

**Supplementary Table 1:** Types of studies, their countries and number of subjects in each study

No.	Study	Study type / Source of data	Country	Total number of subjects	QA Score
1	Tseng et al. <sup>15</sup>	Test-negative case-control study	USA	113,250	9
2	Young-Xu et al. <sup>16</sup>	Matched test-negative case-control study	USA	114,640	9
3	Eggink et al. <sup>17</sup>	Case-only approach	Netherlands	174,349	8
4	Allen et al. <sup>18</sup>	Cohort study	England	51,281	8
5	Abu-Raddad et al. <sup>19</sup>	Matched retrospective cohort study	Qatar	425,267	9
6	Accorsi et al. <sup>20</sup>	Test-negative case control study	USA	70155	9
7	Jalali et al. <sup>21</sup>	Registry-based cohort study	Norway	3291	7
8	Lauring et al. <sup>22</sup>	Prospective, observational case-control study	USA	11544	9
9	Lyngse et al. <sup>23</sup>	Registry-based study	Denmark	39,811	9
10	Paredes et al. <sup>24</sup>	Retrospective cohort study	USA	58882	9
11	Lee et al. <sup>25</sup>	Retrospective analysis	USA	11,281	9
12	Lewnard et al. <sup>26</sup>	Clinical outcome analysis	USA	262,411	9
13	Veneti et al. <sup>27</sup>	Registry-based cohort study	Norway	91,005	8
14	Nunes et al. <sup>28</sup>	Cohort surveillance study	South Africa	433	8
15	Patalon et al. <sup>29</sup>	Retrospective test-negative case-control study	Israel	110,918	9
16	Chemaitelly et al. <sup>30</sup>	Test-negative case-control	Qatar	138,182	9
17	Helmsdal et al. <sup>31</sup>	Case study	Faroe Islands	33	5
18	Andeweg et al. <sup>32</sup>	Test-negative design	Netherlands	671,763	9
19	Davies et al. <sup>33</sup>	Cohort study	South Africa	16,753	8
20	Ferdinands et al. <sup>34</sup>	Test-negative case-control Study	USA	334,612	8
21	Robinson et al. <sup>35</sup>	Cohort study	USA	4136	8
22	Rufino et al. <sup>36</sup>	Analysis of survey data	South Africa, and 20 others	72,793	3
23	Šmíd et al. <sup>37</sup>	Retrospective analysis	Czech Republic	395,544	9
24	Ulloa et al. <sup>38</sup>	Retrospective population-wide matched cohort study	Canada	18174	7
25	Powell et al. <sup>39</sup>	Test-negative case-control study	England	965,843	9
26	Tai et al. <sup>40</sup>	Cohort study	USA	2613	6
27	Nguyen et al. <sup>41</sup>	Prospective observational study	England and Wales	19692	7
28	Shrestha et al. <sup>42</sup>	Retrospective cohort study	USA	52238	7

29	Spensley et al. <sup>43</sup>	Cohort study	England	1121	7
30	Hansen et al. <sup>44</sup>	Cohort study	Denmark	49615	8
31	Dorabawila et al. <sup>45</sup>	Database study	USA	1,427,579	7
32	Buchan et al. <sup>46</sup>	Test-negative study design	Canada	134435	8
33	Collie et al. <sup>47</sup>	Test-negative design	South Africa	211610	8
34	Krutikov et al. <sup>48</sup>	Cohort study	England	1639	8
35	Wolter et al. <sup>49</sup>	Data linkage study	South Africa	11495	9
36	Ward et al. <sup>50</sup>	Retrospective cohort study	England	1035163	7
37	Wolter et al. <sup>51</sup>	Data linkages study	South Africa	95470	7
38	Marks et al. <sup>52</sup>	Population-based surveillance study	USA	2100	4
39	Chaguza et al. <sup>53</sup>	Cohort study	USA	37877	6
40	Chemaitelly et al. <sup>54</sup>	Matched retrospective cohort study	Qatar	242244	9
41	Boscolo-Rizzo et al. <sup>55</sup>	Prospective study	Italy	779	7
42	Auvigne et al. <sup>56</sup>	Retrospective population-based matched cohort study	France	184364	8
43	Bar-On et al. <sup>57</sup>	Database-based cohort study	Israel	57709	9
44	Boucau et al. <sup>58</sup>	Longitudinal cohort study	USA	56	5
45	Peralta-Santos et al. <sup>59</sup>	Cohort study	Portugal	15978	8
46	Thompson et al. <sup>60</sup>	Test-negative design	USA	53719	5
47	Lyngse et al. <sup>61</sup>	Registry-based study	Denmark	26486	8
48	Vieillard-Baron et al. <sup>62</sup>	Retrospective analysis	France	3761	9
49	Andrews et al. <sup>63</sup>	Test-negative case control study	England	2,663,549	8
50	Gray et al. <sup>64</sup>	Test-negative study	South Africa	52,468	7
51	Klein et al. <sup>65</sup>	Test-negative case control study	USA	40,916	8
	<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>10,581,027</b>	<b>NA</b>

QA=Quality Assessment; NA=Not Applicable

**Supplementary Table 4:** Effectiveness of the COVID-19 vaccines against the Omicron variant in reducing severity as compared to other variants.

Study	Vaccine	Dose	Omicron	Other variants	
			Severity	Variant	Severity
Abu-Raddad et al. <sup>19</sup>	Pfizer	3 doses (vs 2 doses)	*Adjusted VE (95% CI): 76.5 (55.9-87.5)		
Lauring et al. <sup>22</sup>	Pfizer or Moderna	2 or 3 doses	<i>Overall</i> VE (95% CI): ** 46 (12-67)  <i>Immunocompetent Only</i> VE (95% CI): 44 (0-69)  <i>Immunocompromised Only</i> VE (95% CI): 42 (-61-79)  <i>18-64 years old</i> VE (95% CI): 55 (7-78)  <i>≥65 years old</i> VE (95% CI): 37 (-32-69)	Alpha	<i>Overall</i> VE (95% CI): ** 76 (53-88)  <i>Immunocompetent Only</i> VE (95% CI): 73 (39-88)  <i>Immunocompromised Only</i> VE (95% CI): 77 (7-94)
	Pfizer or Moderna			Delta	<i>Overall</i> VE (95% CI): ** 44 (32-54)  <i>Immunocompetent Only</i> VE (95% CI): 50 (37-60)  <i>Immunocompromised Only</i> VE (95% CI): 15 (-26-43)  <i>18-64 years old</i> VE (95% CI): 49 (32-62)  <i>≥65 years old</i> VE (95% CI): 44 (26-57)
Buchan et al. <sup>46</sup>	mRNA	1 or 2 doses	<i>7-59 days follow up</i> Adjusted VE (95% CI): 55 (-106-90)  <i>≥240 days follow up</i> Adjusted VE (95% CI): 86 (12-98)	Delta	<i>7-59 days follow up</i> Adjusted VE (95% CI): 94 (84-98)  <i>≥240 days follow up</i> Adjusted VE (95% CI): 95 (85-99)
	mRNA	3 doses	<i>0-6 days follow up</i> Adjusted VE (95% CI): 91 (71-97)	Delta	<i>0-6 days follow up</i> Adjusted VE (95% CI): 99 (97-99)

