

How to Pivot your way through data...

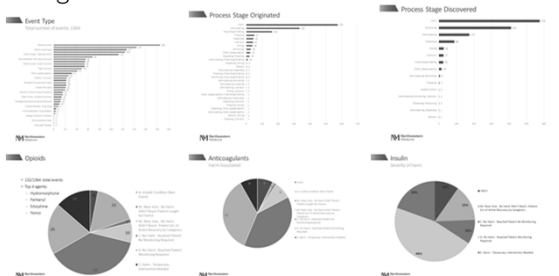
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Northwestern Memorial Hospital
April 14, 2018

Speaker has no conflicts of interest to disclose

Objectives

- Describe how pivot tables can concisely summarize rows and columns of data.
- List scenarios in pharmacy administration, operations, and research where use of pivot tables can be helpful.
- Demonstrate how to create a pivot table and related graph given a specific data set.

Imagine this...

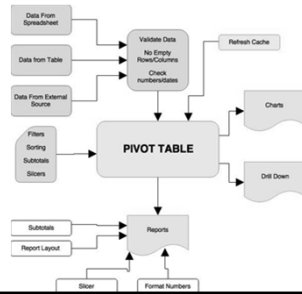


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[illegible]

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Parts of a Pivot Table



Let's Create Our First Pivot Table

1. Open file "ICHP Shortages"
2. Click on ICHP tab
3. Select all cells, including header row. (use quick button)
4. Insert tab > PivotTable (most left side)
5. Click "OK" on pop-up window
6. Automatically directed to new sheet, with PivotTable controls.

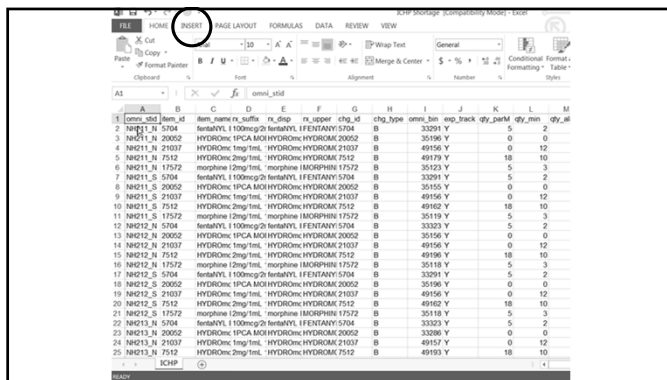
This will highlight all cells...



