

# Vyvanuti III

Results of Statistical Estimation

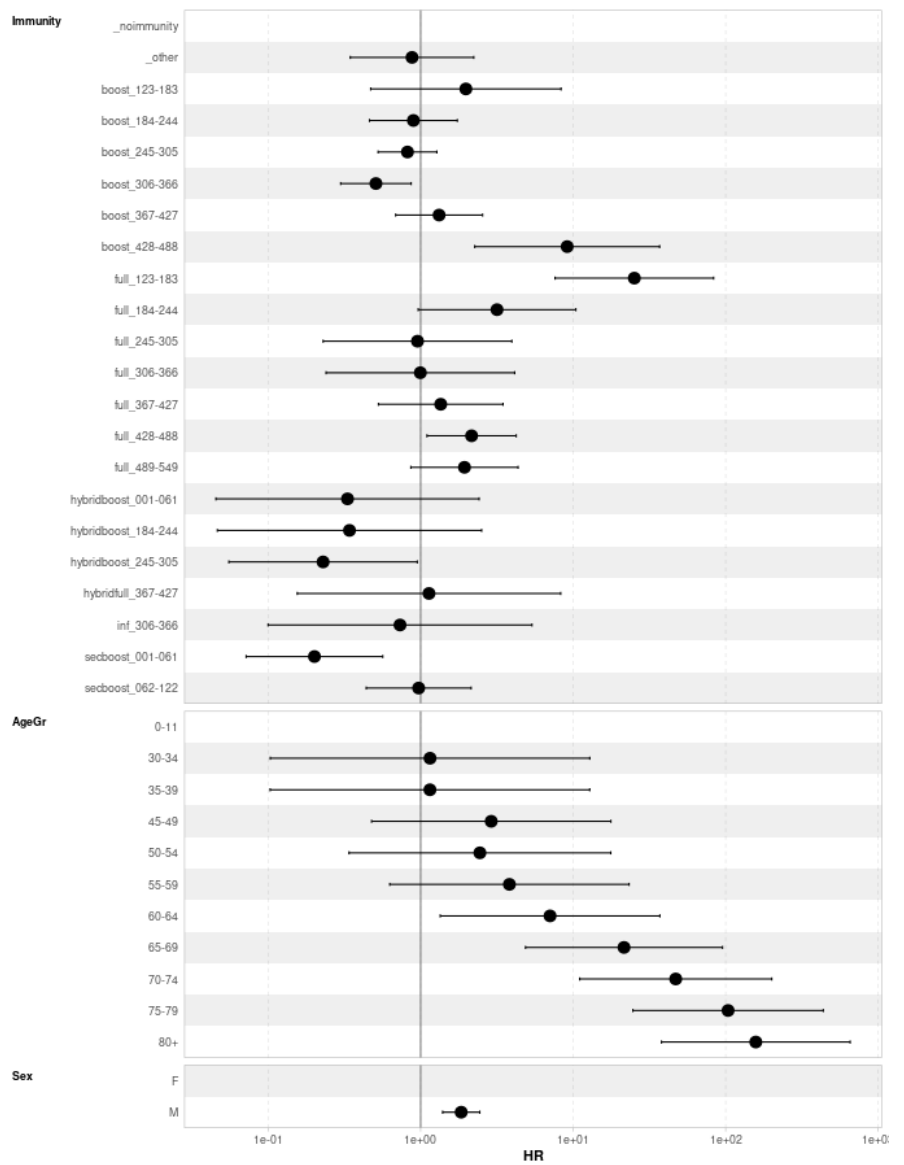
April 28, 2023

# 1 Test Cox

	beta	lower	upper	HR	lower	upper	eff	upper	lower
Immunity_other	-0.13	-1.06	0.80	0.88	0.35	2.23	0.12	0.65	-1.23
Immunityboost_123-183	0.68	-0.75	2.12	1.98	0.47	8.33	-0.98	0.53	-7.33
Immunityboost_184-244	-0.11	-0.77	0.55	0.90	0.46	1.74	0.10	0.54	-0.74
Immunityboost_245-305	-0.20	-0.64	0.25	0.82	0.53	1.28	0.18	0.47	-0.28
Immunityboost_306-366	-0.68	-1.21	-0.14	0.51	0.30	0.87	0.49	0.70	0.13
Immunityboost_367-427	0.28	-0.38	0.94	1.32	0.69	2.55	-0.32	0.31	-1.55
Immunityboost_428-488	2.21	0.82	3.61	9.14	2.26	36.89	-8.14	-1.26	-35.89
Immunityfull_123-183	3.23	2.03	4.42	25.19	7.61	83.35	-24.19	-6.61	-82.35
Immunityfull_184-244	1.15	-0.04	2.34	3.17	0.96	10.42	-2.17	0.04	-9.42
Immunityfull_245-305	-0.05	-1.47	1.38	0.95	0.23	3.96	0.05	0.77	-2.96
Immunityfull_306-366	-0.00	-1.43	1.42	1.00	0.24	4.14	0.00	0.76	-3.14
Immunityfull_367-427	0.30	-0.64	1.24	1.35	0.53	3.47	-0.35	0.47	-2.47
Immunityfull_428-488	0.77	0.10	1.44	2.16	1.10	4.23	-1.16	-0.10	-3.23
Immunityfull_489-549	0.66	-0.15	1.47	1.94	0.86	4.35	-0.94	0.14	-3.35
