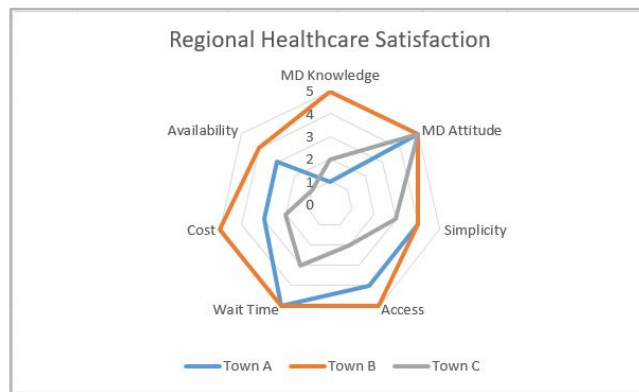
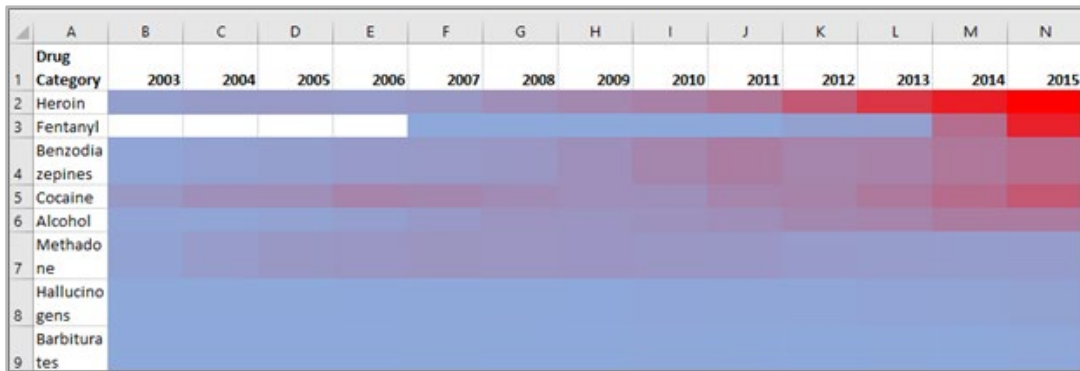


Visualizing Datasets with Excel: Heatmaps, Radar Charts, and More

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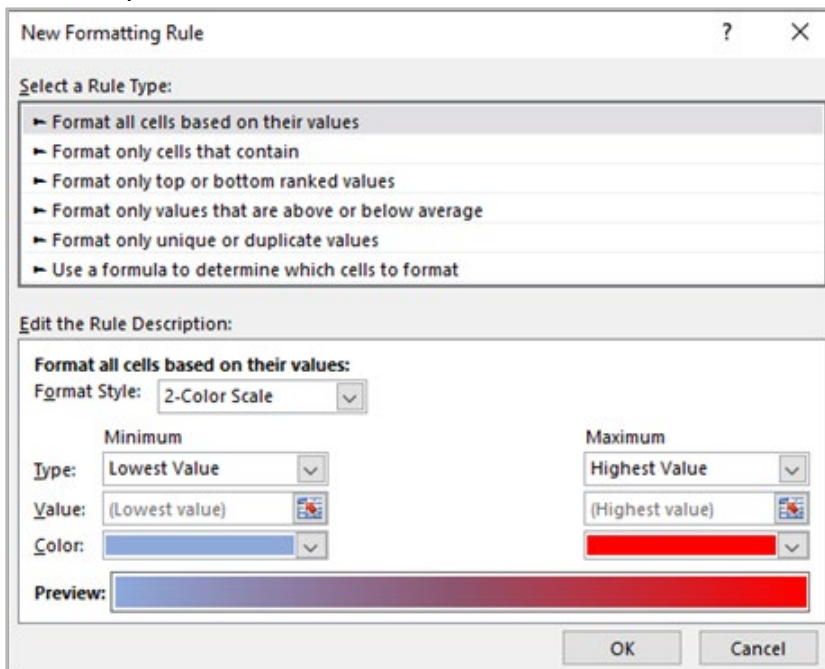


Heatmap

1. Click on the Heatmap tab in the Excel file.
2. Select the cells containing the opioid overdose death data to be colored in the heatmap (do not select the first column or the first row containing headers).

