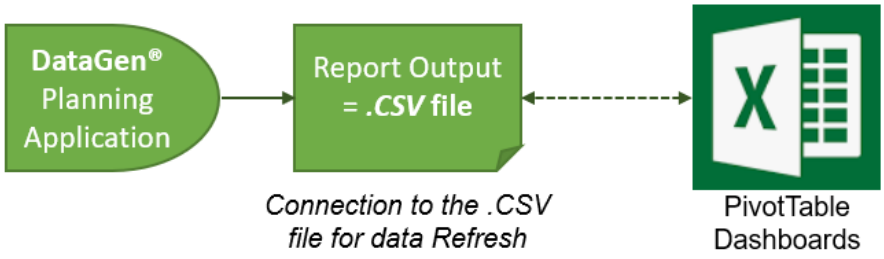


© 2022 DataGen®, Inc.

4. Place your cursor in the cell where the first PivotTable will be placed. In this example, it will be cell **A4**.

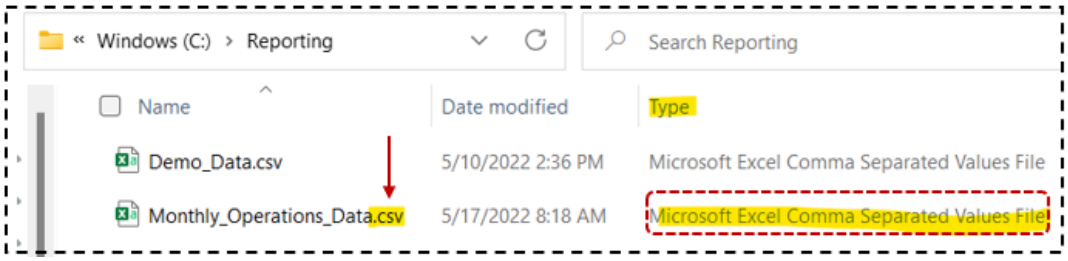
Importing .CSV Files (Part 2)

As discussed in Section 2, file importing in Excel may be accomplished in multiple ways. Since we're creating a dashboard and ***our report is recurring***, importing the *.CSV data* directly into the PivotTable is our best approach. This method will allow us to keep our existing PivotTable formatting and add new data using the **Refresh** feature.

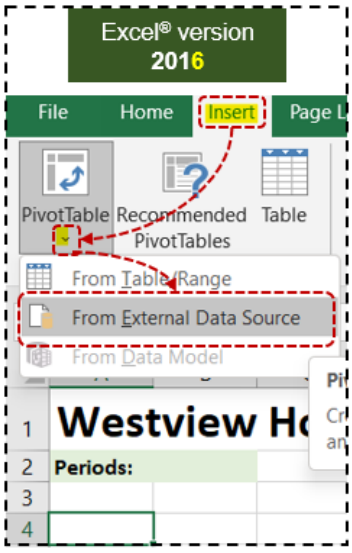


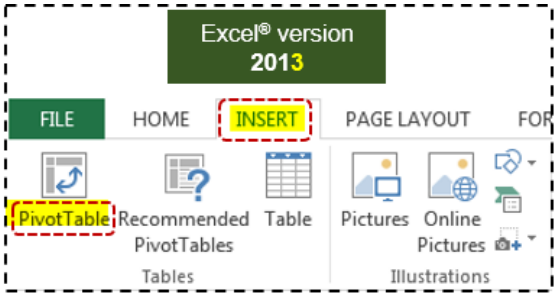
---

6. Save and name the .CSV file to a file share you have access to or your local machine. In this example, the directory **C:\Reporting** was created with the file name **Monthly_Operations_Data.csv**.



7. Return to the spreadsheet you created in **step #2** above; in our example this is file: **Monthly_Operations_Summary.xlsx**.
8. With your cursor in cell **A4**, from the ribbon select **Insert : PivotTable : From External Data Source**.

