Twitter Thread by Mile High Brendan



Mile High Brendan
@MileHighBrendan

IMHO, this article — https://t.co/wLiWDOZrvm — is an important corrective to fatalism about the new strain. As in, "welp, there are probably already at least a handful of cases of the new strain already here, so no matter what we do now, it's gonna spread." Not necessarily so.

more of the people in the room in just a few hours. But, at other times, COVID-19 can be surprisingly much less contagious. Overdispersion and super-spreading of this virus are found in research across the globe. A growing number of studies estimate that a majority of infected people may not infect a single other person. A recent paper found that in Hong Kong, which had extensive testing and contact tracing, about 19 percent of cases were responsible for 80 percent of transmission, while 69 percent of cases did not infect another person. This finding is not rare: Multiple studies from the beginning have suggested that as few as 10 to 20 percent of infected people may be responsible for as much as 80 to 90 percent of transmission, and that many people barely transmit it.

This highly skewed, imbalanced distribution means that an early run of bad luck with a few super-spreading events, or clusters, can produce dramatically different outcomes even for otherwise similar countries. Scientists looked globally at known early-introduction events, in which an infected person comes into a country, and found that in some places, such imported cases led to no deaths or known infections, while in others, they sparked sizable outbreaks. Using genomic analysis, researchers in New Zealand looked at more than half the confirmed cases in the country and found a staggering 277 *separate* introductions in the early months, but also that only 19 percent of introductions led to more than one additional case. A recent review shows that this may even be true in congregate living spaces, such as nursing homes, and that multiple introductions may be necessary before an outbreak takes off. Meanwhile, in Daegu, South Korea, just one woman, dubbed Patient 31, generated more than 5,000 known cases in a megachurch cluster.

"10 to 20 percent of infected people may be responsible for...80 to 90 percent of transmission."

"An early run of bad [or good!] luck...can produce dramatically different outcomes."

New Zealand had 277 separate introductions; only 19% of them led to more than 1 additional case.

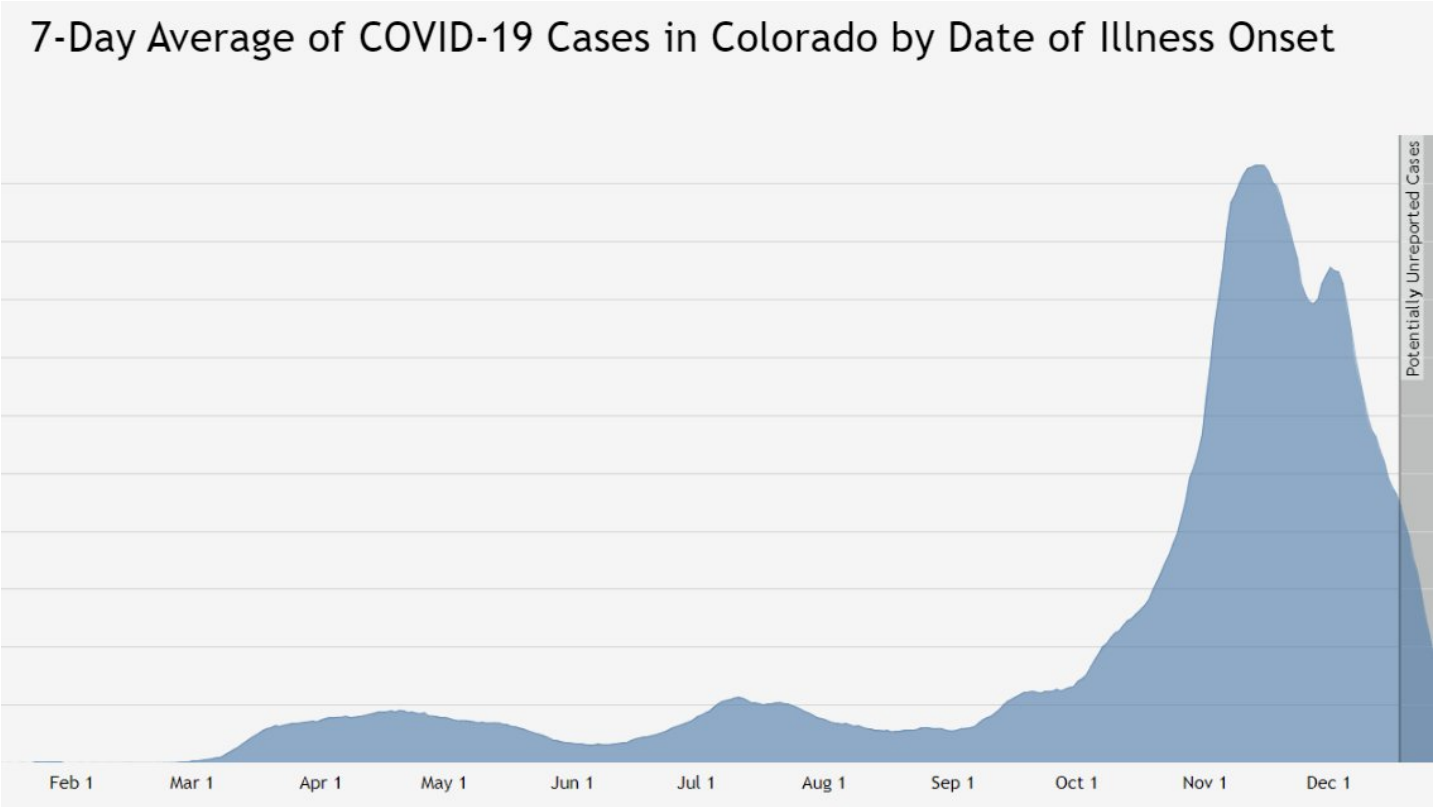
That's all referring to the original COVID strain, but I haven't read anything suggesting that the same pattern doesn't apply to the new variant. Not sure if we know yet, but it's at least possible a lot of people don't spread it (while the few that do, spread it *A LOT* a lot).

