

Coronavirus in the US: Use Facts, Not Fear, To Inform on the Path to Reopening the Economy

Edward Pinto (pintoedward1@gmail.com)

AEI Research Fellow and Housing Center Director

Acknowledgement of research assistance provided by Gregory Marchal, intern

[AEI.org/housing](https://www.aei.org/housing)

May 3, 2020

Fear

“Will Texas or Florida be ‘the next Italy’? Red states lag blue in stay-at-home orders”: Los Angeles Times, March 23, 2020

“Florida sees sharp spike in coronavirus infections as fears grow it could be another hotspot”: Fox News, March 28, 2020

“Florida hospitals could quickly be overwhelmed by coronavirus cases, data shows”: South Florida Sun Sentinel, March 29, 2020

“As coronavirus cases surge in Florida, fears mount that action came too late”: Washington Post, April 2, 2020

“As coronavirus cases surge in Florida, fears mount that action came too late”: MSN News, April 3, 2020

“Coronavirus is ravaging New York, and Florida could be next. Are we ready?”: South Florida Sun Sentinel, April 4, 2020

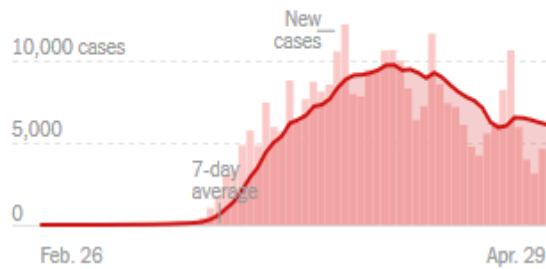
“As Florida approaches an expected peak in the number of coronavirus cases, people on the front lines are waiting and planning for one of the worst possible outcomes: a shortage of ventilators needed by patients battling the coronavirus.”: CBSMiami/NSF), April 13, 2020

None of these sensational headlines turned out to be even remotely true.

Facts over Fear: on April 30, NY, NJ, & MA's Total Cases & Deaths/100,000 Population Were 12 & 22 Times as High as TX, CA, & FL Respectively

NY Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.

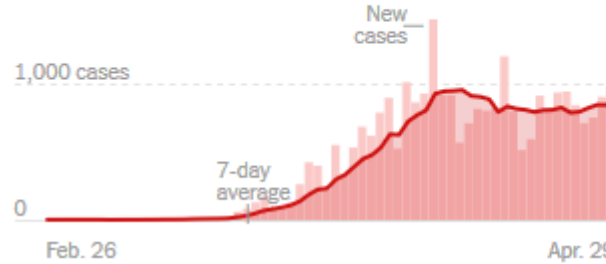


TOTAL CASES
309,696
DEATHS
23,616

UPDATE Includes confirmed and probable cases where available

Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.

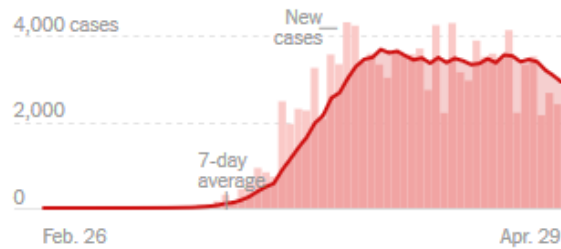


TOTAL CASES
29,025
DEATHS
823

UPDATE Includes confirmed and probable cases where available

NJ Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.

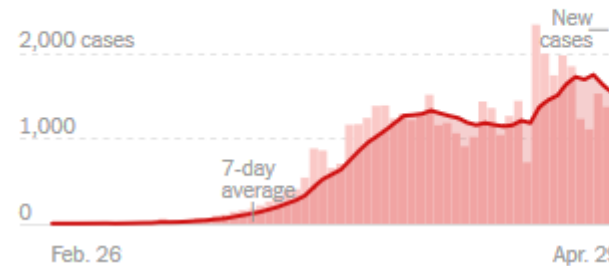


TOTAL CASES
118,652
DEATHS
7,228

UPDATE Includes confirmed and probable cases where available

CA Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.

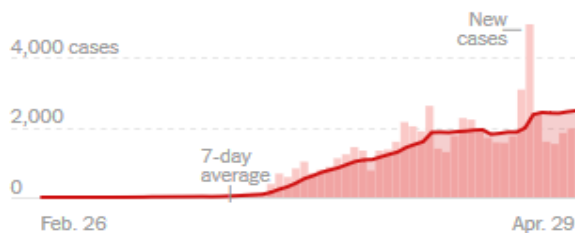


TOTAL CASES
50,139
DEATHS
2,055

UPDATE Includes confirmed and probable cases where available

MA Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.

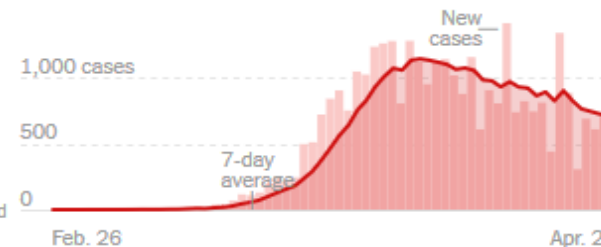


TOTAL CASES
62,205
DEATHS
3,562

UPDATE Includes confirmed and probable cases where available

FL Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.

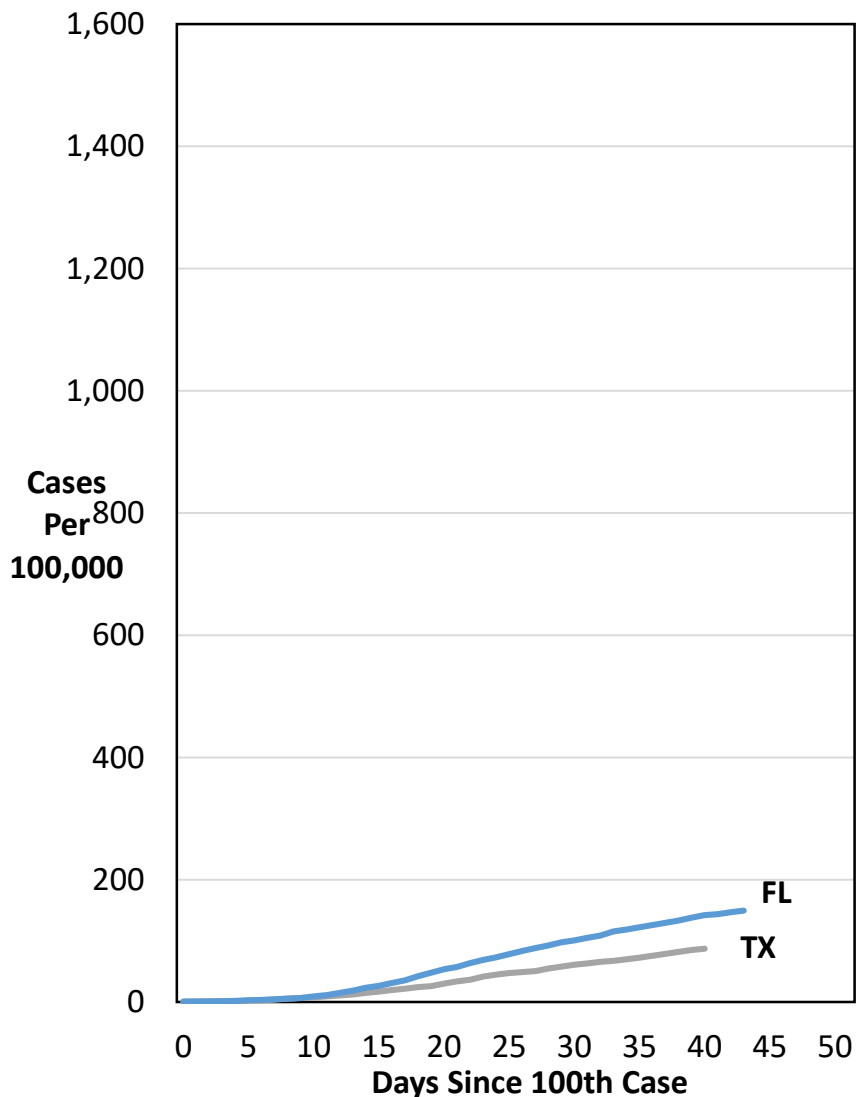


TOTAL CASES
33,683
DEATHS
1,267

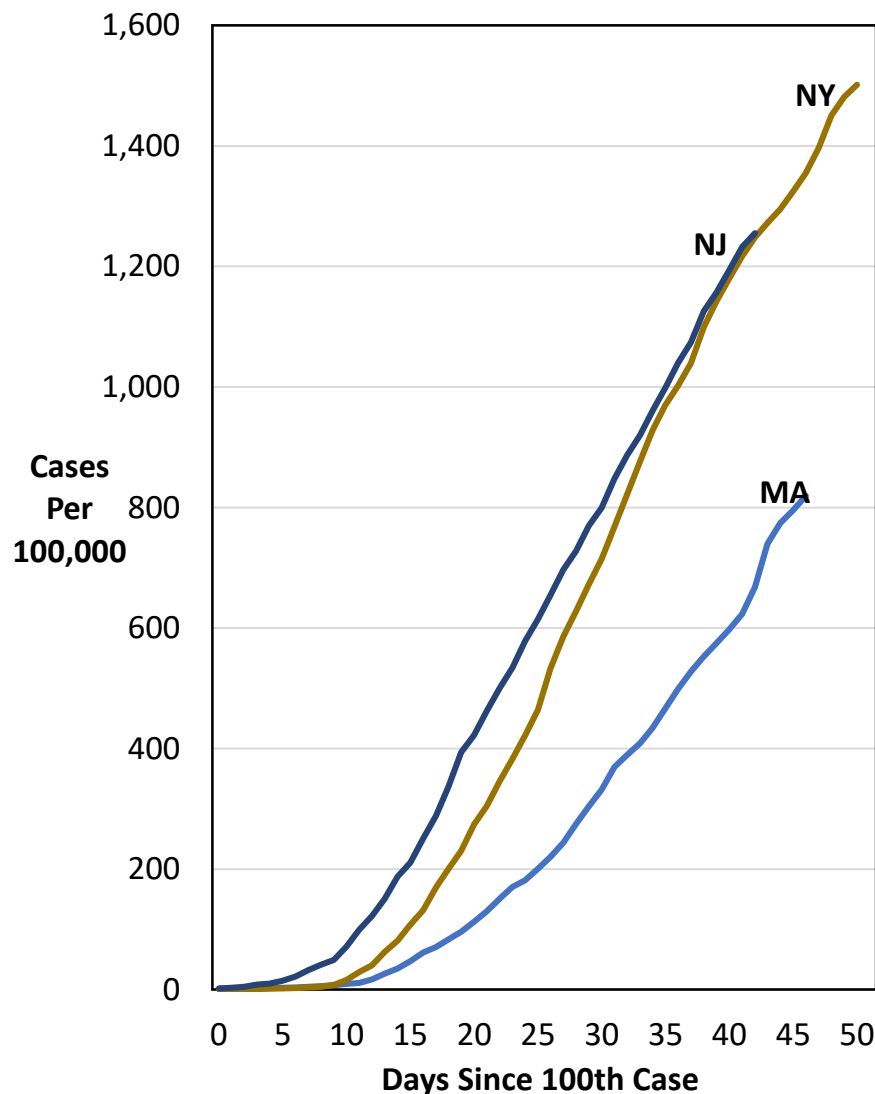
UPDATE Includes confirmed and probable cases where available

Fact 10: TX and FL (Left Panel) Have about 10% of the Level of Cases Per 100,000 Compared to NY, NJ, and MA (Right Panel)

TX and FL: Cases Per 100,000 by Days After Reaching 100 Cases:



NY, NJ, and MA: Cases Per 100,000 by Days After Reaching 100 Cases



Markers indicate the day each state implemented a stay at home order. Most recent data as of 4/27/20. Source: AEI Housing Center. Modeled after chart from NPR: <https://www.npr.org/sections/health-shots/2020/03/16/816707182/map-tracking-the-spread-of-the-coronavirus-in-the-u-s-by-day>.

