

How to complete the 2009 Statistical Report from your Excel data

Overview

In order to complete the new Statistical Report, we are assuming that you enter the following data in your Excel file:

- Referral Date
- Enrollment Date
- Did patient have past formal education? (new vs. returning)
- Did patient complete education plan?
- Gender
- Race
- Age
- Type of diabetes (diagnosis)

If you are missing one of these data items, please contact MDCH and let us know.

Excel has a great built-in reporting feature that most people don't know about, called PivotTables. We will use PivotTables and the data Sort tool to create 3 sets of data groupings to complete the Statistical Report. **Before you begin working in your Excel file to get your reporting data, you should make a copy of your Excel data file and only WORK IN THE COPY.** This way you will not accidentally change or delete your real data.

Note: When working with PivotTables, Excel will want the variables that you are using (listed above) to be next to each other. You can either delete columns of data that you will not be using for the report (such as patient name and address) in your copy in order to place variables side-by-side, or you can insert a column next to one variable (select Insert and Column from the menu) and then cut and paste the other variable into the new column. It is not recommended to simply hide the columns of unneeded data. Those hidden columns will still show up in your PivotTable options. While this is not going to hurt you, it could be more confusing to have extra variables to choose from.

You should have also downloaded the Excel file "2009 Statistical Report.xls" from the MDCH website. These instructions will provide you with the steps for producing the report numbers and where to type those numbers into the Statistical Report Excel file. You are encouraged to save your data in the Statistical Report Excel file after you complete each step.

Remember, the date range for your reporting period is 10/1/2008 to 9/31/2009.

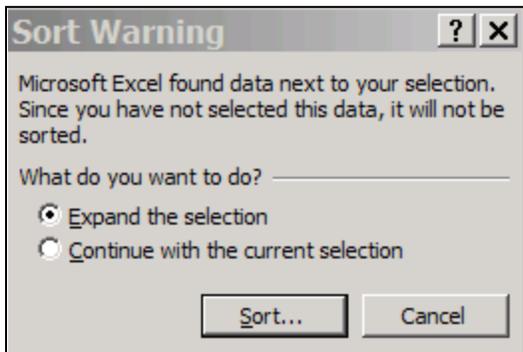
Set 1 - Number of Referrals and No Shows

It is likely that you entered your referral date in chronological order. However, we will run a data Sort to be sure we count everything correctly.

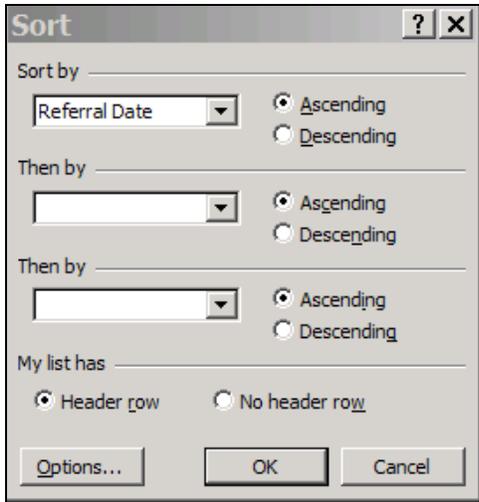
	A	B
1	Referral Date	Enroll Date
2	10/2/2008	10/7/2008
3	10/25/2008	11/1/2008
4	11/9/2008	
5	11/28/2008	12/2/2008
6	12/4/2008	12/6/2008
7	12/12/2008	12/20/2008
8	1/3/2009	1/7/2009
9	1/10/2009	
10	2/8/2009	
11	2/19/2009	2/23/2009
12	3/1/2009	3/3/2009
13	3/10/2009	3/26/2009
14	4/11/2009	4/15/2009
15	4/26/2009	
16	5/15/2009	5/31/2009
17	5/23/2009	5/26/2009
18	6/6/2009	6/9/2009
19	6/21/2009	6/28/2009
20	7/8/2009	
21	7/31/2009	8/3/2009
22	8/12/2009	8/13/2009
23	8/17/2009	8/23/2009
24	9/9/2009	9/17/2009
25	9/27/2009	10/1/2009
26	10/3/2009	10/5/2009

To the left, we have a sample of data. This is a rough example that you should be able to apply to your data.

To run a sort, first click on the letter at the top of the “Referral Date” column (column A in my example). This will highlight the column. Next select Data and Sort from the command menu at the top of the window. This will open a window.



Select “Expand the selection”. You want to use this option so that *all* of the data for each case is moved properly when you sort your data. Click on “Sort”.



