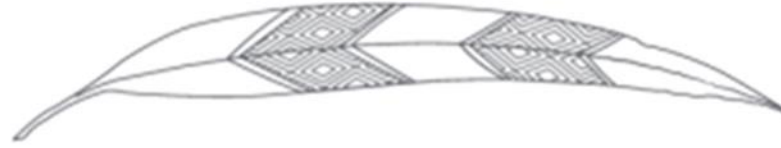




Info Session on Vaccinations

For ADAVB Members and their staff
September 2021



Wominjeka yearmann koondee biik Wurundjeri balluk
land of the Wurundjeri people

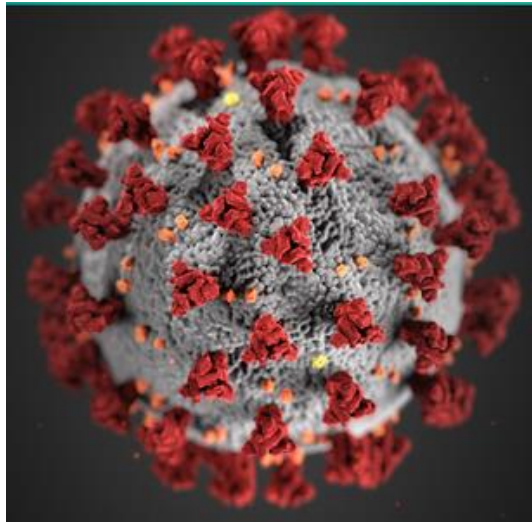


- Know how to weigh up the risks and benefits of the COVID vaccines (using a local perspective of the local scene)
- Appreciate the breadth and depth of mathematical knowledge required to understand epidemiology (and how difficult it is to compare risks)
- Understand the *need to practice* discussing challenging topics (such as politics, social policy, and mental health).

Clickable links
In PDF version



- Tune in to our webinars on Thurs 7th and 21st of October for further discussion on the HR and legal implications of the mandate.



SARS stands for:

Severe (harsh)
Acute (sharp/intense)
Respiratory (breathing)
Syndrome (group of symptoms)

SARS-CoV-2

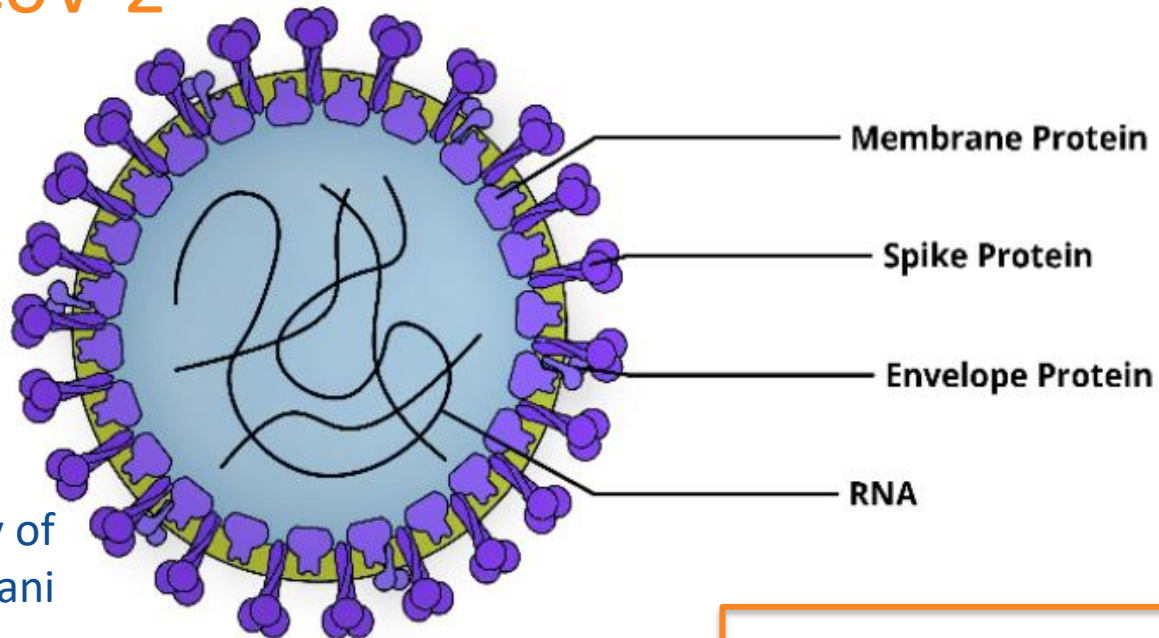


Diagram courtesy of
Dr Yash Kripalani

What happens when you get COVID?

How do viruses reproduce?

Two types of Immunity

Immune function

“Natural” or “Innate” Immunity

- Generic (non-specific)
 - Has nothing to do with whether your body recognises the invader or not.
- Includes your skin, and the mucous that lines the inside of our bodies, enzymes in our tears, acid in our stomach, normal flora (healthy bacteria) that live inside us.
- At work within hours but can be overwhelmed.

“Acquired” or “cell-mediated” Immunity

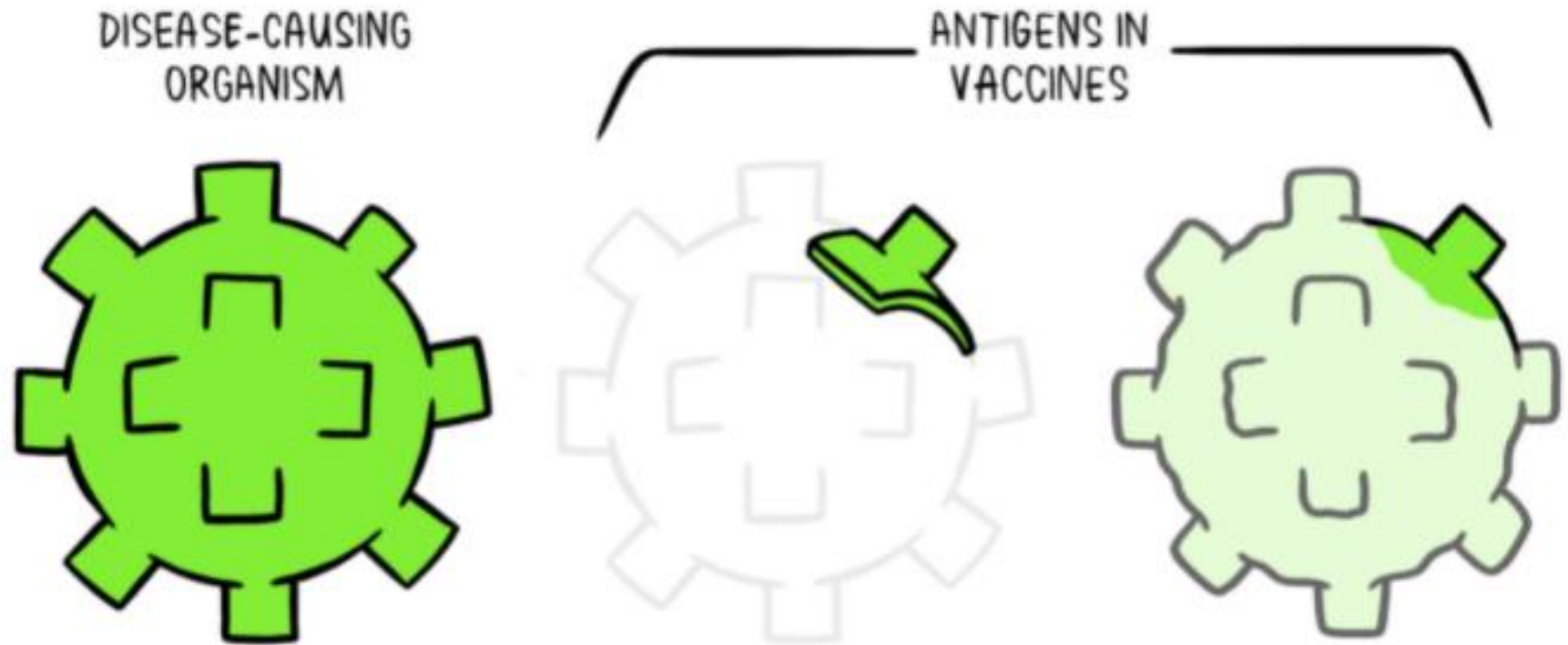
- Specific to only pathogens (germs) your body has been exposed to before
 - Could be from previous infection OR vaccination
- Targeted, coordinated attack facilitated by B and T memory cells that maintain a record of previously encountered pathogens, and brings in reinforcements.

