Formatting Report Output in Excel®

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TABLE OF CONTENTS

Formatting Report Output in Excel®

Overview

This course describes the steps used to export data from a user-defined data table report to Excel® and then manipulate the data once it's imported. Other DI Report Writer objects use similar data export methods, and, if opened in Excel®, would then use the same manipulation techniques as described in this document.

Session Format

- Lecture
- Handouts
- Practice Exercises

Learner Outcomes

- Define the DI Report Writer vocabulary tools utilized in analyzing a report request and building reports to support trauma and performance improvement program needs
- Demonstrate understanding of reporting principles by successfully applying the learned vocabulary tools to the report writing and generation process
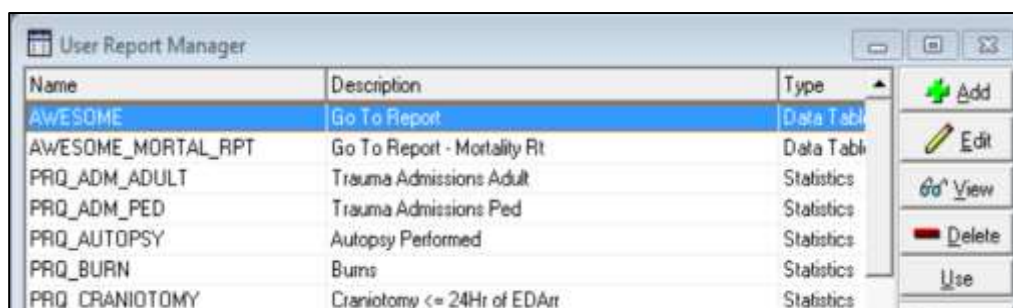
Export Data to MS Excel®

Follow these instructions to export a Data Table Report to MS Excel®:

1. Select the User radio button on the Run Report screen, and then click **Report**.
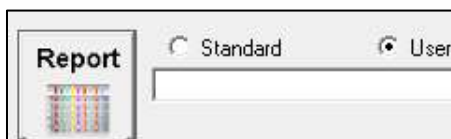
2. The User Report Manager screen appears. Double-click the Data Table Report you want to run.

Note: Any defined Data Table Report can be sent to Excel when created. On the Data Table Editor screen, select CSV, Include Column Headings, and Launch Excel, as shown below.
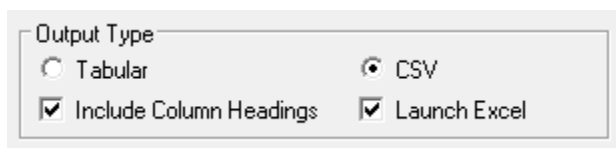

Save the Data Table Report as an Excel Workbook

Notice that the document's title is SCREEN.CSV. To preserve formatting changes, you will need to save the document as an .xls or .xlsx file.
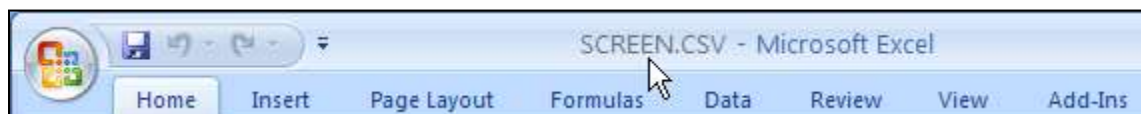

1. Click the **Save** button in the Excel ribbon.
2. An Excel message appears. Click No.
3. Choose where to save the report.

Note: The default location for RW reports is the RW\NODES\NODE0001 folder. You can navigate through the network by clicking the dropdown at the top of the Save As window. You can quickly save documents to your Desktop or Documents by selecting them on the left side of the Save As window.
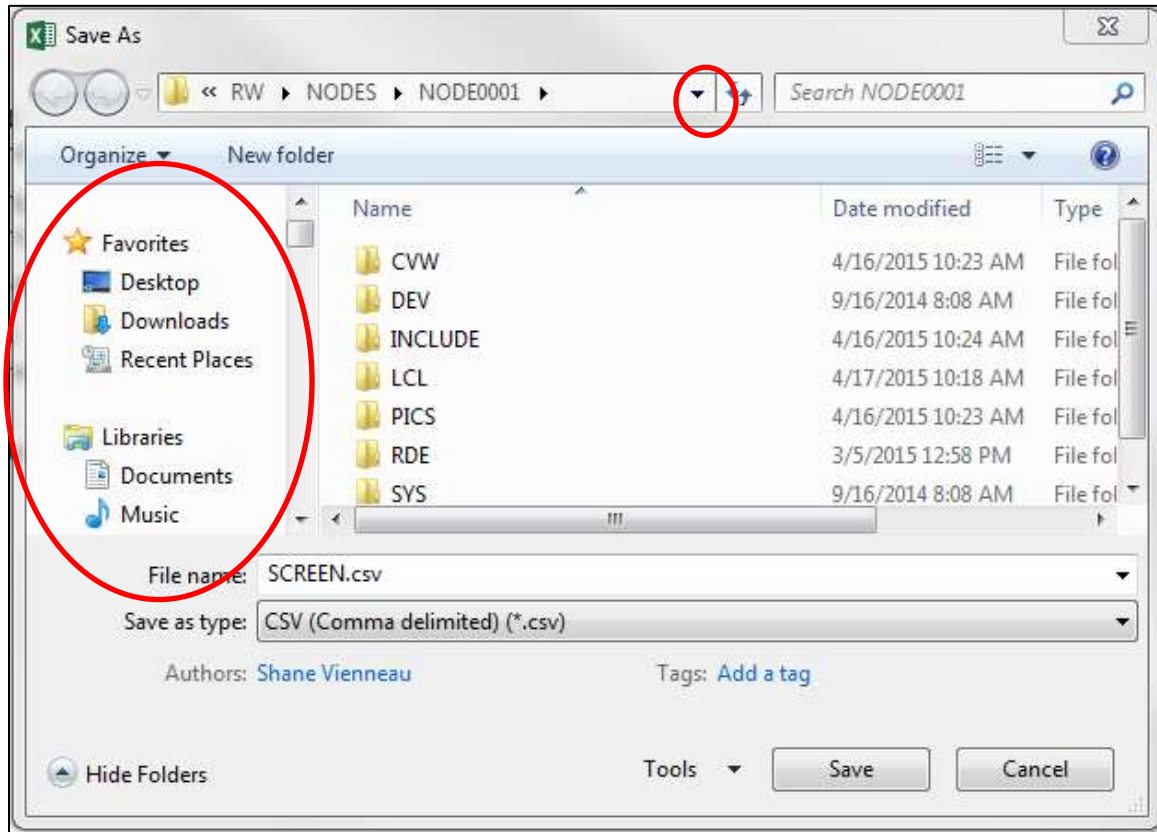
4. Click the **Save as type** dropdown and select Excel Workbook.