Facts: Putting the US Coronavirus Pandemic in Perspective

Fact 1: 41.4% of All Cases in the US Have Occurred in 21 of the 25 Counties with the Most Cases & All Were Served by the Boston-Philadelphia Commuter Rail Corridor that Largely Emanates from Manhattan.

- *This Is 5.9 Times Their Population Share of 7.0% & These 21 Counties Accounted for 0.66% of the 3195 county or county-equivalents in the US.*

Fact 2: 47% of All Deaths in the US Have Occurred in 20 of the 25 Counties with the Most Deaths, & All Were Served by the Boston-Philadelphia Commuter Rail Corridor Largely Emanating from Manhattan.

- *This Is 7.1 Times Their Population Share of 6.6% & These 20 Counties Accounted for 0.6% of the 3195 county or county-equivalents in the US.*

Fact 3: Age Is a Highly Correlated Factor: 80% of US and 77% of NY State Corona Virus Deaths Were Aged 65 or Older

Fact 6: 36% of All Deaths In the US Are Attributable to just 1.1% of the Entire US Population (i) Aged 65 Years or Older and (ii) Living in 21 Hard Hit Counties In the Boston-Philadelphia Commuter Rail Corridor.

- *This Is 33 Times Their Population Share of 1.1%.*

Facts: Putting the US Coronavirus Pandemic in Perspective

Fact 5: Those Aged 65 or Older Have a Hospitalization Rate of 97 per 100,000, which Is 8 times the Rate for Those Aged 18-49

Fact 6: 72% of All US Cases Were in States with an Average Feb.- Mar. 2020 Temperature of $>35^{\circ}$ F. - $<45^{\circ}$ F., Which States Account for 39% of US Population

Fact 7: 79% of All US Deaths Were in States with an Average Feb.- Mar. 2020 Temperature of $>35^{\circ}$ F. - $<45^{\circ}$ F., Which States Account for 39% of US Population

Fact 8: Warm States Have about 10% of the Level of Cases Per 100,000 Compared to Colder States in the BOS-PHL Commuter Rail Corridor.

Cases per Capita More Dependent on Average Temperature & Location in This Rail Corridor, than Date of Stay at Home Order.

Fact 9: The Date of Statewide Stay at Home Order Date Had Little Bearing on Cases Per 100,000 People

Fact 10 The Date of the Stay at Home Order Date Had Little Bearing on Deaths Per 100,000 People

Facts: Putting the US Coronavirus Pandemic in Perspective

Fact 11: As of 4.26.20, Low Temperature NY, NJ, & MA with 35 Million Population Have Much Higher Daily & Total Case & Death Counts Than TX, CA, & FL with 91 Million Population.

- *On April 30 NY, NJ, & MA's Cases & Deaths per 100,000 population Were 12 & 22 Times as High as TX, CA, & FL.*

Fact 12: Congregate Care Facilities Are the Front Line of U.S. Coronavirus Battle.

- *Long Term Care Facility Residents & Employees Accounted for an Estimated of 25% of All US Fatalities.*

Fact 13: That 89% of the deaths had at least one co-morbidity factor is not especially illuminating given an estimated 77% of NY State coronavirus deaths were aged 65 or older, and virtually all members of the 65+ age group have one of more of these factors.

Fact 14: In the Spanish Flu Pandemic of 1917-1918, in the US Young Adults Died in the Highest Numbers.

- With the Coronavirus, Those Aged 65 and Over Account for 80% of Deaths.

Thought Experiment 1: 85,000 Coronavirus Deaths (the Population Adjusted Number of US Motor Vehicle Fatalities in 1972) Would Be Acceptable, if the Alternative Is Doing Massive Economic and Societal Harm & Changing Our Economic System in Ways that Will Do Even More Harm Going Forward.

Conclusion 1: Feb. and Mar. Weather of $>35^{\circ}$ and $<45^{\circ}$ F. and Being in the BOS-PHL Commuter Rail Corridor Are Much Stronger Indicators of High Case Rates Than the Date of the Statewide Stay at Home Order.

Conclusion 2: Feb. and Mar. Weather of $>35^{\circ}$ and $<45^{\circ}$ F. and Being in the BOS-PHL Commuter Rail Corridor Tend Are Much Stronger Indicators of High Death Rates Than the Date of the Statewide Stay at Home Order

Factors found to be highly correlated to total coronavirus cases and deaths, and cases and deaths per capita:

- Prevalence of mass transit, particularly commuter rail in the Boston-Philadelphia Commuter Rail Corridor (BOS-PHL Corridor) that largely emanates from Manhattan and encompasses 21 high counties in New York, New Jersey, Connecticut, Massachusetts, Pennsylvania, and Rhode Island with high coronavirus case counts
- 35° - 45° average temperature in February and March 2020
- Age ≥ 65 years

Factors not found to be correlated to total coronavirus cases and deaths, and cases and deaths per capita:

- Date of the Statewide Stay at Home Order
- Co-morbidity factors for those aged >65 years (highly correlated to those >65 since virtually all of those aged >65 have at least 1 co-morbidity factor)

Conclusion 3: A Failure to Recognize the New York-Northeastern US-Centric, Age-Centric, and Weather- Centric Nature of the Coronavirus Pandemic Resulted in Stringent Policies Being Put in Place on a Nearly Nationwide Basis that Were Not Justified by the Facts Pertaining to Most Geographies.

This has led to a series of federal spending bills that are inefficient, poorly targeted, and excessively costly.

And has put needless and excessive social, financial, and economic strains on the people of the United States and the federal, state, and local governments.

Recommendation 1: Aggressively Reopen the Economy in Those States and Counties that Have Warmer Temperatures, Low Case and Death Rates per Capita, Declining Case Levels, and Minimal Mass Transit

This should be done in conjunction with other steps designed to quickly, but safely reopen the economy and protect the most vulnerable:

- Restaurants and stores open at 50% capacity,
- Parks, beaches, libraries at reduced social capacity, and
- Continued strong focus on:
 - Testing,
 - Vaccine and treatment development efforts,
 - Protecting long-term care facility residents and employees
 - Protecting health care workers
 - Excess hospital and equipment capacity

Recommendation 2: Create a Bridge to More Rapidly Reopen the Economy Where Heavy Reliance on Mass Transit Is an Impediment

Establish tax credits to employers and workers to remove friction that prevents/deters commuters from using more appropriate social distancing and reduces reliance on mass transit.

Fact 1: 41.4% of All Cases in the US Have Occurred in 21 of the 25 Counties with the Most Cases & All Were Served by the Boston-Philadelphia Commuter Rail Corridor that Largely Emanates from Manhattan. This Is 5.9 Times Their Population Share of 7.0% & These 21 Counties Accounted for 0.66% of the 3195 county or county-equivalents in the US.

Top 25 Counties with the Most Cases										
State	County	Confirmed Cases	Cases Per 100,000 people	Deaths	Deaths Per 100,000 People	Total Cases Rank	Total Deaths Rank	County Population (2019 Census Est.)	Counties on BOS-PHL Commuter Rail Corridor	State Average Temp (Mar, Apr 2020)
NY	Queens	49,399	2,192	3,823	170	1	2	2,253,858	Yes	42.9
NY	Kings	43,014	1,680	3,882	152	2	1	2,559,903	Yes	42.9
NY	Bronx	35,556	2,507	2,540	179	3	3	1,418,207	Yes	42.9
NY	Nassau	34,865	2,569	1,620	119	4	5	1,356,924	Yes	42.9
NY	Suffolk	32,470	2,199	1,102	75	5	8	1,476,601	Yes	42.9
IL	Cook	31,953	620	1,347	26	6	7	5,150,233	No	36.5
NY	Westchester	28,007	2,895	962	99	7	10	967,506	Yes	42.9
NY	New York	21,097	1,295	1,501	92	8	6	1,628,706	Yes	42.9
CA	Los Angeles	20,417	203	942	9	9	12	10,039,107	No	60.5
MI	Wayne	15,872	907	1,622	93	10	4	1,749,343	No	35.7
NJ	Bergen	15,104	1,620	960	103	11	11	932,202	Yes	44.0
NJ	Hudson	13,925	2,071	673	100	12	15	672,391	Yes	44.0
NJ	Essex	13,047	1,633	1,028	129	13	9	798,975	Yes	44.0
MA	Middlesex	12,953	804	700	43	14	14	1,611,699	Yes	39.8
NJ	Union	12,011	2,159	583	105	15	18	556,341	Yes	44.0
MA	Suffolk	11,883	1,478	448	56	16	23	803,907	Yes	39.8
FL	Miami-Dade	11,570	426	302	11	17	34	2,716,940	No	75.2
NY	Richmond	11,423	2,399	541	114	18	19	476,143	Yes	42.9
NY	Rockland	11,366	3,489	384	118	19	28	325,789	Yes	42.9
PA	Philadelphia	11,361	717	274	17	20	36	1,584,064	Yes	44.9
NJ	Passaic	11,349	2,262	438	87	21	24	501,826	Yes	44.0
NJ	Middlesex	10,767	1,305	455	55	22	22	825,062	Yes	44.0
CT	Fairfield	10,763	1,141	727	77	23	13	943,332	Yes	41.2
NY	Orange	8,238	2,140	219	57	24	40	384,940	Yes	42.9
MA	Essex	7,708	977	359	45	25	29	789,034	Yes	39.8

Fact 2: 47% of All Deaths in the US Have Occurred in 20 of the 25 Counties with the Most Deaths, & All Were Served by the Boston-Philadelphia Commuter Rail Corridor that Largely Emanates from Manhattan. This Is 7.1 Times Their Population Share of 6.9% & These 20 Counties Accounted for 0.6% of the 3195 county or county-equivalents in the US.