Here's what we know, or think we know:

* The new variant is here, with probably at least a handful of undetected cases.

* The new variant is so wildly contagious that, once it gains a foothold, cases WILL spike.

* Cases stopped rising steeply around Nov. 10 (by onset day).



It seems like 1 of 2 things is true:

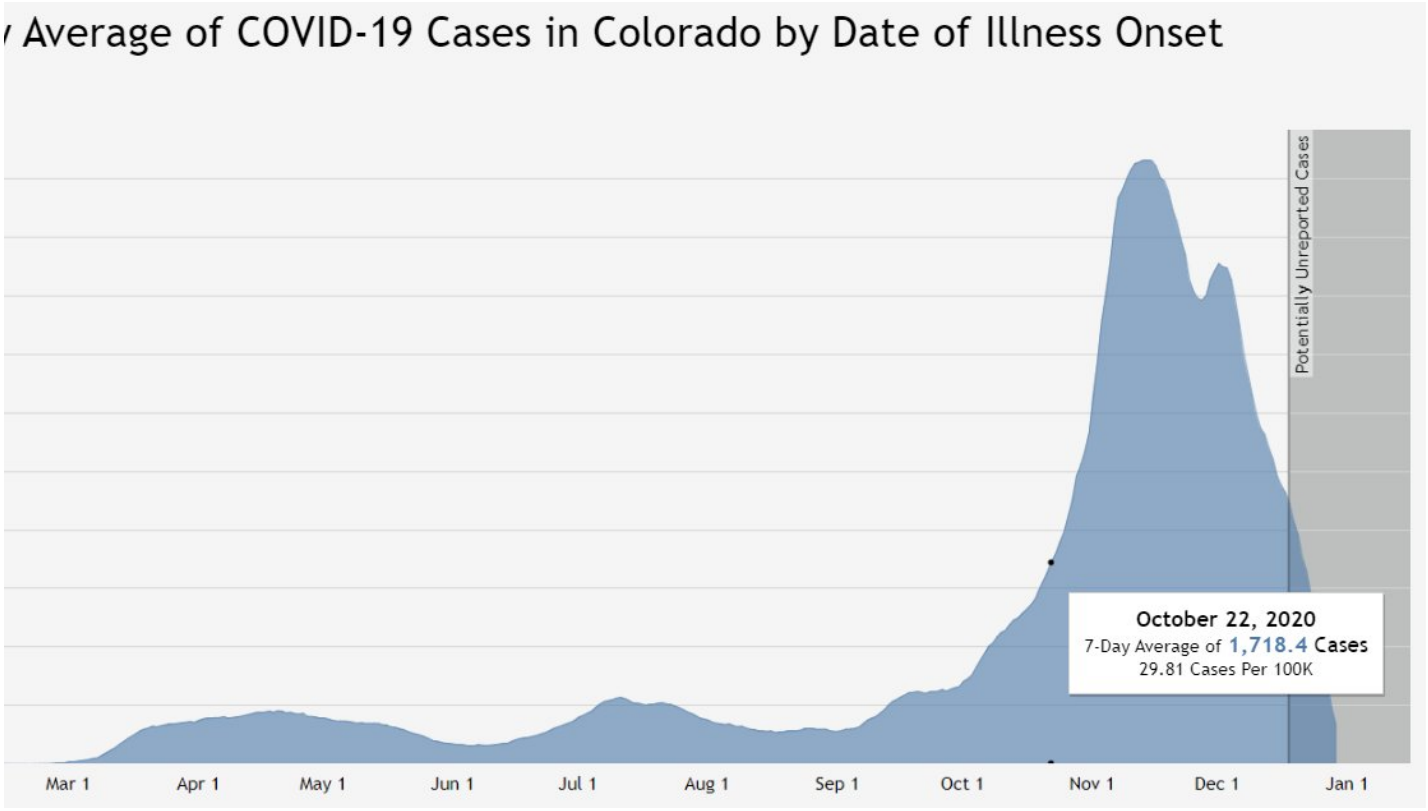
1) New variant arrived in October or earlier, and helped cause our November spike. We then reined it in, without even realizing it was here.

2) New-variant community spread is low-level thus far, at least thru ~Xmas. No superspreaders yet.

Dunno if we've done enough genomic testing yet to effectively rule out #1. It doesn't strike me as the more likely scenario (arrival by ~mid-October seems pretty early), but it's certainly the more optimistic one!

If it's #2, tho, we might still be at a VERY high-variance moment

FWIW, the steep part of the case curve started around 10/22 (by illness onset date). So really we'd be talking about wide community spread by the first half of October, to produce that. And the variant supposedly only dates back to Sept. 20 *in the U.K.* So I'm skeptical. But...



...we don't actually know for sure that it originated in the U.K. It's possible the variant arose somewhere else, and spread from there to the U.K. in late September, and to Colorado within a week or two of that.

Again, I'm skeptical. But this would be the optimistic scenario.

The less-optimistic scenario is that it arrived more recently, which means it clearly hasn't gained a foothold yet (or hadn't as of last week, anyway), given our current case trends. But unless we act fast & also get lucky, it'll gain a foothold soon and then we'll be in trouble.