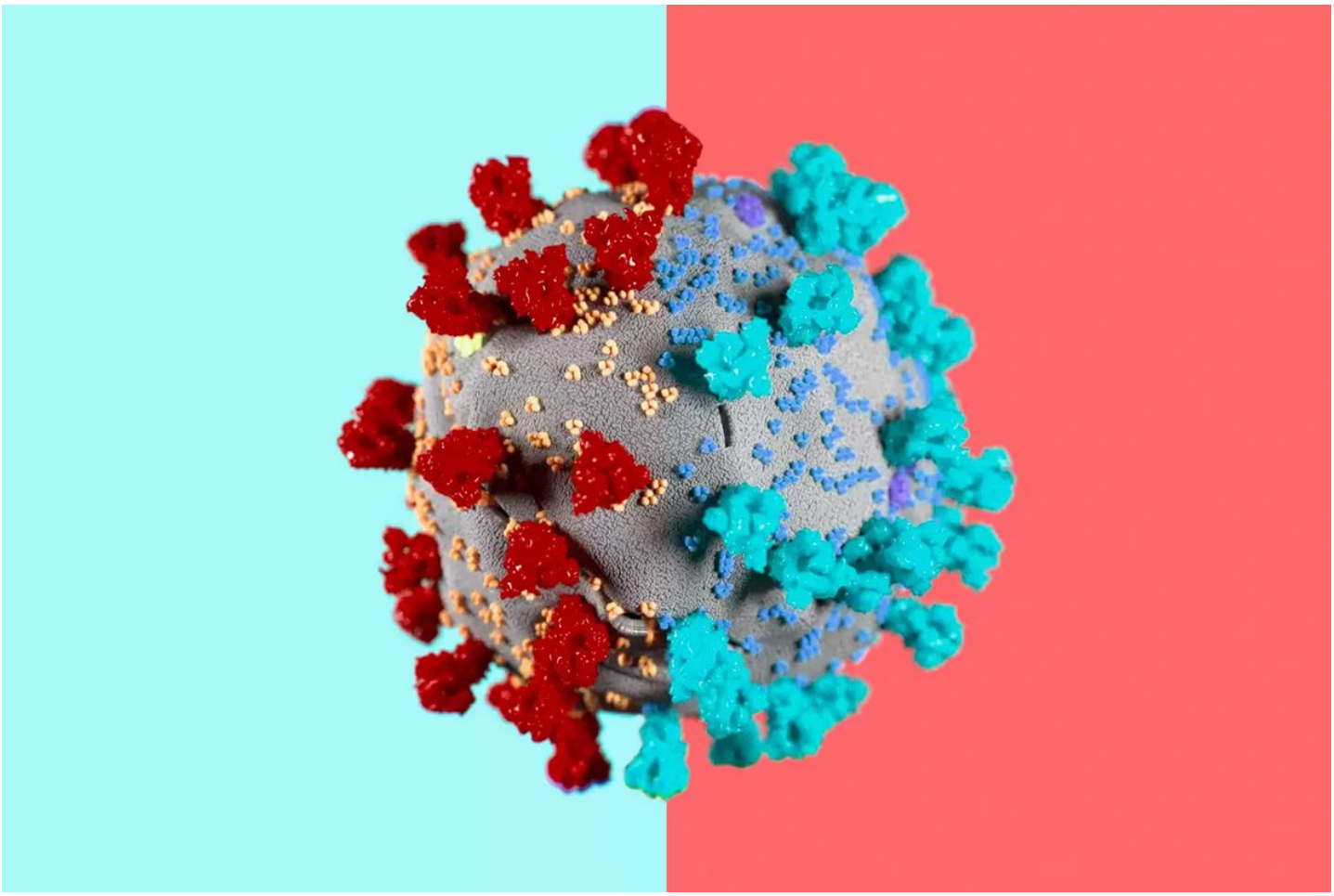
Twitter Thread by Eric Feigl-Ding

Eric Feigl-Ding
@DrEricDing

JUST ONE PERSON—UK ■■ scientists think one immunocompromised person who cleared virus slowly & only partially wiped out an infection, leaving behind genetically-hardier viruses that rebound & learn how to survive better. That's likely how #B117 started. ■ https://t.co/bMMjM8Hiuz



2) The leading hypothesis is that the new variant evolved within just one person, chronically infected with the virus for so long it was able to evolve into a new, more infectious form.

same thing happened in Boston in another immunocompromised person that was sick for 155 days.

3) What happened in Boston with one 45 year old man who was highly infectious for 155 days straight before he died... is exactly what scientists think happened in Kent, England that gave rise to #B117. https://t.co/LBc8eCk3f9

> Immunocompromised 45 year old suffered from #COVID19 for 155 days before he died. The virus was changing very quickly inside the man's body\u2014it acquired a big cluster of >20 mutations\u2014resembled the same ones seen in #B117 & #B1351. (NPR audio Part 1 of 2)\U0001f9f5https://t.co/7kWiBZ1xGk pic.twitter.com/ZJ7AExB78Y
>
> — Eric Feigl-Ding (@DrEricDing) February 8, 2021

4) Doctors were shocked to find virus has evolved many different forms inside of this one immunocompromised man. 20 new mutations in one virus, akin to the #B117. This is possibly how #B1351 in South Africa ■■ and #P1 in Brazil ■■ also evolved. https://t.co/74dr2pFiRg

> 2) NPR report audio part 2 of 2:
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> Dr. Li couldn't believe what they found. "I was shocked," he says. "When I saw the virus sequences, I knew that we were dealing with something completely different and potentially very important." pic.twitter.com/HT3Yt6djFd
>
> — Eric Feigl-Ding (@DrEricDing) February 8, 2021

5) “On its own, the appearance of a new variant in genomic databases doesn’t tell us much. “That’s just one genome amongst thousands every week. It wouldn’t necessarily stick out,” says Oliver Pybus, a professor of evolution and infectious disease at Oxford.

