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Leaked CDC slides on delta variant got you concerned?

I find the slides insightful & largely reassuring

Bottom line

Delta variant is a problem

Vaccines prevent vast majority of infections, transmission

And nearly all hospitalizations, deaths

Thread

<https://t.co/Du2UVzZZBI>

So let's talk about what's in the slides about the delta variant

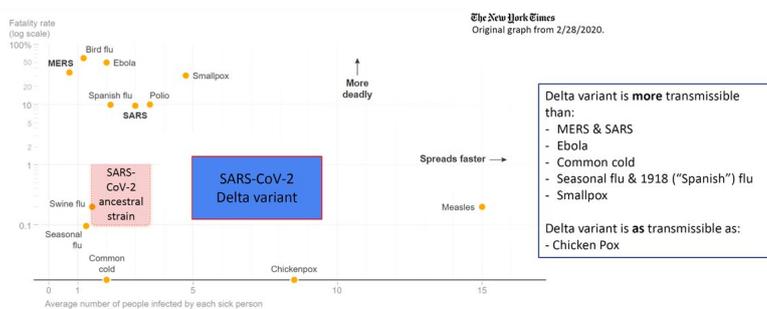
First, it is really, really contagious

Like more contagious than Ebola, Spanish Flu and probably chicken pox

Really contagious

2/n <https://t.co/7SZwciWnwR>

Transmission of Delta variant vs. ancestral strain and other infectious diseases



Second, it appears to cause more serious disease if you get infected

I've been worried this is the case but certainly not sure

The data here is suggestive but not definitive

So reasonable to say delta probably more severe

3/n <https://t.co/FyZEwyYEKO>

Delta variant may cause more severe disease than Alpha or ancestral strains: Published evidence

- Canada: Higher odds of hospitalization [aOR 2.20 (CI 1.93-2.53)], ICU admission [aOR 3.87 (CI 2.98-4.99)], and death [aOR 2.37 (CI 1.50-3.30)]¹
- Singapore: Higher odds of oxygen requirement, ICU admission, or death [aOR 4.90 (CI 1.43-30.78)] and pneumonia [aOR 1.88 (CI 0.95-3.76)]²
- Scotland: Higher odds of hospitalization [HR 1.85 (CI 1.39-2.47)]³

But the vaccines are working.

Let me repeat, the vaccines are working

80-90% effectiveness against symptomatic infection

90-95% effectiveness against severe disease

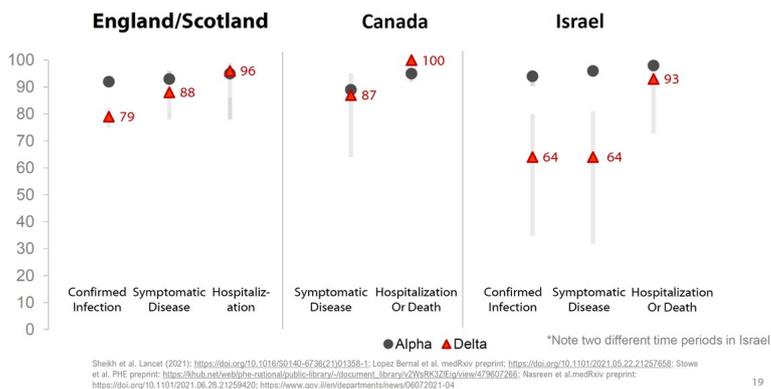
That's what the data from other countries say

But what about data from our country??

Glad you asked

4/n <https://t.co/WtjJIDXr95>

Pfizer 2-Dose Vaccine Effectiveness for Alpha vs. Delta



Right now, about 35K vaccinated Americans having breakthrough infections weekly

Sound high?

Actually, probably 300K unvaccinated Americans having infections weekly

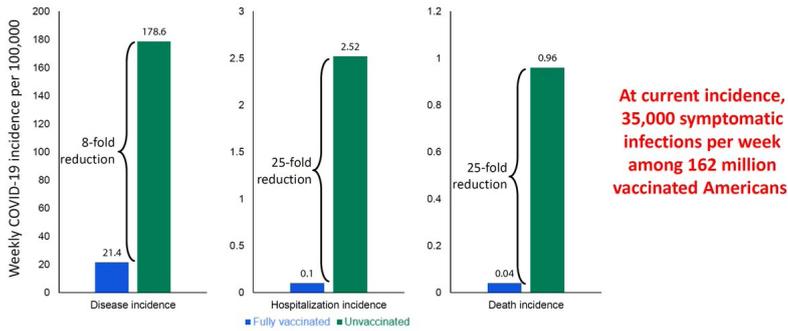
And given 50% of Americans are vaccinated

That's a rough vaccine effectiveness of around 88%

Very rough

5/n <https://t.co/iB7MCcFrEo>

Greater risk of disease, hospitalization and death among unvaccinated vs. vaccinated people: National estimates



Oh -- and protection against severe infection well above 90%

So yeah, vaccines are working fine

But what about this whole breakthrough infections and spreadability?

Can vaccinated folks with breakthrough spread?

Yes. And this is the bad news

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CDC cites several studies (and I'm aware of even more data) showing

vaccinated folks with breakthrough infections have similar viral loads to unvaccinated folks with infections

These are viral loads, not actual evidence of similar transmission

But a reasonable assumption

7/9 <https://t.co/9gHOAcJRQ8>

Delta variant vaccine breakthrough cases may be as transmissible as unvaccinated cases

- Breakthrough cases reported to national passive surveillance have lower Ct values by 3 cycles (~10-fold increase in viral load) for Delta (Ct=18, n=19) compared with Alpha (Ct=21, n=207) and other lineages (Ct=21, n=251)
- Barnstable County, MA, outbreak: **No difference in mean Ct values in vaccinated and unvaccinated** cases [median among vaccinated (n=80): 21.9; unvaccinated (n=65): 21.5]

Then CDC has modeling that says universal masking is critically important

But they assume no other behavior change like some folks avoiding large gatherings, etc.

But you know what their model also says would work great?

Near universal vaccinations

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So bottom line?

Yeah, delta variant is bad. Like really bad

Our vaccines are good. Like really good

Breakthrough infections happen

Sometimes they may spread to others

But if enough people get the shot

The pandemic does come to an end

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