
Digital Innovation Users Conference 2013

Formatting Report Output to MS Excel[®]



Kansas City, MO
October 2-4

Proprietary Rights Notice

Revision 2011.03.09

The DI Report Writer Software, Collector Software products, NTRACS Registry Software and related materials, including but not limited to this document, and other written material provided by Digital Innovation, Inc. (collectively "Software Products") constitute confidential and proprietary information of Digital Innovation, Inc. It is the responsibility of the user to comply with all applicable copyright laws. The Software Products are to be maintained in confidence and not to be disclosed, duplicated, or otherwise reproduced, directly or indirectly, whole or in part, or any materials relating thereto, except as specifically authorized by Digital Innovation, Inc. No portions of this manual may be reproduced, duplicated, or disclosed without the expressed written approval of Digital Innovation, Inc. Reasonable steps are to be taken to insure that no unauthorized persons have access to the Software Products and that all authorized persons having access to the Software Products refrain from any such disclosure, duplication, or reproduction except as authorized by Digital Innovation, Inc.

The logo for Digital Innovation Incorporated features a stylized, light blue and grey graphic above the company name. The name "digital innovation" is in a lowercase, sans-serif font, and "incorporated" is in a smaller, all-caps, sans-serif font below it.

digital innovation
incorporated

TABLE OF CONTENTS

Overview.....	1
Course Objectives	1
Prerequisite.....	1
Exporting Data to MS Excel®	2
Saving the Data Table Output as an Excel Workbook (.xls or .xlsx).....	3
Add Formatting to Spreadsheets	4
Auto-Sizing Columns	4
Text Wrapping.....	4
Freeze Panes	6
Using AutoFilters.....	7
Turning on AutoFilters	7
Viewing Data Subsets	7
Using Filters to Create Additional Worksheets.....	8
Restoring All Rows / Changing Filter Parameters.....	9
Renaming Sheets	10
Creating Formulas	11
Average Age	11
Sum of Hospital Days	12
Count Number TRISS.....	13
Count of Post ED Disposition Valued	13
Average ISS for Deaths.....	14
Practice Exercises	15



Formatting Output to MS Excel®

Overview

This session demonstrates how to use DI Report Writer tools with Microsoft Excel®. Instructions are provided on how to create and export a Data Table Report to Excel and how to then manipulate the data within Excel.

The skill sets demonstrated in this session can be applied to any data in Excel to fit the needs of each individual user.

Course Objectives

1. Demonstrate the process to export data from the DI Report Writer into Microsoft Excel
2. Apply native Excel functions to report output:
 - *Format Spreadsheet*
 - *Use Audit Filters*
 - *Create Formulas*
 - *Create Pivot Tables*
 - *Create Graphs*

Prerequisite

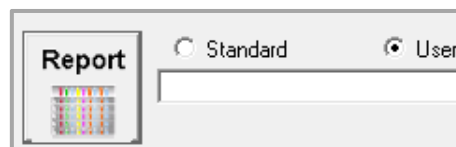
DI Report Writer Concepts (Report Writer Module 1)

Exporting Data to MS Excel®

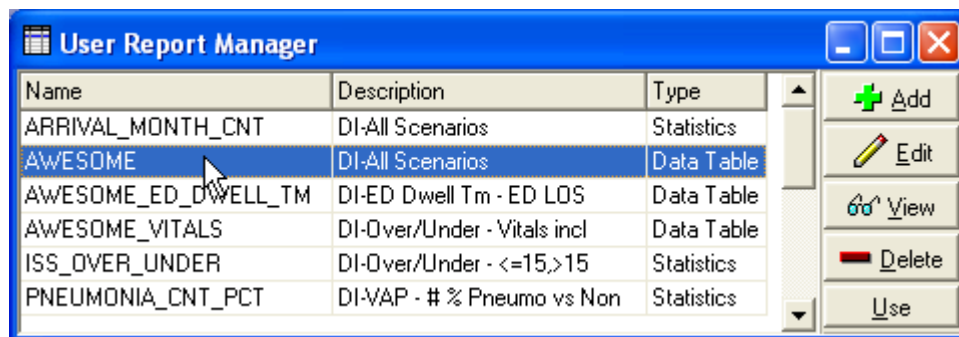
This training document describes the steps to export data from a user-defined data table report to MS® Excel, and the techniques used to graph the data once it is imported. Other DI Report Writer objects use similar data export methods, and, if opened in Excel would then utilize the same graphing techniques as described within this document.

