Clinical challenges from the pandemic

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Co-Chairman National IMA COVID Task Force

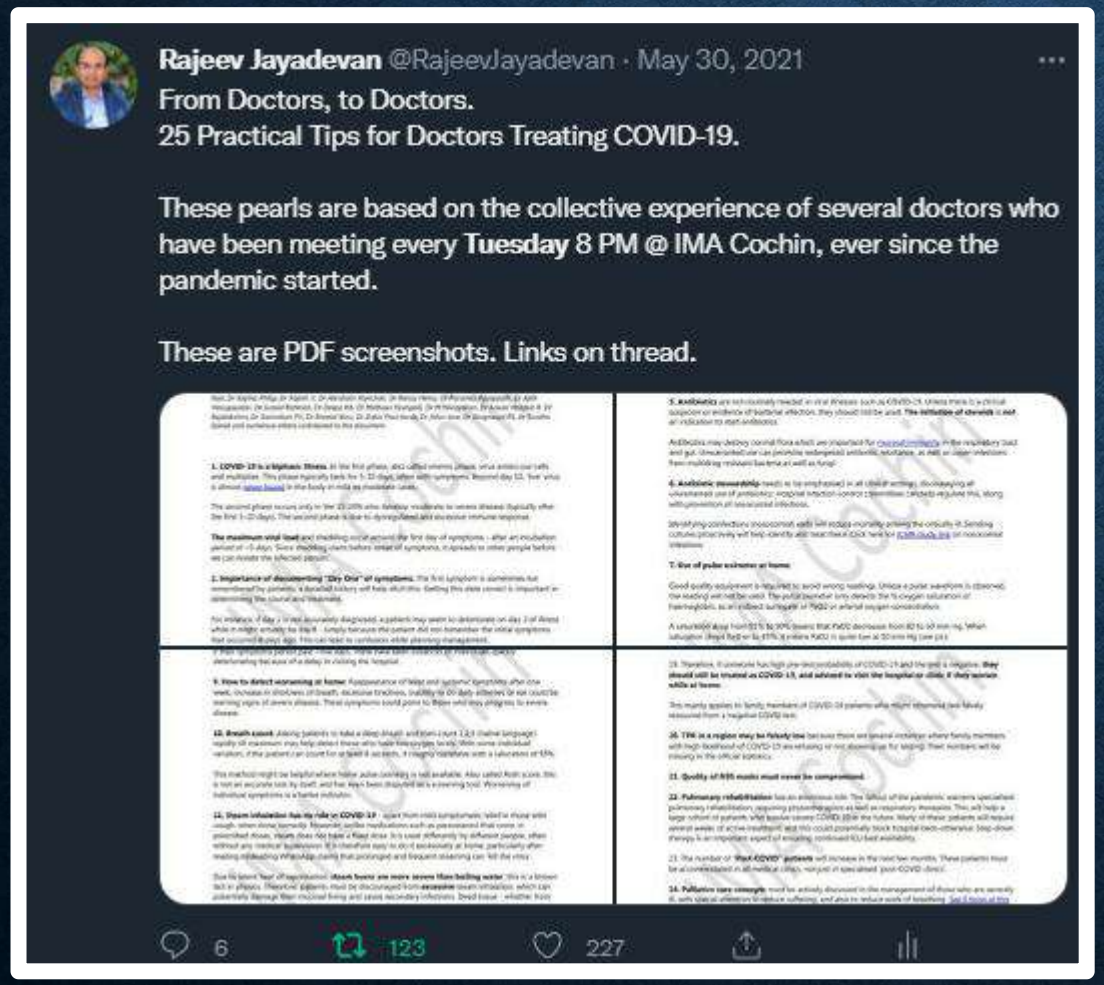
Sept 11, 2001

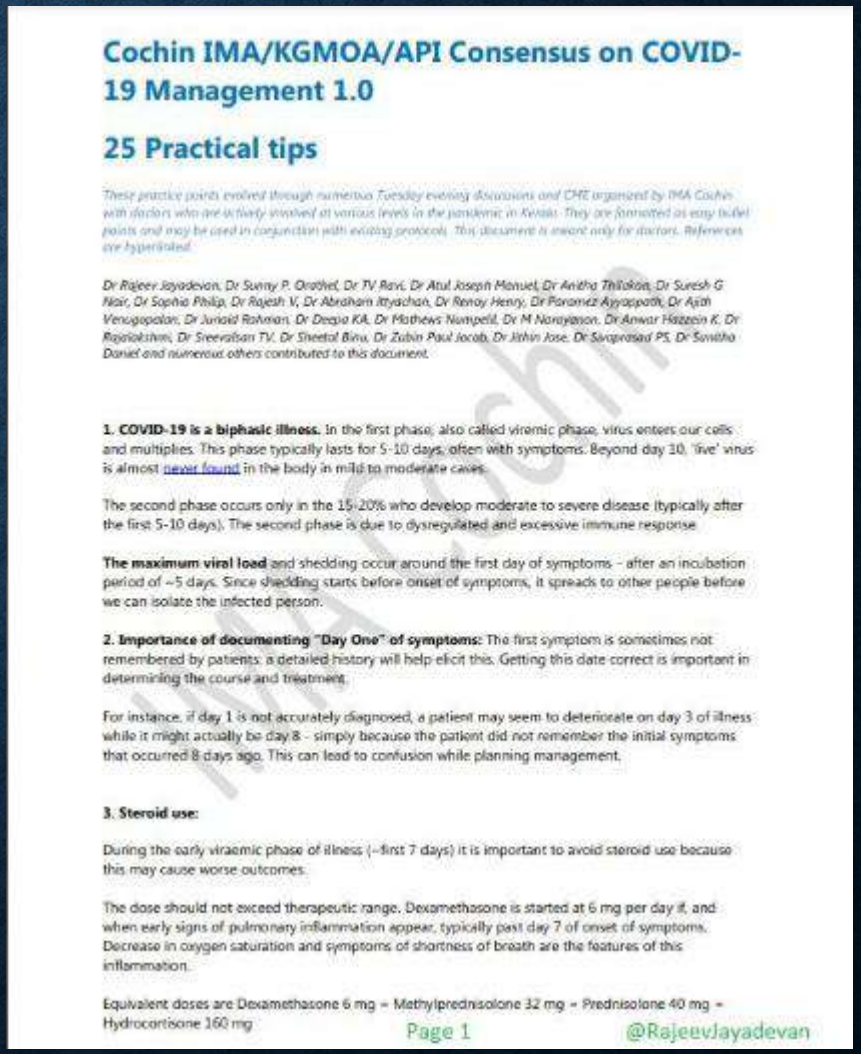
For surviving emergencies,

Anticipation is crucial

To stay two steps ahead,
we need good data, networking

TUESDAY COVID MEETINGS, COCHIN





Cochin IMA/KGMOA/API Consensus on COVID-19 Management 1.0

25 Practical tips

These practice points evolved through numerous Tuesday evening discussions and CME organised by IMA Cochin with doctors who are actively involved at various levels in the pandemic in Kerala. They are formatted as easy to-do points and may be used in conjunction with existing protocols. This document is meant only for doctors. References are hyperlinked.

Dr Rajeev Jayadevan, Dr Sunny P. Orathel, Dr TV Ravi, Dr Atul Joseph Manuel, Dr Anitha Thilakan, Dr Suresh G Nair, Dr Sophia Philip, Dr Rajesh V, Dr Abraham Ittyachan, Dr Renoy Henry, Dr Paramez Ayyappath, Dr Ajith Venugopalan, Dr Junaid Rahman, Dr Deepa KA, Dr Mathews Nampeli, Dr M Narayanan, Dr Anwar Hazeen K, Dr Rajalakshmi, Dr Sreevalsan TV, Dr Sheetal Binu, Dr Zubin Paul Jacob, Dr Jithin Jose, Dr Sivaprasad PS, Dr Sunitha Daniel and numerous others contributed to this document.

1. COVID-19 is a biphasic illness. In the first phase, also called viremic phase, virus enters our cells and multiplies. This phase typically lasts for 5-10 days, often with symptoms. Beyond day 10, 'live' virus is almost never found in the body in mild to moderate cases.

The second phase occurs only in the 15-20% who develop moderate to severe disease (typically after the first 5-10 days). The second phase is due to dysregulated and excessive immune response.