Top 25 Counties with the Most Deaths Data as of 4/27/20										
State	County	Confirmed Cases	Cases Per 100,000 people	Deaths	Deaths Per 100,000 People	Total Cases	Total Deaths	County Population (2019 Census Est.)	Counties on BOS-PHL Commuter Rail Corridor	State Average Temp (Mar, Apr)
NY	Kings	43,014	1,680	3,882	152	2	1	2,559,903	Yes	42.9
NY	Queens	49,399	2,192	3,823	170	1	2	2,253,858	Yes	42.9
NY	Bronx	35,556	2,507	2,540	179	3	3	1,418,207	Yes	42.9
MI	Wayne	15,872	907	1,622	93	10	4	1,749,343	No	35.7
NY	Nassau	34,865	2,569	1,620	119	4	5	1,356,924	Yes	42.9
NY	New York	21,097	1,295	1,501	92	8	6	1,628,706	Yes	42.9
IL	Cook	31,953	620	1,347	26	6	7	5,150,233	No	36.5
NY	Suffolk	32,470	2,199	1,102	75	5	8	1,476,601	Yes	42.9
NJ	Essex	13,047	1,633	1,028	129	13	9	798,975	Yes	44.0
NY	Westchester	28,007	2,895	962	99	7	10	967,506	Yes	42.9
NJ	Bergen	15,104	1,620	960	103	11	11	932,202	Yes	44.0
CA	Los Angeles	20,417	203	942	9	9	12	10,039,107	No	60.5
CT	Fairfield	10,763	1,141	727	77	23	13	943,332	Yes	41.2
MA	Middlesex	12,953	804	700	43	14	14	1,611,699	Yes	39.8
NJ	Hudson	13,925	2,071	673	100	12	15	672,391	Yes	44.0
MI	Oakland	6,913	550	631	50	27	16	1,257,584	No	35.7
CT	Hartford	5,157	578	612	69	38	17	891,720	Yes	41.2
NJ	Union	12,011	2,159	583	105	15	18	556,341	Yes	44.0
NY	Richmond	11,423	2,399	541	114	18	19	476,143	Yes	42.9
MI	Macomb	5,245	600	527	60	37	20	873,972	No	35.7
CT	New Haven	6,993	818	456	53	26	21	854,757	Yes	41.2
NJ	Middlesex	10,767	1,305	455	55	22	22	825,062	Yes	44.0
MA	Suffolk	11,883	1,478	448	56	16	23	803,907	Yes	39.8
NJ	Passaic	11,349	2,262	438	87	21	24	501,826	Yes	44.0
MA	Norfolk	5,398	764	429	61	35	25	706,775	Yes	39.8
Total cases 20 of 25=		385,181	Total deaths 20 of 25 =		23,480	Population of 20 ctys:			22,236,835	

Fact 3: Age Is a Highly Correlated Factor: 80% of US and 77% of NY State Corona Virus Deaths Were Aged 65 or Older

- Estimated 56.1 million Americans were 65 or older in 2020 (16.9%)*
 - 55.6% or 28.3 million female (2017)**
 - 44.4% or 22.6 million male (2017)**
- In the US 80% of coronavirus deaths were 65 or older**
- In New York State 77% of coronavirus deaths were aged =>65***

* [2018 Profile of Older Americans \(PDF, 909KB\)](#)

** <https://www.cdc.gov/nchs/nvss/vsrr/covid19/index.htm>

*** <https://covid19tracker.health.ny.gov/views/NYS-COVID19-Tracker/NYSDOHCOVID-19Tracker-Fatalities?%3Aembed=yes&%3Atoolbar=no&%3Atabs=n> ,

Fact 4: 36% of All Deaths In the US Are Attributable to Just 1.1% of the Entire US Population (i) Aged 65 Years or Older and (ii) Living in 21 Hard Hit Counties In the Boston-Philadelphia Commuter Rail Corridor. This Is 33 Times Their Population Share of 1.1%

Key factors found to highly correlate to total coronavirus deaths:

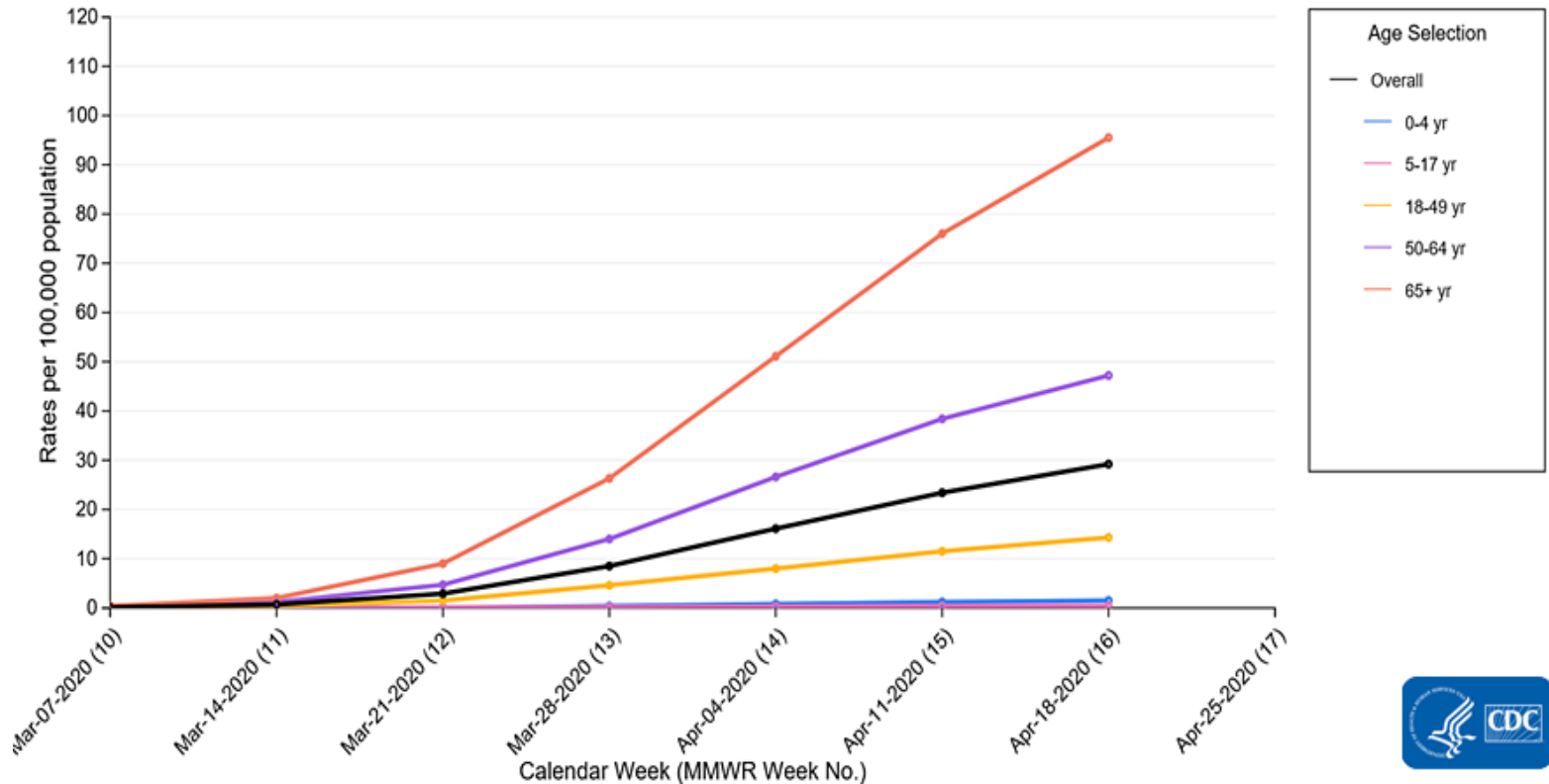
- Prevalence of mass transit, particularly commuter rail in the Boston-Philadelphia Commuter Rail Corridor (BOS-PHL Corridor) that largely emanates from Manhattan and encompasses 21 counties in New York, New Jersey, Connecticut, Massachusetts, Pennsylvania, and Rhode Island
- 35°-45° average temperature in February and March 2020 (all 21 counties meet this criteria)
- Age ≥ 65

Fact 5: Those Aged 65 or Older Have a Hospitalization Rate of 97 per 100,000, which Is 8 times the Rate for Those Aged 18-49

Given this disparity, states and counties with warmer temperatures, low case and death rates per capita, declining case levels, and minimal mass transit may be more aggressive in reopening their economies and not place s strain on hospitals.

Laboratory-Confirmed COVID-19-Associated Hospitalizations

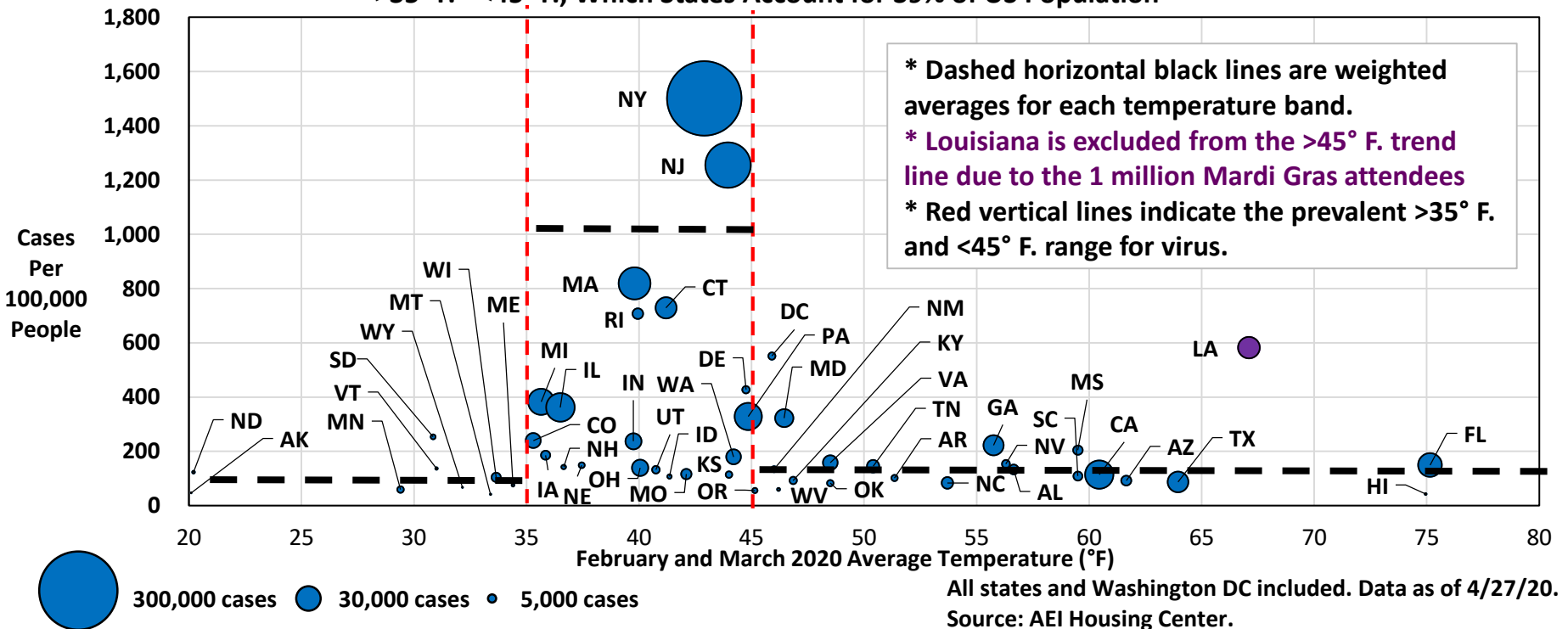
Preliminary cumulative rates as of Apr 18, 2020



Fact 6: 72% of All US Cases Were in States with an Average Feb.- Mar. 2020 Temperature of >35° F. - <45° F., Which States Account for 39% of US Population

- The center temperature band averaging between 35° - 45° F. (by state) had:
 - NY, NJ, MA, PA, and CT (high volume states in the BOS-PHL Corridor) accounting for 54% of all cases,
 - Another 15 states, while outside the high volume states in the BOS-PHL Corridor, accounting for another 19%.
 - A weighted average case rate of 1000/100,000 population, 6.7 times the case rate of about 150/100,000 for the colder and warmer temperature bands.