Another window will open. In this window, you will select how you want to sort your data. For this section, you will only want to sort on Referral Date. So, make sure your variable for Referral Date is listed in the “Sort by” box.

The “My list has” section at the bottom of this window is to tell Excel that my first row contains the name of my variables (when “Header row” is selected) and should be ignored in the sort. Click “OK”.

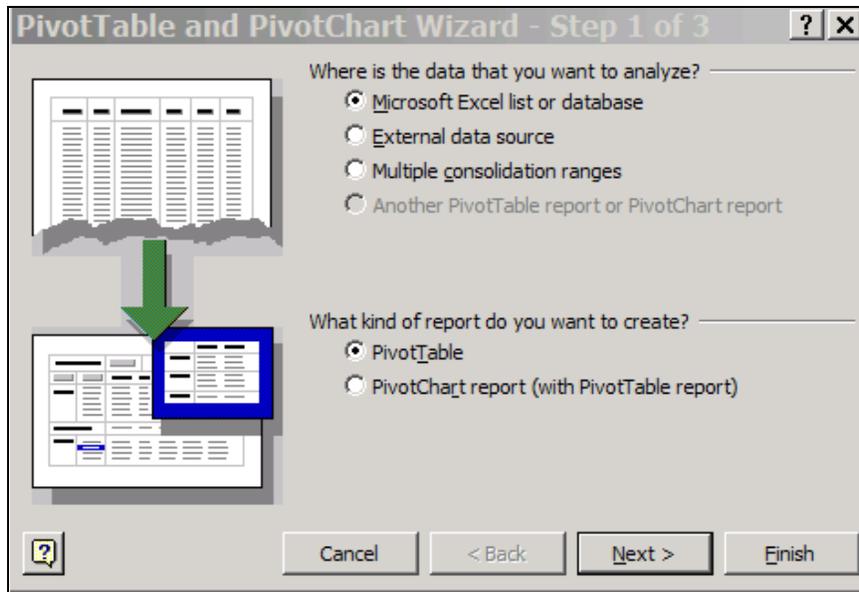
After the sort is finished, delete all rows that do not have a referral date within the 10/1/2008 to 9/31/2009 reporting period. Remember, you should be working in a copy so that no data is permanently lost. To delete a row, click on the row number on the left side of the screen to highlight the row and select Edit and Delete from the command menu. In my example on the previous page, row 26 would be deleted because the referral was 10/3/2009.

Note: The referral on 9/27/2009 should not be deleted even though the enrollment was not in the same reporting period. The report wants you to count referrals received in the reporting period regardless of when you saw the patient.

Next, we will create the first PivotTable to summarize the data. For this PivotTable, we will need to have the variables for Referral Date and Enrollment Date side-by-side. Remember you may need to move or delete some columns per the “Note” instructions in the Overview section before beginning the PivotTable.

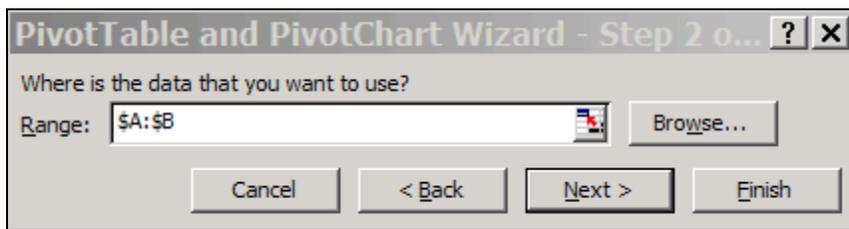
To begin, we will first select the data that will go into the PivotTable. Click on the letter at the top of the Referral Date column and drag it to include the Enrollment Date column. In my example, these are columns A and B. This action will highlight all of the data in these columns.

	A	B	C
1	Referral Date	Enroll Date	Past Ed
2	10/2/2008	10/7/2008	n
3	10/25/2008	11/1/2008	y
4	11/9/2008		

