

This Public Use of Masks supplement for September brings together five diverse reports, each of which adds to the knowledge (and advocacy) base in support of the required use of face masks.

## Table of Contents [F]

1. If everyone wears a mask, 58% of Covid-19 deaths could be prevented by fall, study says
2. New IHME Forecasts Show More Than 200,000 US Deaths by November 1
3. Spate of new research supports wearing masks to control coronavirus spread
4. CDC Adds Then Retracts Aerosols as Main COVID-19 Mode of Transmission
5. Research Determines Protests Did Not Cause Spike In Coronavirus Cases

[F1]

CNBC [Health and Wellness](#)

## If everyone wears a mask, 58% of Covid-19 deaths could be prevented by fall, study says

Published Updated Fri, Jul 10 2020 3:00 PM EDT

[Cory Stieg@corystieg](mailto:CoryStieg@corystieg)

A new [Covid-19 prediction model](#) makes another compelling case for [wearing masks and cloth face coverings](#).

If practically everyone in America wears masks while out in public, it could prevent tens of thousands of Covid-19 infections and deaths by the fall, according to researchers at the University of Washington's Institute for Health Metrics and Evaluation (IHME).

“It is hard to imagine any health intervention that would be more cost-effective,” Theo Vos, professor of health metrics sciences at the IHME, tells CNBC Make It. “Even if causing a small amount of discomfort to everyone.”

Currently, with mask use as it is (between 20% and 60%, according to IHME) the model predicts over 208,200 cumulative deaths by Nov. 1. The model also predicts over 100,000 infections a day by late September, topping out at nearly 168,000 projected new infections on a single day on Nov. 1.

To date, there have been at least 3 million infections and [132,000 Covid-19 deaths](#) in the United States, according to data from Johns Hopkins University and Medicine. The U.S. hit a record [single-day Covid-19 infections](#) on July 8, with 60,000 daily infections reported.

But that could all change if 95% of people now start wearing masks anytime they're in public, according to the model. Universal mask usage could prevent nearly 45,500 projected Covid-19-related deaths by Nov. 1, or about a 58% reduction, Vos says.

“In the mask scenario, assuming we can get 95% of people to always wear a mask, the cumulative deaths will reach 162,808 [by Nov. 1],” Vos says.

As for infections, the model predicts that universal mask usage could reduce the number of infections on Nov. 1 to a little under 33,500, an 80% reduction. This is “quite a big difference,” Vos says.

So what does this mean for you? Wear a mask whenever you mingle with people, Vos says. Masks and cloth face coverings create a barrier to keep your respiratory droplets from spreading to other people and potentially infecting them, according to the [Centers for Disease Control](#).

A [recent Gallup poll](#) suggests that while mask usage among Americans is becoming more common — the percentage of U.S. adults who said they had worn a mask in public in the previous seven days went from 51% in early April to 86% in late June — not everyone is on board: 11% of US adults surveyed in June said they have not considered wearing a mask.

Dr. Anthony Fauci, the director of the National Institute of Allergy and Infectious Diseases, [said](#) that he’s “strongly in favor of” mandating the use of face masks because of their efficacy.

This most recent IHME projection has not yet been peer-reviewed, but Vos says the results have been shared with the CDC and a group of modelers, convened by the World Health Organization, for comparisons. The IHME will submit a number of papers on the model at the end of this week, he says.

But the findings track with other studies on masks and their effect on Covid-19.

A [model from the University of Cambridge](#) found that if 100% of people wore masks all the time in public, it could [prevent a second wave](#) of Covid-19 in the 18 months that it will likely [take to get a vaccine](#) to market. (The United States is still experiencing the [first wave of Covid-19](#); the second one would occur when the [virus returns](#) or when a new strain of the virus develops.)

“As we all have come to recognize, wearing masks can substantially reduce transmission of the virus,” IHME director Dr. Christopher Murray said in a [press release](#). “Mask mandates delay the need for re-imposing closures of businesses and have huge economic benefits. Moreover, those who refuse masks are putting their lives, their families, their friends, and their communities at risk.”