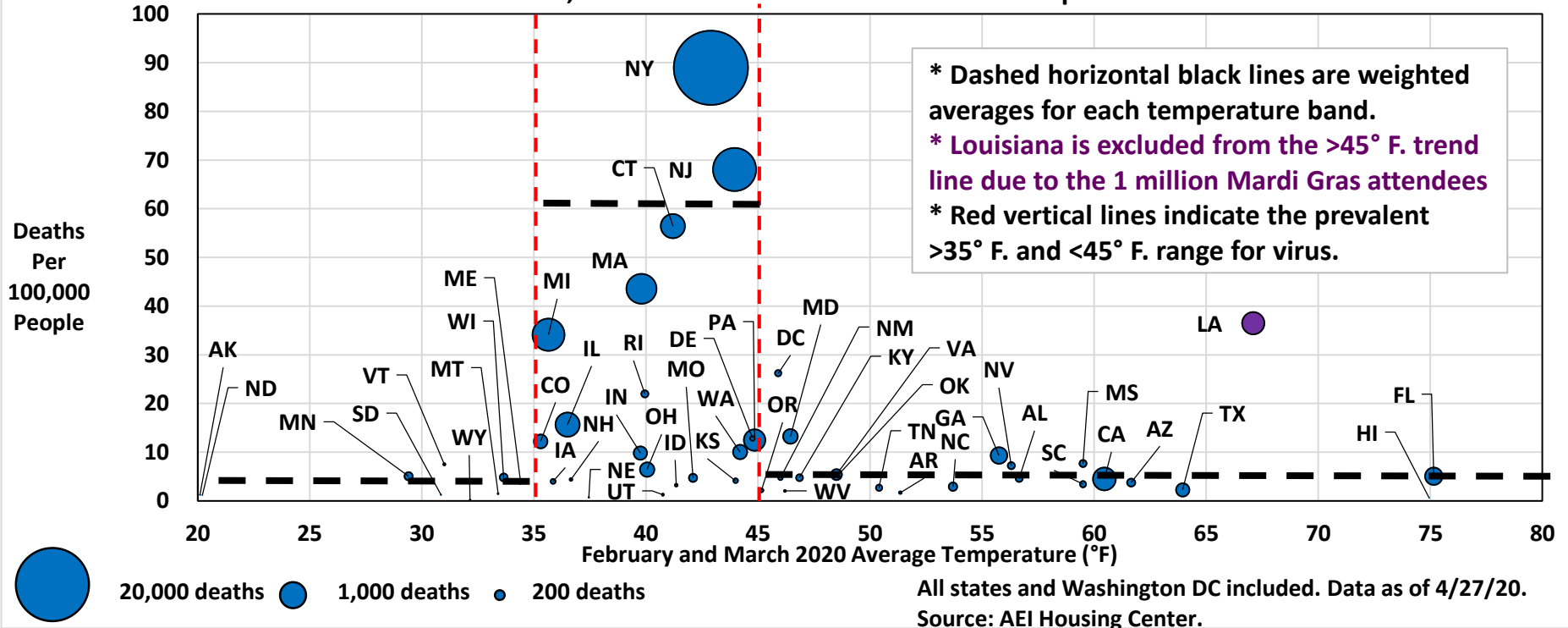
72% of All US Cases Were in States with an Average Feb.- Mar. 2020 Temperature of >35° F. - <45° F., Which States Account for 39% of US Population



Fact 7: 79% of All US Deaths Were in States with an Average Feb.- Mar. 2020 Temperature of >35° F. - <45° F., Which States Account for 39% of US Population

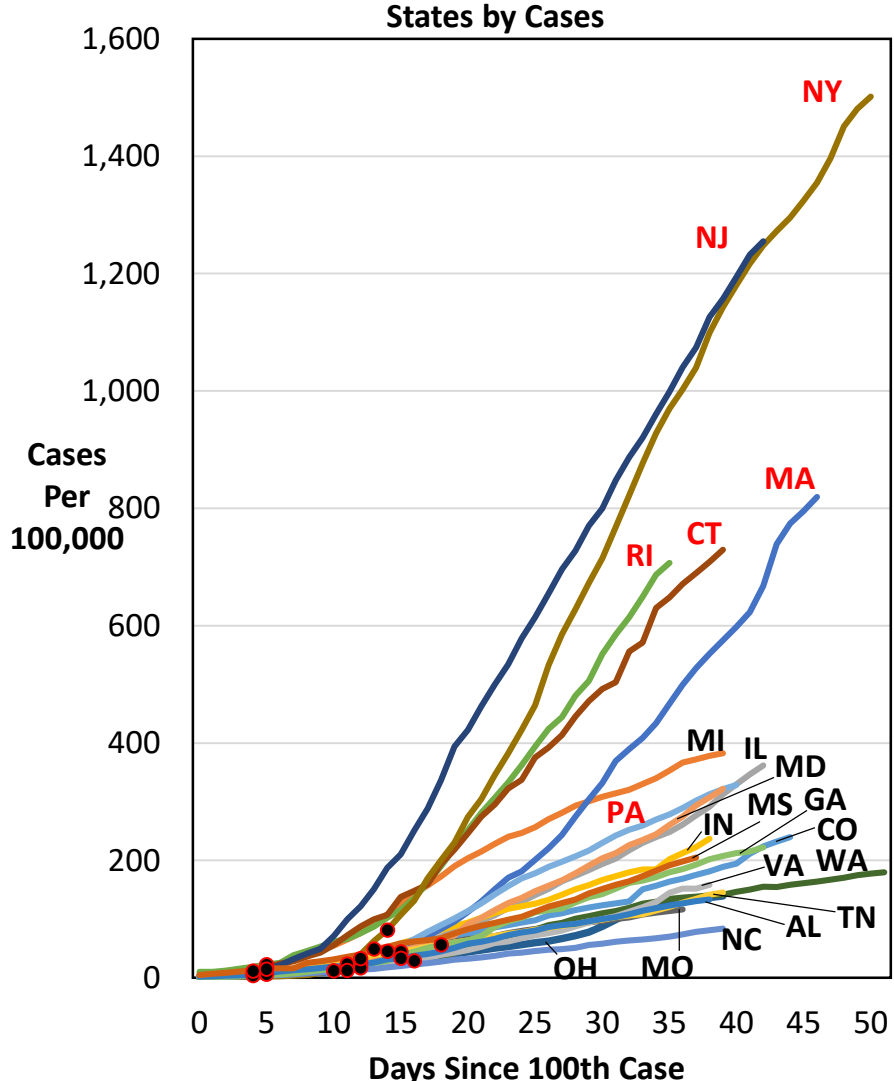
- The center temperature band averaging between 35° - 45° F. (by state) had:
 - NY, NJ, MA, PA, and CT (high volume states in the BOS-PHL Corridor) accounted for 60% of all deaths,
 - Another 15 states, while outside the high volume states in the BOS-PHL Corridor, accounted for another 19%.
 - A weighted average death rate of 61/100,000 population, 10 times the combined case rate of about 6/100,000 for the colder and warmer temperature bands.

79% of All US Deaths Were in States with an Average Feb.- Mar. 2020 Temperature of >35° F. - <45° F., Which States Account for 39% of US Population

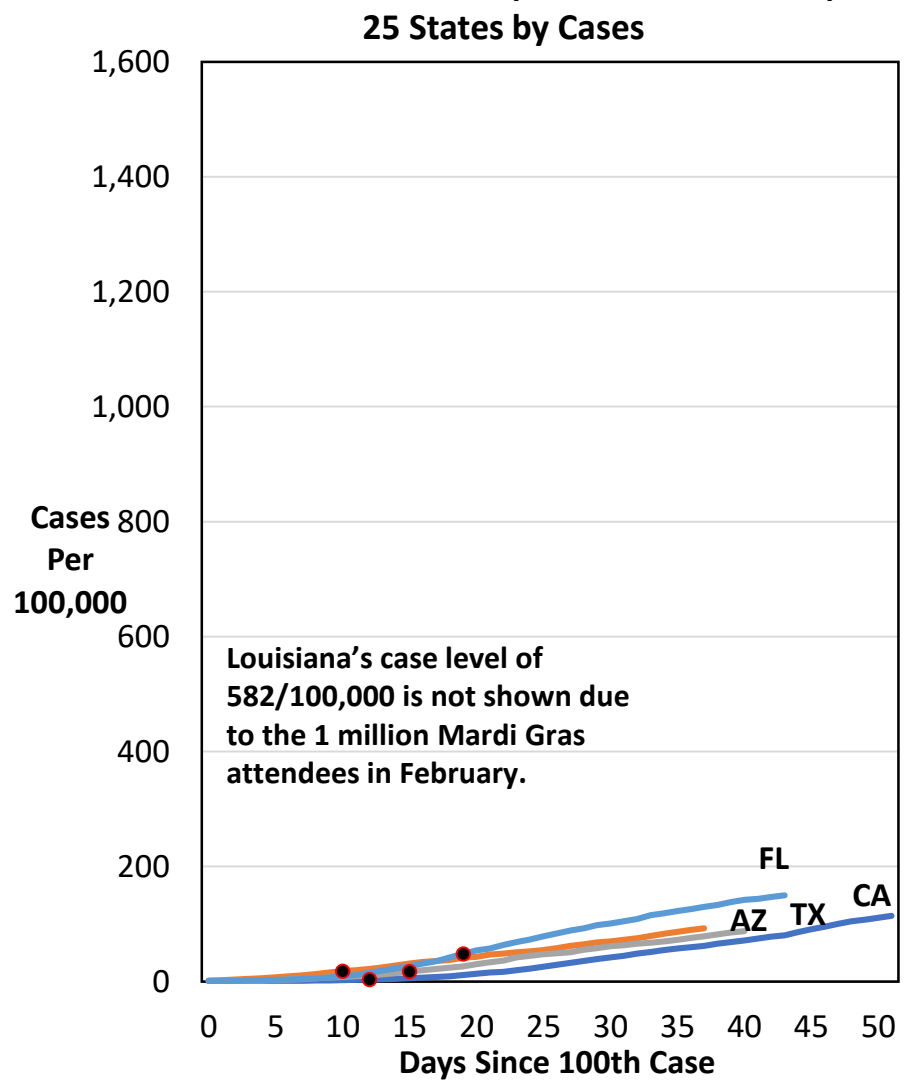


Fact 8: Warm States (Right Panel) Have about 10% of the Level of Cases Per 100,000 Compared to Colder States (Left Panel) in the BOS-PHL Commuter Rail Corridor (States in Red Font). Cases per Capita More Dependent on Average Temperature & Location in This Rail Corridor, than Date of Stay at Home Order.

Cases Per 100,000 by Days After Reaching 100
Cases: Those with Temperature <60°F of Top 25



