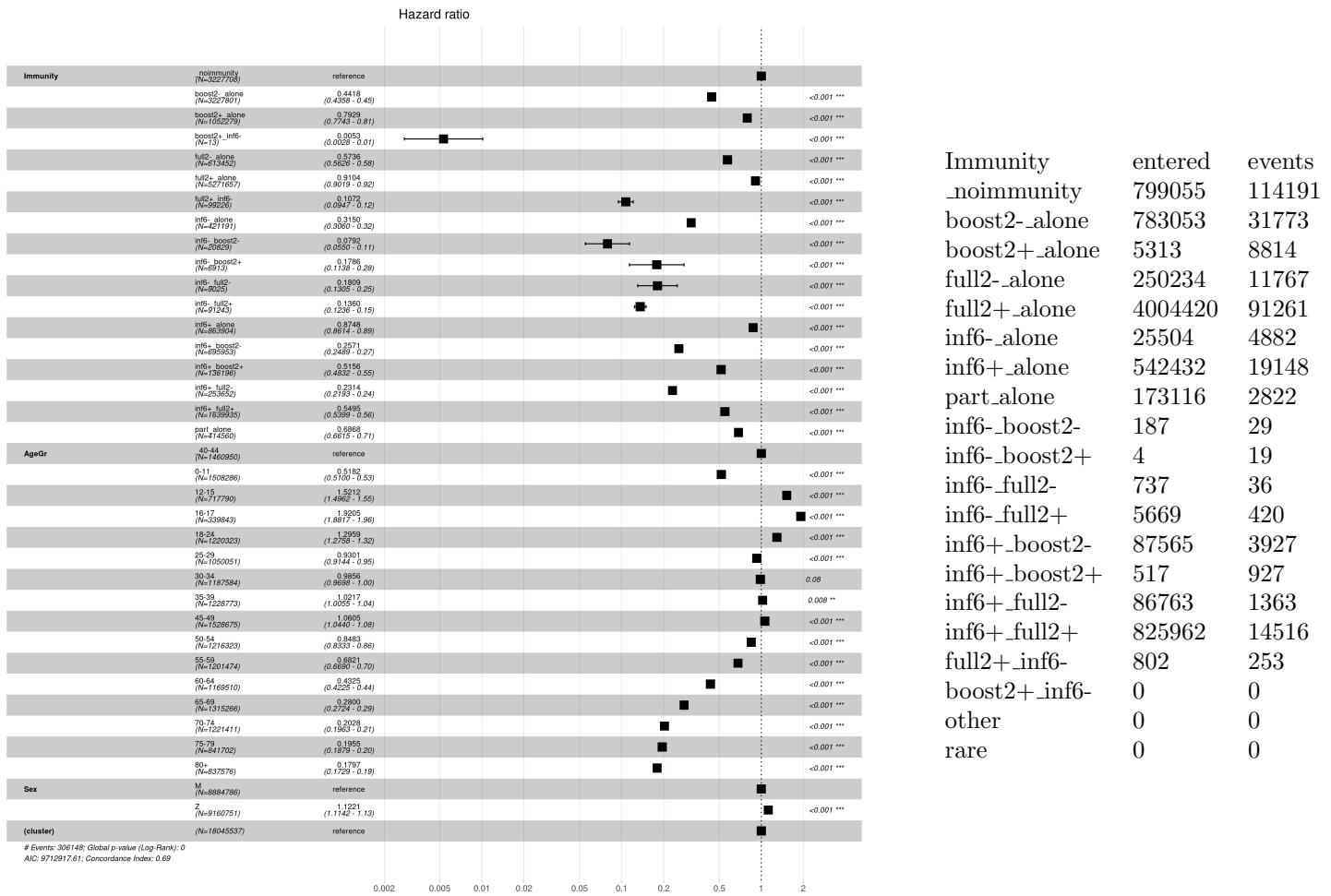


Protection provided by covid-19 vaccines and previous infection against the Omicron
variant

