

SUPPLEMENTARY APPENDIX

COVID-19 vaccine uptake in England by women of reproductive age: Analysis of national surveillance data

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Supplementary Table 1: RESILIENT Study Group Collaborators

Collaborator	Position
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Ms. Rachel Roberts	Research Manager, Tommy's Charity, UK

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Supplementary Table 2: Office for National Statistics classification of self-declared ethnicity

Broad ethnic category	Ethnicity group	
White	A	British, Mixed British
	B	Irish
	C	Any other White background*
Black/African/Caribbean/Black British	M	Caribbean
	N	African
	P	Any other Black background
Indian (Asian or Asian British)	H	Indian or British Indian
Pakistani (Asian or Asian British)	J	Pakistani or British Pakistani
Other Asian/Asian British	K	Bangladeshi or British Bangladeshi
	L	Any other Asian background
	R	Chinese
Mixed/multiple ethnic groups	D	White and Black Caribbean
	E	White and Black African
	F	White and Asian
	G	Any other mixed background
Any other ethnic group	S	Any other ethnic group
Not stated/unknown	T	NULL (Unknown)
	W	NULL (Unknown)
	Z	Not Stated

Supplementary Table 3: Poisson model (unadjusted) examining the impact of age, ethnicity, and IMD on ANY vaccine uptake*

Counts	IRR	Robust SE	z	P> z	[95% CI]	
					Lower	Upper
Programme week						
	1.03	0.000	81.15	<0.001	1.029	1.031
Age band (Ref: 18-29 yrs)						
30-39 yrs	1.16	0.01	13.16	<0.001	1.14	1.19
40-49 yrs	1.40	0.02	26.46	<0.001	1.37	1.44
IMD 2019 (Ref: IMD 1)						
2	1.06	0.01	4.35	<0.001	1.03	1.09
3	1.12	0.02	7.44	<0.001	1.09	1.15
4	1.16	0.02	9.10	<0.001	1.12	1.20
5	1.19	0.02	10.14	<0.001	1.15	1.23
Ethnic origins (Ref: White British)						
White Irish	0.85	0.01	-14.07	<0.001	0.84	0.87
White Other	0.67	0.01	-35.19	<0.001	0.066	0.69
Black Caribbean	0.65	0.01	-39.36	<0.001	0.64	0.66
Black African	0.77	0.01	-24.28	<0.001	0.75	0.79
Any other Black origins	0.87	0.01	-12.36	<0.001	0.86	0.89
Indian	0.77	0.01	-24.29	<0.001	0.75	0.79
Pakistani	0.95	0.01	-4.63	<0.001	0.93	0.97
Bangladeshi	0.85	0.02	-13.36	<0.001	0.83	0.87
Chinese	0.96	0.01	-3.23	0.001	0.940.24	0.98
Other Asian	0.90	0.01	-9.76	<0.001	0.88	0.92
White & Black Caribbean	0.50	0.01	-58.13	<0.001	0.49	0.52
White & Black African	0.74	0.01	-25.85	<0.001	0.72	0.75
White & Asian	0.64	0.01	-40.22	<0.001	0.62	0.65
Any Other Mixed origin	0.60	0.01	-37.22	<0.001	0.59	0.62
Other ethnicity	0.72	0.01	-29.14	<0.001	0.71	0.74
Not stated/Unknown	0.63	0.07	-42.33	<0.001	0.62	0.64
Constant	0.16	0.03	-87.60	<0.001	0.15	0.17

CI (confidence interval), IMD (index of multiple deprivation), IRR (incidence rate ratio), SE (standard error)

* The model Wald chi-square was 16,816, with p value <0.0001; Pseudo R²: 0.6759; model convergence (9 iterations) with log pseudolikelihood = -32,133,761.

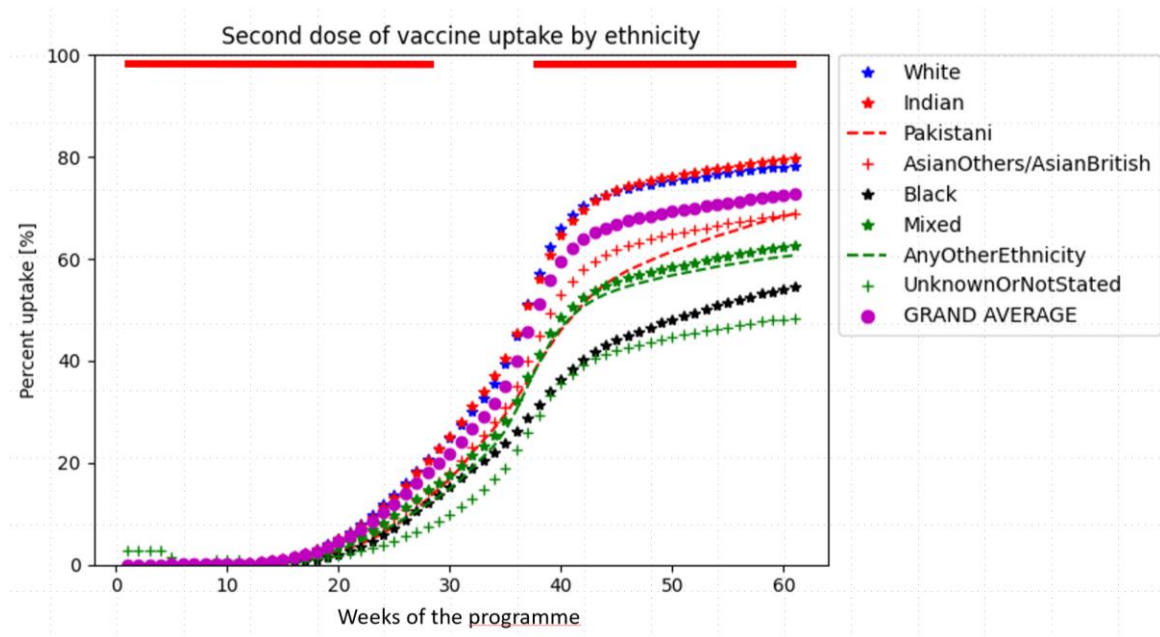
Supplementary Figure 1: COVID-19 second dose vaccine uptake by ethnicity, normalised for date of vaccine availability by age group and presented for the second dose by aggregated ethnic group (Supplementary Figure 1a) and by specific ethnic group (Supplementary Figure 1b).

Supplementary Figure 1 legend: The bars at the top of the figures represent time periods with significant differences in vaccine uptake by ethnicity, at the $p < 1.47 \times 10^{-6}$ level.

Supplementary Figure 1(a) presents second dose vaccine uptake by aggregated ethnic group, as in Supplementary Table 1.

Supplementary Figure 1(b) presents second dose vaccine uptake by specific ethnic group, as in Supplementary Table 1 with the exception of 'Not stated/Unknown' which remains aggregated.

(a)



(b)

