COVID Media Portrayal

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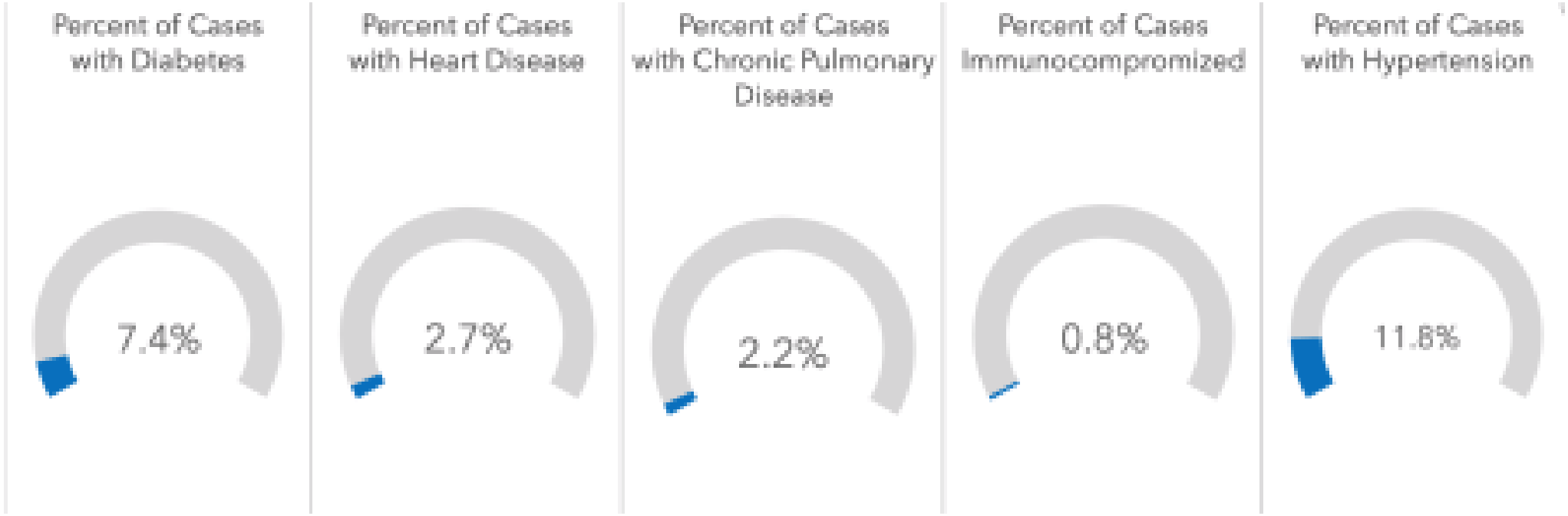
Media has a problem…

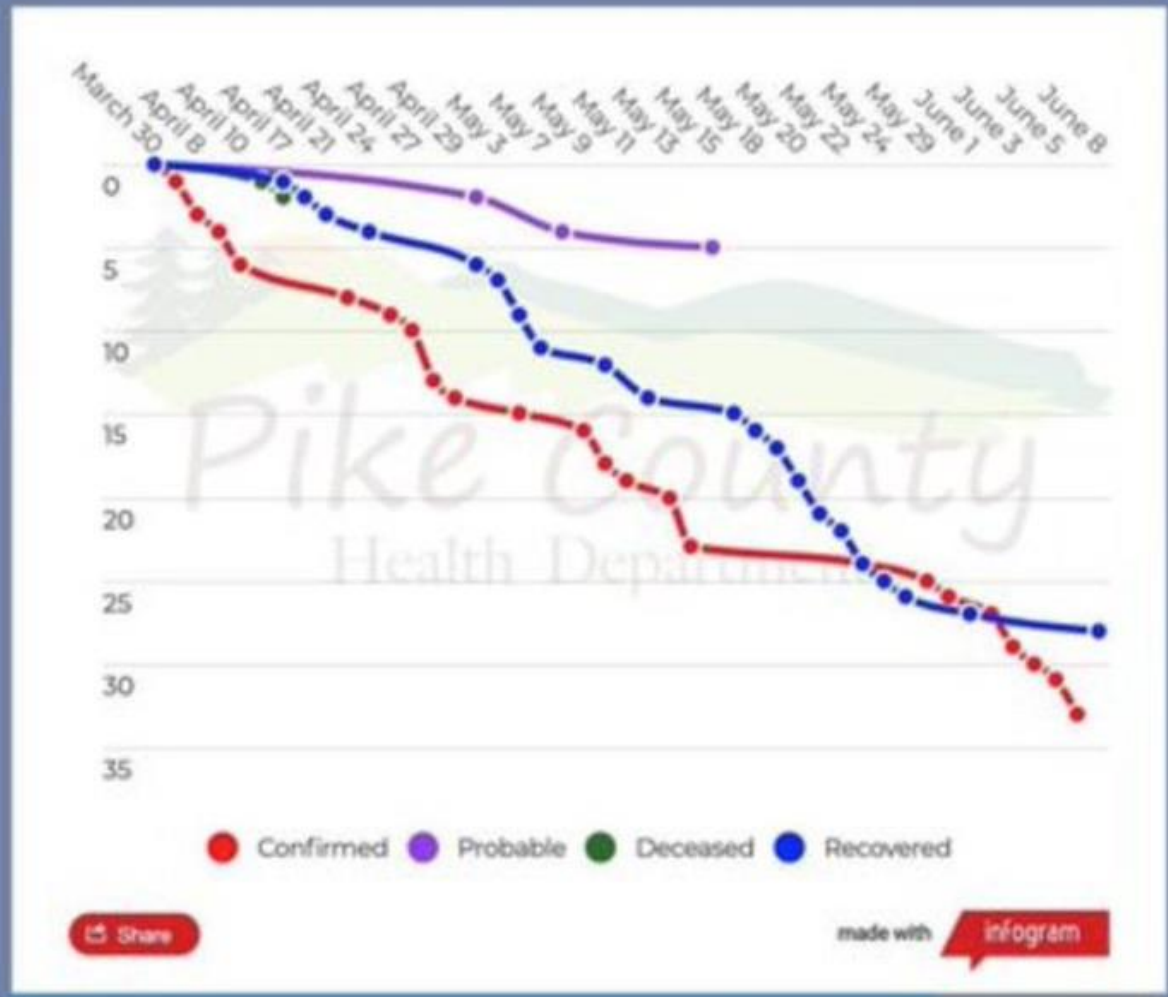
- The media has a huge impact on how Americans learn and perceive information about Covid-19
- Misinformation has a huge impact and can possibly lengthen the epidemic even further!