Study	Vaccine	Dose	Omicron	Other variants	
			Severity	Variant	Severity
			<p><math>\geq 7</math> days follow up Adjusted VE (95% CI): 95 (87-98)</p>		<p><math>\geq 7</math> days follow up Adjusted VE (95% CI): 99 (98-99)</p>
	Pfizer	3 doses	<p>0-6 days follow up Adjusted VE (95% CI): 88 (62-96)</p> <p><math>\geq 7</math> days follow up Adjusted VE (95% CI): 95 (87-98)</p>	Delta	<p>0-6 days follow up Adjusted VE (95% CI): 36 (24-45)</p> <p><math>\geq 7</math> days follow up Adjusted VE (95% CI): 99 (98-99)</p>
	Moderna	3 doses	<p>0-6 days follow up Adjusted VE (95% CI): NR</p> <p><math>\geq 7</math> days follow up Adjusted VE (95% CI): 93 (74-98)</p>	Delta	<p>0-6 days follow up Adjusted VE (95% CI): NR</p> <p><math>\geq 7</math> days follow up Adjusted VE (95% CI): 100 (98-100)</p>
Šmíd et al. <sup>37</sup>	&&Pfizer, Moderna, AstraZene ca or Janssen	2 doses	<p>&lt;2 months Adjusted VE (95% CI): ## 57 (32-72) ** 58 (3-82)</p> <p>&gt;2 months Adjusted VE (95% CI): ## 32 (20-43) ** 37 (12-55)</p>	Delta	<p>&lt;2 months Adjusted VE (95% CI): ## 82 (76-87) ** 84 (72-91)</p> <p>&gt;2 months Adjusted VE (95% CI): ## 82 (80-83) ** 86 (83-88)</p>
		Booster	<p>&lt;2 months Adjusted VE (95% CI): ## 90 (87-92) ** 83 (75-89)</p> <p>&gt;2 months Adjusted VE (95% CI): ## 85 (80-88) ** 60 (37-74)</p>	Delta	<p>&lt;2 months Adjusted VE (95% CI): ## 98 (98-98) ** 98 (97-99)</p> <p>&gt;2 months Adjusted VE (95% CI): ## 97 (95-98) ** 97 (92-99)</p>
Chemaitelly et al. <sup>54</sup>	Pfizer	1 dose		COVID-19	Adjusted VE (95% CI): 40.9 (-199.1-88.3)
		2 doses			<p>1-6 months Adjusted VE (95% CI): 70.4 (45.0-84.0)</p> <p>7+ months Adjusted VE (95% CI): 77.5 (67.8-84.3)</p>
		3 doses			1-6 weeks

Study	Vaccine	Dose	Omicron	Other variants	
			Severity	Variant	Severity
					Adjusted VE (95% CI): 90.9 (78.6-96.1)  7+ weeks Adjusted VE (95% CI): 90.1 (80.6-95.0)
	Moderna	2 doses			1-6 months Adjusted VE (95% CI): 87.1 (40.2-97.2)  7+ months Adjusted VE (95% CI): 68.4 (46.1-81.5)
		3 doses			1-6 weeks Adjusted VE (95% CI): 81.8 (-49.5-97.8)
Robinson et al. <sup>35</sup>	#Pfizer, Moderna or Janssen	Vaccinated or Prior Infection		Omicron and Delta	Adjusted HR: 0.46 (IQR 0.34-0.62)
Ulloa et al. <sup>38</sup>	##NR	2 doses		Omicron VS Delta	HR (95% CI): 0.09 (0.02-0.38)
Davies et al. <sup>33</sup>	&Pfizer or Janssen	Fully Vaccinated	Adjusted HR (95% CI): 0.28 (0.16-0.50)	Delta	Adjusted HR (95% CI): 0.38 (0.27-0.52)
Shrestha et al. <sup>42</sup>	Pfizer or Moderna	2 doses <i>≥14 days</i>	<i>overall</i> Adjusted HR (95% CI): 0.22 (0.20–0.24)  <i>AND prior infection</i> Adjusted HR (95% CI): 0.36 (0.23-0.57)  <i>AND no prior infection</i> Adjusted HR (95% CI): 0.22 (0.20–0.24)	Pre-Omicron	<i>overall</i> Adjusted HR (95% CI): 0.24 (0.22-0.26)  <i>AND prior infection</i> Adjusted HR (95% CI): 0.60 (0.40-0.90)  <i>AND no prior infection</i> Adjusted HR (95% CI): 0.25 (0.22-0.26)
Auvigne et al. <sup>56</sup>	^Pfizer, Moderna, AstraZeneca, Janssen	Booster  <i>Compared to primary vaccination</i>	<i>≥80 year olds</i> Adjusted HR (95% CI): 0.29 (0.12-0.69)	Omicron OR Delta	<i>General</i> Adjusted HR (95% CI): 0.99 (0.55-1.79)  <i>18-39 year olds</i> Adjusted HR (95% CI): 3.08 (0.66-14.3)  <i>40-64 year olds</i> Adjusted HR (95% CI): 1.00 (0.56-1.81)  <i>65-79 year olds</i> Adjusted HR (95% CI):

Study	Vaccine	Dose	Omicron	Other variants	
			Severity	Variant	Severity
					0.82 (0.56-1.19)  ≥80 year olds Adjusted HR (95% CI): 0.89 (0.52-1.51)
		Unvaccinated  <i>Compared to primary vaccination</i>	≥80 year olds Adjusted HR (95% CI): 3.41 (1.63-7.15)		<i>General</i> Adjusted HR (95% CI): 7.57 (5.79-9.88)  <i>18-39 year olds</i> Adjusted HR (95% CI): 13.2 (6.09-28.7)  <i>40-64 year olds</i> Adjusted HR (95% CI): 7.29 (5.58-9.54)  <i>65-79 year olds</i> Adjusted HR (95% CI): 4.21 (3.19-5.57)  ≥80 year olds Adjusted HR (95% CI): 3.39 (2.28-5.03)
	Pfizer, Moderna, AstraZeneca, Janssen	Booster  <i>Compared to primary vaccination</i>		Delta	≥80 year olds Adjusted HR (95% CI): 0.87 (0.51-1.47)
		Unvaccinated  <i>Compared to primary vaccination</i>			≥80 year olds Adjusted HR (95% CI): 3.41 (2.29-5.07)
Boucau et al. 58	^^Pfizer, Moderna, AstraZeneca, Janssen	Vaccinated		Delta/ Omicron	Adjusted HR (95% CI): 0.51 (0.23-1.09)
		Boosted			Adjusted HR (95% CI): 1.16 (0.39-3.45)
Wolter et al. 51	###Pfizer or Janssen	Vaccinated	Adjusted OR (95% CI): 0.52 (0.33-0.82)		
Vieillard-Baron et al. 62	***Pfizer, Moderna or AstraZeneca	Vaccinated Overall	23.05% relative risk reduction	Delta	10.5% relative risk reduction (p < 0.001 Omicron vs Delta)
Boscolo-Rizzo et al. 55	NR	\$Fully Vaccinated	Adjusted OR (95% CI): 0.91 (0.52-1.60)		
Wolter et al. 49	Pfizer, Janssen	\$\$Vaccinated		Omicron/Delta	Adjusted OR (95% CI): 0.6 (0.2-1.5)
Bar-On et al. 57	^^^Pfizer	3 doses vs 4 doses ≥12 days	RR (95% CI): 4.3 (2.4-7.6)		

