

Covid-19 and Public Policy

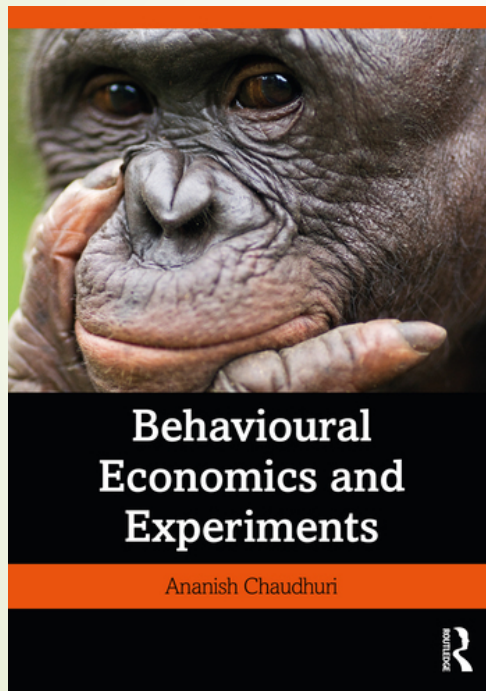
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THE UNIVERSITY OF
AUCKLAND
Te Whare Wānanga o Tamaki Makaurau
NEW ZEALAND

BUSINESS SCHOOL

Material for this is taken from



*Uncommon Sense
Covid-19 and
Decision-Making*

Ananish Chaudhuri

Four key points

- *Why we cannot just trust the science.*
- *Conjunction fallacy and the overweighting of small probabilities*
- *The racial divide in Covid-19 policy-making*
- *4.9% unemployment rate may not be a realistic depiction of the economy*

Why we cannot just trust the science!

- **Limits to expertise;** not questions epidemiologists are equipped to answer.
- Once we know what the CFR or IFR is, it is a job for elected leaders to figure what to do with that number.
- How does it compare to other risks that we face in our day to day lives?
- How much are we willing to sacrifice to reduce this risk knowing fully well that it is impossible to get it down to zero?

Why we cannot just trust the science!

- Problems with the SIR model (Kermack and McKendrick, 1927)
- SIR stands for “susceptible”, “infected” and “recovered” (where in the earliest formulation “recovered” could mean “recovered live or dead”).
- Key assumption: “recovered” is an “absorptive” state; once someone has recovered, he/she is immune.

Why we cannot just trust the science!

- Now, even if you make appropriate adjustments to the probabilities, most SIR models were essentially comparing two binary benchmarks: ***locking down or letting it rip.***
- This is why these models predicted more than 2 million deaths in the US on the basis of a 0.65% IFR.
- In order to make more realistic predictions, we need models that incorporate human decision making into the standard SIR models.

A social dilemma

- What we have here is essentially a social dilemma.
- Collectively, we are all better off if we all stay home; but if one infected individual goes out and about, this does not increase the aggregate risk much
- It is individually rational not to self-isolate.
- But if it is rational for one person to do so then it is rational for everyone else.