Fake news vs. badly portrayed information

- Identifying the scope of our project included making a decision to pursue “real news” and not “fake news”
- Which data sources are reliable?
- Is the intended information correctly communicated?
- Can we represent more information, simply?

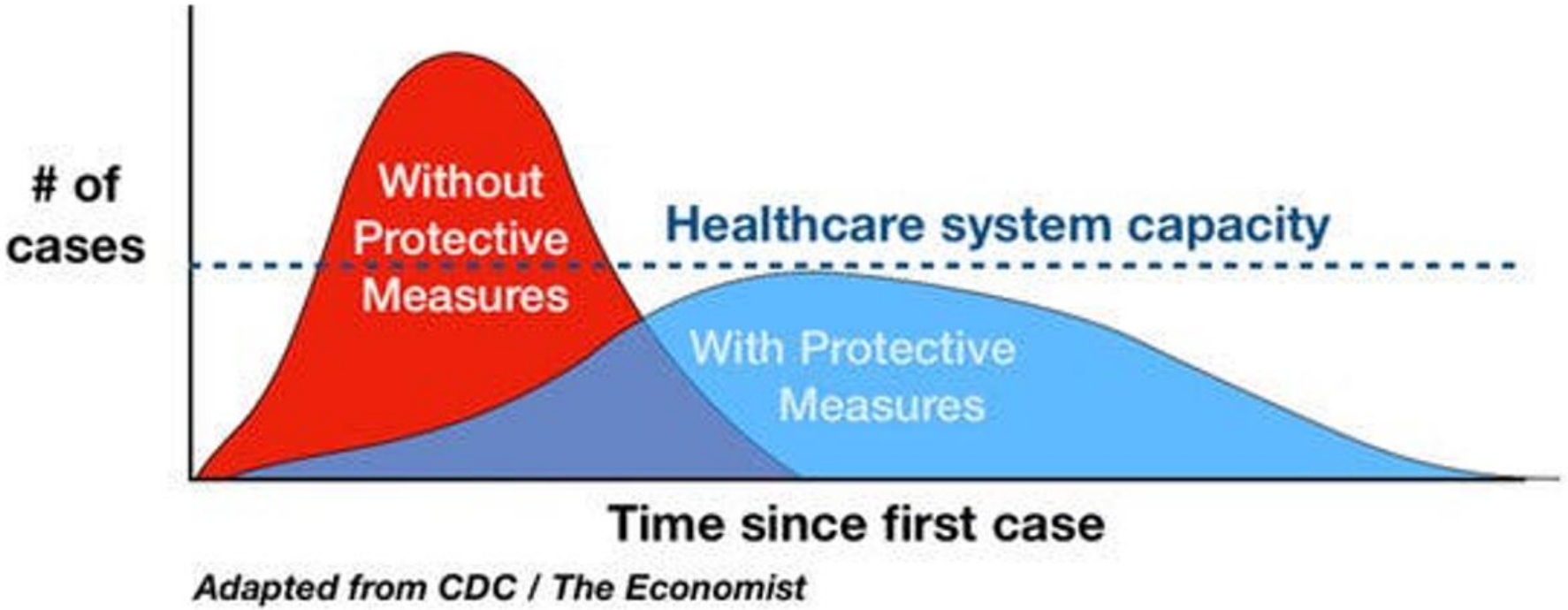
COVID-19: INFORMATION ON THE NEW CORONAVIRUS



Project Goals

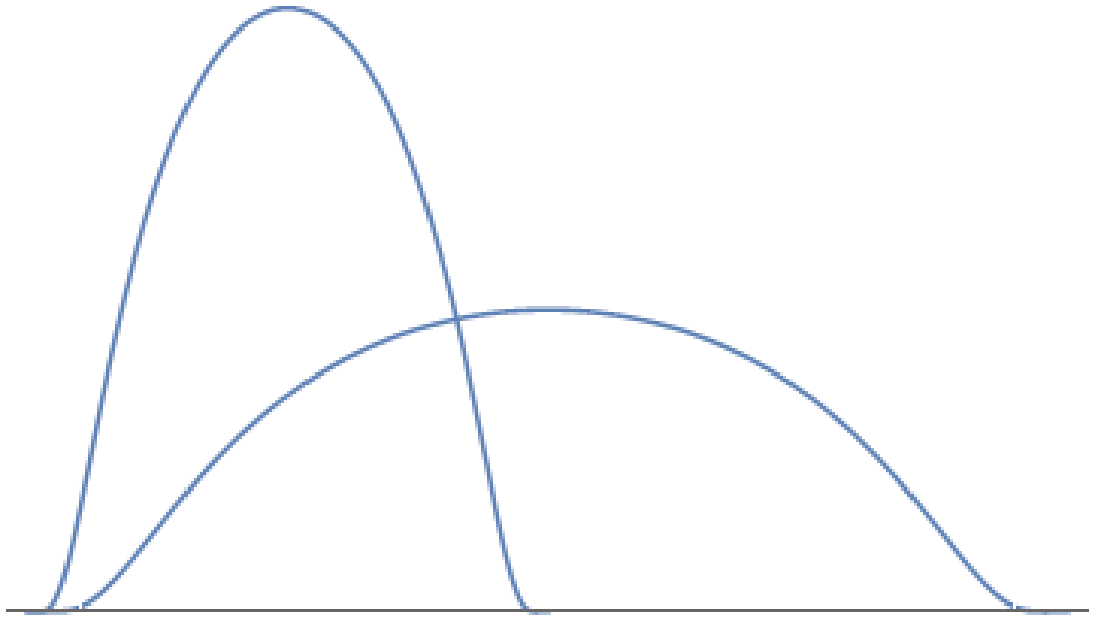
- Identify a few mathematical or statistical concepts that were communicated poorly or were generally misunderstood by the media
- Clarify what could have or should have been communicated
- We focused on improved communication and how the media actually did mean to communicate well even if they didn’t in some cases
- Develop visual techniques for communicating these concepts
  - Use of animation
  - Use of maps/color
  - Attention to language