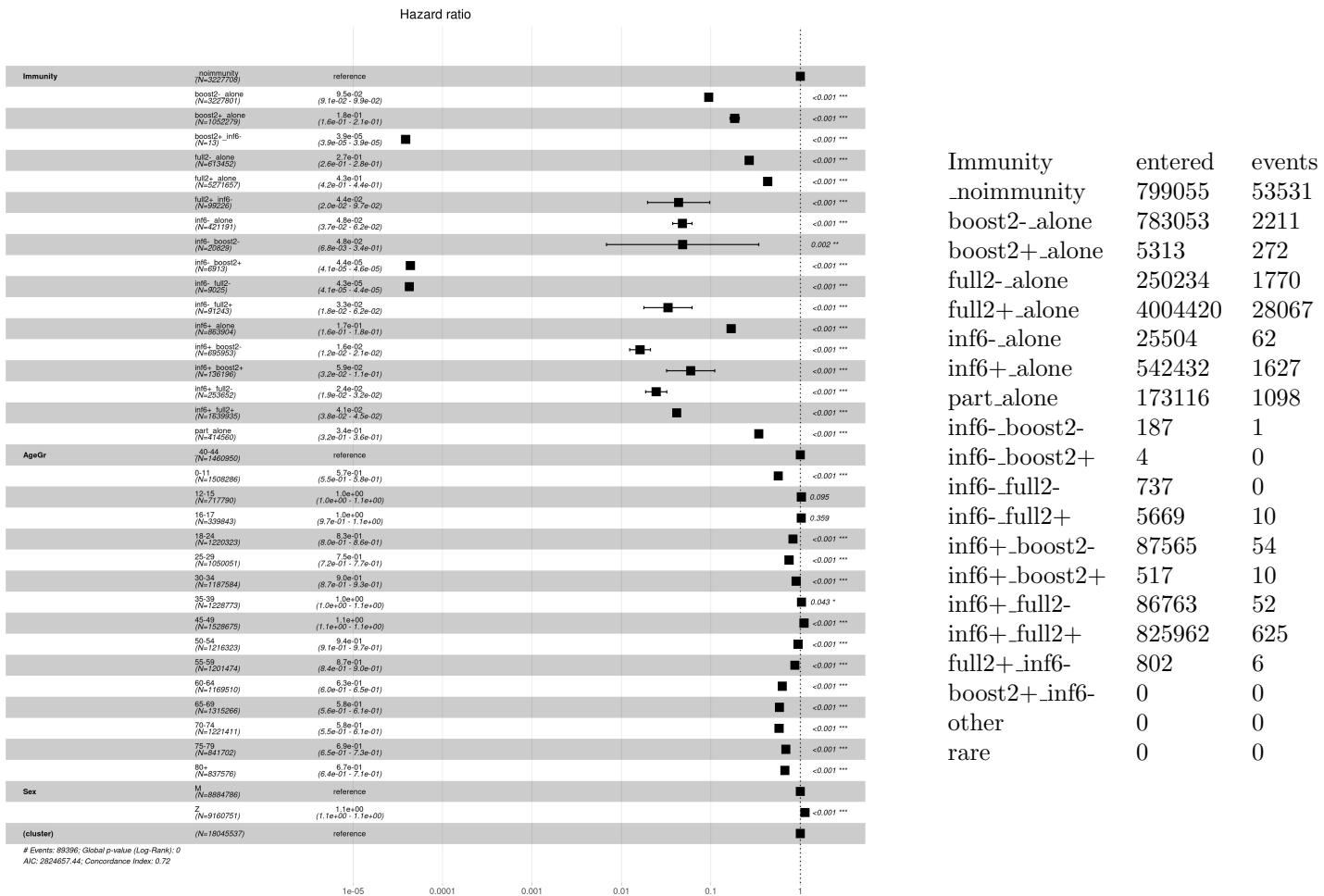
Results of Statistical Estimation

July 24, 2022

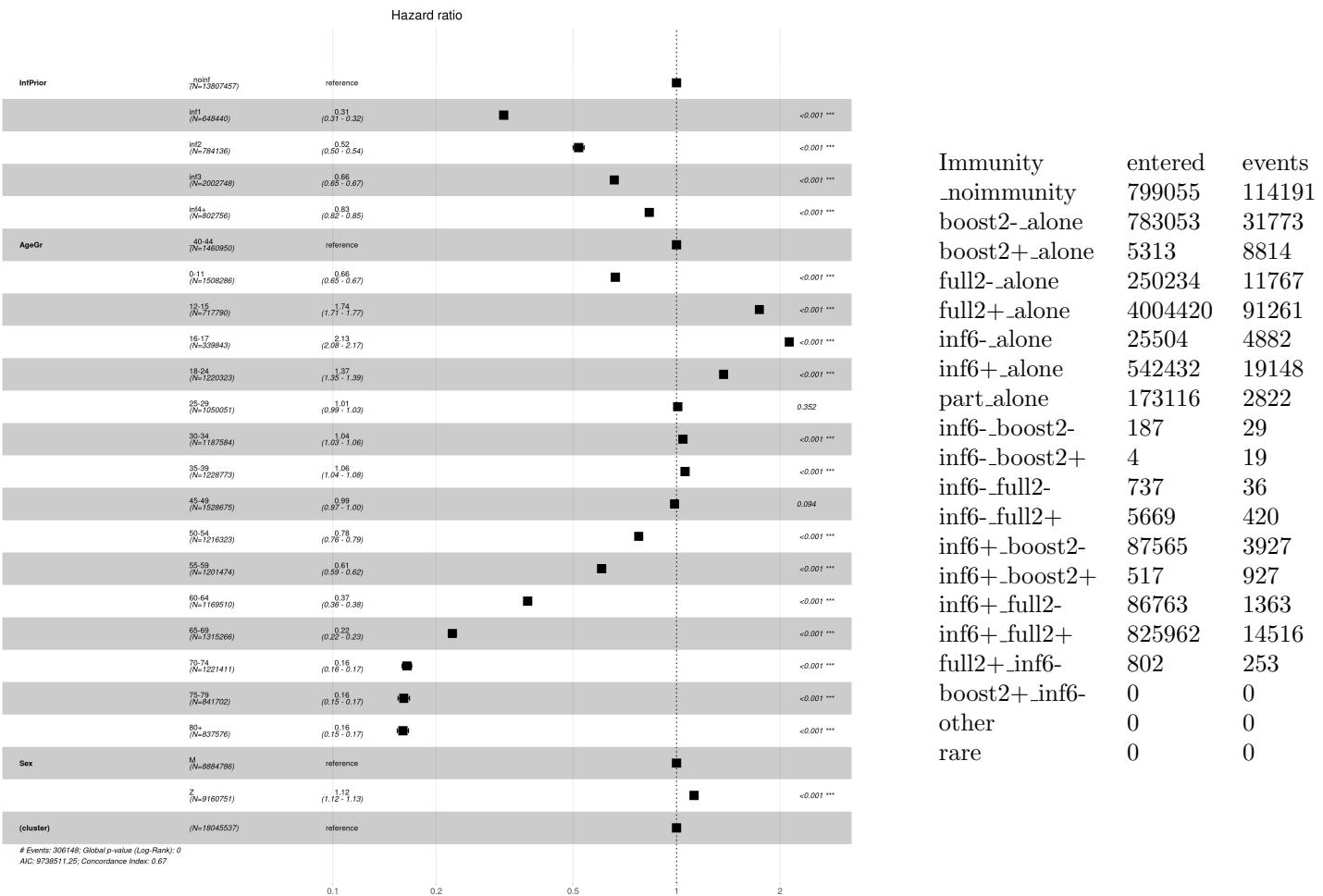
1 Infections – Omicron



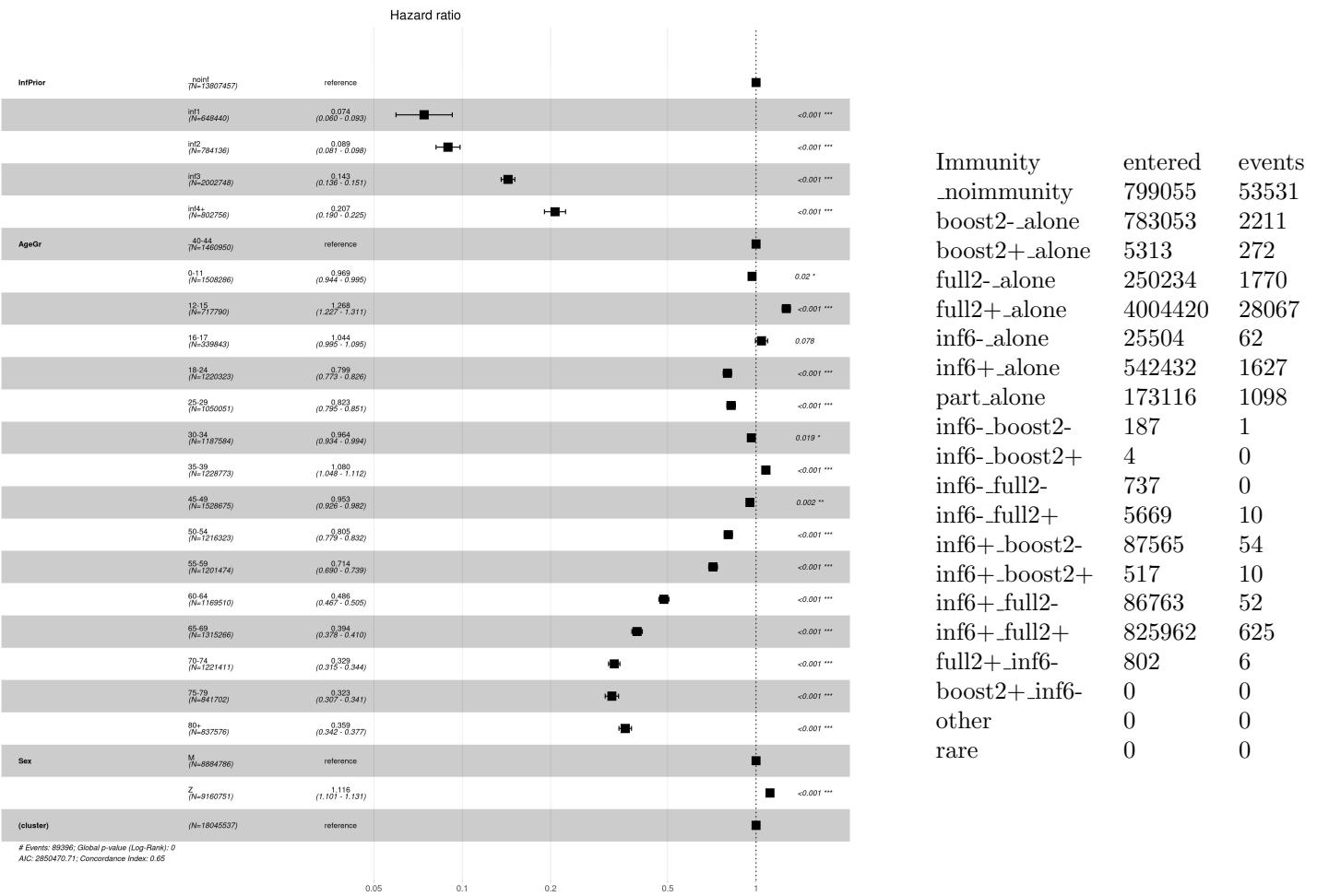
2 Infections – Delta



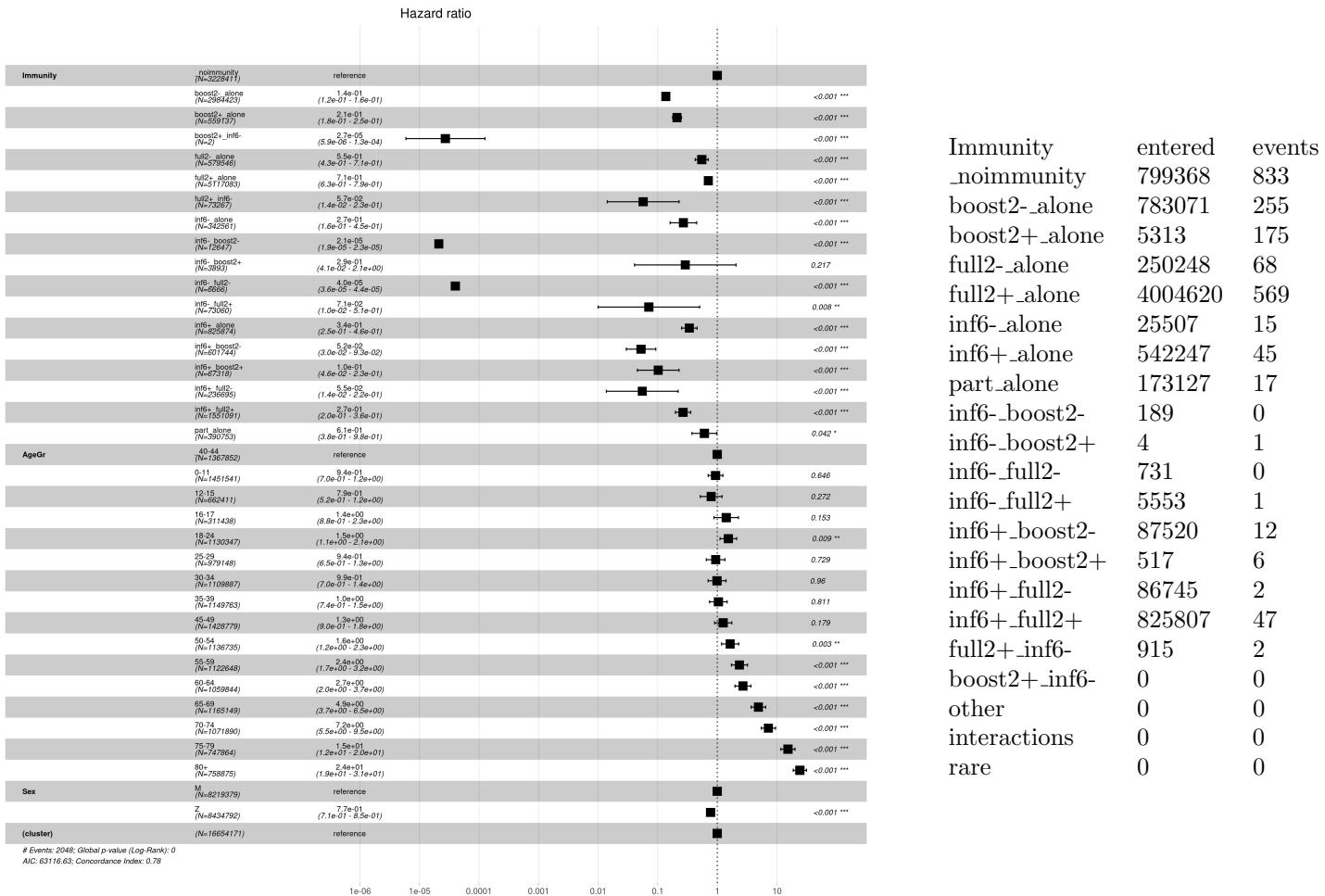