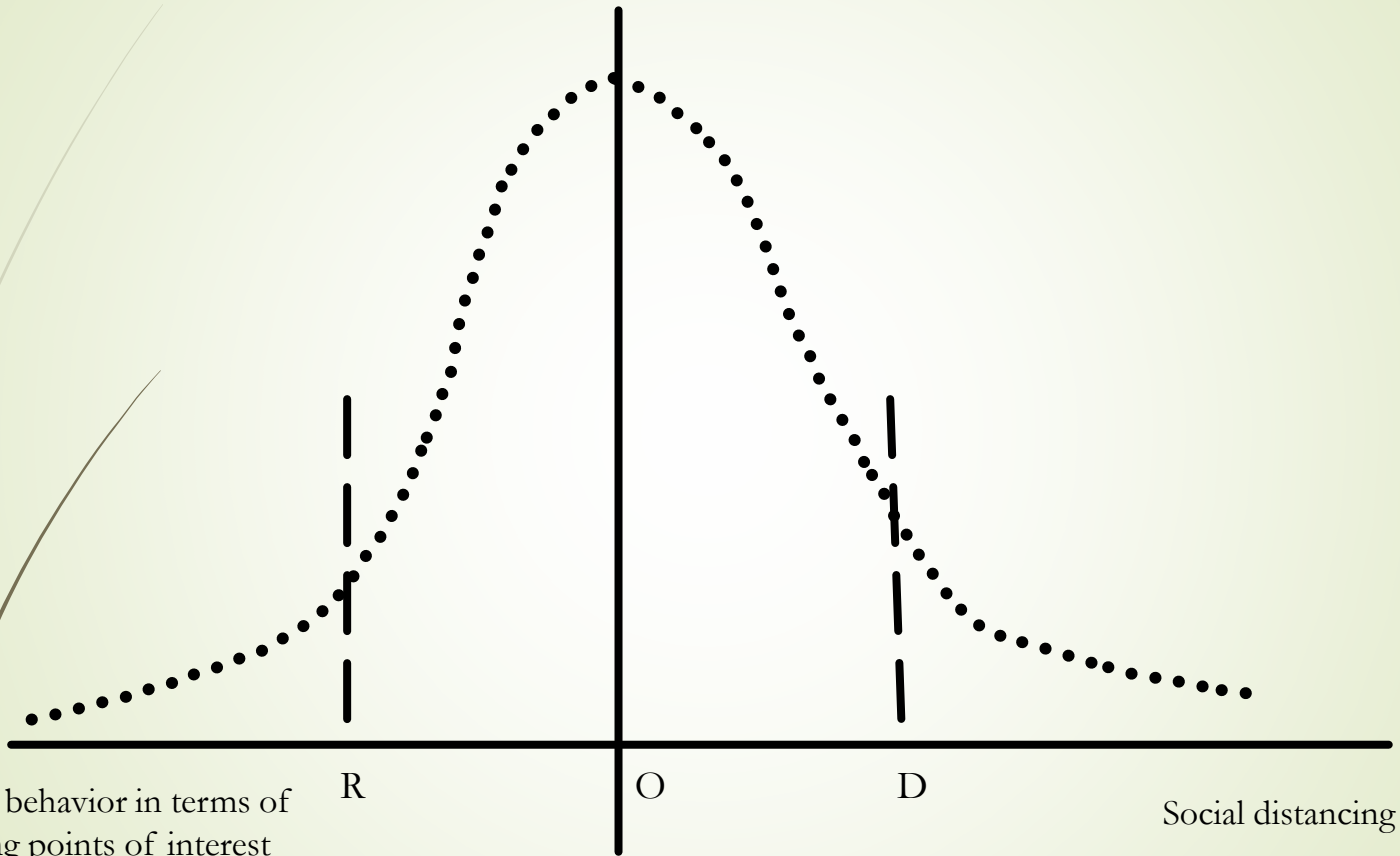
A social dilemma

- Governments responded to this negative externality by insisting that lockdowns were the only way to deal with this.
- This flies in the face of enormous amount of research about human behaviour.
- Multiple intermediate strategies were available which would have minimized total harm.
 - Chari, Kirpalani and Phelan (2021).
 - Eichenbaum, Rebelo and Trabandt (2020a, 2020b, 2020c)



Aggregate benefit from saving identified
Covid-19 lives plus saving statistical lives