Note: Both involve inflammation.

Inflammation can inflict injury on surrounding tissues other than the target cells.

Immune system function explained in animation

Vaccination



The key ingredient in a vaccine is the antigen. It's either a tiny part of the disease-causing organism, or a weakened, non-dangerous version, so your body can learn the specific way to fight it without getting sick.

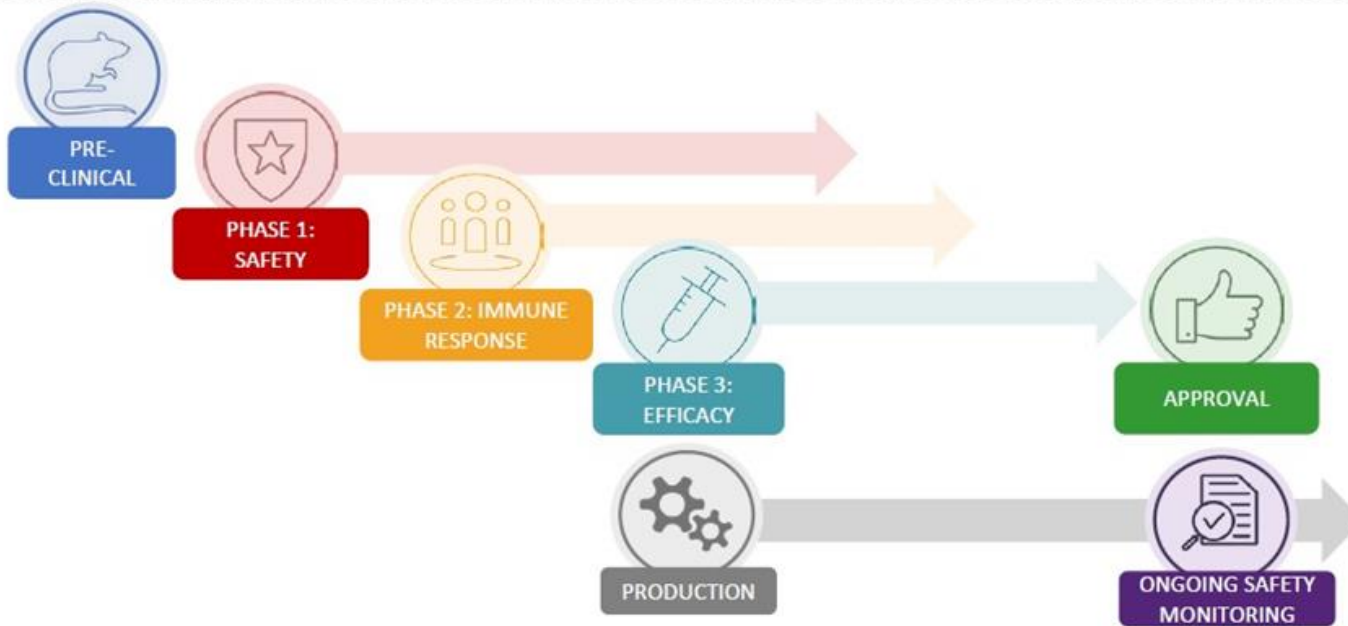
How are vaccines developed?

Vaccine Development & Approval

TRADITIONAL PROCESS
(10-15 YEARS)



PANDEMIC PROCESS
(OVERLAPPING PHASES, 12-18 MONTHS)



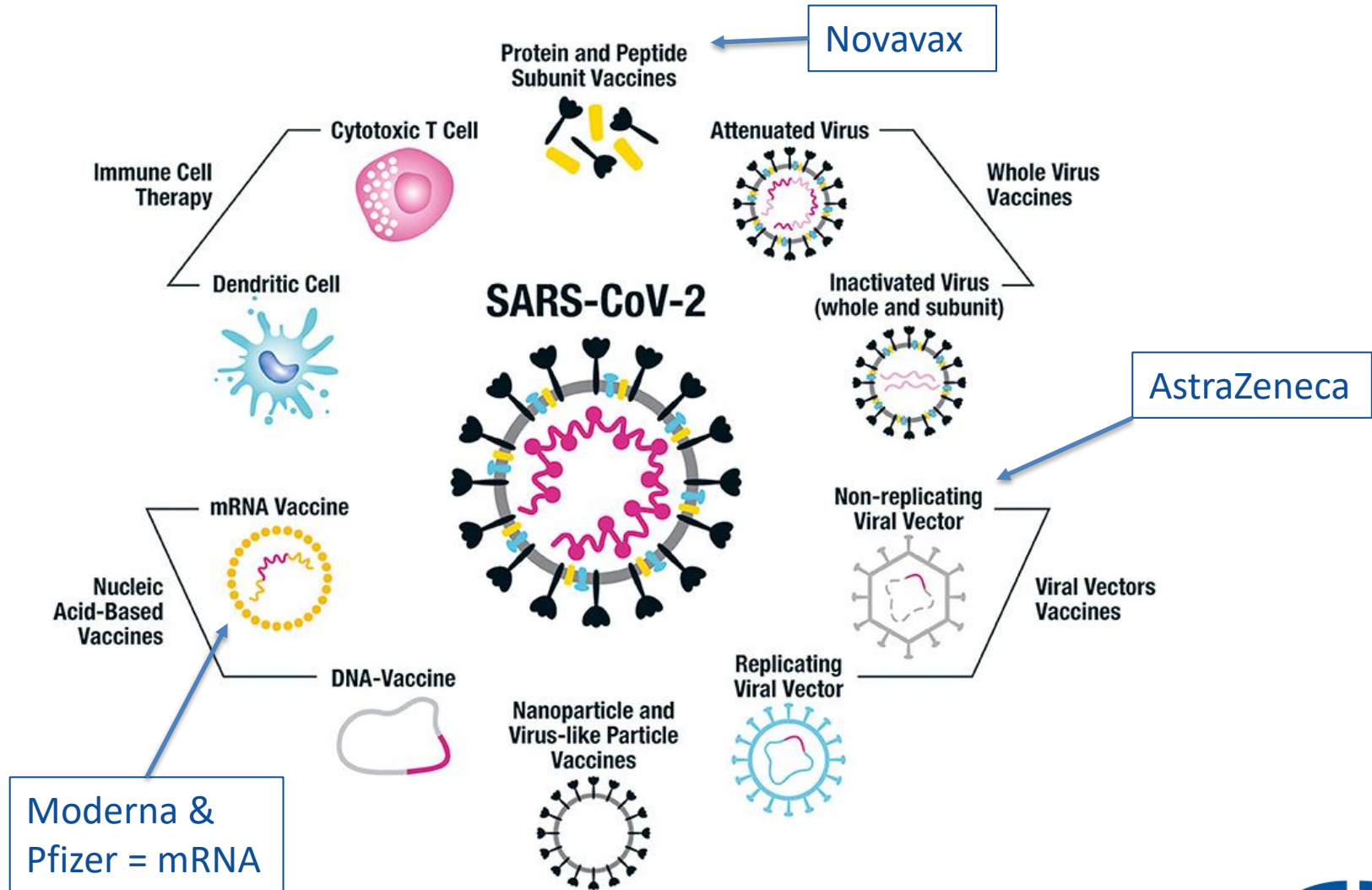
Biochemist Dr Kati Kariko
Podcast: 36 minutes

How fast can a vaccine be made? TED talk

Vaccine development TED talk

Q: What's the difference between the Pfizer, AZ and Moderna vaccines?

Vaccine Science



What is a mRNA?

Messenger RNA, or mRNA, is genetic material that tells your body how to make proteins.



What is in the vaccine?

The vaccine is made of mRNA wrapped in a coating that makes delivery easy and keeps the body from damaging it.



The vaccine DOES NOT contain ANY virus, so it cannot give you COVID-19. It cannot change your DNA in any way.

How does the vaccine work?

The mRNA in the vaccine teaches your cells how to make copies of the **spike protein**.

If you are exposed to the real virus later, your body will recognize it and know how to fight it off.



