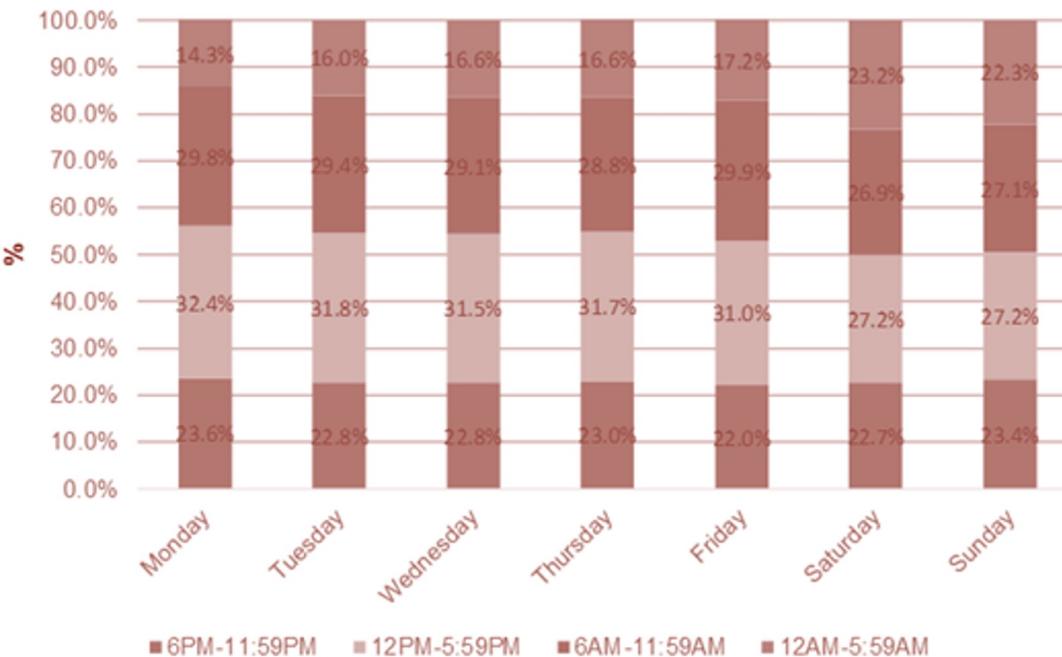
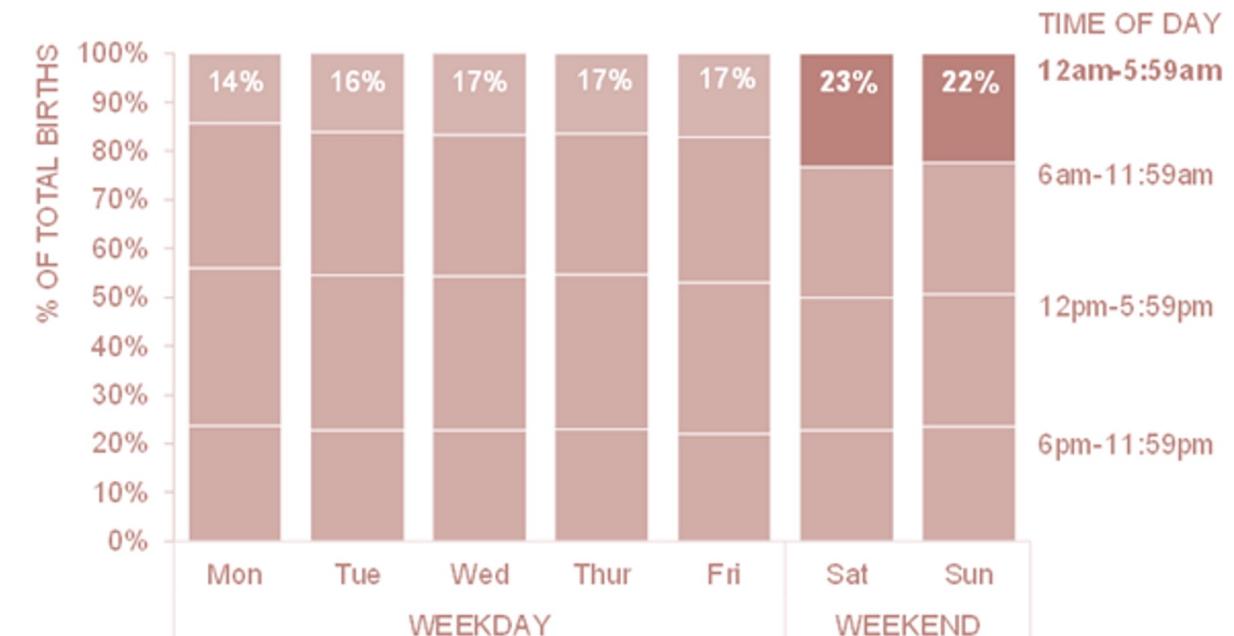


Time of birth by day of week

Data source: CDC (National Vital Statistics Reports, Vol. 67, No. 1, January 31, 2018)

When babies are born

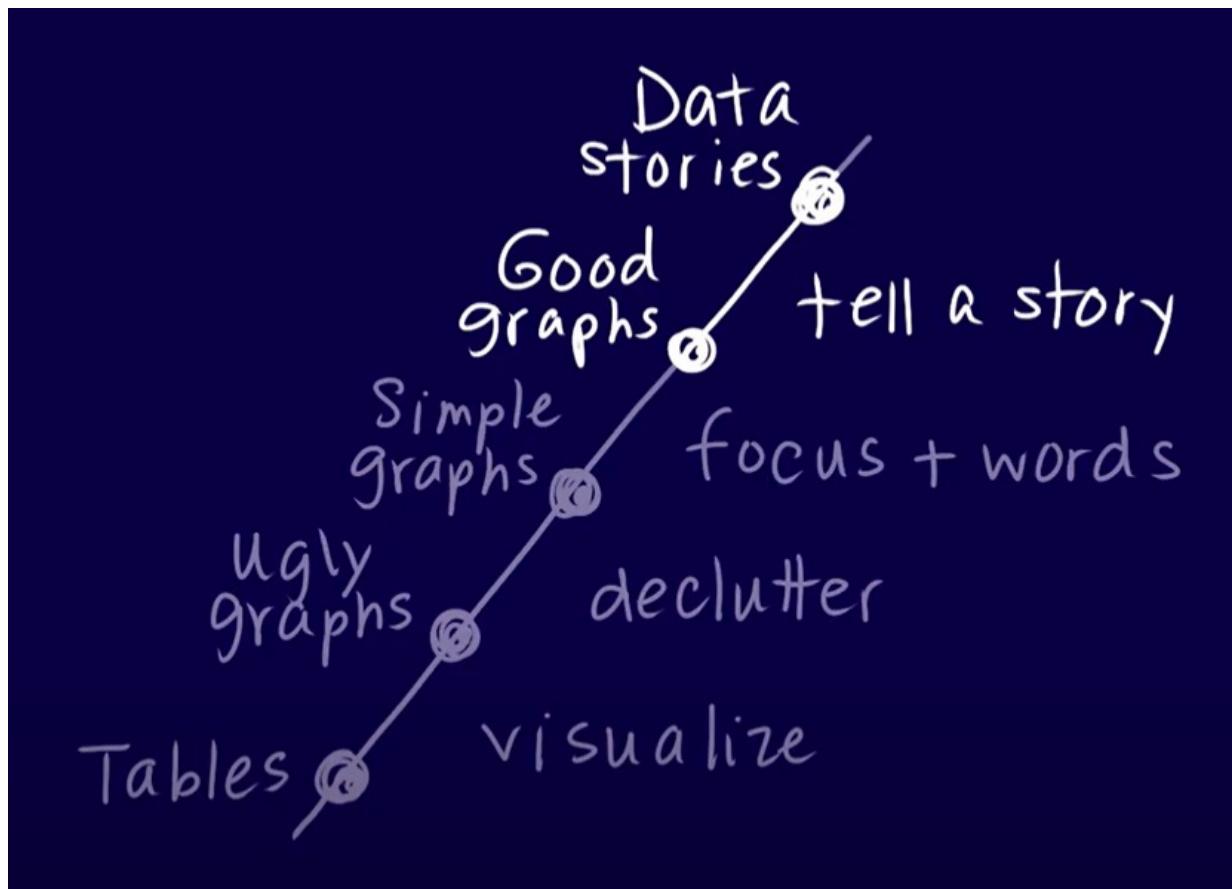
Weekend deliveries are more likely to be in early morning, compared to weekdays



Data source: CDC (National Vital Statistics Reports, Vol. 67, No. 1, January 31, 2018)