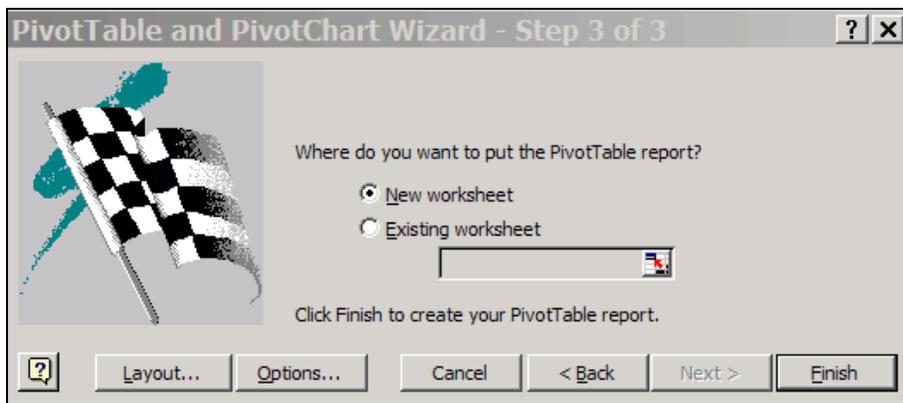


Select Data and PivotTable from the command menu. A window will open for the PivotTable Wizard (Step 1 of 3). Select “Microsoft Excel list or database” on the top and “PivotTable” on the bottom. Click “Next”.

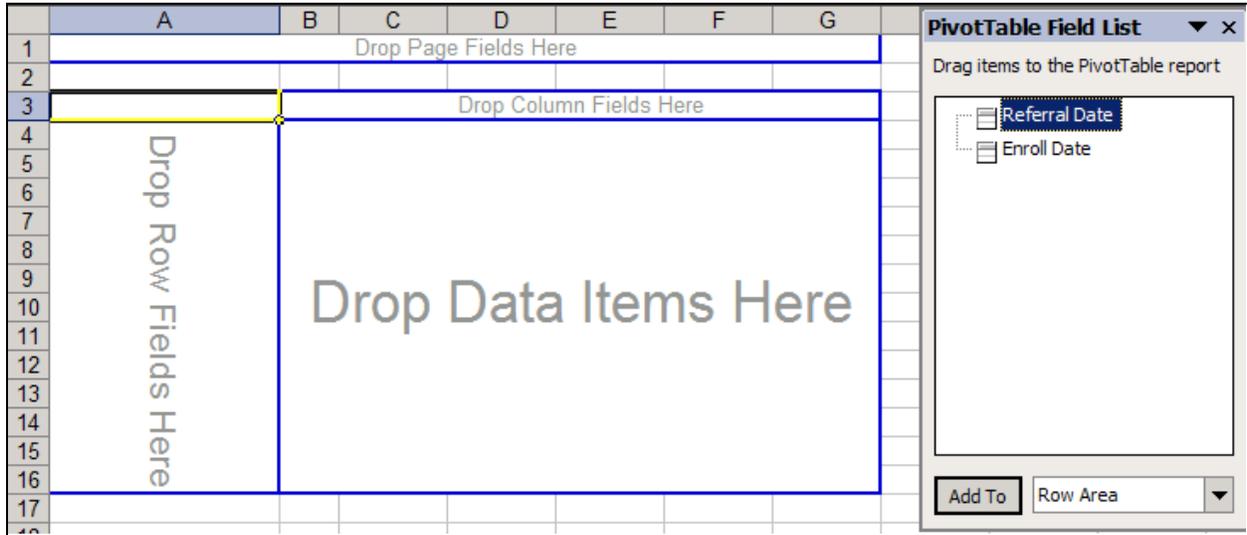
The next PivotTable window (Step 2 of 3) will appear. The range should have the data selection you made before starting the wizard. “\$A:\$B” is the technical text for columns A and B.



The final PivotTable window will appear (Step 3 of 3). Select “New worksheet” and click “Finish”.



Excel will take you to a new worksheet tab called “Sheet 4” (at the bottom of the Excel window) or something similar. This is where you will be building your PivotTable. There will be several new items on the worksheet, but the most important are the PivotTable template and Field List seen below.



Click on the Referral Date variable in the “PivotTable Field List”. Using your mouse, drag Referral Date to the part of the table that says “Drop Data Items Here”. Your table should now look something like below.

Count of Referral Date	Total
Total	24

This is your total number of referrals.

Next, we will want to count the number of no shows. The easiest way to do this is to subtract the number of enrollments associated with the referrals. We will change the PivotTable to count the enrollments. First, click on the PivotTable to activate it. Using your mouse, click on the gray box “Count of Referral Date” and drag it outside the table. This will change the PivotTable back to the empty template. Click on the Enrollment Date variable in the “PivotTable Field List” and drag Enrollment Date to “Drop Data Items Here”. Your table should now look something like below.

Count of Enroll Date	Total
Total	19

This is the enrollment associated with your referrals. Subtract this number from your total number of referrals to get no shows.