Antibody

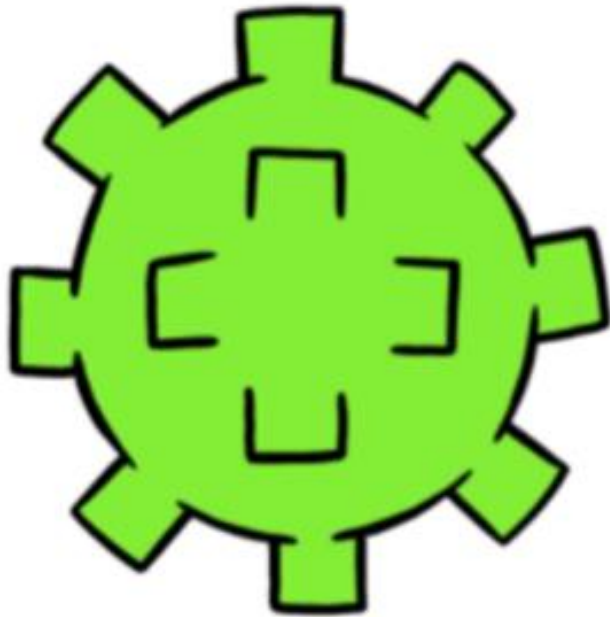


After the mRNA delivers the instructions, your cells break it down and get rid of it.

SOURCE: Centers for Disease Control and Prevention
cdc.gov/coronavirus/vaccines

Watch PhD candidate in microbiology explaining how mRNA vaccines work

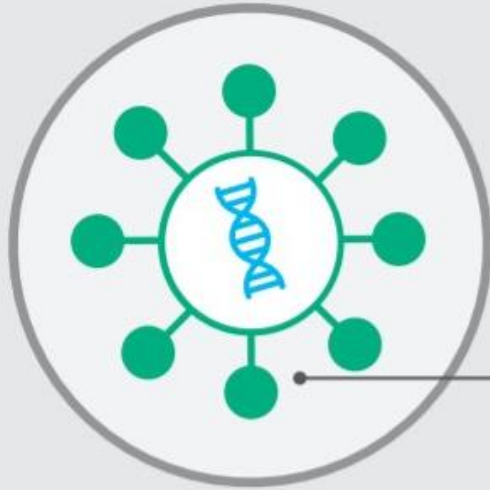
Whole virus



Spike protein
(antigen)



Watch PhD candidate in microbiology explaining how mRNA vaccines work



What is a viral vector vaccine?

A viral vector vaccine uses a harmless version of a different virus, called a “vector,” to deliver information to the body that helps protect you.

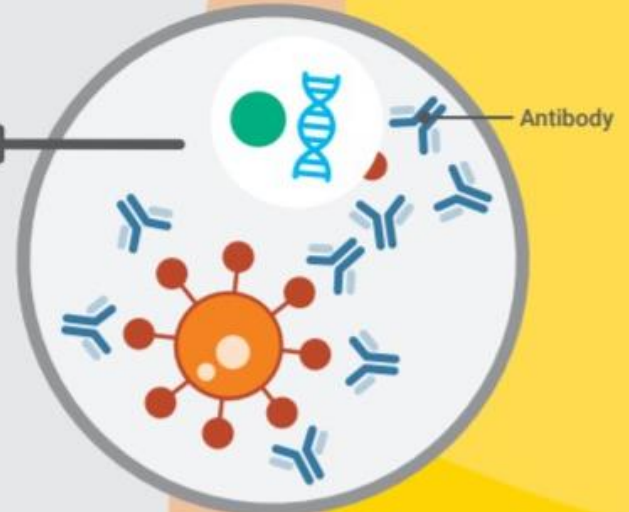


The vaccine DOES NOT contain the virus that causes COVID-19 and cannot give you COVID-19. It also cannot make you sick from the virus that is used as the vector. It cannot change your DNA in any way.

How does the vaccine work?

The vaccine teaches your body how to make copies of the spike proteins.

If you are exposed to the real virus later, your body will recognize it and know how to fight it off.



Novavax

The subunit approach



Only uses the very specific parts (the subunits) of a virus or bacterium that the immune system needs to recognize.

Rob Swanda – PhD candidate in RNA biology explaining how Novavax works

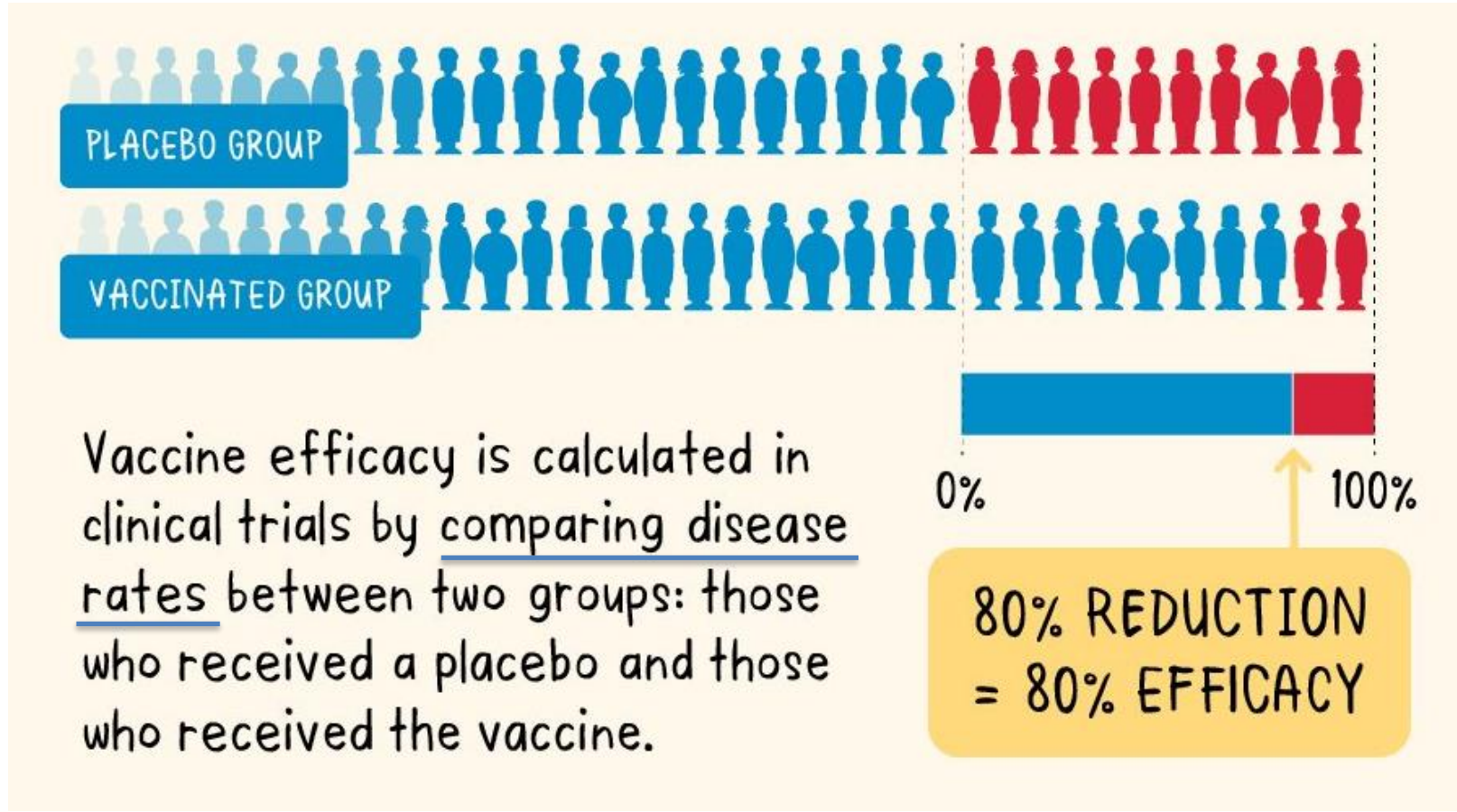
Q: Which vaccine is more effective in protecting you against the virus?



	Pfizer	Moderna	AstraZeneca
Trial efficacy:	88.9% against severe disease; 94.6% against symptomatic infection 100% in children 12-15	95-100% against severe disease; 94.1% against symptomatic infection 100% in children 12-15	100% against severe disease; 66.7% against symptomatic infection, 82.4% at 12+ wk gap
Real world data:	94-97% against hospitalisation	92% against hospitalisation	92-94% against hospitalisation
Transmission:	40-60% (UK)	88% (Netherlands)	40-60% (UK)
Delta variant (2 doses):	96% against hospitalisation (UK)	81% against hospitalisation (USA)	92% against hospitalisation (UK)

Vaccine efficacy, effectiveness and protection (WHO)

Epidemiology: Efficacy vs effectiveness



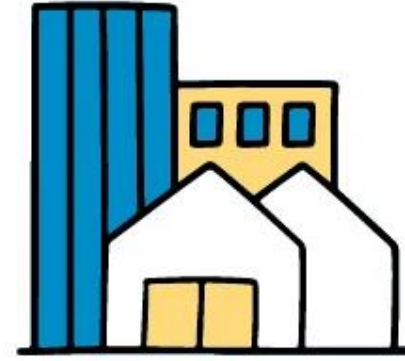
Understanding Absolute vs Relative Risk

How are vaccinated people protected from catching the virus? (ABC video lab)



Vaccine efficacy

refers to how the vaccine performs in ideal conditions
- controlled clinical trials.