3 Re-infections – Omicron



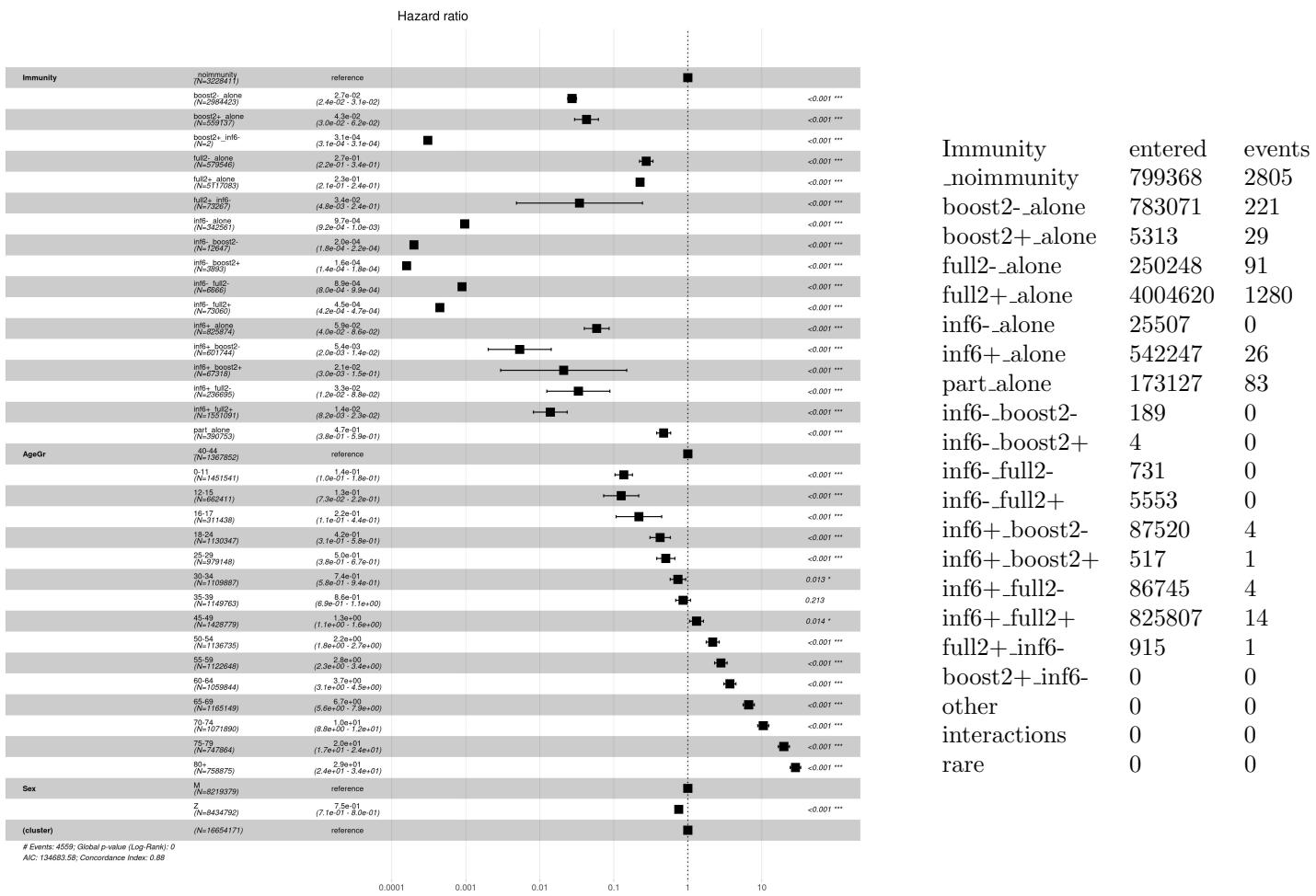
4 Re-infections – Delta



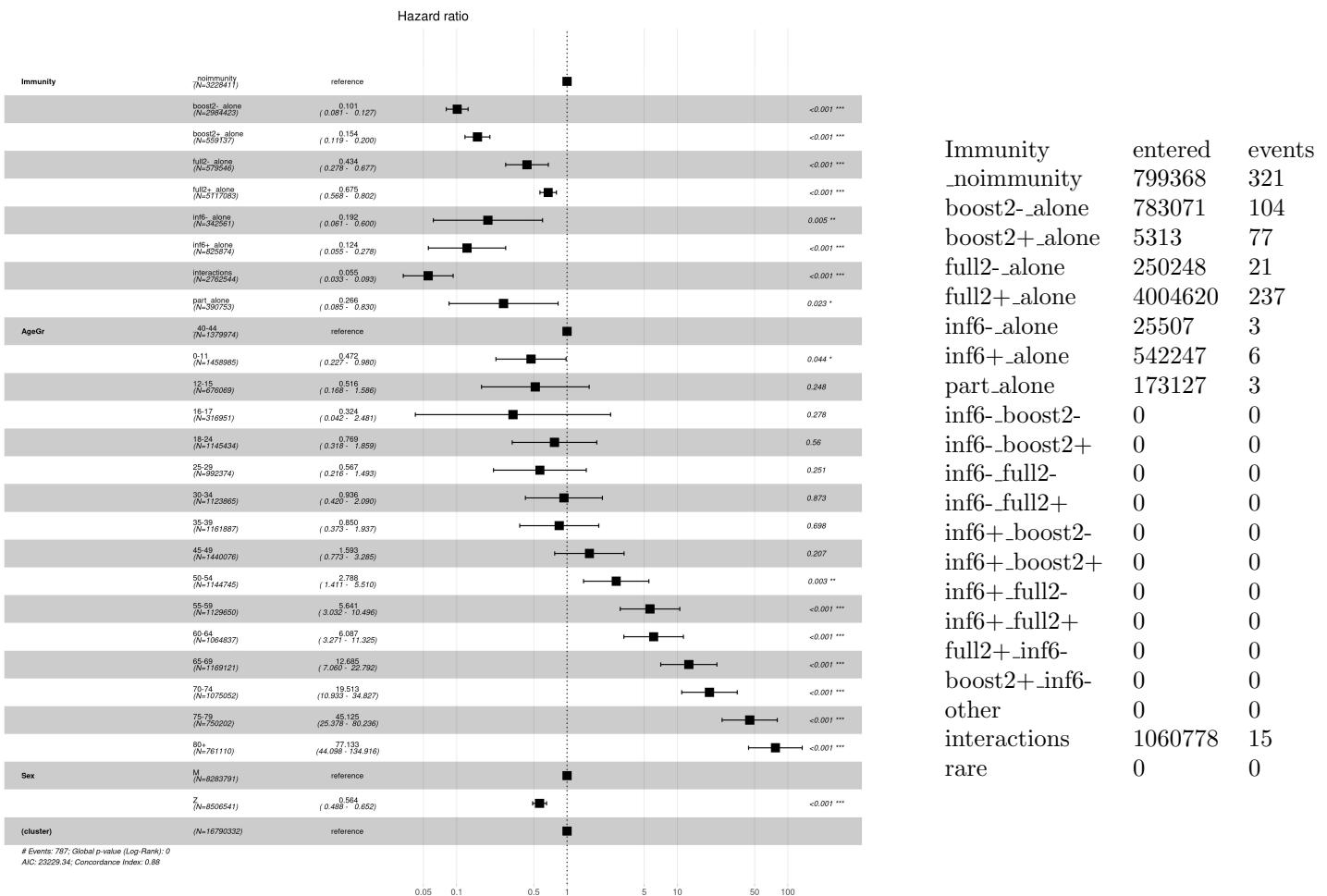
5 Hospitalizations – Omicron



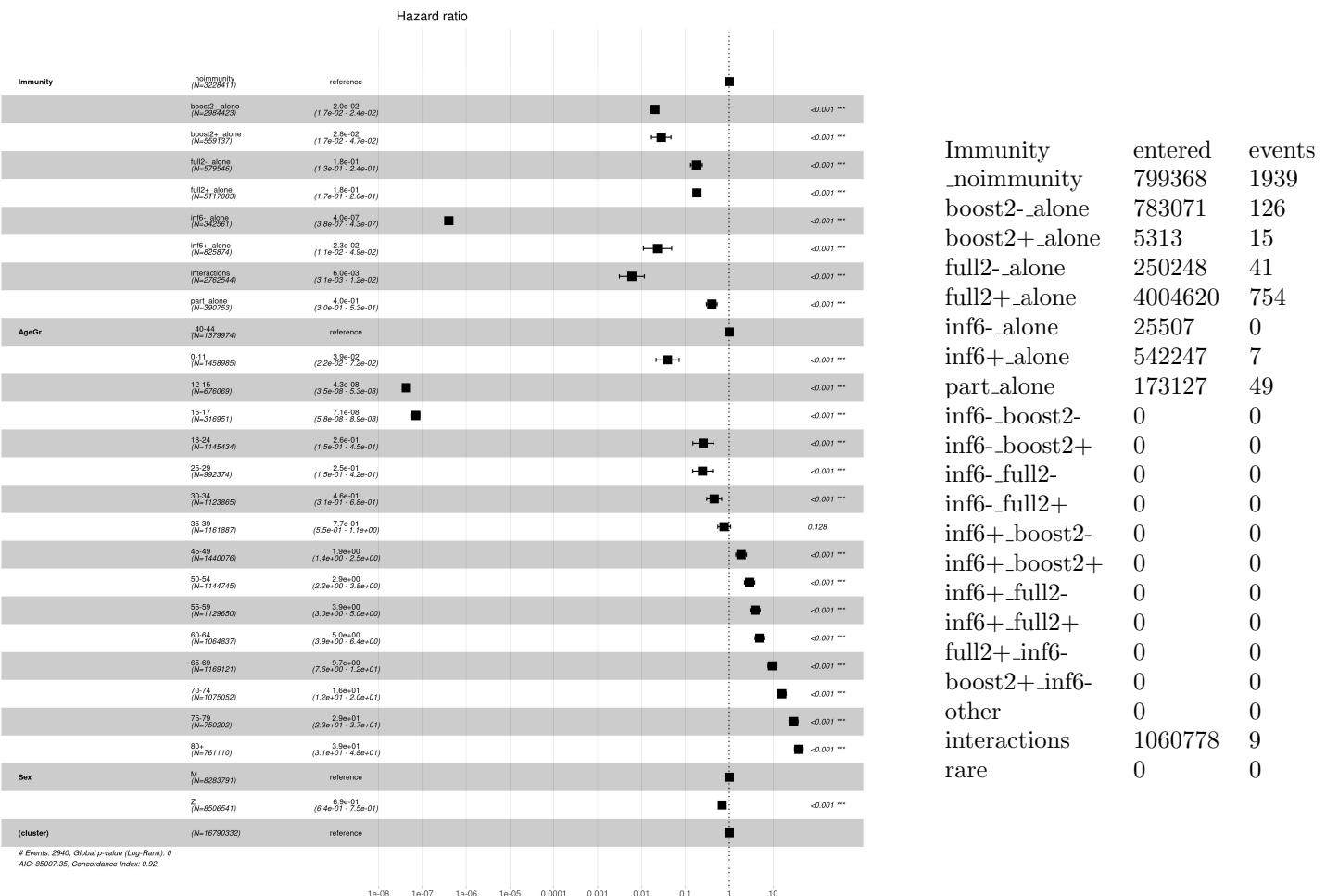
6 Hospitalizations – Delta