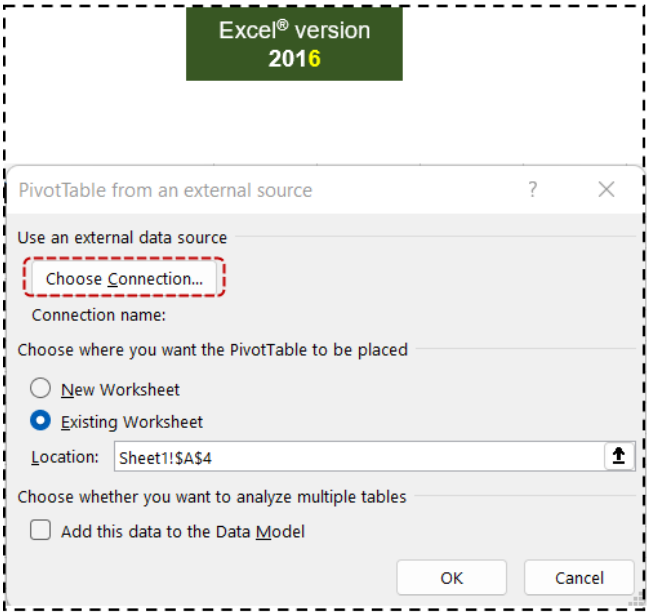


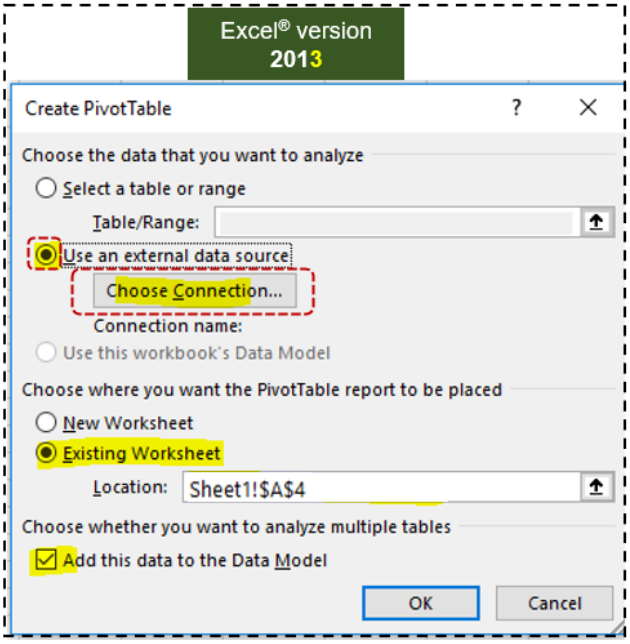


© 2022 DataGen®, Inc.

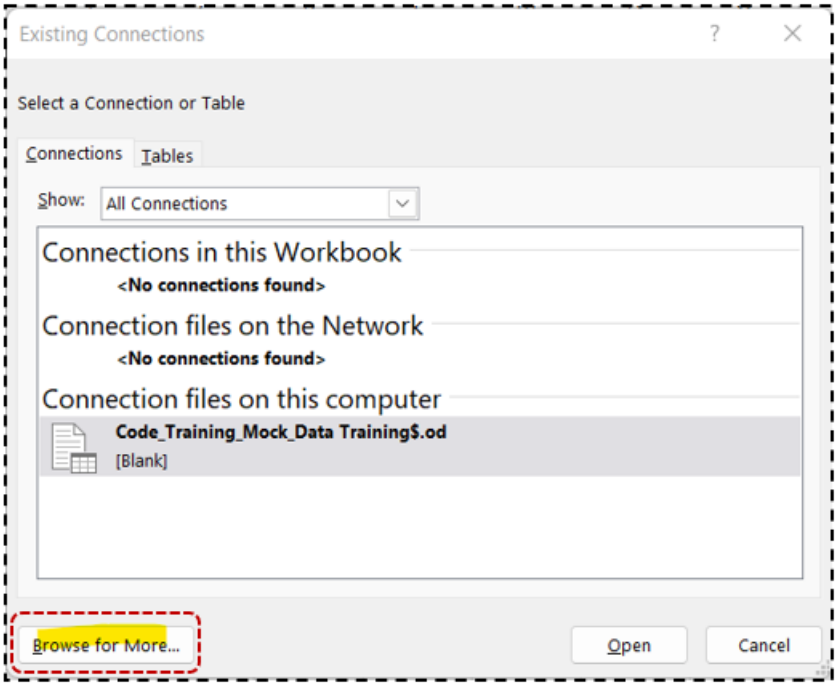
The following dialogue box will appear:

9. Click the **Choose Connection...** button.



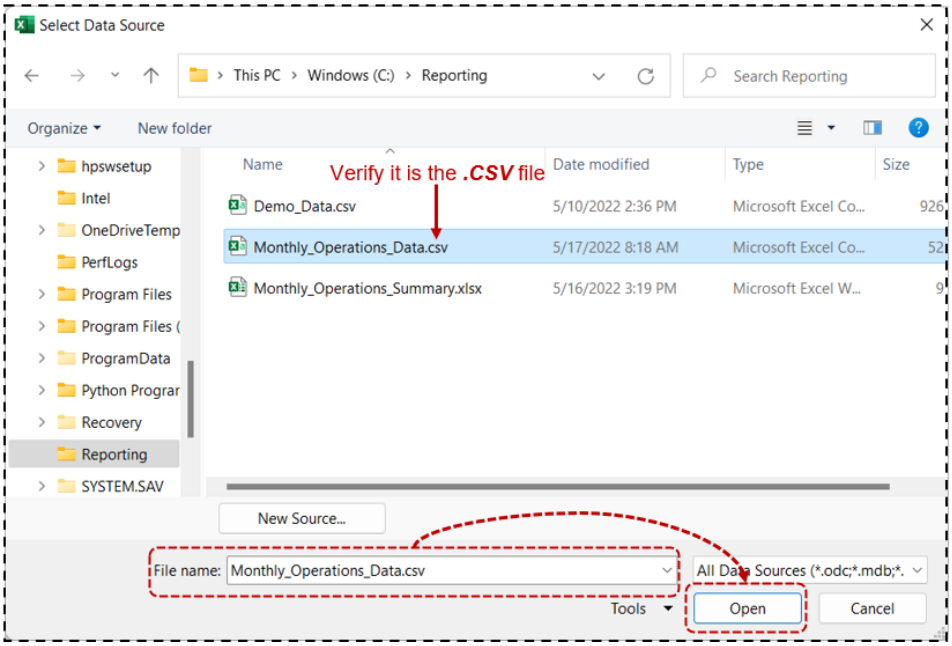


A prompt *similar* to the following should appear:



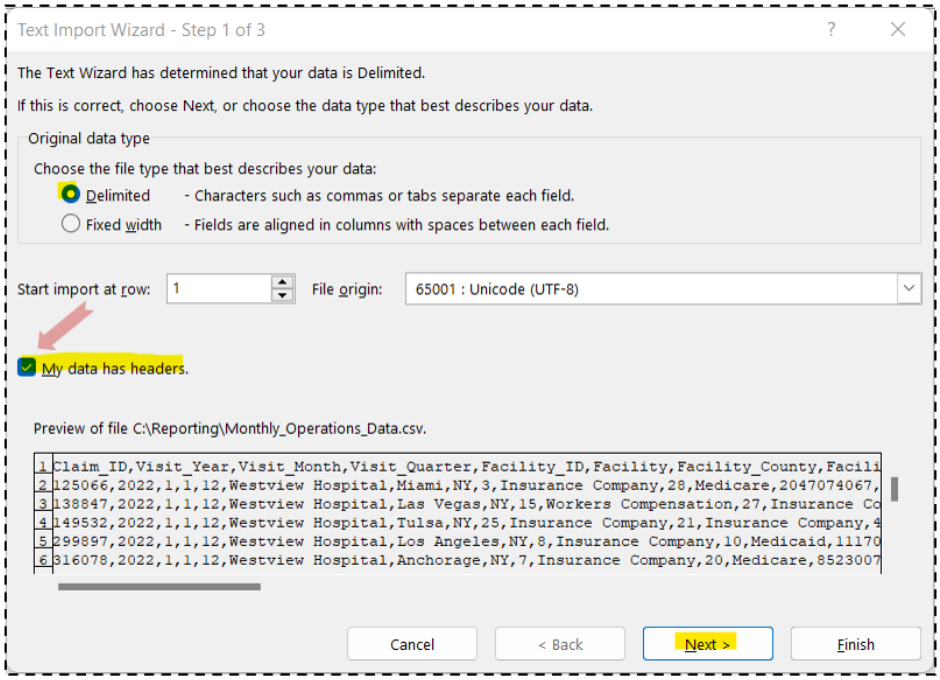
© 2022 DataGen®, Inc.

10. Click the **Browse for More...** button.
11. When prompted, select the file path where the .CSV file is located.
12. Click the **Open** button.



The following **Text Import Wizard** will be displayed:

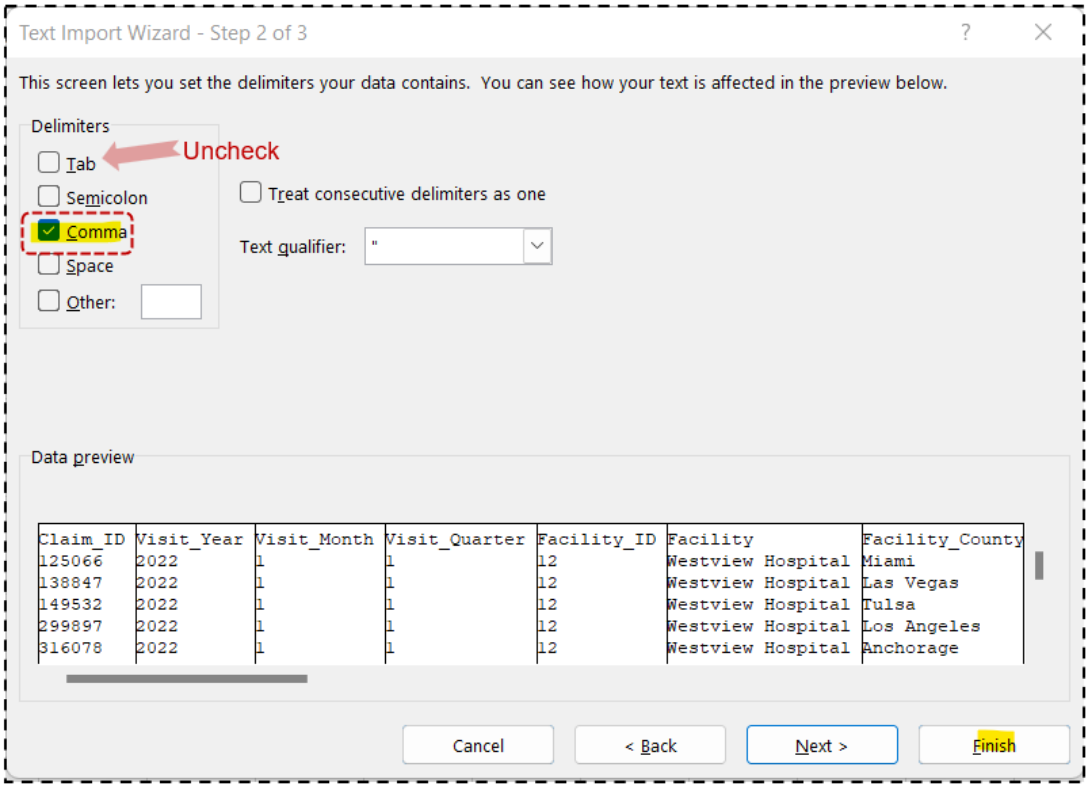
13. Select the **Delimited** radio button and the **My data has headers** check box.
14. Click the **Next>** button.



© 2022 DataGen®, Inc.

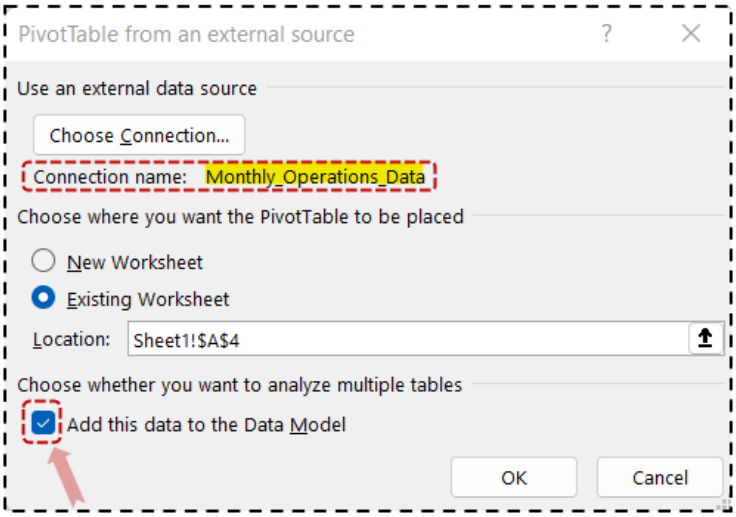
Step 2 of the **Text Import Wizard** will be displayed:

15. For the Delimiters, select the **Comma** check box.
16. Click **Finish**.



The following prompt will appear:

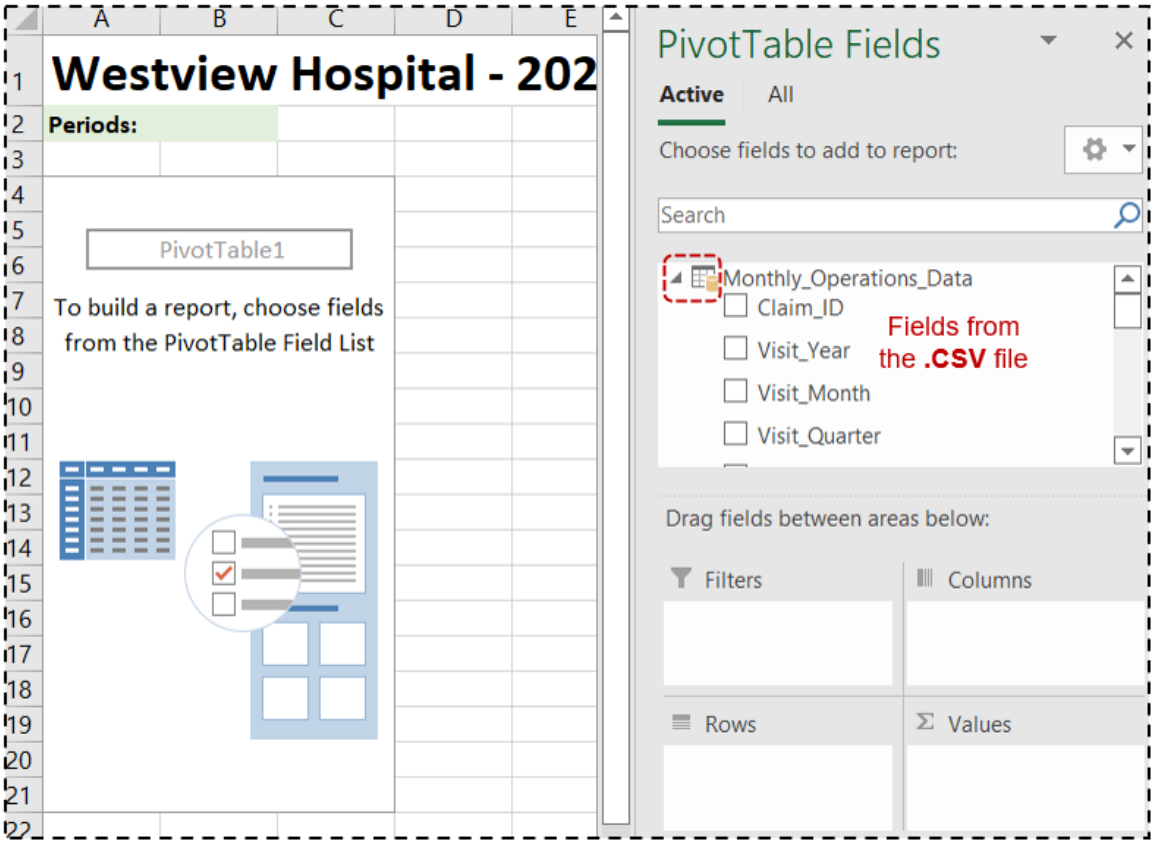
17. Click the **Add this data to the Data Model** checkbox.
18. Click **OK**.



© 2022 DataGen®, Inc.

A prompt similar to the following should appear *(it may take moment to load)*:

We have now established our data connection with the .CSV file and may now begin developing our PivotTable reports.



Multiple PivotTable Reports On A Single Worksheet

Adding more than one PivotTable to single worksheet is simply a matter of copying and pasting the PivotTable with the connection to the .CSV file.

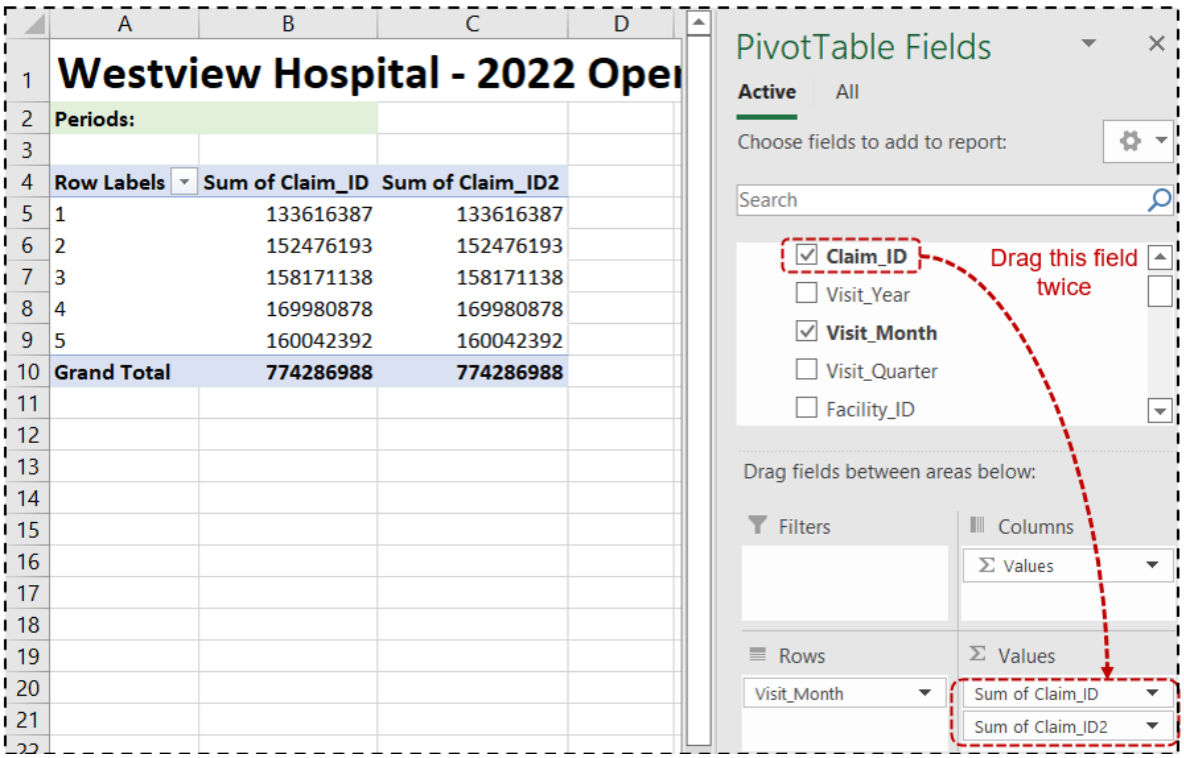
We'll begin by creating **our first PivotTable on which all the others will be based**.