    (In most versions of Excel, it's the very first option).

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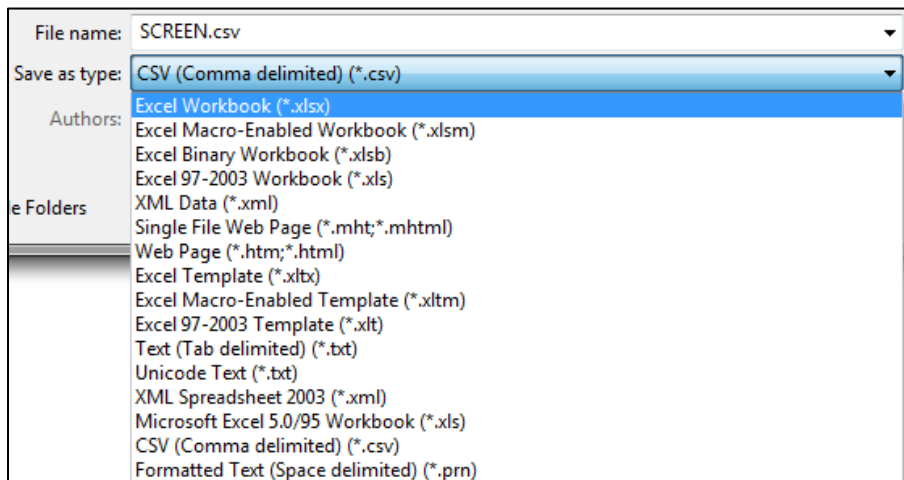
5. Type your file name in the File name: field and click **Save**.

File name:	SCREEN.xlsx
Save as type:	Excel Workbook (*.xlsx)

File name:	Trauma Patients 2013.xlsx
Save as type:	Excel Workbook (*.xlsx)

Format Your Spreadsheets

Autosize Columns

Occasionally, the default width of a column will not show the data in its entirety. ##### may appear instead of your data. In these cases, you'll need to adjust the columns to view the data. You can auto size all of the columns at one time.

	A	B	C	D	E	F	G
1	Medical R	Patient Ar	Age	Gender	Injury Typ	Injury Me	Post ED Di
2	962339<u>8</u>	########	36	1	Blunt	Fall Under	Intensive (
3	775401<u>1</u>	########	94	2	Blunt	Fall Under	Intensive (
4	538793<u>9</u>	########	68	1	Blunt	Assault	Intensive (
5	372831<u>9</u>	########	65	1	Blunt	MVC	Morgue

1. Click the box to the left of Column A and directly above Row 1. The entire document will highlight.

	A	B
1	Medical R	Patient Ar
2	7.12E+08	########

2. Double-click any column divider line.

   All columns will auto size to the largest width. Notice the #### has been replaced with your data.

	A	B
1	Medical R	Patient Ar
2	7.12E+08	########

|	A	B
1	Medical Record #	Patient Arrival Date & Time
2	712147963	11/10/2012 12:41

Wrap Text

Some column headers may be longer than others or longer than the data in its column. In these cases, the column header text can be wrapped within the cell to shorten the width of the column.
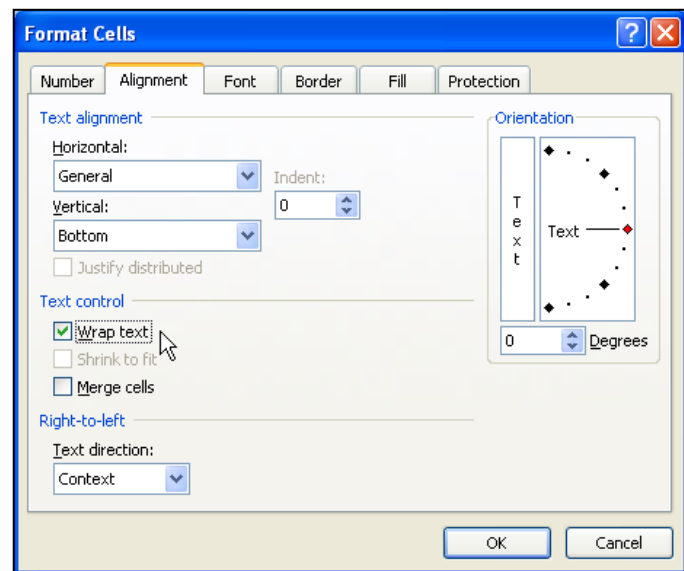
1. Select your entire spreadsheet by clicking the box to the left of Column A and directly above Row 1. The worksheet will highlight.

	A	B
1	Medical R	Patient Ar
2	7.12E+08	########

2. Right-click anywhere on your spreadsheet, and then select **Format Cells…**
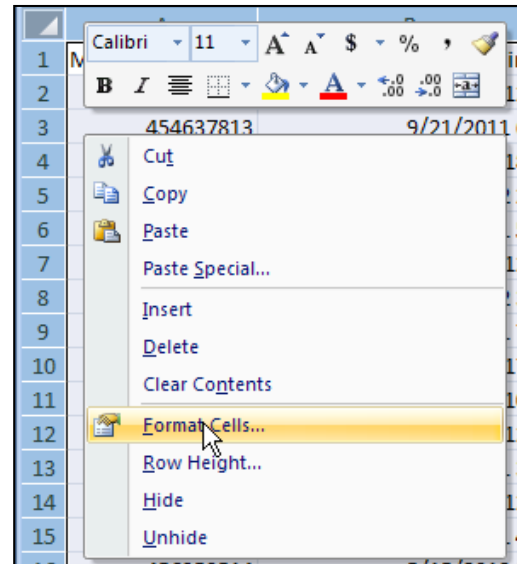
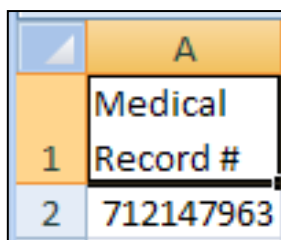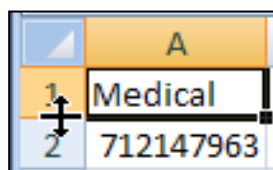3. Click the **Alignment** tab. Select **Wrap text** and click **OK**.