Immunityhybridboost_001-061	-1.10	-3.09	0.88	0.33	0.05	2.42	0.67	0.95	-1.42
Immunityhybridboost_184-244	-1.07	-3.07	0.92	0.34	0.05	2.51	0.66	0.95	-1.51
Immunityhybridboost_245-305	-1.47	-2.90	-0.05	0.23	0.06	0.95	0.77	0.94	0.05
Immunityhybridfull_367-427	0.13	-1.86	2.11	1.13	0.16	8.28	-0.13	0.84	-7.28
Immunityinf_306-366	-0.31	-2.30	1.68	0.73	0.10	5.37	0.27	0.90	-4.37
Immunitysecboost_001-061	-1.60	-2.63	-0.57	0.20	0.07	0.56	0.80	0.93	0.44
Immunitysecboost_062-122	-0.03	-0.82	0.76	0.97	0.44	2.14	0.03	0.56	-1.14
AgeGr30-34	0.14	-2.27	2.55	1.15	0.10	12.86	-0.15	0.90	-11.86
AgeGr35-39	0.14	-2.27	2.55	1.15	0.10	12.84	-0.15	0.90	-11.84
AgeGr45-49	1.07	-0.74	2.87	2.90	0.48	17.68	-1.90	0.52	-16.68
AgeGr50-54	0.89	-1.08	2.87	2.45	0.34	17.65	-1.45	0.66	-16.65
AgeGr55-59	1.34	-0.47	3.15	3.82	0.63	23.27	-2.82	0.37	-22.27
AgeGr60-64	1.95	0.30	3.61	7.06	1.34	37.05	-6.06	-0.34	-36.05
AgeGr65-69	3.07	1.58	4.56	21.55	4.87	95.34	-20.55	-3.87	-94.34
AgeGr70-74	3.85	2.40	5.30	47.06	11.04	200.58	-46.06	-10.04	-199.58
AgeGr75-79	4.64	3.20	6.08	103.72	24.63	436.72	-102.72	-23.63	-435.72
AgeGr80+	5.06	3.64	6.48	157.61	37.92	655.08	-156.61	-36.92	-654.08
SexM	0.61	0.33	0.89	1.85	1.39	2.44	-0.85	-0.39	-1.44