Vaccine effectiveness

refers to how the vaccine performs in the wider populations.

E.g., “How effective is the vaccine at preventing hospitalisation due to COVID disease?”

Q: How is it that Pfizer's own study states there is no statistical difference in overall mortality/death between their vaccinated and unvaccinated study participants?

The screenshot shows the medRxiv preprint server interface. At the top left is the medRxiv logo with the tagline 'THE PREPRINT SERVER FOR HEALTH SCIENCES'. To its right are logos for CSH Cold Spring Harbor Laboratory, BMJ, and Yale. On the right side, there are navigation links: HOME | ABOUT | SUBMIT | NEWS & NOTES | ALERTS / RSS, a search bar, and an 'Advanced Search' link. The main content area features a yellow header for the article title: 'Six Month Safety and Efficacy of the BNT162b2 mRNA COVID-19 Vaccine'. Below the title is the author list: Stephen J. Thomas, Edson D. Moreira Jr., Nicholas Kitchin, Judith Absalon, Alejandra Gurtman, Stephen Lockhart, John L. Perez, Gonzalo Pérez Marc, Fernando P. Polack, Cristiano Zerbini, Ruth Bailey, Kena A. Swanson, Xia Xu, Satrajit Roychoudhury, Kenneth Koury, Salim Bouguermouh, Warren V. Kalina, David Cooper, Robert W. Frencck Jr., Laura L. Hammitt, Özlem Türeci, Haylene Nell, Axel Schaefer, Serhat Ünal, Qi Yang, Paul Liberator, Dina B. Tresnan, Susan Mather, Philip R. Dormitzer, Uğur Şahin, William C. Gruber, and Kathrin U. Jansen, C4591001 Clinical Trial Group. The DOI is provided as https://doi.org/10.1101/2021.07.28.21261159. A prominent blue warning box states: 'This article is a preprint and has not been peer-reviewed [what does this mean?]. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.' On the right side of the article, there are options for 'Comments (190)', 'Previous', 'Download PDF', 'Author Declarations', 'Supplementary Material', 'Data/Code', 'XML', 'Email', 'Share', and 'Citation Tools'. At the bottom right, there are 'Tweet' and 'Like 4.3K' buttons.



During the blinded, controlled period, 15 BNT162b2 and 14 placebo recipients died; during the open-label period, 3 BNT162b2 and 2 original placebo recipients who received BNT162b2 after unblinding died. **None of these deaths were considered related to BNT162b2 by investigators. Causes of death were balanced between BNT162b2 and placebo groups (Table S4).**

On this page

[Key statistics](#)[National](#)[States and territories](#)[Regions](#)[International comparison](#)[Data downloads](#)[Methodology](#)[Media releases](#) **Latest release**[↓ Data download](#)

Life tables

Statistics about life tables for Australia, states and territories and life expectancy at birth estimates for sub-state regions

Life expectancy at birth estimates represent the average number of years that a newborn baby could expect to live, assuming current age-specific death rates are experienced through his/her lifetime.

Key statistics

- Life expectancy at birth was 80.9 years for males and 85.0 years for females in 2017-19
- Victoria (81.8 years) had the highest male life expectancy

Risks associated with getting the vaccines

- **Local and systemic adverse events are common**
 - Worse after dose 2 Pfizer or Moderna, dose 1 AZ
 - Similar rates in children 12-15 with Pfizer

	Pfizer	Moderna	AstraZeneca
Pain	83%	92%	61%
Tiredness	47%	70%	76%
Headache	52%	65%	65%
Aches (myalgia)	37%	62%	53%
Fever	4-8% (20% in children 12-15)	16%	4-8%

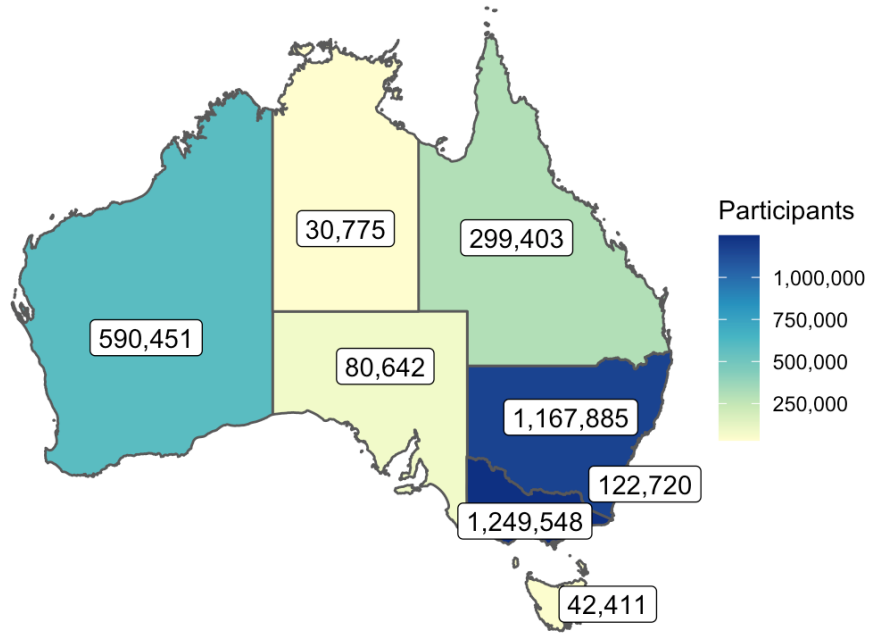
- **Anaphylaxis:**
 - 4.7 per million doses (Pfizer)
 - 2.5 per million doses (Moderna)
 - 1 per million doses (AZ)

How to weigh up risks and benefits of COVID vax

As at 19 September 2021

All people

6,661,739 surveys sent Australia wide*
3,583,835 participants (53.8% response rate)



Therapeutic Goods Administration
(Federal) Department of Health
Vaccine safety monitoring

Aboriginal and Torres Strait Islander people

74,518 surveys sent Australia wide*
46,957 participants (63.0% response rate)



56.0% of participants reported no adverse event



44.0% of participants reported any adverse event



0.8% of participants reported visiting a doctor or emergency department

Updated info about self-reported side effects experienced by people in Australia

Thrombosis with Thrombocytopenia Syndrome (TTS)

- **Rare but serious side effect of AZ: Vaccine induced thrombotic thrombocytopenia (VITT)**
 - Of 11.3 million doses of AZ, 141 confirmed or probable cases (19 Sept 2021)
 - 8 deaths, 0 currently in ICU, all others stable or recovering
 - (That's **less than one in a million** chances of death)
 - Clinical awareness of TTS is high, suspected cases rapidly treated, resulting in better outcomes in Australia than elsewhere in the world.
- No increased risk of TTS for people on blood thinners or with history of typical blood clots, heart disease, stroke or low platelets
- Not linked to mRNA vaccines
- Occurs in both men and women but severe cases appear more common in women in younger age groups

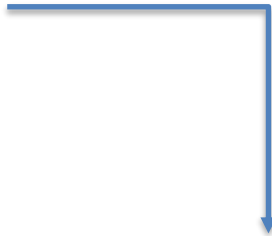
Statement from Thrombosis and Haemostasis Society

Lower rates of mortality from AZ blood clots in Aus

Most recent TGA safety report: 23 SEP 2021

Weighing benefits against risks from AZ

Myocarditis and pericarditis



Usually associated with viral infection – **including** SARS-CoV-2.