4. Click anywhere on your spreadsheet to deselect it.

5. Drag any column divider to resize the columns. The divider will resize the column to the left.

If the cell doesn't auto-adjust, double-click between rows (row divider) to resize the row above.
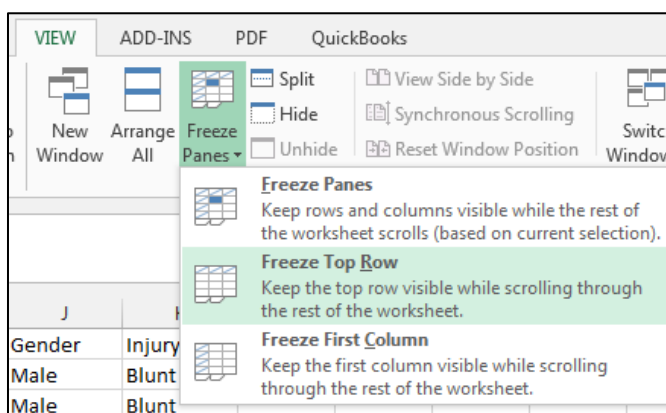

Freeze Panes

It can be helpful to see the column headings of a spreadsheet as you are scrolling through the document. By default, the header row is visible until you scroll down through the spreadsheet, as shown below.
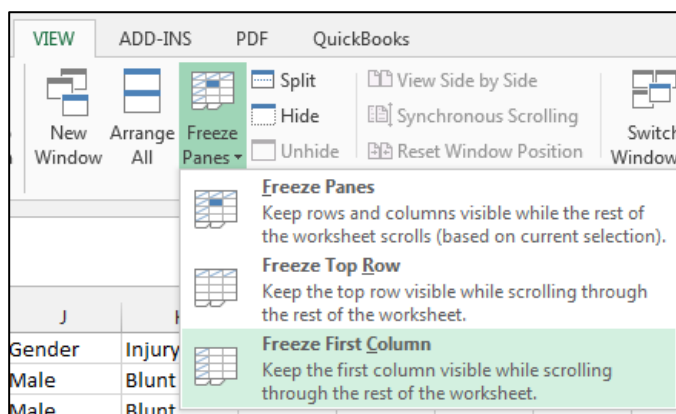

To freeze only the header row, click the **View** tab, then click **Freeze Panes** and select **Freeze Top Row**.

To freeze only the first column, click the **View** tab, then click **Freeze Panes** and select **Freeze First Column**.
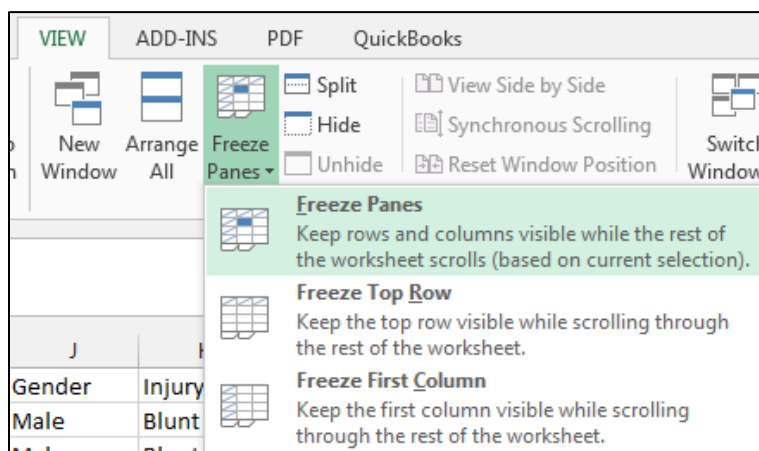

To freeze both a row and a column, click into the cell below the row you want to freeze and to the right of the column you want to freeze.

In this instance, click into cell B2 to freeze column A and the top row with your headers.

Click the **View** tab, then click **Freeze Panes** and select **Freeze Panes**.

Now when you scroll through your spreadsheet, the information in your top row and first column will remain in place.

|	A	F	G
1	Medical Record #	Mech of Inj	Post ED Disposition
8	5984554	Other Blunt Mechanism	Operating Room
9	5040122	Fall Under 1m (3.3 ft)	Intensive Care Unit
10	8437892	Fall Under 1m (3.3 ft)	Floor
11	9764819	Other Blunt Mechanism	Morgue
12	4197183	Other Blunt Mechanism	Operating Room

AutoFilters

Activate Filters

AutoFilters will create drop down options in each column and allow you to filter on specific values. AutoFilters make it easy to find and work with only those rows of the spreadsheet that contain the selected values in the filtered column.

1. Click on any cell that contains data on your spreadsheet. (An error message will appear if you select an empty cell).

	A	B	C
1	Medical Record #	Patient Arrival Date & Time	Patient Name
2	712147963	11/10/2012 12:41	Stewart, Robert
3	454637813	9/21/2011 6:00	Morrison, Clark N

2. On the **Data** tab, click **Filter.**
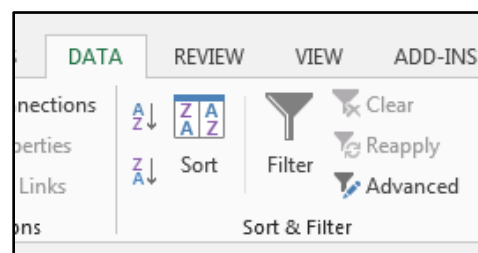
3. A down arrow button now appears in each column header. This will be used to filter values on the spreadsheet.

|	A	B	C
1	Medical Record #	Patient Arrival Date & Time	Patient Name
2	712147963	11/10/2012 12:41	Stewart, Robert

Use AutoFilters

AutoFilters can be used to select/deselect specific values in a column. The rows containing the specified values will display, and the other rows will be hidden. The hidden rows can be returned by turning off AutoFilters or selecting different values.

Scenario

The Trauma Coordinator would like to identify patients with a Blunt Injury and a Discharge Status Dead.

You can use any data table report that contains the injury type and discharge status fields to fulfill this request using AutoFilters.