***Don’t miss:***

- [Study shows how face masks could prevent a second wave of Covid-19 — but there’s a catch](#)
- [More than half of people with Covid-19 don’t know how they got it — here’s what that means for you](#)
- [Can face masks lower oxygen levels or weaken the immune system? Here’s what health experts say](#)

[F2]



IHME

Measuring what matters

<http://www.healthdata.org/news-release/new-ihme-forecasts-show-more-200000-us-deaths-november-1>

---

## New IHME Forecasts Show More Than 200,000 US Deaths by November 1

Publication date: July 7, 2020

*'Many states expected to experience significant increases in cases and deaths'*

*High levels of mask wearing could reduce forecasted deaths by over 45,000*

*'Those who refuse masks are putting their lives, their families, their friends, and their communities at risk'*

SEATTLE (July 7, 2020) – In its first projections of COVID-19 deaths out to November 1, the Institute for Health Metrics and Evaluation (IHME) at the University of Washington is forecasting more than 200,000 deaths in the United States.

The forecast shows 208,255 deaths (with a range of 186,087 to 244,541). Those numbers drop to 162,808 (157,217 to 171,193), if at least 95% of people wear masks in public.

“We can now see the projected trajectory of the epidemic into the fall, and many states are expected to experience significant increases in cases and deaths in September and October,” said IHME Director Dr. Christopher Murray. “However, as we all have come to recognize, wearing masks can substantially reduce transmission of the virus. Mask mandates delay the need for re-imposing closures of businesses and have huge economic benefits. Moreover, those who refuse masks are putting their lives, their families, their friends, and their communities at risk.”

IHME’s new projections include the re-imposition of strong social distancing mandates when deaths per day reach a level of 8 per one million people, comparing that with a forecast if no action is taken, and a forecast if social distancing mandates are combined with at least 95% mask wearing in public spaces. Florida and Massachusetts 17,472 (11,275 to 32,577) and 12,906 (11,017 to 16,873), respectively, are expected to reach 8 per million deaths by November 1. The forecast for Florida, which is expected to reach 8 per million deaths on October 1, differs by 6,173 deaths if the state does not re-impose social distancing mandates. If mask wearing reaches 95%, that number drops to 9,849 (7,921 to 14,052).

The projections may increase if the current surge in infections spreads more widely in at-risk populations. Current data from states reporting the age breakdown of cases suggest that more cases are being detected in young people, who have a lower risk of death. The forecasts also show deaths beginning to increase again in many states in mid-to late September, due to the expected seasonality of COVID-19. Current data show a strong statistical relationship between COVID-19 transmission and pneumonia seasonality, which is included as a covariate in the model.

“The US didn’t experience a true end to the first wave of the pandemic,” Murray said. “This will not spare us from a second surge in the fall, which will hit particularly hard in states currently seeing high levels of infections.”

The forecasts by state (assuming social distancing mandates will be re-imposed when deaths reach 8 per million) are:

- Alabama: 3,443 (range of 2,117 to 6,260)
- Alaska: 14 (range of 13 to 15)
- Arizona: 5,553 (range of 3,905 to 8,621)
- Arkansas: 724 (range of 431 to 1,371)
- California: 16,827 (range of 13,131 to 24,278)
- Colorado: 1,937 (range of 1,765 to 2,508)
- Connecticut: 4,692 (range of 4,550 to 5,005)
- Delaware: 606 (range of 568 to 683)
- District of Columbia: 666 (range of 622 to 760)
- Florida: 17,472 (range of 11,275 to 32,577)
- Georgia: 3,857 (range of 3,298 to 5,031)
- Hawaii: 18 (range of 17 to 19)
- Idaho: 120 (range of 105 to 152)
- Illinois: 8,907 (range of 8,177 to 9,994)
- Indiana: 3,400 (range of 3,112 to 3,870)
- Iowa: 841 (range of 796 to 925)
- Kansas: 632 (range of 398 to 1,243)
- Kentucky: 1,139 (range of 773 to 2,295)
- Louisiana: 4,643 (range of 3,958 to 5,973)
- Maine: 125 (range of 116 to 145)
- Maryland: 3,880 (range of 3,685 to 4,213)
- Massachusetts: 12,906 (range of 11,017 to 16,873)
- Michigan: 7,114 (range of 6,757 to 7,912)
- Minnesota: 1,951 (range of 1,774 to 2,345)
- Mississippi: 2,438 (range of 1,805 to 3,807)
- Missouri: 1,757 (range of 1,349 to 2,615)
- Montana: 22 (range of 21 to 24)
- Nebraska: 588 (range of 404 to 989)
- Nevada: 1,304 (range of 731 to 3,366)
- New Hampshire: 704 (range of 500 to 1,218)
- New Jersey: 16,970 (range of 16,382 to 17,891)
- New Mexico: 924 (range of 622 to 1,881)
- New York: 32,221 (range of 32,022 to 32,468)
- North Carolina: 2,351 (range of 1,856 to 3,487)
- North Dakota: 97 (range of 90 to 110)
- Ohio: 5,712 (range of 4,130 to 10,296)
- Oklahoma: 587 (range of 497 to 790)
- Oregon: 471 (range of 333 to 778)
- Pennsylvania: 9,999 (range of 8,265 to 14,573)
- Rhode Island: 1,282 (range of 1,161 to 1,492)
- South Carolina: 4,059 (range of 2,175 to 8,225)
- South Dakota: 242 (range of 143 to 476)
- Tennessee: 1,908 (range of 1,098 to 3,714)
- Texas: 13,450 (range of 8,967 to 22,738)
- Utah: 396 (range of 276 to 636)
- Vermont: 59 (range of 58 to 61)
- Virginia: 5,190 (range of 3,364 to 9,878)
- Washington: 2,510 (range of 2,048 to 3,331)
- West Virginia: 118 (range of 105 to 143)
- Wisconsin: 1,410 (range of 1,112 to 2,072)
- Wyoming: 18 (range of 18 to 19)

IHME will continue to forecast for different scenarios, including planned intermittent mandates in the fall when deaths per day are expected to reach higher levels within each state, recognizing that solutions are not uniform across communities.

The new death projections and other information, such as hospital resources usage, are available at <https://covid19.healthdata.org>.

**Contact:** [media@healthdata.org](mailto:media@healthdata.org)

#### **About the Institute for Health Metrics and Evaluation**

The Institute for Health Metrics and Evaluation (IHME) is an independent global health research organization at the University of Washington School of Medicine that provides rigorous and comparable measurement of the world's most important health problems and evaluates the strategies used to address them. IHME is committed to transparency and makes this information widely available so that policymakers have the evidence they need to make informed decisions on allocating resources to improve population health.

#### **[COVID-19 resources](#)**

IHME's COVID-19 projections were developed in response to requests from the University of Washington School of Medicine and other US hospital systems and state...

## **Media contacts**

[media@healthdata.org](mailto:media@healthdata.org)

### **IHME**

Institute for Health Metrics and Evaluation  
Population Health Building/Hans Rosling Center  
3980 15th Ave. NE, Seattle, WA 98195  
UW Campus Box #351615  
Tel: +1-206-897-2800  
Fax: +1-206-897-2899  
© 2020 University of Washington

**[F3] Washington Post**

## Spate of new research supports wearing masks to control coronavirus spread

By [Ben Guarino](#), | [Chelsea Janes](#) and [Ariana Eunjung Cha](#)

June 13, 2020 at 10:00 a.m. MDT

Four months of discord about the [coronavirus](#) epidemic have transformed the cloth mask into a potent political symbol, touted by Democrats as a key part of communal responsibility, labeled by some GOP leaders as a sign of government overreach and as a scarlet letter pinned on the weak.

But as partisan interests sew symbolism and controversy into masks, scientists are trying to provide answers about how effectively those masks prevent transmission of the coronavirus, and what role they should play in efforts to limit the pathogen's spread.

Several new studies published this month support wearing masks to curb the transmission of the novel coronavirus. The broadest, a review funded by the World Health Organization and published in the [journal Lancet](#), concluded that data from 172 observational studies indicate wearing face masks reduces the risk of coronavirus infection.

“Our findings suggest, in multiple ways, that the use of masks is highly protective in health-care and community settings,” said the author of the review, [Holger Schünemann](#), an epidemiologist and physician at McMaster University in Ontario.

But that conclusion came with an important caveat: “We have low certainty in that,” Schünemann said, meaning the authors cannot be strongly confident in the result. He spoke Friday from a small island in Italy where he and his wife, a fellow epidemiologist, were studying the prevalence of coronavirus antibodies.

