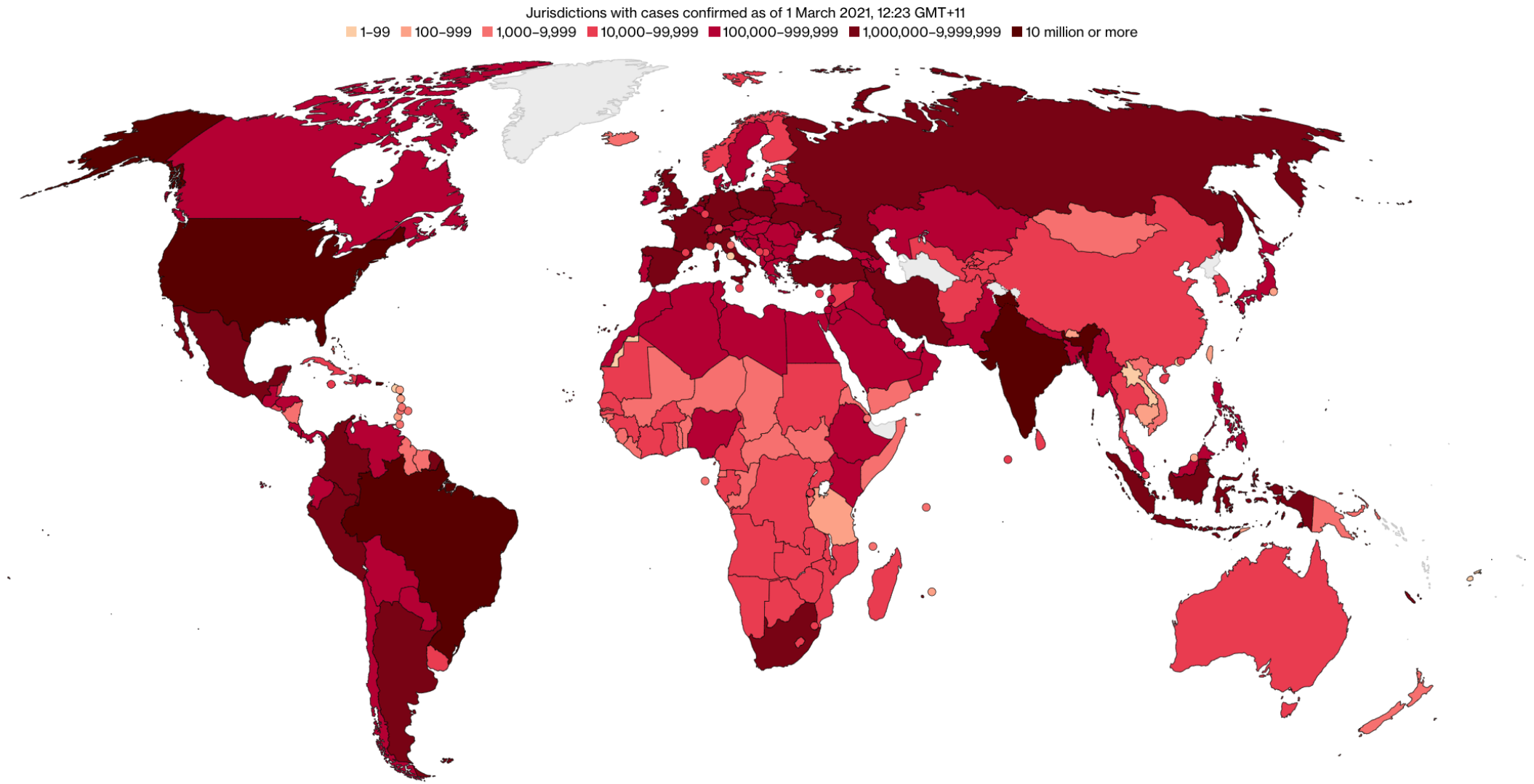
Monash COVID-19 Vaccination Program

Employee Forum | 2 March 2021

Monash Health