Risky behavior in terms of
visiting points of interest

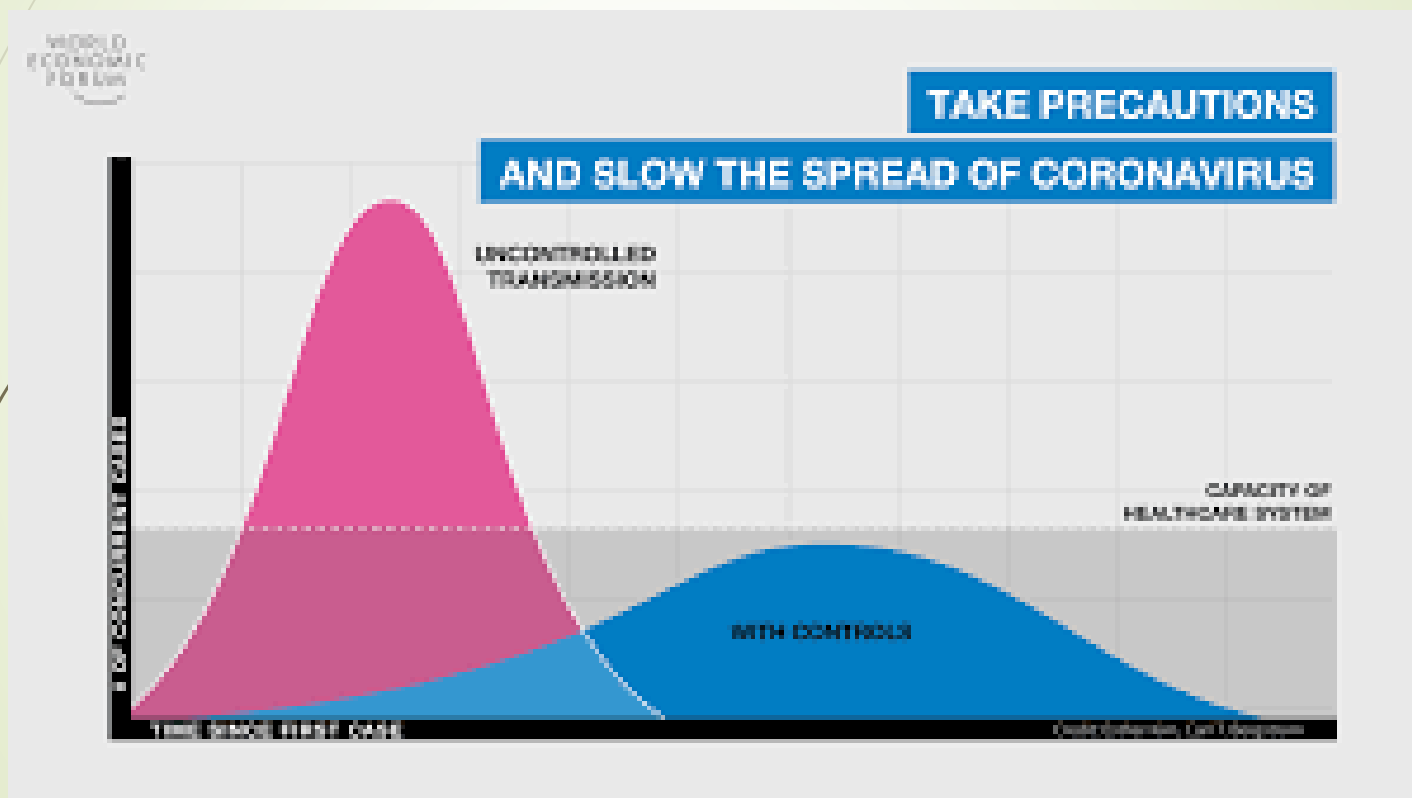


Social distancing

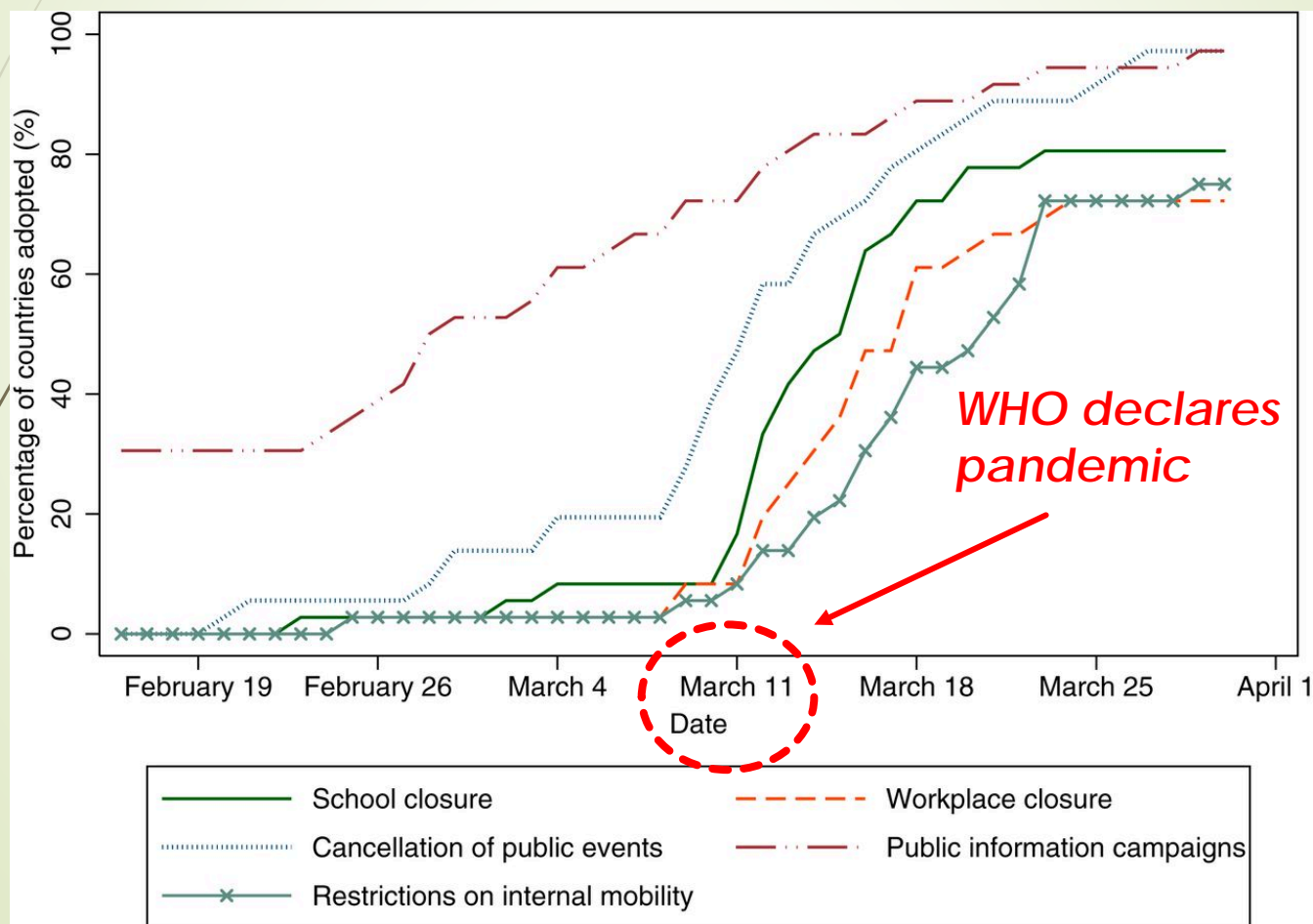
Ross Douthat in the *New York Times*, December 19, 2020

- ▶ For many crucial decisions of the last year, (trust the science represented) ... *an abdication by elected officials of responsibility for decisions that are fundamentally political in nature...* When we look back over the pandemic era, one of the signal failures will be the inability to acknowledge that many key decisions — from our vaccine policy to our lockdown strategy to our approach to businesses and schools — are fundamentally questions of statesmanship, involving not just the right principles or the right technical understanding of the problem but the prudential balancing of many competing goods....

Flatten the curve by locking down...till a vaccine arrives?



4 out of 5 OECD countries adopted essentially the same measures within a 2-week period in March!