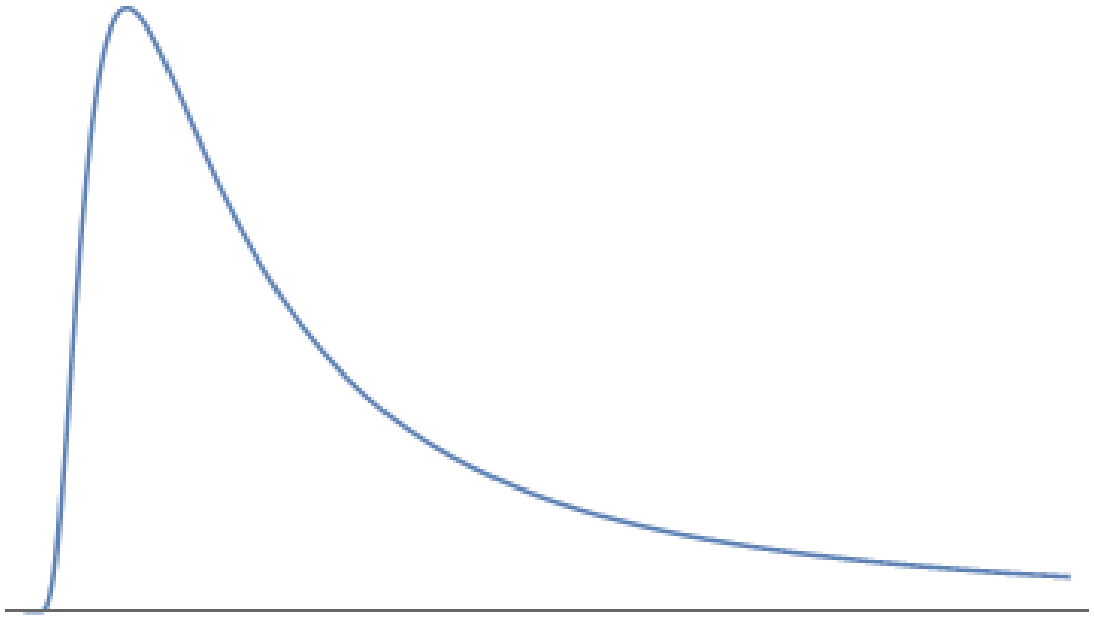
Flatten the Curve: Original



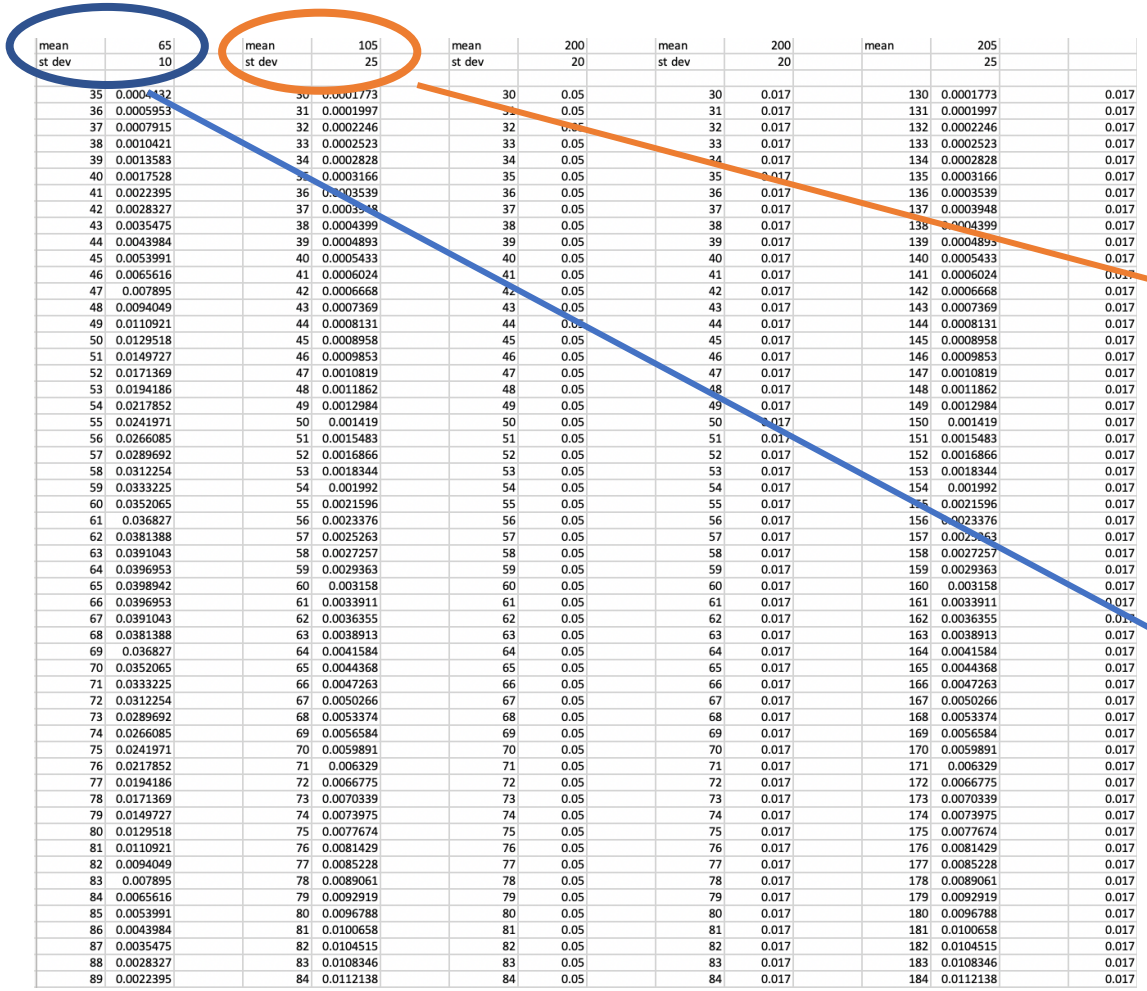
The New York Times

Mathematica





Excel

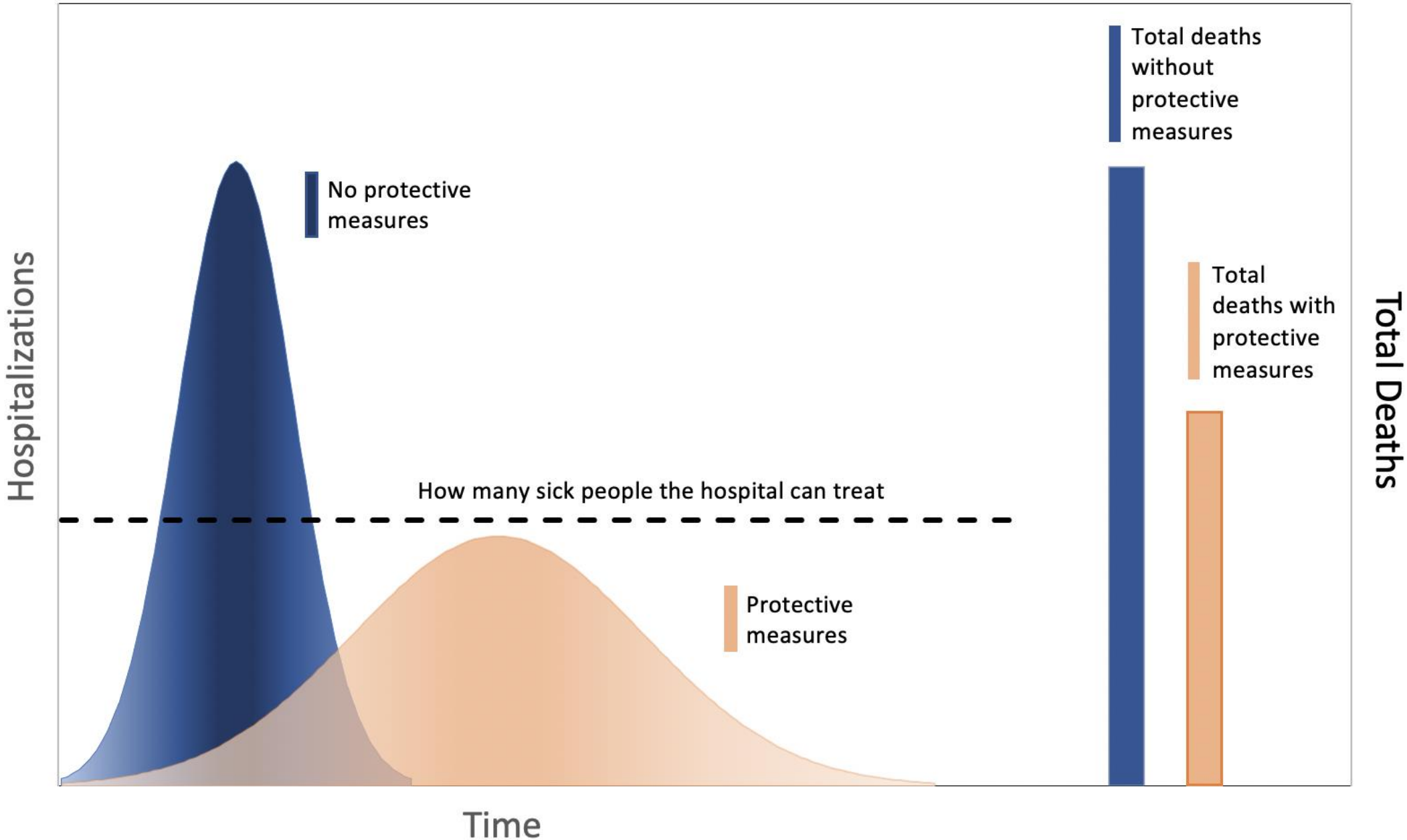


mean	65	mean	105	mean	200	mean	200	mean	205		
st dev	10	st dev	25	st dev	20	st dev	20		25		
35	0.0004132	30	0.0001773	30	0.05	30	0.017	130	0.0001773	0.017	
36	0.0005953	31	0.0001997	31	0.05	31	0.017	131	0.0001997	0.017	
37	0.0007915	32	0.0002246	32	0.05	32	0.017	132	0.0002246	0.017	
38	0.0010421	33	0.0002523	33	0.05	33	0.017	133	0.0002523	0.017	
39	0.0013583	34	0.0002828	34	0.05	34	0.017	134	0.0002828	0.017	
40	0.0017528	35	0.0003166	35	0.05	35	0.017	135	0.0003166	0.017	
41	0.0022395	36	0.0003539	36	0.05	36	0.017	136	0.0003539	0.017	
42	0.0028327	37	0.0003948	37	0.05	37	0.017	137	0.0003948	0.017	
43	0.0035475	38	0.0004399	38	0.05	38	0.017	138	0.0004399	0.017	
44	0.0043984	39	0.0004893	39	0.05	39	0.017	139	0.0004893	0.017	
45	0.0053991	40	0.0005433	40	0.05	40	0.017	140	0.0005433	0.017	
46	0.0065616	41	0.0006024	41	0.05	41	0.017	141	0.0006024	0.017	
47	0.007895	42	0.0006668	42	0.05	42	0.017	142	0.0006668	0.017	
48	0.0094049	43	0.0007369	43	0.05	43	0.017	143	0.0007369	0.017	
49	0.0110921	44	0.0008131	44	0.05	44	0.017	144	0.0008131	0.017	