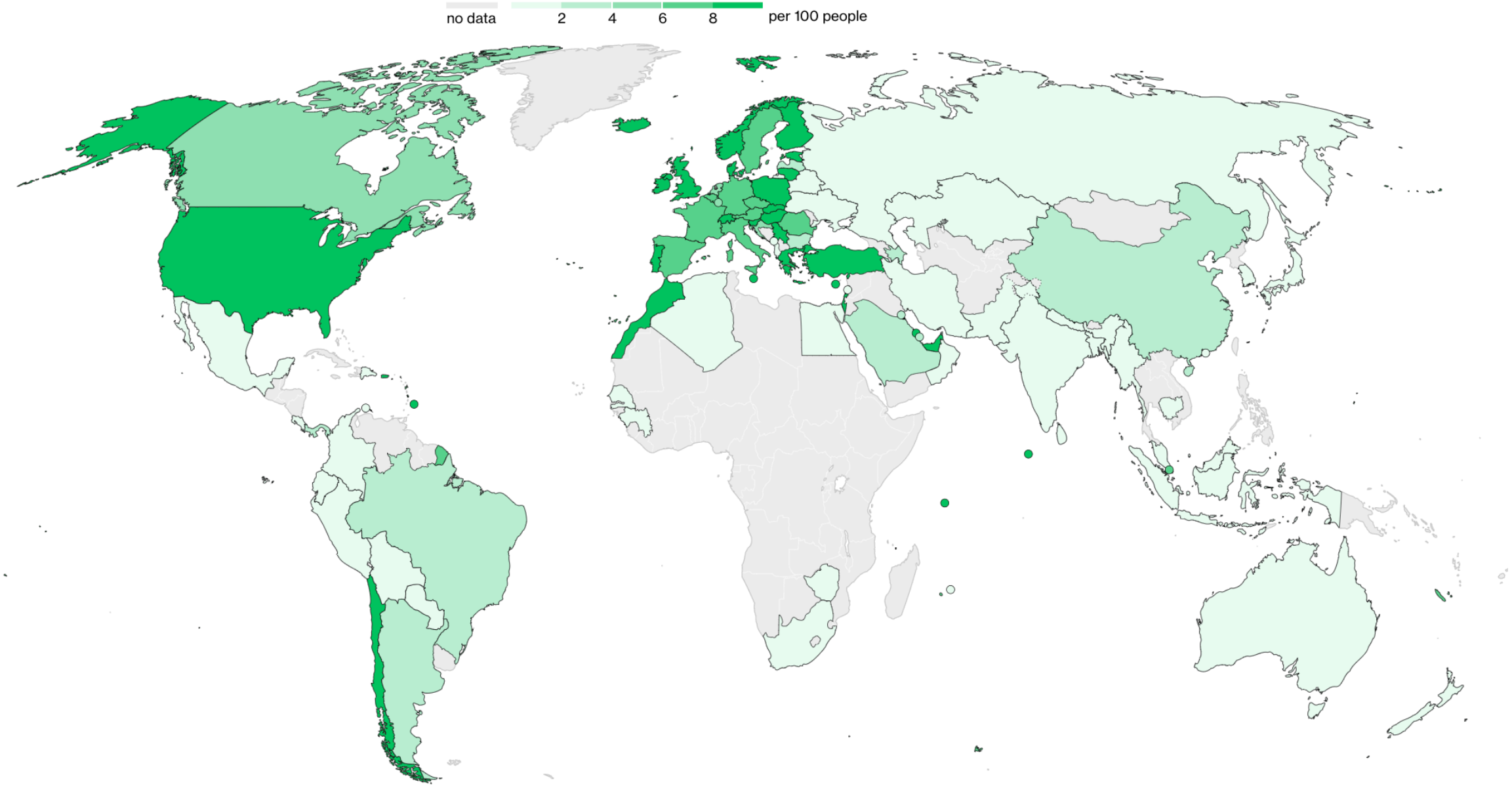
114,041,117
Confirmed cases worldwide

2,529,898
Deaths worldwide



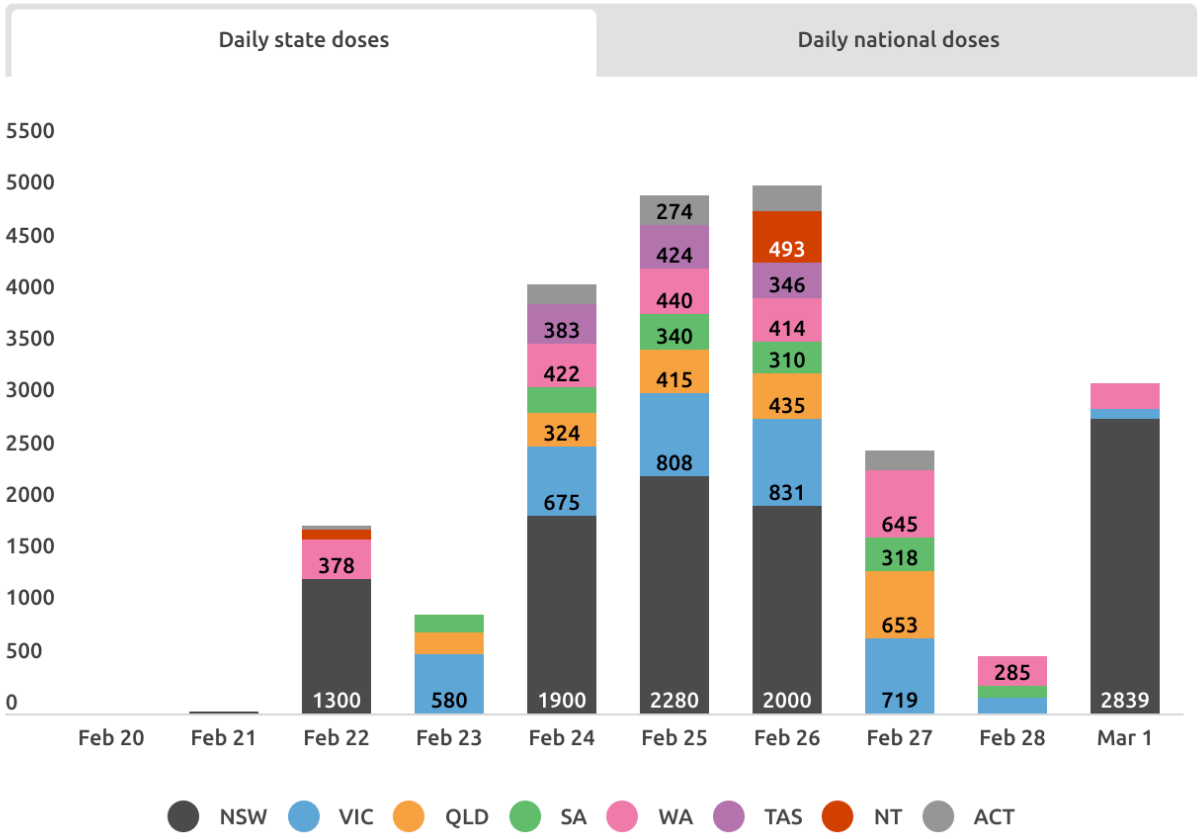