In my example, the number of no shows is $24 - 19 = 5$.

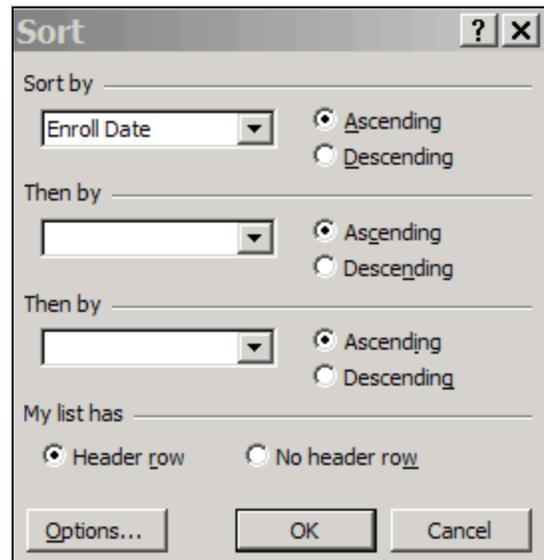
Enter these numbers into the Statistical Report Excel file.

Number of referrals received:			
Total:	24	No Shows:	5

Set 2 - Attended Initial Assessment and Completed Education

Go back to the worksheet with your data. We will need to set up the next set of data by Enrollment Date. Although we used Enrollment Date in our last set, those were enrollments associated with referrals and some dates may fall outside the reporting period.

Run a data sort on the enrollment date. Click on the letter at the top of the “Enrollment Date” column and select Data and Sort from the command menu. Make sure the first window has “Expand the selection” selected and click “Sort”. In the next window, only sort on Enrollment Date. Click “OK”.



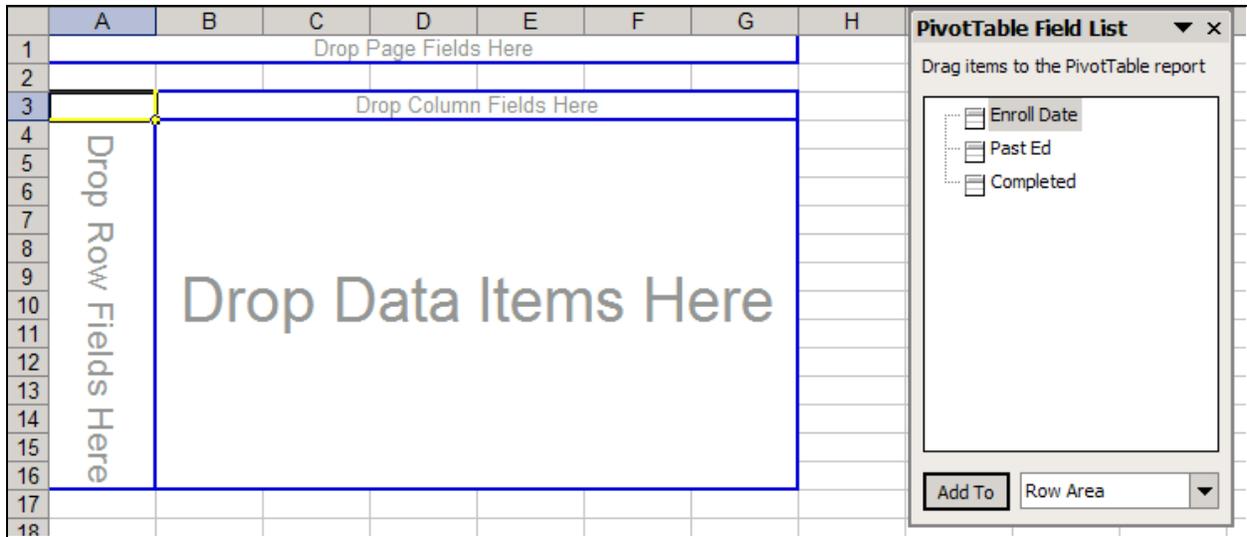
After your data is done sorting, delete all of the rows that do not have an enrollment date within the 10/1/2008 to 9/31/2009 reporting period. This includes all rows missing an enrollment date. To delete a row, click on the row number on the left side of the screen to highlight the row and select Edit and Delete from the command menu. In my example on an earlier page, this would include the referral that was enrolled on 10/1/2009.

For this PivotTable, we will need to have the variables for Enrollment Date, Past Education and Completed Education side-by-side. Remember you may need to move or delete some columns per the “Note” instructions in the Overview section before beginning the PivotTable.