The gold standard in science — a randomized, double-blinded controlled trial — is impossible to conduct in a pandemic, so researchers have turned to other analyses, said Andrew Noymer, an associate professor of population health and disease prevention at the University of California at Irvine who was not part of the review.

Reviews such as the Lancet report compile data from many smaller reports to synthesize those findings. Schünemann cautioned that the studies collected in the Lancet article were observational, not randomized trials. Observational research, which doesn't have a change imposed by scientists, generally has more limitations than controlled studies. The influence of outside factors cannot be eliminated, for example.

[Stay safe and informed as the United States reopens with our free Coronavirus Updates newsletter](#)

Face masks appear to be most effective when supplemented with hand-washing and physical distancing, Schünemann and his colleagues said. Most studies in the review analyzed face masks in hospitals or other medical settings, and some took place in households where an infected person lived.

The studies don't settle the question of whether the protective benefit of a face mask derives from the barrier it creates — or from behavior changes it might prompt. The mask could remind people not to touch their faces or

Wearing N95 respirators, compared with disposable surgical masks or reusable cotton masks, was more strongly associated with a reduction in risk of infection, but that was another low-certainty conclusion, Schünemann said.

“Anecdotally, it appears that face-mask use is an important control against multiple modes of SARS-CoV-2 transmission,” including droplets and aerosols, said Jeffrey Shaman, an epidemiologist at Columbia University.

He highlighted Asian countries such as South Korea, Taiwan and Vietnam that had high rates of face-mask use early in the pandemic. They “have had better success squashing the virus and keeping their economies going,” Shaman said.

Werner Ernst Bischoff, a professor of infectious diseases at Wake Forest University known for his studies on respiratory transmission of viruses, said masks are critical because the simple act of breathing releases potentially infected particles. Loud talking, yelling and singing release even more.

“When you are going about in the course of normal activities like breathing, talking and singing, you expel these particles into the environment. You want to create a seal,” said Bischoff, who said he sees masks as the critical element in preventing transmission.

Mask use varies dramatically from state to state and even city to city, according to interviews with health officials in several states during the last three weeks. Epidemiologists have bemoaned the patchwork approach to mask mandates, arguing that mixed messaging from federal, state and local levels leads to apathy and skepticism toward the measure.

The Centers for Disease Control and Prevention recommends cloth face coverings where social distancing isn’t possible. [The CDC issued that guidance only after a tussle with the White House](#), and President Trump has eschewed wearing a mask at public appearances, [even in a Michigan manufacturing plant that requested he do so](#).

Friday, the CDC released guidance on mass gatherings, which are reappearing in the public square with ongoing protests and political rallies. Trump announced he will begin holding full-fledged campaign rallies next week.

The guidance urges venues hosting gatherings to require staff to use cloth face coverings, particularly when social distancing is difficult. The guidance also recommends that event hosts urge people to bring and use their own cloth face coverings.

The guidance says those recommendations are intended only to supplement, not replace, local and state recommendations, which vary dramatically. New York Gov. Andrew M. Cuomo (D) mandated wearing of masks in public April 17. Mask-wearing became so ingrained that in May shoppers hectoring a woman who hadn’t covered her face, [compelling her to leave a Staten Island grocery store](#).

Maine, Massachusetts and the District are among jurisdictions that have instituted similar requirements. Other states have directed workers in restaurants and other businesses to wear masks, while recommending that residents follow suit.

[An Axios-Ipsos](#) poll this month found that 48 percent of Americans said they were wearing a mask “at all times” when they left their homes. And more than three-quarters — including those people who wear masks ubiquitously — said they wear their masks at least sometimes when they leave their homes. A [Washington Post-University of Maryland](#) national poll in May found 80 percent of Americans said it was “necessary” for people in their community to wear a mask when coming close to people outside their home; 20 percent said masks were “not necessary.”

Politicization has complicated the issue. Some GOP leaders associated pro-mask messaging with Democratic leadership and labeled masks a costume of the coastal elite. Some Republican lawmakers have criticized mask mandates as evidence of government overreach, and some have branded those wearing masks as weak.