World Map of Vaccinations

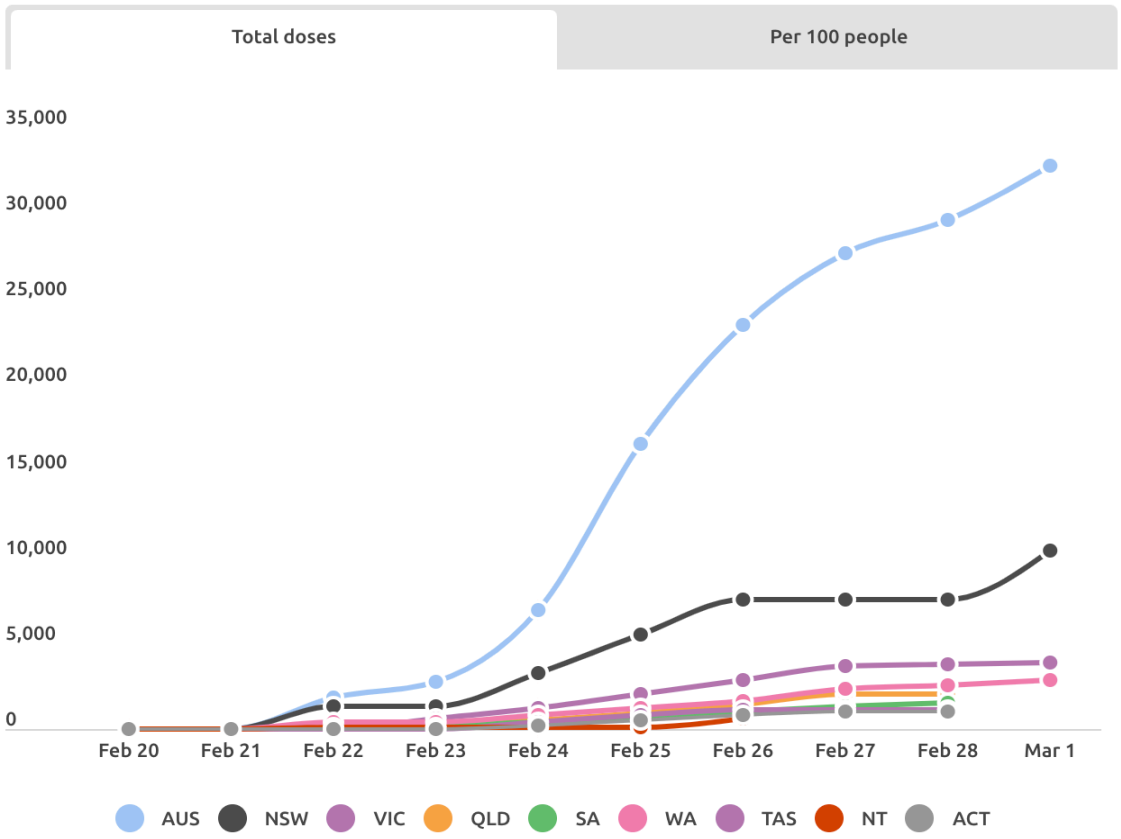
More than 241 million doses have been administered in 103 countries

