Trisha Greenhalgh 😷 **#CovidIsAirborne** @trishgreenhalgh

24 Apr • 17 tweets • trishgreenhalgh/status/1385878084063219713

Had quite a bit of backlash to our paper, published last week, which set out 10 streams of evidence supporting predominance of AIRBORNE spread of SARS-CoV-2. I respond to some criticisms in this thread.

1/

https://linkinghub.elsevier.com/retrieve/pii/S0140673621008692

Criticism 1: "The paper is just opinion, and several authors aren't even doctors."

Response: No. It's well-researched scholarly argument, produced by an interdisciplinary team of 6 professors including 3 docs, 2 aerosol scientists and 1 social scientist.

2/

Criticism 2: "Sure, the virus may be airborne, but this is a minor issue. Droplets are so much bigger and more infectious."

Response: We disagree. Most infection happens by INHALATION. Every gulp of infected air contains thousands of tiny viral-laden particles.

3/

Criticism 3: "Laboratory studies are artificial and low-quality. Viable SARS-CoV-2 virus has never been isolated from ordinary room air."

Response: Incorrect. People who make these claims are cherry-picking evidence and misclassifying excellent lab studies as "low-quality".

4/

Criticism 4: "Half air sampling studies found no virus, therefore the virus is not airborne or airborne is minor route."

Response: Logical fallacy. If I go for a walk and don't see a kingfisher, this proves neither that kingfishers don't exist nor that they're almost extinct.

5/

Criticism 5: "In contrast to the sparse and flawed studies of aerosols, the virus has been easily and consistently cultured from droplets."

Response: Incorrect. The only evidence cited to support this claim seems to be

“unpublished data from my lab”.
6/

Criticism 6: “This droplet v aerosol argument is just semantics. It doesn’t change the recommendations.”
Response: No it’s not just semantics. “Predominantly airborne” means we need a RADICALLY different approach to prevention policy (next tweet).
7/

Airborne precautions include:
Ventilation. Open windows and doors, encourage draughts.
Air filtration w HEPA filters (+ DISCOURAGE air-recycling air-conditioning).
Ensure masks are high-quality, well-fitting and worn whenever indoors.
Limit time indoors.
Avoid close contact.
8/

Criticism 7: “Airborne infection occurs beyond 2m. The virus spreads mostly via close contact. Therefore close-contact spread isn’t airborne.”

Response: Logical fallacy. MOST airborne spread occurs at CLOSE RANGE (physics innit: particles don’t magically jump the first 2m).
9/

Criticism 8: “Given that anything smaller than 5 microns is a droplet, and droplets fall within 2m, we can largely forget about transmission beyond 2m.”

Response: Incorrect. Particles of up to 100 microns travel far beyond 2m in the air, so physical distancing isn’t enough.
10/

Criticism 9: “The paper is scaremongering. If we say SARS-CoV-2 is spread through the air, people will panic.”

Response: But it IS spread through air, and until we acknowledge that, our measures to control its spread will be ineffective. Lying isn’t an effective strategy.
11/

Criticism 10: “Okay it’s airborne, but it’s not PREDOMINANTLY airborne”.

Response: The evidence suggests that it is. Super-spreader events have no other explanation. Over-dispersion. Long-range infection in quarantine hotels. Many other examples in the paper. Please read it.
12/

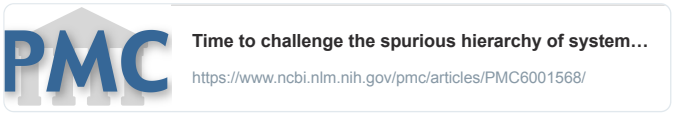
Criticism 11: “A systematic review came to the opposite conclusion.”

R: A review isn’t gold-standard if it a) omitted topic experts, b) asked an overly narrow question, c) misclassified high-quality studies as low-quality, d) failed to account for disconfirming evidence.

13/

Criticism 12: “But systematic reviews are always more rigorous than narrative reviews”.

Response: No they’re not. We scotched that flawed assumption here:



14/

Criticism 13: “The paper is an ad hominem attack against individuals in the WHO.”

Response: Please read the paper. It’s not personal. Thousands are dying daily. We’re begging WHO to show scientific leadership at this historical moment, in the face of overwhelming evidence.

15/

Link to the paper again:
https://linkinghub.elsevier.com/retrieve/pii/S0140673621008692

16/end

PS some animations here, thanks to @VickiGSP
https://www.phc.ox.ac.uk/research/resources/aerosols-and-making-spaces-space

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