50	0.0129518	45	0.0008958	45	0.05	45	0.017	145	0.0008958	0.017	
51	0.0149727	46	0.0009853	46	0.05	46	0.017	146	0.0009853	0.017	
52	0.0171369	47	0.0010819	47	0.05	47	0.017	147	0.0010819	0.017	
53	0.0194186	48	0.0011862	48	0.05	48	0.017	148	0.0011862	0.017	
54	0.0217852	49	0.0012984	49	0.05	49	0.017	149	0.0012984	0.017	
55	0.0241971	50	0.001419	50	0.05	50	0.017	150	0.001419	0.017	
56	0.0266085	51	0.0015483	51	0.05	51	0.017	151	0.0015483	0.017	
57	0.0289692	52	0.0016866	52	0.05	52	0.017	152	0.0016866	0.017	
58	0.0312254	53	0.0018344	53	0.05	53	0.017	153	0.0018344	0.017	
59	0.0333225	54	0.001992	54	0.05	54	0.017	154	0.001992	0.017	
60	0.0352065	55	0.0021596	55	0.05	55	0.017	155	0.0021596	0.017	
61	0.036827	56	0.0023376	56	0.05	56	0.017	156	0.0023376	0.017	
62	0.0381388	57	0.0025263	57	0.05	57	0.017	157	0.0025263	0.017	
63	0.0391043	58	0.0027257	58	0.05	58	0.017	158	0.0027257	0.017	
64	0.0396953	59	0.0029363	59	0.05	59	0.017	159	0.0029363	0.017	
65	0.0398942	60	0.003158	60	0.05	60	0.017	160	0.003158	0.017	
66	0.0396953	61	0.0033911	61	0.05	61	0.017	161	0.0033911	0.017	
67	0.0391043	62	0.0036355	62	0.05	62	0.017	162	0.0036355	0.017	
68	0.0381388	63	0.0038913	63	0.05	63	0.017	163	0.0038913	0.017	
69	0.036827	64	0.0041584	64	0.05	64	0.017	164	0.0041584	0.017	