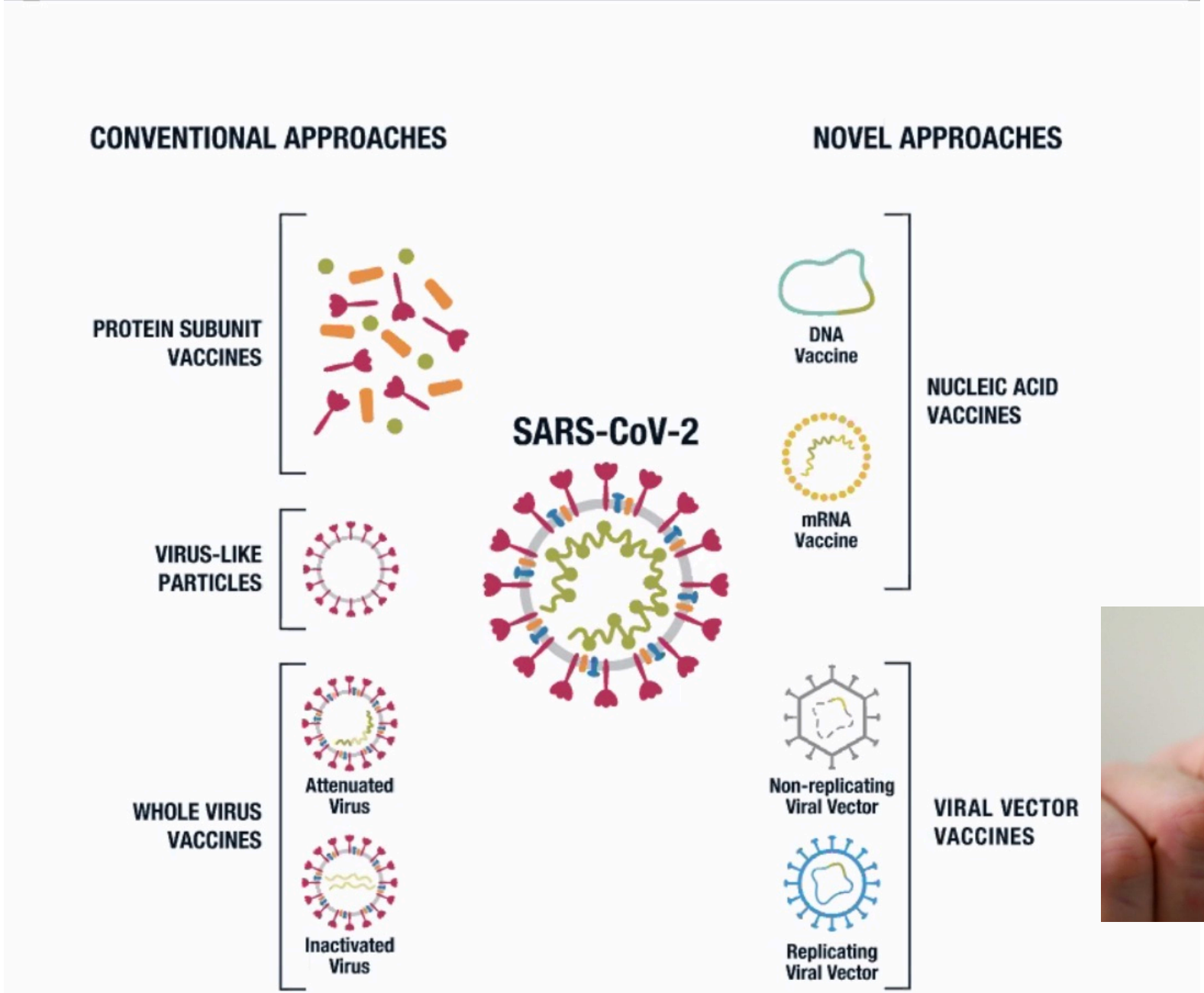


Australia's COVID-19 vaccination schedule

Vaccination roll-out by group and estimated population covered.

