

Risk of myocarditis and pericarditis following COVID-19 vaccination in England and Wales

Sample size

Dose 1

exposure	England	Wales	total
BNT162b2	7682139	798948	8481087
ChAdOx1-S	15949979	1206764	17156743
Comparator	26354470	610141	26964611
Total	49986588	2615853	52602441

Dose 2

exposure	England	Wales	total
BNT162b2	7307617	680811	7988428
ChAdOx1-S	8057048	1163684	9220732
Comparator	8268926	174042	8442968
Total	23633591	2018537	25652128

Estimates, overall

Dose 1

nation	exposure	days_post_vaccination	estimate	conf.low	conf.high	p.value
All	BNT162b2	0-13	0.81	0.55	1.19	0.27
All	BNT162b2	14+	1.11	0.91	1.34	0.30
All	ChAdOx1-S	0-13	0.82	0.62	1.09	0.18
All	ChAdOx1-S	14+	0.96	0.81	1.14	0.62
England	BNT162b2	0-13	0.83	0.56	1.23	0.35
England	BNT162b2	14+	1.11	0.91	1.35	0.29
England	ChAdOx1-S	0-13	0.84	0.63	1.12	0.23
England	ChAdOx1-S	14+	0.95	0.80	1.13	0.56
Wales	BNT162b2	0-13	0.41	0.06	2.89	0.37
Wales	BNT162b2	14+	0.92	0.26	3.20	0.89
Wales	ChAdOx1-S	0-13	0.53	0.12	2.30	0.39
Wales	ChAdOx1-S	14+	1.15	0.53	2.48	0.72

Dose 2

nation	exposure	days_post_vaccination	estimate	conf.low	conf.high	p.value
All	BNT162b2	0-13	1.12	0.74	1.69	0.59
All	BNT162b2	14+	1.73	1.26	2.39	0.00
All	ChAdOx1-S	0-13	1.18	0.77	1.80	0.46
All	ChAdOx1-S	14+	1.26	0.80	1.97	0.33
England	BNT162b2	0-13	0.93	0.60	1.44	0.73
England	BNT162b2	14+	1.71	1.22	2.40	0.00
England	ChAdOx1-S	0-13	1.18	0.76	1.82	0.46
England	ChAdOx1-S	14+	1.24	0.78	1.97	0.37
Wales	BNT162b2	0-13	4.63	1.39	15.43	0.01
Wales	BNT162b2	14+	1.95	0.71	5.35	0.19
Wales	ChAdOx1-S	0-13	1.14	0.11	11.34	0.91
Wales	ChAdOx1-S	14+	1.65	0.24	11.26	0.61

Estimates, by sex

Reported for England only due to insufficient events in the subgroups in Wales.

Dose 1

exposure	days_post_vaccination	sex	estimate	conf.low	conf.high	p.value
BNT162b2	0-13	Male	0.54	0.29	1.02	0.06
BNT162b2	0-13	Female	2.20	1.00	4.84	0.05
BNT162b2	14+	Male	1.19	0.94	1.51	0.16
BNT162b2	14+	Female	0.85	0.60	1.20	0.35
ChAdOx1-S	0-13	Male	0.98	0.70	1.37	0.92
ChAdOx1-S	0-13	Female	0.62	0.34	1.13	0.12
ChAdOx1-S	14+	Male	1.05	0.85	1.28	0.67
ChAdOx1-S	14+	Female	0.76	0.56	1.04	0.08

Dose 2

exposure	days_post_vaccination	sex	estimate	conf.low	conf.high	p.value
BNT162b2	0-13	Male	0.79	0.43	1.46	0.45
BNT162b2	0-13	Female	1.42	0.60	3.36	0.42
BNT162b2	14+	Male	1.86	1.23	2.82	0.00
BNT162b2	14+	Female	0.81	0.45	1.47	0.49
ChAdOx1-S	0-13	Male	1.09	0.63	1.90	0.76
ChAdOx1-S	0-13	Female	1.21	0.54	2.70	0.64
ChAdOx1-S	14+	Male	0.94	0.49	1.80	0.85
ChAdOx1-S	14+	Female	1.78	0.76	4.21	0.19

Estimates, by age group

Reported for England only due to insufficient events in the subgroups in Wales.

Dose 1

exposure	days_post_vaccination	age_group	estimate	conf.low	conf.high	p.value
BNT162b2	0-13	<40	1.90	0.67	5.36	0.23
BNT162b2	0-13	40-69	0.90	0.52	1.57	0.71
BNT162b2	0-13	70+	0.61	0.26	1.46	0.27
BNT162b2	14+	<40	1.17	0.68	2.02	0.56
BNT162b2	14+	40-69	1.24	0.96	1.60	0.10
BNT162b2	14+	70+	0.71	0.48	1.04	0.08
ChAdOx1-S	0-13	<40	2.05	0.97	4.31	0.06
ChAdOx1-S	0-13	40-69	0.81	0.57	1.16	0.26
ChAdOx1-S	0-13	70+	0.72	0.35	1.47	0.37
ChAdOx1-S	14+	<40	1.41	0.90	2.22	0.14
ChAdOx1-S	14+	40-69	0.98	0.79	1.21	0.86
ChAdOx1-S	14+	70+	0.76	0.53	1.09	0.14

Dose 2

exposure	days_post_vaccination	age_group	estimate	conf.low	conf.high	p.value
BNT162b2	0-13	<40	3.68	0.96	14.10	0.06
BNT162b2	0-13	40-69	0.46	0.17	1.25	0.13
BNT162b2	0-13	70+	2.43	0.78	7.62	0.13
BNT162b2	14+	<40	1.78	0.64	4.98	0.27
BNT162b2	14+	40-69	0.99	0.50	1.95	0.97
BNT162b2	14+	70+	2.26	1.05	4.87	0.04
ChAdOx1-S	0-13	<40	0.60	0.14	2.69	0.51
ChAdOx1-S	0-13	40-69	1.81	1.06	3.08	0.03
ChAdOx1-S	0-13	70+	0.38	0.16	0.94	0.04
ChAdOx1-S	14+	<40	0.62	0.07	5.30	0.66
ChAdOx1-S	14+	40-69	1.10	0.48	2.53	0.82
ChAdOx1-S	14+	70+	1.26	0.47	3.33	0.64

Heterogeneity p-values

Reported for England only due to insufficient events in the subgroups in Wales.

Dose 1

Sex

exposure	days_post_vaccination	p.value
BNT162b2	0-13	0.05
BNT162b2	14+	0.36
ChAdOx1-S	0-13	0.11
ChAdOx1-S	14+	0.08

Age group

exposure	days_post_vaccination	p.value
BNT162b2	0-13	0.14
BNT162b2	14+	0.09
ChAdOx1-S	0-13	0.06
ChAdOx1-S	14+	0.06

Dose 2

Sex

exposure	days_post_vaccination	p.value
BNT162b2	0-13	0.42
BNT162b2	14+	0.48
ChAdOx1-S	0-13	0.65
ChAdOx1-S	14+	0.20

Age group

exposure	days_post_vaccination	p.value
BNT162b2	0-13	0.15
BNT162b2	14+	0.12
ChAdOx1-S	0-13	0.10
ChAdOx1-S	14+	0.79