Study	Vaccine	Dose	Omicron	Other variants	
			Severity	Variant	Severity
		4 doses 3-7 days vs 4 doses ≥12 days	RR (95% CI): 4.0 (2.2-7.5)		
Tai et al. <sup>40</sup>	mRNA or Janssen	Booster compared to fully vaccinated	Adjusted HR (95% CI): 0.39 (0.30-0.50)		

\*Fully vaccinated: 2-dose mRNA vaccines as REF for VE. Severe COVID-19 was defined per the World health Organization (WHO) classification

\*\* Severity VE is effectiveness to prevent disease progression to invasive mechanical ventilation or death

&& Severity defined as “hospitalization with need for oxygen therapy” of “hospitalization with need for intensive care.”

##Severity defined as ICU admission or death

# Severity defined as severe disease or death. 1 dose of Janssen, or 2 doses of Pfizer or Moderna >2 weeks prior to hospitalization were classified as vaccinated. Prior infection was defined by positive SARS-CoV-2 test >60 days prior to hospitalization.

& Fully Vaccinated: 2 doses (≥14 days) of Pfizer or 1 dose (≥28 days) of Janssen.

^ with primary vaccination. Severity defined as the risk of a severe hospital event. Adjusted for age, sex, vaccination status, presence of comorbidity and region of residence.

^^ Severity defined as “PCR conversion time”. Vaccinated: those who had received two COVID-19 vaccinations (or a single dose of the Johnson & Johnson/Janssen vaccine) at least 14 days prior to enrollment. Boosted: those who had received three COVID-19 vaccinations (or a second dose of the Johnson & Johnson/Janssen vaccine) at least 14 days prior to enrollment.

### Vaccinated: at least 1 dose of Pfizer or Janssen. Severity defined as a hospitalized patient meeting at least one of the following criteria: admitted to ICU, received oxygen treatment, ventilated, received extracorporeal membrane oxygenation (ECMO), experienced acute respiratory distress syndrome (ARDS) and/or died.

\*\*\* Severity defined as pneumonia. Vaccinated overall defined as at least 1 injection of vaccine. Relative risk reduction calculated as (unvaccinated-vaccinated)/unvaccinated.

\$ Severity defined as chemosensory dysfunction. **Fully Vaccinated:** received the required dose(s) of a SARS-CoV-2 vaccine and were at least 14 days after completion.

\$\$ **Vaccination** was defined as having at least one dose of a SARS-CoV-2 vaccine (Ad.26.COV2.S [Johnson & Johnson] or BNT162b2 [Pfizer–BioNTech]).

^^^ Severity defined as severe illness using the NIH definition. The study included those that were 60 years of age or older and had received three doses of BNT162b2 at least 4 months before the start of the study period.

**Supplementary Table 5:** Effectiveness of the COVID-19 vaccines against the Omicron variant in reducing mortality as compared to other variants.

Study	Vaccine	Dose	Omicron	Other variants	
			Death	Variant	Death
Young-Xu et al. <sup>16</sup>	mRNA	2 doses <i>≥14 days</i>	Adjusted VE (95% CI): 75 (52-87) * 59 (25-77)	Delta	Adjusted VE (95% CI): 93 (85-97) * 80 (65-89)
	mRNA	3 doses <i>≥14 days</i>	Adjusted VE (95% CI): 94 (85-98) * 83 (63-92)		Adjusted VE (95% CI): 96 (88-99) *60 (24-87)
Davies et al. <sup>33</sup>	Pfizer or Janssen	**Fully Vaccinated	Adjusted HR (95% CI): 0.24 (0.10-0.58)	Delta	Adjusted HR (95% CI): 0.35 (0.22-0.54)
Ward et al. <sup>50</sup>	Pfizer, Moderna, AstraZeneca	2 doses		Omicron VS Delta	<i>18-59 year olds</i> Adjusted HR (95% CI): 0.56 (0.13-2.45)  <i>60-69 year olds</i> Adjusted HR (95% CI): 0.22 (0.06-0.88)  <i>≥70 year olds</i> Adjusted HR (95% CI): 0.99 (0.31–3.10)
		Booster			<i>18-59 year olds</i> Adjusted HR (95% CI): 0.06 (0.01-0.25)  <i>60-69 year olds</i> Adjusted HR (95% CI): 0.06 (0.01-0.26)  <i>≥70 year olds</i> Adjusted HR (95% CI): 0.33 (0.10-1.06)
Lee et al. <sup>25</sup>	Pfizer, Moderna or Janssen	Full vaccination or Booster	OR (95% CI): 2.38 (0.51- 22.34)		
		<i>Cancer Cohort</i>			
		Fully Vaccinated	OR (95% CI): 0.46 (0.31-0.67)		
		Booster compared to fully vaccinated with no booster	OR (95% CI): 0.206 (0.062-0.514)		



\*A sub-analysis restricted to those with a positive COVID-19 test in the study period; VE was evaluated against progression to hospitalization/death among the infected only

\*\*Fully vaccinated:  $\geq 28$  days post-vaccination with Janssen or  $\geq 14$  days post second dose of Pfizer

**Supplementary Table 2:** Effectiveness of the COVID-19 vaccines against the Omicron variant in reducing infection as compared to other variants.