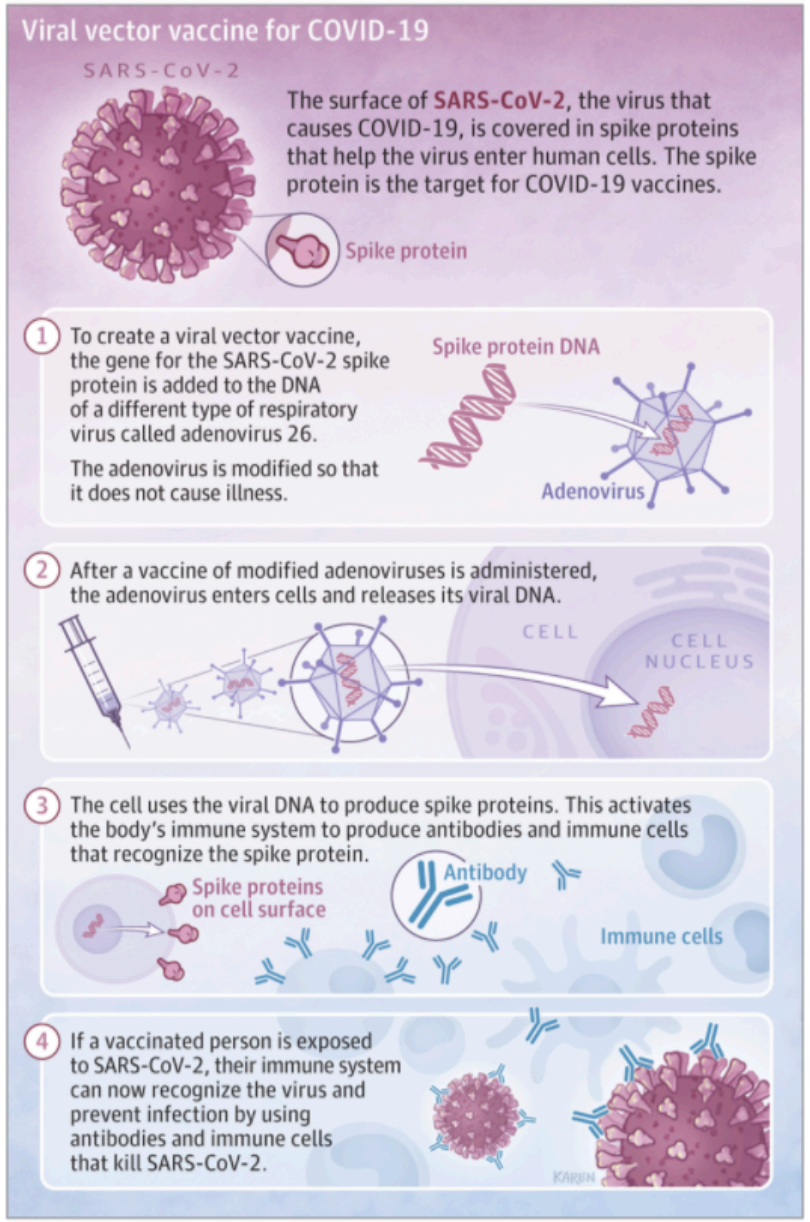

Daily state doses
Daily national doses
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1300
378
580
1900
675
383
422
324
2280
808
415
340
440
424
274
2000
831
435
310
414
346
493
719
653
318
645
285
2839
Feb 20
Feb 21
Feb 22
Feb 23
Feb 24
Feb 25
Feb 26
Feb 27
Feb 28
Mar 1
NSW
VIC
QLD
SA
WA
TAS
NT
ACT


Total doses
Per 100 people
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Feb 20
Feb 21
Feb 22
Feb 23
Feb 24
Feb 25
Feb 26
Feb 27
Feb 28
Mar 1
AUS
NSW
VIC
QLD
SA
WA
TAS
NT
ACT


CONVENTIONAL APPROACHES
NOVEL APPROACHES
PROTEIN SUBUNIT VACCINES
VIRUS-LIKE PARTICLES
WHOLE VIRUS VACCINES
Attenuated Virus
Inactivated Virus
SARS-CoV-2
DNA Vaccine
mRNA Vaccine
NUCLEIC ACID VACCINES
Non-replicating Viral Vector
Replicating Viral Vector
VIRAL VECTOR VACCINES

AstraZeneca / University of Oxford

- Viral Vector Vaccine
- Can be easily administered in healthcare systems
  - Stored at fridge temp (2-8 degrees C)
  - Stable for transport up to 6 months
  - Minimal side effects



ADVANTAGES AND DISADVANTAGES OF VIRAL VECTOR-BASED VACCINES

- Well-established technology
- Strong immune response
- Immune response involves B cells and T cells
- Previous exposure to the vector could reduce effectiveness