1. Click the down arrow in the Injury Type column.
2. To narrow your results to only Blunt injuries:
    a. Deselect all values except Blunt and click **OK**.

       or

    b. Click **(Select All)** to deselect all values, and then select Blunt. Click **OK**.
3. Click the down arrow in the Discharge Status column.
4. Deselect Alive and click **OK**.
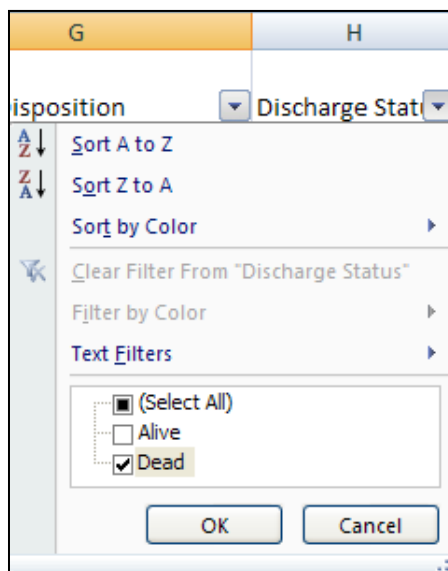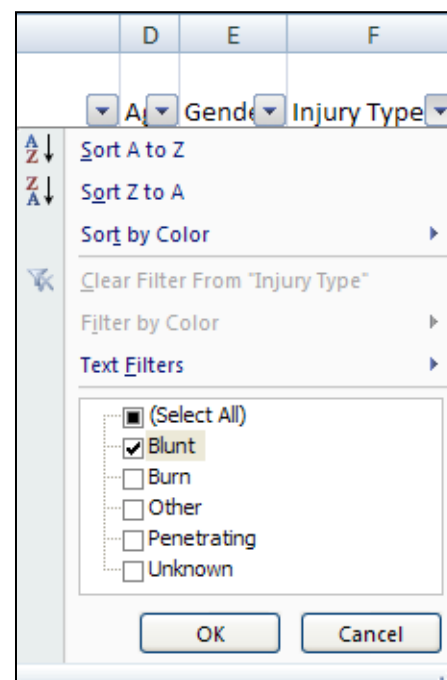
5. Review the data.

   Notice the gaps in row numbers. Any row that contains an injury type other than Blunt and discharge status of Alive is now hidden. A funnel now appears in the filtered columns where down arrow appeared previously.

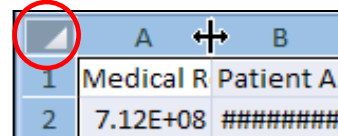|	A	B	C	D	E	F	G	H
1	Medical Record	Patient Arrival Date & Time	Age	Gender	Injury Type	Mech of Inj	Post ED Disposition	Discharge Status
2	9623398	10/19/2013 23:26	36	Male	Blunt	Fall Under 1m (3.3 ft)	Intensive Care Unit	Dead
3	5387939	11/23/2013 12:55	68	Male	Blunt	Assault	Intensive Care Unit	Dead
4	8549271	1/6/2013 15:08	66	Female	Blunt	Other Blunt Mechanism	Morgue	Dead
6	9316891	6/3/2013 16:24	85	Male	Blunt	MVC	Morgue	Dead
8	5984554	3/7/2013 17:46	15	Male	Blunt	Other Blunt Mechanism	Operating Room	Dead

Use Filters to Create Additional Worksheets

Filters work well to show a group of records temporarily, but moving the results to a different worksheet will create a permanent place for the filtered records.

Scenario

The Trauma Coordinator would like all blunt injury deaths on one worksheet and all penetrating injury deaths on a separate worksheet.

1. Use the down arrow buttons to filter on Blunt injuries and discharge status dead.
2. Select the entire worksheet by clicking the cell to the left of Column A and directly above Row 1 or clicking and dragging to highlight the appropriate cells.

	A	B
1	Medical R	Patient Ar
2	7.12E+08	########

	A	B	C	D	E	F	G	H
1	Medical Record	Patient Arrival Date & Time	Age	Gender	Injury Type	Mech of Inj	Post ED Disposition	Discharge Status
2	9623398	10/19/2013 23:26	36	Male	Blunt	Fall Under 1m (3.3 ft)	Intensive Care Unit	Dead
3	5387939	11/23/2013 12:55	68	Male	Blunt	Assault	Intensive Care Unit	Dead
4	8549271	1/6/2013 15:08	66	Female	Blunt	Other Blunt Mechanism	Morgue	Dead
6	9316891	6/3/2013 16:24	85	Male	Blunt	MVC	Morgue	Dead
8	5984554	3/7/2013 17:46	15	Male	Blunt	Other Blunt Mechanism	Operating Room	Dead

3. Right-click anywhere in the highlighted area and select Copy.

   The results should be many dotted groups separated at the gaps in data, similar to what is pictured below.

	A	B	C	D	E	F	G	H
1	Medical Record	Patient Arrival Date & Time	Age	Gender	Injury Type	Mech of Inj	Post ED Disposition	Discharge Status
2	9623398	10/19/2013 23:26	36	Male	Blunt	Fall Under 1m (3.3 ft)	Intensive Care Unit	Dead
3	5387939	11/23/2013 12:55	68	Male	Blunt	Assault	Intensive Care Unit	Dead
4	8549271	1/6/2013 15:08	66	Female	Blunt	Other Blunt Mechanism	Morgue	Dead
6	9316891	6/3/2013 16:24	85	Male	Blunt	MVC	Morgue	Dead
8	5984554	3/7/2013 17:46	15	Male	Blunt	Other Blunt Mechanism	Operating Room	Dead

4. At the bottom of the worksheet, click the ⊕ next to the tab labeled SCREEN to create a new worksheet.
5. Right-click into the blank worksheet and select **Paste**.

SCREEN ⊕

95 RECORDS FOUND | New sheet

   Now there is a separate worksheet that displays only blunt injuries resulting in death.

Rename Worksheets

There are now two worksheets labeled with non-descript default names. Rename the worksheets to indicate the information that each worksheet contains.

1. Double-click on the tab labeled Sheet1.
2. Type a new label; for instance, *Blunt Deaths.*
3. Double-click on the tab labeled SCREEN.
4. Type a new label; for instance, *All Patients.*