Others, [like GOP North Dakota Gov. Doug Burgum](#), have made impassioned pleas to constituents to ignore politicization of masks.

“I would really love to see in North Dakota that we could just skip this thing that other parts of the nation are going through where they’re creating a divide — either it’s ideological or political or something — around masks versus no mask,” Burgum said in late May.

Orange County, Calif., on Thursday became the latest jurisdiction to [rescind](#) a mask mandate even as it experienced its largest increase in cases, with hospitalizations rising.

Face coverings in public will be recommended — not required — going forward in Orange County. The order was issued by health care agency director Clayton Chau, who replaced Nichole Quick. She resigned Monday following a firestorm of criticism from elected officials and some residents who questioned the need for masks.

“Most of anti-maskers seem to be politicians who do not have scientific experience,” said Noymer, the University of California professor.

With colleagues, [Richard Stutt](#), a University of Cambridge researcher who simulates disease spread, published a model Wednesday in Proceedings of the Royal Society A that shows [widespread mask use, plus lockdown orders](#), greatly slows the virus’s spread.

“You can do lockdown, you can do masks, but you get the best result when you combine them,” Stutt said.

They made some conservative assumptions, including that coverings were not perfectly protective, but their simulation suggests that’s not necessary to lower the rate of transmission.

Unlike N95 masks or face shields, bandannas and cotton coverings cannot stop the smallest droplets. But Stutt said crude coverings that block only large droplets of expelled saliva and fluid can still help — in part because bigger volumes presumably contain more virus.

Wearing masks could have another benefit, [a study found](#): People may stand farther away from other people who wear masks, making it less likely for the virus to travel from person to person, though that assertion has not been peer-reviewed.

Experts have not fully embraced all of the new research promoting mask use. [A report published Thursday](#) in the influential Proceedings of the National Academy of Sciences journal, written by a group of aerosol chemists including the Nobel Prize-winning discoverer of the Antarctic ozone hole, was slammed on social media for using poor methods to estimate the number of New Yorkers saved by masks.

Johns Hopkins University infectious-disease epidemiologist Kate Grabowski [suggested the journal](#) should consider a retraction. And Willem van Schaik, a professor at the Institute of Microbiology and Infection at the University of Birmingham in England, [tweeted](#) that it was “terrible.”

Renyi Zhang, a Texas A&M University atmospheric sciences professor and an author of the PNAS paper, dismissed the calls for retraction. “Our paper is based on solid scientific evidence,” Zhang wrote in an email. “The method and conclusions from the paper can certainly be debated in an open, scientific fashion, but not on the basis of people’s perceptions.”

The PNAS paper provides an extrapolation of real world data while the Royal Society article involves a simulation. Despite the weakness of some of the research, Noymer said that when combined with previous studies



— including a 2013 paper from the Cambridge University Press that found cloth masks could reduce droplet spread — the overall findings point to the benefits of masks.

“Both studies support this anecdotal observation and provide some quantification of the effects of face masks,” said Shaman, the Columbia University epidemiologist, who was not involved with those reports.

Noymer said masks will probably only reduce the amount of droplets, not stop them completely, but that may be enough to prevent someone from becoming infected or result in a milder case.

“We don’t need to be in scuba gear. Even if not an absolute barrier, it still helps,” he said.

*Emily Guskin contributed to this report.*

#### Coronavirus: What you need to read

The Washington Post is providing some coronavirus coverage free, including:

Updated September 16, 2020

The latest: [Live updates on coronavirus](#)

Coronavirus maps: [Cases and deaths in the U.S.](#) | [Cases and deaths worldwide](#)

What you need to know: [Vaccine tracker](#) | [Coronavirus etiquette](#) | [Summertime activities & coronavirus](#) | [Hand sanitizer recall](#) | [Your life at home](#) | [Personal finance guide](#) | [Make your own fabric mask](#) | Follow all of our [coronavirus coverage](#) and [sign up for our free newsletter](#).

---

[F4]

## CDC Adds Then Retracts Aerosols as Main COVID-19 Mode of Transmission

### Health Affairs Blog

Marcia Frellick | September 21, 2020

The Centers for Disease Control and Prevention (CDC) today abruptly deleted information from its website that it had updated Friday on how COVID-19 is spread.