1. Select the <User> radio button on the <Run Report> screen.

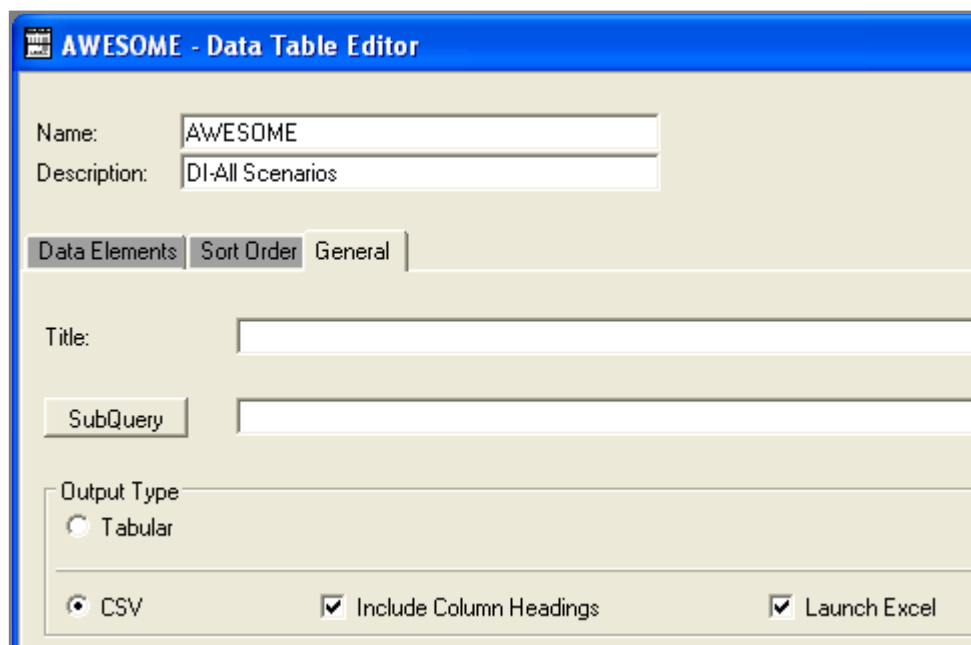
2. Click on the <Report> Button.



3. The <User Report Manager> screen will appear. Double click the AWESOME Data Table report from the menu (AWESOME is a core report built in the Data Table Concepts class).

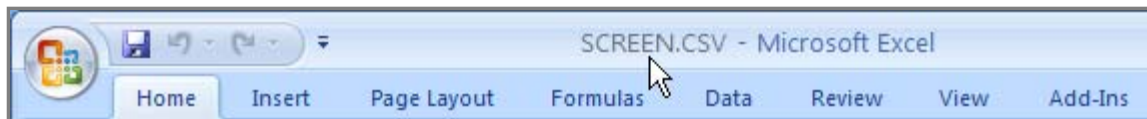


Any Data Table report can be defined to be sent to Excel when created. Within the Data Table Editor window, click on the General tab and select CSV, Include Column Headings and Launch Excel.

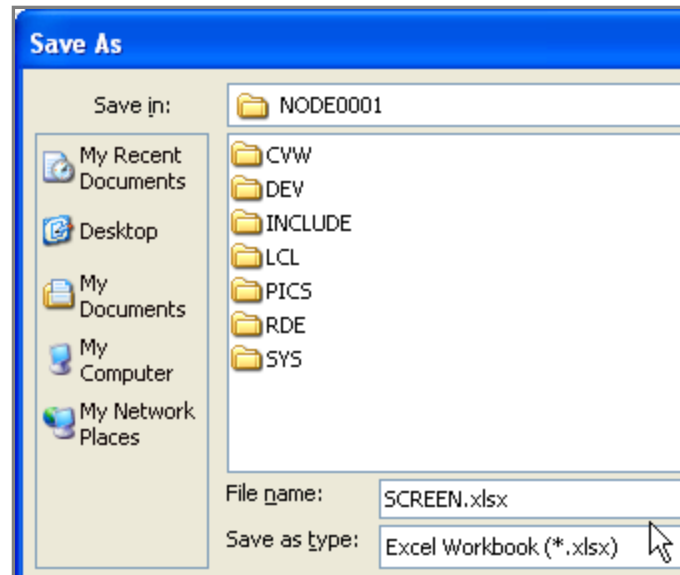


Saving the Data Table Output as an Excel Workbook (.xls or .xlsx)