SCREEN | **Sheet1**

**All Patients** | Blunt Deaths
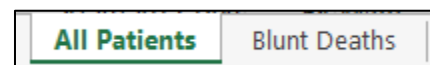
## Change Filter Parameters/Restore Rows

To change what filtered data is displayed on your Data Table Report, click the funnel in the column you want to change. Select a different choice, and deselect the current choice (in this example, Blunt). Then click **OK**.
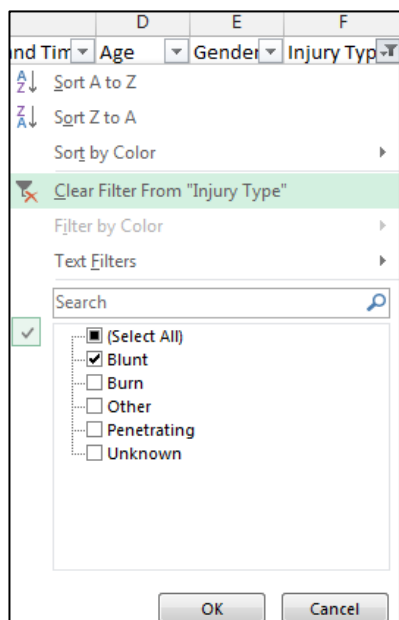
To restore your columns to show all values, including those that were hidden by AutoFilters, click the funnel that appears in your filtered column and select **Clear Filter From "Injury Type."** Repeat for all filtered columns.
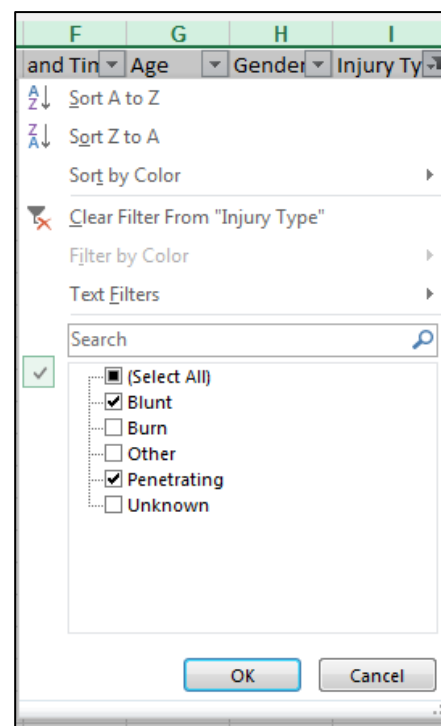
To remove the AutoFilters from all columns, go to the **Data** tab and deselect Filter. All of the down arrow buttons will be removed from your columns.
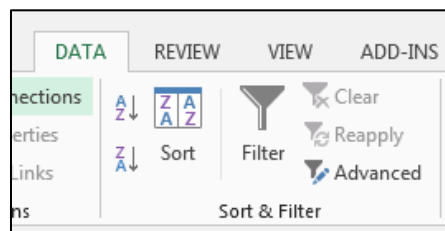
Use Formulas

Excel has many formulas that you can use to assess or manipulate your data. Average is a useful formula that you can use to analyze the data in a Data Table Report.

Average

The Average function returns the average, or arithmetic mean, of your selected data. Average is calculated by adding a group of numbers and then dividing by the count of those numbers.

To calculate the average age of your patients:

1. Locate the Age column and scroll to the bottom.
2. Select the empty cell under the last age value.

3. On the **Formulas** tab, click **AutoSum**, and then select **Average**.

4. Confirm that each cell in your selected range contains data. If a row is missing a value, the formula will not include any values before that point in its calculation. *See example below.* If there is missing data, you can manually change the formula range to include the full list of values.
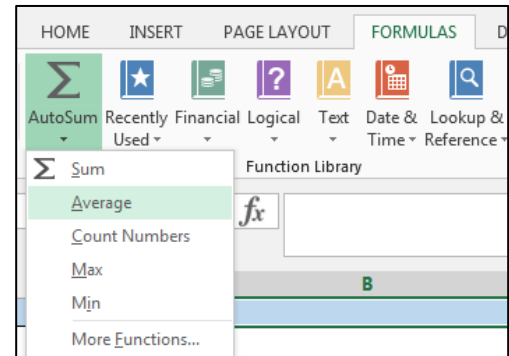
Because cell F8 doesn't contain a value, the Average formula will only include cells F9 to F13.

You can manually change the range of values by typing the correct cell range into the Average formula, as shown here.

5. Press Enter to perform the calculation.

To calculate the average ISS for blunt injuries resulting in death:

1. Open the Blunt Deaths tab on your worksheet.
2. Select the empty cell under the last entered ISS value.
3. On the **Formulas** tab, select **AutoSum** and then select **Average**.
4. Confirm that the formula's cell range contains all of the cells in your ISS column (as described above). Manually change your cell range if necessary.
5. Press **Enter** to perform the calculation. The average displayed is the average ISS for blunt injury deaths.
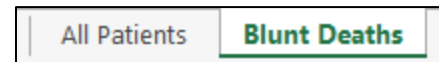
	A	K	L	M
1	Medical Record #	Total ICU days	Total Vent Days	ISS
28	467879767	4	4	26
29	229134443	6	1	4
30	532204339	1	1	26
31				21.46

Data Table Reports—Pivot Tables vs. Statistics Reports

Pivot Tables	Statistics Reports
May contain detailed patient information as well as statistical analysis	Can only contain statistical information
Can run one large report from RW and use Excel® to divide up the statistics	Have to run a separate report for each statistical chart
Graphs, charts, and aesthetic changes can be retained from use to use	Graphs, charts, and aesthetic changes have to be made every time

Build Your Data Table Report for Statistical Analysis

Pivot Tables are used to analyze data quickly. This feature in Excel® is a good way to summarize, analyze, explore, and present data.
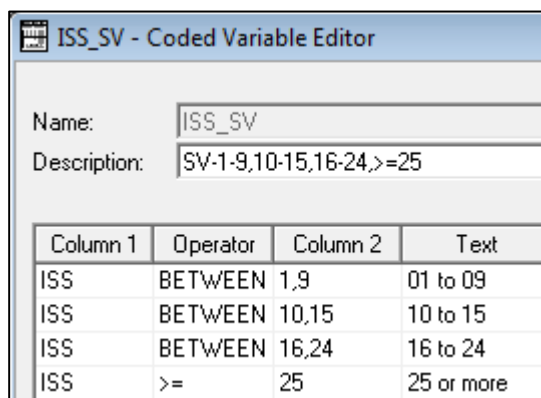
Scenario

The research team has requested some analysis on deaths for the past 2 years. They would like to see graphical information on the following criteria, with dates based on patient arrival:

- Count and percent of deaths by year
- Count and percent of deaths by month
- Count and percent of deaths by ISS 1-9, 10-15, 16-24, and >=25

Data Table reports often include the entire Date of Arrival as one field. In order to fulfill this report request, separate lines will be included for arrival year (PAT_A_DATE_Y) and arrival month (PAT_A_DATE_M_AS_TEXT).