8. Evolving a Storytelling Chart

Evolving a Visualization

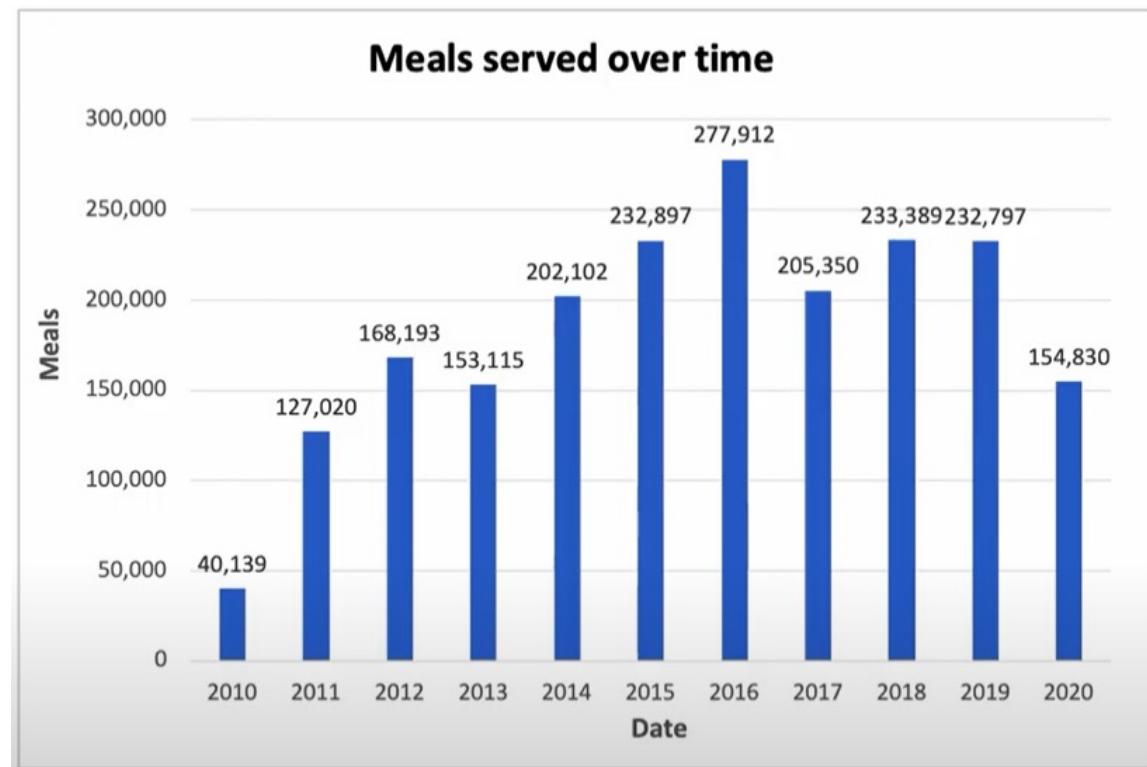


Evolving a Visualization – Table

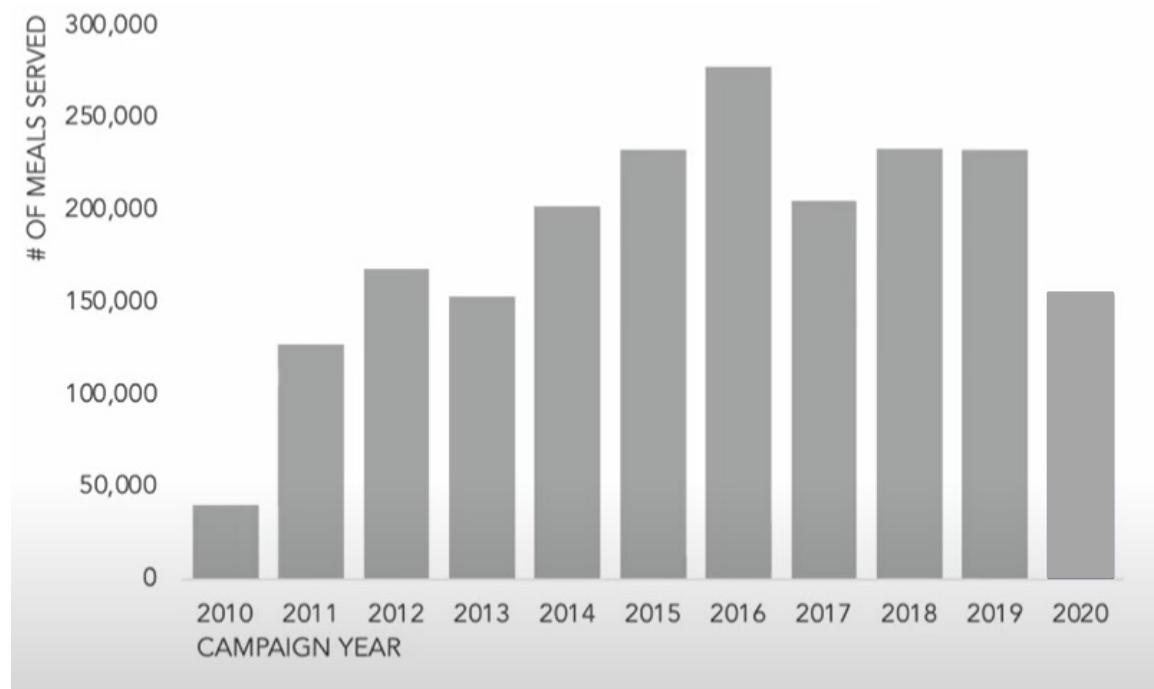
Meals served over time

Campaign Year	Meals Served
2010	40,139
2011	127,020
2012	168,193
2013	153,115
2014	202,102
2015	232,897
2016	277,912
2017	205,350
2018	233,389
2019	232,797
2020	154,830