To develop effective vaccines

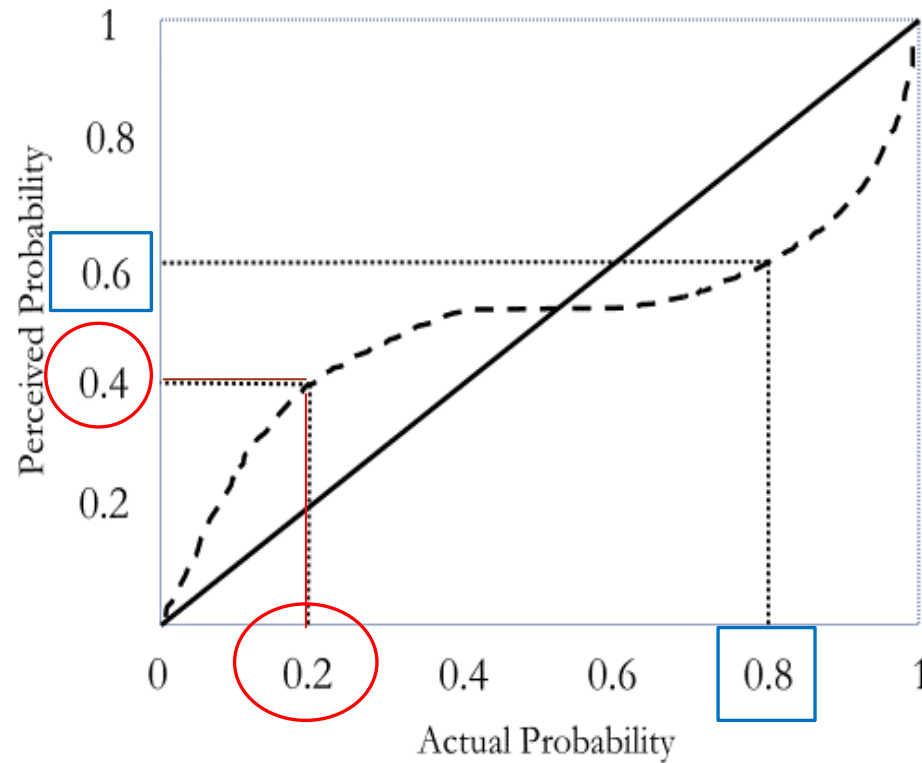
- Takes 8 -10 years
- Fastest vaccine (for mumps): 4 years
- The Varicella vaccine for chicken pox and FluMist (for Types A and B influenza): 28 years
- Rotavirus/Human Papilloma Virus (HPV): 15 years.
- Diphtheria, Polio, Tetanus and Pertussis (DPT): 11 years.
- ***In the case of Covid-19, the aim was to find a vaccine within 18 months!***

The nature of the trials

- ▶ 100 people in treatment group, who get the vaccine and 100 in the placebo group, who do not.
- ▶ Let them mingle in the community.
- ▶ Suppose the base rate for contracting Covid-19 is 10%.
- ▶ So, 1 out of every 10 people should catch the disease.
- ▶ ***Now suppose only 1 in the treatment group get the disease while 10 in the placebo group do then the vaccine is 90% effective.***

Conjunctive events

- Effective vaccine
- And enough production
- And keeping them frozen (as needed)
- And distributing them around the world
- And...
- Likely? Yes.
- Going to happen soon? No!