70	0.0352065	65	0.0044368	65	0.05	65	0.017	165	0.0044368	0.017	
71	0.0333225	66	0.0047263	66	0.05	66	0.017	166	0.0047263	0.017	
72	0.0312254	67	0.0050266	67	0.05	67	0.017	167	0.0050266	0.017	
73	0.0289692	68	0.0053374	68	0.05	68	0.017	168	0.0053374	0.017	
74	0.0266085	69	0.0056584	69	0.05	69	0.017	169	0.0056584	0.017	
75	0.0241971	70	0.0059891	70	0.05	70	0.017	170	0.0059891	0.017	
76	0.0217852	71	0.006329	71	0.05	71	0.017	171	0.006329	0.017	
77	0.0194186	72	0.0066775	72	0.05	72	0.017	172	0.0066775	0.017	
78	0.0171369	73	0.0070339	73	0.05	73	0.017	173	0.0070339	0.017	
79	0.0149727	74	0.0073975	74	0.05	74	0.017	174	0.0073975	0.017	
80	0.0129518	75	0.0077674	75	0.05	75	0.017	175	0.0077674	0.017	
81	0.0110921	76	0.0081429	76	0.05	76	0.017	176	0.0081429	0.017	
82	0.0094049	77	0.0085228	77	0.05	77	0.017	177	0.0085228	0.017	
83	0.007895	78	0.0089061	78	0.05	78	0.017	178	0.0089061	0.017	
84	0.0065616	79	0.0092919	79	0.05	79	0.017	179	0.0092919	0.017	
85	0.0053991	80	0.0096788	80	0.05	80	0.017	180	0.0096788	0.017	
86	0.0043984	81	0.0100658	81	0.05	81	0.017	181	0.0100658	0.017	
87	0.0035475	82	0.0104515	82	0.05	82	0.017	182	0.0104515	0.017	
88	0.0028327	83	0.0108346	83	0.05	83	0.017	183	0.0108346	0.017	
89	0.0022395	84	0.0112138	84	0.05	84	0.017	184	0.0112138	0.017	