Evolving a Visualization – Ugly Graph

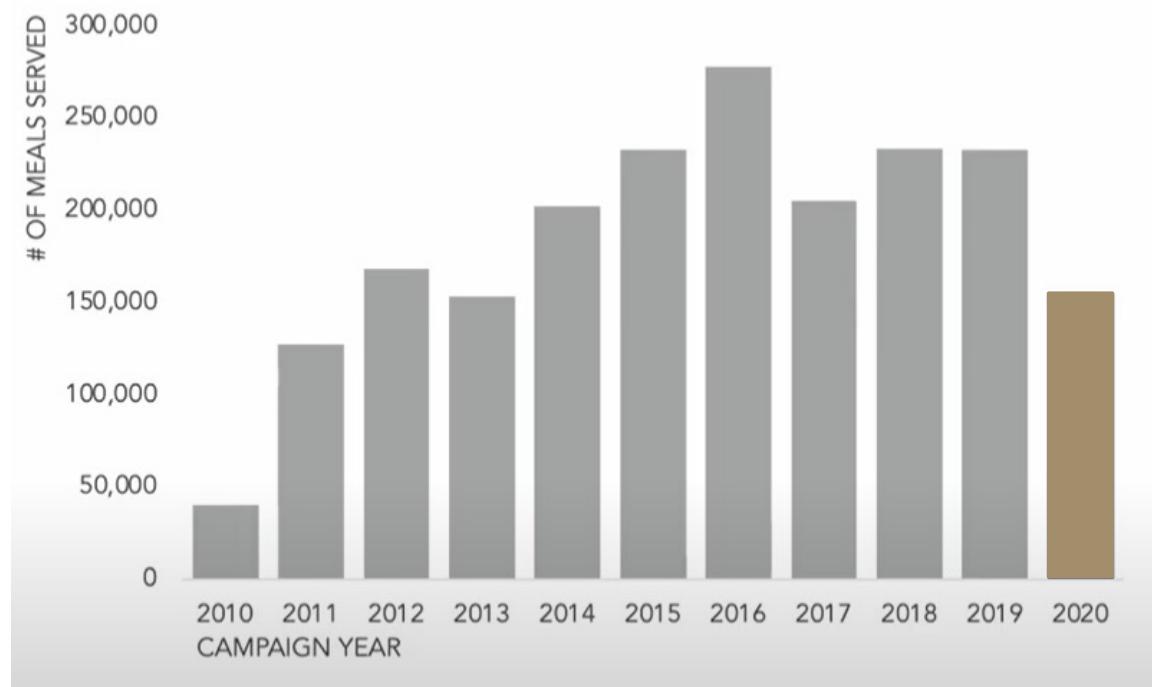


Evolving a Visualization – Simple Graph

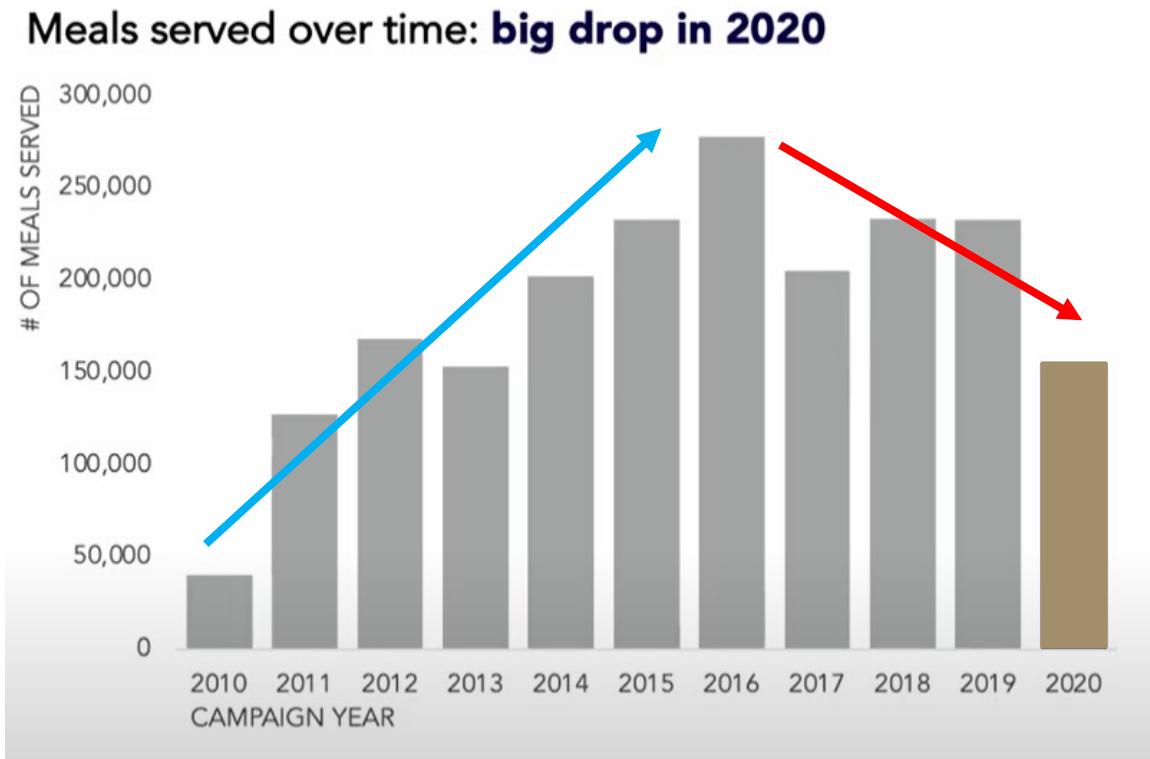


Evolving a Visualization – Good Graph

Meals served over time: **big drop in 2020**



Evolving a Visualization – Data Story



Even though it might seem obvious that there would be a **big drop in meals served in 2020** due to the pandemic, note that the **2017-2019 numbers** were already going against the **2010-2016 trend** – we should not be planning for a return to 2016 levels without first understanding what happened in 2017-2019.

Data Storytelling Tropes

Some data visualizations patterns are so familiar they have become **tropes**:

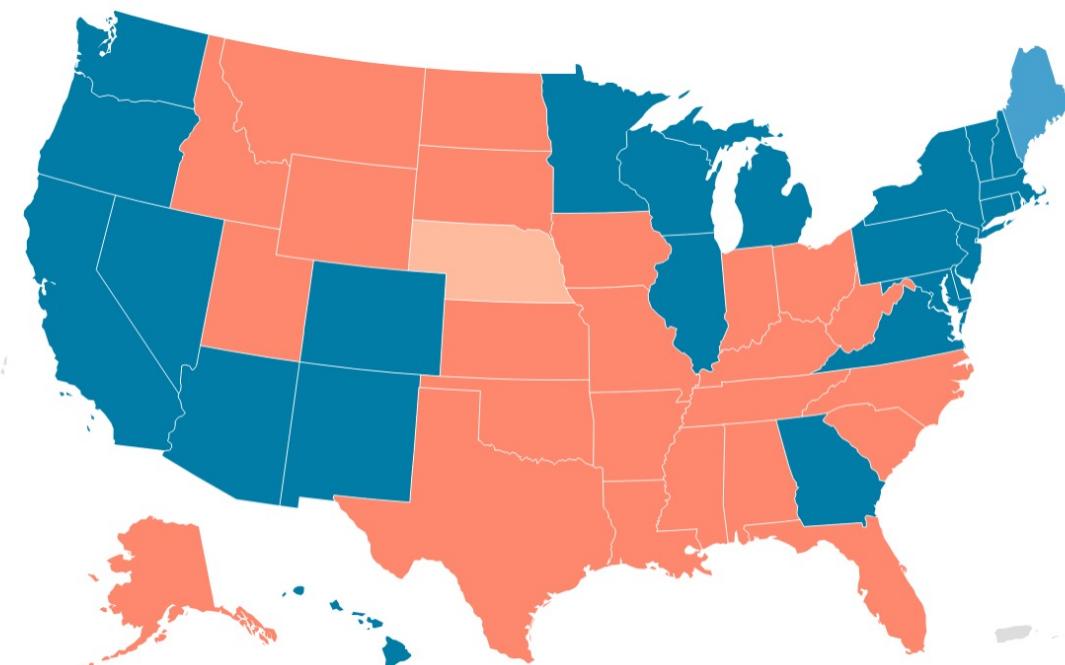
- a scatterplot with a trend line going straight up or straight down
- a cluster bar chart with two categories where one is always lower than the other
- a line chart with the two lines crossing in one place
- pie charts being used all over the place (to avoid)
- red for republican, blue for democrat (US); red for left-leaning, blue for right-leaning (ROW)
- using broken axes to exaggerate effects (can be justified... sometimes)
- etc.

