6-4-2020

Covid-19 Clinical Update 6/4/2020

George Washington University

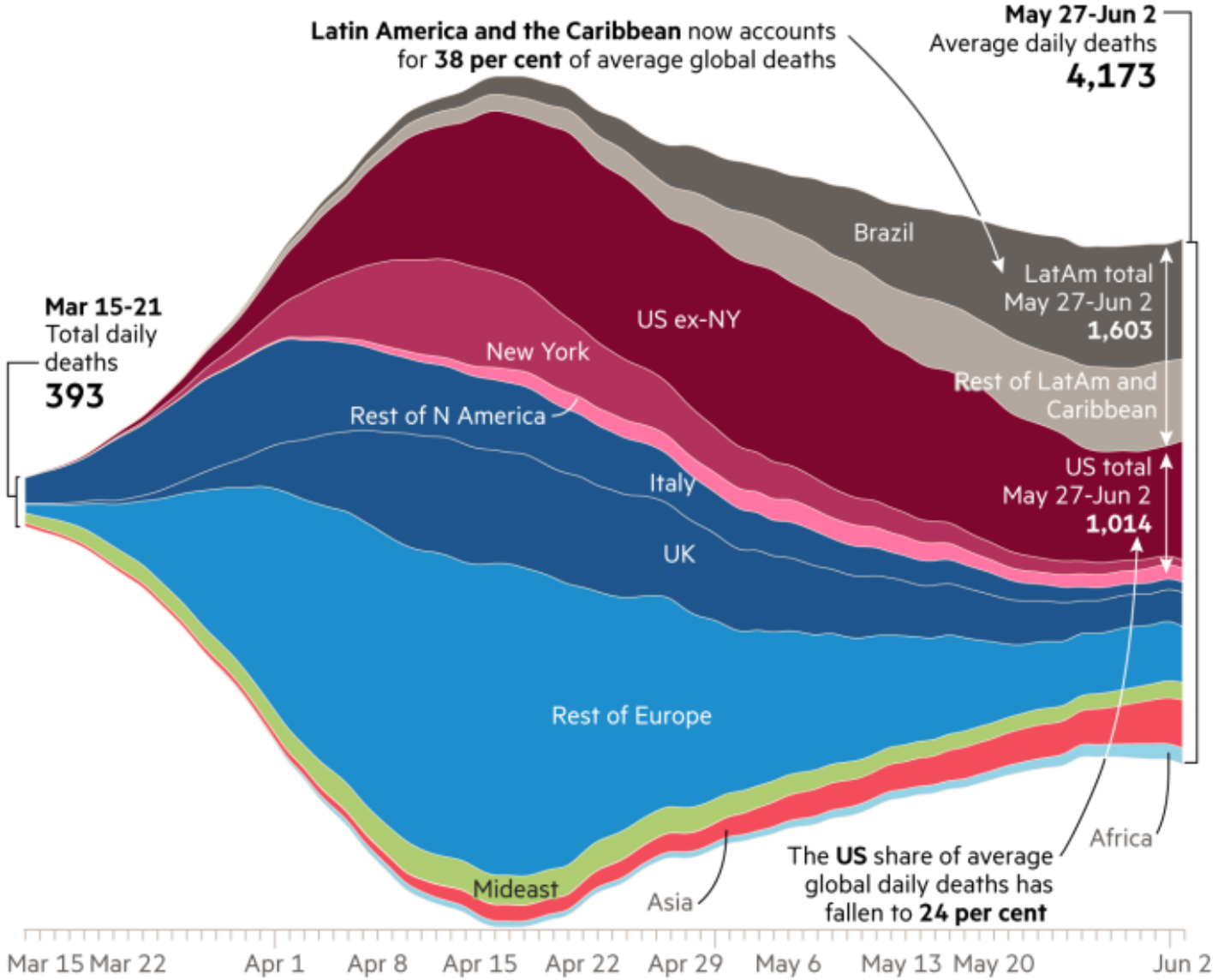
1. EPIDEMIOLOGY
2. TRANSMISSION
3. PATHOPHYSIOLOGY
4. TREATMENT
5. GW UPDATES

COVID-19 UPDATE

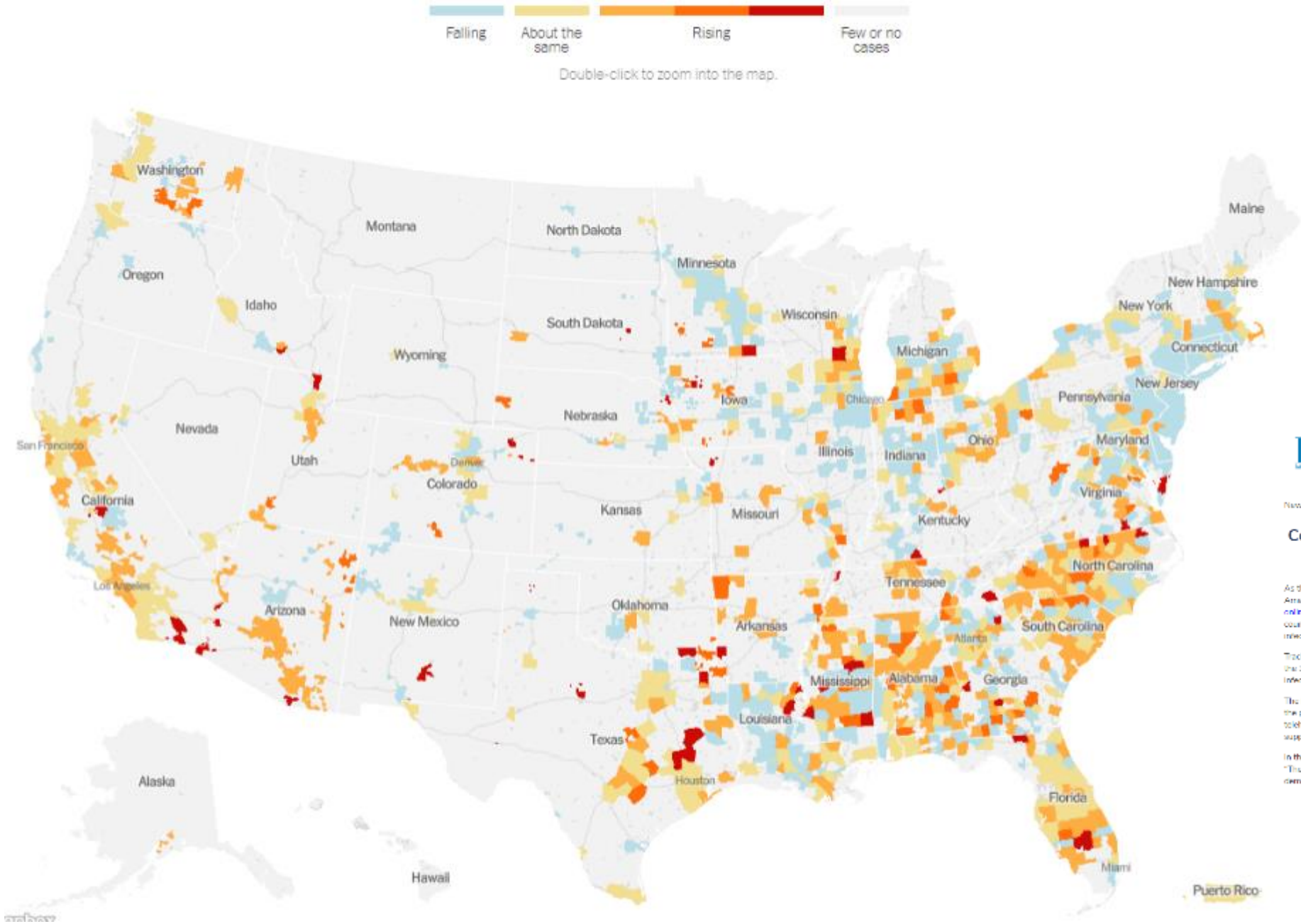
HANA AKSELROD, MD, MPH
GW DIVISION OF INFECTIOUS DISEASES
6/4/2020

Global Covid-19 death toll: Latin America offsets decline in Europe and the US

Daily deaths of patients diagnosed with coronavirus (7-day rolling average)



https://www.ft.com/content/a26fbf7e-48f8-11ea-aeb3-955839e06441



IDSA hivma

News Release

Counties With Greatest COVID-19 Caseloads Have Few or No Infectious Diseases Physicians

As the numbers of physicians specializing in infectious diseases continues to fall short of need, nearly two-thirds of Americans live in areas with little or no access to an infectious diseases specialist, according to a study published online today in the Annals of Internal Medicine. As the COVID-19 pandemic has spread across the nation, 86% of counties that are home to the highest numbers of people diagnosed with the virus have below-average access to infectious diseases physicians – or none at all, the authors of the study found.

