Twitter Thread by Dr N. Brodie ■■■■



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A short thread on how face masks work, why we wear masks *to protect other people from ourselves* and not the other way around, & why wearing face-shields without a mask, masks with valves, or masks that hang open on the bottom or sides IS ACTUALLY DANGEROUS FOR EVERYONE ELSE...

I am going to start off by citing from a great paper by @trishgreenhalgh about the benefits of mask wearing, which you can read in full here: https://t.co/l0NfuU85cZ

Masks can work in 2 ways: protecting the wearer, & protecting other people from exhalations emitted by the wearer. Surgical grade masks are supposed to do both. They block out small particles emitted by the source, AND they filter those particles out from other emissions

For cloth masks, however, they are not so good at filtering out tiny particles which can contain viruses. But what they are good at doing is limiting the large droplets people give off when they breathe or cough – before they become aerosolised.

This means when you wear a cloth mask, the most important role that it plays is not protecting you from other people's exhalations but *protecting them from yours*. @trishgreenhalgh calls this 'source control' i.e. 'protects other people from droplets emitted by the wearer'

Unfortunately most people seem to think they are wearing a mask to protect *themselves* from everyone else. Which, unless you are wearing a fancy medical mask with a fancy rating, is not only selfish but also incorrect.

What cloth masks are supposed to do is filter the air you breath out, right at the source. This blocks large droplets as they are emitted, before they can become smaller aerosols (which are harder to block & can more easily make their way through another person's cloth mask)

Early on, when people were (mentally) struggling to breath with a mask on, lots of people bought & sold masks with vents. This meant what the wearer breathed in was filtered, but what they breathed out (via the vent) was not. So, no source control.

The same goes for these terrible 'half face shields' now on sale, that cover the nose & lower part of the face with clear plastic but are *open at the bottom*. This actually means both inhalations AND exhalations are not filtered by anything. You might as well not wear anything.

the same applies if you have a mask – even a medical grade one – that does not fit or is not properly tied, and has gaping holes under the chin, above the cheeks, or on the side of the face. If there are gaps where air can get in or out, your mask is pointless and even dangerous.

Masks made using only one layer of fabric – like buffs – are also not great at doing anything except making it look like you are wearing a face cover. Which is why most medical centres etc won't accept them. They are ok-ish for exercising outdoors, and can be worn by kids.

Face shields by the way have similar flaws *as masks* (which they are not, which is why they *must be worn together with a mask* and are not sufficient on their own). Shields are barriers not filters, and may protect the eyes, eg.

Bottom line:
The reason you wear a mask because *you* could be a source of SARS-CoV-2.
If you wear masks that allow your breath to leave unfiltered by layers of cloth, you may as well not even wear one.
Please, for all of our health, wear a proper mask and wear it properly

Also, thank you to @trishgreenhalgh who has been sharing and publishing this knowledge for nearly a year, and for all the other medical professionals who have been doing everything they can to teach us about *why* and *how* masks work to protect other people.