Data Storytelling Tropes – Examples

Conventional Map of 2020 US Presidential Election Results

Maine and Nebraska allow some electoral votes to be split by district

Biden Biden + Trump Trump Trump + Biden

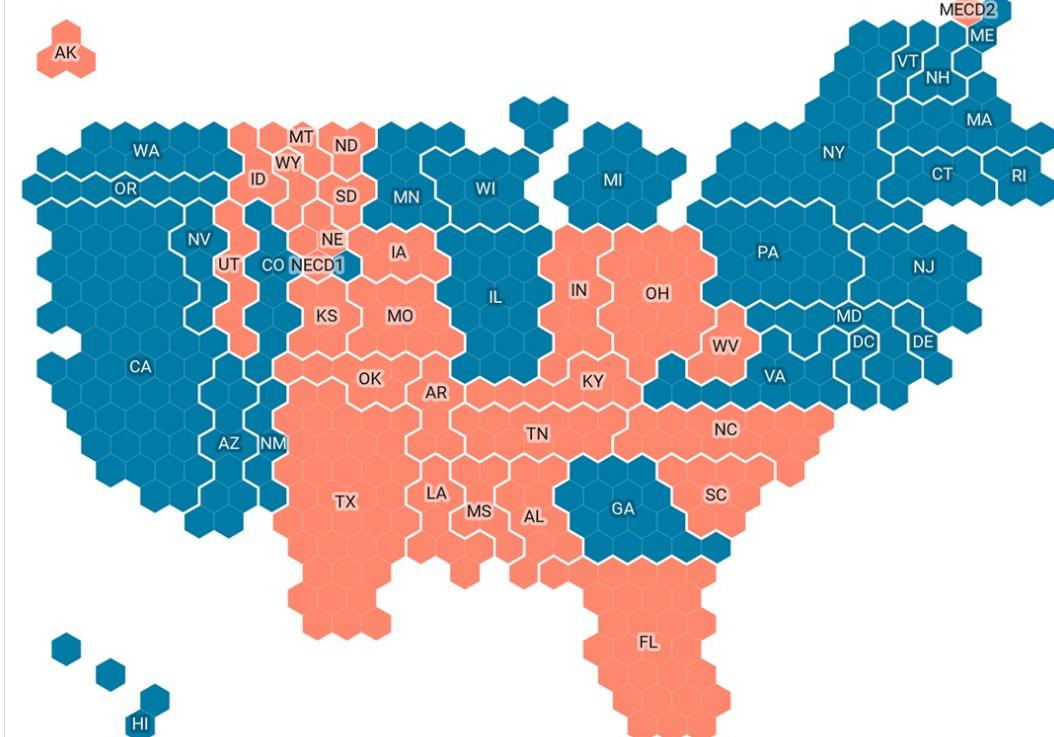


Created with Datawrapper

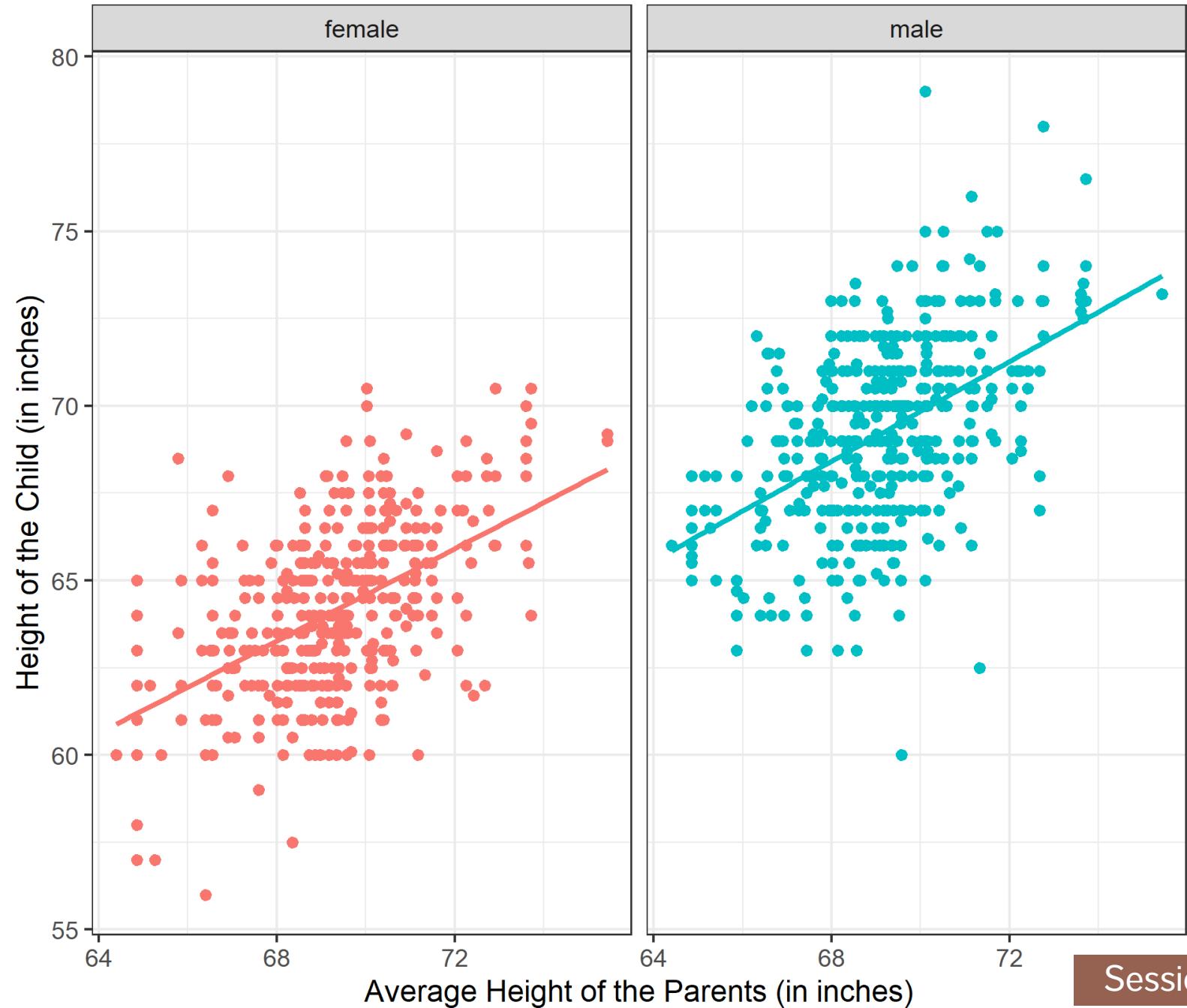
Cartogram of 2020 US Presidential Election Results

Each hexagon represents one electoral college vote

Biden Trump



Scatterplot matrix of Galton Family Data by Gender of the Child



[<https://www.chsglobe.com/13376/cover-stories/sexualharassment>]

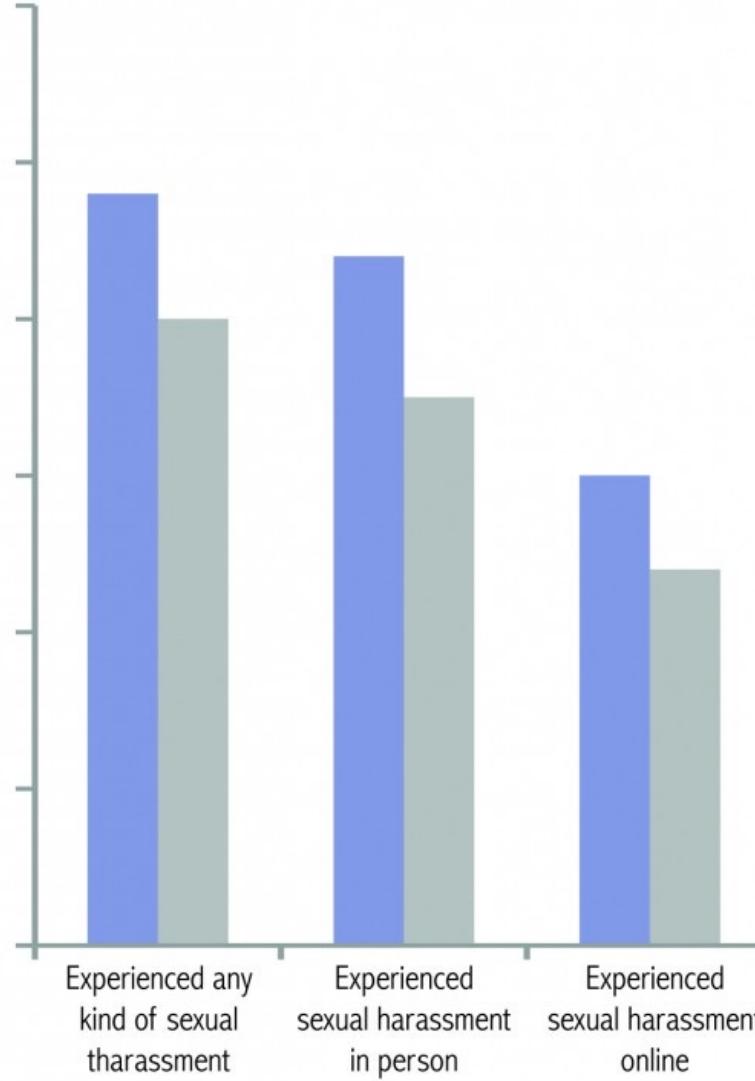
NATIONAL CRISIS STUDENT SEXUAL HARASSMENT

7-12 graders, %

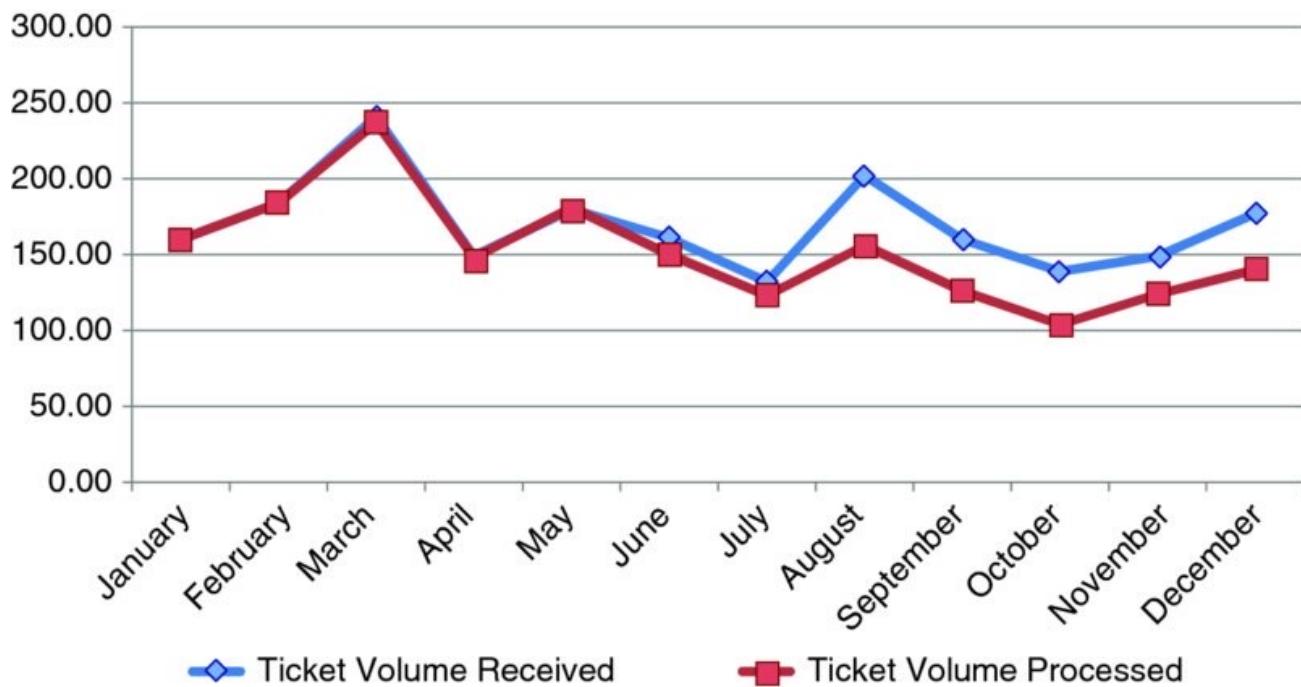
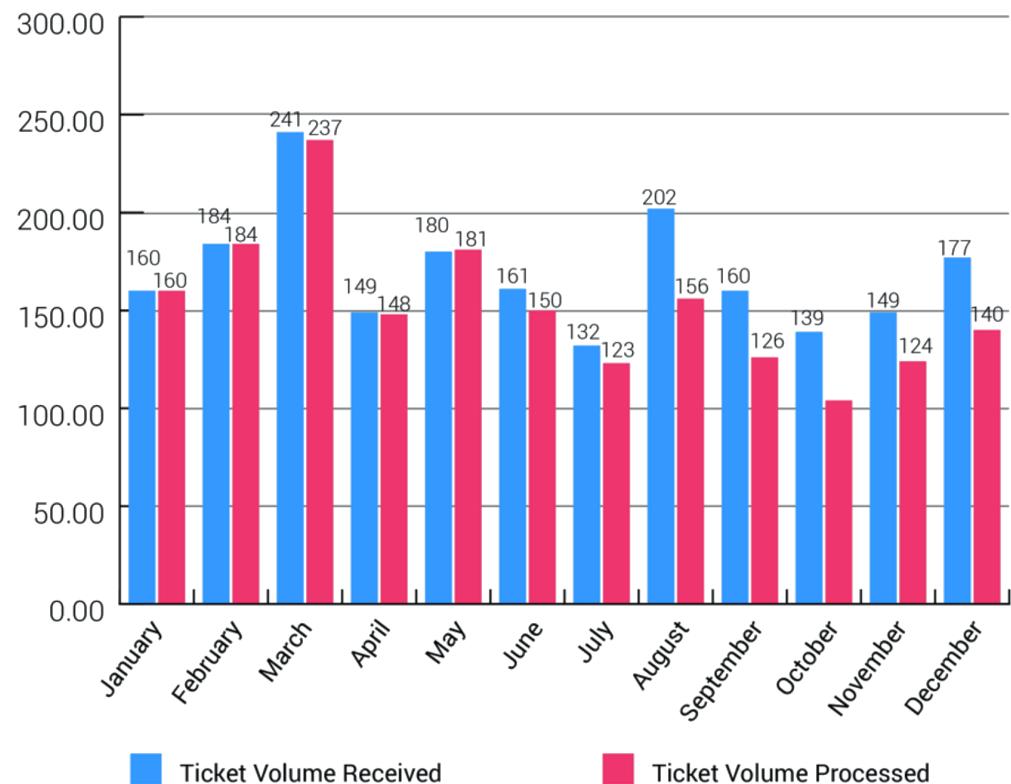
SOURCE: AAUW report