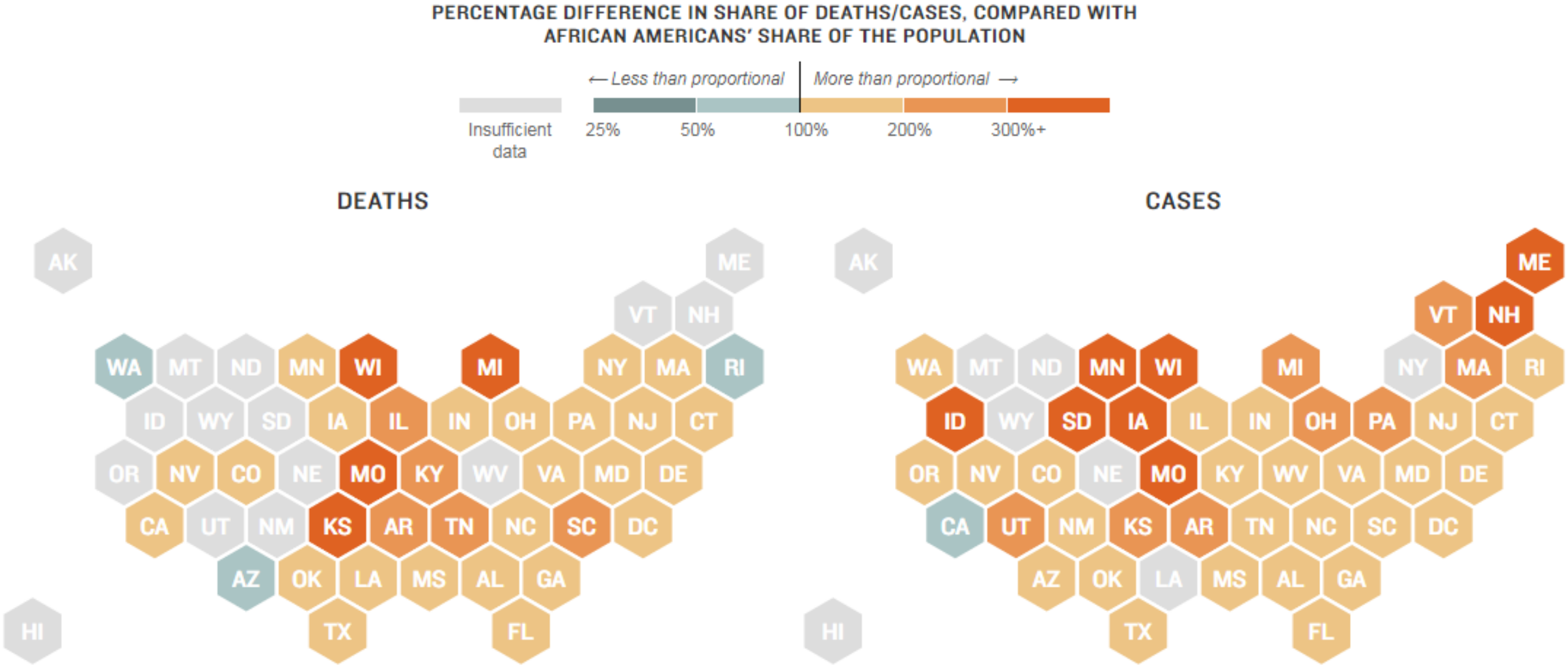
Tracking the numbers of infectious diseases physicians through Medicare payment data, the authors found that of the 3,142 counties in the United States, 2,409 – nearly 80% of counties across the nation – do not have a single infectious diseases specializing physician.

The findings come, the authors note, at a time that has seen jobs for infectious diseases training go unfilled over the previous decade, as new physicians pursued specialties generating higher compensation. The expansion of telehealth, or virtual doctor visits, can expand the reach of the already stretched workforce, but will need to be supported by health coverage providers, the authors write.