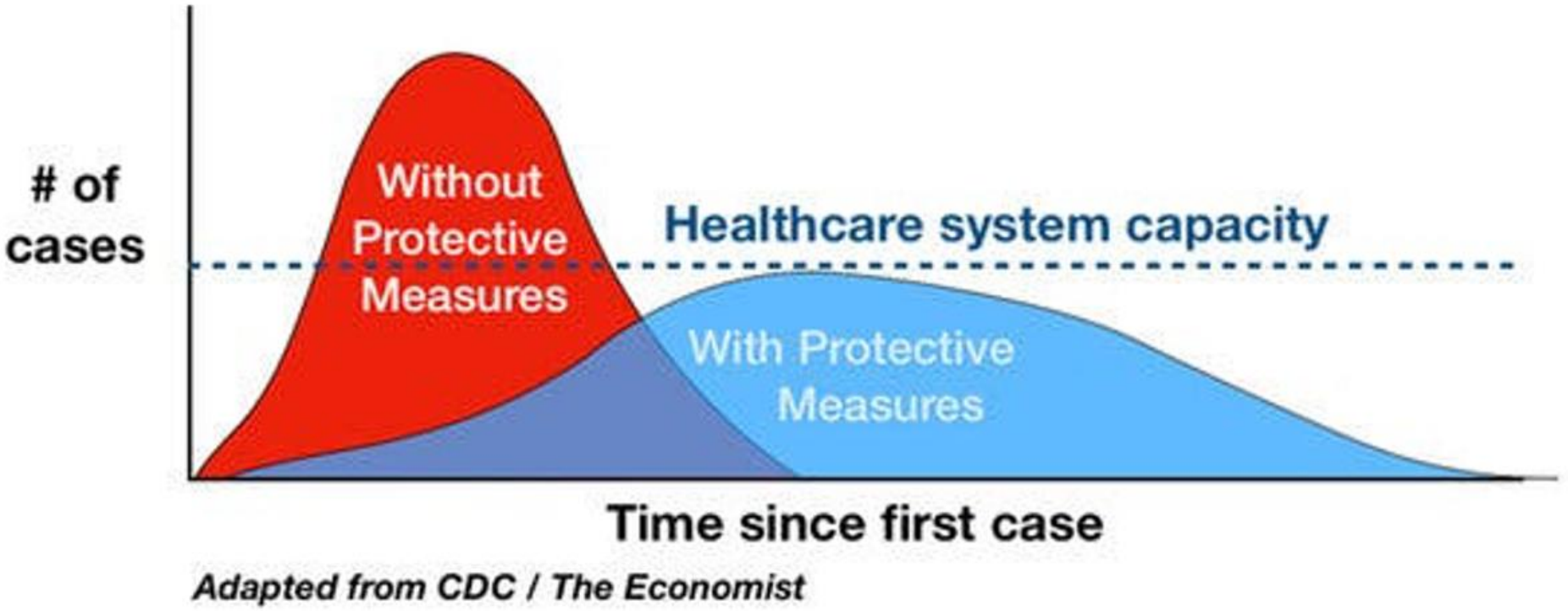
mean	105
st dev	25

mean	65
st dev	10

Flattening the Curve

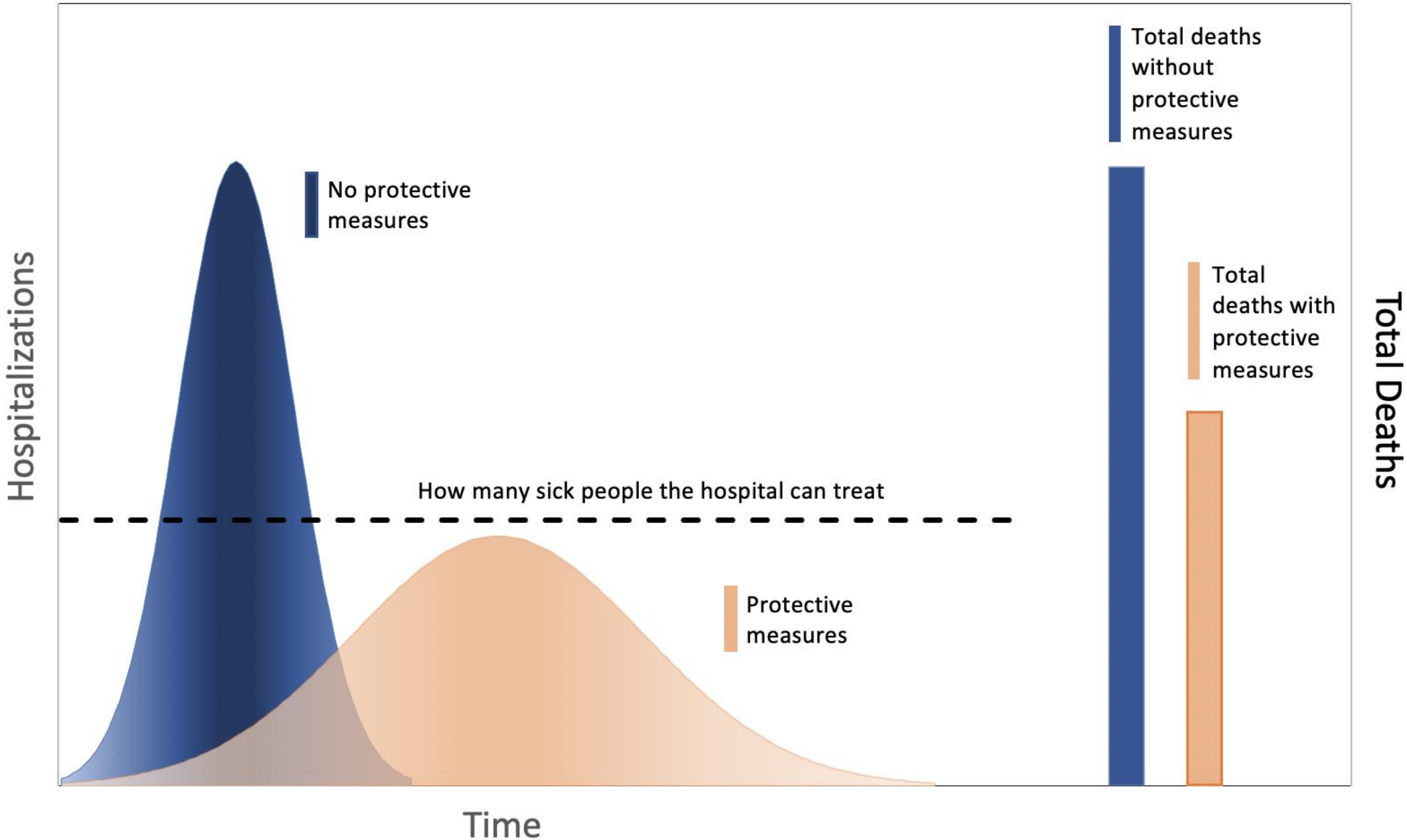


Flatten the Curve: Original



The New York Times

Flattening the Curve



Headlines: “peak” of COVID-19 infections

“Models indicate Georgia may have already passed COVID-19 peak” – *Gwinnett Daily Post (April 18, 2020)*