Cox Model Summary

Characteristic	N = 972,952 <sup>†</sup>
SeriousCovidProxy	201 (<0.1%)
<b>Immunity</b>	
_noimmunity	89,057 (9.2%)
_other	29,226 (3.0%)
boost_123-183	51,712 (5.3%)
boost_184-244	127,307 (13%)
boost_245-305	125,858 (13%)
boost_306-366	110,165 (11%)
boost_367-427	75,663 (7.8%)
boost_428-488	9,592 (1.0%)
full_123-183	6,221 (0.6%)
full_184-244	13,469 (1.4%)
full_245-305	18,163 (1.9%)
full_306-366	34,601 (3.6%)
full_367-427	34,732 (3.6%)
full_428-488	27,568 (2.8%)
full_489-549	23,936 (2.5%)
hybridboost_001-061	8,532 (0.9%)
hybridboost_184-244	34,556 (3.6%)
hybridboost_245-305	53,367 (5.5%)
hybridfull_367-427	12,455 (1.3%)
inf_306-366	33,456 (3.4%)
secboost_001-061	28,843 (3.0%)
secboost_062-122	24,473 (2.5%)
<b>Sex</b>	
F	501,122 (52%)
M	471,830 (48%)
<sup>†</sup> n (%)	



Description statistics and forest plot

	immunities	deltas	lower_of_deltas	upper_of_deltas
2	Immunityfull	0.10	-0.11	0.30
3	Immunityboost	-0.06	-0.18	0.06
4	Immunitysecboost	0.38	0.00	0.77
5	Immunitysecbnew			
6	Immunityinf			
7	Immunityhybridfull			
8	Immunityhybridboost	-0.01	-0.10	0.08

Monthly percentage decrease of effectiveness/protection

	1	2	3	4	5	6	7
1		0.67			0.26	0.17	1.41
2	-0.67				-0.30	0.16	2.77
3							-0.38
4							
5	-0.26	0.30					
6	-0.17	-0.16					
7	-1.41	-2.77	0.38				

Effectiveness/protection differences

	1	2	3	4	5	6	7
		0.67			0.26	0.17	1.41
	-0.67				-0.30	0.16	2.77
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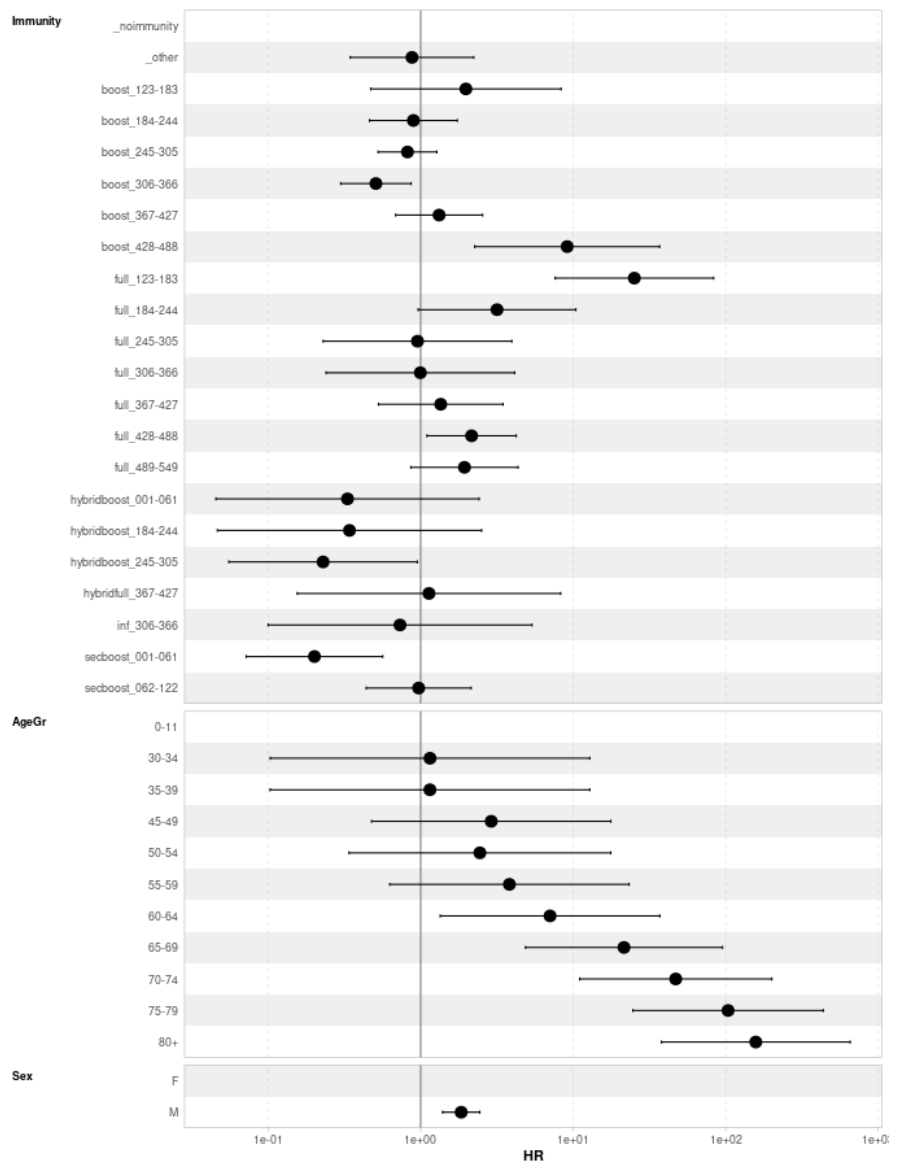
Z-scores of effectiveness/protection differences

