



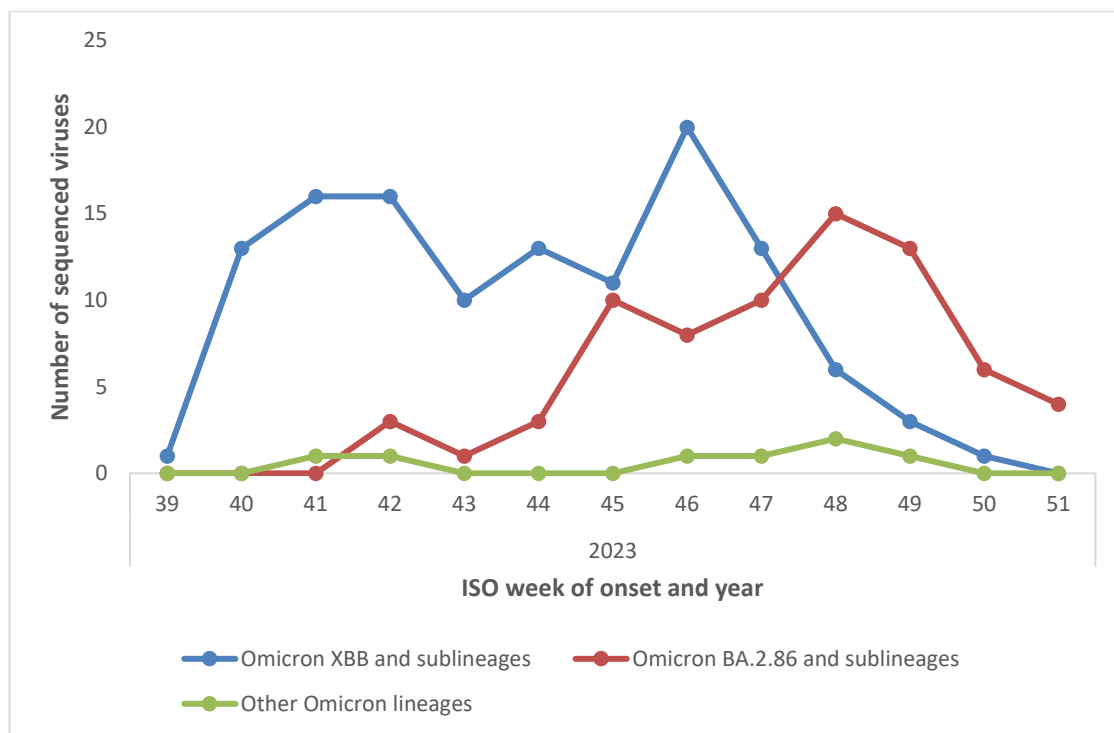
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2 **Supplementary Figure 1.** Countries and study sites<sup>a</sup> participating in the VEBIS study of  
3 COVID-19 vaccination effectiveness at primary care level in Europe, September 2023–January  
4 2024 (n = 11)

5 DE: Germany; ES: Spain (several regions); FR: France; HR: Croatia; HU: Hungary; IE: Ireland; NA: Navarre (Spain,  
6 one region); NL: the Netherlands; PT: Portugal; RO: Romania; SE: Sweden; VEBIS: Vaccine Effectiveness, Burden  
7 and Impact Studies.

8 <sup>a</sup> Ten study sites included in the 2023/24 interim COVID-19 VE analysis (providing ≥10 COVID-19 cases): DE, ES,  
9 FR, HR, HU, IE, NA, NL, PT, SE

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 13 **Supplementary Figure 2.** Number of sequenced viruses by Omicron lineage and ISO week of  
 14 onset of symptoms of the patient, Europe, VEBIS primary care study, September 2023–January  
 15 2024, Europe

16 ISO: International Organisation for Standardisation; VEBIS: Vaccine Effectiveness, Burden and Impact Studies.

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 18 **Supplementary Table 1.** Pooled vaccine effectiveness against medically attended SARS-CoV-  
 19 2 infection among the target group for COVID-19 vaccination, overall, and by age group, VEBIS  
 20 primary care study, Europe, September 2023–January 2024

Analysis	Time since vaccination	N	Cases	Cases vaccinated	Controls	Controls vaccinated	VE (95% CI)
All ages; against any SARS-CoV-2	Any	5454	1057	122	4397	713	40 (26–53)
	<6 weeks	5085	1001	66	4084	400	48 (31–61)
	6–14 weeks	4988	991	56	3997	313	29 (3–49)

Analysis	Time since vaccination	N	Cases	Cases vaccinated	Controls	Controls vaccinated	VE (95% CI)
Younger vaccination target group (<50–65 years); against any SARS-CoV-2	Any	223 2	374	8	1858	80	59 (18–82)
	<6 weeks	221 1	371	5	1840	62	69 (28–90)
	6–14 weeks	216 5	369	3	1796	18	28 (-128–84)
Older adult vaccination target group (≥50–65 years); against any SARS-CoV-2	Any	322 2	683	114	2539	633	37 (19–51)
	<6 weeks	287 4	630	61	2244	338	45 (26–60)
	6–14 weeks	282 3	622	53	2201	295	26 (-3–48)
All ages; against Omicron XBB and its sublineages	Any	234 1	119	6	2222	196	50 (-17–82)
	<6 weeks	2326	118	5	2208	182	46 (-32–82)
	6–14 weeks	2154	114	1	2040	14	NC <sup>a</sup>
Older adult vaccination target group (≥50–65 years); against Omicron XBB and its sublineages	Any	1319	81	5	1238	169	63 (6–88)
	<6 weeks	1305	80	4	1225	156	63 (-2–90)
	6–14 weeks	1159	77	1	1082	13	NC <sup>a</sup>