The maximum viral load and shedding occur around the first day of symptoms - after an incubation period of ~5 days. Since shedding starts before onset of symptoms, it spreads to other people before we can isolate the infected person.

2. Importance of documenting "Day One" of symptoms: The first symptom is sometimes not remembered by patients: a detailed history will help elicit this. Getting this date correct is important in determining the course and treatment.

For instance, if day 1 is not accurately diagnosed, a patient may seem to deteriorate on day 3 of illness while it might actually be day 8 - simply because the patient did not remember the initial symptoms that occurred 8 days ago. This can lead to confusion while planning management.

3. Steroid use:

During the early viraemic phase of illness (~first 7 days) it is important to avoid steroid use because this may cause worse outcomes.

The dose should not exceed therapeutic range. Dexamethasone is started at 6 mg per day if, and when early signs of pulmonary inflammation appear, typically past day 7 of onset of symptoms. Decrease in oxygen saturation and symptoms of shortness of breath are the features of this inflammation.

Equivalent doses are Dexamethasone 6 mg = Methylprednisolone 32 mg = Prednisolone 40 mg = Hydrocortisone 160 mg

THE X'MAS TREE APPROACH

Apex Centres

Mid level hospitals

GP/PHC

Home treatment

Empowered

PREVENTION OF COMPLICATIONS:

EXAMPLE

FIRE:
100% PREVENTABLE

Rajeev Jayadevan @RajeevJayadevan · Mar 2

Numerous fires have occurred in hospitals during the pandemic: each one was a preventable tragedy.

Stated reasons: lax safety protocols, overload of equipment, high levels of oxygen in ICU, bad electrical wiring standards.

None are acceptable.

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indianexpress.com/article/explai...