© 2022 DataGen®, Inc.

STEPS:

1. In the ***PivotTable Fields pane*** select the following fields:
   - **Visit_year** *(Rows section)*
   - **Claim_ID** *(∑ Values section)*
   - **Claim_ID** *(∑ Values section)*

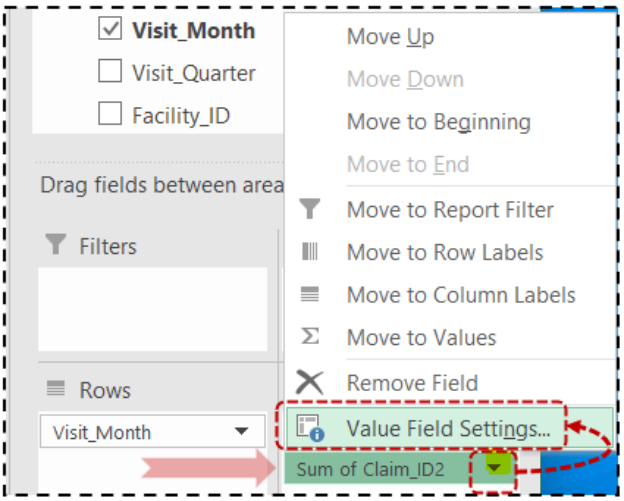
Please note: we're adding **Claim_ID** twice; we'll be using the second instance as a **% column**.



© 2022 DataGen®, Inc.

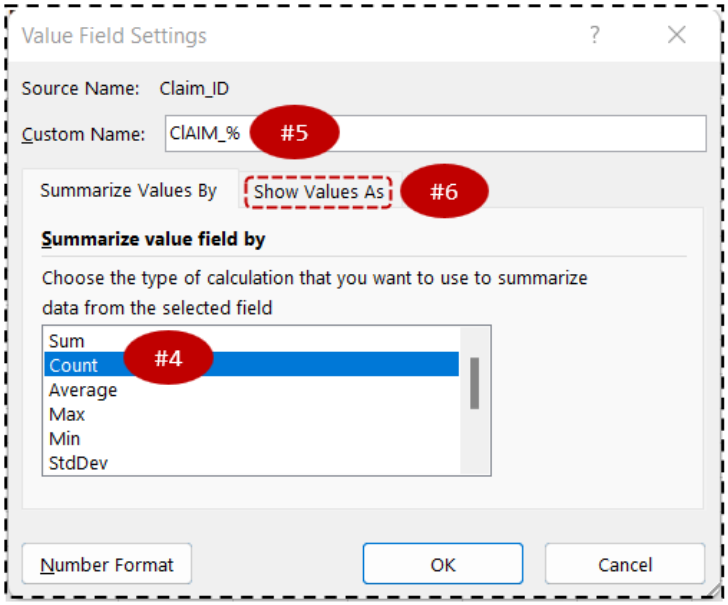
Displaying Percentages In PivotTables

2. Click the **Sum of Claim_ID2** drop-down arrow.
3. From the sub-menu, select the **Value Field Settings...** option.



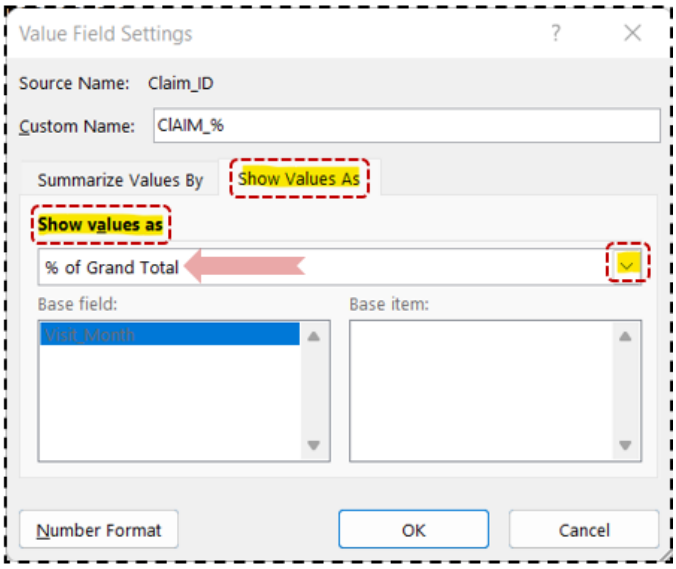
The following dialogue box will appear:

4. From the **Summarize value field by** list, select the **Count** option.
5. In the **Custom Name:** field change to **CLAIM_%**.
6. Select the **Show Values As** tab.