The CDC had updated [information on coronavirus spread](#) and had acknowledged the prominence of aerosol transmission.

CDC's new information still says that Sars-CoV-2 is commonly spread between people who are within about 6 feet of each other, which has been the agency's stance for months now.

However, the deleted update had added it is spread "through respiratory droplets or small particles, such as those in aerosols, produced when an infected person coughs, sneezes, sings, talks, or breathes. These particles can be inhaled into the nose, mouth, airways, and lungs and cause infection. This is thought to be the main way the virus spreads."

Responding to *Medscape Medical News* questions about the update, Jasmine Reed, spokesperson for the CDC, told *Medscape Medical News*, "A draft version of proposed changes to these recommendations was posted in error to the agency's official website. CDC is currently updating its recommendations regarding airborne transmission of SARS-CoV-2 (the virus that causes COVID-19). Once this process has been completed, the update language will be posted."

### Previous Information

Previously, the CDC said the [virus is spread](#) mainly among people who are within about 6 feet of each another through respiratory droplets propelled when an infected person coughs, sneezes, or talks.

Previous guidance also said, "These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs."

The now deleted update said, "There is growing evidence that droplets and airborne particles can remain suspended in the air and be breathed in by others, and travel distances beyond 6 feet (for example, during choir practice, in restaurants, or in fitness classes)."

On July 6, *Clinical Infectious Diseases* [published the paper](#) "It Is Time to Address Airborne Transmission of Coronavirus Disease 2019," which was supported by 239 scientists.

The authors write, "There is significant potential for inhalation exposure to viruses in microscopic respiratory droplets (microdroplets) at short to medium distances (up to several meters, or room scale).

The World Health Organization (WHO) acknowledged after this research was published that airborne transmission of the virus *may* play a role in infection, especially in poorly ventilated rooms and buildings, but have yet to declare aerosols as a definitive contributor.

WHO has long stated that coronavirus is spread mainly by droplets that, once expelled by coughs and sneezes of infected people, fall quickly to the floor.

The CDC update was made Friday without announcement.

"This has been one of the problems all along," said Leana Wen, MD, an emergency physician and public health professor at George Washington University, Washington, DC. "The guidance from CDC changes on their website, but there's no press conference, there's no explanation of why they're changing this now."

Again Monday, there was no announcement that information had changed.

### **Update Added Air Purifiers for Prevention**

The CDC continues to recommend staying 6 feet from others, washing hands, wearing a mask and routinely disinfecting frequently touched surfaces.

The update had added, "Use [air purifiers to help reduce airborne germs](#) in indoor spaces."

*Marcia Frellick is a freelance journalist based in Chicago. She has previously written for the Chicago Tribune, Science News and Nurse.com and was an editor at the Chicago Sun-Times, the Cincinnati Enquirer, and the St. Cloud (Minnesota) Times. Follow her on Twitter at [@mfrellick](#)*

*For more news, follow Medscape on [Facebook](#), [Twitter](#), [Instagram](#), and [YouTube](#).*

[F5

## Research Determines Protests Did Not Cause Spike In Coronavirus Cases

reported by Forbes: July 1, 2020

“Protests against systemic racism held in 300-plus U.S. cities following the death of George Floyd did not cause a significant increase in coronavirus infections, according to a team of economists who have published their findings in a 60-page [paper released](#) by the National Bureau of Economic Research; these somewhat surprising results are supported by Covid-19 testing data in many populous cities where demonstrations were held.”

- ...researchers found “[no evidence](#) that urban protests reignited Covid-19 case growth during the more than three weeks following protest onset.”
- In fact, they determined that, based on cellphone data, “cities which had protests saw an [increase in social distancing](#) behavior for the overall population relative to cities that did not,” leading to “modest evidence of a small longer-run case growth decline.”
- The study’s lead author, Dhaval Dave of Bentley University, [said](#), “In many cities, the protests actually seemed to lead to a net increase in social distancing, as more people who did not protest decided to stay off the streets.”
- News analysis, see <https://www.forbes.com/sites/tommybeer/2020/07/01/research-determines-protests-did-not-cause-spike-in-coronavirus-cases/#449a6cb7dac7>
- Full report from NBER <https://www.nber.org/papers/w27408.pdf> (71 pp) -