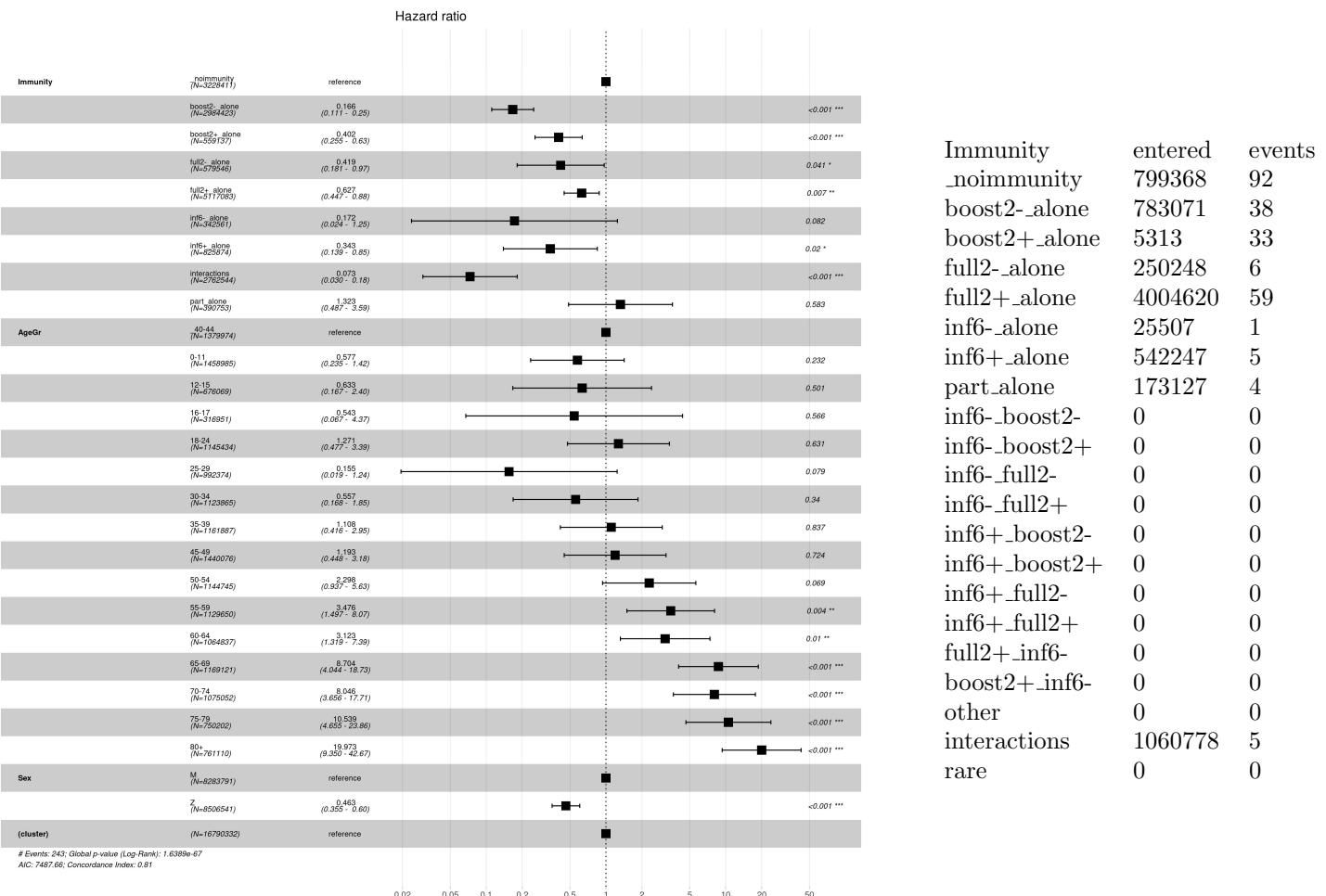
7 Oxygen therapy – Omicron



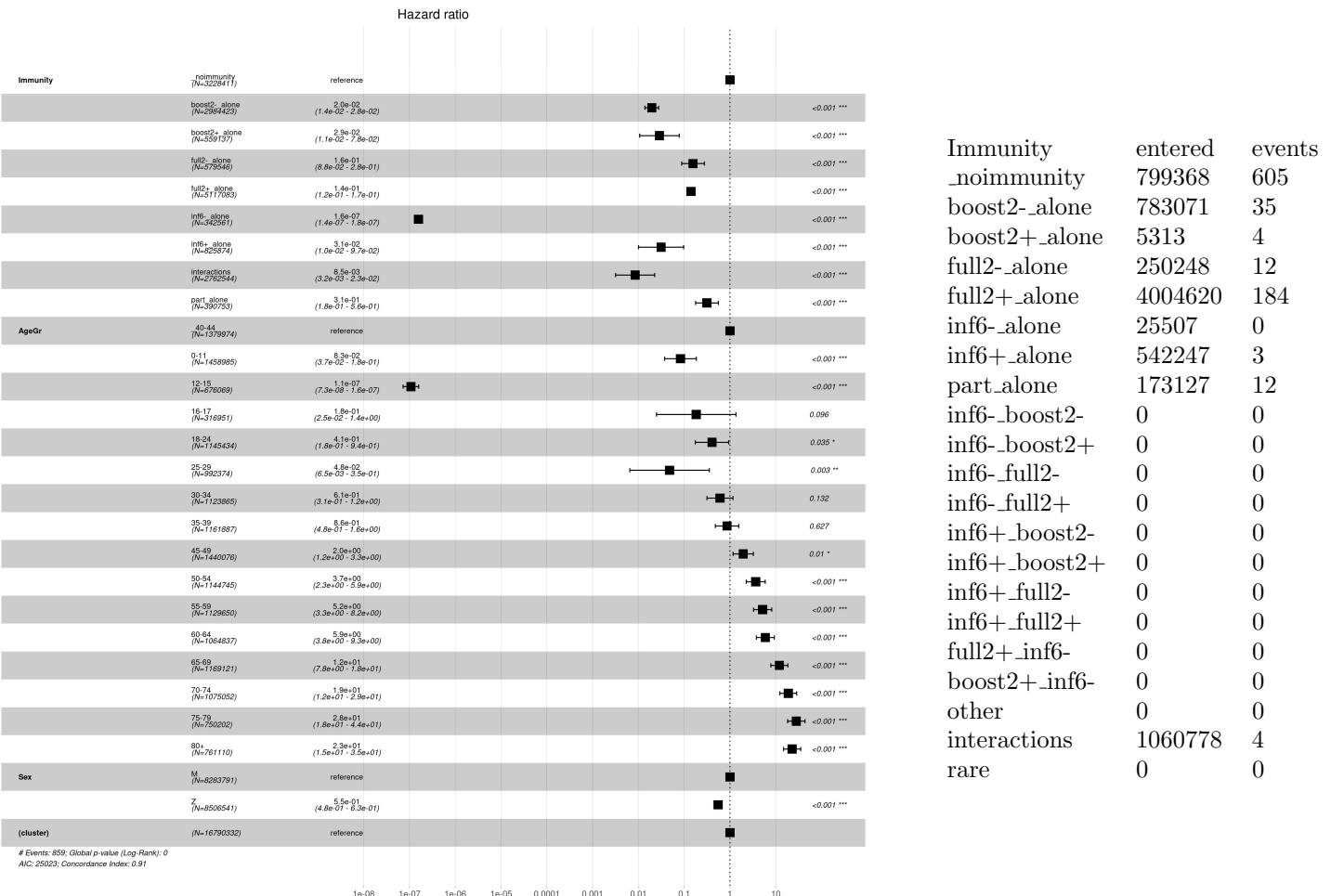
8 Oxygen therapy – Delta



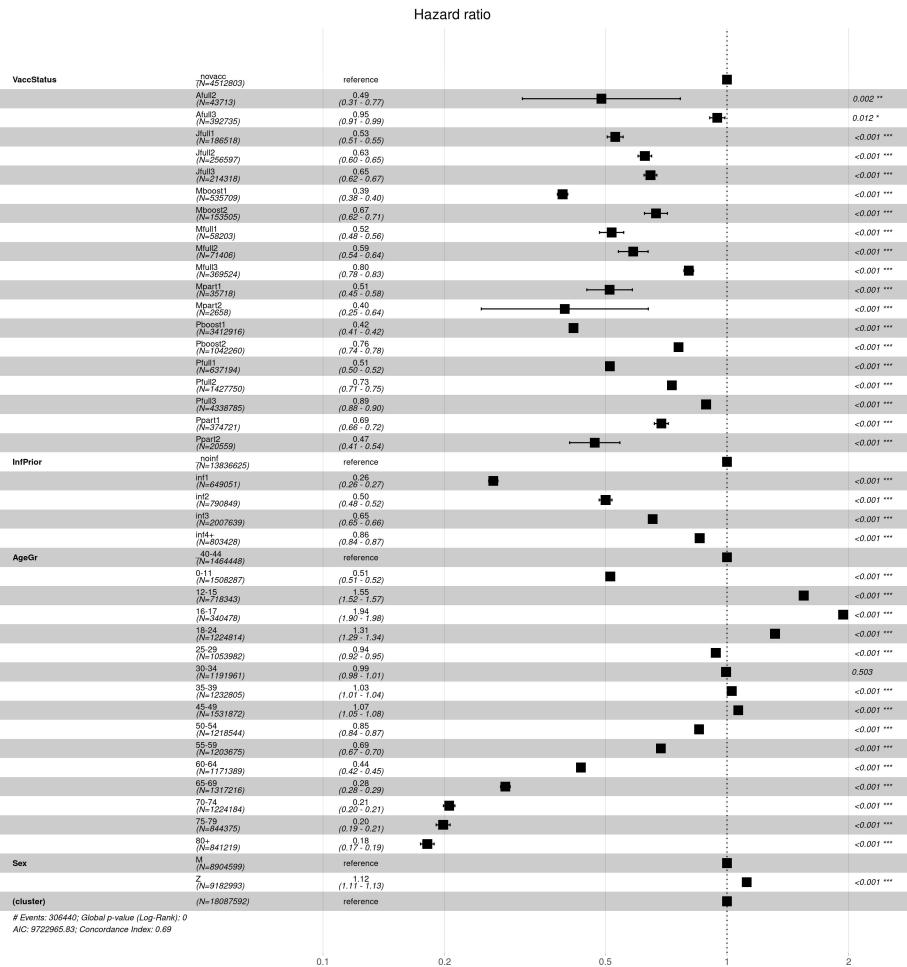
9 ICU therapy – Omicron



10 ICU therapy – Delta

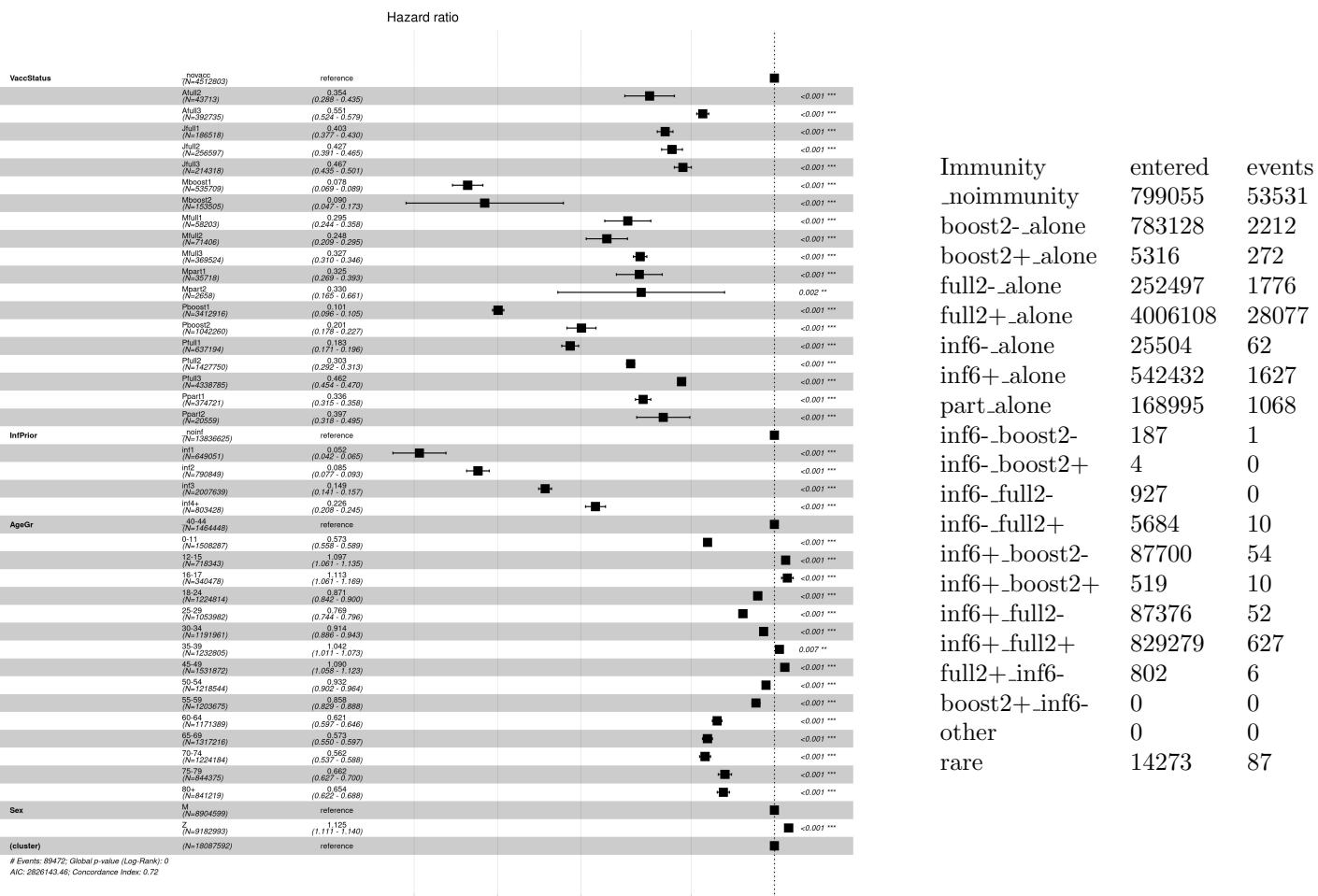