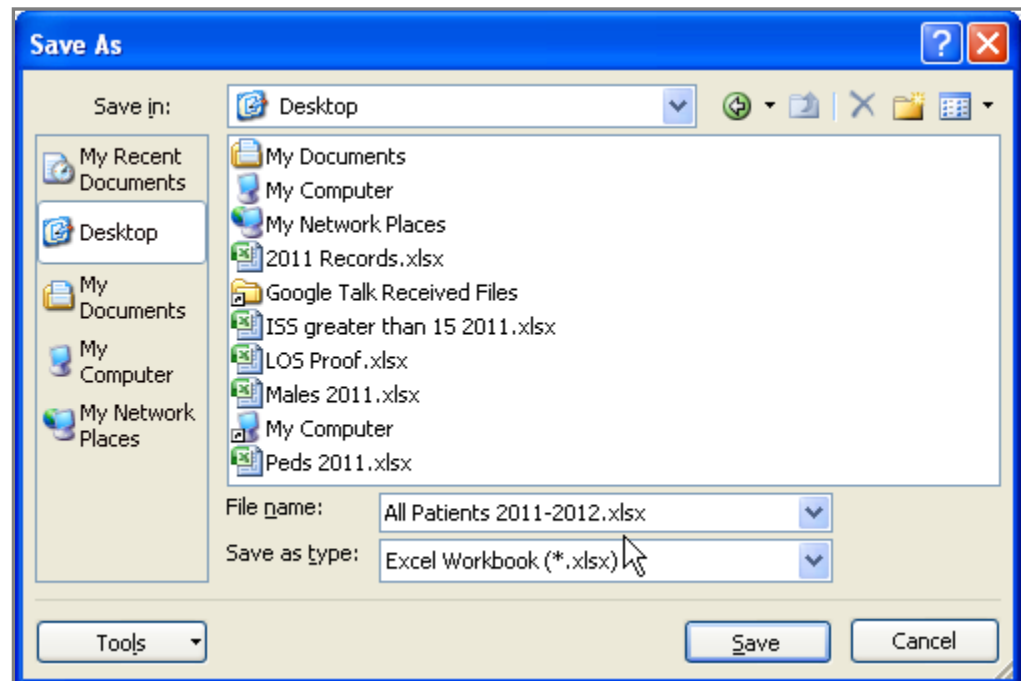
Notice that the document is titled <SCREEN.CSV – Microsoft Excel>. The spreadsheet will need to be saved as an .xls document in order to preserve formatting changes



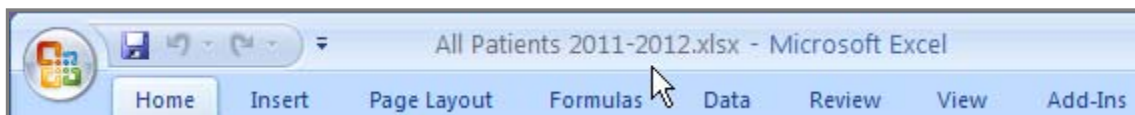
1. Click on the <Office> button, then select <Save As> and then select <Excel Workbook> (older versions of Excel don't have the Office button. In these older versions Save As is under File menu)
2. The Excel <Save As> screen will appear with a default storage location in the Node0001 folder and a default name of <Screen.xlsx>.



3. Change the storage location and file name as desired. (Verify the appropriate version of Excel® in the <Save as Type> field).



4. Click on the <Save> button.(Notice the name change of the Excel document)



Add Formatting to Spreadsheets

Auto-Sizing Columns

There are times when the default size of a column does not allow for the data to be displayed in its entirety. A display of ##### may be seen instead of the actual data. In these cases the columns must be widened to view the data. All the columns can be auto-sized at one time.

	A	B	C	D	E	F	G	H	I	J
1	Medical R	Patient Ar	Patient N	Age	Gender	Injury Typ	Post ED Di	Discharge	Discharge	Total Hosp
2	7.12E+08	#####	Stewart, R	12	Male	Blunt	Corrector	Alive	Corrector	1
3	4.55E+08	#####	Morrison,	41	Male	Blunt	Operating	Alive	Corrector	2
4	3.36E+08	#####	Downs, R	1	Male	Blunt	Burn Unit	Alive	Corrector	1
5	5.03E+08	#####	Gray, Mat	24	Male	Blunt	Corrector	Alive	Corrector	1

5. Highlight the entire sheet by clicking on the box to the left of Column A and directly above Row 1.
6. Double click on any column divider line. All columns will auto-size to the largest width in each column. Notice that the display of ##### has been replaced by actual data

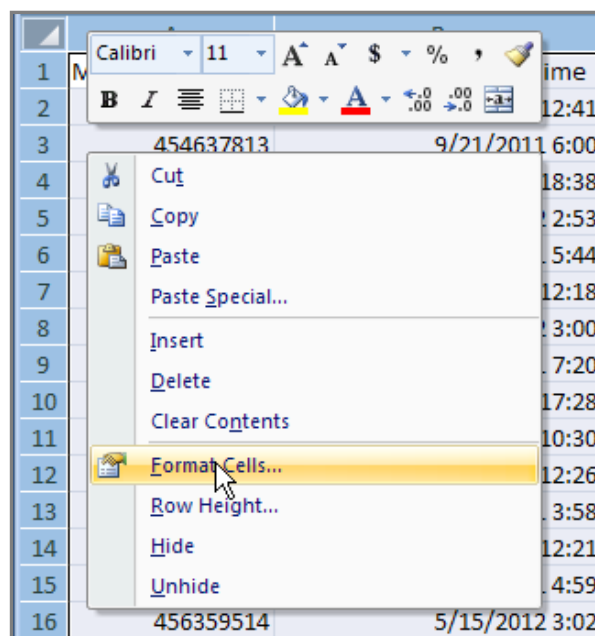
	A	B
1	Medical Record #	Patient Arrival Date & Time
2	712147963	11/10/2012 12:41