MAY 1: Fire in laboratory of Mazumdar Shaw Hospital, Bengaluru: no death

APRIL 28: Prime Criticare Hospital, Thane: 4 deaths (not Covid patients)

APRIL 25: Ayush Hospital, Surat: 3 deaths

APRIL 23: Vijay Vallabh Hospital, Virar: 15 deaths

APRIL 18: Rajdhani Super-Specialty Hospital, Raipur: 5 deaths

APRIL 10: Fire in Well Treat hospital, Nagpur: 4 deaths (non-Covid)

APRIL 6: Fire in Nashik's Chandwad Covid care centre in a private building: no deaths

APRIL 4: Fire in Dahisar jumbo centre: no deaths

APRIL 4: Patidar Hospital, Ujjain: no deaths

MARCH 31: Safdarjung Hospital, Delhi: no deaths

MARCH 28: LPS Institute of Cardiology, Kanpur: no deaths

MARCH 17: Shree Vijay Vallabh Sarvajanik Hospital, Vadodara: no deaths

JANUARY 9: Civil General Hospital, Bhandara: 10 deaths

JANUARY 6: Government General Hospital, Guntur: no deaths

DECEMBER 9, 2020: Little Flower Hospital, Ahmedabad: no deaths

SEPTEMBER 28: Chhatrapati Pramila Raje Hospital, Kolhapur: no deaths

NOVEMBER 27, 2020: Uday Shivanand Hospital, Rajkot: 6 deaths

SEPTEMBER 21, 2020: Sadguru Hospital, Cuttack, : no deaths

SEPTEMBER 8,2020: SSG Municipal Hospital, Vadodara: no deaths

AUGUST 25, 2020: Guru Gobind Singh Hospital, Jamnagar: no deaths

AUGUST 9, 2020: Swarna Palace hotel converted into isolation facility, Vijaywada: 10 deaths

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DEATHS OF HEALTHCARE WORKERS

Rajeev Jayadevan @RajeevJayadevan · Sep 18, 2020

Replying to @doctorsoumya and @WHO

Thank you @doctorsoumya.

I had done the first study on healthcare worker **deaths** in India. This was from July.

The reported number of **doctor deaths** now is 382, actual figures will be higher. Had proposed several solutions based on data, sent to all levels.

We need a plan.

May 2020

'Virus has claimed lives of 104 doctors across country'

The Hindu All India Edition

Workplace common source of contracting infection: study

BINDU SHAJAN PERAPPADAN
NEW DELHI

A total of 104 doctors have died due to COVID-19-related complications till July 13 across the country, a paper written by Dr. Rajeev Jayadevan, president of the Indian Medical Association (IMA), Cochin, stated. Another four deaths of doctors – three of them in road accidents – were also linked to COVID-19, taking the total number to 108.

Maharashtra, Tamil Nadu, Delhi and Gujarat have the largest share of deaths – these States have the highest numbers of COVID-19 cases in the country. Most of the doctors who died were below 60 years of age.

Ten nurses too lost their lives during this period, with their average age being 49.6 years. A total of 15 deaths occurred among other healthcare workers.

"Of the 108 COVID-19-linked deaths (data till July 13) among doctors, there were four pandemic-related violent deaths, including three road accidents and a suicide. Of the 104 non-violent deaths, 55.5% were below 60 years of age, while 29.6% and 21% were below the age of 50 and 40, respectively. The average age at death was 56.3 (range 22-96). Over half of the deaths occurred among general

Frontline victims: Doctors and health workers keeping children engaged at a COVID-19 care centre in New Delhi. • AP

cative of the trend and that the actual numbers of doctors who succumbed to COVID-19 could be higher.

Data unavailable

"There is no official government mechanism to collect correct data for medical staff. IMA has one-third members from 11 lakh doctors registered with the Medical Council of India, and we also need to take into account Ayush, Ayurvedic, Homeopathic and Unani physicians, who are among frontline general practitioners to whom the patients with suspected symptoms may go first. They run small clinics in crowded areas with no safety measures. We suggest that the Government should officially maintain a separate registry of all healthcare givers who succumbed to COVID-19," he said.