Boys

Girls

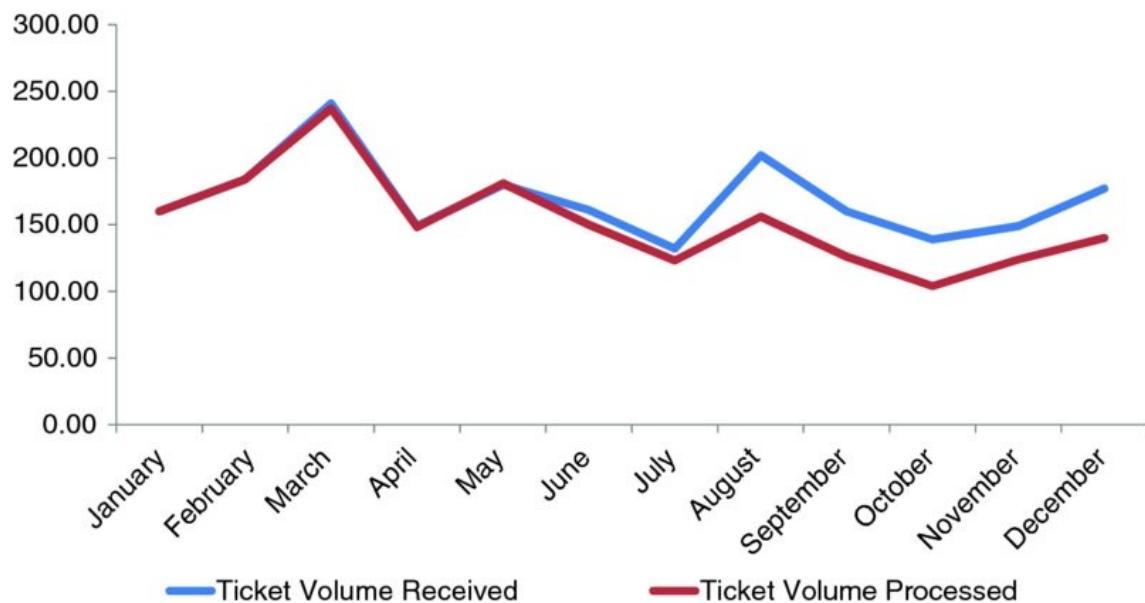
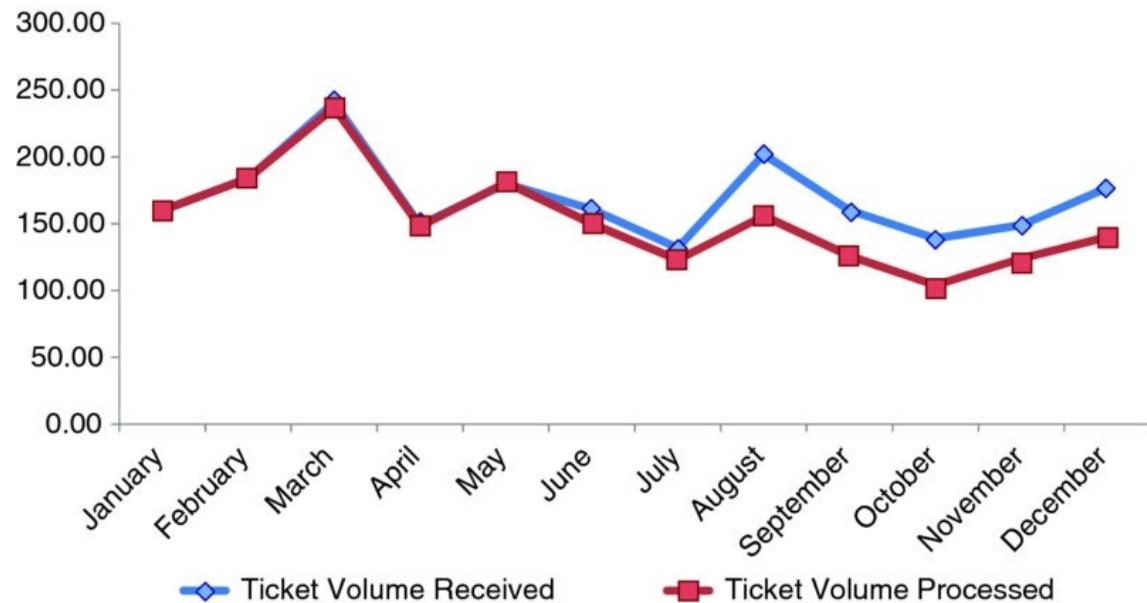