## 2 Test Logreg

Estimate	Std. Error	z value	Pr(> z )
-4.8452	0.0807	-60.06	0.0000
0.1930	0.1861	1.04	0.2997
-0.3645	0.0696	-5.24	0.0000
-0.1601	0.0654	-2.45	0.0144
-0.4024	0.1464	-2.75	0.0060
-0.3869	0.1659	-2.33	0.0197
0.1230	0.1178	1.04	0.2964
-0.1667	0.0941	-1.77	0.0765
-0.1709	0.0718	-2.38	0.0174
-0.1080	0.1233	-0.88	0.3811
-0.0124	0.2311	-0.05	0.9571
0.1894	0.5089	0.37	0.7097
-0.3375	0.1606	-2.10	0.0357
0.0394	0.1521	0.26	0.7958
-0.1187	0.5081	-0.23	0.8153
0.1933	0.3216	0.60	0.5477
0.0694	0.1829	0.38	0.7041
-0.1070	0.1726	-0.62	0.5356
-0.1052	0.1469	-0.72	0.4739
-0.0908	0.2728	-0.33	0.7393
-0.6022	0.7124	-0.85	0.3980
0.4345	0.1577	2.75	0.0059
0.2703	0.3218	0.84	0.4009
0.3048	0.3594	0.85	0.3963
-0.1594	0.1852	-0.86	0.3895
0.0351	0.1626	0.22	0.8291
-0.1844	0.1945	-0.95	0.3432
0.1024	0.2828	0.36	0.7173
0.5360	0.0502	10.68	0.0000
0.7599	0.0531	14.32	0.0000
-2.6424	0.2776	-9.52	0.0000
-2.3361	0.2867	-8.15	0.0000
-2.7128	0.5054	-5.37	0.0000
-0.9792	0.1419	-6.90	0.0000
-0.2979	0.1159	-2.57	0.0102
-0.2287	0.1058	-2.16	0.0307
-0.1411	0.1021	-1.38	0.1667
0.3804	0.0868	4.38	0.0000
0.4918	0.0899	5.47	0.0000
0.6153	0.0901	6.83	0.0000
0.5768	0.0989	5.83	0.0000
0.6643	0.1051	6.32	0.0000
0.7631	0.1081	7.06	0.0000
0.7660	0.1187	6.45	0.0000
0.9388	0.1095	8.57	0.0000
-0.2006	0.0408	-4.92	0.0000

Logistic Regression Model Summary

Characteristic	N = 972,952 <sup>†</sup>
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