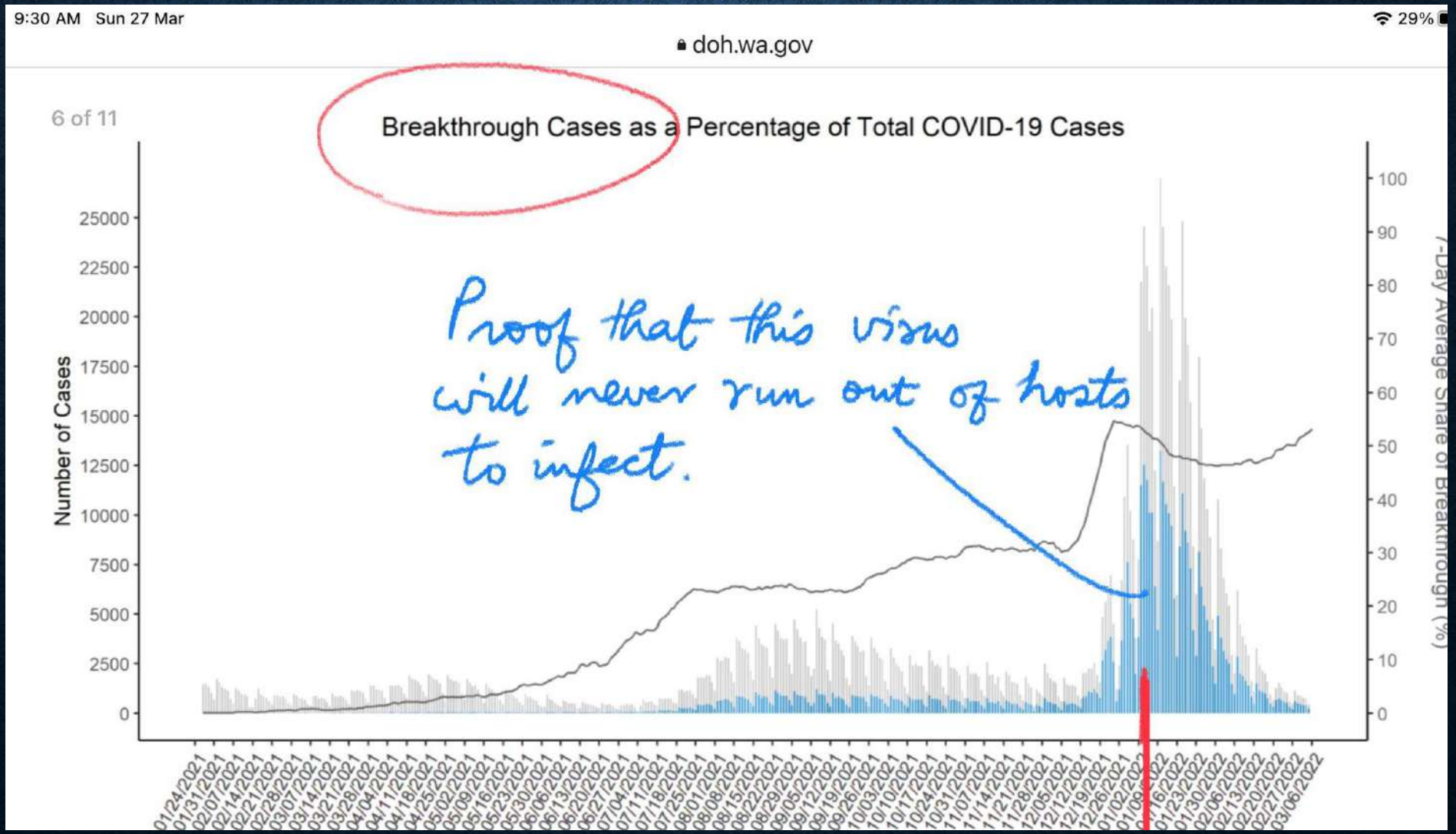
Simon Hercules, 55, a neurosurgeon at a private hospital in Chennai, was the first doctor to lose his life to COVID-19 in Tamil Nadu. It is suspected that Dr. Hercules contracted the virus from a patient he was treating.

In Surendranagar, Gujarat, Dr. Shailesh Champaneria, 42, died due to COVID-19 on July 1. He contracted the virus while treating patients at his own hospital.

Dr. Azizuddin (43), a paediatrician at the Veerangana Avanti Bai Government Hospital for women and children in Lucknow, died of COVID-19 on July 15. He was admitted to the Lok Bandhu hospital here for treatment of a lung infection on June 27, but a day later his family shifted him to the reputed King George Medical University. As his condition deteriorated, Dr. Azizuddin's family took him to Sanjay