Select the data that will go into the PivotTable. Click on the letter at the top of the Enrollment Date column and drag it to include the Past Education and Completed Education columns, so that all three of these columns are highlighted.

Select Data and PivotTable from the command menu. A window will open for the PivotTable Wizard (Step 1 of 3). Select “Microsoft Excel list or database” on the top and “PivotTable” on the bottom. Click “Next”. The next PivotTable window (Step 2 of 3) will appear. The range should have the data selection you made before starting the wizard. The final PivotTable window will appear (Step 3 of 3). Select “New worksheet” and click “Finish”.

Excel will take you to a new worksheet tab called “Sheet 5” or something similar. This should create a new empty PivotTable Template and a new Field List with the needed variables.



From here it is a simple drag and drop exercise. First, click on the Past Education variable in the “PivotTable Field List” (on the right above) and then use your mouse to drag it to the “Drop Column Fields Here” at the top of the table template (on the left above). Next, click on the Completed Education variable in the list and drag it to the “Drop Row Fields Here” on the left of the table template. Finally, click on the Enrollment Date variable in the list and drag it to the “Drop Data Items Here” portion of the table template. Your table should now look something like below.

Count of Enroll Date	Past Ed			
Completed	n	y	(blank)	Grand Total
n	2			2
y	11	4		15
(blank)			1	1
Grand Total	13	5		18

Note: The PivotTable will generate categories for rows and columns based on what you entered. So, if you were entering “yes” and “no”, those would be your categories. The Pivot Table will also create categories for typos, so maybe “b” might show up and you might have to pull the

patient chart to figure out what the actual answer is. To help you figure out which case “b” is, you can click on the cell total for “b” and PivotTable will generate a new worksheet with the enrollment date information for that case. This should make it easier for you to locate the case.

Now we will enter the data from the PivotTable into the Statistical Report Excel file. The bottom Grand Total row is the number of people who attended initial assessment (regardless of whether they completed education). So, we have 13 “New” because they have no past education, 5 “Returns” because they have attended past education, and 0 “Unknowns” because there is no unknown count or “(blank)” column in Past Education.

Note: Blanks are missing data and in *Set 2* will only count toward your unknowns in the Statistical Report if the “(blank)” is in the Past Education column. My example has the “(blank)” in the Completed Education row, so it does not count toward any Statistical Report unknowns.

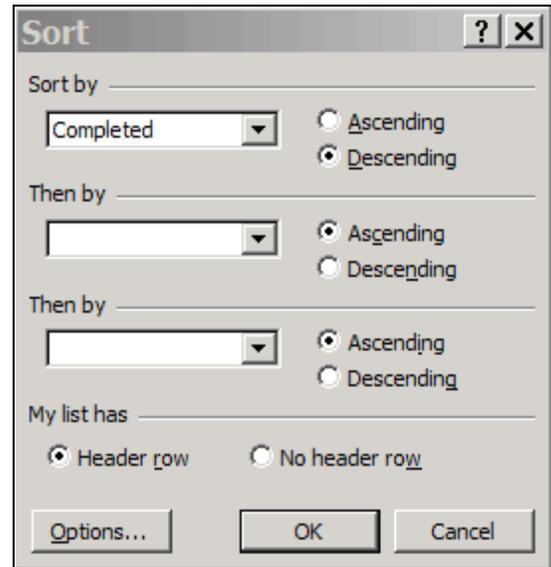
For the number of patients completing education, we use the numbers in the “y” row of Completed Education. So, we have 11 “New”, 4 “Returns” and 0 “Unknowns” for a total of 15.

Number of patients attended initial assessment:								
	New:	13	Returns:	5	Unk:	0	Total:	18
Number of patients completing education:								
	New:	11	Returns:	4	Unk:	0	Total:	15 ☆

Set 3 - Demographics of Completed

Go back to the worksheet with your data. We will need to set up the next set of data by Completed Education only.

Sort the data by the Completed Education variable. Click on the letter at the top of the “Completed Education” column and select Data and Sort from the command menu. Make sure the first window has “Expand the selection” selected and click “Sort”. In the next window, only sort on Completed Education. As an additional step, change the sort setting from “ascending” to “descending”. Click “OK”.



After your data is done sorting, delete all of the rows that indicate that education was not completed. To delete a row, click on the row number on the left side of the screen to highlight the row and select Edit and Delete from the command menu. In my example below, this includes deleting rows 17 and 18 because Completed Education is “no”. Row 19 is also deleted because Completed Education is unknown.