21 Abbreviations: CI, confidence interval; N, number; NC, not calculated due to small sample size; VE, vaccine effectiveness;  
22 VEBIS, Vaccine Effectiveness, Burden and Impact Studies.

23 <sup>a</sup> Not calculated, as fewer than three cases vaccinated and fewer than 20 patients vaccinated.

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25 **Supplementary Table 2.** Sensitivity analyses for the pooled vaccine effectiveness against  
26 medically attended SARS-CoV-2 infection among the target group for COVID-19 vaccination,  
27 overall, and age group, VEBIS primary care study, September 2023–January 2024, Europe

Age group	Time since vaccination	N	Cases	Cases vaccinated	Controls	Controls vaccinated	VE (95% CI)
<b>Sensitivity analysis 1: COVID-19 VE against any SARS-CoV-2, considering someone as “immunised” 14 or more days after vaccination<sup>a</sup></b>							
All ages	Any	5065	983	102	4082	614	40 (24–54)
	<6 weeks	4699	927	46	3772	304	51 (33–66)
	6–14 weeks	4715	937	56	3778	310	26 (-2–47)
Younger vaccination target group (<50–65 years)	Any	2107	355	5	1752	66	70 (30–90)
	<6 weeks	2087	352	2	1735	49	NC <sup>b</sup>
	6–14 weeks	2056	353	3	1703	17	21 (-150–82)
Older adult vaccination target group (≥50–65 years)	Any	2958	628	97	2330	548	36 (16–51)
	<6 weeks	2612	575	44	2037	255	45 (22–62)
	6–14 weeks	2659	584	53	2075	293	24 (-6–47)
<b>Sensitivity analysis 2: COVID-19 VE against any SARS-CoV-2, excluding unvaccinated patients who were vaccinated within 3 months of the autumn 2023 COVID-19 vaccination campaign</b>							
All ages	Any	549 5	1067	122	4428	713	41 (26–53)
	<6 weeks	512 6	1011	66	4115	400	47 (30–61)
	≥6 weeks	502 9	1001	56	4028	313	30 (3–49)
Patients among the younger COVID-19 vaccination target group (<50–65 years)	Any	224 7	377	8	1870	80	61 (20–83)
	<6 weeks	222 6	374	5	1852	62	70 (31–90)
	≥6 weeks	218 0	372	3	1808	18	29 (-125–84)
Patients among the older COVID-19 vaccination target group (≥50–65 years)	Any	324 8	690	114	2558	633	37 (20–51)
	<6 weeks	290 0	637	61	2263	338	44 (24–59)
	≥6 weeks	284 9	629	53	2220	295	27 (-2–49)
<b>Sensitivity analysis 3: COVID-19 VE against any SARS-CoV-2, excluding influenza positive controls</b>							

Age group	Time since vaccination	N	Cases	Cases vaccinated	Controls	Controls vaccinated	VE (95% CI)
All ages	Any	472 1	1057	122	3664	603	46 (32–57)
	<6 weeks	442 4	1001	66	3423	362	51 (35–64)
	≥6 weeks	429 3	991	56	3302	241	37 (12–55)
Patients among the younger COVID-19 vaccination target group (<50–65 years)	Any	185 3	374	8	1479	68	65 (28–85)
	<6 weeks	183 8	371	5	1467	56	74 (38–91)
	≥6 weeks	179 2	369	3	1423	12	NC <sup>c</sup>
Patients among the older COVID-19 vaccination target group (≥50–65 years)	Any	286 8	683	114	2185	535	40 (23–53)
	<6 weeks	258 6	630	61	1956	306	47 (28–62)
	≥6 weeks	250 1	622	53	1879	229	31 (2–52)
<b>Sensitivity analysis 4: COVID-19 VE against any SARS-CoV-2, among those aged 65 years and over</b>							
Patients aged 65 years and over	Any	234 2	505	98	1837	531	35 (14–51)
	<6 weeks	205 3	462	55	1591	285	42 (19–59)
	≥6 weeks	200 2	450	43	1552	246	26 (-9–51)

28 Abbreviations: CI, confidence interval; N, number; NC. Not calculated due to sample size; VE, vaccine effectiveness; VEBIS,  
29 Vaccine Effectiveness, Burden and Impact Studies.

30 <sup>a</sup> This analysis results also in the study period starting 14 days after the COVID-19 vaccination campaigns, by country, not 7  
31 days, as in the main analysis.

32 <sup>b</sup> Not calculated due to fewer than three vaccinated cases.

33 <sup>c</sup> Not calculated due to fewer than 20 vaccinated patients.