- **Rare, usually mild and treatable side effect of mRNA vaccines: myocarditis and pericarditis**
- Inflammation of or around the heart
- More common after 2nd dose of mRNA vaccines and in young men aged 12-24
- Typically occurs within 1-5 days of vaccine
- Symptoms include chest pain, irregular heartbeat, fainting or shortness of breath
- Most pre-existing cardiac conditions are NOT contraindications to vaccination
- Rare (1.6 cases per million in Europe)

Melbourne Vaccine Education Center
animation on myo/pericarditis
following mRNA vaccination

Current Evidence – Vaccine associated Myocarditis

Study	Population	% mRNA	Incidence	Mean Age	Median Time to diagnosis	Prognosis
Diaz et al	2 000 287	96.9	20 cases	36	3.5 days	No death or adverse events
Marshall et al	7 adolescent boys	100%	N/A	15	4 days	No inotropic supports 1 patient required LFNP No deaths
Montgomery et al	2 800 000	100%	23 Males No females	25	4 days	No deaths No adverse events
Nevet	3	100%	NA	25	2 days	No deaths No adverse events
Rosner	7	86%	NA	27	3 days	No deaths No adverse events
Dionne	15	100%	NA	15	NA	No deaths of adverse events
Mouche	6	100%	NA	22	3 days	No adverse events or deaths
Larsen et al	8	100%	NA	21-56 years	3 days	No adverse events or deaths

Usually associated with viral infection – including SARS-CoV-2.

Guidance on myo/pericarditis after mRNA vaccines (ATAGI and CSANZ)



- Planning pregnancy: **No evidence of increased risk of pregnancy complications** in women who become pregnant after vaccination.
- There is no evidence that COVID vaccines affect fertility, and vaccination is safe during IVF treatment.
- Breastfeeding: It is **safe to continue breastfeeding** before or after COVID-19 vaccination.
No evidence of any side effects or any harm to the woman or her infant.
- Currently pregnant: Royal Australian New Zealand College of Obstetricians and Gynaecologists and ATAGI recommend that **pregnant women are routinely offered Pfizer vaccine at any stage of pregnancy**. There are no safety concerns for the woman or her baby and helps protect against the risk of COVID-19 infection to protect both the woman and her baby.

RANZCOG Statement
on COVID vaccines

Vaccines and
fertility

Pregnancy, breastfeeding
and COVID vaccines

Pregnant women with COVID-19 have a higher risk of certain complications compared to nonpregnant women with COVID-19 of the same age, including:

- An increased risk (about 5 times higher) of needing admission to hospital.
- An increased risk (about 2-3 times higher) of needing admission to an intensive care unit.
- An increased risk (about 3 times higher) of needing invasive ventilation (breathing life support).

COVID-19 during pregnancy also increases the risk of complications for the newborn, including:

- A slightly increased risk (about 1.5 times higher) of being born prematurely (before 37 weeks of pregnancy).
- An increased risk (about 3 times higher) of needing admission to a hospital newborn care unit.

Royal Women's Hospital page on
COVID advice for pregnant
women

Vaccines and Faith

COVID-19 vaccines are **Halal** (Australian National Imams Council) Kosher

COVID-19 vaccination **supported** by a huge **range of faiths** and **religious leaders globally**

COVID-19 vaccines **do not contain** any **human or animal tissue or cells**
derived from human or animal tissue

ATAGI Recommendations

- Pfizer preferred for adults aged under **60 years** (June 17), but AZ available to all age groups with informed consent.
- **In an outbreak settings, ATAGI advises all adults strongly consider AZ**
- In Victoria, current recommended spacing is 6 weeks for both Pfizer and AZ (Sept 2)
- Second dose recommended for anyone who safely received the first dose
- Pfizer and Moderna approved for **all children aged 12-15** at the same dosage and spacing as adults
- Boosters are not currently recommended in Australia but are likely to be considered next year

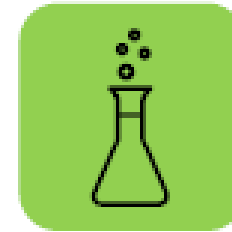
What motivates other people to vaccinate?



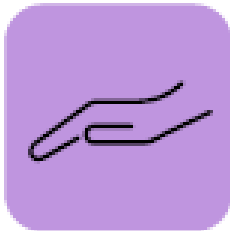
High perceived risk of developing COVID-19 disease



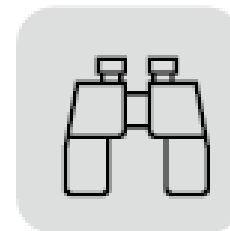
Confidence in effectiveness and safety



Trust in vaccine development processes



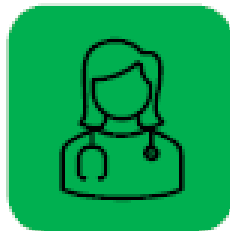
Desire to protect vulnerable people



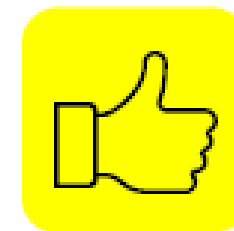
Role models



Trust in government and health systems



Healthcare provider recommendation



Vaccination is convenient

The local context

Epidemiology



= More transmissible
= Increased risk of hospitalisation



How to weigh up risks and benefits of COVID vax

Comparing what's happening overseas

- Our ability to control international human movement means that we're among the last countries in the world where COVID hasn't already become endemic.
- Measuring different “outcomes of interest” makes effectiveness data hard to compare
- Availability of DIY (rapid testing) in other countries means it's less likely the official infection rates (per testing rate are an accurate reflection of infection incidence/prevalence.
- Israel – comparing people who are vaccinated versus those with ~~“natural immunity”~~? **infection-mediated immunity.**

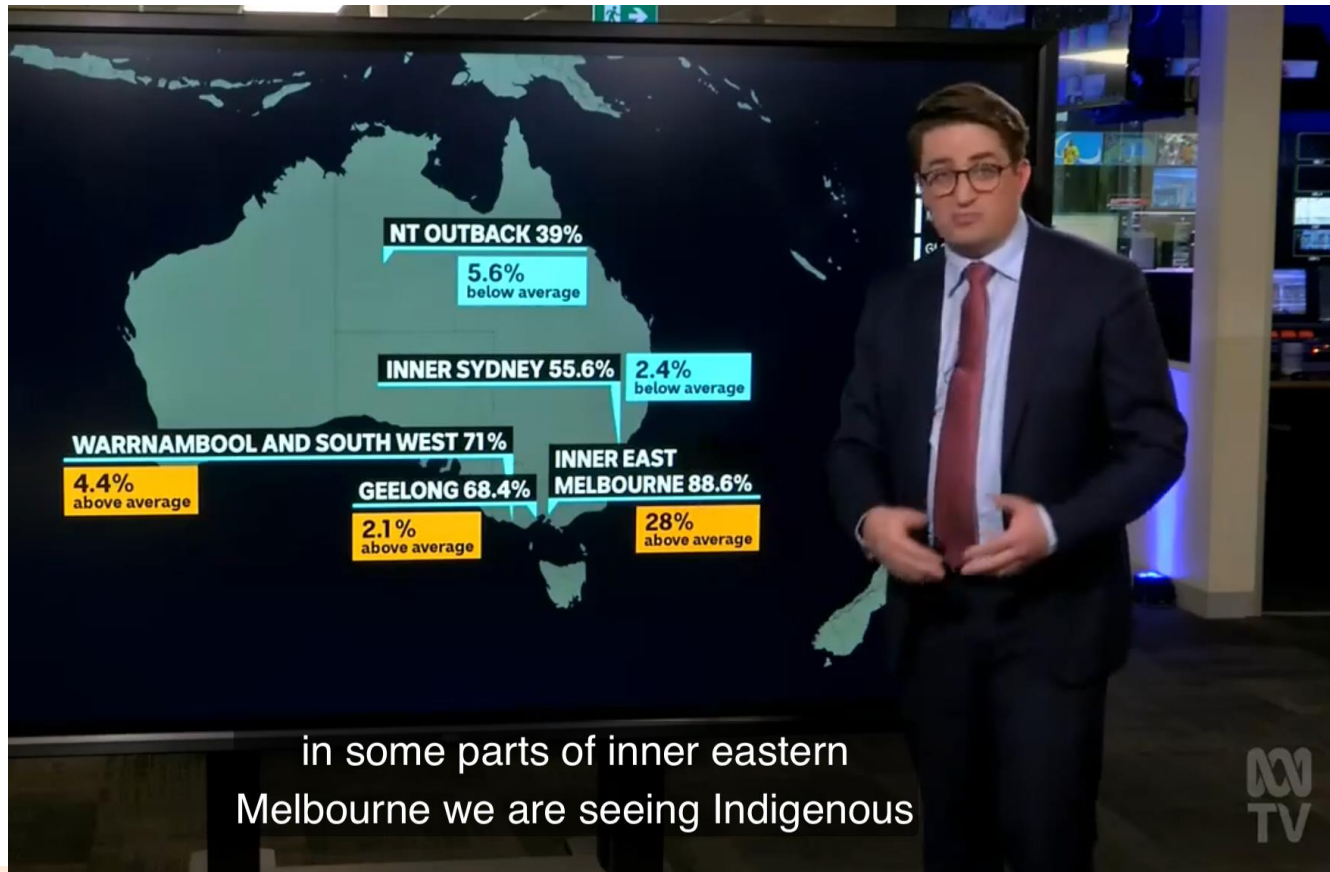
Ethics: Framing (“spin”)



Statistics:

Remember: the quality of the analysis can only be as good as the quality of the data input for analysis.