	A	B	C	D	E	F	G	H
1	Referral Date	Enroll Date	Past Ed	Completed	Gender	Race	Age	Dx
2	10/2/2008	10/7/2008	n	y	f	wh	31	GDM
3	10/25/2008	11/1/2008	y	y	m	wh	52	Pre
4	11/28/2008	12/2/2008	n	y	f	bl	37	Oth
5	12/4/2008	12/6/2008	y	y	m	hi	68	T2
6	12/12/2008	12/20/2008	n	y	f	ai	72	T2
7	1/3/2009	1/7/2009	n	y	f	wh	59	T2
8	2/19/2009	2/23/2009	y	y	m	bl	23	T1
9	3/10/2009	3/26/2009	n	y	m	hi	76	T2
10	4/11/2009	4/15/2009	y	y	m	as	42	Pre
11	5/23/2009	5/26/2009	n	y	f	as	16	T1
12	5/15/2009	5/31/2009	n	y	f	ot	54	T2
13	6/6/2009	6/9/2009	n	y	f	bl	60	T2
14	6/21/2009	6/28/2009	n	y	f	bl	47	T2
15	8/17/2009	8/23/2009	n	y	m	wh	15	T2
16	9/9/2009	9/17/2009	n	y	f	wh	49	Pre
17	3/1/2009	3/3/2009	n	n	f	bl	81	T2
18	7/31/2009	8/3/2009	n	n	f	wh	63	T2
19	8/12/2009	8/13/2009	y		m	wh	38	T1

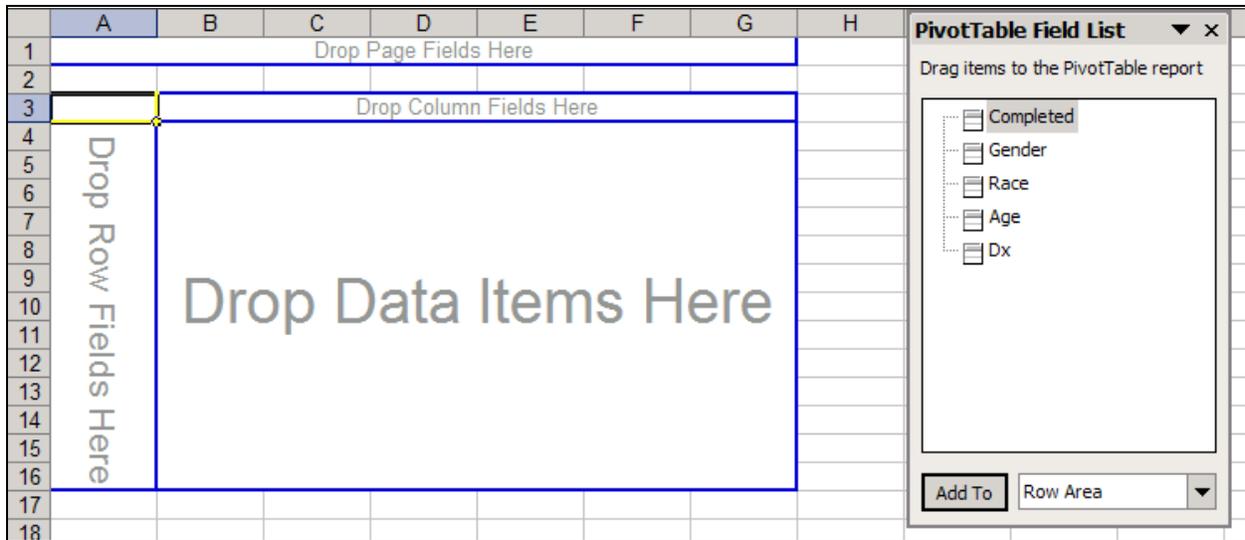
For this PivotTable, we will need to have the variables for Completed Education, Gender, Race, Age, and Type of Diabetes all side-by-side (it does not matter which order). Remember you may need to move or delete some columns per the “Note” instructions in the Overview section before beginning the PivotTable.

Hint: If you don’t already have age calculated, there is a way to get Excel to do it for you using Date of Birth and the Enrollment Date. Please call or send an email asking for directions.

Select the data that will go into the PivotTable. Click on the letter at the top of the Completed Education column (column D in my example) and drag it to include the Gender, Race, Age and Type of Diabetes columns, so that all five of these columns are highlighted.