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
Ferdinands et al. <sup>34</sup>	Pfizer or Moderna	2 doses	<i>Overall</i> Adjusted VE (95% CI): 41 (38-43)  <i>&lt;2 months</i> Adjusted VE (95% CI): 69 (62-75)  <i>2-3 months</i> Adjusted VE (95% CI): 50 (45-55)  <i>4 months</i> Adjusted VE (95% CI): 48 (41-54)  <i>≥5 months</i> Adjusted VE (95% CI): 37 (34-40)	Delta	<i>Overall</i> Adjusted VE (95% CI): 80 (79–81)  <i>&lt;2 months</i> Adjusted VE (95% CI): 92 (91–94)  <i>2-3 months</i> Adjusted VE (95% CI): 88 (86–89)  <i>4 months</i> Adjusted VE (95% CI): 85 (83–86)  <i>≥5 months</i> Adjusted VE (95% CI): 77 (76–78)
	Pfizer or Moderna	3 doses	<i>Overall</i> Adjusted VE (95% CI): 83 (82-84)  <i>&lt;2 months</i> Adjusted VE (95% CI): 87 (85-88)  <i>2-3 months</i> Adjusted VE (95% CI): 81 (79-82)  <i>4 months</i> Adjusted VE (95% CI): 66 (59-71)  <i>≥5 months</i> Adjusted VE (95% CI): 31 (-50-68)		<i>Overall</i> Adjusted VE (95% CI): 96 (95–96)  <i>&lt;2 months</i> Adjusted VE (95% CI): 97 (96–97)  <i>2-3 months</i> Adjusted VE (95% CI): 93 (92–94)  <i>≥4 months</i> Adjusted VE (95% CI): 89 (64–97)
Abu-Raddad et al. <sup>19</sup>	Pfizer	3 doses (vs 2 doses)	Adjusted VE (95% CI): 49.4 (47.1-51.6)	Delta	Adjusted VE (95% CI): 86.1 (67.3-94.1)
	Moderna	3 doses (vs 2 doses)	Adjusted VE (95% CI): 47.3 (40.7-53.3)		
Klein et al. <sup>65</sup>	Pfizer	2 doses	<i>14-67 days</i>  <i>5-11 year olds</i> Adjusted VE (95% CI): 51 (30-65)  <i>14-149 days</i>  <i>12-15 year olds</i>	Delta	<i>14-149 days</i>  <i>12-15 year olds</i> Adjusted VE (95% CI): 92 (89–94)  <i>16-17 year olds</i> Adjusted VE (95% CI): 85 (81–89)

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			Adjusted VE (95% CI): 45 (30-57)  <i>16-17 year olds</i> Adjusted VE (95% CI): 34 (8-53)  $\geq 150$ days  <i>12-15 year olds</i> Adjusted VE (95% CI): -2 (-25-17)  <i>16-17 year olds</i> Adjusted VE (95% CI): -3 (-30-18)		$\geq 150$ days  <i>12-15 year olds</i> Adjusted VE (95% CI): 79 (68-86)  <i>16-17 year olds</i> Adjusted VE (95% CI): 77 (67-84)
	Pfizer	3 doses  $\geq 7$ days	<i>16-17 years old</i> Adjusted VE (95% CI): 81 (59-91)		
Andeweg et al. <sup>32</sup>	Previous Infection/Unvaccinated	NA	<i>Omicron BA.1</i> *(C1) VE (95% CI): 13 (4-21)  **(C2) VE (95% CI): 46 (44-48)  <i>Omicron BA.2</i>  VE (95% CI): 47 (44-50)	Delta	VE (95% CI): 79 (77-81)
	Pfizer, Moderna, AstraZeneca or Janssen	***Primary Vaccination	<i>Omicron BA.1</i> *(C1) VE (95% CI): 22 (18-26)  **(C2) VE (95% CI): 38 (36-40)  <i>Omicron BA.2</i> VE (95% CI): 35 (33-38)		VE (95% CI): 74 (73-75)
	Pfizer, Moderna, AstraZeneca or Janssen	#Booster	<i>Omicron BA.1</i> *(C1) VE (95% CI): 58 (55-62)  **(C2) VE (95% CI): 68 (67-69)  <i>Omicron BA.2</i> VE (95% CI): 62 (60-63)		VE (95% CI): 94 (93-94)

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
	Pfizer, Moderna, AstraZeneca or Janssen	Previous Infection /Booster	<i>Omicron BA.1</i> *(C1) VE (95% CI): 68 (58-75)  **(C2) VE (95% CI): 81 (80-82)  <i>Omicron BA.2</i>  VE (95% CI): 81 (80-82)		VE (95% CI): 99 (96-100)
Andrews et al. 63	AstraZeneca  4+ weeks	1 dose	Adjusted VE (95% CI): 17.7 (14.3-21.0)	Delta	Adjusted VE (95% CI): 42.9 (39.8-45.9)
		2 doses	2-4 weeks Adjusted VE (95% CI): 48.9 (39.2-57.1)  5-9 weeks Adjusted VE (95% CI): 33.7 (25.0-41.5)  10-14 weeks Adjusted VE (95% CI): 28.6 (20.9-35.6)  15-19 weeks Adjusted VE (95% CI): 17.8 (13.4-21.9)  20-24 weeks Adjusted VE (95% CI): 4.0 (1.9-6.1)  25+ weeks Adjusted VE (95% CI): -2.7 (-4.2 - -1.2)		2-4 weeks Adjusted VE (95% CI): 82.8 (74.5-88.4)  5-9 weeks Adjusted VE (95% CI): 76.5 (70.3-81.5)  10-14 weeks Adjusted VE (95% CI): 69.2 (64.7-73.1)  15-19 weeks Adjusted VE (95% CI): 53.6 (51.6-55.5)  20-24 weeks Adjusted VE (95% CI): 47.4 (46.2-48.5)  25+ weeks Adjusted VE (95% CI): 43.5 (42.4-44.5)
	AstraZeneca + Pfizer Booster	3 doses	1 week Adjusted VE (95% CI): 58.8 (57.8-59.7)  2-4 weeks Adjusted VE (95% CI): 62.4 (61.8-63.0)  5-9 weeks Adjusted VE (95% CI): 52.9 (52.1-53.7)  10+ weeks Adjusted VE (95% CI): 39.6 (38.0-41.1)		1 week Adjusted VE (95% CI): 88.7 (88.1-89.2)  2-4 weeks Adjusted VE (95% CI): 95.4 (95.1-95.6)  5-9 weeks Adjusted VE (95% CI): 92.6 (92.2-92.9)  10+ weeks Adjusted VE (95% CI): 88.1 (86.7-89.3)
	AstraZeneca + Moderna Booster		1 week Adjusted VE (95% CI): 68.0 (67.0-68.9)		1 week Adjusted VE (95% CI): 91.5 (90.9-92.1)