Drug Category	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Heroin	87	124	131	117	146	233	283	338	431	680	983	1,196	1,424
Fentanyl					4	6	7	5	0	75	84	503	1,155
Benzodiazepines	38	69	90	121	133	154	211	300	376	311	328	420	504
Cocaine	140	221	223	317	287	252	220	213	309	326	405	517	685
Alcohol	40	38	58	89	135	181	173	195	226	282	304	383	380
Methadone	55	116	144	161	176	168	169	155	156	123	112	103	108
Hallucinogens	7	8	8	10	13	14	9	26	31	31	43	49	61
Barbiturates	5	3	5	3	7	3	5	13	11	6	10	6	19

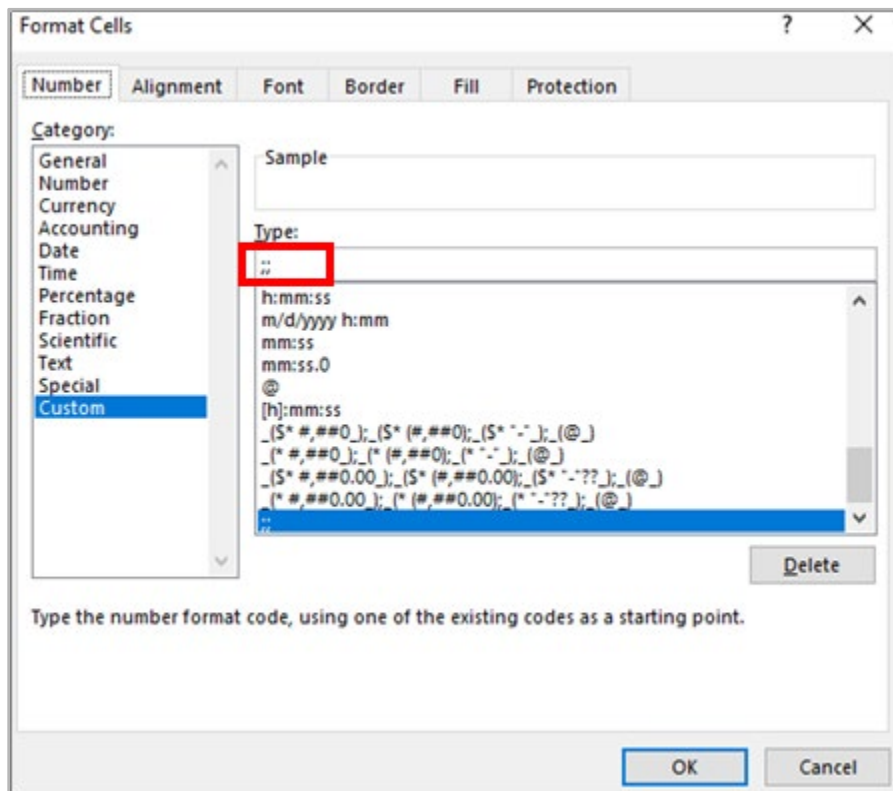
3. On the Home Menu tab at the top, click the dropdown arrow next to “Conditional Formatting.”
4. Select “New Rule...” The New Formatting Rule Window will appear.
5. Under Select a Rule Type, select “Format all cells based on their values.”
6. For Format Style, select “2-Color Scale.”
7. Under Minimum, use the dropdown arrow next to “Color” to select the color that will represent the minimum values in the data set.
8. Under Maximum, use the dropdown arrow next to “Color” to select the color that will represent the maximum values in the data set.