Text Wrapping

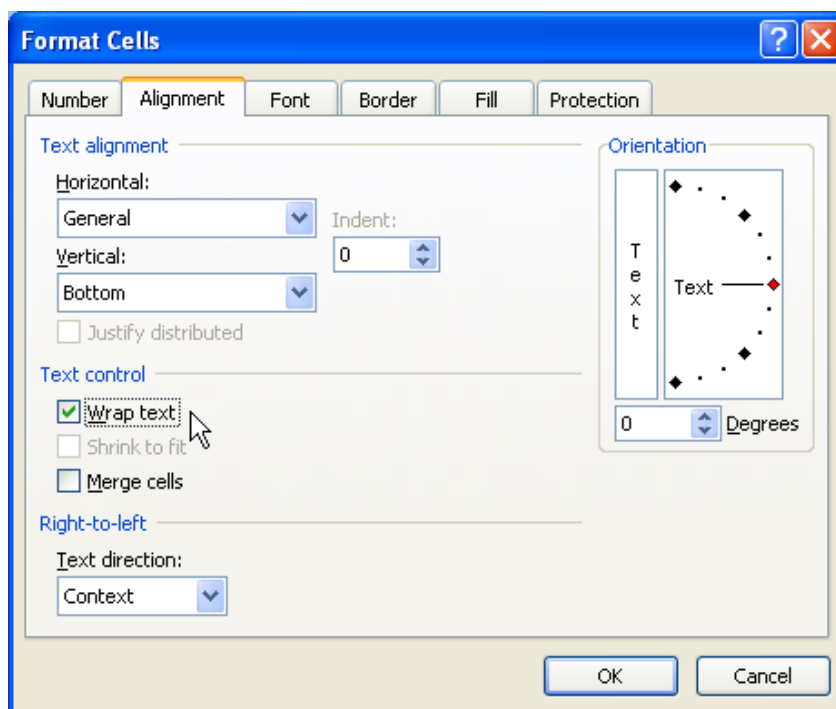
Some of the column headers may be much longer than others and in fact, be longer than the data contained in the column. In these cases, the header text can be wrapped within the cell to allow for shortening of the column width.

	A	B
1	Medical Record #	Patient Arrival Date & Time
2	712147963	11/10/2012 12:41
3	454637813	9/21/2011 6:00

1. With the entire sheet still selected, right click anywhere on the sheet and select Format Cells



2. Click on the <Alignment> tab
3. Click on the <Wrap Text> box and then click on the <OK> button.



4. Unselect entire sheet by clicking on any field
5. Drag any column divider to resize the columns as desired (The divider will resize the column to the left)

	A	B
1	Medical Record #	Patient
2	712147963	
3	454637813	

	A	B
1	Medical	Patient Arrival Date & Time
2	712147963	11/10/2012 12:41
3	454637813	9/21/2011 6:00

6. Double Click between rows (row divider) to resize the row above

	A
1	Medical
2	712147963

	A
1	Medical Record #
2	712147963

Freeze Panes

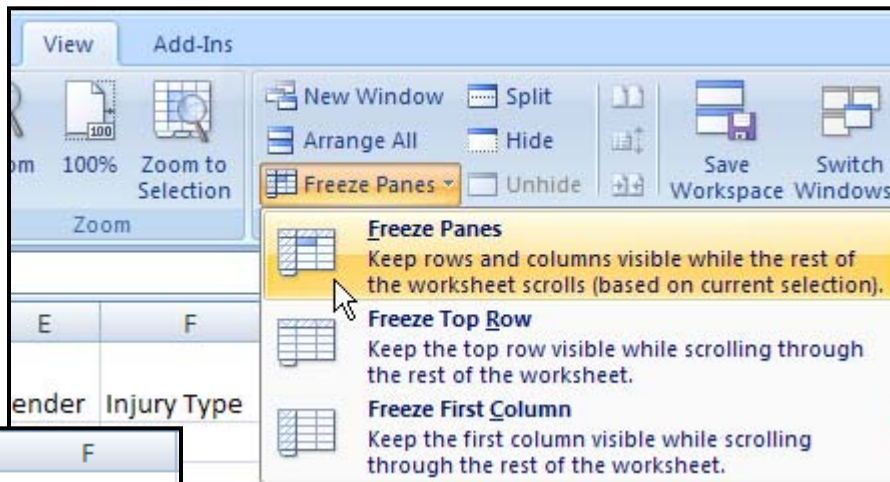
When scrolling through the worksheet it can be beneficial to see the column headers for all of the data regardless of the cursor's location on the page. This can be accomplished by freezing the column header panes.

	A	B	C
13	320788252	10/28/2011 3:58	Gardner, Roberto E
14	146242069	11/4/2012 12:21	Myers, George A

- Freeze Rows/Columns by selecting the Cell below and to the right of the group of rows/columns to freeze (selecting Cell B2 as shown will freeze both Row 1 and Column A)
- Click on the <View> tab
- Click on <Freeze Panes> and select <Freeze Panes>

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

Notice that the divider lines appear and, regardless of where the cursor is located, the header column still shows.