- Relatively complex to manufacture

AstraZeneca

- AstraZeneca
  - TGA registered in people aged ≥18 years and is given in a two-dose schedule.
  - Dose: Full dose (0.5ml)
- Interval: 4-12 weeks permitted but 12 weeks preferred
  - Higher antibody levels with longer interval between doses
  - Advantages – broader coverage more quickly, possibly better efficacy
    - May decrease transmission after a single dose
  - Single dose provided 76% protection at 90 days
  - Second dose at 12 weeks increased protection to 82.4%
    - Effectiveness appears to be related to interval between doses
    - Important new findings of up to 67% decrease in transmission

AstraZeneca

- Strains
  - Effective against UK strain
  - ? over Sth Africa strain
- Elderly
  - Not adequately accounted for in early studies
  - Safe, fewer side effects
  - Further data expected with US trial on efficacy (late March)

AZ – adverse events

	18–55 years		56–69 years		≥70 years	
	Dose 1	Dose 2	Dose 1	Dose 2	Dose 1	Dose 2
Injection site pain	61%	49%	43%	34%	20%	10%
Injection site tenderness	76%	61%	67%	59%	49%	47%
Fatigue	76%	55%	50%	41%	41%	33%
Headache	65%	31%	50%	34%	41%	20%
Muscle pain	53%	35%	37%	24%	18%	18%
Fever	24%	0%	0%	0%	0%	0%