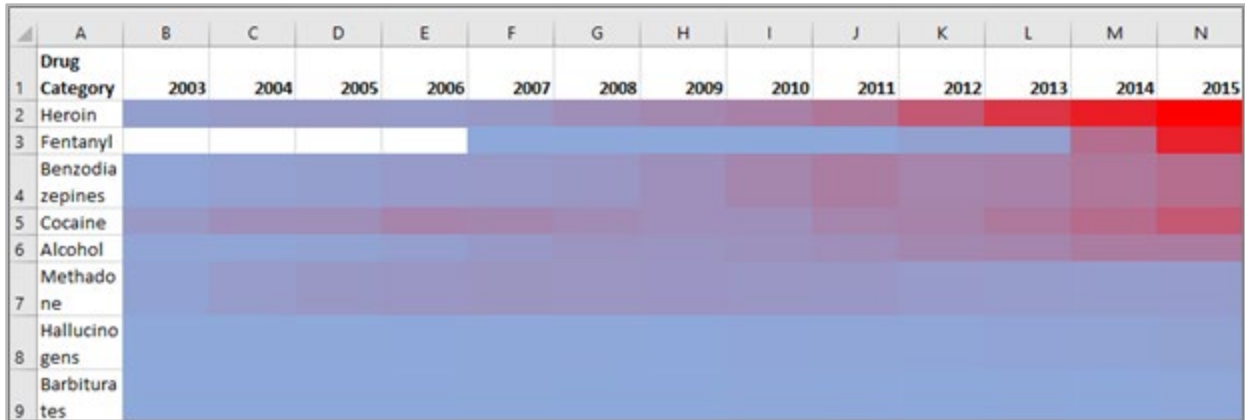
9. Click “OK.”

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Drug														
1 Category		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
2 Heroin		87	124	131	117	146	233	283	338	431	680	983	1,196	1,424
3 Fentanyl						4	6	7	5	0	75	84	503	1,155
4 Benzodia zepines		38	69	90	121	133	154	211	300	376	311	328	420	504
5 Cocaine		140	221	223	317	287	252	220	213	309	326	405	517	685
6 Alcohol		40	38	58	89	135	181	173	195	226	282	304	383	380
7 Methado ne		55	116	144	161	176	168	169	155	156	123	112	103	108
8 Hallucino gens		7	8	8	10	13	14	9	26	31	31	43	49	61
9 Barbitura tes		5	3	5	3	7	3	5	13	11	6	10	6	19

10. Select the cells containing the opioid overdose death data that were just colored above.
11. Right click on the selection area and select "Format Cells..."
12. The Format Cells window will appear.
13. Make sure you are on the Number tab (leftmost tab).
14. Under Category, click on "Custom."
15. To remove the data values from the heatmap, in the text box under "Type:" delete the current text and enter ";;"



16. Click OK.
17. The numbers have now been removed from the heatmap, while maintaining the colors.



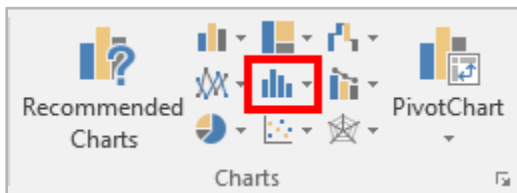
Tip: blue/orange, blue/red, and blue/brown are color-blind friendly heatmap palettes.

Box and Whisker Plot

1. Click on the Box and Whisker tab in the Excel file.
2. Select the data located in columns A, B, and C.

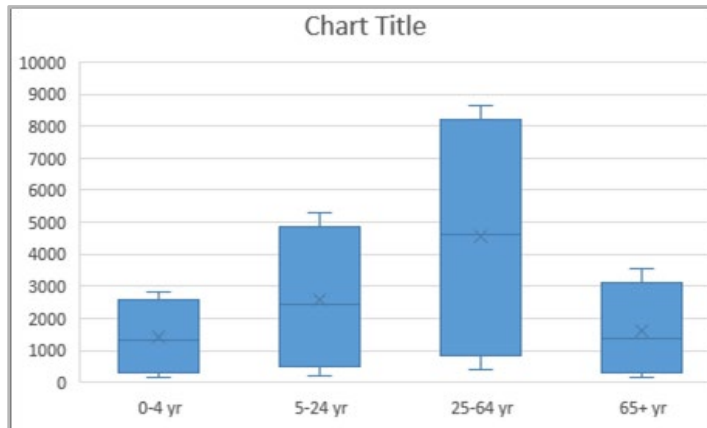
	A	B	C	D
1	Season	Age Group	A (H1N1)pdm09	A (H3)
2	2018-19	0-4 yr	2802	1733
3	2018-19	5-24 yr	5315	6323
4	2018-19	25-64 yr	8624	4294
5	2018-19	65+ yr	3531	4256
6	2017-18	0-4 yr	781	2175
7	2017-18	5-24 yr	1443	5985
8	2017-18	25-64 yr	2292	8983
9	2017-18	65+ yr	821	11487
10	2016-17	0-4 yr	140	2100
11	2016-17	5-24 yr	196	7919
12	2016-17	25-64 yr	378	8130
13	2016-17	65+ yr	160	9728
14	2015-16	0-4 yr	1876	309
15	2015-16	5-24 yr	3419	1513
16	2015-16	25-64 yr	6918	1080
17	2015-16	65+ yr	1906	852