The screenshot shows the Excel ribbon with the 'View' tab selected. The 'Freeze Panes' dropdown menu is open, displaying three options: 'Freeze Panes', 'Freeze Top Row', and 'Freeze First Column'. The 'Freeze Panes' option is highlighted, and its description is visible: 'Keep rows and columns visible while the rest of the worksheet scrolls (based on current selection)'. The other two options are also described: 'Freeze Top Row' (Keep the top row visible while scrolling through the rest of the worksheet) and 'Freeze First Column' (Keep the first column visible while scrolling through the rest of the worksheet).

	A	E	F
	Medical		
1	Record #	Gender	Injury Type
13	320788252	Male	Blunt
14	146242069	Male	Blunt

Using AutoFilters

An AutoFilter will limit what data is shown on a spreadsheet based on a selected subset of data within a particular column. Using AutoFilters provides an easy way to find and work only those rows of the spreadsheet that contain the selected data in the Auto-Filtered column.

Turning on AutoFilters

1. Click on any cell within the spreadsheet that lies below a column header or select the row containing the column headers.

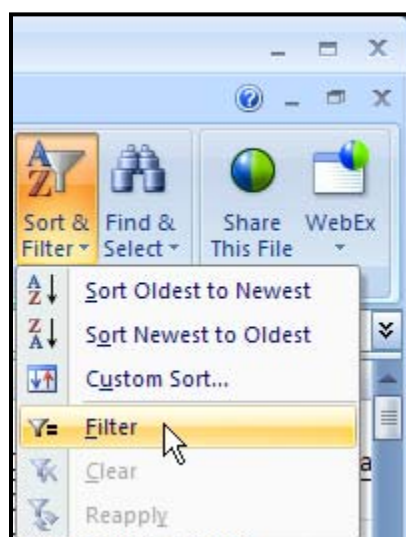
	A	B	C
	Medical	Patient Arrival	
1	Record #	Date & Time	Patient Name
2	712147963	11/10/2012 12:41	Stewart, Robert
3	454637813	9/21/2011 6:00	Morrison, Clark N

NOTE: Selecting a cell with no data will result in an error message when turning on the AutoFilters.

2. Click on the Sort & Filter select Filter

Each column header now has a small box with a down arrow in the lower right hand corner of the cell. This down arrow key will be used for filtering values within the spreadsheet.

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

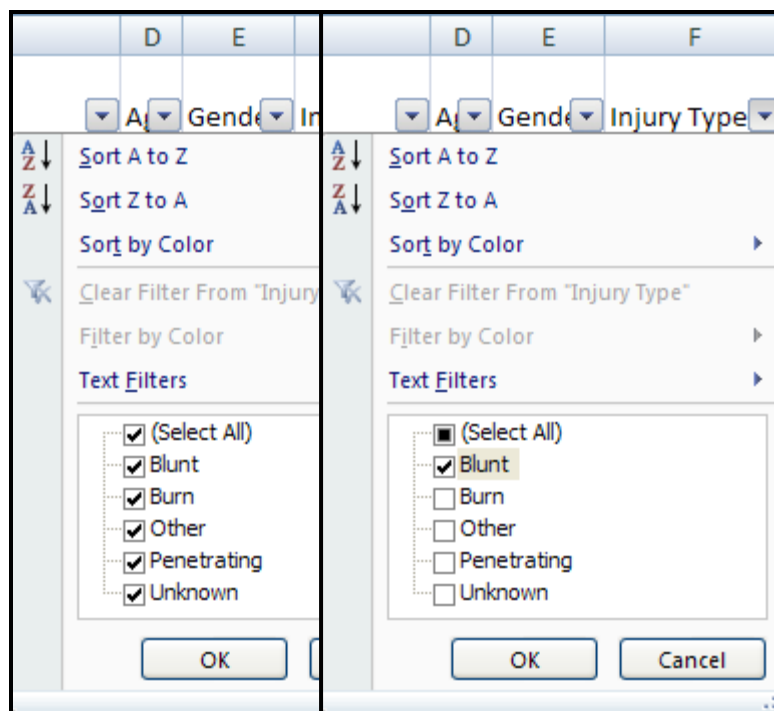


Viewing Data Subsets

Once AutoFilters have been activated, each value within a specific column can be selected. When selected, only records containing that value in that column(s) are viewable - until AutoFilters is turned off or another selection is made.