Select Data and PivotTable from the command menu. A window will open for the PivotTable Wizard (Step 1 of 3). Select “Microsoft Excel list or database” on the top and “PivotTable” on the bottom. Click “Next”. The next PivotTable window (Step 2 of 3) will appear. The range should have the data selection you made before starting the wizard. The final PivotTable window will appear (Step 3 of 3). Select “New worksheet” and click “Finish”.

Excel will take you to a new worksheet tab called “Sheet 6” or something similar. This should create a new empty PivotTable Template and a new Field List with the needed variables. We will be changing the PivotTable three times in *Set 3* to generate the remaining reporting numbers.



Click on the Race variable in the “PivotTable Field List” (on the right above) and then use your mouse to drag it to the “Drop Column Fields Here” at the top of the table template (on the left above). Next, click on the Gender variable in the list and drag it to the “Drop Row Fields Here” on the left of the table template. Finally, click on the Completed Education variable in the list and drag it to the “Drop Data Items Here” portion of the table template. Your table should now look something like below.

Count of Completed	Race							
Gender	ai	as	bl	hi	ot	wh	(blank)	Grand Total
f	1	1	3		1	3		9
m		1	1	2		2		6
(blank)								
Grand Total	1	2	4	2	1	5		15

The Grand Total in this PivotTable should match the total number of Completed Education you entered into the Statistical Report in *Set 2*. This is the box with the star next to it. If it does not, go back and make sure that your data worksheet only contains cases where Completed Education is “yes”.

Transfer the resulting numbers into the Statistical Report Excel file. Remember that the PivotTable results are likely not in the same order as the Report, so double-check your typing to make sure you transferred the numbers into the correct cells. Any numbers in a “(blank)” column or row should be counted toward “Unknown” for that variable.

	White	Black	Hispanic	Am. Ind.	Asian	Other	Unknown
Male	2	1	2	0	1	0	0
Female	3	3	0	1	1	1	0
Unknown	0	0	0	0	0	0	0
Gender Total	5	4	2	1	2	1	0

Now we will change the PivotTable to report age groups. Click on the PivotTable to activate it. Using your mouse, click on the gray box “Gender” and drag it outside the table. Click on the Age variable in the “PivotTable Field List” and drag it to “Drop Row Fields Here”. Your table should now look something like below.

Count of Completed	Race							Grand Total
Age	ai	as	bl	hi	ot	wh	(blank)	
15							1	1
16		1						1
23				1				1
31						1		1
37				1				1
42		1						1
47				1				1
49						1		1
52						1		1
54						1		1
59						1		1
60				1				1
68					1			1
72	1							1
76					1			1
(blank)								
Grand Total	1	2	4	2	1	5		15

There is an extra step to create age groups from the ages listed in the rows. Not only will it make the results of this table easier to read, but it will help with the next table also.

2	
3	Count of Completed
4	Age
5	15
6	16
7	23

First, using your mouse, highlight all of the ages that fall in the first age group. In my example, 15 and 16 fall within the 0-18 age group.

Count of Completed	
Age2	Age
Group1	15
	16
	23
	31
	37
	42
	47
	49
	52
	54
	59
	60
	68
	72
	76
	(blank)
	Grand Total

Next, select Data, Group and Outline, Group from the command menu. This will create a new age variable on the PivotTable that includes the ages you selected. Rename “Group1” by clicking on the cell and typing the age group name. In my example, the age group name is “0-18”.

Repeat this grouping step for the remaining ages in your PivotTable. The completed age group table should now look something like below. The “(blank)” row should not be a part of any age group.

Count of Completed		Race							Grand Total
Age2	Age	ai	as	bl	hi	ot	wh	(blank)	Grand Total
0-18	15							1	1
	16			1					1
19-44	23				1				1
	31							1	1
	37				1				1
45-64	42			1					1
	47				1				1
	49							1	1
	52							1	1
	54						1		1
65+	59							1	1
	60				1				1
	68					1			1
(blank)	72		1						1
	76					1			1
Grand Total			1	2	4	2	1	5	15

Now, in order to get the proper count of each age group, use your mouse to click on the gray box for “Age” and drag it outside the table. This will leave only the new age group variable you just created. The final table should now look something like below.

Count of Completed	Race							Grand Total
Age2	ai	as	bl	hi	ot	wh	(blank)	Grand Total
0-18			1				1	2
19-44			1	2			1	4
45-64				2		1	3	6
65+	1				2			3
(blank)								
Grand Total	1	2	4	2	1	5		15

Transfer the resulting numbers into the Statistical Report Excel file. Remember that the PivotTable results are likely not in the same order as the Report, so double-check your typing to make sure you transferred the numbers into the correct cells. Any numbers in a “(blank)” column or row should be counted toward “Unknown” for that variable.