3. On the Insert Menu tab at the top, go to the Charts section and click the small dropdown arrow next to icon with four blue bars.



4. Select the "Box and Whisker" chart option.

5. A Box and Whisker plot should now appear in the spreadsheet.




6. Click on the chart border to access the Chart Tools which appear in the Menu bar.

7. Under the Chart Tools Tab, make sure you are on the Design Tab.


8. Click on the dropdown arrow next to “Add Chart Element” (located on the far left) and select “Axis Titles” -> “Primary Vertical.”

9. An “Axis Title” text box will now appear on the y-axis. Double click on this text box and edit the axis title to “Flu Cases.”

10. Right click on one of the boxes and select “Format Data Series...” The “Format Data Series” section will appear on the right side of the page.

11. Under Format Data Series, click on the bar graph icon .

12. Using either the slider or up/down arrows, change the Gap Width to 75% to decrease the distances between boxes.

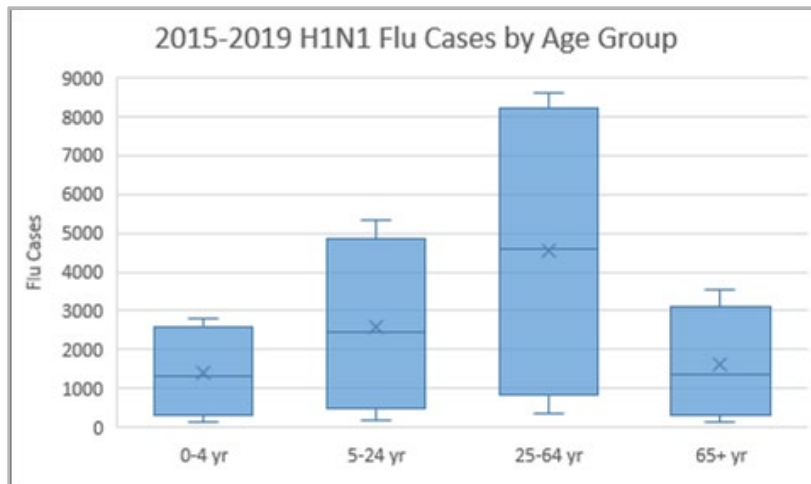
13. Under Format Data Series, click on the paint can icon .

14. Under “Fill,” select “Solid fill.” Use the slider or up/down arrows to change the Transparency to 25%. This makes the mean markers more visible.

15. Right click on the y-axis and select “Format Axis...” The “Format Axis” section will appear on the right side of the page.

16. To decrease the maximum value of the scale to closer reflect the maximum data value, under Bounds, change the Maximum to 9000.