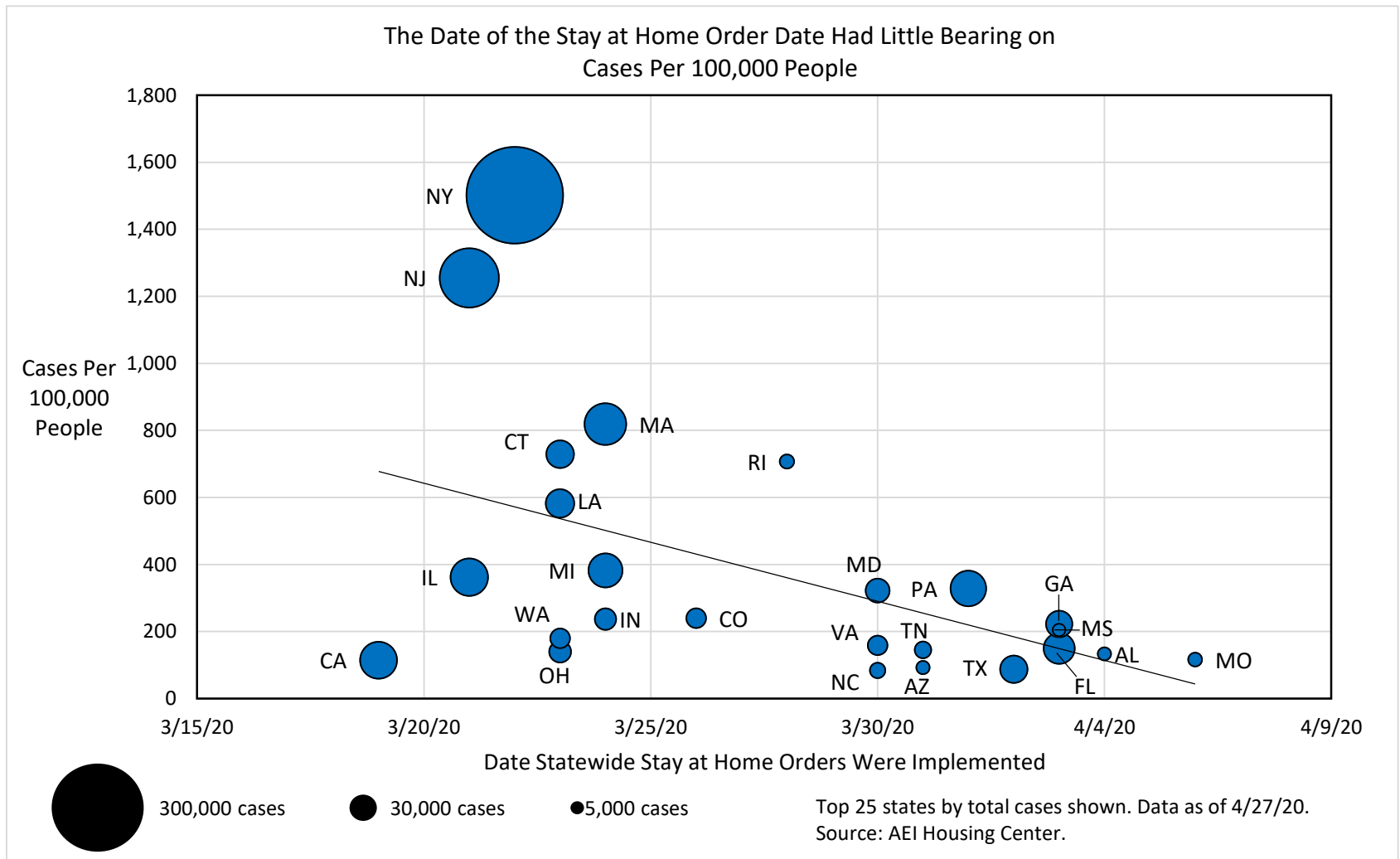
Cases Per 100,000 by Days After Reaching 100
Cases: Those with Temperature >60°F of Top 25



Markers indicate the day each state implemented a stay at home order. States with red text are in the BOS PHL commuter rail corridor. Most recent data as of 4/27/20. Source: AEI Housing Center. Modeled after chart from NPR: <https://www.npr.org/sections/health-shots/2020/03/16/816707182/map-tracking-the-spread-of-the-coronavirus-in-the-u-s-by-day>.

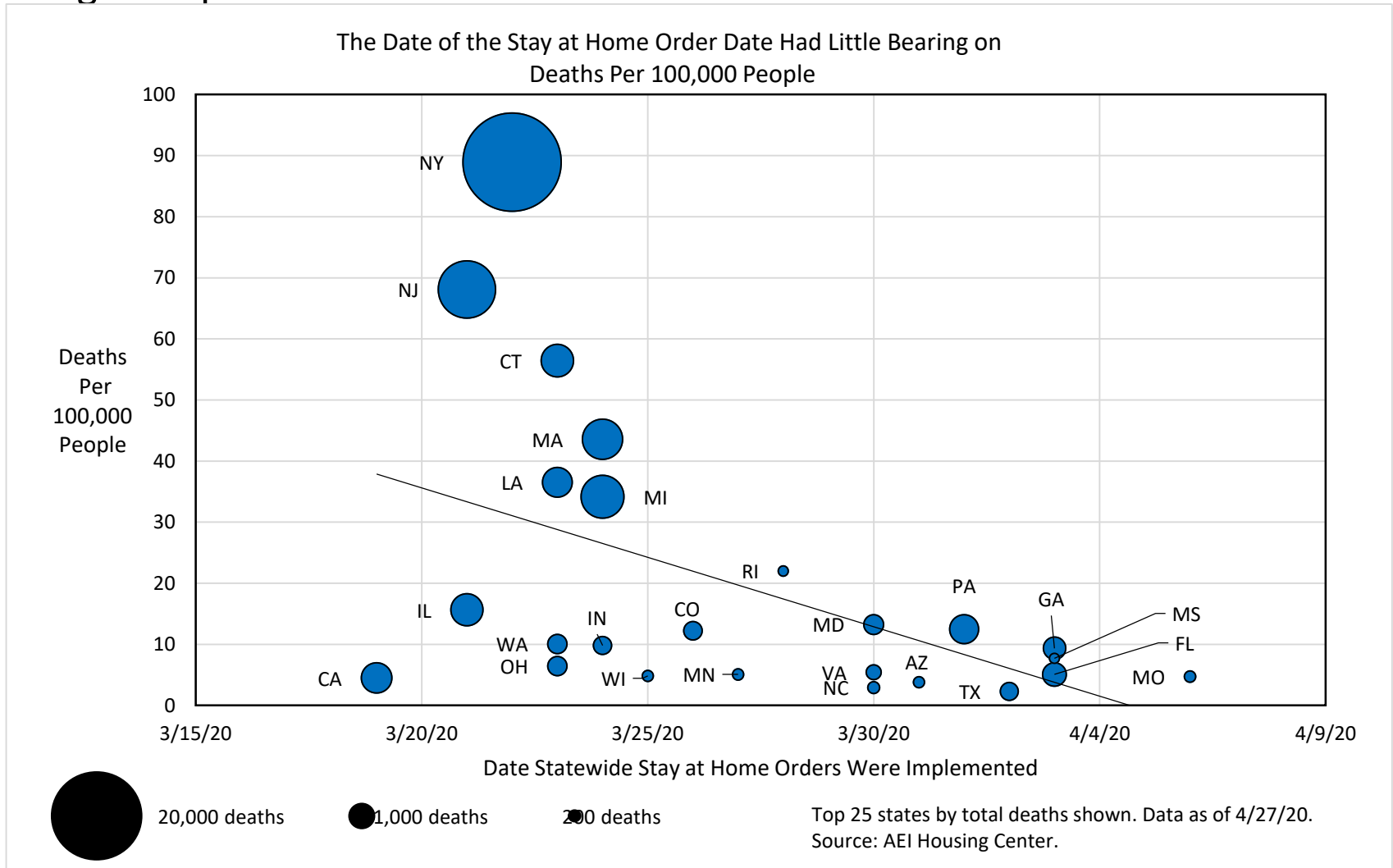
Fact 9: The Date of Statewide Stay at Home Order Date Had Little Bearing on Cases Per 100,000 People

- This is largely because of the strong correlation between the rate of cases and average temperature and the absence of commuter rail transit in these states.



Fact 10 The Date of the Stay at Home Order Date Had Little Bearing on Deaths Per 100,000 People

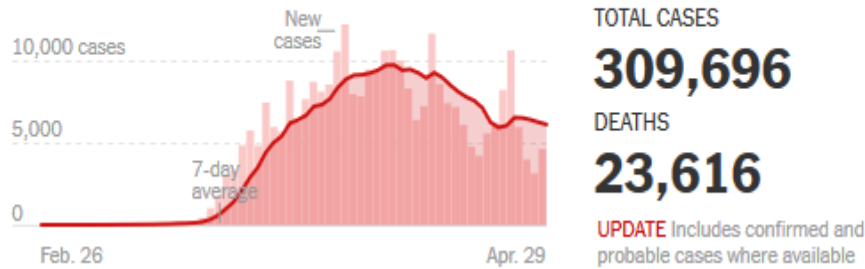
- This is largely because of the strong correlation between the rate of death and average temperature and the absence of commuter rail transit in these states.



Fact 11: As of 4.26.20, Low Temperature NY, NJ, & MA with 35 Million Population Have Much Higher Daily & Total Case & Death Counts Than TX, CA, & FL with 91 Million Population. On April 30 NY, NJ, & MA's Total Cases & Deaths per 100,000 population Were 12 & 22 Times as High as TX, CA, & FL.

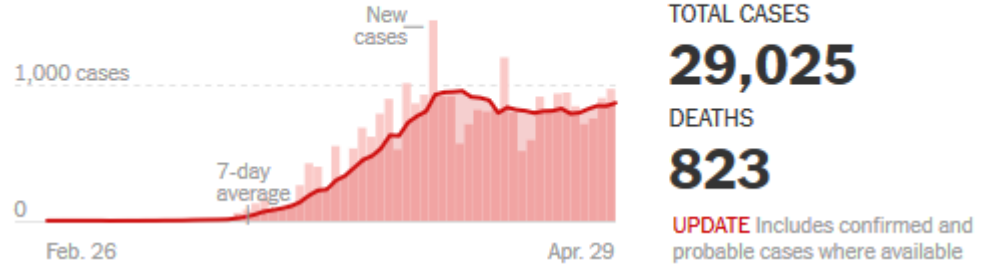
Low Temp: NY Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.



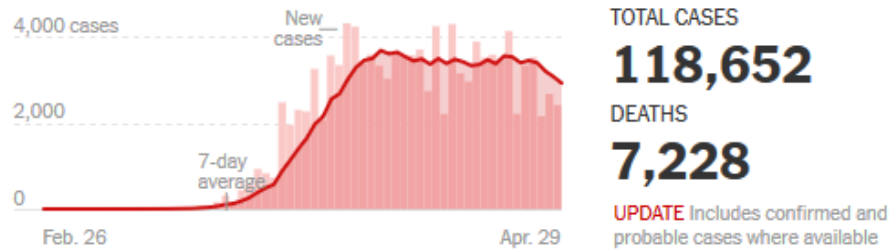
High Temp: TX Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.



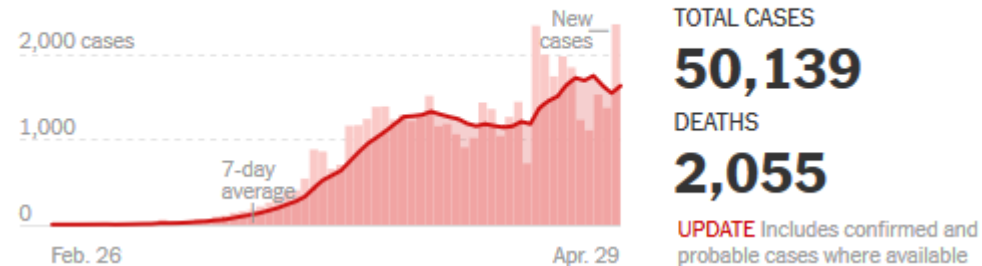
Low Temp: NJ Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.



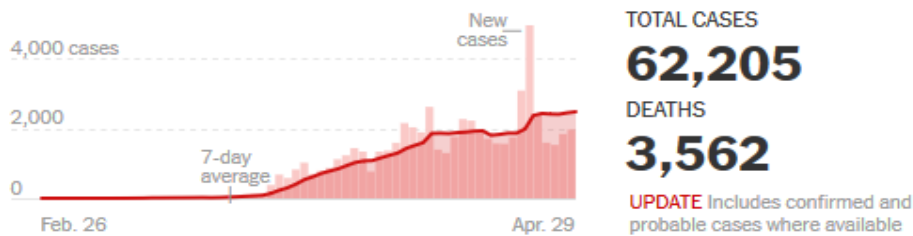
High Temp: CA Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.