© 2022 DataGen®, Inc.

7. From the **Show values as** drop-down list select **% of Grand Total**.
8. Click **OK**.



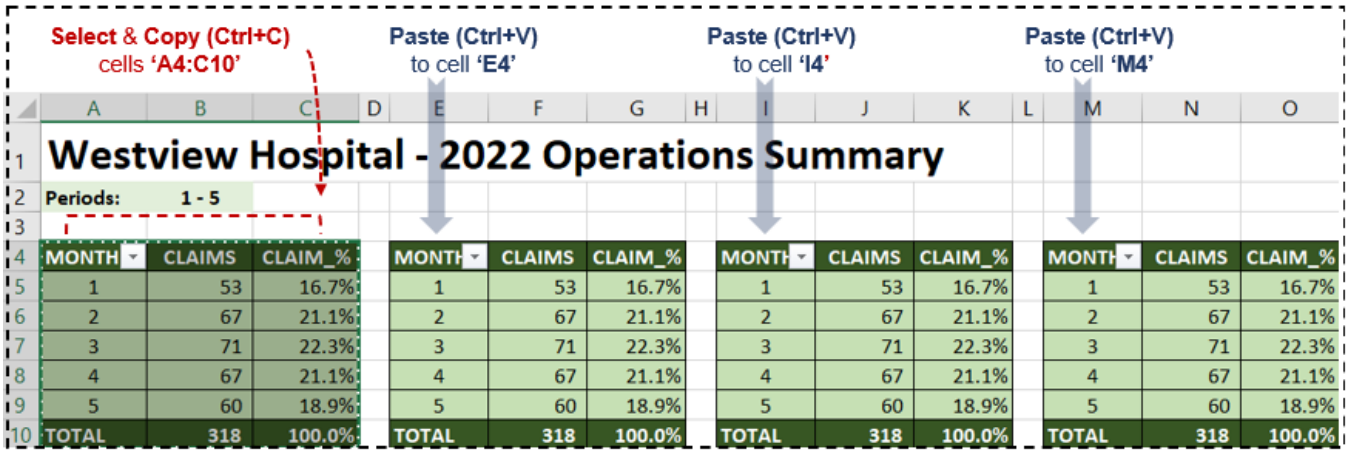
9. *Right-click* cell **B4** and from the sub-menu select **Summarize Values By** then the **Count** option.
10. Report formatting changes:
    a. The period values **1 - 5** were entered for cell **B2**.
    b. Cell **A4** text changed to: **MONTH**.
    c. **Center** values in cells **A5:A9**.
    d. Cell **B4** text changed to: **CLAIMS**.
    e. Cell **A10** text changed to: **TOTAL**.
    f. Cells **C4:C10 percent** have *one* decimal place.
    g. **PivotTable Styles** style changed to **dark green**.
    h. Added border/gridlines to PivotTable.

	A	B	C
1	Westview Hospi		
2	Periods:	1 - 5	
3			
4	MONTH	CLAIMS	CLAIM_%
5	1	53	16.7%
6	2	67	21.1%
7	3	71	22.3%
8	4	67	21.1%
9	5	60	18.9%
10	TOTAL	318	100.0%

Once we have the PivotTable *formatted*, we may now use it as the template for the other entries.

© 2022 DataGen®, Inc.

11. Select and copy (**ctrl + c** *on your keyboard*) cells **A4:C10**.
    - Paste (**ctrl + v** *on your keyboard*) to cell **E4**.
    - Paste (**ctrl + v** *on your keyboard*) to cell **I4**.
    - Paste (**ctrl + v** *on your keyboard*) to cell **M4**.



MONTH	CLAIMS	CLAIM_%
1	53	16.7%
2	67	21.1%
3	71	22.3%
4	67	21.1%
5	60	18.9%
TOTAL	318	100.0%

Select cell **E4** and change the text to **PAYER**.

12. From the PivotTable Fields pane **uncheck Visit_Month**.
13. From the PivotTable Fields pane drag field **Payor_Category_Description** to the Rows section.

PAYER	CLAIMS	CLAIM_%
(blank)	4	1.3%
Blue Cross	25	7.9%
CHAMPUS	1	0.3%
Insurance Company	113	35.5%
Medicaid	88	27.7%
Medicare	44	13.8%
Other Federal Program	1	0.3%
Other Non-Federal Program	4	1.3%
Self-Pay	4	1.3%
Unknown	1	0.3%
Workers Compensation	33	10.4%
TOTAL	318	100.0%

© 2022 DataGen®, Inc.

14. Repeat steps **#12 - #14** for cells **I4 (Attending Physician Specialty)** and **M4 (Operating Physician Specialty)**.