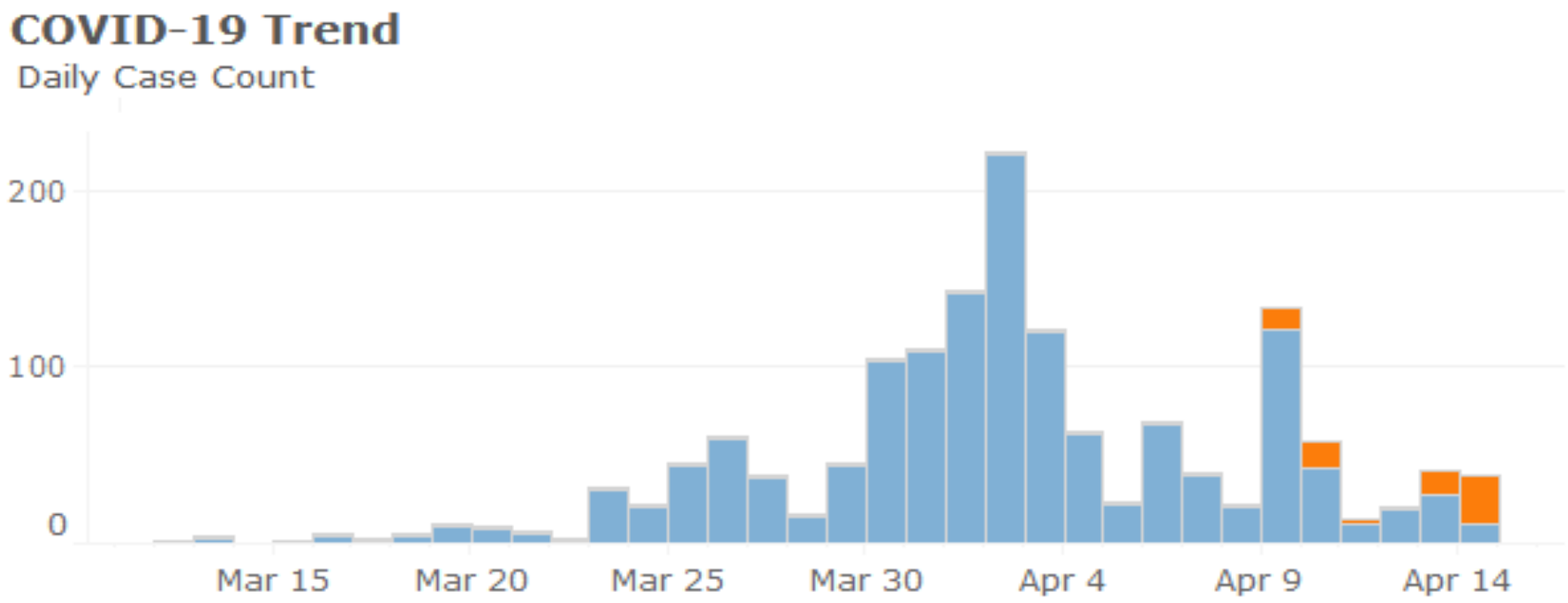
“UNMC [University of Nebraska Medical Center] expert says Nebraska may have reached coronavirus peak, but [Governor] Ricketts urges caution” -- *Grand Island Independent (May 15, 2020)*

“Ohio May Have Hit Peak Of COVID-19 Cases This Weekend” – *WVXU Cincinnati Public Radio (April 19, 2020)*

“The Eight States Where Coronavirus Cases Have Fallen More Than 50 Percent From Their Peaks” – *Newsweek (April 22, 2020)*

The “Peak”

“At its peak, on April 2, Idaho reported 222 cases in a single day.” – *Big Country News*, April 15, 2020