17. Double click on the “Chart Title” text box and change the title to “2015-2019 H1N1 Flu Cases by Age Group”



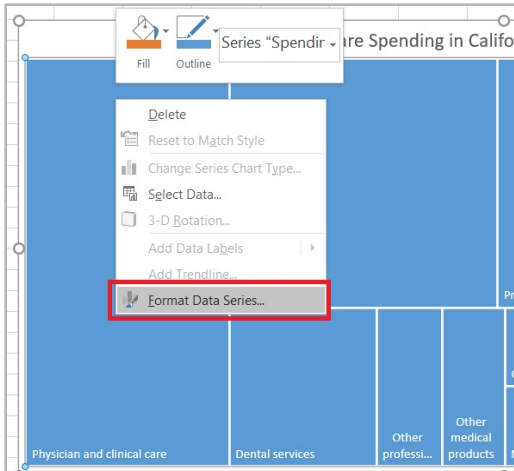
18. Create a new box and whisker plot using the A (H3) data.
 - a. Click on the existing chart border to select the chart. On the Home Menu, click “Copy.”
 - b. Click in an empty area of the spreadsheet. On the Home Menu, click “Paste.”
 - c. Make sure the new plot is selected. Go to the raw data, click on the border of the A (H1N1) pmd09 column and drag the selection box from the A (H1N1) pmd09 column to the A (H3) column. Notice that the new box and whisker plot updated with the new data.
 - d. Double click on the chart title and change “H1N1” to “H3.”

Treemap

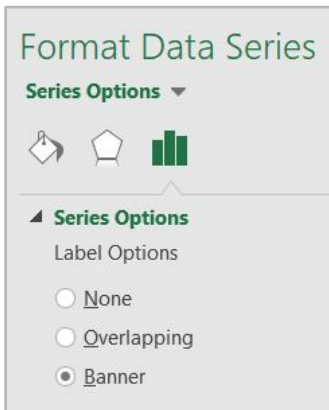
1. Click on the Treemap tab in the Excel file.
2. Select all the cells containing data, including the first row containing column headers.
3. On the Insert Menu tab at the top, go to the Charts section and click the small dropdown arrow next to the treemap chart, then select Treemap.



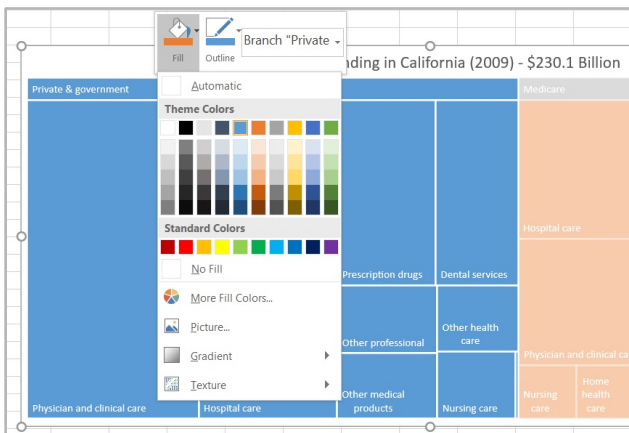
4. A Treemap should appear.
5. Adjust the size and layout of the treemap by dragging the corners to help read the data categories.
6. Right click the legend and select “Delete” to delete the legend.
7. Double click the chart title and enter the text "Healthcare Spending in California (2009) - \$230.1 Billion."
8. To add section banners, right click one time inside any of the treemap boxes and select "Format Data Series..."



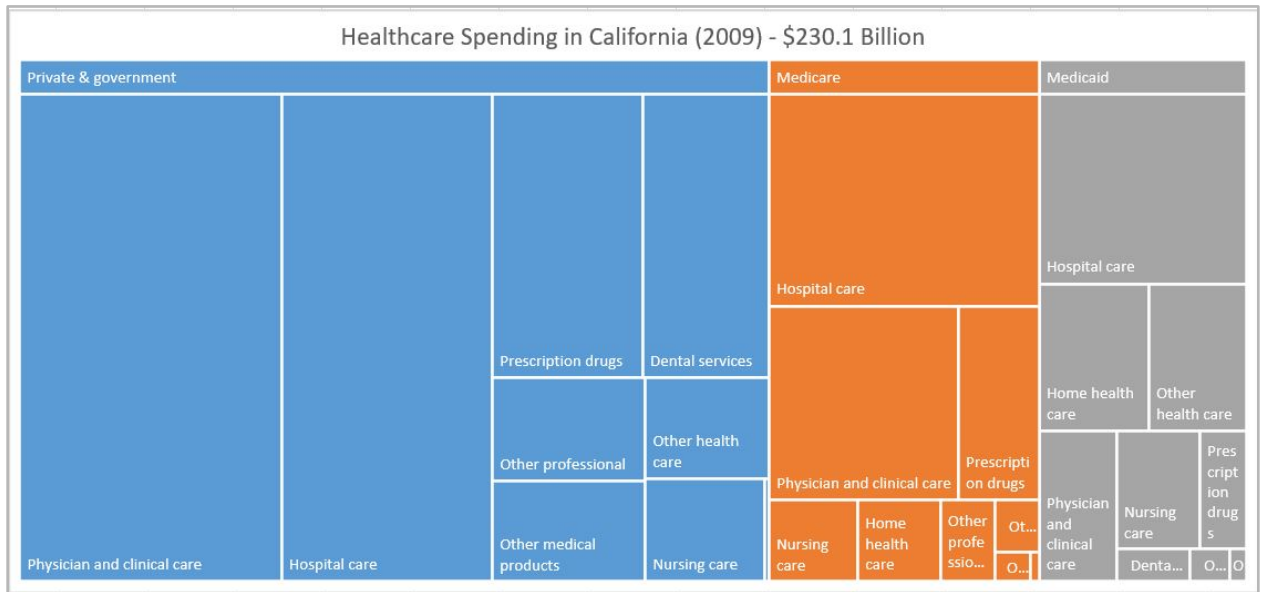
- Click on the bar graph icon and select the "Banner" radio button under the Series Options. Each section of the treemap should now have a gray banner reflecting its Payer category.