Westview Hospital - 2022 Operations Summary

Periods: 1 - 5

Repeat steps #12 – 14

Repeat steps #12 – 14

MONTH	CLAIMS	CLAIM_%
1	53	16.7%
2	67	21.1%
3	71	22.3%
4	67	21.1%
5	60	18.9%
TOTAL	318	100.0%

PAYER	CLAIMS	CLAIM_%
(blank)	4	1.3%
Blue Cross	25	7.9%
CHAMPUS	1	0.3%
Insurance Company	113	35.5%
Medicaid	88	27.7%
Medicare	44	13.8%
Other Federal Program	1	0.3%
Other Non-Federal Program	4	1.3%
Self-Pay	4	1.3%
Unknown	1	0.3%
Workers Compensation	33	10.4%
TOTAL	318	100.0%

ATTENDING SPECIALITY	CLAIMS	CLAIM_%
(blank)	3	0.9%
Allergy and immunology	20	6.3%
Anesthesiology	16	5.0%
Dermatology	21	6.6%
Diagnostic radiology	24	7.5%
Emergency medicine	12	3.8%
Family medicine	19	6.0%
Internal medicine	13	4.1%
Medical genetics	16	5.0%
Neurology	20	6.3%
Nuclear medicine	17	5.3%
Obstetrics and gynecology	17	5.3%
Ophthalmology	12	3.8%
Pathology	11	3.5%
Pediatrics	12	3.8%
Physical medicine and rehabilitatio	15	4.7%
Preventive medicine	18	5.7%
Psychiatry	13	4.1%
Radiation oncology	11	3.5%
Surgery	20	6.3%
Urology	8	2.5%
TOTAL	318	100.0%

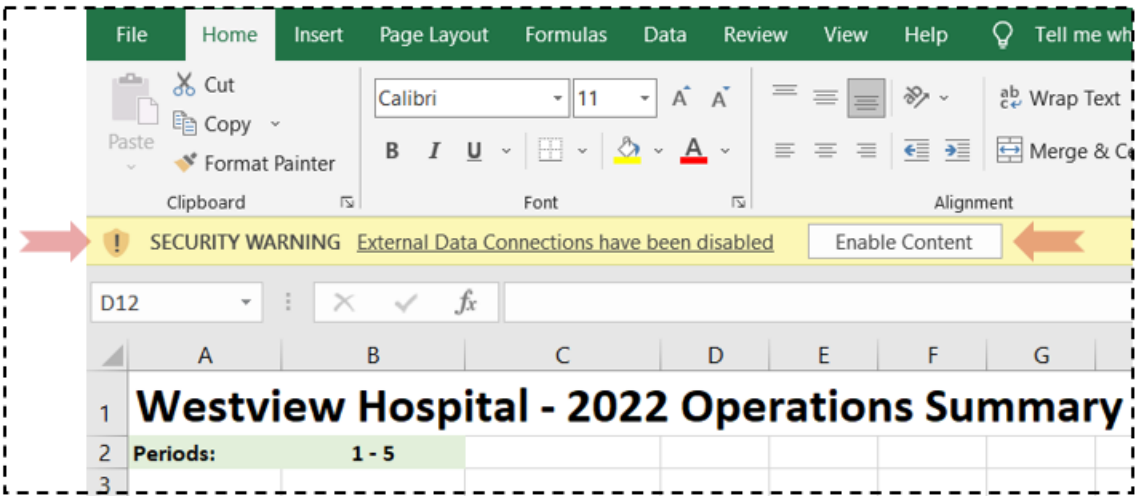
OPERATING SPECIALITY	CLAIMS	CLAIM_%
(blank)	4	1.3%
Allergy and immunology	19	6.0%
Anesthesiology	23	7.2%
Dermatology	11	3.5%
Diagnostic radiology	19	6.0%
Emergency medicine	15	4.7%
Family medicine	12	3.8%
Internal medicine	11	3.5%
Medical genetics	16	5.0%
Neurology	14	4.4%
Nuclear medicine	15	4.7%
Obstetrics and gynecology	12	3.8%
Ophthalmology	13	4.1%
Pathology	13	4.1%
Pediatrics	16	5.0%
Physical medicine and rehabilitatio	21	6.6%
Preventive medicine	16	5.0%
Psychiatry	13	4.1%
Radiation oncology	18	5.7%
Surgery	17	5.3%
Urology	20	6.3%
TOTAL	318	100.0%

15. **Save** your dashboard.

Security When Connecting To External Files

After saving the report and then re-opening, you will receive the following message:

! SECURITY WARNING External Data Connections have been disabled.



This is okay, since you created the PivotTable and established the connection. Click the **Enable Content** button.

© 2022 DataGen®, Inc.

If you see this message and are unsure if the connection is **from a trusted source *DO NOT click* the Enable Content** button.

IMPORTANT!
Never open or download files from a **unknown** source

Refreshing PivotTable Data

Once you have created a PivotTable and/or Dashboard with the preferred layout and formatting, you're ready to receive new data.

New information may be added to your existing PivotTable(s) either by appending or overwriting the existing data using the **Refresh** feature.

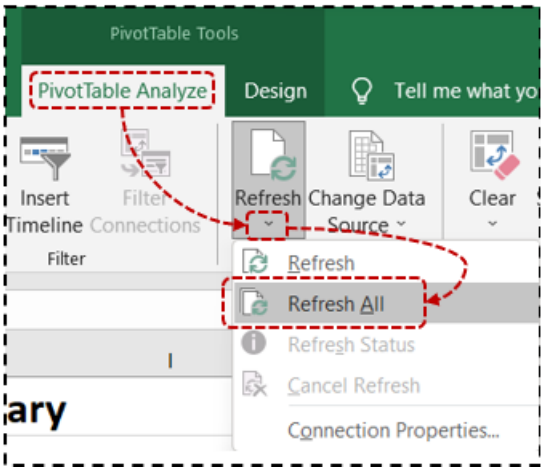
STEPS:

1. When new data are available in the source file, in this example:
   C:\Reporting\Monthly_Operations_Data.csv

   IMPORTANT!
   The *filename* and *type* must be the same as the original connection, for example

   YES = Monthly_Operations_Data.csv
   NO = Monthly_Operations_Data_**updated**.xlxs