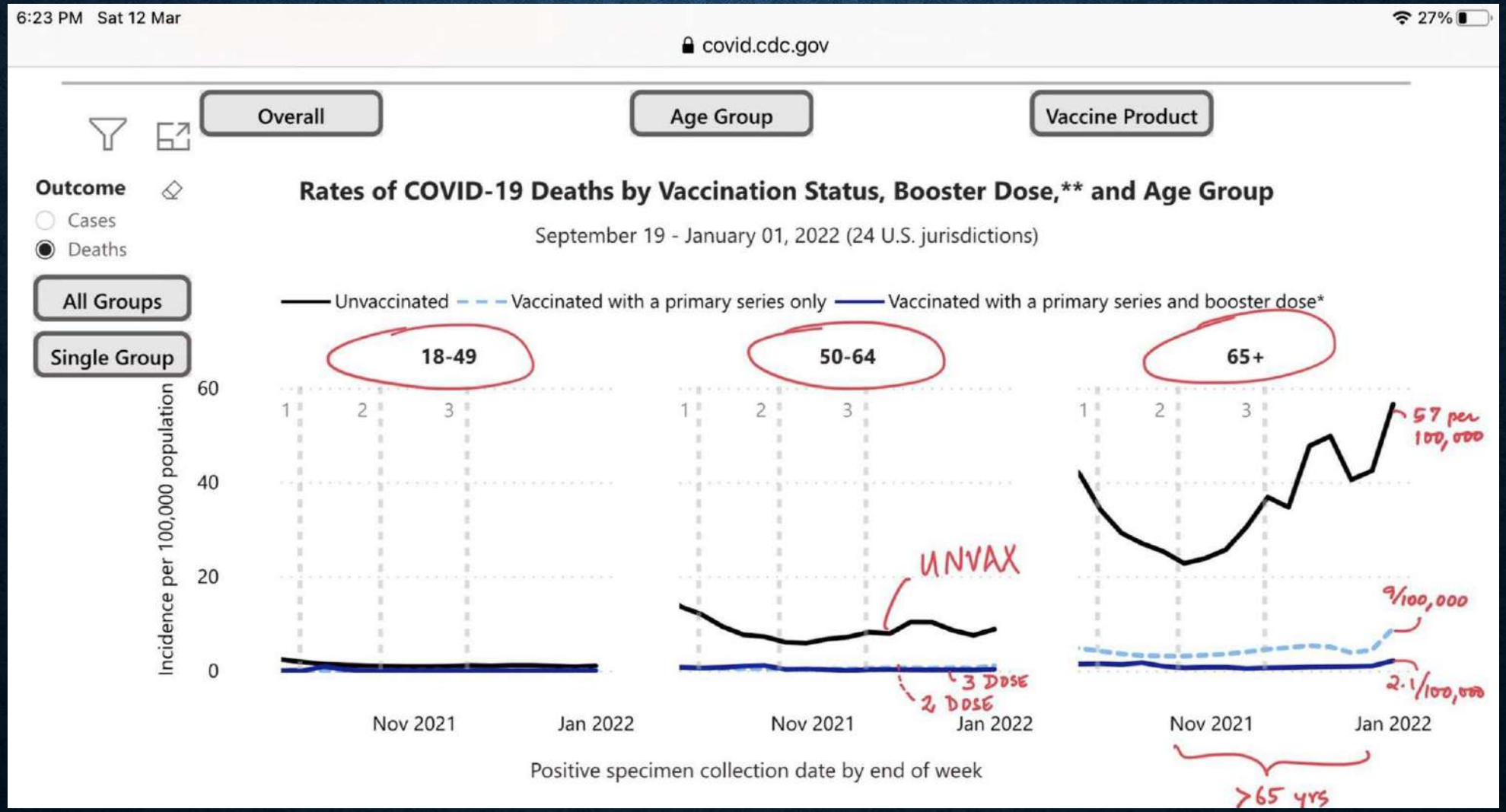
We are on a forward timeline

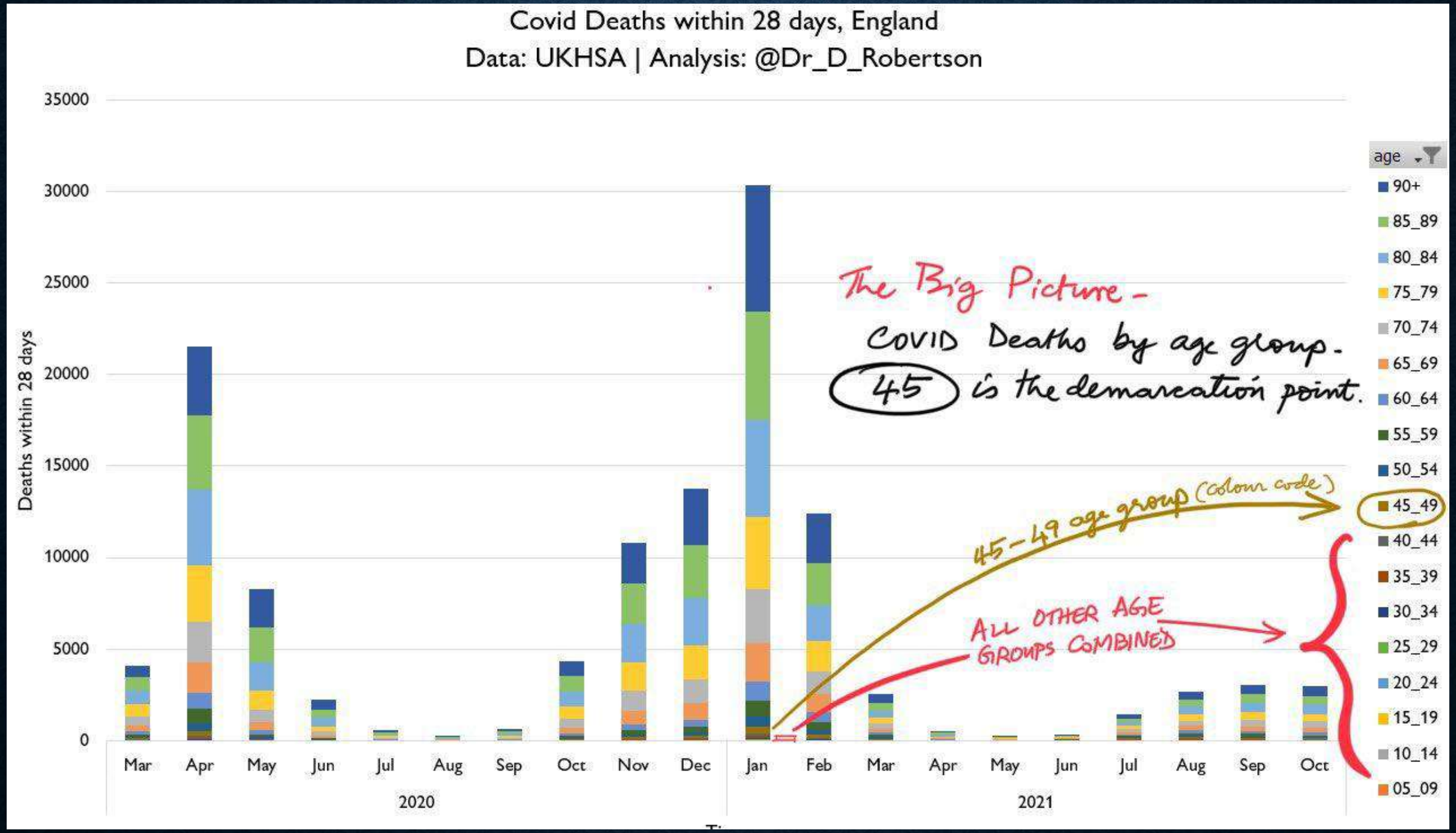
Reinfections are trending now



WHAT WILL BE THE OUTCOME OF REPEATED INFECTIONS?