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			2-4 weeks Adjusted VE (95% CI): 70.1 (69.5-70.7)		2-4 weeks Adjusted VE (95% CI): 97.0 (96.7-97.3)
			5-9 weeks Adjusted VE (95% CI): 60.9 (59.7-62.1)		5-9 weeks Adjusted VE (95% CI): 94.9 (93.8-95.9)
	AstraZeneca + AstraZeneca Booster		1 week Adjusted VE (95% CI): 57.7 (37.6-71.3)		1 week Adjusted VE (95% CI): 77.1 (55.1-88.3)
			2-4 weeks Adjusted VE (95% CI): 55.6 (44.4-64.6)		2-4 weeks Adjusted VE (95% CI): 82.3 (71.3-89.0)
			5-9 weeks Adjusted VE (95% CI): 46.7 (34.3-56.7)		5-9 weeks Adjusted VE (95% CI): 83.3 (69.7-90.8)
	Pfizer	1 dose	0-3 weeks Adjusted VE (95% CI): 42.8 (40.3-45.1)		0-3 weeks Adjusted VE (95% CI): 45.2 (43.3-47.1)
			4+ weeks Adjusted VE (95% CI): 31.5 (29.9-33.1)		4+ weeks Adjusted VE (95% CI): 72.3 (69.4-74.9)
		2 doses	2-4 weeks Adjusted VE (95% CI): 65.5 (63.9-67.0)		2-4 weeks Adjusted VE (95% CI): 90.9 (89.6-92.0)
			5-9 weeks Adjusted VE (95% CI): 48.7 (47.1-50.2)		5-9 weeks Adjusted VE (95% CI): 85.5 (84.5-86.5)
			10-14 weeks Adjusted VE (95% CI): 30.1 (28.7-31.5)		10-14 weeks Adjusted VE (95% CI): 78.7 (78.0-79.4)
			15-19 weeks Adjusted VE (95% CI): 15.4 (14.2-16.6)		15-19 weeks Adjusted VE (95% CI): 74.4 (73.8-74.9)
			20-24 weeks Adjusted VE (95% CI): 11.5 (10.1-12.9)		20-24 weeks Adjusted VE (95% CI): 67.4 (66.5-68.2)
			25+ weeks Adjusted VE (95% CI): 8.8 (7.0-10.5)		25+ weeks Adjusted VE (95% CI): 62.7 (61.6-63.7)
	Pfizer	3 doses	1 week Adjusted VE (95% CI): 66.9 (66.1-67.6)		1 week Adjusted VE (95% CI): 92.3 (91.6-92.9)
			2-4 weeks Adjusted VE (95% CI): 67.2 (66.5-67.8)		2-4 weeks Adjusted VE (95% CI): 95.1 (94.8-95.4)
			5-9 weeks Adjusted VE (95% CI):		5-9 weeks Adjusted VE (95% CI):

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			55.0 (54.2-55.8)  10+ weeks Adjusted VE (95% CI): 45.7 (44.7-46.7)		91.8 (91.4-92.1)  10+ weeks Adjusted VE (95% CI): 89.9 (89.2-90.5)
	Pfizer + Moderna Booster		1 week Adjusted VE (95% CI): 74.0 (73.1-74.9)  2-4 weeks Adjusted VE (95% CI): 73.9 (73.1-74.6)  5-9 weeks Adjusted VE (95% CI): 64.4 (62.6-66.1)		1 week Adjusted VE (95% CI): 93.7 (92.7-94.6)  2-4 weeks Adjusted VE (95% CI): 96.6 (96.0-97.1)  5-9 weeks Adjusted VE (95% CI): 94.9 (93.0-96.2)
	Moderna	1 dose	0-3 weeks Adjusted VE (95% CI): 47.9 (43.1-52.3)  4+ weeks Adjusted VE (95% CI): 31.9 (27.3-36.1)		0-3 weeks Adjusted VE (95% CI): 60.1 (51.8-66.9)  4+ weeks Adjusted VE (95% CI): 57.4 (52.6-61.8)
		2 doses	2-4 weeks Adjusted VE (95% CI): 75.1 (70.8-78.7)  5-9 weeks Adjusted VE (95% CI): 52.8 (48.2-57.1)  10-14 weeks Adjusted VE (95% CI): 35.6 (32.7-38.4)  15-19 weeks Adjusted VE (95% CI): 25.3 (23.2-27.4)  20-24 weeks Adjusted VE (95% CI): 15.0 (11.6-18.2)  25+ weeks Adjusted VE (95% CI): 14.9 (3.9-24.7)		2-4 weeks Adjusted VE (95% CI): 94.5 (90.5-96.9)  5-9 weeks Adjusted VE (95% CI): 91.8 (89.6-93.6)  10-14 weeks Adjusted VE (95% CI): 84.1 (82.7-85.3)  15-19 weeks Adjusted VE (95% CI): 82.8 (81.8-83.7)  20-24 weeks Adjusted VE (95% CI): 76.2 (74.7-77.7)  25+ weeks Adjusted VE (95% CI): 80.4 (67.3-88.2)
	Moderna	3 doses	1 week Adjusted VE (95% CI): 68.1 (65.6-70.5)  2-4 weeks Adjusted VE (95% CI): 66.3 (63.7-68.8)		1 week Adjusted VE (95% CI): 95.3 (92.1-97.2)  2-4 weeks Adjusted VE (95% CI): 96.4 (91.4-98.5)
	Moderna + Pfizer Booster		1 week Adjusted VE (95% CI): 64.3 (61.7-66.8)  2-4 weeks		1 week Adjusted VE (95% CI): 95.5 (92.5-97.3)  2-4 weeks

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			<i>Adjusted VE (95% CI): 64.9 (62.3-67.3)</i>		<i>Adjusted VE (95% CI): 94.7 (89.3-97.3)</i>
Spensley et al. <sup>43</sup>	Pfizer, AstraZeneca	2 doses	Adjusted HR (95% CI): 1.03 (0.6-1.91)	SARS-CoV-2 general	Adjusted HR (95% CI): 0.81 (0.39-1.82)  <i>With prior infection</i> Adjusted HR (95% CI): 0.62 (0.3-1.38)
	Pfizer, AstraZeneca	Booster	Adjusted VE (95% CI): 50 (8-71)		Adjusted HR (95% CI): 0.39 (0.2-0.86)  <i>With prior infection</i> Adjusted HR (95% CI): 0.23 (0.11-0.52)
	Pfizer	2 doses	NR		Adjusted HR (95% CI): 0.83 (0.43-1.62)
	Pfizer	Booster	Adjusted VE (95% CI): 66 (36-81)		Adjusted HR (95% CI): 0.34 (0.19-0.64)
	AstraZeneca	2 doses	NR		Adjusted HR (95% CI): 1.04 (0.57-1.97)
	AstraZeneca	Booster	Adjusted VE (95% CI): 47 (2-70)		Adjusted HR (95% CI): 0.53 (0.30-0.98)
Dorabawila et al. <sup>45</sup>	Pfizer	2 doses  <i>10µg 5-11 years</i>	<i>≤13 days follow up</i> VE (95% CI): 65 (62-68)  <i>28-34 days follow up</i> VE (95% CI): 12 (8-16)		
	Pfizer	2 doses  <i>30µg 12-17 years</i>	<i>≤13 days follow up</i> VE (95% CI): 76 (71-81)  <i>28-34 days follow up</i> VE (95% CI): 56 (48-63)		
Buchan et al. <sup>46</sup>	mRNA	1 or 2 doses	<i>7-59 days</i> Adjusted VE (95% CI): 36 (24-45)  <i>≥240 days</i> Adjusted VE (95% CI): 2 (-17-17)	Delta	<i>7-59 days</i> Adjusted VE (95% CI): 89 (86-92)  <i>≥240 days</i> Adjusted VE (95% CI): 80 (74-84)
	mRNA	3 doses	<i>0-6 days</i> Adjusted VE (95% CI): 36 (29-43)  <i>≥7 days</i> Adjusted VE (95% CI): 61 (56-65)		<i>0-6 days</i> Adjusted VE (95% CI): 94 (93-95)  <i>≥7 days</i> Adjusted VE (95% CI): 97 (96-98)
	Pfizer	3 doses	<i>0-6 days</i> Adjusted VE (95% CI): 34 (26-41)  <i>≥7 days</i> Adjusted VE (95% CI): 60 (55-65)		<i>0-6 days</i> Adjusted VE (95% CI): 98 (96-99)  <i>≥7 days</i> Adjusted VE (95% CI): 97 (96-98)
	Moderna	3 doses	<i>0-6 days</i> Adjusted VE (95% CI):		<i>0-6 days</i> Adjusted VE (95% CI):