In the meantime, the authors, led by Dr. Rochelle Walensky, HIV Medicine Association Board member, conclude, "The deficits in the [infectious diseases] workforce today have left us poorly prepared for the unprecedented demand ahead." Other authors include IDSA Board member Dr. Dan McQuillen

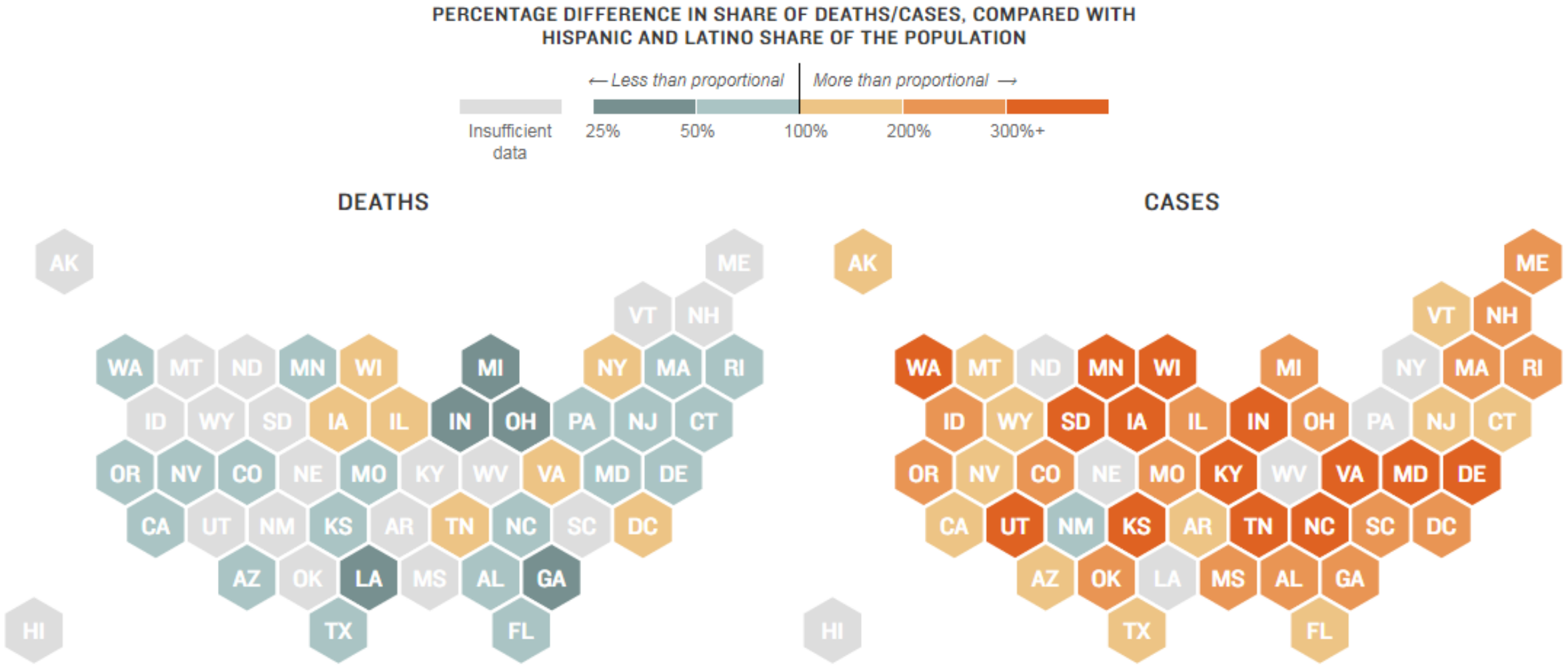
https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html

