

What's in a Graph? (Daily Warm-up)

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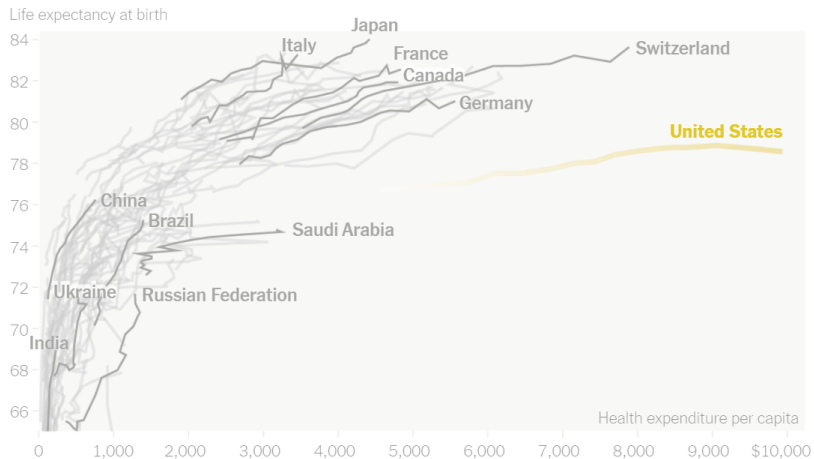


Two important goals of Math-146:

- 1) Develop an ability to identify and interpret patterns via data visualization
- 2) Develop an ability to communicate these findings using the proper statistical terms

We will begin class on most days with brief warm-up that addresses these goals by analyzing and discussing a different data visualization. I encourage you to keep track of our discussions, Exam #1 will include one graph/question similar to those we've discussed in class.

Graph #1 (Monday 1/10)



Note: Current health expenditure per capita, purchasing power parity, reflects current international dollars. Both measures span 2000-2017. Source: World Bank

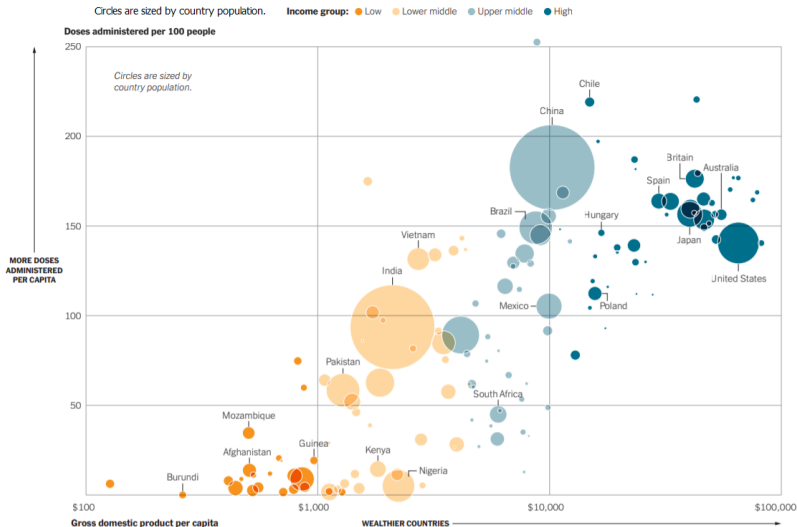
[Source/full-size link](#)



Graph #1 (Discussion Questions)

1. What are the *variables* depicted on this graph? What are the *subjects/units* that are being considered?
2. What is the strongest predictor of *greater improvements* in a country's life expectancy (at birth)?
3. What do you think was the message that graph's creator wanted convey? Do you have any criticisms or concerns regarding the evidence this graph provides?

Graph #2 (Friday 1/14)



Sources: Vaccination data from local governments via Our World in Data; income classifications and gross domestic product data from the World Bank. | Note: Data is as of Dec. 8.

Glossary: G.D.P. per capita is the Gross Domestic Product, or wealth of a country divided by its population size.



Graph #2 (Questions)

1. Visualize or sketch what a spreadsheet of these data would look like. To do so, you need to determine the *cases* and the *variables* that are depicted in the graph.
2. Of the variables depicted in the graph, which are *categorical* and which are *quantitative*? Additionally, which variables seem most closely related?