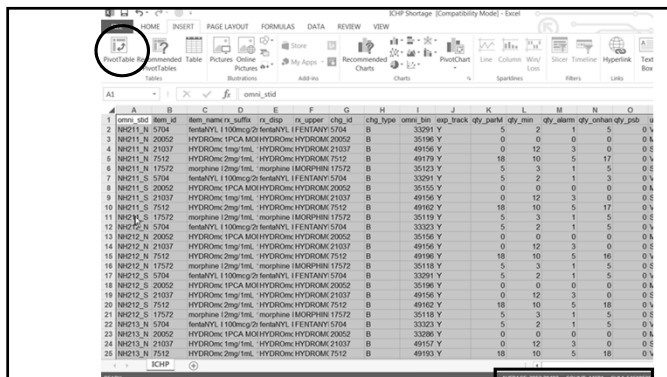
Item_id	Item_name	ix_disp	ix_upper	chgs_id	chgs_type	whs_id	whs_track	qty_parM	qty_min	qty_max
NA011_S_5104	ItemName1	1	100mg/20	ItemName1	1	1	1	1	1	1
NA011_N_20002	ItemName2	1	100mg/20	ItemName2	1	1	1	1	1	1
NA011_N_21007	ItemName3	1	100mg/20	ItemName3	1	1	1	1	1	1
NA011_N_7512	ItemName4	1	100mg/20	ItemName4	1	1	1	1	1	1
NA011_S_17512	ItemName5	1	100mg/20	ItemName5	1	1	1	1	1	1
NA011_S_5104	ItemName6	1	100mg/20	ItemName6	1	1	1	1	1	1
NA011_S_20002	ItemName7	1	100mg/20	ItemName7	1	1	1	1	1	1
NA011_S_21007	ItemName8	1	100mg/20	ItemName8	1	1	1	1	1	1
NA011_S_7512	ItemName9	1	100mg/20	ItemName9	1	1	1	1	1	1
NA012_S_5104	ItemName10	1	100mg/20	ItemName10	1	1	1	1	1	1
NA012_S_20002	ItemName11	1	100mg/20	ItemName11	1	1	1	1	1	1
NA012_S_21007	ItemName12	1	100mg/20	ItemName12	1	1	1	1	1	1
NA012_S_7512	ItemName13	1	100mg/20	ItemName13	1	1	1	1	1	1
NA012_N_5104	ItemName14	1	100mg/20	ItemName14	1	1	1	1	1	1
NA012_N_20002	ItemName15	1	100mg/20	ItemName15	1	1	1	1	1	1
NA012_N_21007	ItemName16	1	100mg/20	ItemName16	1	1	1	1	1	1
NA012_N_7512	ItemName17	1	100mg/20	ItemName17	1	1	1	1	1	1
NA012_N_5104	ItemName18	1	100mg/20	ItemName18	1	1	1	1	1	1
NA012_N_20002	ItemName19	1	100mg/20	ItemName19	1	1	1	1	1	1
NA012_N_21007	ItemName20	1	100mg/20	ItemName20	1	1	1	1	1	1
NA012_N_7512	ItemName21	1	100mg/20	ItemName21	1	1	1	1	1	1
NA013_N_5104	ItemName22	1	100mg/20	ItemName22	1	1	1	1	1	1
NA013_N_20002	ItemName23	1	100mg/20	ItemName23	1	1	1	1	1	1
NA013_N_21007	ItemName24	1	100mg/20	ItemName24	1	1	1	1	1	1
NA013_N_7512	ItemName25	1	100mg/20	ItemName25	1	1	1	1	1	1

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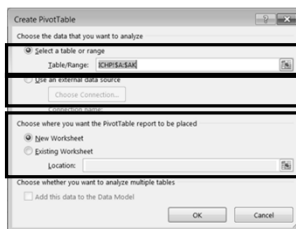
The screenshot shows the Excel ribbon with the 'INSERT' tab selected. The 'Tables' group contains the 'PivotTable' button, which is circled in red. Below the ribbon, a portion of the 'ICHP' worksheet is visible, showing a table with columns A through M. The table contains data for various items, including item names, quantities, and prices.

