

COVID-19 vaccine: How we calculate our vaccine uptake rate ratio

Analysis of vaccine uptake rate ratios can be confusing because the 'All Ages ratio' is often a lower figure than the ratios of all of the age group bandings. This is counter intuitive.

Brief explanation:

The weightings of the different age groups impact the total. Europeans are weighted towards an older demographic with high vaccination rates, but Māori and Pacific peoples are typically younger with lower vaccination rates.

Detailed explanation:

The calculation is dependent on the uptake for the age band of the non Māori/ non Pacific peoples.

Māori and Pacific peoples generally have a much younger age demographic and with the younger cohorts becoming eligible at a later stage, this can affect the 'all ages' calculation. The all ages calculation is based on ages 12 and over.

- Non Māori/non Pacific groups have a lot more older people who are vaccinated, this skews their overall vaccination rate up.

- Māori/Pacific are a relatively young population, and their overall vaccination rate is skewed down.
- As a result, when the entire cohort is compared the relative rates are low. This is also why, when uptake is compared across all age bands, the percentage of total vaccinations is lower for Māori/Pacific than other ethnicities.

The rate ratio calculation for Pacific peoples is:

- Uptake (dose per 1000 population) for Pacific peoples /
- Uptake (dose per 1000 population) for non Māori/ non Pacific peoples

And similarly the rate ratio for Māori is:

- Uptake (dose per 1000 population) for Māori /
- Uptake (dose per 1000 population) for non Māori/ non Pacific peoples

Rate Ratio Tables

Age group	Maori Dose 2	Maori Population	Maori Dose 2 Uptake	Non Maori Non Pacific Dose 2	Non Maori Non Pacific Population	Dose 2 Uptake	Rate Ratio
12 to 19	3,169	4,931	643	22,651	27,957	810	0.79
20 to 34	4,792	7,540	636	51,396	60,176	854	0.74
35 to 49	3,572	5,046	708	47,532	55,945	850	0.83
50 to 64	3,547	4,175	850	53,568	59,522	900	0.94
65+	1,871	1,954	958	52,677	54,738	962	0.99
Total	16,951	23,646	717	227,824	258,338	882	0.81

As at 23:59 Sun 28 Nov 2021		Māori						Pacific Peoples					
		65+	50-64	35-49	20-34	12-19	All Ages (12+)	65+	50-64	35-49	20-34	12-19	All Ages (12+)
National	Population	49,290	107,835	124,826	176,459	112,642	571,052	25,989	50,683	66,627	91,329	52,053	286,681
	Dose 1 #	47,968	97,315	100,938	132,093	87,191	465,505	23,886	47,494	61,694	81,734	45,591	260,399
	Dose 2 #	46,174	89,797	84,914	98,186	66,816	385,887	23,125	45,459	56,737	68,820	39,598	233,739
	Dose 1 %	97	90	81	75	77	82	92	94	93	89	88	91
	Dose 2 %	94	83	68	56	59	68	89	90	85	75	76	82
	Dose 1 RR	1.01	0.97	0.87	0.80	0.82	0.87	0.95	1.00	1.00	0.95	0.93	0.96
Dose 2 RR	0.99	0.92	0.78	0.65	0.70	0.76	0.94	1.00	0.98	0.88	0.90	0.92	
Southern	Dose 1 RR	1.00	0.97	0.90	0.84	0.88	0.89	0.96	1.02	1.12	1.13	0.98	1.06
	Dose 2 RR	0.99	0.94	0.83	0.74	0.79	0.81	0.95	1.01	1.08	1.07	0.92	1.00