Widely cited COVID-19-masks paper under scrutiny for inaccurate stat

You probably read a story or heard a news report over the past few days saying that if nearly all Americans wore masks to prevent COVID-19 spread, 130,000 lives could be saved by the end of February. That's what a underline paper published on Friday says.

But it turns out that figure sounds twice as good as reality. Here's the story:

On October 6, a group at the Institute for Health Metrics Evaluation (IHME) — a frequently cited source of COVID-19 data — submitted a manuscript to *Nature Medicine*. The paper was accepted on October 13, and published on October 23. It concluded:

> We find that achieving universal mask use (95% mask use in public) could be sufficient to ameliorate the worst effects of epidemic resurgences in many states. Universal mask use could save an additional 129,574 (85,284–170,867) lives from September 22, 2020 through the end of February 2021, or an additional 95,814 (60,731–133,077) lives assuming a lesser adoption of mask wearing (85%), when compared to the reference scenario.

That conclusion led to more than 100 headlines around the world, including "The Price for Not Wearing Masks: Perhaps 130,000 Lives" (*New York Times*), "Universal Mask Wearing Could Save Some 130,000 Lives In The U.S., Study Suggests" (*NPR*), and "Universal mask wearing could save almost 130,000 lives from coronavirus, epidemiologist says" (*CNBC*).

There was only one problem: The figures that projection was based on were already out of date by the time the paper was published. The paper refers to 49% of Americans saying they wore masks as of September 21, meaning that a change to 95% would be a near doubling. But as Phil Magness, an economic historian, wrote in a letter to the journal yesterday:

> A review of this source indicates, however, that public mask use for the United States sat at a significantly higher rate of 68% as of 21 September, the stated date. This higher number is also consistent with more recent survey data, suggesting U.S. mask usage in public spaces has consistently hovered between 75 and 80% since mid-July 2020 – a figure much closer to the IHME's own targeted mask compliance rates. [4]

That would mean the difference between current mask use and 95% would be much lower, and the additional benefit of near-universal mask wearing — while still substantial — would mean fewer than 130,000 lives saved.

Even an IHME spokesperson, in comments to Retraction Watch, acknowledged that 63,000 was a more up-to-date projection:

> The paper you reference is based on data from the third week of September and does not include the most recent findings based on our research and modeling. That is because of time required for the peer-review process.
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> IHME's most current release of data – from 22 October – finds that "approximately two-thirds of Americans are wearing a mask outside the home, and this level has remained constant over the last two weeks." For more information, please see our most recent policy brief, also dated 22 October: http://www.healthdata.org/sites/default/files/files/Projects/COVID/briefing_US_20201022.pdf

From that brief:

> Expanding mask use to 95%, the level seen in Singapore, can greatly delay the imposition of mandates and save 63,000 lives.

While that October 22 briefing came out the day before the study did, news reports about the study — many of which quote IHME scientists — quote the 130,000 figure, as it appears in the paper.

Early this morning, *Nature Medicine* editor in chief Joao Monteiro told Retraction Watch he had not received Magness' letter yet but would reach out to the IHME authors to assess the situation.

In the meantime, Magness told Retraction Watch:

> I'm honestly even more baffled now by their reply. Even though their newest release shows about 68% mask use, mask rates hovering around at least that level has been the case for several months now. The YouGov survey, which they list among their sources, first topped 70% on June 22, and has been in the high 70s/low 80s consistently since July 14.
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> If they were still using 49% for a paper dated around September 21, then it appears to be an error of using numbers that were already more than 3 months out of date at that time.
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> It would still seem to warrant a correction or update of some sort to reflect the new data, as the 49% statistic is receiving massive media coverage at the moment based on the October 22 paper release, which erroneously presents that number as accurate as of September 21. I can appreciate the challenges created by the slow pace of peer review in a fast moving pandemic, but that also requires scientists to use an abundance of care when making empirical claims before the public about ever-changing data.
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> In any case, a public acknowledgement from the IHME group and the journal is probably necessary to temper the widespread reporting about the older statistic in the press.

You might say that a bad stat <u>traveled halfway around the world before the truth got its mask on</u>.