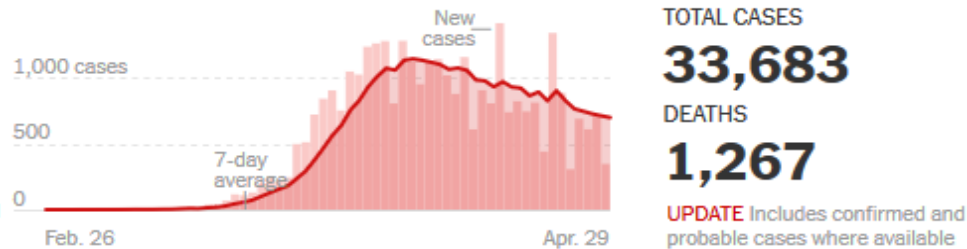
Low Temp: MA Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.



High Temp: FL Coronavirus Map and Daily Case Count

By The New York Times Updated April 30, 2020, 9:21 P.M. E.T.



Fact 12: Congregate Care Facilities Are the Front Line of U.S. Coronavirus Battle. Long Term Care Facility Residents & Employees Accounted for an Estimated of 25% of All US Fatalities.

- Nationally, Long Term Care Facility residents and employees accounted an estimated of 25% of all fatalities.*
 - 1.7 million or 3.1% live in group quarters (2016)**
 - 1.2 million or 2.4% live in nursing homes (2017)***
 - 2.1% of all men and 3.9% of all women (2010) ****
 - 2.0% of White alone - men and 4.1% of White alone - women (2010)****
 - 3.5% of Black alone - men and 4.1% of Black alone - women (2010) ****
 - 1.6% of Hispanic/Latino alone men and 1.9% of Hispanic/Latino alone - women (2010) ****
- Congregate care case and death statistics
 - 1.3 million individuals in nursing homes; 800,000 in assisted living facilities; 75,000 in intermediate care facilities; and 3 million people who work in skilled nursing or residential care facilities.***
 - Average Length of Stay in a Nursing Home for current residents is 835 days***
 - Assuming 1.2 million nursing home residents, an estimated 40,000 die per month (or move to a hospital or hospice care and die).
 - There have been approximately 20,000 deaths in nursing homes from the coronavirus during March and April, 2020.*
 - Normally there would be 80,000 nursing home deaths during the same period
 - Some unknown but presumably substantial portion of the coronavirus deaths might have occurred from other causes or within months of the coronavirus death.

* <https://www.kff.org/medicaid/issue-brief/state-reporting-of-cases-and-deaths-due-to-covid-19-in-long-term-care-facilities/>, 20,000 estimate derived from these data

** [The Population 65 Years and Older in the United States: 2016](#)

*** [Long-Term Care Statistics - HHS.gov](#)

**** [65+ in the United States: 2010 - Census Bureau](#)

**** Hypertension, diabetes, hyperlipidemia, coronary artery disease, dementia, renal disease, COPD, atrial fibrillation, cancer, and stroke.

**** Derived from [The Population 65 Years and Older in the United States: 2016](#)

Fact 12 (continued): Among 39 States Reporting Data, 51,000 cases and over 10,000 deaths from the Coronavirus Have Occurred at More Than 4,000 Long Term Care Facilities (LTCF), as of 4.23.20* Scaling Up Nationally Indicates that 10-15% of All Cases and 20-25% of All Deaths Occurred in LTCF.

% of a State's Coronavirus Cases and Deaths in Long Term Care Facilities		
State	% of Cases	% of Deaths
New York	NA	18%
New Jersey	12%	40%
Massachusetts	18%	55%
Pennsylvania	16%	51%
Connecticut	8%	24%
Texas	NA	36%
California	8%	NA
Florida	8%	27%

* <https://www.kff.org/medicaid/issue-brief/state-reporting-of-cases-and-deaths-due-to-covid-19-in-long-term-care-facilities/>

Fact 13: That 89% of the deaths had at least one co-morbidity factor is not especially illuminating given an estimated 77% of NY State coronavirus deaths were aged 65 or older, and virtually all members of the 65+ age group have one of more of these factors.

In New York State 89% of the deaths had at least one co-morbidity factor:

- At the rate of incidences below, it appears that virtually all members of the 65+ age group have one of more of these factors.*

Comorbidity Factor**, ***	Incidence: Age 65+****
Hypertension	69%
Diabetes	33%
Hyperlipidemia	33%
Coronary artery disease	37%
Dementia	10%
Renal disease	38%
COPD	14%
Atrial fibrillation	9%

* <https://covid19tracker.health.ny.gov/views/NYS-COVID19-Tracker/NYSDOHCOVID-19Tracker-Fatalities?%3Aembed=yes&%3Atoolbar=no&%3Atabs=n>

*** CDC

**** Rates for cancer and stroke not found.

Fact 14: In the Spanish Flu Pandemic of 1917-1918, in the US Young Adults Died in the Highest Numbers.

With the Coronavirus, Those Aged 65 and Over Account for 80% of Deaths.

- Normally, elderly people account for the overwhelming number of influenza deaths; in 1918, that was reversed, with young adults killed in the highest numbers. This effect was heightened within certain subgroups. For instance, a Metropolitan Life Insurance Company study of people aged 25 to 45 found that 3.26 percent of all industrial workers and 6 percent of all coal miners died. Other studies found that for pregnant women, fatality rates ranged from 23 percent to 71 percent.*
 - "Why did so many young adults die? As it happens, young adults have the strongest immune systems, which attacked the virus with every weapon possible—including chemicals called cytokines and other microbe-fighting toxins—and the battlefield was the lung. These “cytokine storms” further damaged the patient’s own tissue. The destruction, according to the noted influenza expert Edwin Kilbourne, resembled nothing so much as the lesions from breathing poison gas.“*
- Density, cleanliness, health conditions, and reliance on mass transit were all vastly different in 1918 compared to today.
 - Most hospitals had wards, not private rooms,
 - Antibiotics had not been invented yet,
 - Viruses were unknown to even exist.

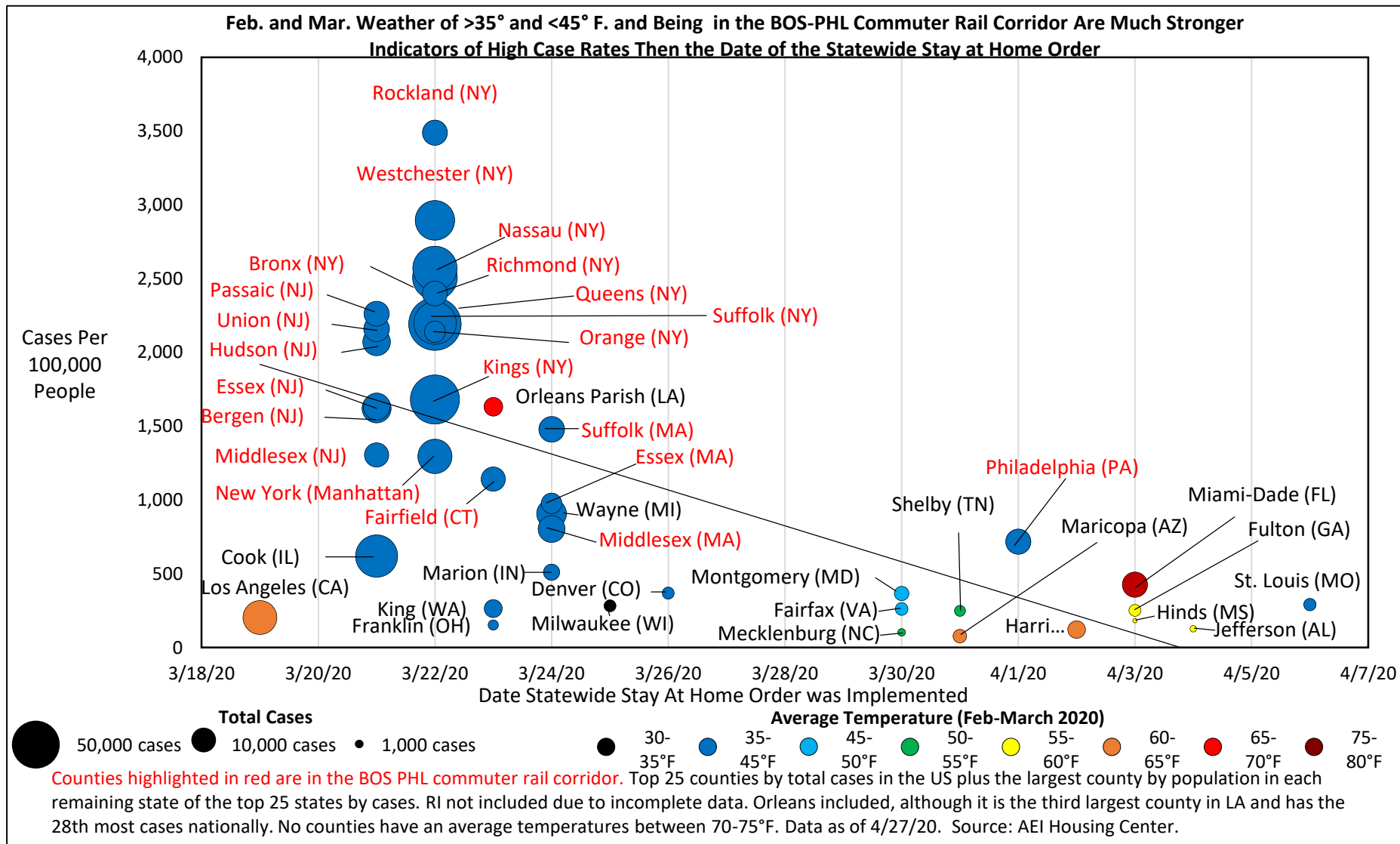
* <https://www.smithsonianmag.com/history/journal-plague-year-180965222/>

Thought Experiment 1: 85,000 Coronavirus Deaths (the Population Adjusted Number of Motor Vehicle Fatalities in 1972) Would Be Acceptable, if the Alternative Is Doing Massive Economic and Societal Harm & Changing Our Economic System in Ways that Will Do Even More Harm Going Forward.