11 Infections by Vaccines - Omicron

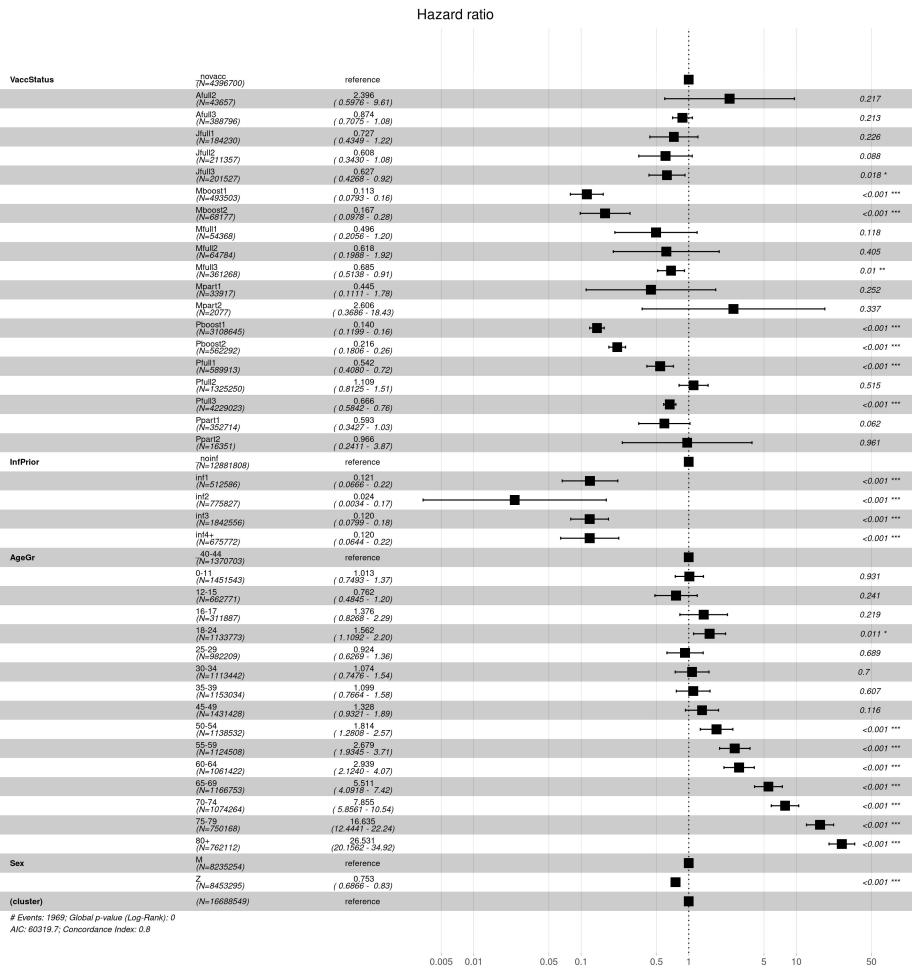


Immunity	entered	events
_noimmunity	799055	114191
boost2-alone	783128	31776
boost2+alone	5316	8816
full2-alone	252497	11825
full2+alone	4006108	91329
inf6-alone	25504	4882
inf6+alone	542432	19148
part-alone	168995	2721
inf6-boost2-	187	29
inf6-boost2+	4	19
inf6-full2-	927	40
inf6-full2+	5684	420
inf6+boost2-	87700	3934
inf6+boost2+	519	928
inf6+full2-	87376	1374
inf6+full2+	829279	14550
full2+inf6-	802	253
boost2+inf6-	0	0
other	0	0
rare	14273	205