Epidemiology



Statistics

Data capture error

Indigenous vaccination rates in Victoria revised downwards after software error detected

A software problem is being blamed for incorrectly inflating the number of Indigenous Australians thought to have been vaccinated against COVID-19 in Victoria.

The state had been hailed as a success story at a time when [Indigenous vaccination rates](#) continue to lag behind the general population elsewhere.

Figures released by the federal government on Sunday suggested 47,954 Aboriginal and Torres Strait Islanders in Victoria had received one vaccine dose, with 30,951 fully vaccinated.

However, those figures were revised down on Monday to 21,559 people having received a first dose, and 12,209 being fully vaccinated.

According to the national COVID-19 vaccine taskforce, led by Lieutenant General John Frewen, it meant the Indigenous vaccination rate in Victoria had dropped from in excess of 60 per cent of people having received a first dose to around 45 per cent.

Key points:

- The number of Indigenous Victorians vaccinated against COVID-19 is revised down
 - The software problem incorrectly assigned Indigenous status to patients where part of a form was left blank
 - The government also announces a priority of 30 Indigenous communities as part of vaccine rollout
-

Epidemiology



VICTORIA

For dentists, by dentists.

Statistics

The science of dealing with the data about us as a group, not about us as individuals.

Why learning statistics is more important than calculus

Problems with statistics and PERCEPTION

Debunking myths and misperceptions using statistics

How statistics can be misleading

How to spot a bad statistic

Understanding data without numbers

E.g. “Simpson’s paradox”

The same set of data can appear to show opposite trends depending on how it’s grouped.

Public Health

What is public health?

- “the science and art of preventing disease, prolonging life and promoting health, through the organised efforts of society.”

How is it different from clinical medicine?

- Clinician’s focus is the individual, public health focus is more the how and why of the “bigger picture”
 - (e.g. the social determinants of health)

Who does public health?

- Answer = everyone.

How is it done? Enablers =

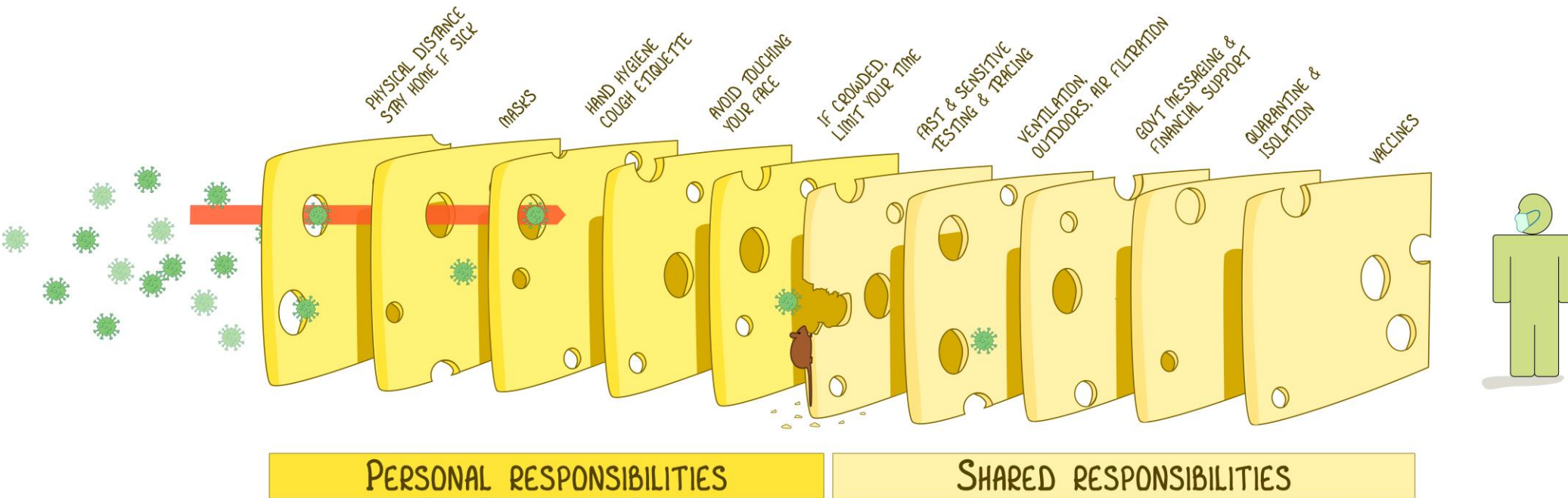
- Governance,
- Advocacy,
- Capacity,
- Information

What is public health?

The layered approach

THE SWISS CHEESE RESPIRATORY VIRUS PANDEMIC DEFENCE

RECOGNISING THAT NO SINGLE INTERVENTION IS PERFECT AT PREVENTING SPREAD



EACH INTERVENTION (LAYER) HAS IMPERFECTIONS (HOLES).
MULTIPLE LAYERS IMPROVE SUCCESS.

Q: How do individual vaccinations lead to protection of the wider community?



- High viral load = more symptoms
 - More symptoms = more aerosol generating behaviours + higher viral load
- = more transmission

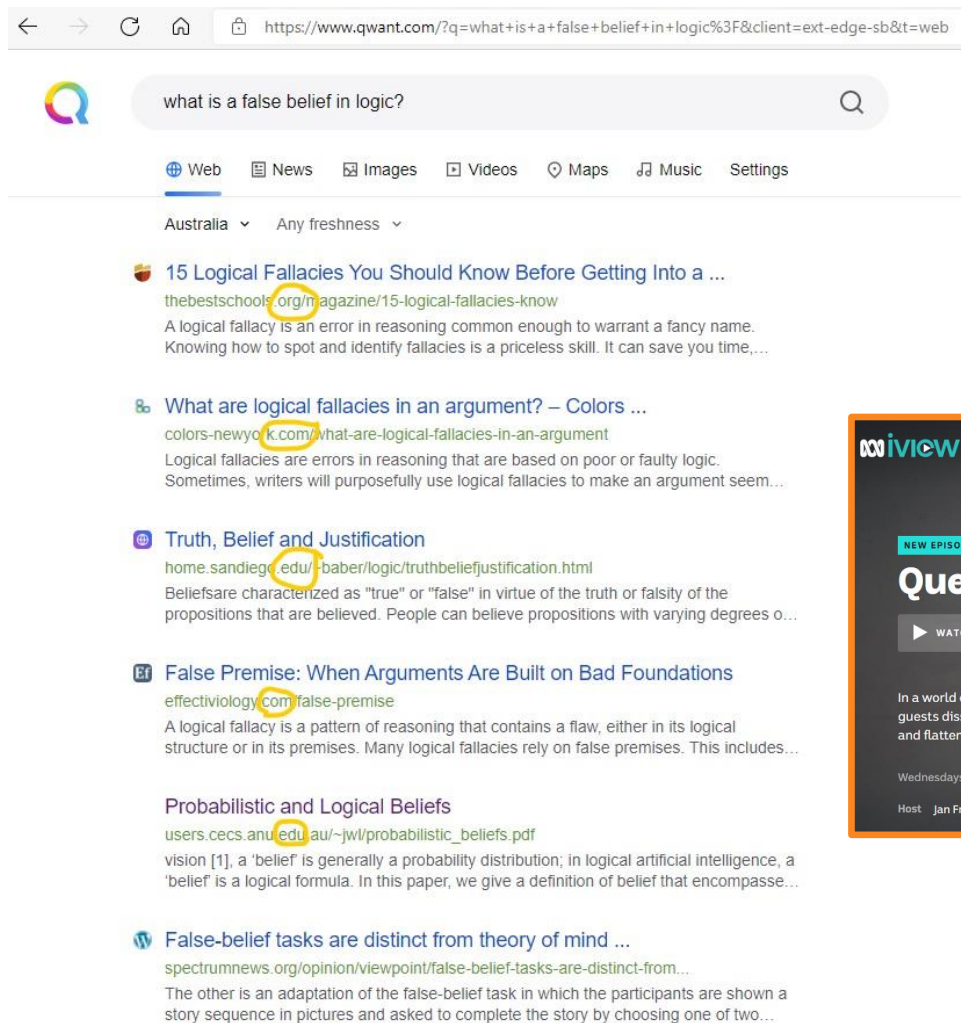
How are vaccinated people protected from catching the virus? (ABC video lab)