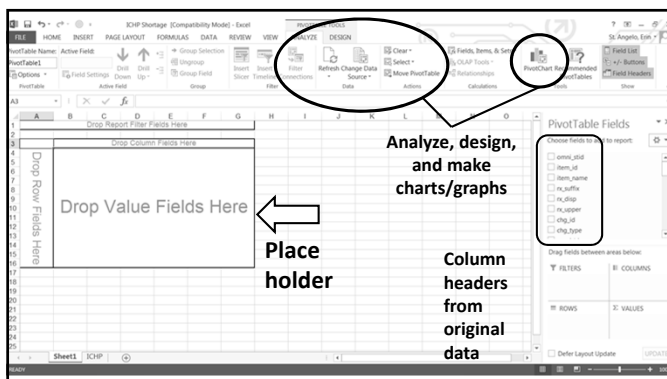


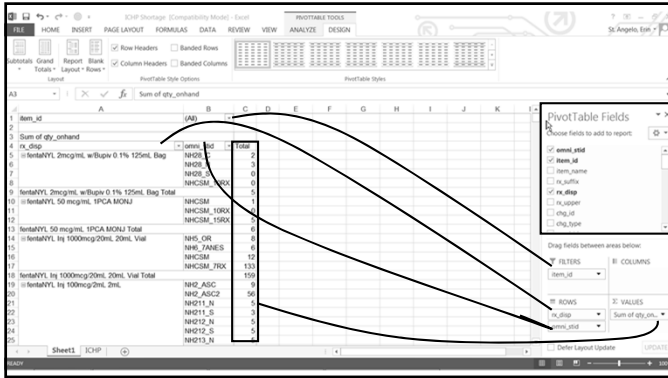
The screenshot shows the Excel ribbon with the 'PivotTable' button circled in red. Below the ribbon, a portion of the 'ICHP' worksheet is visible, showing a table with columns A through M. The table contains data for various items, including item names, quantities, and prices.

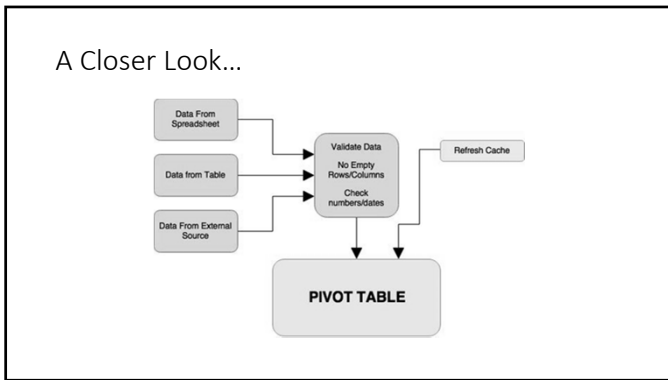
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Data Source...

- Select Data
- A Table
- External Source

Set as a Table

ID	Name	Age	Gender	Height	Weight	Score	Count
1	W0011-A	20	F	165	55	85	1
2	W0011-B	21	M	170	60	80	1
3	W0011-C	22	F	160	50	82	1
4	W0011-D	23	M	175	65	78	1
5	W0011-E	24	F	168	58	81	1
6	W0011-F	25	M	172	62	79	1
7	W0011-G	26	F	163	52	83	1
8	W0011-H	27	M	178	68	77	1
9	W0011-I	28	F	166	56	80	1
10	W0011-J	29	M	171	61	79	1
11	W0011-K	30	F	164	54	82	1
12	W0011-L	31	M	173	63	78	1
13	W0011-M	32	F	167	57	81	1
14	W0011-N	33	M	174	64	77	1
15	W0011-O	34	F	169	59	80	1
16	W0011-P	35	M	176	66	76	1
17	W0011-Q	36	F	170	70	75	1
18	W0011-R	37	M	177	69	74	1
19	W0011-S	38	F	171	71	73	1
20	W0011-T	39	M	175	75	72	1
21	W0011-U	40	F	172	72	71	1
22	W0011-V	41	M	176	76	70	1
23	W0011-W	42	F	173	73	69	1
24	W0011-X	43	M	177	77	68	1
25	W0011-Y	44	F	174	74	67	1
26	W0011-Z	45	M	178	78	66	1

- When you create a PivotTable, a copy of the data is stored in a pivot cache. Any changes to the data won't show up in the report until you refresh the cache.

Set as a Table

ID	Name	Age	Gender	Height	Weight	Score	Count
1	W0011-A	20	F	165	55	85	1
2	W0011-B	21	M	170	60	80	1
3	W0011-C	22	F	160	50	82	1
4	W0011-D	23	M	175	65	78	1
5	W0011-E	24	F	168	58	81	1
6	W0011-F	25	M	172	62	79	1
7	W0011-G	26	F	163	52	83	1
8	W0011-H	27	M	178	68	77	1
9	W0011-I	28	F	166	56	80	1
10	W0011-J	29	M	171	61	79	1
11	W0011-K	30	F	164	54	82	1
12	W0011-L	31	M	173	63	78	1
13	W0011-M	32	F	167	57	81	1
14	W0011-N	33	M	174	64	77	1
15	W0011-O	34	F	169	59	80	1
16	W0011-P	35	M	176	66	76	1
17	W0011-Q	36	F	170	70	75	1
18	W0011-R	37	M	177	69	74	1
19	W0011-S	38	F	171	71	73	1
20	W0011-T	39	M	175	75	72	1
21	W0011-U	40	F	172	72	71	1
22	W0011-V	41	M	176	76	70	1
23	W0011-W	42	F	173	73	69	1
24	W0011-X	43	M	177	77	68	1
25	W0011-Y	44	F	174	74	67	1
26	W0011-Z	45	M	178	78	66	1