To Identify Blunt injuries with the discharge status of Dead, the columns for those fields would need to be filtered

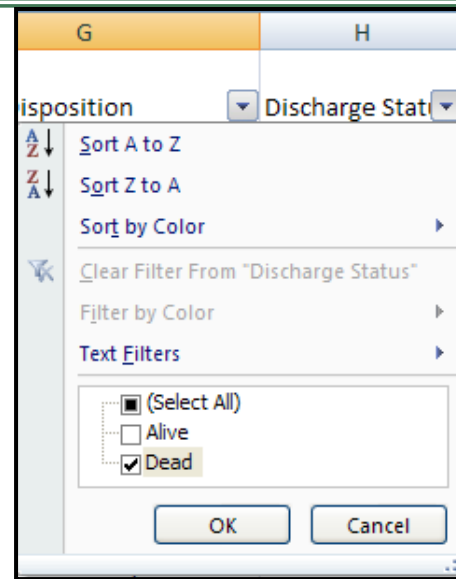
3. Click the down arrow for Injury Type
4. Check only Blunt. This can happen 2 ways:
5. uncheck all the values not wanted
6. uncheck (Select All) then check Blunt
7. Click OK





8. Click the down arrow for Discharge Status
9. Check only Dead
10. Click OK

11. Review the data. Notice that there are gaps in the row numbers. Any row containing an injury type other than Blunt and a Discharge Status other than Dead has been hidden. Also note that the filtered columns (I and J) now have a funnel showing where the down arrow key was previously.



	A	B	C	D	E	F	G	H
	Medical	Patient Arrival				Injury		Discharge
1	Record #	Date & Time	Patient Name	Age	Gender	Type	Post ED Disposition	Status
9	775754296	8/7/2011 7:20	White, Edward	41	Male	Blunt	Intensive Care Unit	Dead
24	578714640	4/14/2011 21:49	Johnston, Emily	92	Female	Blunt	Intensive Care Unit	Dead
41	841278163	4/22/2011 17:37	Thornton, Bertha	89	Female	Blunt	Telemetry Unit	Dead
62	229848879	7/12/2012 16:13	York, Beverly	38	Female	Blunt	Intensive Care Unit	Dead

Using Filters to Create Additional Worksheets

The filters work great to show a group of records temporarily. But moving the results to another worksheet will create a permanent place for the group of records. In this example, a worksheet for deaths will provide a permanent place to for deaths and allow deaths to be specifically analyzed

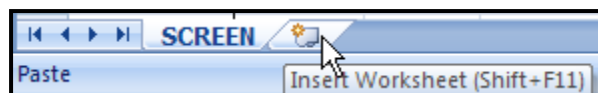
1. Filter on Dead Only
2. Highlight the visible data only by clicking and dragging the cells wanted (Start at A1 and drag down to the last cell with data bottom right)

	A	L	M	N	O
	Medical	Total			
1	Record #	Vent	ISS	TRISS	Admit Service
		Days			
631	798729699	0	25	-	Trauma
661	256475910	0	9	0.968	Emergency Medicine
671	852506618	1	16	-	Neurosurgery
677	720417411	1	38	0.048	Trauma
702	518558838	n/a	25	-	Trauma
705	369901678	n/a	16	0.886	Trauma
707	883856928	1	25	0.319	Trauma
711	311634463	1	38	0.048	Trauma
732	817681537	4	19	0.196	Trauma
837	467879767	4	26	0.437	Trauma
842	229134443	1	4	0.978	Trauma
848	532204339	1	26	0.666	Trauma

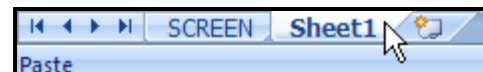
- Right click anywhere in the highlighted area and Copy (The results should be many dotted groups similar to what is shown here.

	A	L	M	N	O
	Medical	Total Vent			
1	Record #	Days	ISS	TRISS	Admit Service
631	798729699	0	25	-	Trauma
661	256475910	0	9	0.968	Emergency Medicine
671	852506618	1	16	-	Neurosurgery
677	720417411	1	38	0.048	Trauma
702	518558838	n/a	25	-	Trauma
705	369901678	n/a	16	0.886	Trauma
707	883856928	1	25	0.319	Trauma
711	311634463	1	38	0.048	Trauma
732	817681537	4	19	0.196	Trauma
837	467879767	4	26	0.437	Trauma
842	229134443	1	4	0.978	Trauma
848	532204339	1	26	0.666	Trauma

- Click the Insert Worksheet tab



- Select the newly created Sheet1 tab



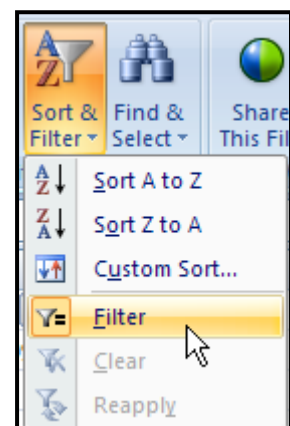
- Paste using enter (Now there is a permanent Worksheet with the only Deaths in it

Restoring All Rows / Changing Filter Parameters

Restoring or showing all values, including those that were hidden by using the auto-filter function can be done in one of two ways:

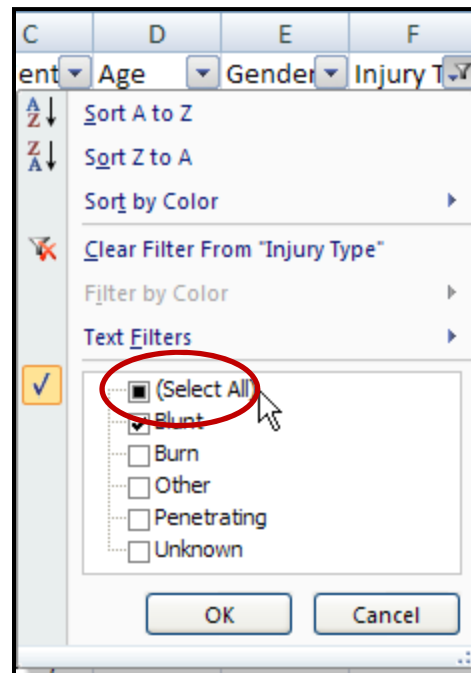
Method 1 –

- Click on the funnel showing in the lower right-hand corner of the filtered column.
- Select the box to the left of <Select All>.
- Click the <OK> Button and repeat this process for each filtered column



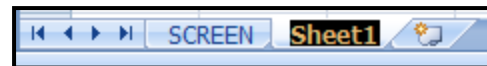
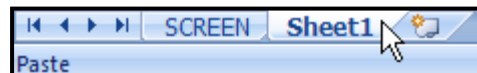
Method 2

1. Reselect Filter from the Sort & Filter button (This way will remove all the down arrows)

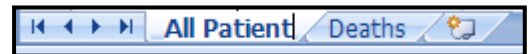
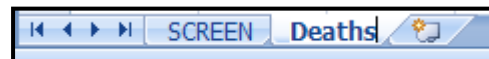
**Renaming Sheets**

There are now 2 Worksheets with non-descript default names. The names can be changed to something more descriptive.

1. Double click on the Sheet1 label



2. Type in the desired name.(Deaths)
3. Double click the SCEEN label and rename it (All Patients)



Creating Formulas

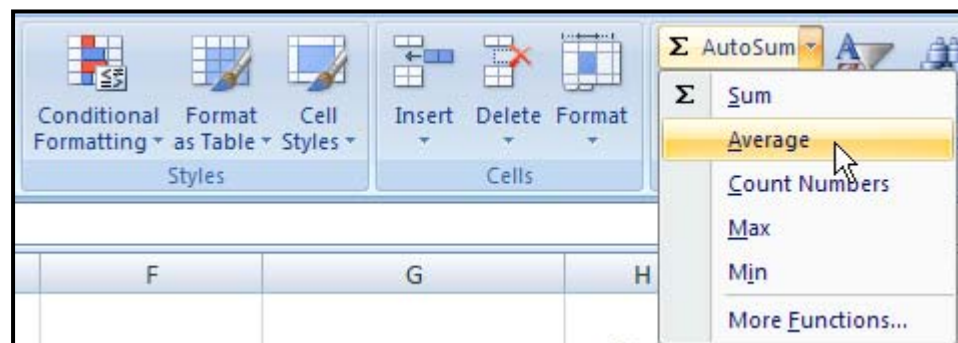
Excel has many formulas that can be used to assess and/or manipulate the spreadsheet. Average, Sum and Count are 3 that can be used for analysis of a Data Table report.

Average Age

1. Scroll down to the bottom of the spreadsheet.
2. Select the Cell to display the average in

1	Medical Record #	Patient Arrival Date & Time	Patient Name	Age
856	159234764	10/24/2011 9:04	Gardner, Sarah	79
857	611791752	8/12/2011 19:28	Herring, Howard C	12
858	389973081	4/19/2012 22:45	Patrick, Yvonne N	0
859	923713778	4/9/2012 3:34	Torres, Michael	15
860				

3. Select Average Under AutoSum drop down



4. Check the formula cell range (The default range will assessed by Excel will stop at any gap in data, first row missing age, therefore check and possibly change the range starting at Cell 2)
5. Enter and the calculation will appear

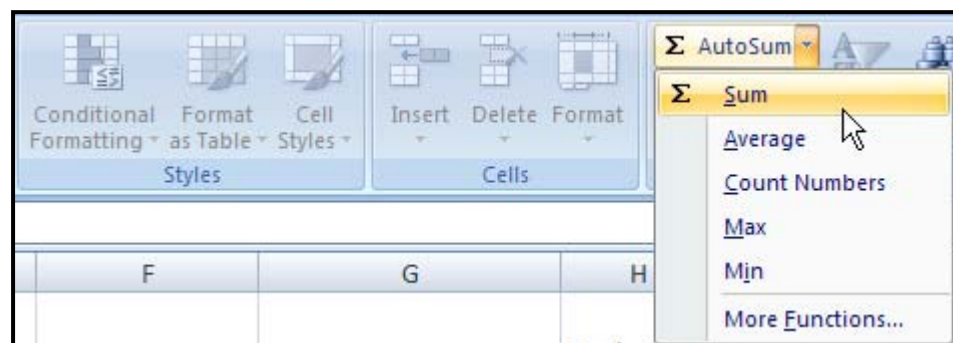
Age	Age	Age
79	79	79
12	12	12
0	0	0
15	15	15
=	=	29.981
AVERA	AVERA	
GE(GE(D2:	
D833:	D859)	
D859)		