Deaths and Cases Disproportionately Affect African Americans In Most States



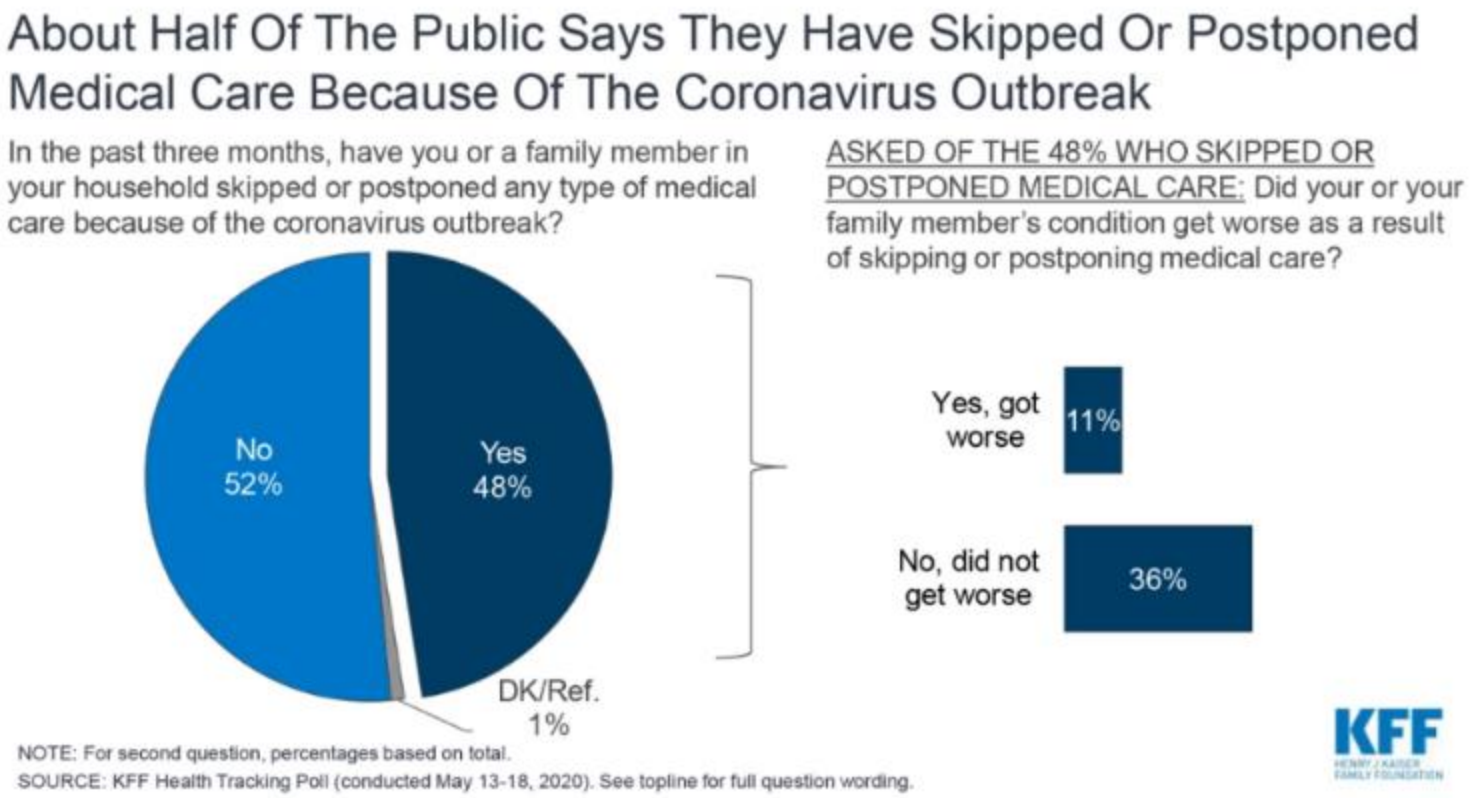
https://www.npr.org/sections/health-shots/2020/05/30/865413079/what-do-coronavirus-racial-disparities-look-like-state-by-state

Hispanics And Latinos Test Positive For The Coronavirus At Disproportionate Rates In Nearly Every State



https://www.npr.org/sections/health-shots/2020/05/30/865413079/what-do-coronavirus-racial-disparities-look-like-state-by-state