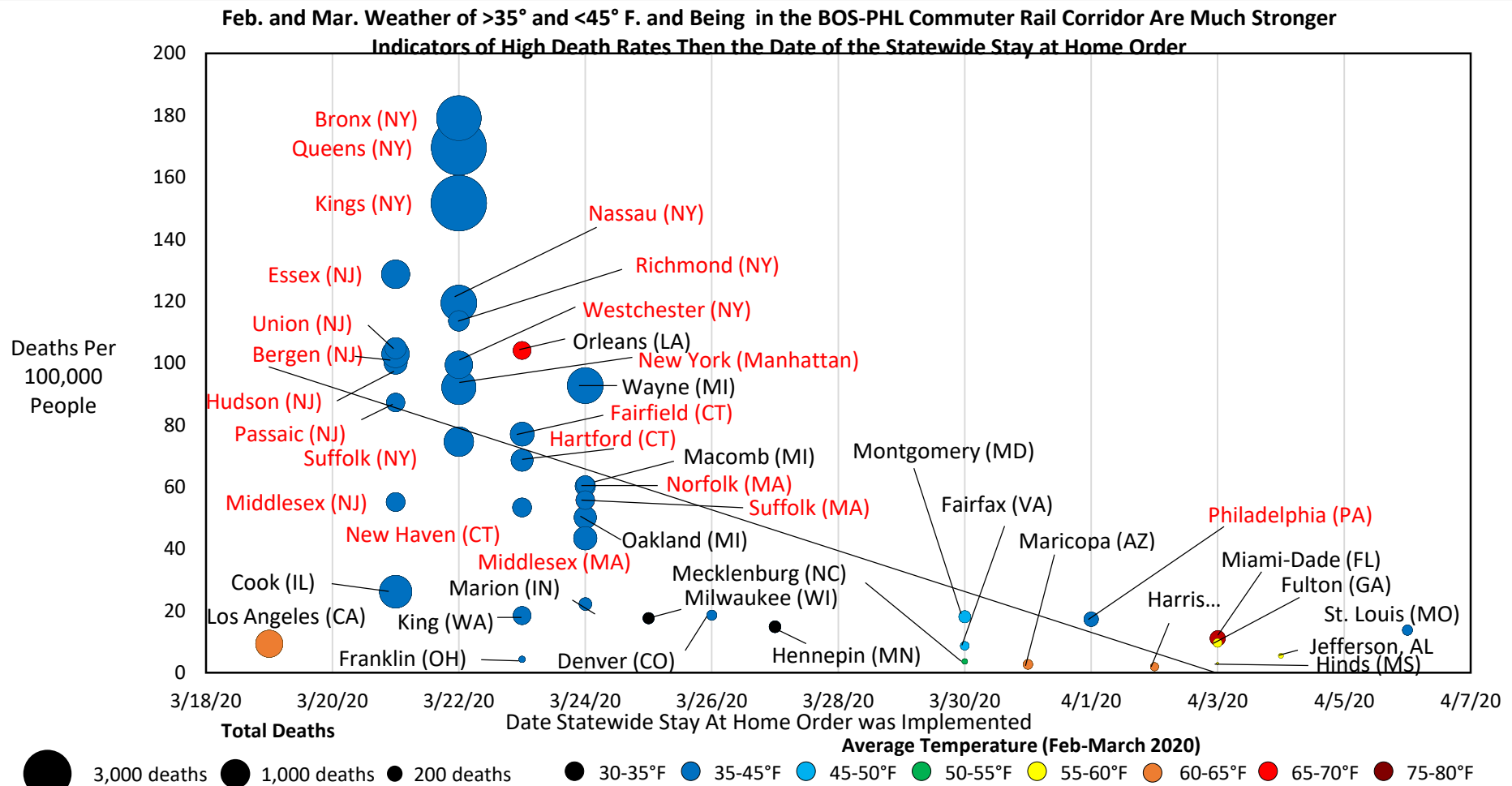
- In 1972, there were 54,589 fatalities from motor vehicles.
 - This was an annual death rate of 0.026%.
 - On a population adjusted basis, that would be 85,000 deaths per year today.
- I was a 23 year old driver in 1972.
 - I would not have wanted to shut down the economy to bring the death count in 1973 to say a much safer 15,000.
- There have been 67,000 deaths so far from the coronavirus.
 - The median age those dying from the coronavirus is about 75, with 20-25% of all deaths have occurred in long-term care facilities, where the average age is 81.
- Like driving in 1972, for purposes of discussion, 85,000 deaths (the same motor vehicle fatality rate as in 1972) would be acceptable, if the alternative is doing massive economic and societal harm and changing our economic system in ways that will do even more harm going forward.
 - Even 150,000 deaths (a rate of 0.05%) would be tolerable to avoid such harm.

*https://en.wikipedia.org/wiki/Motor_vehicle_fatality_rate_in_U.S._by_year

Conclusion 1: Feb. and Mar. Weather of $>35^{\circ}$ and $<45^{\circ}$ F. and Being in the BOS-PHL Commuter Rail Corridor Are Much Stronger Indicators of High Case Rates Than the Date of the Statewide Stay at Home Order



Conclusion 2: Feb. and Mar. Weather of $>35^{\circ}$ and $<45^{\circ}$ F. and Being in the BOS-PHL Commuter Rail Corridor Tend Are Much Stronger Indicators of High Death Rates Than the Date of the Statewide Stay at Home Order



Counties highlighted in red are in the BOS PHL commuter rail corridor. Top 25 counties by total deaths in the US plus the largest county by population in each remaining state of the top 25 states by deaths. RI not included due to incomplete data. Orleans included, although it is the third largest county in LA and has the 27th most deaths nationally. No counties with average temperature between 70-75°F. Data as of 4/27/20. Source: AEI Housing Center.

Conclusion 3: A Failure to Recognize the New York-Northeastern US-Centric, Age-Centric, and Weather-Centric Nature of the Coronavirus Pandemic Resulted in Stringent Policies Being Put in Place on a Nearly Nationwide Basis that Were Not Justified by the Facts Across Most Geographies.

This has led to a series of federal spending bills that are inefficient, poorly targeted, and excessively costly.

And has put needless and excessive social, financial, and economic strains on the people of the United States and the federal, state, and local governments.

Recommendation 1: Aggressively Reopen the Economy in Those States and Counties that Have Warmer Temperatures, Low Case and Death Rates per Capita, Declining Case Levels, and Minimal Mass Transit

This should be done in conjunction with other steps designed to quickly, but safely reopen the economy and protect the most vulnerable:

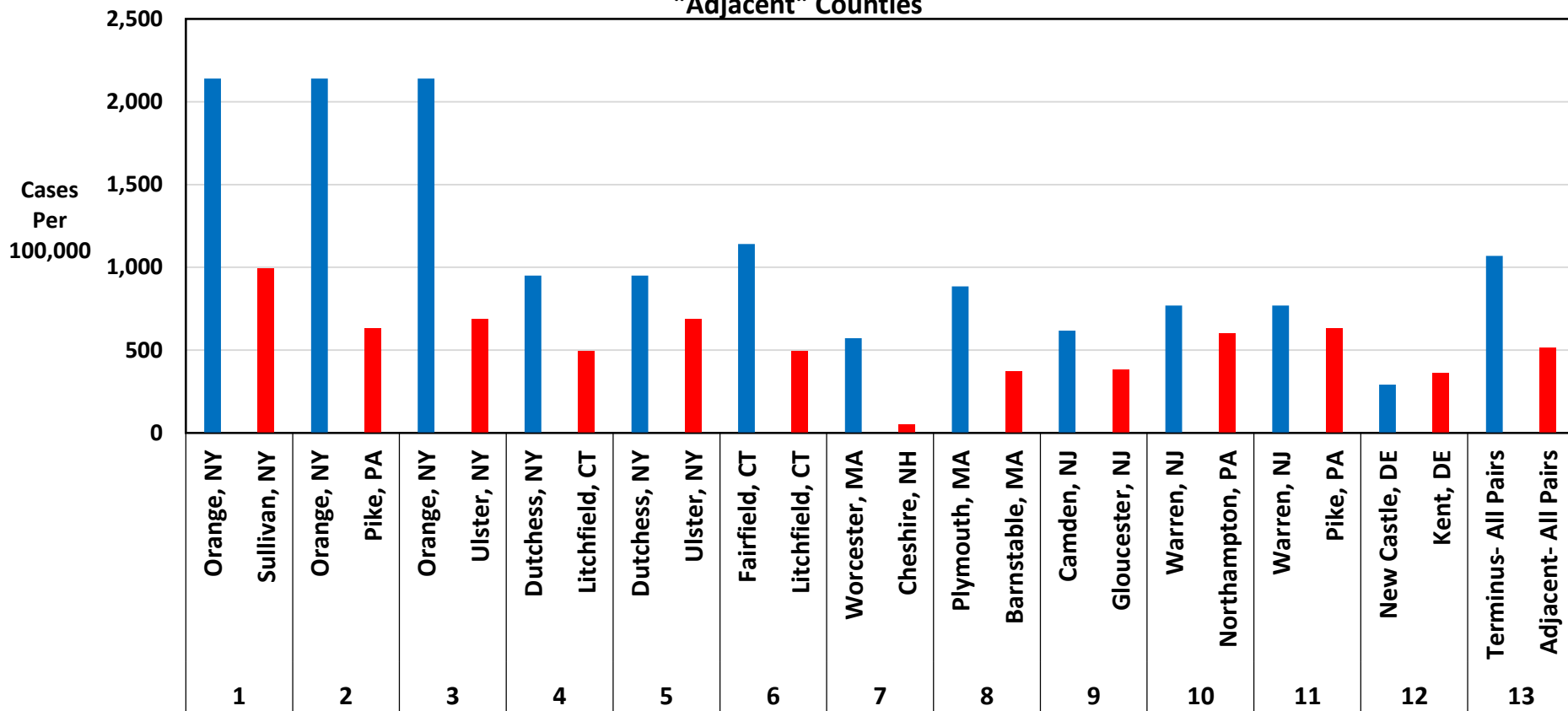
- Restaurants and stores open at 50% capacity,
- Parks, beaches, libraries at reduced social capacity, and
- Continued strong focus on:
 - Testing,
 - Vaccine and treatment development efforts,
 - Protecting long-term care facility residents and employees
 - Protecting health care workers
 - Excess hospital and equipment capacity

Recommendation 2: Create a Bridge to More Rapidly Reopen the Economy Where Heavy Reliance on Mass Transit Is an Impediment

- **Cost/Benefit:** it would be more cost effective to remove the friction that prevents/deters commuters from using more appropriate social distancing and reduces reliance on mass transit, rather than paying people not to work.
- **An order of magnitude less expensive than the current approach:** shutting down large swaths of the economy and paying people not to work (unemployment benefits) and by providing small business loans/grants to businesses without many customers.
 - Current approach has an incremental cost of **\$800 billion over 3 months**
 - Unemployment: \$4000/month x 3 months x 30 million employees = \$350 billion
 - Small business loans/grants: \$150 billion/month x 3 months = \$450 billion
 - The new approach which would focus on removing friction by providing a business and self-employed tax credit of up to \$1000/month/employee for 3 months, to be paid to say 20 million unemployed individuals (including self-employed and gig) at an incremental cost of **\$60 billion over 3 months.**
 - These are individuals who may now safely return to work
 - \$32 billion in payments would be made to the social security trust fund.
 - Tax credit funds may be used to pay for:
 - Parking (huge surplus capacity today),
 - Ride-sharing and taxi (huge surplus capacity today),
 - Rental cars for say 30 day periods (huge surplus capacity today),
 - Tolls (all toll collection would need to be automated),
 - Gasoline (this helps work off the huge surplus by encouraging people to keep their tanks full (200 million cars x 5 extra gallons to keep full = “storage” of 1 billion gallons, and
 - Mass transit fares.