Three Step Process Model

Finding an independent data source

- Removing bias

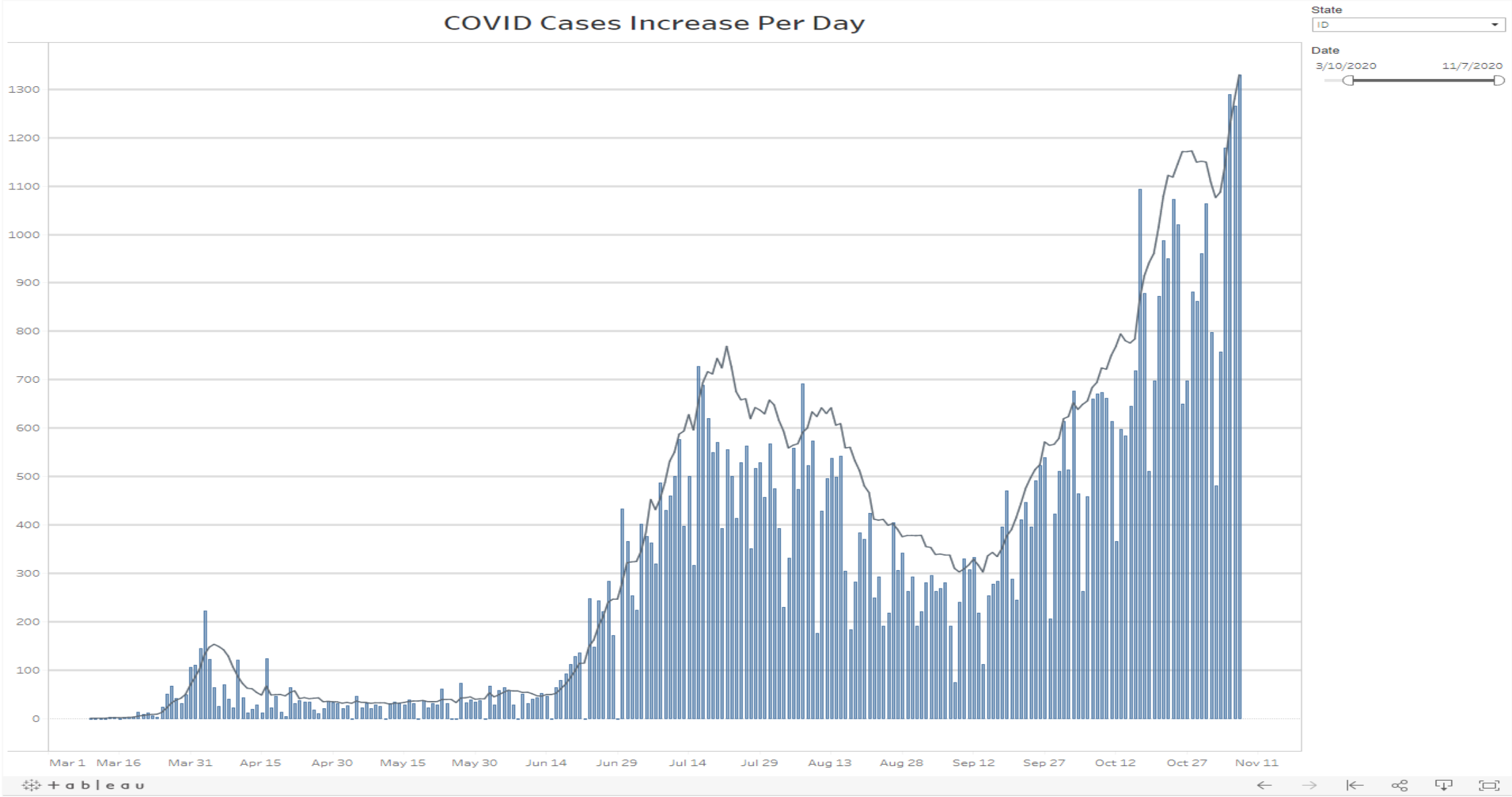
Visualizing the data in a clear format

- Raw count
- Summary statistic

Using visualization software

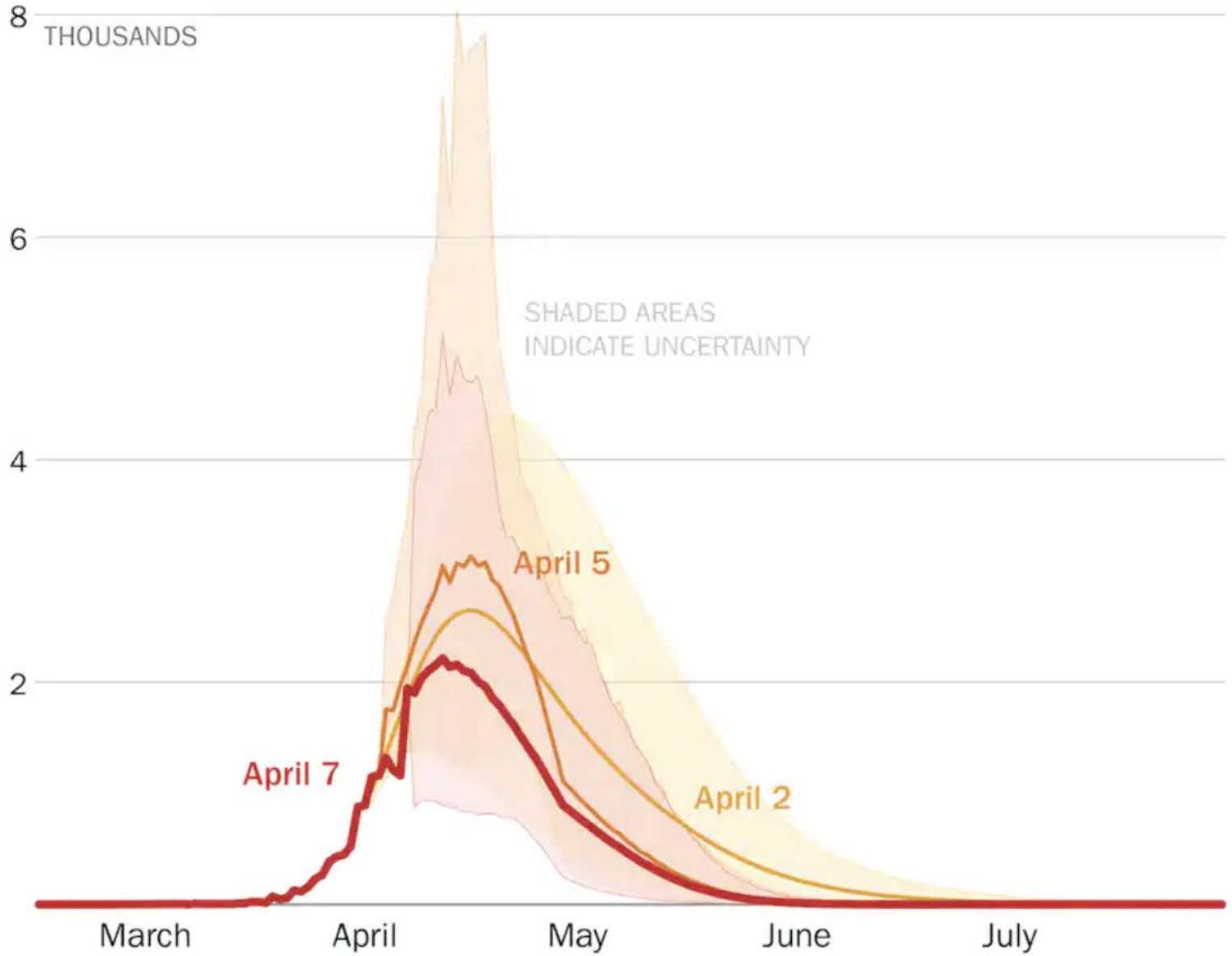
Design features for audience engagement

Challenges


COVID Cases Increase Per Day
State
ID
Date
3/10/2020
11/7/2020
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
Mar 1
Mar 16
Mar 31
Apr 15
Apr 30
May 15
May 30
Jun 14
Jun 29
Jul 14
Jul 29
Aug 13
Aug 28
Sep 12
Sep 27
Oct 12
Oct 27
Nov 11
+ableau


COVID Cases Increase Per Day
"The Peak"
Idaho, 6 weeks into the pandemic

How the projected peak in deaths has evolved



Source: IHME, University of Washington

THE WASHINGTON POST

Media can keep science accountable

"This **appearance of certainty is seductive** when the world is desperate to know what lies ahead," Britta Jewell of Imperial College and her colleagues wrote in their Annals paper. But the IHME model "rests on the **likely incorrect assumption that effects of social distancing policies are the same everywhere**." Because U.S. policies are looser than those elsewhere, largely due to inconsistency between states, U.S. deaths could remain at higher levels longer than they did in China, in particular.

-STAT News

SCIENCE → MEDIA → PUBLIC