HOW WELL HAVE VACCINES DONE?




Covid Deaths within 28 days, England
Data: UKHSA | Analysis: @Dr_D_Robertson
Deaths within 28 days
35000
30000
25000
20000
15000
10000
5000
0
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
2020
2021
age
90+
85_89
80_84
75_79
70_74
65_69
60_64
55_59
50_54
45_49
40_44
35_39
30_34
25_29
20_24
15_19
10_14
05_09
The Big Picture -
COVID Deaths by age group.
45 is the demarcation point.
45-49 age group (colour code)
ALL OTHER AGE GROUPS COMBINED

Rajeev Jayadevan @RajeevJayadevan · Jan 12

COVID-19 **deaths** occur mainly in older **age groups**

50% of US population is <40, where 1.2% of **deaths** occur

98.8% **deaths** occur in the other 50%; that is among **age** >40.

Kerala: 97% **deaths** occur >40

(75% of India population is <40)

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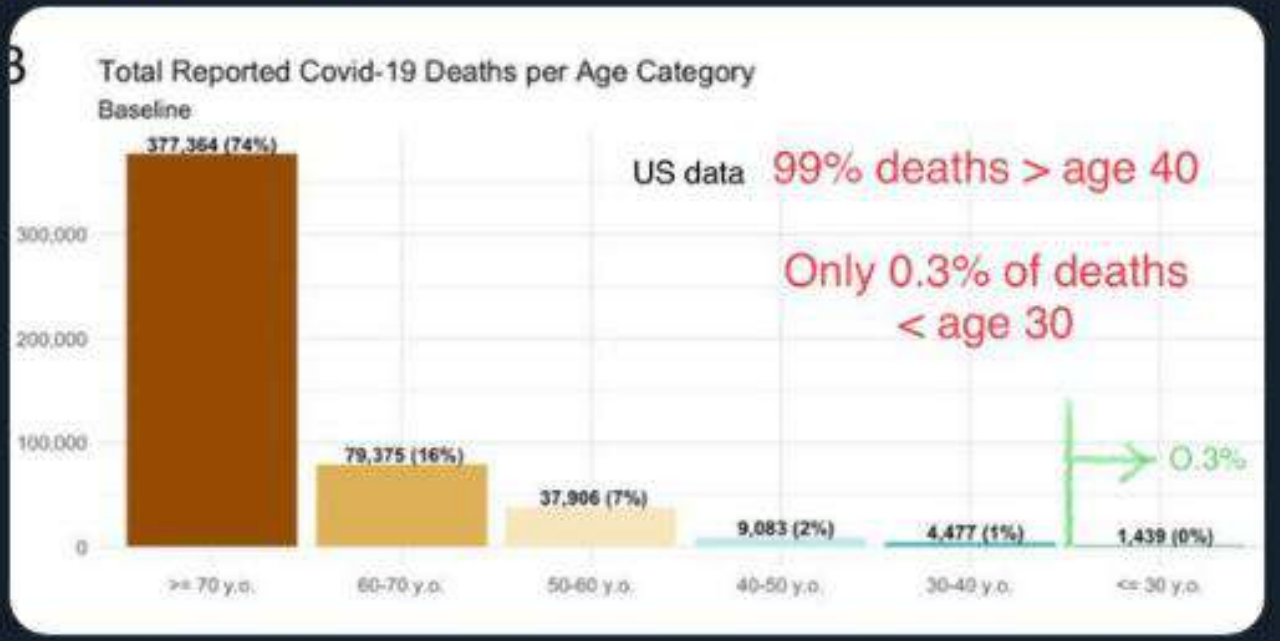
pnas.org/content/119/3/...



MORE DOSES: BETTER ?