Influences on the decision to get vaccinated

- Safety Concerns
- Effectiveness Concerns
- Perceived scientific uncertainty
- Low perceived risk of disease
- Doubts about the seriousness of the pandemic
- Subscribing to misinformation/conspiracies
- Lack of trust in stakeholders
- Perceived lack of information

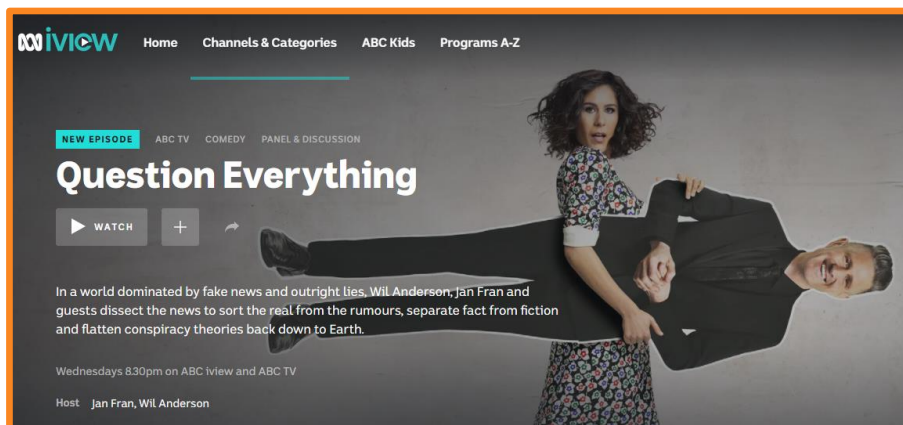
Potential barriers to
vaccine acceptance

Check your sources



Try the CRAP test:

- C** = currency
- R** = reliability
- A** = authority
- P** = purpose



Improve your "Media Literacy"

"The Social Dilemma" (Documentary)

Subject matter expertise and *peer review*

Why is peer review important?

- Having multiple sources with expertise and authority who agree on a position is much more likely to be true than something you hear from just one source.
- If you find multiple credible sources that disagree, it's likely because there's genuine academic debate, or because there isn't enough compelling evidence yet available. It could also be because experts are offering opinions, not facts.



What is false
equivalence?



Influential? Yes.
Trusted source of
medical
information?
No.

What are the responsibilities of Government?

- Management of the economy,
- Provision of school level education,
- waste management,
- natural resource management,
- maintenance of the natural environment including ecosystems, green spaces and recreational spaces,
- safety (road safety, food safety, personal – including domestic – safety),
- resource healthcare & social support (including research),
- manage immigration and human movement,
- public transport and infrastructure enabling travel/trade and human movement,
- international trade,
- international aid... the list goes on.

Evidence Informed
Public Policy Making

Ethics: Mandating

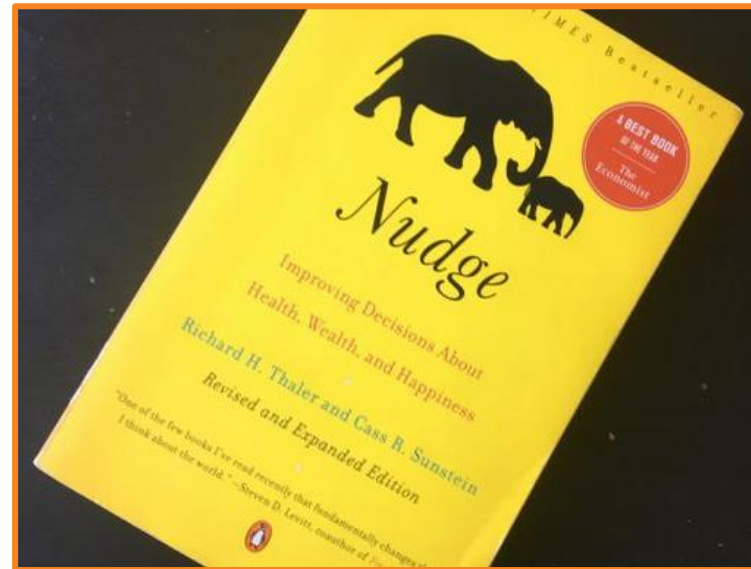


150 ways the nanny state is good for us

Ethics Matters

What is a "wicked problem"?

Learn about logical fallacies



Find out their questions and concerns

Use open-ended questions: *“What questions do you have?”*

Resist the righting reflex

Acknowledge concerns and share knowledge

“Having questions is very normal.”

Share facts on vaccine safety and effectiveness

Avoid over-reassurance

Reinforce motivation

Discuss disease severity

Centre discussion on disease, not vaccines

Recommend vaccination

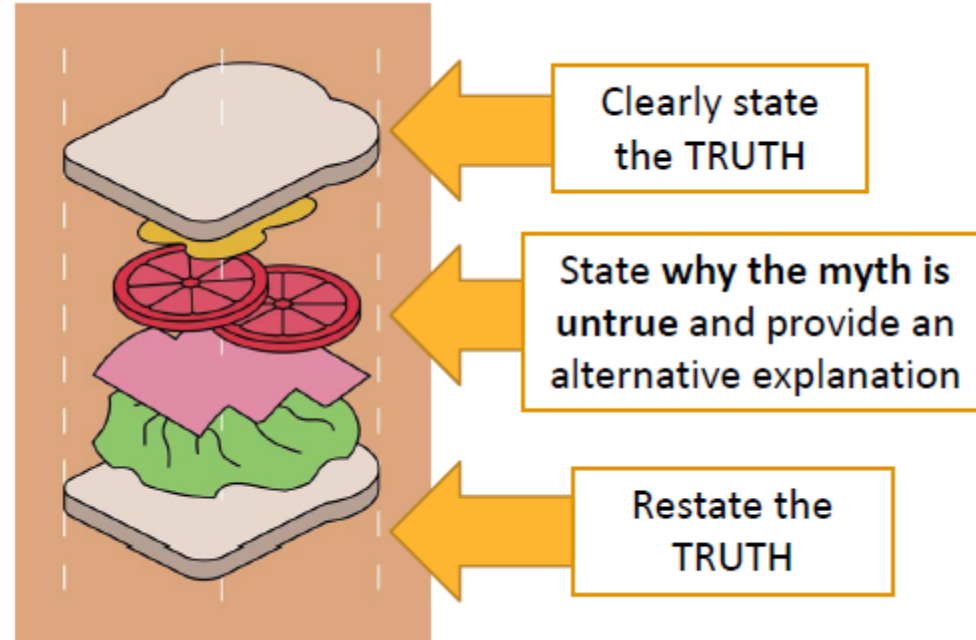
Encourage people to talk to their GPs about their personal circumstances