- To refresh the data:
- Right-click the pivot table and click Refresh Data. Or
 - Go to the Options tab, and click the Refresh button

When you create a PivotTable, a copy of the data is stored in a pivot cache. Any changes to the data won't show up in the report until you refresh the cache.

Clean Data

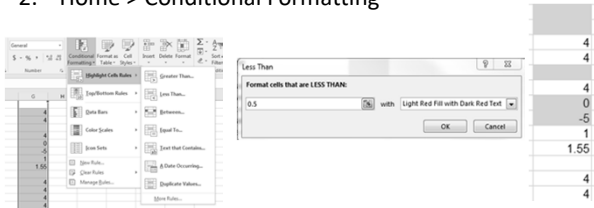
Any blank rows, blank columns, or text in a number field will give unpredictable results.

Ex: Summing a number field with blanks becomes a Count.

Use Conditional formatting on number fields to search for invalid data.

Find Invalid Numbers

1. Select a column or range of cells.
2. Home > Conditional Formatting



What are some capabilities of a Pivot Table

- A. Picks Fields to Use
- B. Change Layout Quickly
- C. Work with snap shot of data
- D. All of the above

The Good...

	A	B	C	D	E
1	Product	Price	Qty Sold	Total	Date
2	511115	\$283	135	\$38,205	1/3/2015
3	382219	\$172	77	\$13,244	1/3/2015
4	382219	\$305	112	\$34,160	1/3/2015
5	933592	\$729	193	\$140,697	1/3/2015
6	933592	\$588	9	\$5,292	1/27/2015
7	933592	\$599	28	\$16,772	1/27/2015
8	511115	\$10	156	\$1,560	1/27/2015
9	833987	\$54	42	\$2,268	1/30/2015
10	382219	\$527	124	\$65,348	1/30/2015
11	933592	\$224	180	\$41,664	1/30/2015
12	382219	\$776	142	\$110,192	2/6/2015
13	933592	\$69	49	\$3,381	2/6/2015
14	382219	\$381	32	\$12,192	2/6/2015
15	231771	\$75	25	\$1,875	2/6/2015
16	933592	\$635	120	\$76,200	2/6/2015
17	382219	\$332	96	\$31,872	2/13/2015
18	511115	\$411	166	\$60,226	2/13/2015
19	933592	\$641	166	\$106,406	2/13/2015
20	382219	\$616	131	\$80,696	2/13/2015

The Bad...

North		
1	January	33,073
2	February	35,880
3	March	36,216
4	April	33,205
5	May	30,197
6	June	29,104
7	July	31,574
8	August	79,427
9	September	11,660
10	October	84,173
11	November	35,880
12	December	25,612
13	January	22,785
14	February	69,896
15	March	30,261

Describe current situations for pivot tables

Poll Everywhere Running List of answers

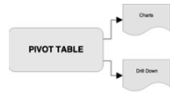
Pivot Charts

• PivotTable Tools → Data → Analyze → PivotChart

Item Name	Sum of qty_ordered	Sum of qty_returned
Item 1	150	320
Item 2	200	2774
Item 3	113	263
Item 4	1197	3202
Item 5	30	150
Grand Total	2760	31699

Follow the wizard through the regular Chart options.