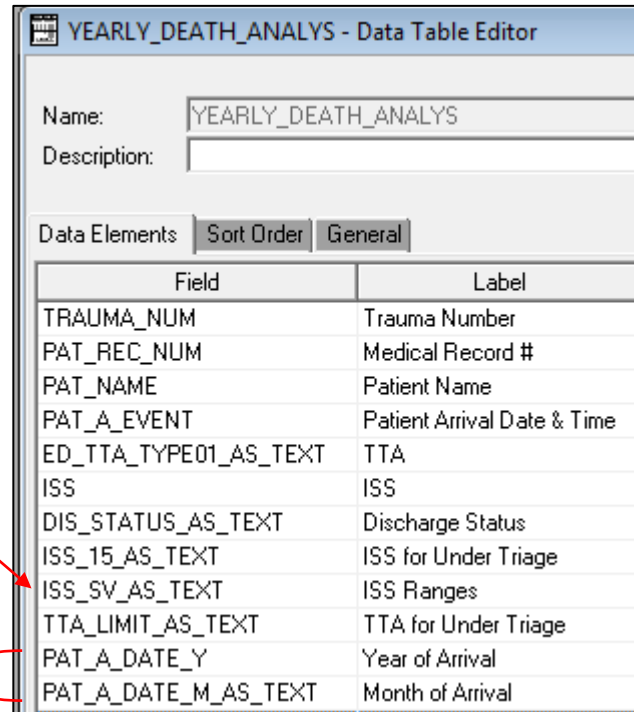The request will also require you to separate the ISS into ranges using a Coded Variable.

In this example, ISS_SV creates the four ISS ranges as defined in the request.

Data Table Example

Create your Data Table report with all of the requested fields, along with some basic patient information. *See example below.*

Coded Variables for ISS Ranges
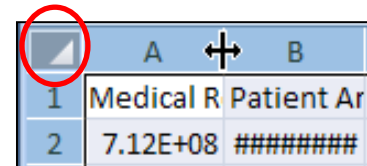
Patient arrival year and month

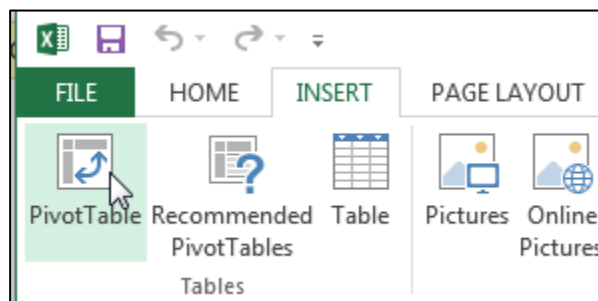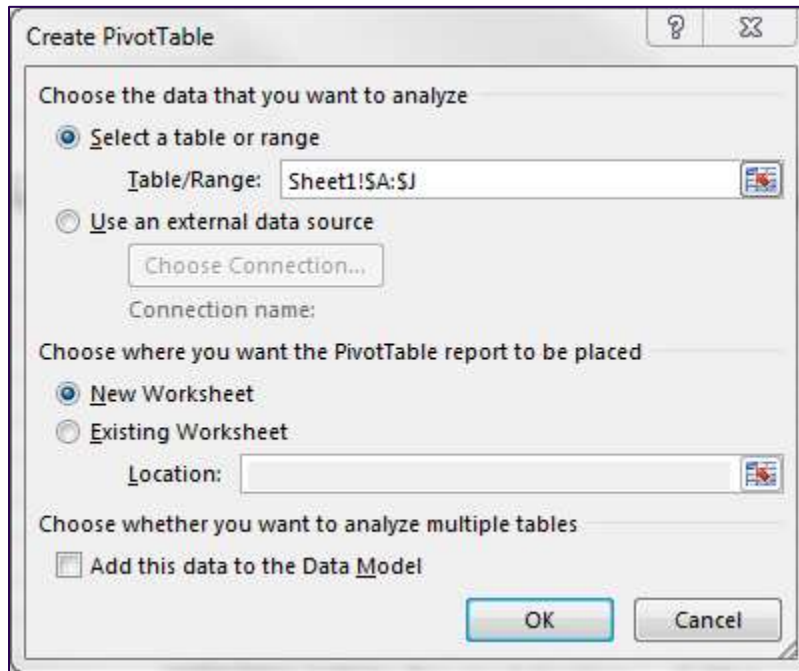Follow the steps on page 3 to export your report to MS Excel®.

Start a New Pivot Table

1. Select your entire spreadsheet by clicking the box to the left of Column A and directly above Row 1. The worksheet will highlight.
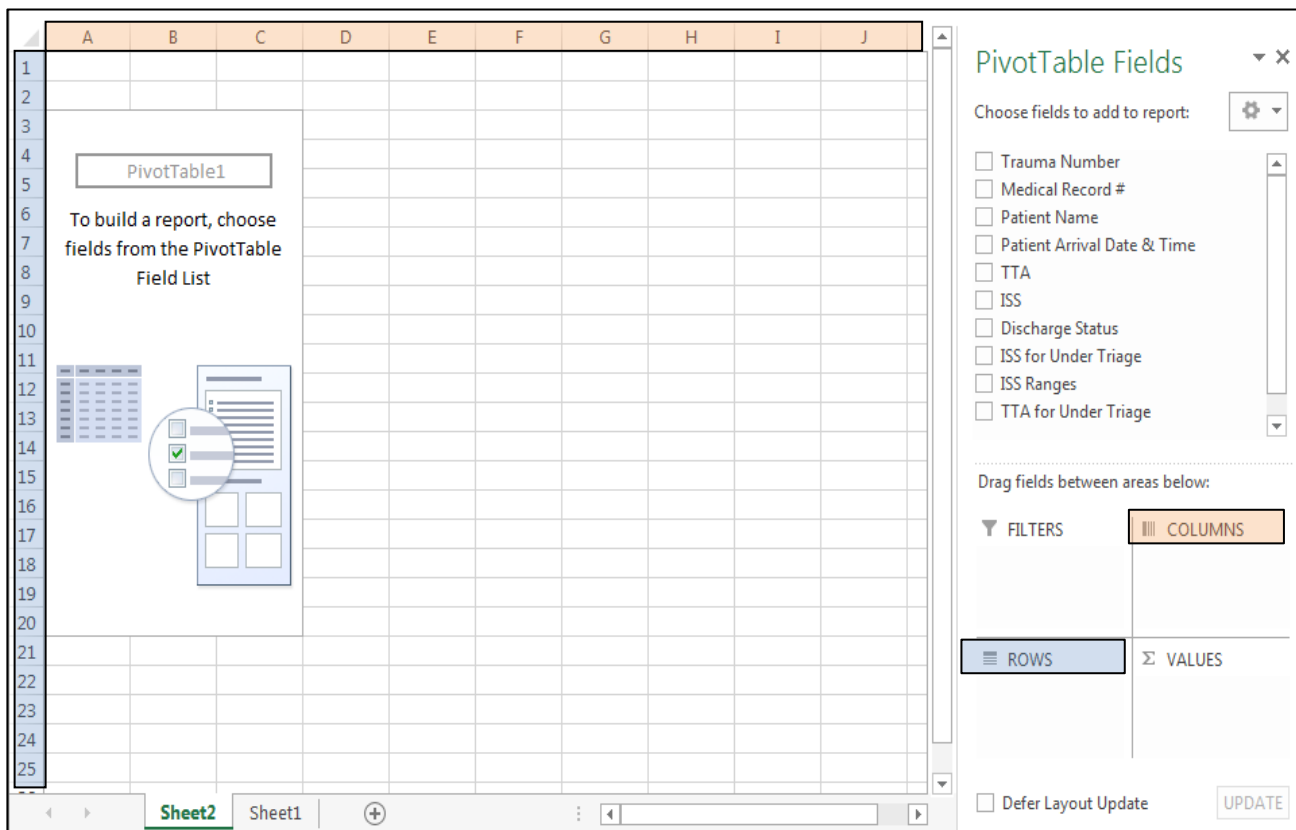

