

The COVID-19 Pandemic Effectiveness of Masks

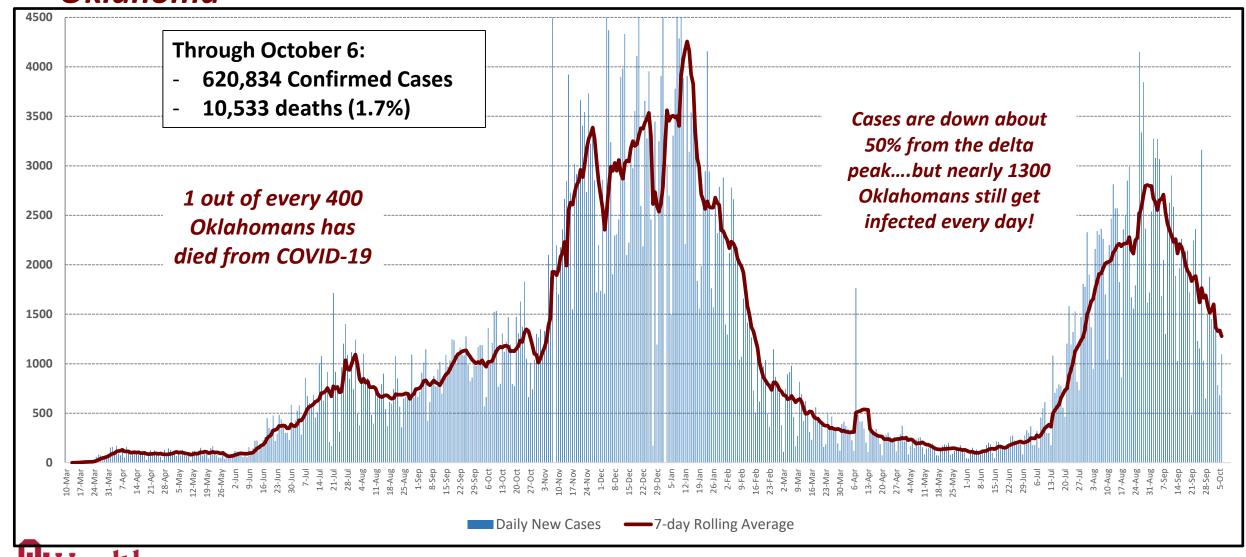
Dale W. Bratzler, DO, MPH, MACOI, FIDSA

Chief COVID Officer – University of Oklahoma
Professor College of Medicine
Enterprise Chief Quality Officer – OU Health
Professor and Chair, Department of Health Administration and Policy Hudson College
of Public Health
Edith Kinney Gaylord Presidential Professor
Email: dale-bratzler@ouhsc.edu
Office Phone: (405) 271-3932



Daily New Cases with 7-day Rolling Average

Oklahoma



How do we know if masks work?



Physical science studies

Observational studies comparing groups with masks to groups without masks

- Randomized controlled trial where individuals or groups are randomly assigned to wear a mask or not
 - Generally would be considered unethical in the United States



Can masks really work?

- COVID virus is 50-140 nm in size that's small enough to go through most masks, but.....
 - People do not breath out individual viruses they breath out droplets that carry the virus
 - Masks effectively reduce those droplets from coming out
 - Masks help to prevent you from breathing in droplets
 - There is NO evidence of any harm (other than discomfort from wearing a mask)





All mask types reduced the size of the contaminated region significantly.

How You May Transmit COVID-19 Coronavirus From Talking Without Coughing Or Sneezing

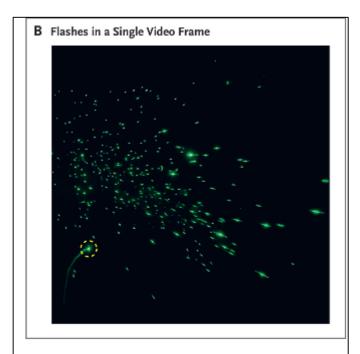


Bruce Y. Lee Senior Contributor ()

Healthcare

I am a writer, journalist, professor, systems modeler, computational and digital health expert, avocado-eater, and entrepreneur, not always in that order.