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			43 (32-52)  ≥7 days Adjusted VE (95% CI): 65 (55-72)		95 (92-97)  ≥7 days Adjusted VE (95% CI): 97 (95-98)
Hansen et al. 44	Pfizer	2 doses (14 days post second dose)	<i>1-30 days</i> Adjusted VE (95% CI): 55.2 (23.5-73.7)  <i>31-60 days</i> Adjusted VE (95% CI): 16.1 (-20.8-41.7)  <i>61-90 days</i> Adjusted VE (95% CI): 9.8 (-10.0-26.1)  <i>91-150 days</i> Adjusted VE (95% CI): - 76.5 (-95.3 - -59.5)	Delta	<i>1-30 days</i> Adjusted VE (95% CI): 86.7 (84.6-88.6)  <i>31-60 days</i> Adjusted VE (95% CI): 80.9 (79.0-82.6)  <i>61-90 days</i> Adjusted VE (95% CI): 72.8 (71.7-73.8)  <i>91-150 days</i> Adjusted VE (95% CI): 53.8 (52.9-54.6)
	Pfizer	3 doses  1-30 days post vaccination <i>compared to 2 doses</i>	Adjusted VE (95% CI): 54.6 (30.4-70.4)		Adjusted VE (95% CI): 81.2 (79.2-82.9)
	Moderna	2 doses 14 days post vaccination	<i>1-30 days</i> Adjusted VE (95% CI): 36.7 (-69.9-76.4)  <i>31-60 days</i> Adjusted VE (95% CI): 30.0 (-41.3-65.4)  <i>61-90 days</i> Adjusted VE (95% CI): 4.2 (-30.8-29.8)  <i>91-150 days</i> Adjusted VE (95% CI): - 39.3 (-61.6 - -20.0)		<i>1-30 days</i> Adjusted VE (95% CI): 88.2 (83.1-91.8)  <i>31-60 days</i> Adjusted VE (95% CI): 81.5 (77.7-84.6)  <i>61-90 days</i> Adjusted VE (95% CI): 72.2 (70.4-74.0)  <i>91-150 days</i> Adjusted VE (95% CI): 65.0 (63.6-66.3)
	Moderna	3 doses  1-30 days post vaccination <i>compared to 2 doses</i>	NR		Adjusted VE (95% CI): 82.8 (58.8-92.9)
Young-Xu et al. 16	mRNA	2 doses  ≥14 days	Adjusted VE (95% CI): 7 (3-10)	Delta	Adjusted VE (95% CI): 55 (51-58)



Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
	mRNA	3 doses $\geq 14$ days	Adjusted VE (95% CI): 59 (57-61)		Adjusted VE (95% CI): 90 (88-92)
Patalon et al. <sup>29</sup>	Pfizer	Booster  <i>different time-points compared to taken 5 months before</i>	<i>Time before infection</i> <i>5 months</i> reference  <i>4 months</i> Adjusted VE (95% CI): 3.6 (0.6-6.5)  <i>3 months</i> Adjusted VE (95% CI): 16.5 (13-19.9)  <i>2 months</i> Adjusted VE (95% CI): 35.7 (29.8-41.2)  <i>1 months</i> Adjusted VE (95% CI): 53.4 (47.7-58.6)		
	Pfizer	Booster  <i>compared to 2-dose only</i>	<i>5 months</i> Adjusted VE (95% CI): 16 (12.3-19.5)  <i>4 months</i> Adjusted VE (95% CI): 18.3 (15.2-21.2)  <i>3 months</i> Adjusted VE (95% CI): 29.1 (26.1-32)  <i>2 months</i> Adjusted VE (95% CI): 43.2 (38.2-47.8)  <i>1 months</i> Adjusted VE (95% CI): 59.4 (54.9-63.5)		
Rufino et al. <sup>36</sup>	NR	1 dose	<i>October '21</i> VE (95% CI): 34 (22-45)  <i>December '21</i> VE (95% CI): 32 (23-41)		
	NR	2 doses	<i>October '21</i> VE (95% CI): 53 (49-58)  <i>December '21</i> VE (95% CI): 45 (39-.50)		
	NR	1 or 2 doses	<i>October '21</i> VE (95% CI): 49 (45-52)  <i>December '21</i> VE (95% CI): 43 (37-48)		
Powell et al. <sup>39</sup>	Pfizer	1 dose	<i>14-20 days</i>	Delta	<i>14-20 days</i>

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			<i>12-15 year olds</i> Adjusted VE (95% CI): 49.6 (43.9-54.8)  <i>16-17 year olds</i> Adjusted VE (95% CI): 51.4 (42.7-58.8)  <i>day 84+</i> <i>12-15 year olds</i> Adjusted VE (95% CI): 17.2 (12.0-22.1)  <i>day 105+</i> <i>16-17 year olds</i> Adjusted VE (95% CI): 12.5 (6.9-17.8)		<i>12-15 year olds</i> Adjusted VE (95% CI): 74.5 (73.2-75.6)  <i>16-17 year olds</i> Adjusted VE (95% CI): 75.9 (74.3-77.3)  <i>day 84+</i> <i>12-15 year olds</i> Adjusted VE (95% CI): 53.1 (41.6-62.4)  <i>day 105+</i> <i>16-17 year olds</i> Adjusted VE (95% CI): 30.9 (25.4-36.0)
	Pfizer	2 doses	<i>7-13 days</i> <i>12-15 year olds</i> Adjusted VE (95% CI): 83.1 (78.2-86.9)  <i>16-17 year olds</i> Adjusted VE (95% CI): 76.1 (73.4-78.6)  <i>day 14+</i> <i>12-15 year olds</i> Adjusted VE (95% CI): 73.0 (66.4-78.3)  <i>day 70+</i> <i>16-17 year olds</i> Adjusted VE (95% CI): 22.6 (14.5-29.9)		<i>7-13 days</i> <i>12-15 year olds</i> Adjusted VE (95% CI): 93.2 (81.5-97.5)  <i>16-17 year olds</i> Adjusted VE (95% CI): 93.1 (91.6-94.4)  <i>day 14+</i> <i>12-15 year olds</i> Adjusted VE (95% CI): 87.2 (73.7-93.8)  <i>day 70+</i> <i>16-17 year olds</i> Adjusted VE (95% CI): 83.7 (72.0-90.5)
Jalali et al. <sup>21</sup>	mRNA	1 dose OR 2 doses <7 days	Unadjusted VE (95% CI): 22 (0-46)	Delta	Unadjusted VE (95% CI): 31 (0-72)
	mRNA	2 doses  >7 days	Unadjusted VE (95% CI): 27 (6-49)		Unadjusted VE (95% CI): 42 (23-55)
	mRNA	3 doses  >7 days	Unadjusted VE (95% CI): 45 (26-57)		Unadjusted VE (95% CI): 65 (42-80)
Tseng et al. <sup>15</sup>	Moderna	1 dose	Adjusted VE (95% CI): 20.4 (9.5-30.0)	Delta	Adjusted VE (95% CI): 56.7 (40.7-68.4)
	Moderna	2 doses	<i>overall</i> Adjusted VE (95% CI): 13.9 (10.5-17.1)  <i>&lt;90 days</i> Adjusted VE (95% CI): 44 (35.1-51.6)  <i>91-180 days</i>		<i>overall</i> Adjusted VE (95% CI): 63.6 (59.9-66.9)  <i>&lt;90 days</i> Adjusted VE (95% CI): 80.2 (68.2-87.7)  <i>91-180 days</i>