2. Click the **Insert** tab, and then select **Pivot Table**. A Create Pivot Table dialog appears (see next page). Click **OK.**
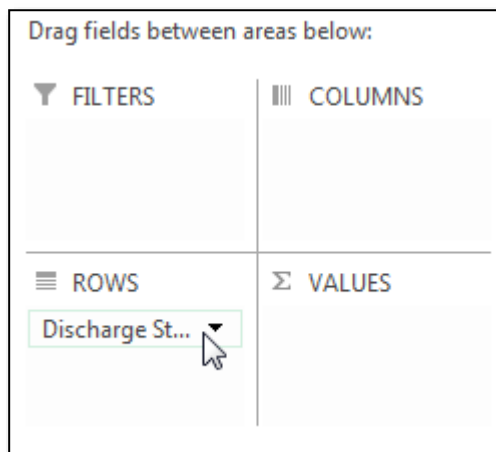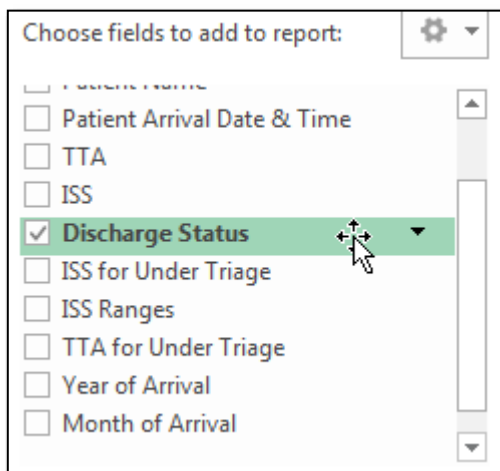
The following screen appears:

Select Data for Your First Pivot Table

The first data request in our scenario was for a count and percent of deaths by year. A pie chart is an excellent tool to illustrate percentage, and it is best derived from a Pivot Table that only contains Rows.

1. Click and drag the Discharge Status field to the ROWS box.

2. Click and drag a record reference field to the VALUES box. In this example, use Discharge Status, since all records contain a value. The field is also non-numeric and will return a count.
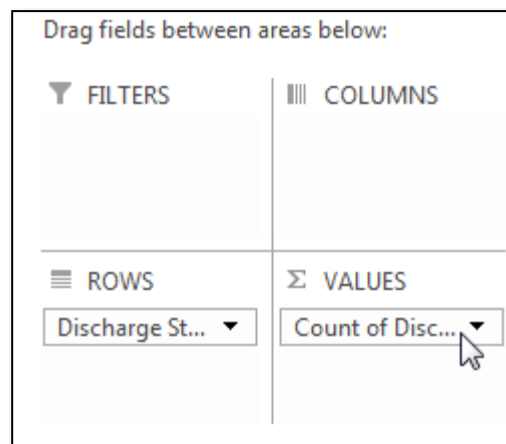
The completed Pivot Table (containing both years).

3	Row Labels	Count of Discharge Status
4	Alive	1076
5	Dead	159
6	**Grand Total**	**1235**

Remove Unnecessary Rows

A Pivot Table may contain unnecessary row values. In this example, there is a row labeled Blank without a total. This row can be removed.
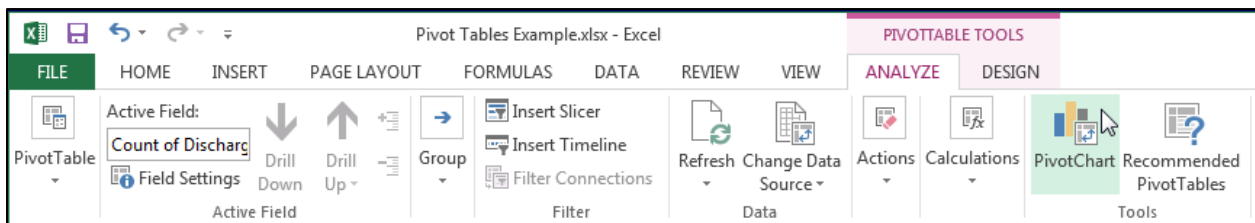
1. Click the drop down arrow next to Row Labels.
2. Deselect the value (blank) and click **OK**.
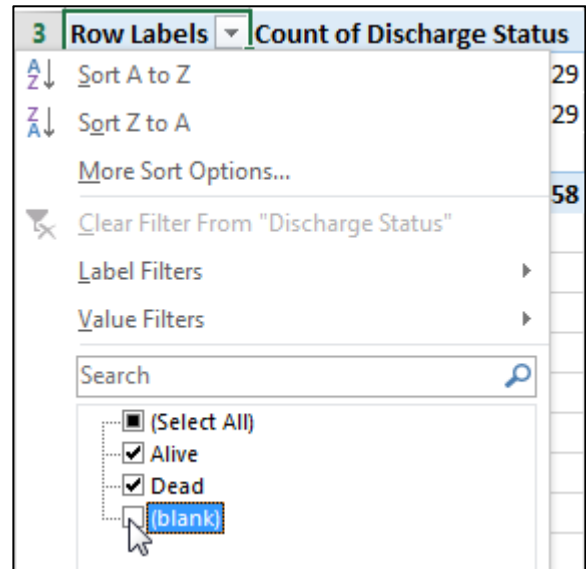
Create a Graph

A pivot table can be made into a Chart/Graph.