Pivot Charts



Item_name	Sum of qty_onhand	Sum of qty_onhand
Sum of qty_onhand	159	320
Item_name		
1000mcg/20mL, 20mL, Vial	26299	27764
1000mcg/20mL, 20mL, Vial	113	263
2500mcg/50mL, 50mL, Vial	1197	3200
500mcg/10mL, 10mL, Vial	30	150
Grand Total	27804	31699

Subtotals

PivotTable Tools > Design > Layout

Subtotals control allows you to toggle subtotals on and off, as well as place them at the top or bottom of the section.



Item_name	Sum of qty_onhand	Sum of qty_onhand
Sum of qty_onhand	159	320
Item_name		
1000mcg/20mL, 20mL, Vial	26299	27764
1000mcg/20mL, 20mL, Vial	113	263
2500mcg/50mL, 50mL, Vial	1197	3200
500mcg/10mL, 10mL, Vial	30	150
Grand Total	27804	31699

Report Layout

Compact

Item_name	Sum of qty_onhand
Sum of qty_onhand	159
Item_name	
1000mcg/20mL, 20mL, Vial	26299
1000mcg/20mL, 20mL, Vial	113
2500mcg/50mL, 50mL, Vial	1197
500mcg/10mL, 10mL, Vial	30
Grand Total	27804

Outline

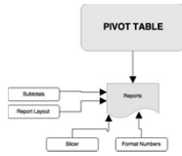
Item_name	Sum of qty_onhand
Sum of qty_onhand	159
Item_name	
1000mcg/20mL, 20mL, Vial	26299
1000mcg/20mL, 20mL, Vial	113
2500mcg/50mL, 50mL, Vial	1197
500mcg/10mL, 10mL, Vial	30
Grand Total	27804

Tabular

Item_name	Sum of qty_onhand
Sum of qty_onhand	159
Item_name	
1000mcg/20mL, 20mL, Vial	26299
1000mcg/20mL, 20mL, Vial	113
2500mcg/50mL, 50mL, Vial	1197
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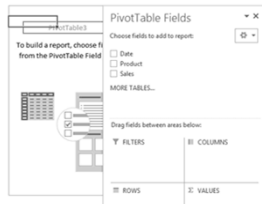
Be Selective...

- Filters
 - Drop down arrows
 - Value field settings – top 10 values
 - Slicers
 - Interactive, good for doing “what-if” scenarios
- Slicers
Interactive, good for doing “what-if” scenarios



Tricks

- Group Dates into Quarters, Months or in any other combination



<https://www.godify.co.in/15-life-and-time-saving-pivot-table-tricks/>

Tricks

- Formatting Numbers

Row Labels	Sum of Expense
Strategy	117800
Sales	146910
Finance	131650
Digital marketing	131410
Logistics	106280
Accounts	146070
Admin	121590
Grand Total	901710

DO NOT format the cells

Row Labels	Sum of Expense
Strategy	117800
Sales	146910
Finance	131650
Digital marketing	131410
Logistics	106280
Accounts	146070
Admin	121590
Grand Total	901710

The correct way is to pick up the format from VALUE FIELD SETTINGS

<https://www.godify.co.in/15-life-and-time-saving-pivot-table-tricks/>

Tips

- Blank ≠ Zero, fill empty cells
- Drill down: Double click on any data point to view the rows that comprise that value
- Refresh
- Hide Chart Buttons
- To keep file size small
 - Right click on the PivotTable -> table options -> uncheck "save data with table layout"
- Make a PivotTable data source be a previous PivotTable
- If you want to keep column widths unchanged:
 - Right click on the PivotTable -> table options -> uncheck "AutoFormat" table
- If you want the rows or columns of your pivot tables to remain unchanged, regardless of filter selection:
 - Right click on the grey box (field name) in the "row" or "column" position -> field settings -> check "show items with no data"

Pivot Away!

<http://blogs.bentley.com/step-content/updates/2016/02/question-mark.jpg>