Notice that the blue “Total” row in the race/age group part of the report should be the same as the blue “Total” row in the race/gender part.

0-18 yrs	1	0	0	0	1	0	0
19-44 yrs	1	2	0	0	1	0	0
45-64 yrs	3	2	0	0	0	1	0
65 & older	0	0	2	1	0	0	0
Unknown	0	0	0	0	0	0	0
Age Total	5	4	2	1	2	1	0

Now we will change the PivotTable to report type of diabetes. Click on the PivotTable to activate it. Since Type 1 and Type 2 diagnosis categories are split by “0-18” and “19&up”, do not remove the age group variable from your table first. Unless your program doesn’t see anyone under 19 years of age, then you can simplify things by grabbing the gray box marked “Age2” and dragging it outside the table.

Click on the Type of Diabetes variable in the “PivotTable Field List” and drag and drop it anywhere under the gray box named “Age2”. Your table should now look something like below. The following examples will assume the age split for Type 1 and Type 2 is necessary for reporting.

Count of Completed		Race							Grand Total
Dx	Age2	ai	as	bl	hi	ot	wh	(blank)	Grand Total
GDM	19-44							1	1
GDM Total								1	1
Oth	19-44				1				1
Oth Total					1				1
Pre	19-44			1					1
	45-64						2		2
Pre Total				1			2		3
T1	0-18			1					1
	19-44				1				1
T1 Total				1	1				2
T2	0-18						1		1
	45-64				2		1	1	4
	65+	1				2			3
T2 Total		1			2	2	1	2	8
(blank)									
Grand Total		1	2	4	2	1	5		15

You can simplify the table and add across age groups in gestational diabetes, prediabetes and other by double-clicking on the Type of Diabetes box next to the age groups, not the Total row. In my example, this would be the boxes marked “GDM”, “Oth” and “Pre”. Your table should now look something like below.

Count of Completed		Race							Grand Total
Dx	Age2	ai	as	bl	hi	ot	wh	(blank)	Grand Total
GDM							1		1
Oth				1					1
Pre			1				2		3
T1	0-18		1						1
	19-44			1					1
T1 Total			1	1					2
T2	0-18						1		1
	45-64			2			1	1	4
	65+	1				2			3
T2 Total		1		2	2	1	2		8
(blank)									
Grand Total		1	2	4	2	1	5		15

Note: You will probably need to do some addition with a calculator in order to get the proper totals for the Type 1 and Type 2 split between the different age groups. The Type 1 and Type 2 (0-18) in the report will be the same as the 0-18 age group you have already defined in the PivotTable. For the Type 1 and Type 2 (19&up) in the report, you will need to add the 19-44, 45-64 and 65+ age groups in the PivotTable. The addition of these age groups should be for each race column.

Transfer the resulting numbers into the Statistical Report Excel file. Remember that the PivotTable results are likely not in the same order as the Report, so double-check your typing to make sure you transferred the numbers into the correct cells. Any numbers in a “(blank)” column or row should be counted toward “Unknown” for that variable.

Notice that the blue “Total” row in the race/type of diabetes group part of the report should be the same as the blue “Total” row in the race/gender and race/age group parts.

Type 1 (0-18)	0	0	0	0	1	0	0
Type 1 (19 & up)	0	1	0	0	0	0	0
Type 2 (0-18)	1	0	0	0	0	0	0
Type 2 (19 & up)	1	2	2	1	0	1	0
Gestational	1	0	0	0	0	0	0
Prediabetes	2	0	0	0	1	0	0
Other	0	1	0	0	0	0	0
Unknown	0	0	0	0	0	0	0
Diagnosis Total	5	4	2	1	2	1	0

Finally, fill in the “Race Total” row in the Statistical Report Excel file. These should be the same numbers as all of the other blue “Total” rows. If you want to double-check this, you can go back to your last PivotTable, click on it, grab the gray box for Type of Diabetes and drag it outside the table, then grab the gray box for Age Group and drag it outside the table. This will leave only the Race variable totals.

									Grand Total
Race Total	5	4	2	1	2	1	0	=	15
									same as total # of
									patients completing
									education (☆)
* All numbers in shaded rows should be the same in each column.									

The Grand Total in this PivotTable should match the total number of Completed Education you entered into the Statistical Report in *Set 2*. Both boxes have stars next to them.