Examples

TICKET TREND

1. Change graph type (trope)

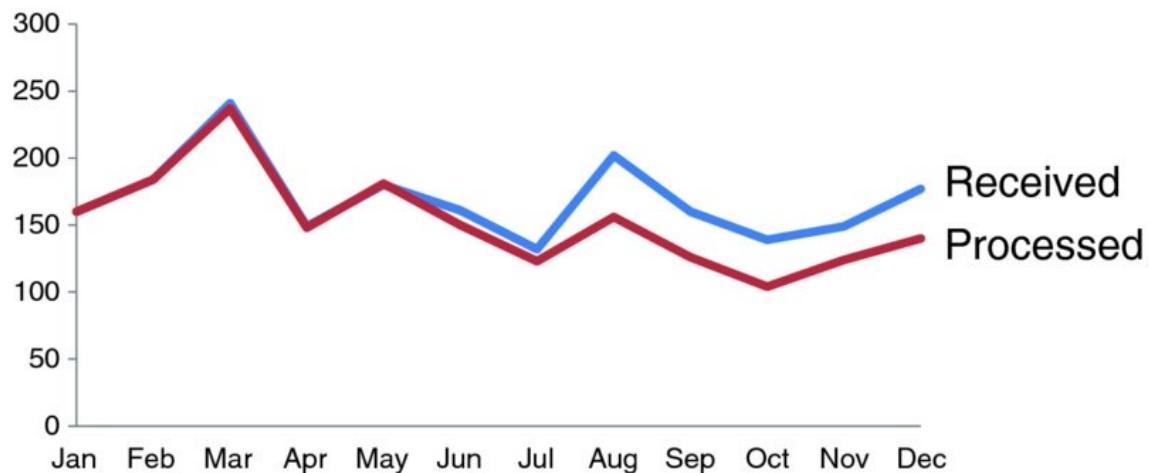
Examples



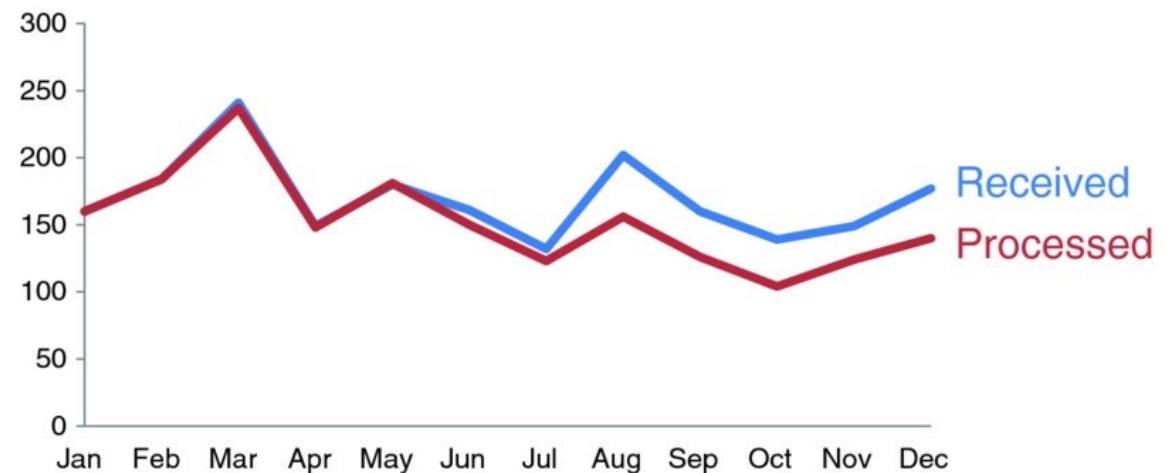
2. Remove border and gridlines

3. Remove markers

Examples



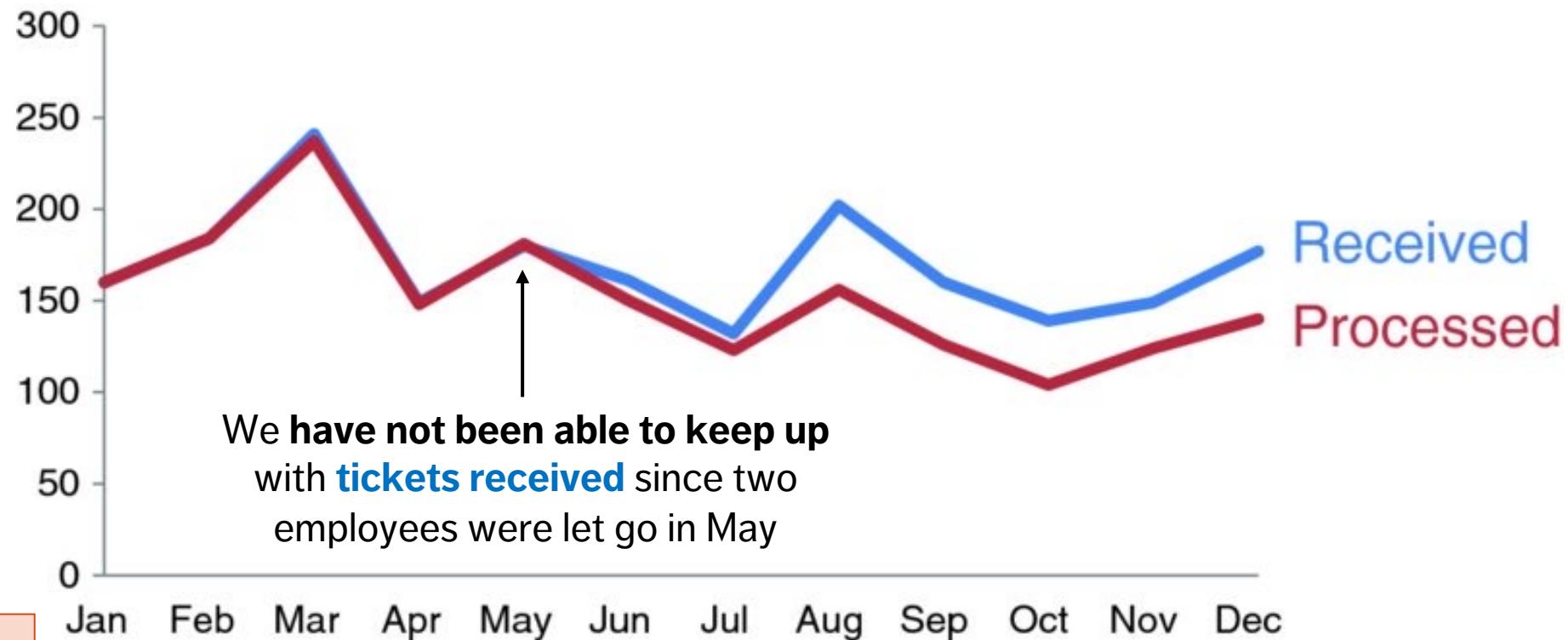
4. Clean-up axis labels and legend



5. Colour code the lines

Examples

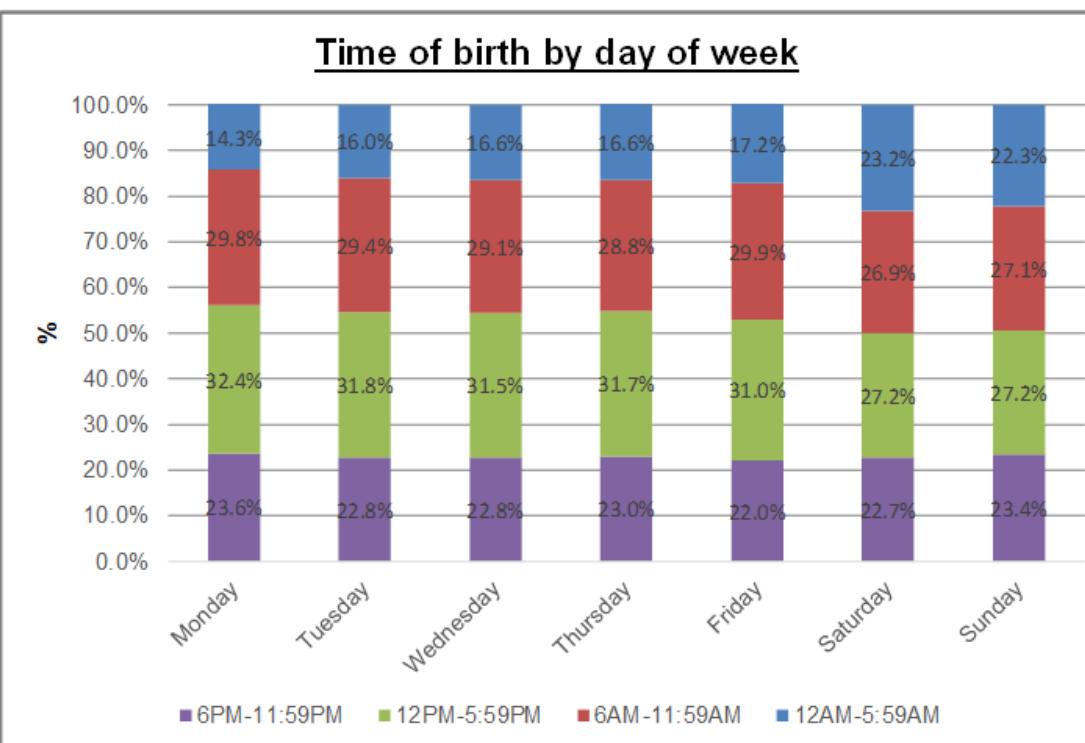
Lag in Tickets Processed Since May Layoffs



6. Tell the story

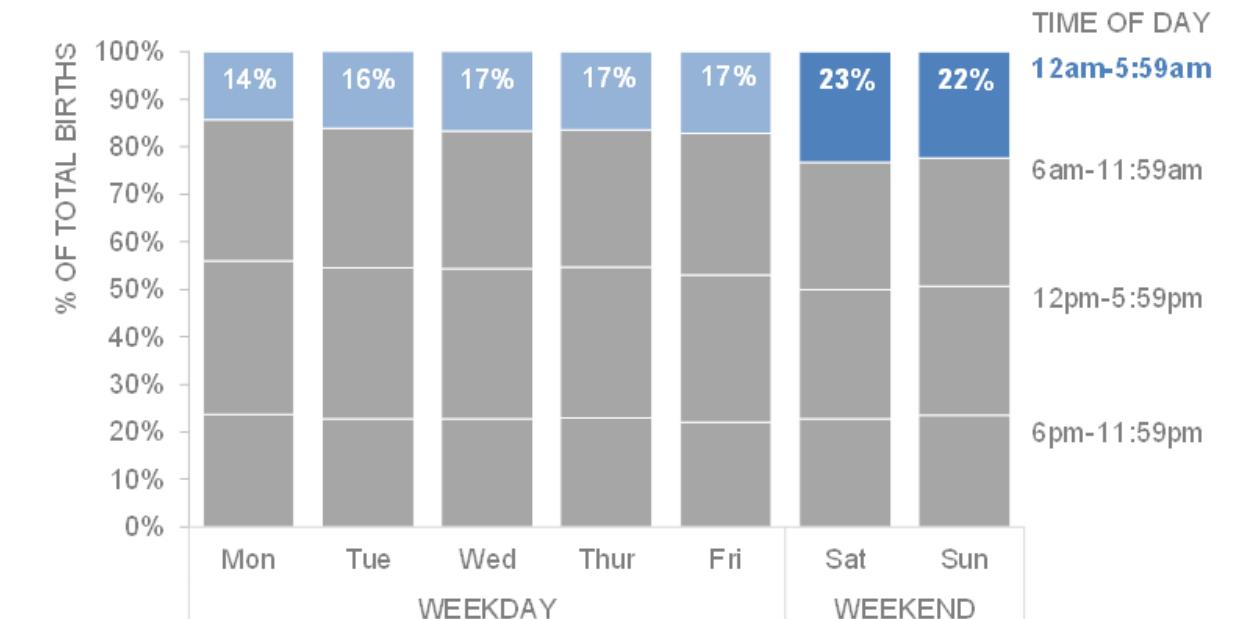
Examples

BEFORE



AFTER

When babies are born
Weekend deliveries are more likely to be in early morning, compared to weekdays