- To match the gray banner color with its corresponding data series color, click twice in the blue "Private and Government" section, right click, and select the matching blue Fill color.



11. Repeat step 10 for the orange "Medicare" category.



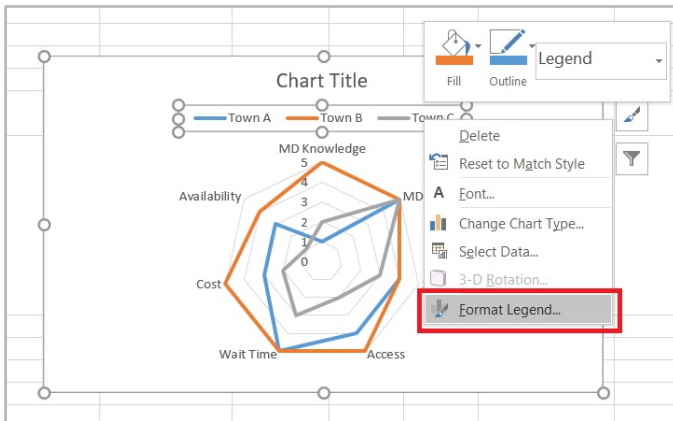
Radar Chart

1. Click on the Radar tab in the Excel file.
2. Select all the cells containing the care satisfaction data (you can also select the empty cell, 1A).
3. On the Insert menu tab at the top, go to the Charts section and click the small dropdown arrow next to the radar chart. Select the first Radar option in the list.

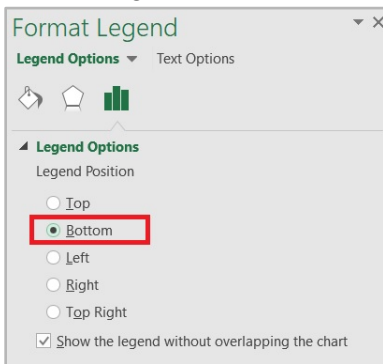


4. A Radar chart should appear.

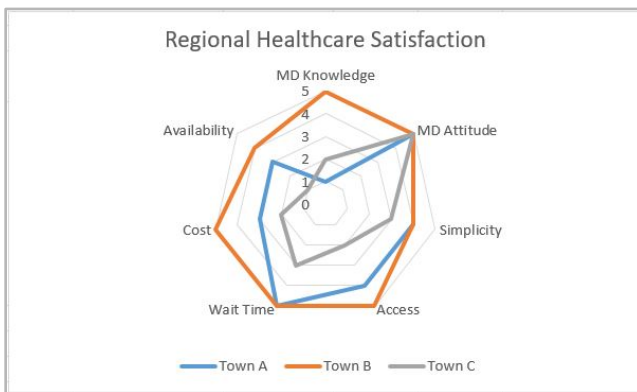
5. Right click on the chart legend and then select "Format Legend" from the menu.