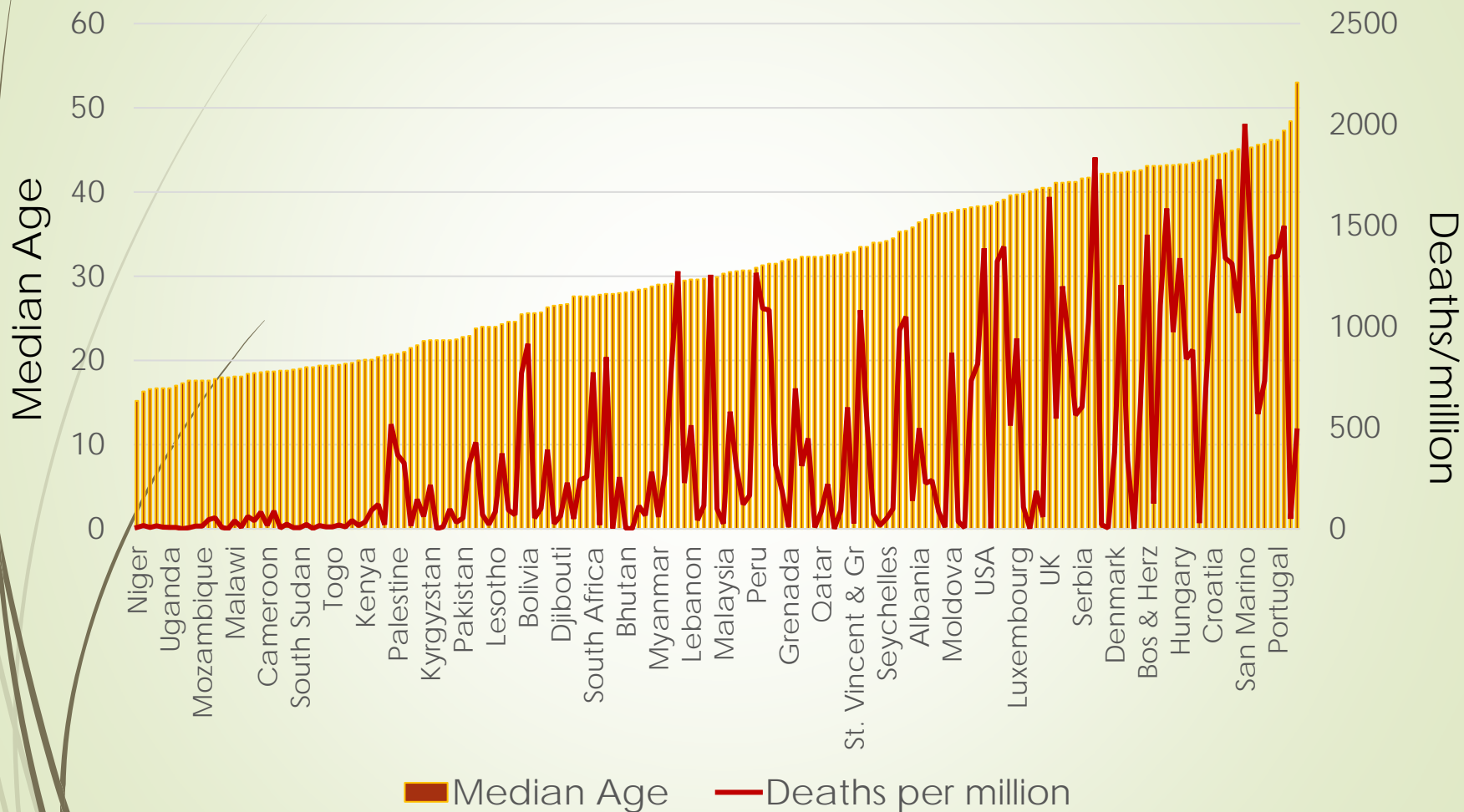


***Actual and Perceived Probabilities
Kahneman and Tversky (1979)***

Actual and Perceived Probabilities

- **“Overweighting”** of small probabilities
- **“Underweighting”** of large probabilities
- Inverted “S-shaped” perceived probability function
- Actual probabilities are 20% ($1/5$) and 80% ($4/5$)
- But 20% is overweighted; seen as 40% ($2/5$) while 80% is underweighted; seen as 60% ($3/5$)
- Actually, one event is 4 times as likely as the other; but we perceive their probabilities as being much closer.

The "racial" aspect Of Covid-19



The racial divide

- According to Stanford's John Ioannides:
- For some of the countries to the left of this chart, the infection fatality ratio is 0.09%. This means 0.9 deaths per thousand or 9 deaths in 10,000.
- For some others, the ratio is 0.2% of 2 deaths per thousand.
- For many of these countries there are numerous other diseases and other threats to their daily existence.

The racial divide

- ▶ Covid-19 led to mass hysteria because a lot of rich, white folks were being killed.
- ▶ In South Africa, approx. 47,000 deaths from Covid-19; more than three times as many will die from HIV/AIDS.
- ▶ 1 in 5 South Africans suffer from AIDS which often combines with tuberculosis and other diseases to cause death.
- ▶ Between 1985 and 2014 approximately 2.7 million people died from AIDS in South Africa.
- ▶ According the World Bank, in 2019 the HIV prevalence rate for adults aged 15 to 49 was 37% in Swaziland, 25% in Lesotho and 25% in Botswana.

The racial divide

- No one is rushing to roll out a vaccine for AIDS.
- In fact, when the Indian firm CIPLA came up with a generic cocktail of AIDS retrovirals, 40 pharma companies including Merck, GlaxoSmithKline, Roche etc sued.
- In December 2020, rich countries defeated a proposal under TRIPS at WTO for generic manufacturing of Covid-19 vaccines.
- Soon we will have a world with vaccine haves and vaccine have nots.