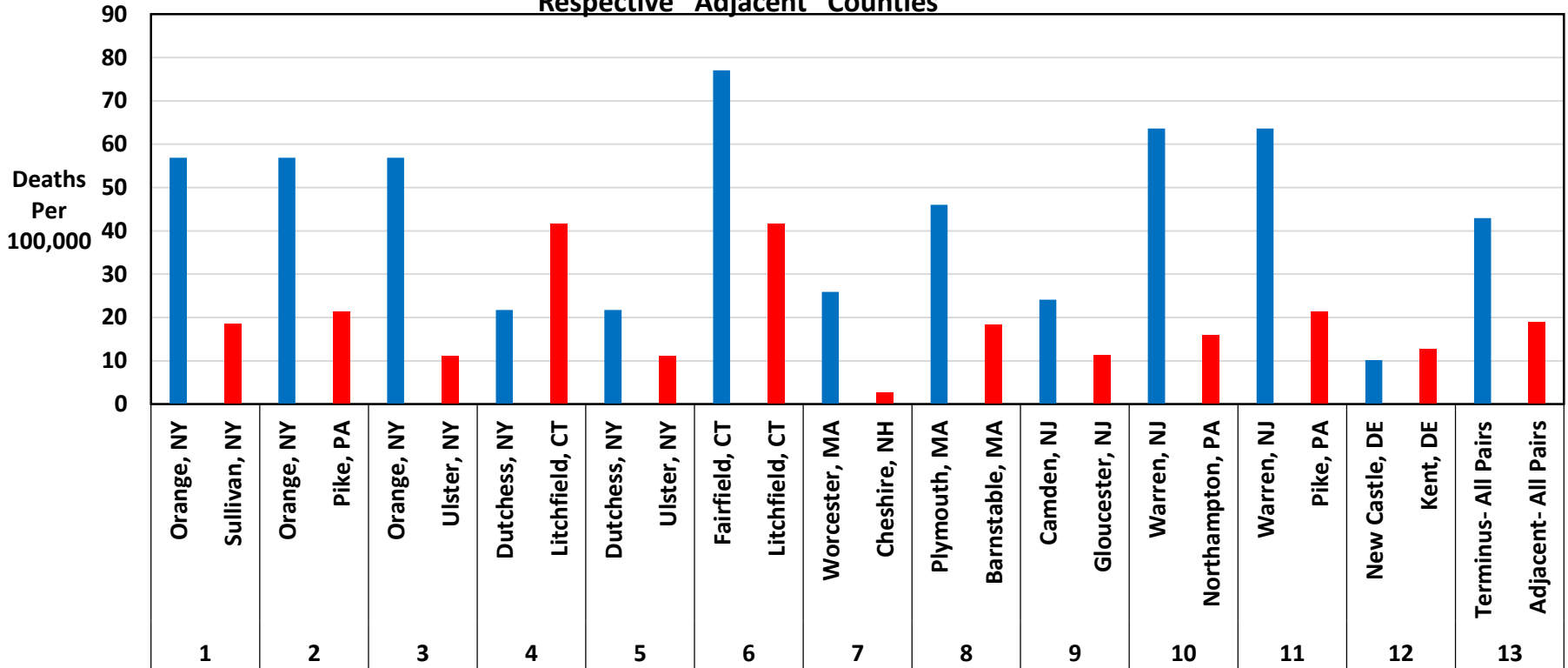
Robustness Test 1: "Terminus" Counties Connected by Commuter Rail Line to Manhattan Tend to Have Lower Case Rates Than Their Respective "Adjacent" Counties

"Terminus" Counties For Commuter Rail Lines Tend to Have Lower Case Rates Than Their Respective "Adjacent" Counties



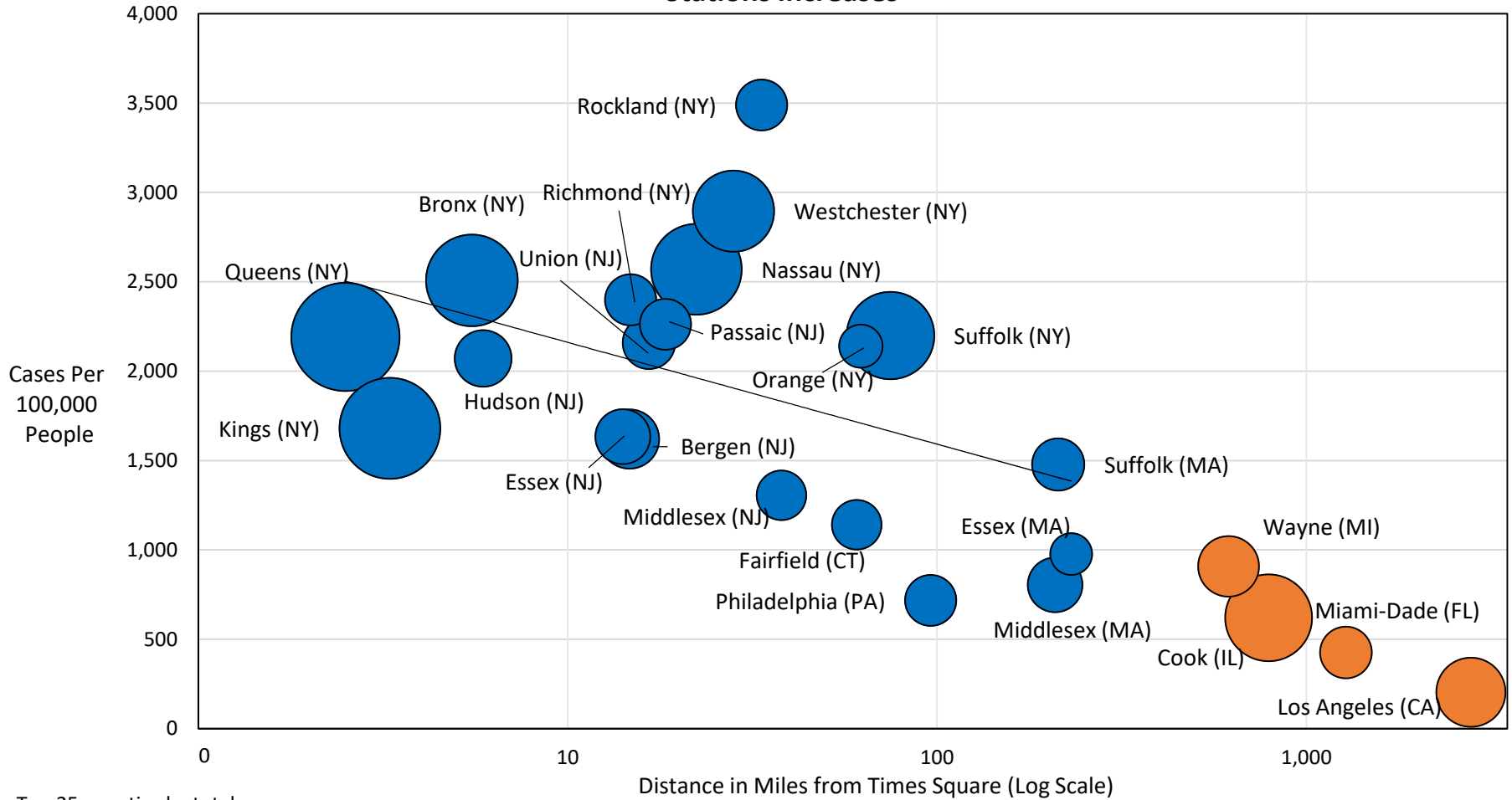
Robustness Test 2: "Terminus" Counties Connected by Commuter Rail Line to Manhattan Tend to Have Lower Death Rates Than Their Respective "Adjacent" Counties

"Terminus" Counties For Commuter Rail Lines Tend to Have Lower Death Rates Than Their Respective "Adjacent" Counties

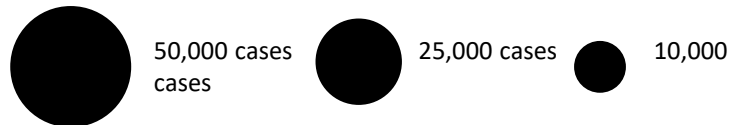


Robustness Test 3: County Cases Per 100,000 Drop as Distance from Manhattan's Penn and Grand Central Stations Increases

County Cases Per 100,000 Drop as Distance from Manhattan's Penn and Grand Central Stations Increases



Top 25 counties by total cases shown.
 Data as of 4/27/20.
 Source: AEI Housing Center.

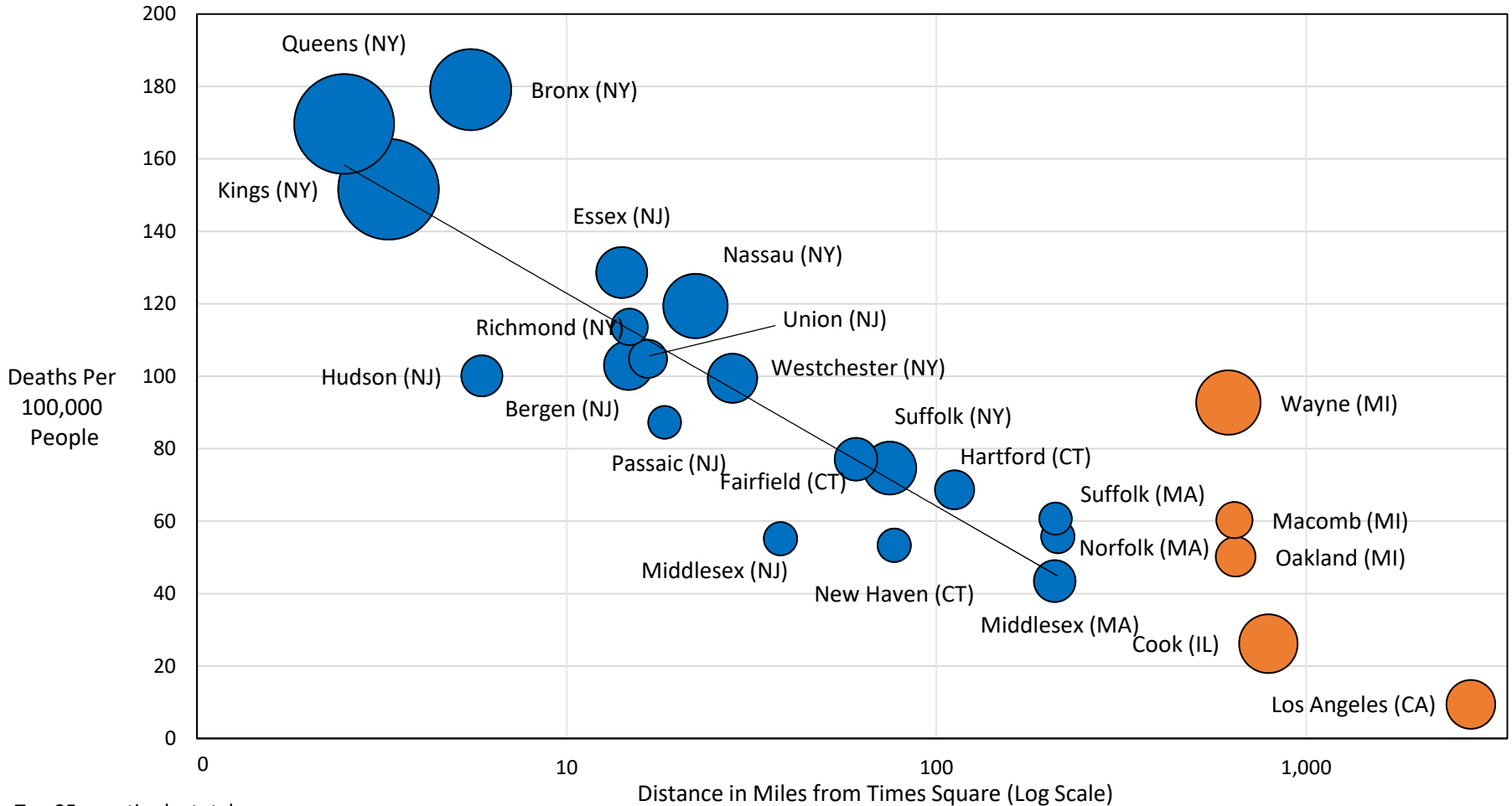


● Counties With Northeast Rail Lines
 ● Counties Without Northeast Rail Lines

Source: <https://usafacts.org/visualizations/coronavirus-covid-19-spread-map/>,

Robustness Test 4: County Deaths Per 100,000 Drop as Distance from Manhattan's Penn and Grand Central Stations Increases

County Deaths Per 100,000 Drop as Distance from NYC Increases Despite Varying Total Death Numbers



Top 25 counties by total deaths shown.
Data as of 4/27/20.
Source: AEI Housing Center.



- Counties With Northeast Rail Lines
- Counties Without Northeast Rail Lines

Source: <https://usafacts.org/visualizations/coronavirus-covid-19-spread-map/>,

Robustness Test 5: Municipalities that Are a Terminus for a Commuter Rail Line Have Higher Case Rates Than Non-Commuter Rail Municipalities within 6 Miles

Municipalities that Are a Terminus for a Commuter Rail Line Have Higher Case Rates Than Non-Commuter Rail Municipalities within 6 Miles