6) “New variants of Sars-CoV-2 are being created all the time but the vast majority of them go absolutely nowhere.
It was only when it became obvious that measures in Kent were failing that Public Health England realised the outbreak was being driven by a new variant.”

7) “#SARSCoV2 isn’t the only virus that can linger for an unusually long time within the human body. Ebola virus RNA has been detected in the semen of men a year after recovery. Some people stay infected with norovirus – a common stomach bug – for more than six months.

8) “One man in the UK has excreted infectious poliovirus for at least 28 years. The man had been shedding mutated virus for so long that researchers writing about his infection said that he, and other chronic excretors, pose an “obvious risk to the [polio] eradication programme”!

9) “But the real problem isn’t chronic infection – it’s a situation where pandemic is so out of control that the virus has endless opportunities to mutate into new variants. That situation is a reality in the UK and in dozens of other countries with dangerously high case rates.

10) ““These are all edge cases, but if you have enough people infected over a long time, you run the risk of hitting those edge cases,” says Hodcroft. It is not surprising that some of the most worrying new variants – from Brazil, South Africa and the UK –

11) ...”emerged from parts of the world with relatively high levels of transmission. “When you have millions of people infected, with millions of viruses replicating in each one, there are lots of chances for the virus to explore new mutations and combinations,” says Lauring.

12) ““If we had control of the virus, we wouldn’t be seeing as many variants pop up, because there wouldn't be as many opportunities for evolution to happen.”

13) Since Sars-CoV-2 infects cells relatively quickly, in most cases it enters a host, replicates and then swiftly infects someone else, leaving little time for the virus to acquire many genetic changes.

14) When the virus enters the body of someone who is already immunocompromised, their body is constantly applying evolutionary pressure on the virus – pushing it to evolve into new and, in some cases, more infectious forms.

15) My take: the moral lesson is that, when given time and opportunity, the virus finds a way. The virus is a cunning mutating beast that will try every way to defeat us if we let it keep proliferating. We must stop it FAST, or else it will evade: https://t.co/Zk46pouYLM

> DIFFERENCE A VARIANT CAN MAKE: Early in the Oxford-AstraZeneca\u2019s South Africa \U0001f1ff\U0001f1e6 trial, before #B1351 variant became dominant, the AZ vaccine had a great efficacy of 75% risk reduction of #COVID19 after a single dose! But all that disappeared once B1351 variant showed up... \U0001f9f5 pic.twitter.com/LcVcV2aVzE
>
> — Eric Feigl-Ding (@DrEricDing) February 8, 2021

16) And the virus will even evade people who has had prior immunity and prior antibodies to the older common #SARSCoV2. Such as this example — here not even people were protected from severe disease even if with prior immunity. https://t.co/yggeNJsgzj?

> Worrisome discovery\u2014Among placebo group for Novavax\u2019s vaccine in South Africa\U0001f1ff\U0001f1e6: people with prior #COVID19 infections appeared just as likely to get sick as people without prior infections\u2014means past infection wasn\u2019t fully protective for #B1351 variant.\U0001f9f5https://t.co/K5zY4ZcSMV pic.twitter.com/LB1HKIur34
>
> — Eric Feigl-Ding (@DrEricDing) February 6, 2021

17) Now just look where we are... #B117 is threatening to dominate the US soon next month as well. Florida especially. https://t.co/I7zIjne6nD

> \u26a0\ufe0fSURGING #B117 WITHIN US\u2014growing 7% per day, doubling every 9.8 days nationally, & expected to become dominant by March 23rd. It is surging fastest in Florida\u2014doubling every 9.1 days. Scientists are extremely worried: 35-45% more transmissible.\U0001f9f5#COVID19 https://t.co/T3GV8anzYz pic.twitter.com/RFyifNq4QS
>
> — Eric Feigl-Ding (@DrEricDing) February 7, 2021

18) It’s now growing so fast in Florida, #B117 is already at 10% of all cases. And doubling time in 9 days or maybe even less. https://t.co/DlHtxqaXAr

> \u26a0\ufe0fConcerning\u2014new data shows the more contagious #B117 variant is growing so quickly in Florida\u2014now almost 10% of all #COVID19 case. California only ~2 weeks behind. Surge of #B117 may yield April wave if vaccine rollout slow. \U0001f9f5
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> (Dashboard by @my_helix)https://t.co/MrM1RYl52b pic.twitter.com/dBdWwNr65q
>
> — Eric Feigl-Ding (@DrEricDing) February 11, 2021

19) If we go for full suppression, then we can have this too https://t.co/6HkE2IoDTY

> Behold... a #ZeroCovid utopia without any #COVID19, no variants, no vaccine or syringe shortages, no mask wars, kids in schools, & people just having fun!
>
> It\u2019s all possible if we aim for full suppression, and not just half-ass mitigation. We can do this. pic.twitter.com/tY4wBdPlac
>
> — Eric Feigl-Ding (@DrEricDing) February 11, 2021