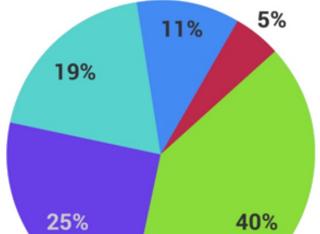
Examples

BEFORE

Survey Results

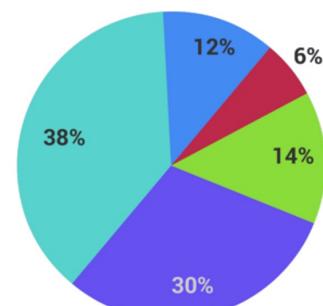
PRE: How do you feel about doing science?

■ Bored ■ Not great ■ OK ■ Kind of interested ■ Excited



POST: How do you feel about doing science?

■ Bored ■ Not great ■ OK ■ Kind of interested ■ Excited

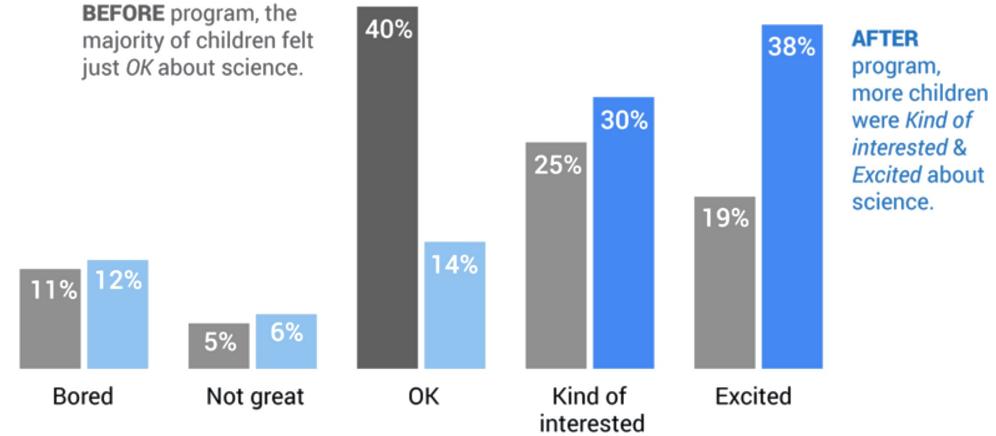


AFTER

Pilot program was a success

How do you feel about science?

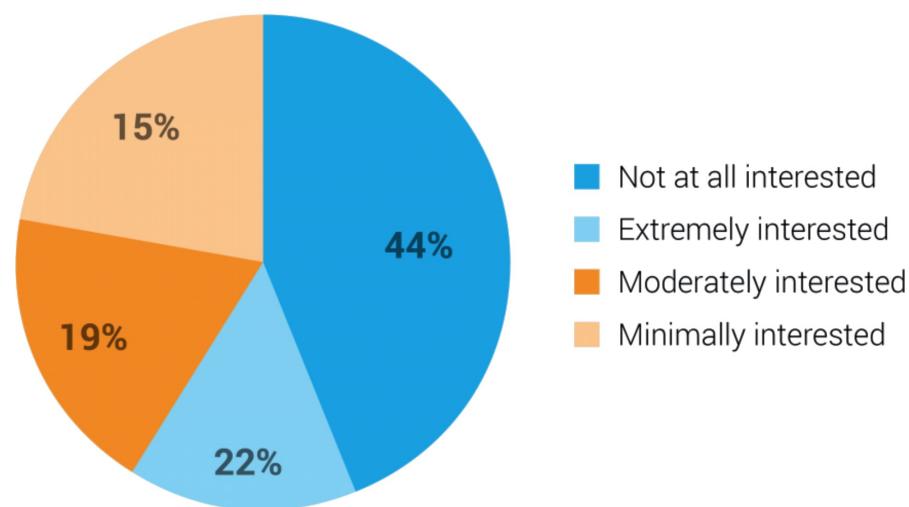
BEFORE program, the majority of children felt just *OK* about science.



Examples

BEFORE

**HOW INTERESTED ARE YOU
IN THIS PRODUCT?**



AFTER

HOW INTERESTED ARE YOU IN THIS PRODUCT?



Is this sufficient?

Suggested Reading

Evolving a Storytelling Chart

The Practice of Data Visualization
Visualization and Storytelling

Effective Storytelling Visuals

- Evolving a Storytelling Chart

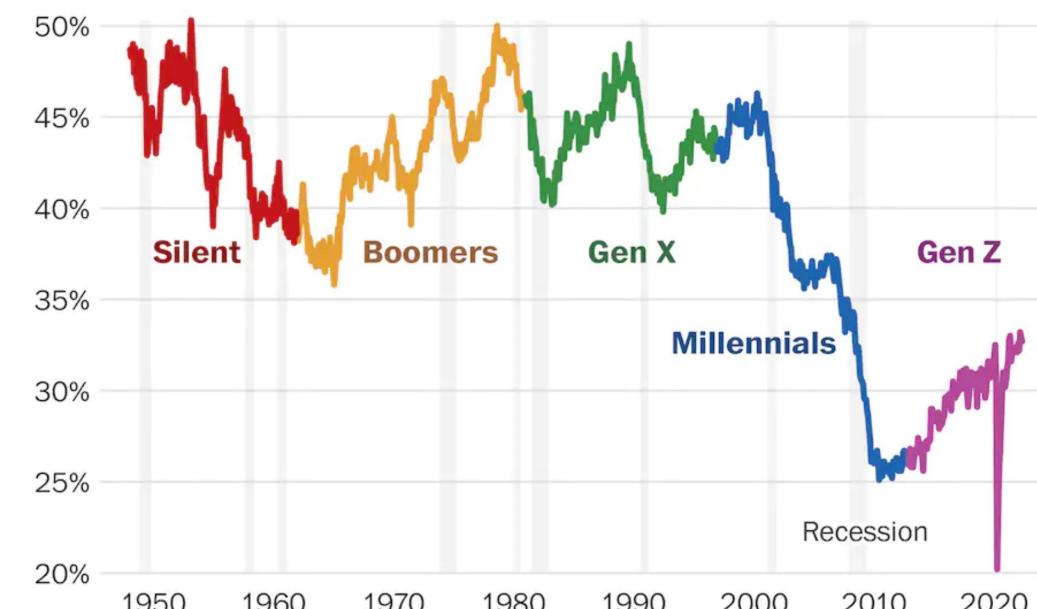
Exercises

Evolving a Storytelling Chart

Evolve the following charts into data stories. Focus on the message and how to avoid misleading the audience. Use data storytelling tropes as needed.