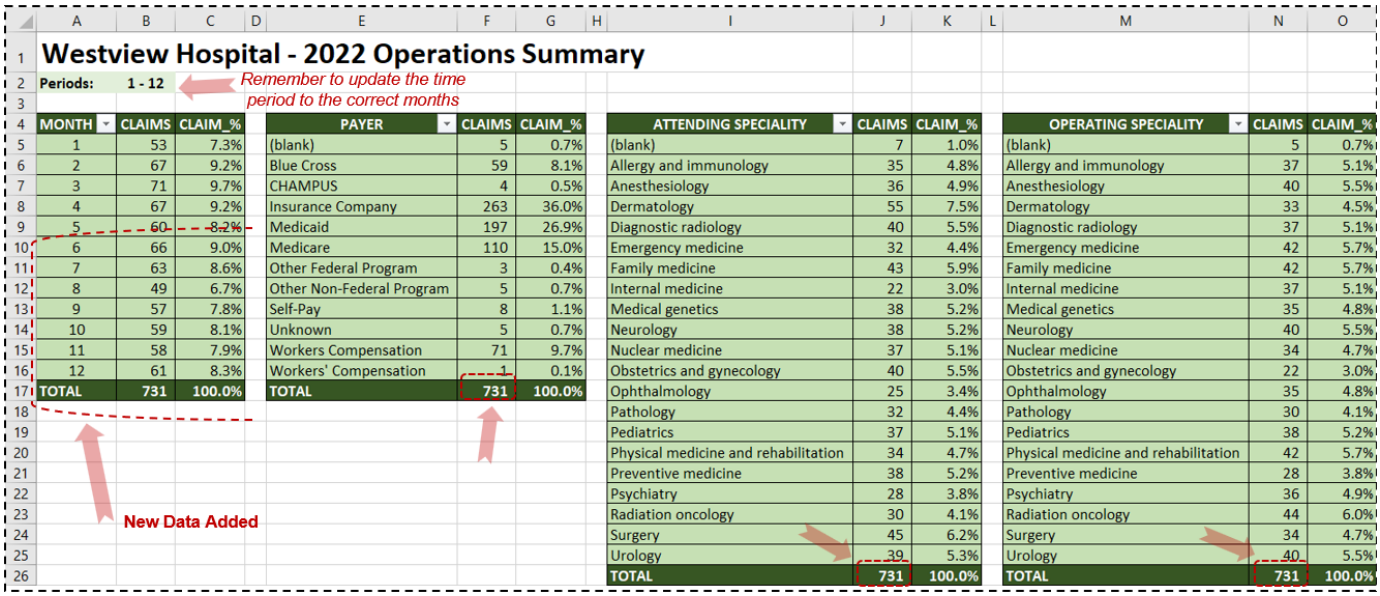
2. Select a cell from any of the PivotTables, then from the **PivotTable Tools: Analyze** ribbon click the **Refresh** drop-down arrow and **Refresh All**.



Refresh vs. Refresh All

© 2022 DataGen®, Inc.

The difference between selecting **Refresh** and **Refresh All** is **Refresh** only updates the ***active*** PivotTable. By selecting **Refresh All** we're updating all of the PivotTables in the dashboard.



Westview Hospital - 2022 Operations Summary

Periods: 1 - 12

Remember to update the time period to the correct months

MONTH	CLAIMS	CLAIM_%
1	53	7.3%
2	67	9.2%
3	71	9.7%
4	67	9.2%
5	60	8.2%
6	66	9.0%
7	63	8.6%
8	49	6.7%
9	57	7.8%
10	59	8.1%
11	58	7.9%
12	61	8.3%
TOTAL	731	100.0%

New Data Added

PAYER	CLAIMS	CLAIM_%
(blank)	5	0.7%
Blue Cross	59	8.1%
CHAMPUS	4	0.5%
Insurance Company	263	36.0%
Medicaid	197	26.9%
Medicare	110	15.0%
Other Federal Program	3	0.4%
Other Non-Federal Program	5	0.7%
Self-Pay	8	1.1%
Unknown	5	0.7%
Workers Compensation	71	9.7%
Workers' Compensation	1	0.1%
TOTAL	731	100.0%

ATTENDING SPECIALITY	CLAIMS	CLAIM_%
(blank)	7	1.0%
Allergy and immunology	35	4.8%
Anesthesiology	36	4.9%
Dermatology	55	7.5%
Diagnostic radiology	40	5.5%
Emergency medicine	32	4.4%
Family medicine	43	5.9%
Internal medicine	22	3.0%
Medical genetics	38	5.2%
Neurology	38	5.2%
Nuclear medicine	37	5.1%
Obstetrics and gynecology	40	5.5%
Ophthalmology	25	3.4%
Pathology	32	4.4%
Pediatrics	37	5.1%
Physical medicine and rehabilitation	34	4.7%
Preventive medicine	38	5.2%
Psychiatry	28	3.8%
Radiation oncology	30	4.1%
Surgery	45	6.2%
Urology	39	5.3%
TOTAL	731	100.0%

OPERATING SPECIALITY	CLAIMS	CLAIM_%
(blank)	5	0.7%
Allergy and immunology	37	5.1%
Anesthesiology	40	5.5%
Dermatology	33	4.5%
Diagnostic radiology	37	5.1%
Emergency medicine	42	5.7%
Family medicine	42	5.7%
Internal medicine	37	5.1%
Medical genetics	35	4.8%
Neurology	40	5.5%
Nuclear medicine	34	4.7%
Obstetrics and gynecology	22	3.0%
Ophthalmology	35	4.8%
Pathology	30	4.1%
Pediatrics	38	5.2%
Physical medicine and rehabilitation	42	5.7%
Preventive medicine	28	3.8%
Psychiatry	36	4.9%
Radiation oncology	44	6.0%
Surgery	34	4.7%
Urology	40	5.5%
TOTAL	731	100.0%

SUPPORT:

Please email planningsupport@datagen.info with any questions.

© 2022 DataGen®, Inc.