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			Adjusted VE (95% CI): 23.5 (16.4-30.0)  <i>181-270 days</i> Adjusted VE (95% CI): 13.8 (10.2-17.3)  >270 days Adjusted VE (95% CI): 5.9 (0.4-11.0)		Adjusted VE (95% CI): 68.9 (60.1-75.8)  <i>181-270 days</i> Adjusted VE (95% CI): 63.7 (59.8-67.2)  >270 days Adjusted VE (95% CI): 61.3 (55.0-66.7)
	Moderna	3 doses	<i>overall</i> Adjusted VE (95% CI): 70.0 (68.0-71.9) **70.5 (68.6-72.4)  <60 days Adjusted VE (95% CI): 71.6 (69.7-73.4) **72.1 (70.2-73.9)  >60 days Adjusted VE (95% CI): 47.4 (40.5-53.5) **51.2 (44.2-57.3)		<i>overall</i> Adjusted VE (95% CI): 94.5 (92.9-95.7) **93.7 (92.2-94.9)  <60 days Adjusted VE (95% CI): 93.7 (92.2-94.9) **94.2 (92.7-95.3)  >60 days Adjusted VE (95% CI): 86.0 (78.1-91.1) **88.1 (80.2-92.9)
Šmíd et al. <sup>37</sup>	Pfizer, Moderna, AstraZeneca or Janssen	2 doses	<2 months Adjusted VE (95% CI): 43 (42-44)  >2 months Adjusted VE (95% CI): 9 (8-10)	Delta	<2 months Adjusted VE (95% CI): 73 (72-74)  >2 months Adjusted VE (95% CI): 57 (56-58)
	Pfizer, Moderna, AstraZeneca or Janssen	Booster	<2 months Adjusted VE (95% CI): 56 (55-56)  >2 months Adjusted VE (95% CI): 21 (19-23)		<2 months Adjusted VE (95% CI): 90 (90-91)  >2 months Adjusted VE (95% CI): 82 (79-84)
Thompson et al. <sup>60</sup>	mRNA	2 doses	<180 days Adjusted VE (95% CI): 52 (46-58)  <i>180+ days</i> Adjusted VE (95% CI): 38 (32-43)	Delta	<180 days Adjusted VE (95% CI): 86 (85-87)  <i>180+ days</i> Adjusted VE (95% CI): 76 (75-77)
	mRNA	3 doses	Adjusted VE (95% CI): 82 (79-84)		Adjusted VE (95% CI): 94 (93-94)
Chemaitelly et al. <sup>30</sup>	Pfizer	1 dose	Omicron (any) 0-13 days Adjusted VE (95% CI): 9.5 (-39.8-41.3)  14+ days Adjusted VE (95% CI): 31.4 (12.5-46.3)  Omicron BA.1		

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			0-13 days Adjusted VE (95% CI): 23.5 (-70.6-65.7)  14+ days Adjusted VE (95% CI): 39.2 (2.3-62.1)  Omicron BA.2 0-13 days Adjusted VE (95% CI): 5.9 (-52.5-41.9)  14+ days Adjusted VE (95% CI): 36.1 (12.1-53.5)		
	Pfizer	2 doses	Omicron (any) 1-3 months Adjusted VE (95% CI): 47.8 (40.8-53.9)  4-6 months Adjusted VE (95% CI): 16.3 (9.7-22.5)  7+ months Adjusted VE (95% CI): -9.0 (-14.5- -3.7)  Omicron BA.1 1-3 months Adjusted VE (95% CI): 46.6 (33.4-57.2)  4-6 months Adjusted VE (95% CI): 8.8 (-4.1-20.1)  7+ months Adjusted VE (95% CI): -17.8 (-28.2- -8.2)  Omicron BA.2 1-3 months Adjusted VE (95% CI): 51.7 (43.2-58.9)  4-6 months Adjusted VE (95% CI): 12.4 (3.8-20.3)  7+ months Adjusted VE (95% CI): -12.1 (-19.1- -5.5)		
	Pfizer	3 doses	Omicron (any)		

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			4-5 weeks Adjusted VE (95% CI): 51.5 (45.0-57.2) 14+ weeks Adjusted VE (95% CI): 21.9 (7.7-33.9) Omicron BA.1 <1 month Adjusted VE (95% CI): 59.9 (51.2-67.0) 1+ month Adjusted VE (95% CI): 40.5 (30.8-48.8) Omicron BA.2 <1 month Adjusted VE (95% CI): 43.7 (36.5-50.0) 1+ month Adjusted VE (95% CI): 40.2 (34.2-45.7)		
	Moderna	1 dose	Omicron (any) 0-13 days Adjusted VE (95% CI): 9.8 (-94.1-58.1) 14+ days Adjusted VE (95% CI): 9.5 (-39.9-41.5) Omicron BA.1 0-13 days Adjusted VE (95% CI): 50.0 (-91.3-86.9) 14+ days Adjusted VE (95% CI): -16.8 (-137.8-42.6) Omicron BA.2 0-13 days Adjusted VE (95% CI): 20.0 (-102.7-68.4) 14+ days Adjusted VE (95% CI): -15.4 (-95.1-31.8)		
	Moderna	2 doses	Omicron (any) 1-3 months Adjusted VE (95% CI): 43.2 (15.0-62.1) 4-6 months		

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			<p>Adjusted VE (95% CI): 18.7 (11.3-25.5)</p> <p>7+ months Adjusted VE (95% CI): -13.7 (-21.3- -6.6)</p> <p>Omicron BA.1 1-3 months Adjusted VE (95% CI): 71.0 (24.0-89.0)</p> <p>4-6 months Adjusted VE (95% CI): 31.3 (19.1-41.7)</p> <p>7+ months Adjusted VE (95% CI): -10.2 (-23.1-1.3)</p> <p>Omicron BA.2 1-3 months Adjusted VE (95% CI): 35.9 (-5.9-61.2)</p> <p>4-6 months Adjusted VE (95% CI): 9.9 (-0.3-19.0)</p> <p>7+ months Adjusted VE (95% CI): -20.4 (-30.2- -11.2)</p>		
	Moderna	3 doses	<p>Omicron (any) 4-5 weeks Adjusted VE (95% CI): 53.7 (39.6-64.6)</p> <p>6+ weeks Adjusted VE (95% CI): 34.9 (14.6-50.4)</p> <p>Omicron BA.1 &lt;1 month Adjusted VE (95% CI): 51.5 (32.3-65.2)</p> <p>1+ month Adjusted VE (95% CI): 45.3 (17.8-63.5)</p> <p>Omicron BA.2 &lt;1 month Adjusted VE (95% CI): 39.4 (24.8-51.2)</p>		