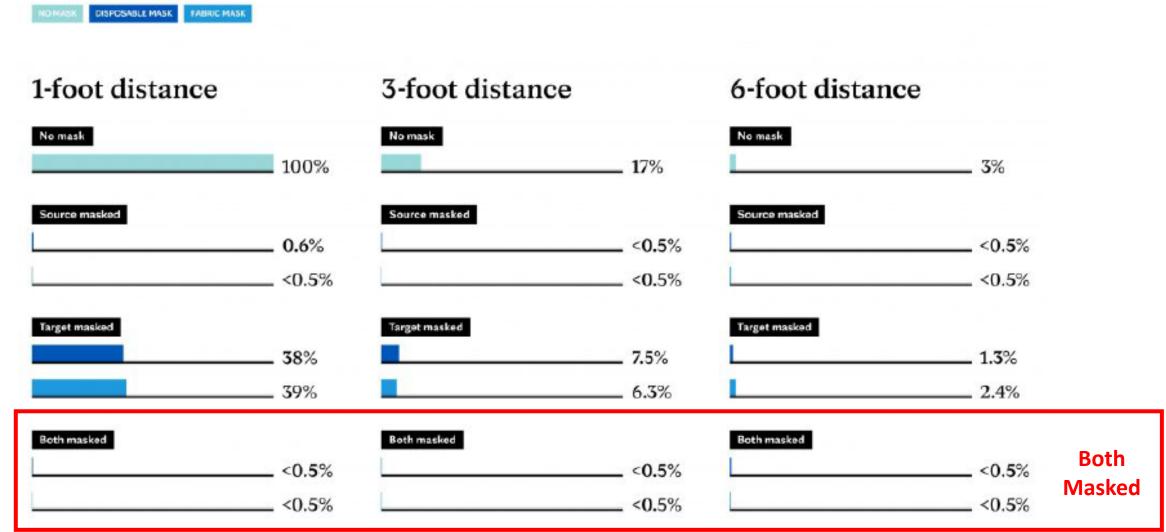
Emission of Droplets While a Person Said "Stay Healthy."

Watch this video – see what happens when you talk and see how a mask can change that!

https://www.youtube.com/watch?v=UNHgQq0BGLI



Exposure Risk Based on Masking and Distance





Observational Studies

Clinical Review & Education

JAMA Insights

Effectiveness of Mask Wearing to Control Community Spread of SARS-CoV-2

John T. Brooks, MD; Jay C. Butler, MD

"COVID-19 spreads primarily through respiratory droplets exhaled when infected people breathe, talk, cough, sneeze, or sing... ... The amount of small droplets and particles increases with the rate and force of airflow during exhalation (eg, shouting, vigorous exercise)... ... An increasing number of ecological studies have also provided persuasive evidence that universal mandatory mask wearing policies have been associated with reductions in the number or rate of infections and deaths."



But there is one randomized trial

The Impact of Community Masking on COVID-19:

A Cluster-Randomized Trial in Bangladesh

Jason Abaluck^{†,‡,1}, Laura H Kwong^{†,2,3}, Ashley Styczynski^{†,4}
Ashraful Haque⁵, Md. Alamgir Kabir⁵, Ellen Bates-Jeffries⁶
Emily Crawford¹, Jade Benjamin-Chung⁷, Shabib Raihan⁵
Shadman Rahman⁵, Salim Benhachmi⁸, Neeti Zaman⁵
Peter J. Winch⁹, Maqsud Hossain¹⁰, Hasan Mahmud Reza¹¹,
Abdullah All Jaber¹⁰, Shawkee Gulshan Momen¹⁰,
Faika Laz Bani¹⁰, Aura Rahman¹⁰, Tahrima Saiha Huq¹⁰,
Stephen P. Luby ^{§,2,4}, Ahmed Mushfiq Mobarak ^{§,1,12} *
August 31, 2021

A large, randomized trial led by researchers at Stanford **Medicine and Yale University** has found that wearing a surgical face mask over the mouth and nose is an effective way to reduce the occurrence of COVID-19 in community settings.



dale-bratzler@ouhsc.edu