6. In the Format Legend menu under the bar graph icon, select the "Bottom" radio button under "Legend Position."

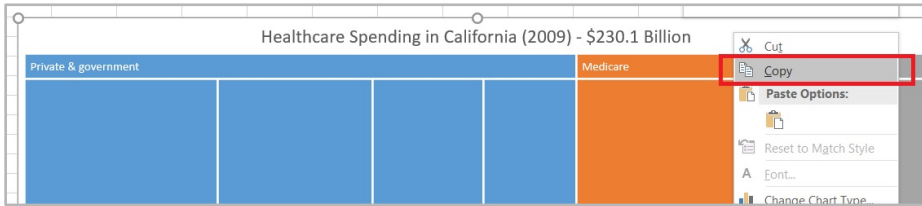


7. Double click the chart title and enter the text, "Regional Healthcare Satisfaction."

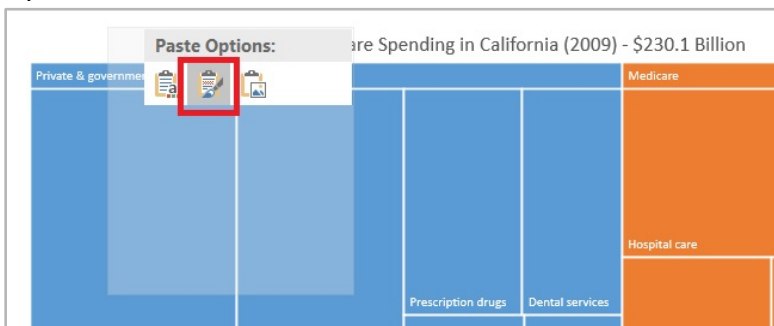


Saving charts as images or PDFs

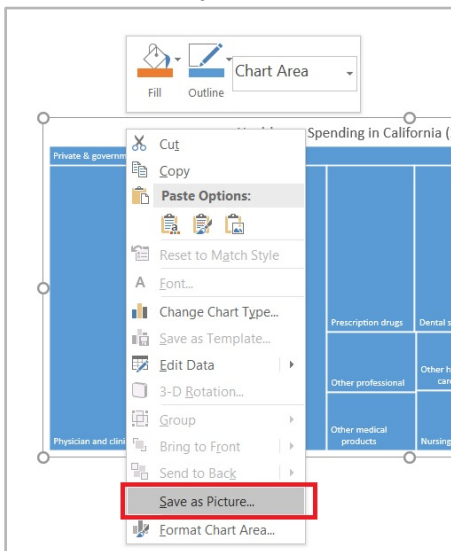
1. To save any of the above charts or graphs as an image file, select the chart or graph, use Ctrl+C or right click on the chart and select "Copy."



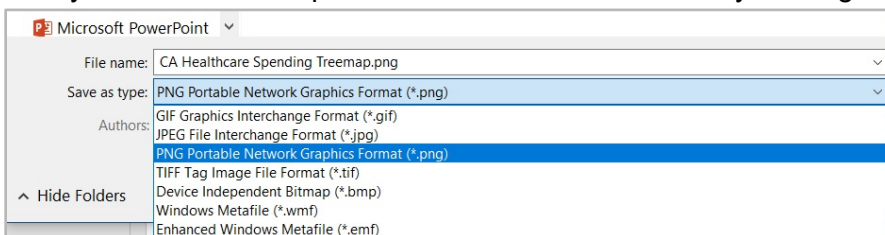
2. Open Microsoft Powerpoint, create a new blank slideshow, and paste the copied chart using Ctrl+V or right click and select the "Keep source formatting" option from the Paste Options menu.



3. In Powerpoint, you have the option to right click the chart and select "Save as Picture."



4. Now you will have the option to save the chart in a variety of image formats.



5. As an alternative, the File menu includes a "Save as Adobe PDF" option. This command, also available in Excel, will save the whole slide (in Powerpoint) or the whole worksheet (in Excel) as a PDF. From there, you could crop the PDF down to just the figure using a tool like Microsoft Paint or equivalent.