12 Infections by Vaccines - Delta

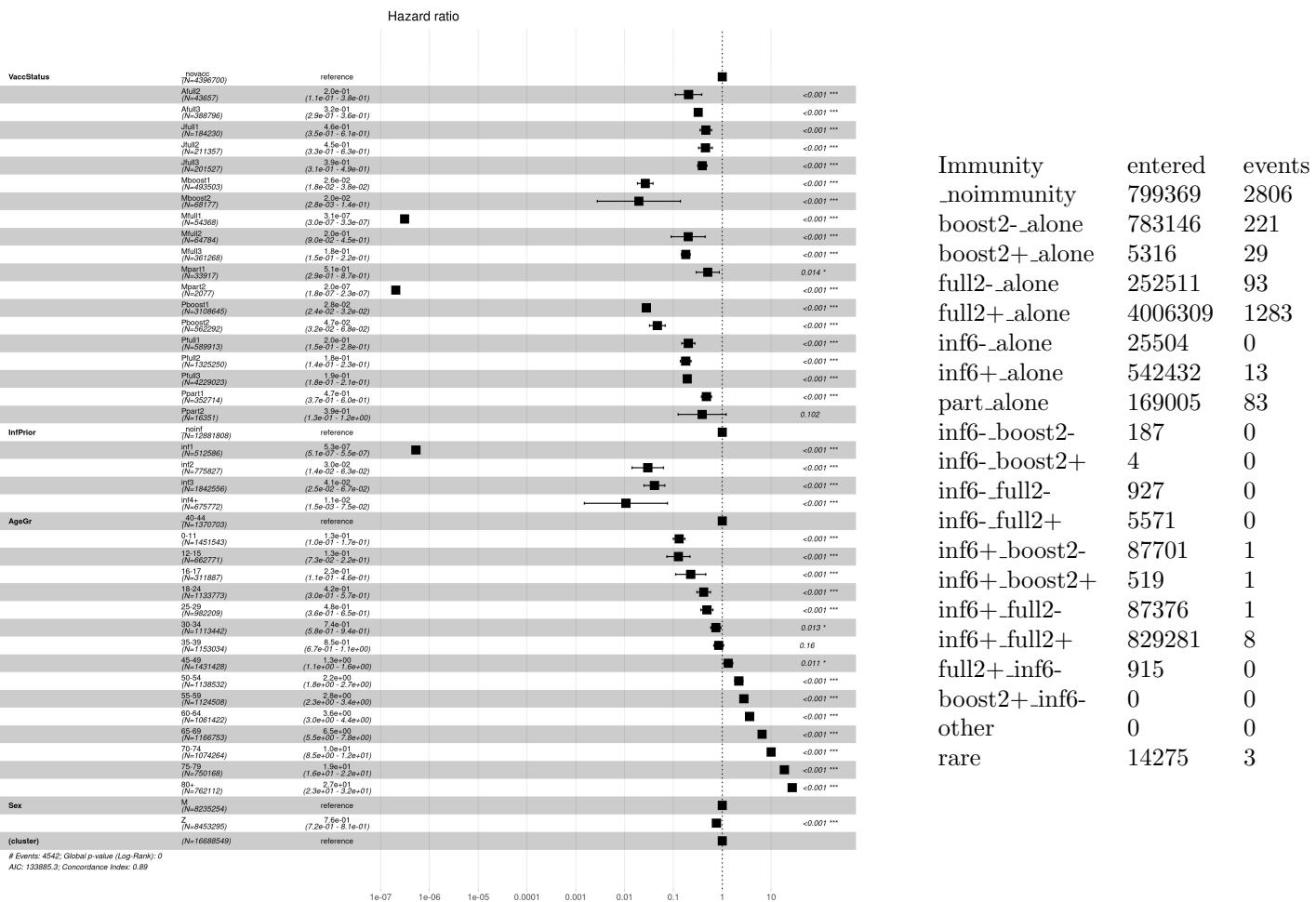


13 Hospitalizations by Vaccines - Omicron

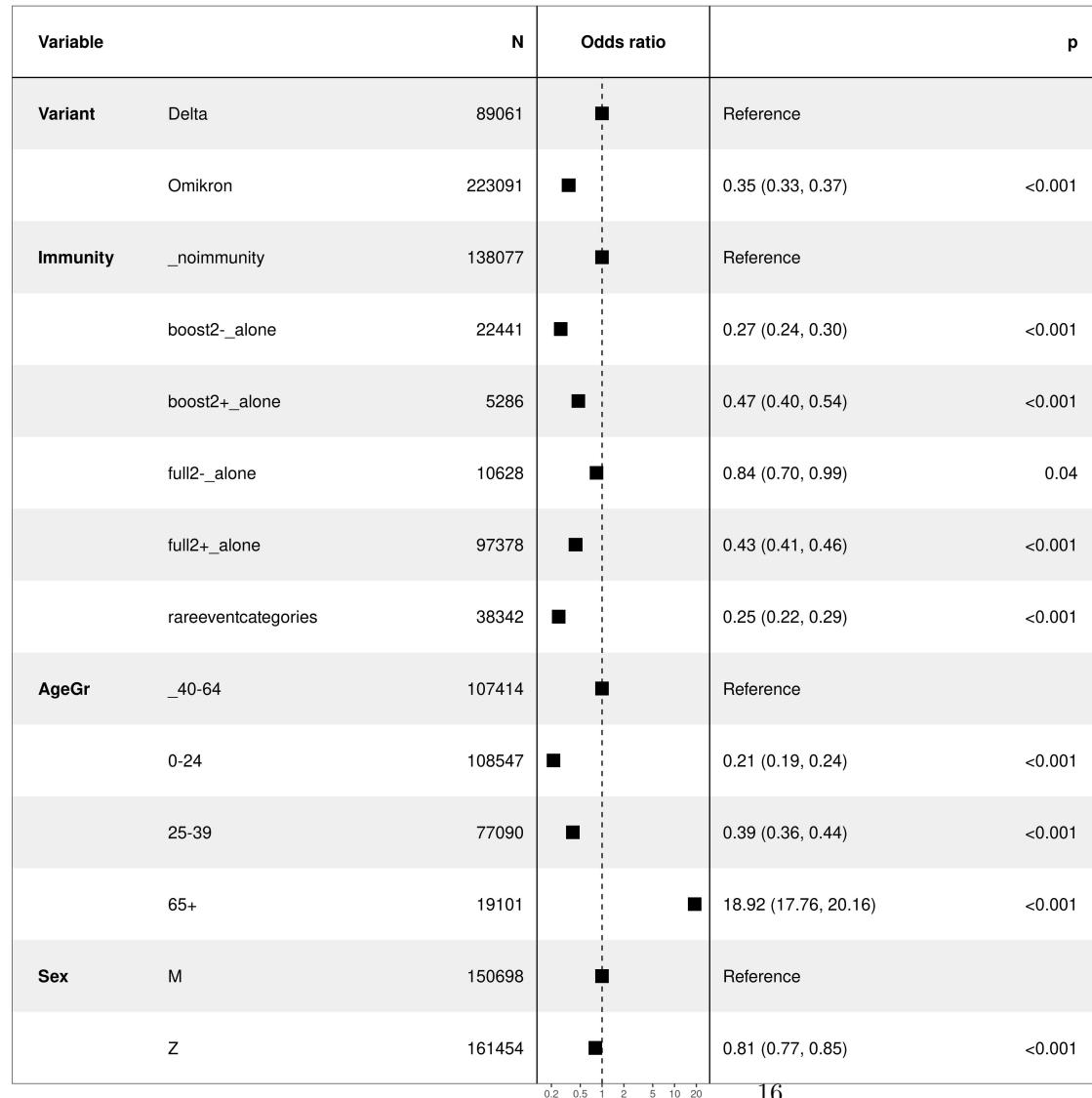


Immunity	entered	events
_noimmunity	799369	833
boost2-alone	783146	255
boost2+alone	5316	175
full2-alone	252511	71
full2+alone	4006309	571
inf6-alone	25504	7
inf6+alone	542432	10
part-alone	169005	15
inf6-boost2-	187	0
inf6-boost2+	4	1
inf6-full2-	927	0
inf6-full2+	5571	1
inf6+boost2-	87701	4
inf6+boost2+	519	2
inf6+full2-	87376	1
inf6+full2+	829281	18
full2+inf6-	915	2
boost2+inf6-	0	0
other	0	0
rare	14275	3