Continue the conversation

Keep communication open

Addressing vaccine misinformation

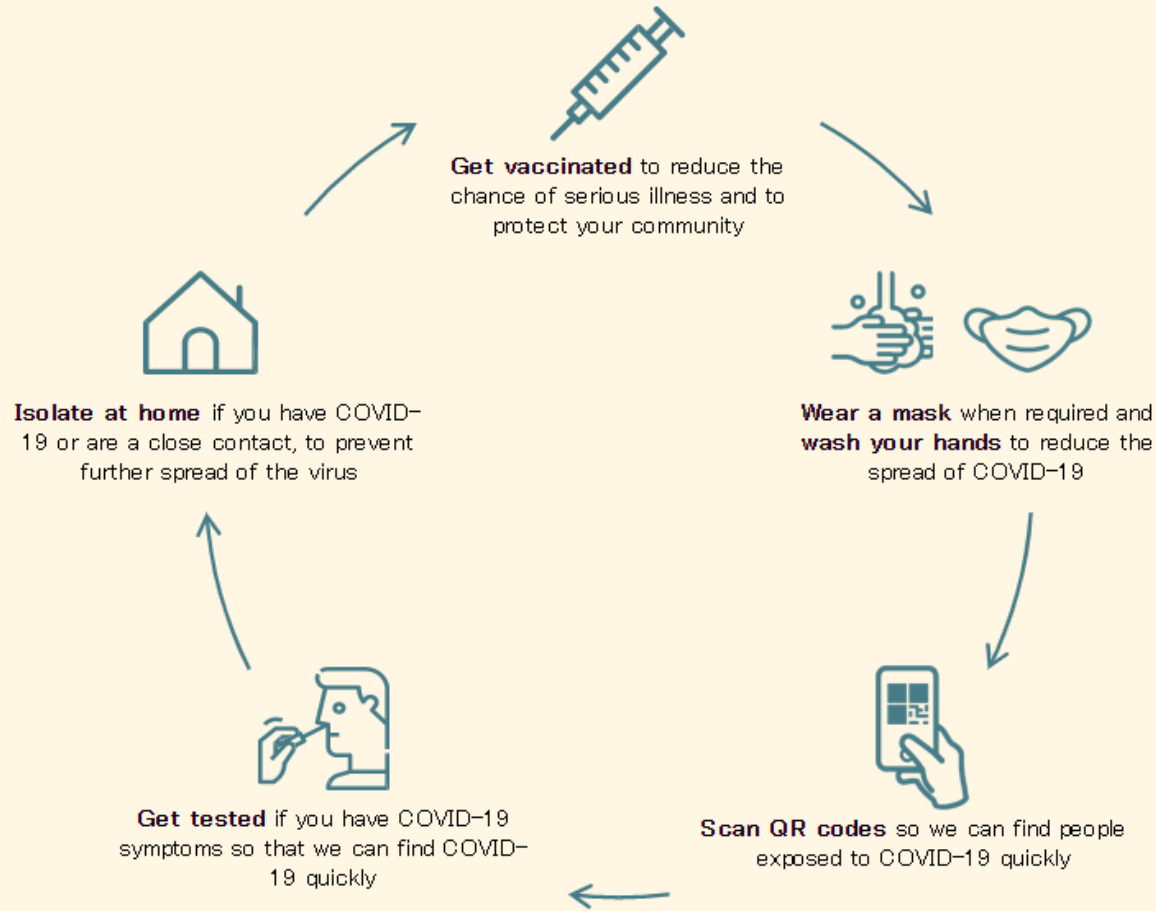
- Pick your battles
 - Is it being shared widely?
 - Is it affecting behaviour?
- Recommendations:
 - Apply the “truth sandwich”
 - Try to talk in a private setting
 - Look for truth together
 - Prepare people – “you may hear”



Tips on countering conspiracy theories and misinformation

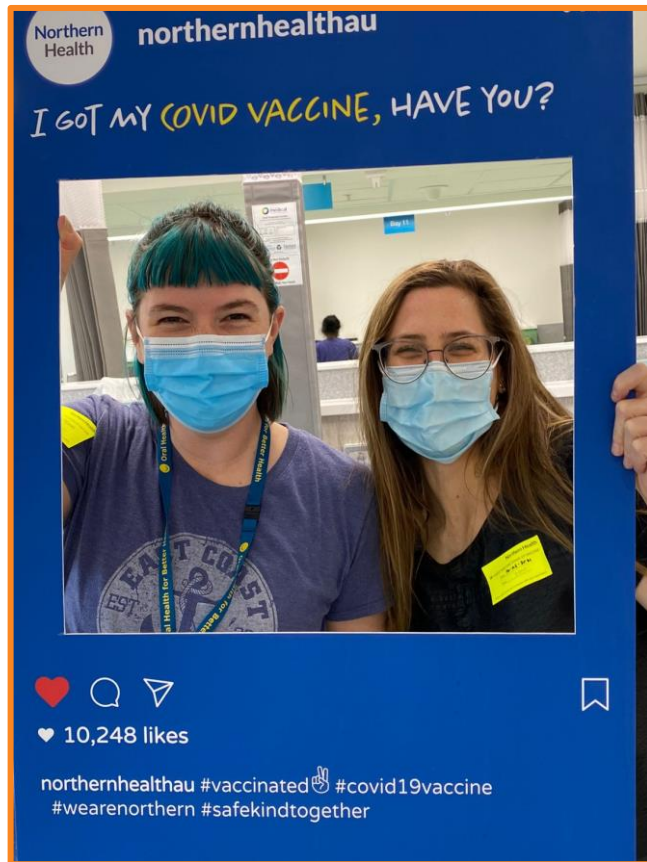
Vaccine Misinformation Management Field Guide

COVIDSafe community messaging



OFFICIAL

How can you help?



- Share your reasons for deciding to get vaccinated
- If you've been vaccinated, talk about the experience
- Share photos (avoid needles)
- Be transparent

Bite-sized lecture from Dr
Jessica Kaufman from MCRI

What can you do?

The screenshot shows the Victoria State Government portal for COVID-19 vaccination appointments. The URL is <https://portal.cvms.vic.gov.au>. The page features the Victoria State Government logo and the Department of Health. The main heading is "Making Victoria safe, together" with a sub-heading "Thank you for helping to protect Victorians against COVID-19". Below this, a section titled "What do you want to do today?" contains two main buttons: "Book a COVID-19 vaccination appointment" (highlighted in blue) and "Change or cancel my vaccine appointment". At the bottom, there is a footer with the Australian and Victorian flags, a statement of respect to Traditional Owners, and links for Privacy, Disclaimer, Copyright, Accessibility, Sitemap, and Contact us. The page is copyrighted by the State Government of Victoria.

Vaccine
Clinic
Finder

How to
use the
online
booking
system

HOTLINE: 1800 675 398

Communication



<https://www.youtube.com/watch?v=fDfug35d5fU>



<https://www.youtube.com/watch?v=RbtFv08J0Xs>



<https://www.youtube.com/watch?v=TclQATtAkSO>



https://www.youtube.com/watch?v=8kHYUq0_0YQ



<https://www.youtube.com/watch?v=sZzjMw5V9WU&t=100s>



<https://www.youtube.com/watch?v=7CToZ4jcg78>

Take Aways

Over 6 billion doses of COVID-19 vaccines already given

Vaccine safety is constantly being monitored

Safety issues are rare

Talk to your GP or other trusted health professional if you have personal questions

Information about pandemic conditions may continue to change

Media headlines may be misleading

Melbourne Vaccine Education Centre (MVEC)

<https://mvec.mcri.edu.au/covid-19/>

Multi-lingual COVID-19 glossary

www.mhcs.health.nsw.gov.au/glossary/covid-19-glossary

Australian Government COVID-19 vaccine information

www.australia.gov.au/covid19vaccines

Easy Read vaccine information

www.health.gov.au/resources/collections/covid-19-vaccination-easy-read-resources

Regular ATAGI statements and weekly TGA safety reports

www.health.gov.au/news

Guide with up-to-date evidence and science behind immunization

www.health.gov.au/news/the-science-of-immunisation-your-questions-answered

Top 3 COVID Questions

www.health.gov.au/news?search_api_views_fulltext=%22top+3+questions%22

Australian Government COVID-19 vaccine information in your language

www.health.gov.au/initiatives-and-programs/covid-19-vaccines/covid-19-vaccine-information-in-your-language

AusVaxSafety

www.ausvaxsafety.org.au/our-work/covid-19-vaccine-safety-surveillance

National Centre for Immunisation Research and Surveillance FAQs

www.ncirs.org.au/covid-19/covid-19-vaccines-frequently-asked-questions

- ***How likely are COVID vaccines to become a yearly immunisation like the flu?***
 - Very likely.
- ***When might a booster shot be rolled out in Australia?***
 - Not until everyone else has had their first and second shots. Probably sometime next year.
- ***What are the implications on the effectiveness of the vaccines now that the time between dose 1 and dose 2 have been shortened?***
 - It's possible immunity may not last as long with a shortened interval between doses, but there's two important reasons for this decision:
 - Because it's imperative that we maximise everyone's protection due to the real and present danger that the virus circulating in the community is currently causing, and
 - Because the recommendation for booster doses next year will mitigate any potential loss of effectiveness.
- ***What are we getting protection from?***
 - Having to be hospitalized.
- ***What's wrong with having an infection that's asymptomatic?***
 - Accidentally or unknowingly spreading it to others.
- ***What about breakthrough infections and reinfections?***
 - They will happen but being vaccinated will protect you from the worse outcomes of the disease, and all the other preventive interventions will also contribute to reducing your risk. (Even when restrictions are lifted.)

The Shadow Pandemic: Mental Health Crisis



Symptoms of burnout:

- Exhaustion
- Leaching of pleasure from previously enjoyed activities
- Lessening of care for other people
- Apathetic, asocial and withdrawn
- Perception that life has lost it's meaning

Burnout and how
to deal with it

Be kind to each other, and approach people with different opinions and views to you with curiosity, instead of judgement.

*"Law compels but love
impels."*

-ABP

Thanks for listening.

Time for questions.



VICTORIA

For dentists, by dentists.