Medical Care during COVID-19

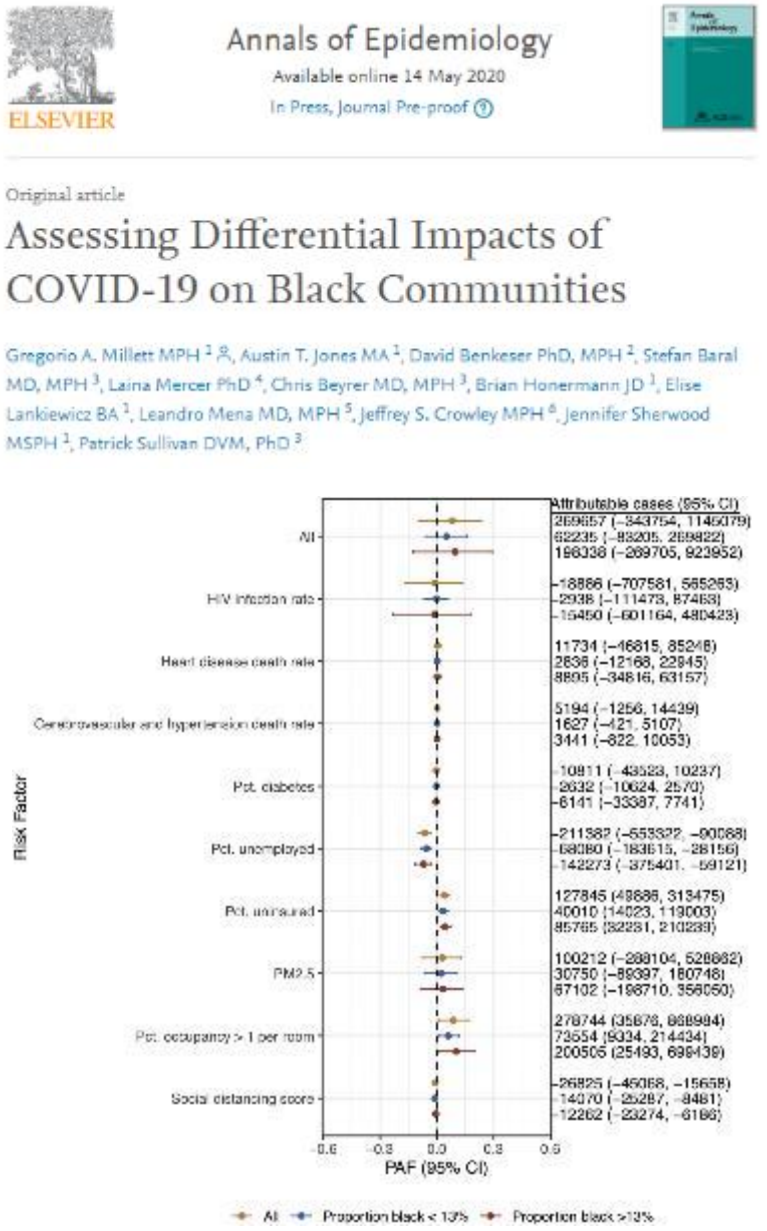


- 7 in 10 of those who skipped care expect to it in next 3 months
- 40% said stress about COVID-19 negatively affected mental health
- 3 in 10 have had trouble paying household expenses
- 13% had trouble paying for food
- 11% had trouble paying medical bills.
- 1 in 4 said they or a family member will likely use Medicaid

https://khn.org/news/nearly-half-of-americans-delayed-medical-care-due-to-pandemic/

Differential Impacts of COVID-19

- Predictors of COVID-19 cases and deaths were compared between disproportionately (≥13%) black and all other counties.
- Rate ratios and population attributable fractions were calculated
- Disproportionately black counties accounted for 97% of COVID-19 cases and 49% of deaths (vs. 81% and 28%, respectively, for all other counties)
- **Roughly one in five US counties are disproportionately black and they accounted for five of ten COVID-19 diagnoses and nearly six of ten COVID-19 deaths nationally**
- Counties with higher proportions of black people had higher prevalence of comorbidities and greater air pollution
- Counties with higher proportions of black residents had more COVID-19 diagnoses **(RR 1.24, 95% CI 1.17-1.33)** and deaths **(RR 1.18, 95% CI 1.00-1.40)**, after adjusting for county-level characteristics such as age, poverty, comorbidities, and epidemic duration
- COVID-19 deaths were higher in disproportionally black rural and small metro counties
- The PAF of COVID-19 diagnosis due to lack of health insurance was 3.3% for counties with <13% black residents and 4.2% for counties with ≥13% black residents



Differential Impacts of COVID-19

- Greater health disparities in places with greater concentration of black Americans is not unique to COVID-19
  - Similar patterns for HIV, air pollution, cancer, and low birth weight
- In the United States, race often determines place of residence
  - 91% of disproportionately black counties located in the southern US with higher rates of unemployment, lower proportion of population insured, and limited health system capacity
- Higher county-level unemployment was associated with fewer COVID-19 diagnoses.
  - Employment increases the likelihood of exposure to COVID-19
  - Only 1 in 5 black Americans has an occupation that permits working from home
  - Black Americans overrepresented in jobs that require both travel and regular interaction with the public, which can increase exposure to the virus, such as in the service industry (e.g. grocery store clerks, cashiers), transportation (e.g. bus drivers, subway train conductors), and health care (eg. nurses, medical aides, home healthcare workers)
- CDC reported that >9,000 health care workers nationwide have acquired COVID-19 and that black health care workers were disproportionately impacted (21% of infections; 13% of the population)
- A report of New York City transit workers found more than 2,000 cases of COVID-19 and 50 deaths in a workforce that is 40% black, despite the black community comprising only a quarter of NYC population

SPECIAL ARTICLE

Hospitalization and Mortality among Black Patients and White Patients with Covid-19

Eboni G. Price-Haywood, M.D., M.P.H., Jeffrey Burton, Ph.D., Daniel Fort, Ph.D., and Leonardo Seoane, M.D.