Teen work makes the dream work

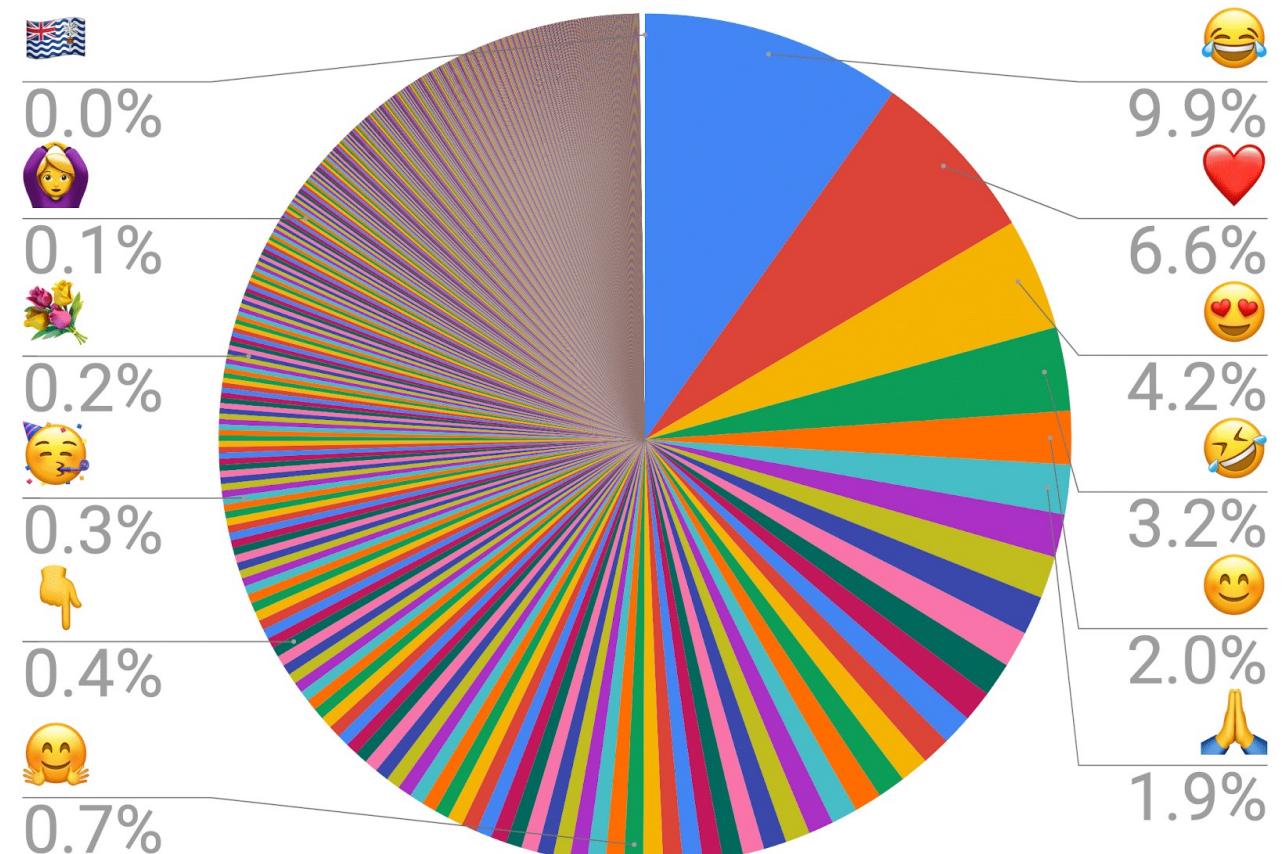
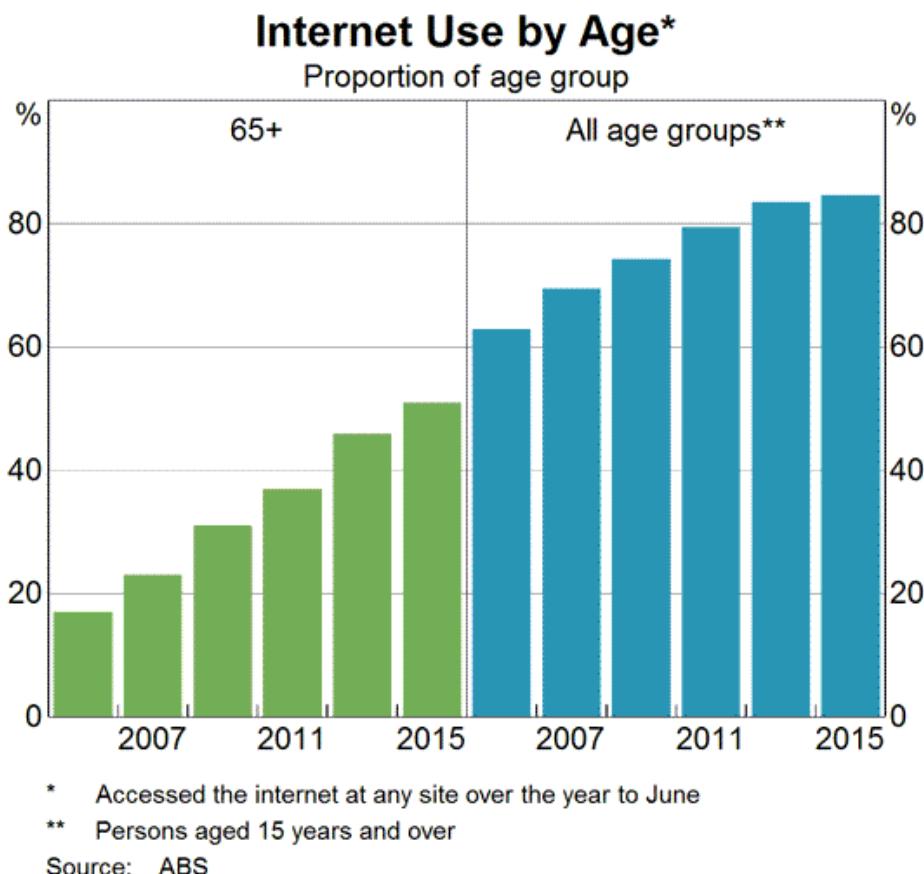
Employment-to-population ratio for those ages 16 to 19



Note: Seasonally adjusted

Source: Bureau of Labor Statistics

THE WASHINGTON POST



Ratio between median housing price and median annual salary



Methodology: Median housing price in each city divided by median pre-tax annual salary

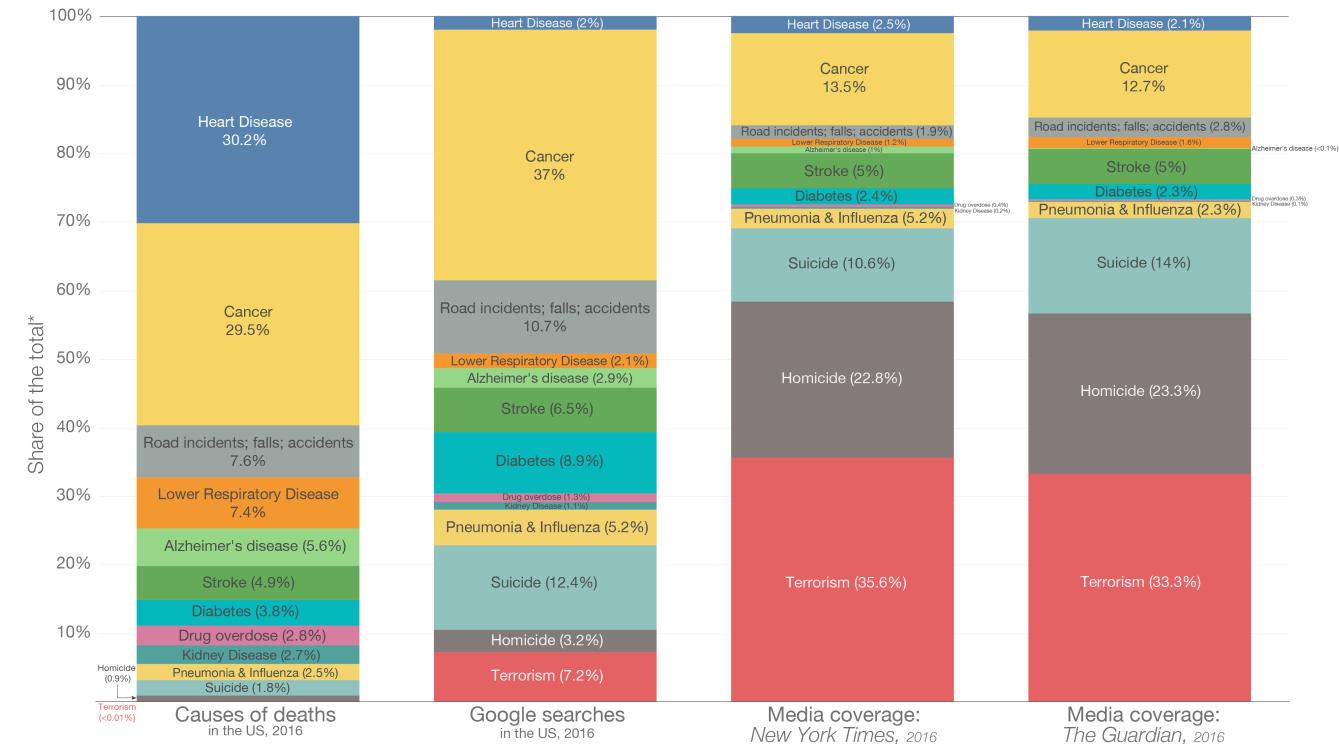
Source: Bloomberg

More charts at (link in bio): genuineimpact.substack.com

Created by genuine impact

Causes of death in the US

What Americans die from, what they search on Google, and what the media reports on



*This represents each cause's share of the top ten causes of death in the US plus homicides, drug overdoses and terrorism. Collectively these 13 causes accounted for approximately 88% of deaths in the US in 2016. Full breakdown of causes of death can be found at the CDC's WONDER public health database: <https://wonder.cdc.gov/>

Based on data from Shen et al (2018) – Death: reality vs. reported. All data available at: <https://owenshen24.github.io/charting-death>

All data refers to 2016.

Not all causes of death are shown: Shown is the data on the ten leading causes of death in the United States plus drug overdoses, homicides and terrorism.

All values are normalized to 100% so they represent their relative share of the top causes, rather than absolute counts (e.g. 'deaths' represents each causes' share of deaths within the 13 categories shown rather than total deaths). The causes of death shown here account for approximately 88% of total deaths in the United States in 2016.

This is a visualization from OurWorldInData.org, where you find data and research on how the world is changing.

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