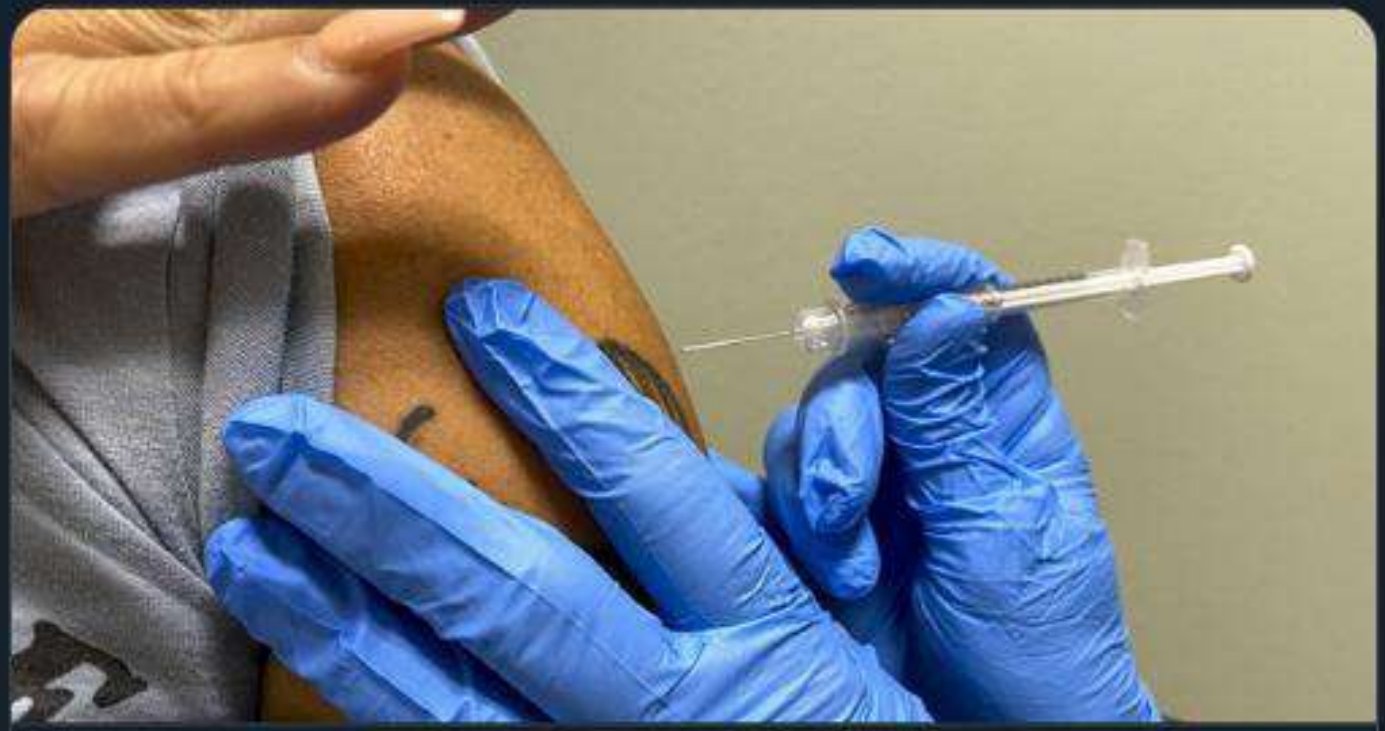
Principle of diminishing returns

Rajeev Jayadevan @RajeevJayadevan · 1h

Good to know science isn't dead (yet)

"Unless you are at high risk, the initial two vaccine doses are enough"

-says Dr @DrPhilKrause, who was deputy director of FDA's Office of Vaccines Research 2011-21.

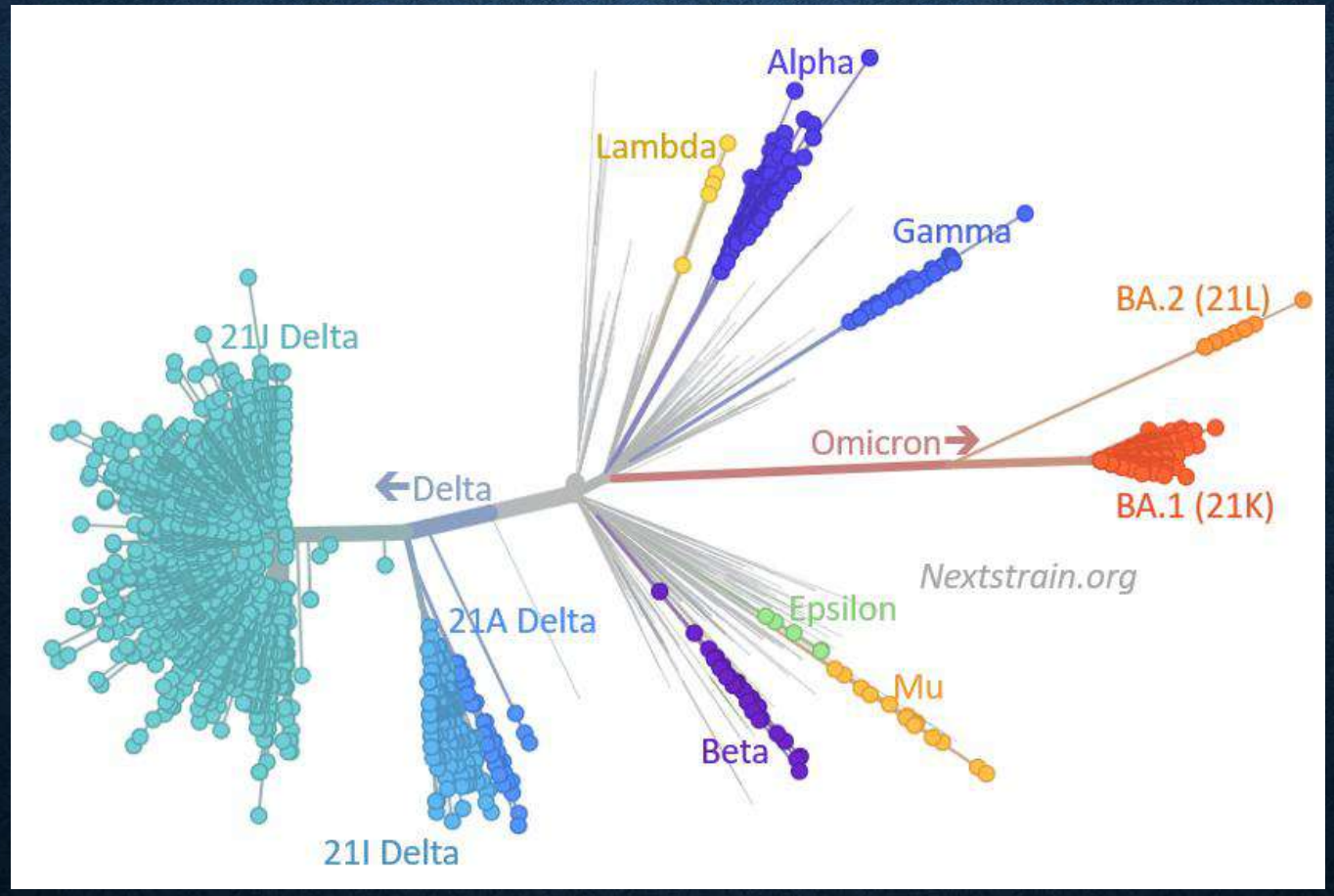


wsj.com

Opinion | You Likely Don't Need a Fourth Covid Shot

Unless you're at high risk, the initial two vaccine doses are enough.