- Ochsner Health in Louisiana, March-April 2020, 3481 Covid-19–positive patients
- Black non-Hispanic patients were 31% of the general population, but **70.4% of those diagnosed with COVID-19, 76.9% of those hospitalized with COVID-19, and 70.6% of those who died**
- Black patients had higher prevalence of obesity, diabetes, hypertension, and CKD
- 1382 (39.7%) of Covid-19–positive patients were hospitalized, 76.9% of whom were black
- In multivariable analyses, **black race**, **increasing age**, a higher score on the **Charlson Comorbidity Index** (indicating a greater burden of illness), **public insurance** (Medicare or Medicaid), **residence in a low-income area**, and **obesity** were associated with increased odds of hospital admission
- Higher in-hospital mortality associated with increasing age, presentation with elevated respiratory rate; elevated levels of lactate, creatinine, or procalcitonin; or low platelet or lymphocyte counts
- **After adjustment for socioeconomic and clinical factors, black race was not independently associated with higher mortality (HR 0.89; 95% CI, 0.68 to 1.17)**

SAEM Academic Emergency Medicine
Official Journal of the Society for Academic Emergency Medicine

COMMENTARY - UNSOLICITED | Free Access

For us, COVID-19 is personal

Janice Blanchard MD, PhD, Tenagne Haile- Mariam MD, Natasha Powell MD, MPH, Aisha Terry MD, MPH, Malika Fair MD, MPH, Marcee Wilder MD, MPH, Damali Nakitende MD ... See all authors

First published:17 May 2020 | https://doi.org/10.1111/acem.14016

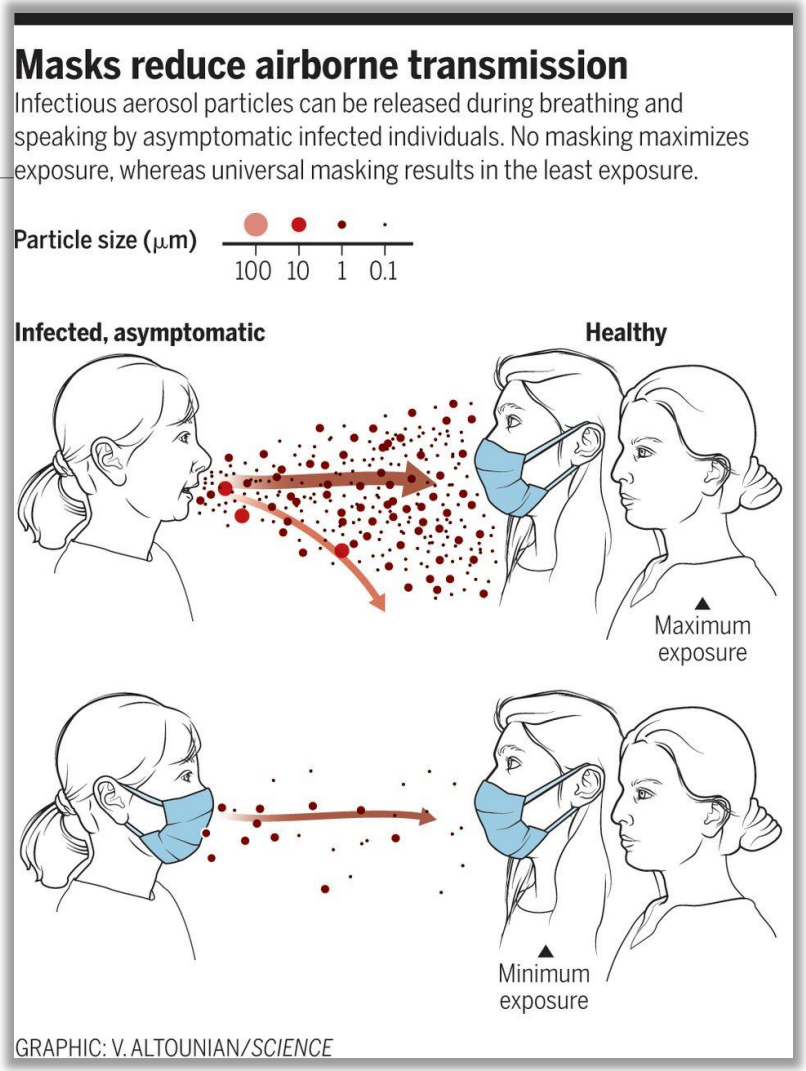
"We are colleagues and friends working together in busy emergency departments in Washington DC. As Black physicians working in urban America, we do not find the recent deluge of news reports chronicling the disproportionate effect that the coronavirus disease (COVID-19) pandemic is having on the disenfranchised and minority populations in our country shocking. We have long been witness to and are in a constant state of alarm over the legal, medical, educational, social and economic inequities faced by the most vulnerable residents of this country."
https://onlinelibrary.wiley.com/doi/abs/10.1111/acem.14016