14 Hospitalizations by Vaccines - Delta



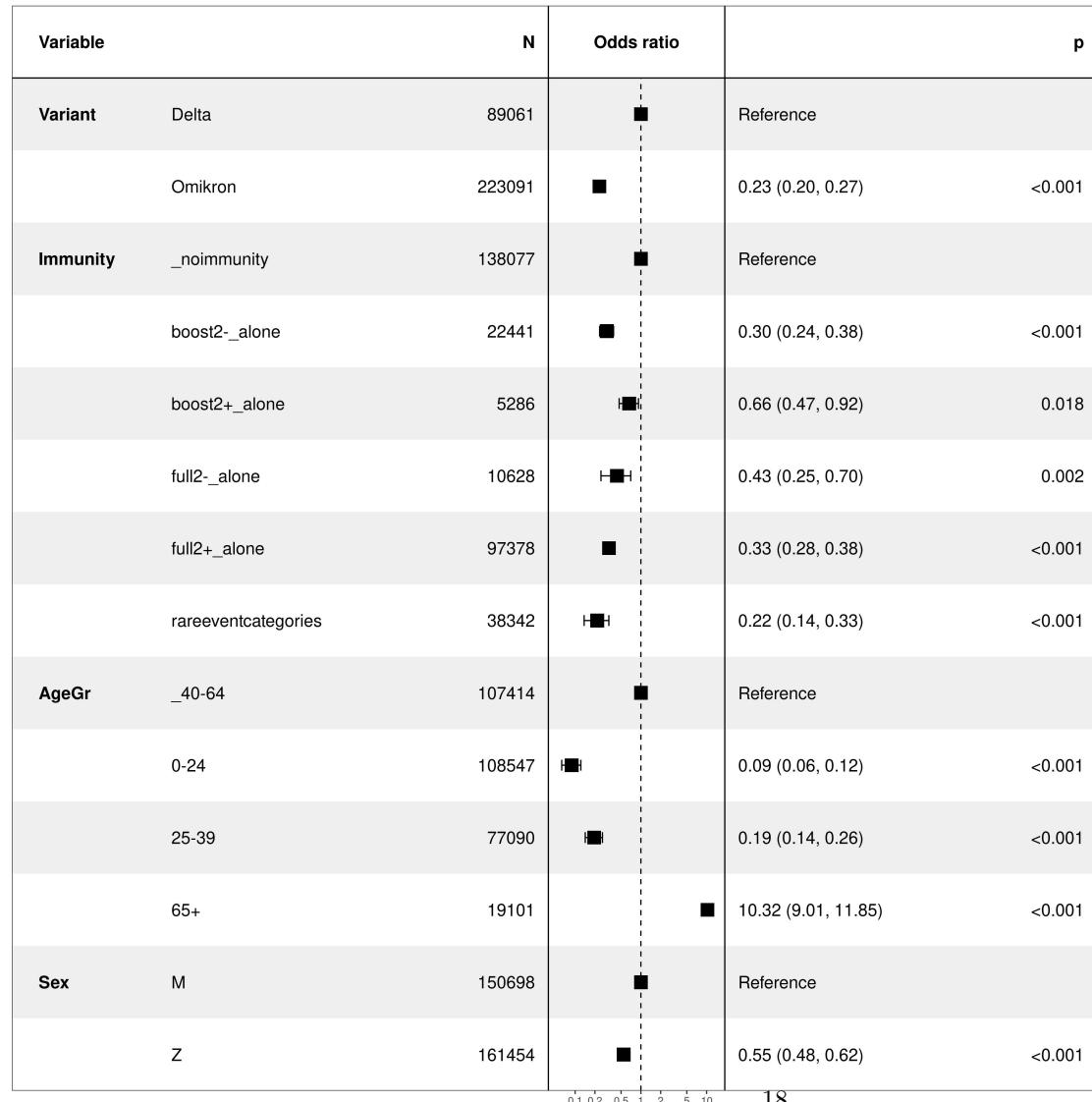
15 Hospitalization given Infection



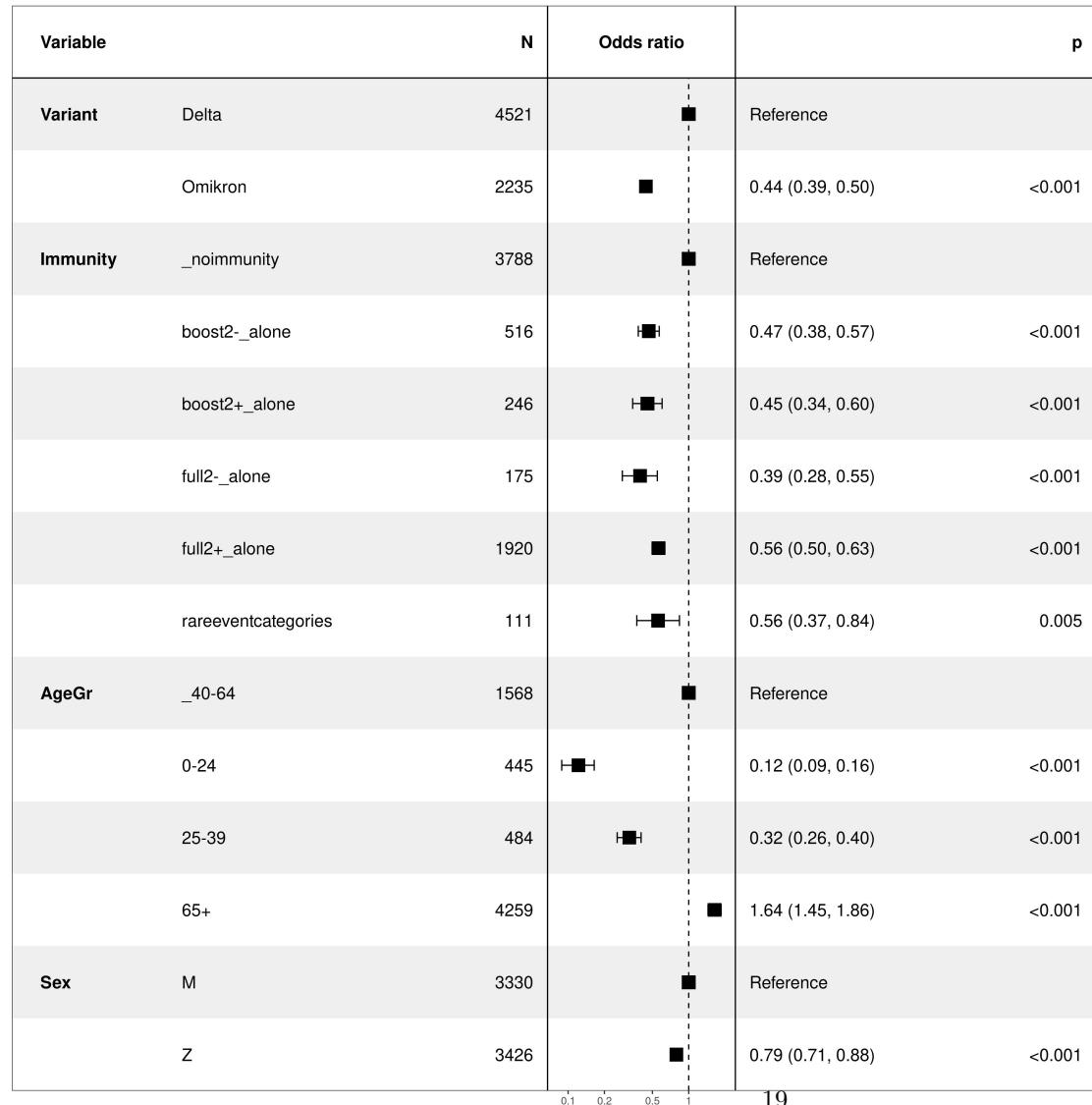
16 Oxygen given Infection

Variable		N	Odds ratio	p
Variant	Delta	89038	1	Reference
	Omkron	223041	0.23 (0.21, 0.25)	<0.001
Immunity	_noimmunity	138077	1	Reference
	boost2-_alone	22441	0.22 (0.19, 0.25)	<0.001
	boost2+_alone	5286	0.37 (0.30, 0.46)	<0.001
	full2-_alone	10628	0.55 (0.42, 0.71)	<0.001
	full2+_alone	97378	0.35 (0.32, 0.38)	<0.001
	rareeventcategories	38269	0.15 (0.11, 0.20)	<0.001
AgeGr	_40-64	107391	1	Reference
	0-24	108545	0.05 (0.03, 0.06)	<0.001
	25-39	77082	0.20 (0.17, 0.24)	<0.001
	65+	19061	18.66 (17.21, 20.26)	<0.001
Sex	M	150658	1	Reference
	Z	161421	0.72 (0.67, 0.77)	<0.001

17 ICU given Infection



18 Oxagen given Hospitalization



19 ICU given Hospitalization