Local and systemic adverse events more common in younger people

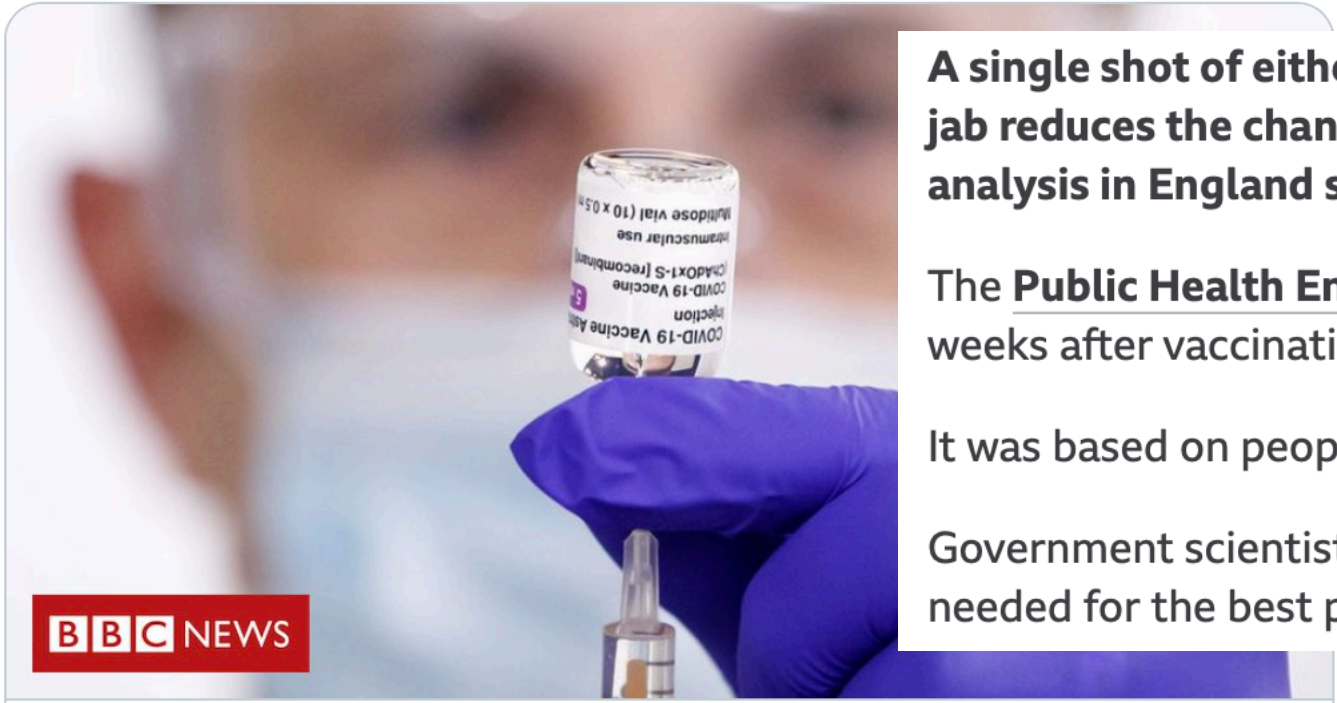
Less common with second dose

Both Vaccines Effective

- Both vaccines available protect against severe disease
  - Differences in efficacy may be due to trial parameters and populations
  - Important data coming out of England, Scotland and Israel suggesting both vaccines reduce transmission.
- These vaccines won’t eliminate the disease totally
  - Social distancing, hand sanitising and masks will continue to be important
- The final factor that determines how good a vaccine is:
  - Whether people actually get vaccinated.
    - less demanding, cold chain requirements - the AstraZeneca jab is easier to ship around.
    - also has a lower rate of immediate adverse effects than Pfizer.
    - those over 65 have fewer headaches, episodes of diarrhoea, sore arms and painful muscles with AstraZeneca, than younger people.

BBC Breaking News
@BBCBreaking

Single shot of either Oxford-AstraZeneca or Pfizer-BioNTech Covid vaccine reduces chance of needing hospital treatment by more than 80%, analysis in England shows



Covid vaccines cut risk of serious illness by 80%

Latest study on UK rollout suggests jabs significantly reduce risk of being admitted to hospital.

bbc.co.uk

A single shot of either the Oxford-AstraZeneca or the Pfizer-BioNTech Covid jab reduces the chance of needing hospital treatment by more than 80%, an analysis in England shows.

The **Public Health England data** showed the effect kicked in three to four weeks after vaccination.

It was based on people aged over 80 who were the first to receive the jab.

Government scientists hailed the result, but stressed that two doses were needed for the best protection.