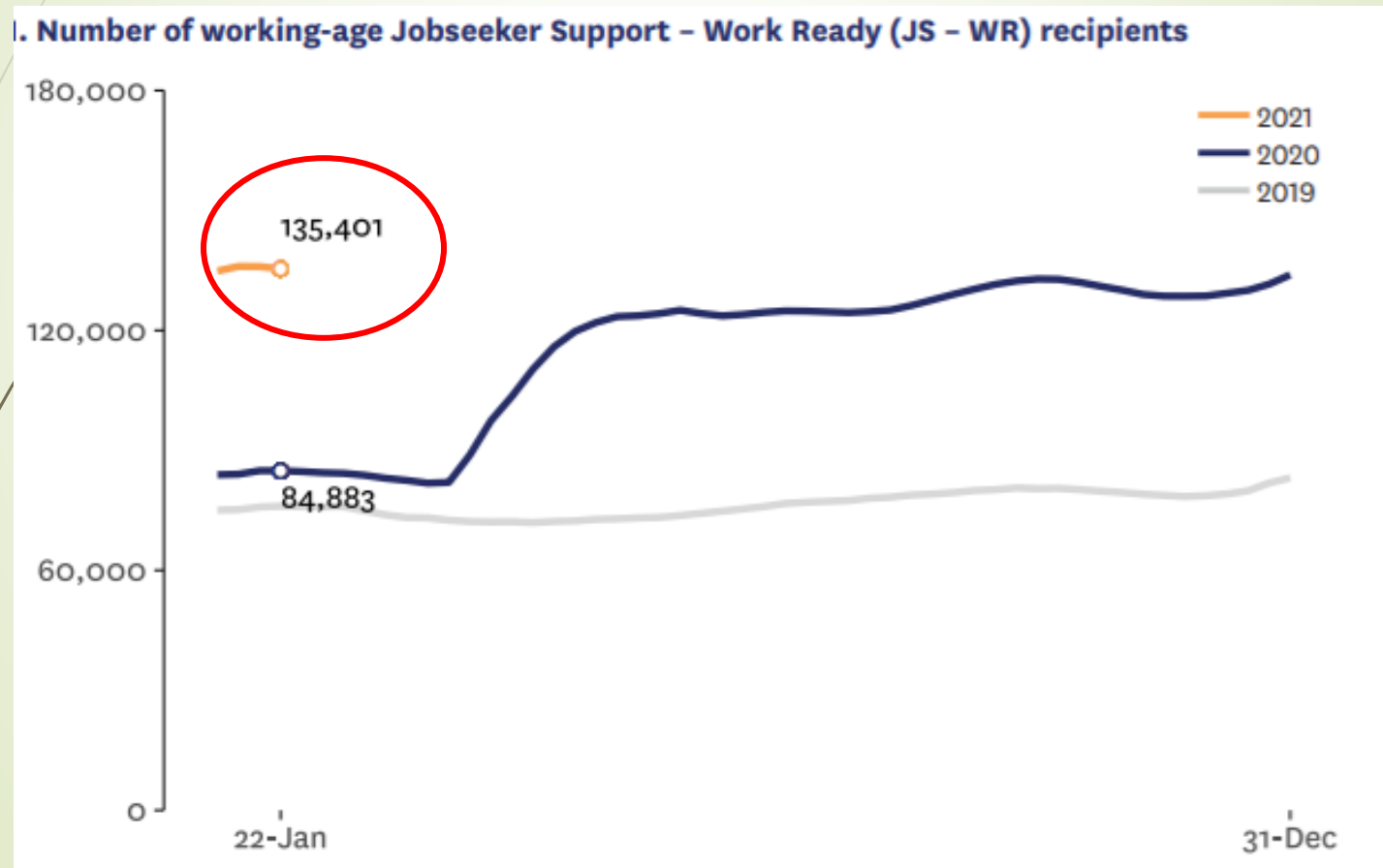
The racial divide

- David Bell and Md. Usman Khan
- ...new paradigm for global health – vaccinating children not for their own health, but in order to protect a small cohort of elderly citizens ...If we believe the SARS-CoV-2 virus can and should be eradicated globally, but we recognize that diverting resources for this programme will cost lives, then we need to acknowledge that the children who are no longer benefiting from other health interventions, are dying for the benefit of mostly elderly and chronically-sick people in far wealthier nations who wish to reduce their own Covid-19 risk.

Unemployment drops to 4.9%!

- ▶ According to Stats NZ:
 - ▶ Despite this quarterly fall, the number of unemployed people is still 25,000 higher than it was a year ago, increasing from 116,000 in the December 2019 quarter (a rise of 21.9 percent).
 - ▶ A better measure may be the Stats NZ “**underutilization**” rate, which has increased by 58,000 over the course of 2020.

Increase in job seeker support recipients



Acknowledgments

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That's my story and I am sticking to it.

Questions?