Sum of Hospital Days

1. Scroll down to the bottom of the spreadsheet.
2. Select the Cell where the Sum will be displayed.

H	I	J
Discharge Status	Discharge To	Total Hospital Days
Alive	Skilled Nursing Facility	8
Alive	Correctional Facility	1
Alive	Correctional Facility	4
Alive	Correctional Facility	5

3. Select Sum Under AutoSum drop down.



4. Check the formula cell range (The default range will be assessed by Excel will stop at any gap in data, first row missing age, therefore check and possibly change the range starting at Cell 2).
5. Hit Enter and the calculation will appear.

Total Hospital Days	Total Hospital Days
6	6
12	12
1	1
1	1
1	1
10	10
8	8
1	1
4	4
5	5
=SUM(J2:J859)	2900

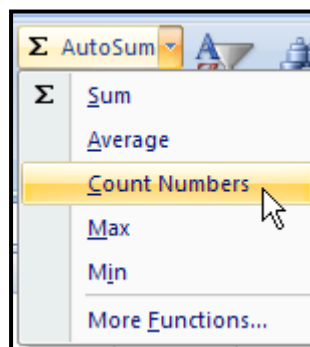
Count Number TRISS

To assess the completion of data or to assess the number of records with a specific value, Counts can be used. The default behavior of Count is to assess the number of rows with a numeric value in the specified column. This example is to assess the number of records containing a TRISS value.

1. Scroll down to the bottom of the spreadsheet.
2. Select the Cell where the Count will be displayed.

ISS	TRISS
9	0.968
1	0.996
16	0.958
4	0.993

3. Select Count Number from AutoSum button.



4. Check the formula cell range (The default range will assessed by Excel will stop at any gap in data, first row missing age, therefore check and possibly change the range starting at Cell 2).
5. Hit Enter and the calculation will appear.

TRISS
0.968
0.996
0.958
0.993
=COUNT(N855:N859)

TRISS
0.968
0.996
0.958
0.993
=COUNT(N2:N859)

TRISS
0.968
0.996
0.958
0.993
635

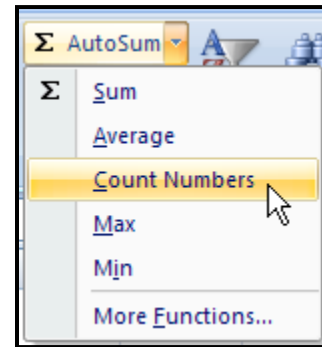
Count of Post ED Disposition Valued

To get a count associated with a non-numeric column the COUNT formula needs to be changed to COUNTA.

1. Scroll down to the bottom of the spreadsheet.
2. Select the Cell where the Count will be displayed.

Injury Type	Post ED Disposition
Blunt	Correctional Facility
	Neonatal/Pediatric
Blunt	Care Unit
Penetrating	Operating Room

3. Select Count Numbers from AutoSum button.



4. Check the formula cell range. The default range is shown enclosed in dotted line. If the dotted line is placed in the incorrect column, change the location by highlighting part of the correct column starting with the last cell.

Injury Type	Post ED Disposition
Blunt	Correctional Facility
	Neonatal/Pediatric
Blunt	Care Unit
Penetrating	Operating Room
	=COUNT(D860:F860)

5. Make sure it starts with Cell 2.

Post ED Disposition
Correctional Facility
Neonatal/Pediatric
Care Unit
Operating Room
=COUNT(G2:G859)

Post ED Disposition
Correctional Facility
Neonatal/Pediatric
Care Unit
Operating Room
=COUNT(G858:G859)

6. Change COUNT to COUNTA.
7. Hit Enter and the calculation will appear.

Post ED Disposition
Correctional Facility
Neonatal/Pediatric
Care Unit
Operating Room
=COUNTA(G2:G859)

Post ED Disposition
Correctional Facility
Neonatal/Pediatric
Care Unit
Operating Room
858

Average ISS for Deaths

Because the deaths were separated out on a separate tab any formula can be ran on just the deaths.

1. Select the Deaths tab.
2. Select the Cell where the Average will be displayed.
3. Select Average from the AutoSum drop-down menu.
4. Check the formula cell range.
5. The average displayed is the average ISS for Deaths.

All Patient 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



Practice Exercises

1. Create a Data Table Report with at least 5 data elements, including Admitting Physician. Sent the report to Excel and Filter the data by physician. Provide output on each physician.
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 Total ICU Days and ED Destination. In Excel, filter the report by ED destination and get a count for each.