Communication About Science of COVID-19

Mason Experimental Geometry Lab

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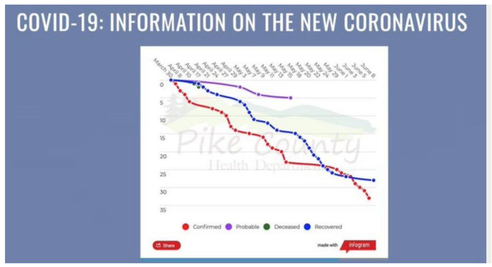
The Problem

- The media is often the main source of COIVD-19 information for the general public
- However, mathematical concepts in particular are often miscommunicated
- For example, this chart seems to indicate that cases are decreasing, but the y-axis is inverted so in fact the opposite is occurring



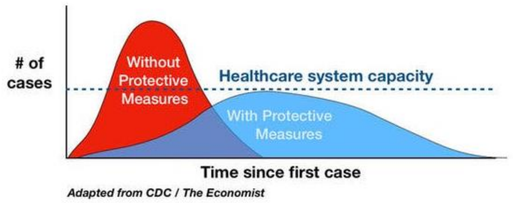
- These kinds of media misrepresentations have a negative impact on public health

Project Goals

- Identify a few mathematical or statistical concepts that were communicated poorly or were generally misunderstood by the media.
- Clarify what could have or should have been communicated
- Develop visual techniques for communicating these concepts

Project 1: Flatten the Curve

This image has been widely circulated and is meant to communicate the importance of flattening the curve.



Adapted from CDC / The Economist

Problems with current graphic

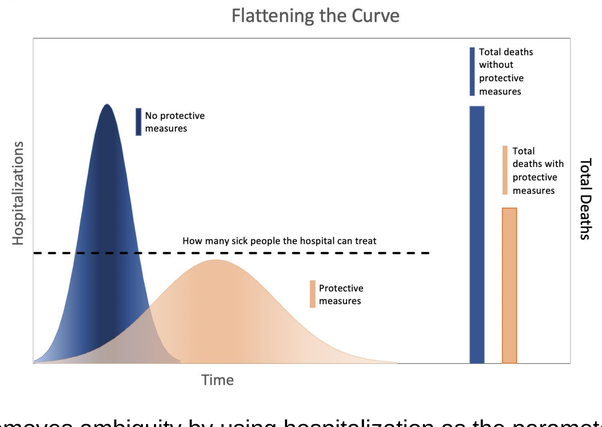
- Does not communicate why staying under healthcare system capacity is important beyond simply not overwhelming hospitals
- Fails to communicate the impact of decreased case load on other parameters like total death
- Relates total infection to healthcare system capacity when no direct correlation is present between the two as not all infections lead to hospitalization

Project 1: Improving Upon the Original

Desired Changes to Graphic

- Illustrate clear impact of flattening curve on total death
- Focus on parameter other than infection to draw clear connection to healthcare system capacity

New graphic

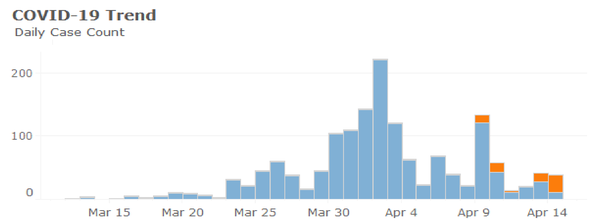


- Removes ambiguity by using hospitalization as the parameter
- Clearly communicates the importance of flattening the curve by demonstrating the impact doing so has on total death

Project 2: The "peak"

"At it's peak, on April 2, Idaho reported 222 cases in a single day."

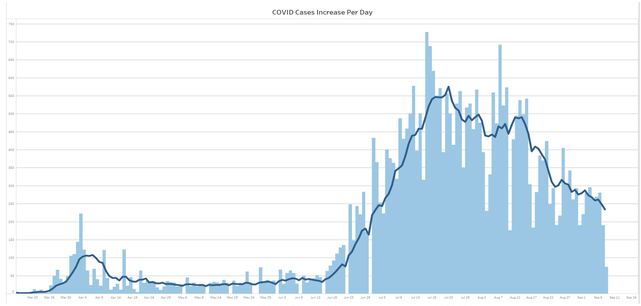
Big Country News, April 15, 2020



Problems with Usage of the Term "the Peak"

- Media reported on peaks as though there was only ever one peak and once a peak was seen, the state was in the clear
- Example: Media reported that Idaho had passed the COVID-19 peak before the state had even seen a stable downward trend in the number of confirmed cases
- Media reporting could have led to people ignoring appropriate safety precautions such as wearing masks and social distancing

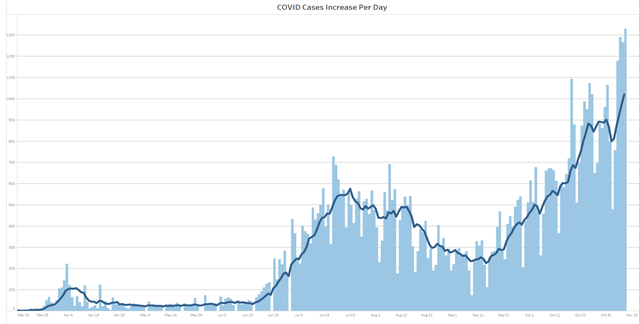
Project 2: What Actually Happened



March 2020 – September 2020

Goal: illustrate the "peak" phenomena

- An animation that would show the change over time
- Finding data that fits our narrative (Idaho)
- Multiple online sources had limitations
- Correcting the trend line to show spikes and lows



Importance of Communication

It is important to note that scientific misrepresentation and miscommunication is not just a media problem. There are two essential stages in communication: scientists to the media and the media to the public. Ensuring integrity at both stages is essential