1. Select any cell within the Pivot Table. The PIVOTTABLE TOOLS menu will appear in the toolbar.

2. On the PIVOTTABLE TOOLS tab, select **Analyze** and then select **PivotChart**.

3. Select the desired chart type. For this example, select pie chart because they display percentages best.

Add Percentages to Your Graph

1. Right-click the pie chart. Select **Add Data Labels**, and then **Add Data Labels**.
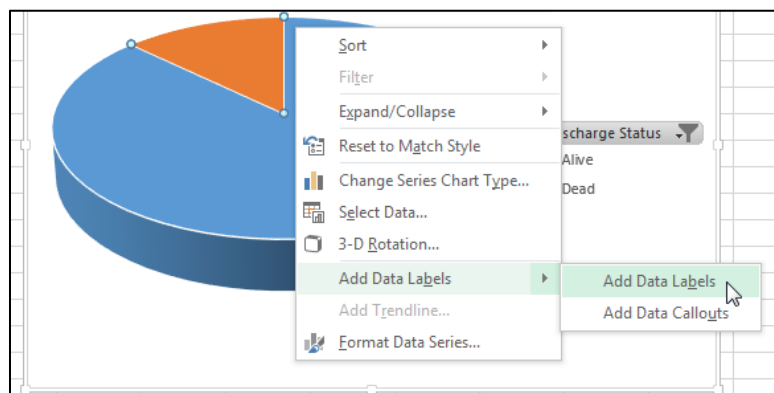
2. The newly added labels appear. When selected, the label boxes have circles on the corners. The circles indicate the area of focus within the graphic, which is accessible to modify. With the labels selected, select **Format Data Labels**.
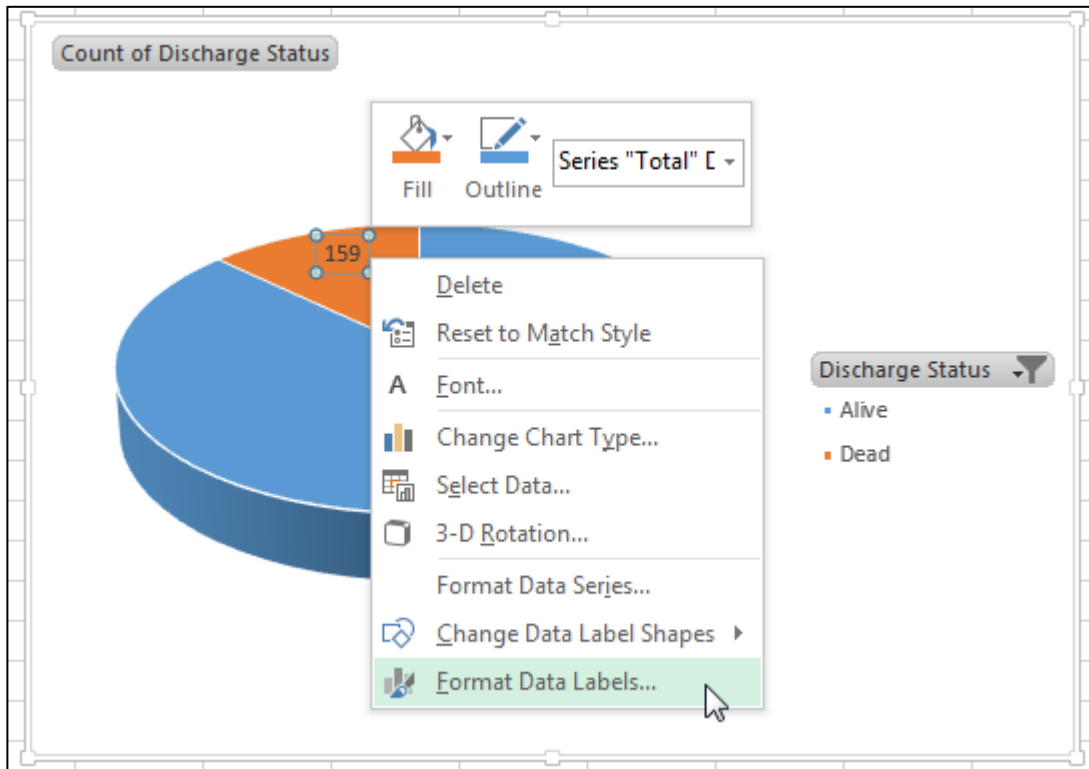
3. Select Percentage and deselect Value.
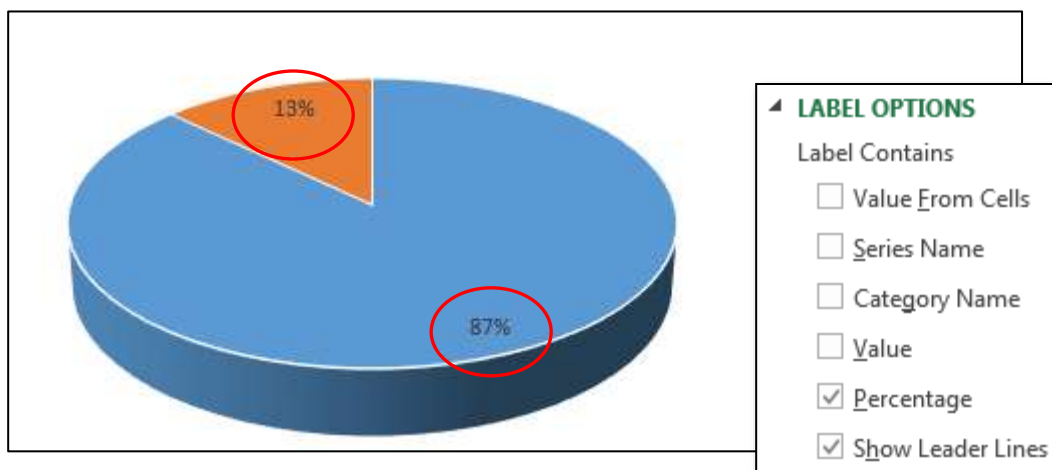
Practice Exercises

1. Create a Data Table Report with at least five data elements, including Post ED Disposition. Send the report to Excel and Filter the data by Post ED Disposition.

    a. Create a tab for each Post ED Disposition and put the records associated with each in their tab

    b. Use word wrap and adjust the column widths to make the output look its best

2. Create a Data Table Report that includes Initial Vitals. Once run to Excel, produce Avg RTS and GCS.

3. Create a Data Table Report that includes ED LOS, Total ICU Days, Vent Days and Hospital LOS and Trauma Response Level.

    a. Separate each response level on a separate tab

    b. Find the Avg ED LOS, Total ICU Days, Vent Days and Hospital LOS for each response level

    c. Use word wrap and adjust the column widths to make the output look its best