WHEN WILL THE NEXT WAVE COME?

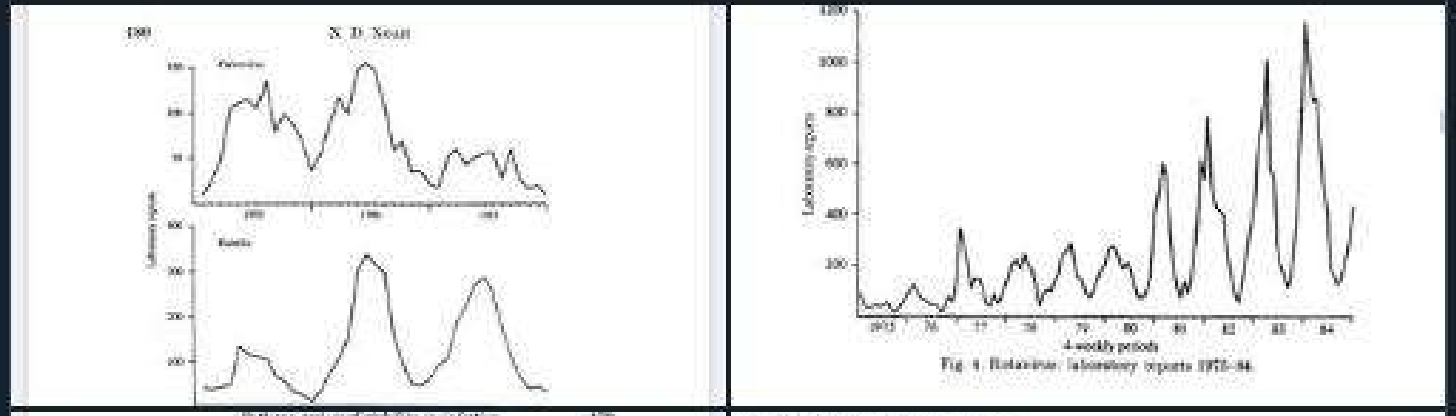


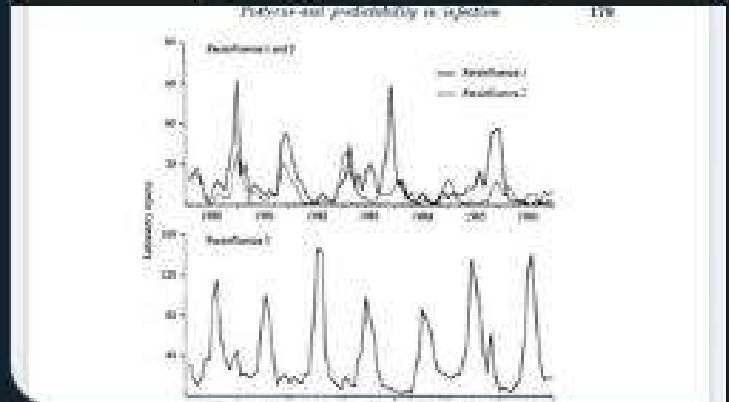
Rajeev Jayadevan @RajeevJayadevan · Nov 28, 2021

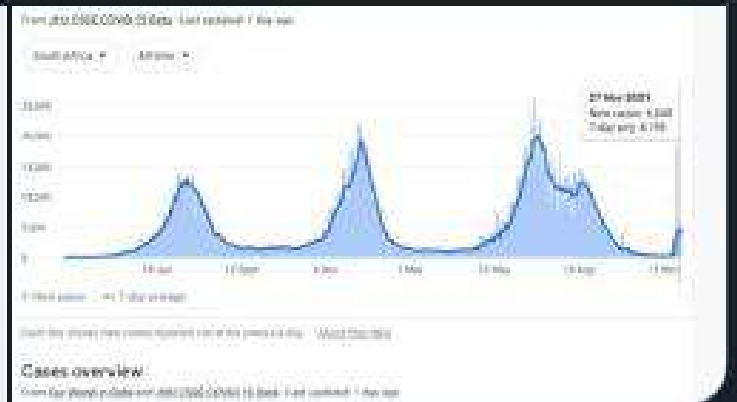
Many infectious viruses have a cyclical pattern, which varies between continents. Reasons are multiple.

This 1989 article from Journal of Epidemiology & Infection describes how even related viruses differ in their preference of 1. season & 2. intervals.

cambridge.org/core/services/...







Where are we?

Where are we really?

Where are we really?

A FEW CHALLENGES

How to improve room ventilation?

What is the ideal PPE?

How to juggle fluctuating staff requirement / caseload?

Cancer screening and elective procedures

Staff sickness, attrition, stress, Long COVID

None Of Us
Is As Smart
As All Of Us.