https://dcist.com/story/20/06/03/covid19-dc-black-er-doctors-pandemic-is-personal/

- 172 observational studies across 16 countries and six continents; 0 RCTs, 44 comparative studies in health-care and non-health-care settings; n=25,697 patients
- Transmission of viruses lower with **physical distancing of 1 m or more**, compared with a distance of less than 1 m (n=10,736, pooled aOR 0.18, 95% CI 0.09 to 0.38; RD −10.2%, 95% CI −11.5 to −7.5; moderate certainty)
- Protection increased as distance lengthened (delta RR 2.02 /m; *p*=0.041, moderate certainty)
- **Face mask use** could result in a large reduction in risk of infection (n=2,647; aOR 0.15, 95% CI 0.07 to 0.34, RD −14.3%, −15.9 to −10.7; low certainty), with **stronger associations with N95**
- **Eye protection** also was associated with less infection (n=3,713; aOR 0.22, 95% CI 0.12 to 0.39, RD −10.6%, 95% CI −12.5 to −7.7; low certainty)
- **Hand hygiene** remains of key importance in addition to these measures

Universal Masking

- Masks provide a critical barrier, reducing the number of infectious viruses in exhaled breath, especially of asymptomatic people and those with mild symptoms
- Use of surgical droplet masks can prevent transmission of influenza and coronaviruses from infected individuals
- Transmission risk may be even lower outdoors as viral concentration is more rapidly diluted
- However, viruses can attach to particles such as dust and air pollution, which increase dispersion



PERSPECTIVE

Reducing transmission of SARS-CoV-2

Kimberly A. Prather[1], Chia C. Wang[2,3], Robert T. Schooley[4]
+ See all authors and affiliations

Science 27 May 2020:
eabc6197
DOI: 10.1126/science.abc6197

› Nat Med. 2020 May;26(5):676-680. doi: 10.1038/s41591-020-0843-2. Epub 2020 Apr 3.

Respiratory Virus Shedding in Exhaled Breath and Efficacy of Face Masks

Nancy H L Leung [1], Daniel K W Chu [1], Eunice Y C Shiu [1], Kwok-Hung Chan [2], James J McDevitt [3], Benien J P Hau [1 4], Hui-Ling Yen [1], Yuguo Li [5], Dennis K M Ip [1], J S Malik Peiris [1], Wing-Hong Seto [1 6], Gabriel M Leung [1], Donald K Milton [7], Benjamin J Cowling [8]

https://www.nature.com/articles/s41591-020-0843-2

Los Angeles Times

CALIFORNIA

Using tear gas to subdue protesters may help spread the coronavirus, experts warn

Riverside County sheriff's deputies fire tear gas toward protesters after they moved a fence into the street during demonstrations June 1 in Riverside. (Gina Ferazzi / Los Angeles Times)

https://www.latimes.com/california/story/2020-06-04/using-tear-gas-to-subdue-protesters-may-help-spread-the-coronavirus-experts-warn

For Further Reading

https://www.commonwealthfund.org/blog/2020/covid-19-data-and-health-justice

COVID-19, Data, and Health Justice

April 16, 2020 | Nancy Krieger

As COVID-19 rips through the United States and many other countries, it exposes the fault lines of social injustice and divisions that determine whether people have necessary resources. In the face of critical stay-at-home orders, who has a job with sick-leave benefits? Health insurance? A living wage? Or a home with Internet access?

Toplines

The U.S. lacks the necessary population health data to understand how COVID-19 affects different populations and social groups