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			1+ month Adjusted VE (95% CI): 41.9 (23.4-56.0)		
Eggink et al. <sup>17</sup>	Pfizer, Moderna or Janssen	***Fully Vaccinated	##Overall Adjusted OR (95% CI): ###3.6 (3.4-3.7)  <i>12-29 years</i> Adjusted OR (95% CI): 4.1 (3.9-4.4)  <i>30-59 years</i> Adjusted OR (95% CI): 3.2 (3.0-3.4)  <i>≥60 years</i> Adjusted OR (95% CI): 2.8 (2.3-3.2)		
Lewnard et al. <sup>26</sup>	Janssen	1 dose	<i>Outpatient</i> Adjusted HR (95% CI): 0.54 (0.36-0.79)  <i>Any setting</i> Adjusted HR (95% CI): 0.67 (0.49-0.93)		<i>Outpatient</i> Adjusted HR (95% CI): 0.39 (0.20-0.77)  <i>Any setting</i> Adjusted HR (95% CI): 0.52 (0.30-0.89)
	Janssen + Any booster	2 doses	<i>Outpatient</i> Adjusted HR (95% CI): 0.46 (0.25-0.84)  <i>Any setting</i> Adjusted HR (95% CI): 0.61 (0.38-0.99)		<i>Outpatient</i> Adjusted HR (95% CI): 0.11 (0.01-0.76)  <i>Any setting</i> Adjusted HR (95% CI): 0.20 (0.05-0.84)
	Pfizer or Moderna	1 dose	<i>Outpatient</i> Adjusted HR (95% CI): 0.46 (0.27-0.77)  <i>Any setting</i> Adjusted HR (95% CI): 0.59 (0.39-0.89)		<i>Outpatient</i> Adjusted HR (95% CI): 0.69 (0.35-1.35)  <i>Any setting</i> Adjusted HR (95% CI): 0.61 (0.32-1.15)
	Pfizer or Moderna	2 doses	<i>≤90 days</i>  <i>Outpatient</i> Adjusted HR (95% CI): 0.51 (0.34-0.76)  <i>Any setting</i> Adjusted HR (95% CI): 0.48 (0.33-0.70)  <i>91-180 days</i>  <i>Outpatient</i> Adjusted HR (95% CI): 0.43 (0.32-0.56)  <i>Any setting</i>		<i>≤90 days</i>  <i>Outpatient</i> Adjusted HR (95% CI): 0.17 (0.12-0.24)  <i>Any setting</i> Adjusted HR (95% CI): 0.23 (0.17-0.30)  <i>91-180 days</i>  <i>Outpatient</i> Adjusted HR (95% CI): 0.27 (0.14-0.54)  <i>Any setting</i>

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			Adjusted HR (95% CI): 0.50 (0.40-0.64)  <i>≥180 days</i>  <i>Outpatient</i> Adjusted HR (95% CI): 0.52 (0.44-0.61)  <i>Any setting</i> Adjusted HR (95% CI): 0.60 (0.52-0.69)		Adjusted HR (95% CI): 0.33 (0.19-0.58)  <i>≥180 days</i>  <i>Outpatient</i> Adjusted HR (95% CI): 0.41 (0.16-1.01)  <i>Any setting</i> Adjusted HR (95% CI): 0.32 (0.13-0.78)
	Pfizer or Moderna	3 doses	<i>Outpatient</i> Adjusted HR (95% CI): 0.43 (0.35-0.52)  <i>Any setting</i> Adjusted HR (95% CI): 0.54 (0.46-0.64)		<i>Outpatient</i> Adjusted HR (95% CI): 0.14 (0.08-0.24)  <i>Any setting</i> Adjusted HR (95% CI): 0.19 (0.12-0.28)
Shrestha et al. 42	Pfizer or Moderna	2 doses  <i>≥14 days</i>	<i>overall</i> Adjusted HR (95% CI): 0.48 (0.44–0.53)  <i>AND prior infection</i> Adjusted HR (95% CI): 0.77 (0.53-1.12)  <i>AND no prior infection</i> Adjusted HR (95% CI): 0.48 (0.44–0.53)	Pre-Omicron	<i>overall</i> Adjusted HR (95% CI): 0.26 (0.24-0.28)  <i>AND prior infection</i> Adjusted HR (95% CI): 0.78 (0.31-1.96)  <i>AND no prior infection</i> Adjusted HR (95% CI): 0.26 (0.24-0.28)
Krutikov et al. 48	AstraZeneca	Vaccinated			Adjusted HR (95% CI): 1.06 (0.51-2.18)
	Pfizer	Vaccinated			Adjusted HR (95% CI): 0.89 (0.45-1.73)
	NR	Booster			<i>≤7 days</i> Adjusted HR (95% CI): 2.00 (0.85-4.65)  <i>&gt;7 days</i> Adjusted HR (95% CI): 0.56 (0.30-1.06)
Nunes et al. 28	Janssen	1 dose	Adjusted OR (95% CI): 0.81 (0.46-1.43)		
	Janssen	Booster	Adjusted OR (95% CI): 0.94 (0.44-2.03)		
	Janssen	&No previous infection AND Janssen 1 dose AND IgG >1549 /mL	Unadjusted OR (95% CI): 0.45 (0.20-1.00)  Adjusted OR (95% CI): 0.42 (0.18-0.85)		



Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
	Janssen	&No previous infection AND Janssen booster AND IgG >1549 /mL	Unadjusted OR (95% CI): 0.76 (0.25-2.27)		
	Pfizer	2 doses	Adjusted OR (95% CI): 0.59 (0.23-1.57)		
	&&Previous SARS-CoV-2 NAAT-confirmed infection	NR	Adjusted OR (95% CI): 0.55 (0.36-0.84)		
Lyngse et al. 23	Pfizer, AstraZeneca, Moderna or Janssen	Booster <i>compare d to fully vaccinated</i>	Adjusted OR (95% CI): 0.54 (0.40-0.71)	Delta	Adjusted OR (95% CI): 0.38 (0.32-0.46)
	NA	Unvaccinated <i>compare d to fully vaccinated</i>	Adjusted OR (95% CI): 1.04 (0.87-1.24)		Adjusted OR (95% CI): 2.31 (2.09-2.55)
Lyngse et al. 61	^Pfizer, Moderna, AstraZeneca, Janssen	Booster <i>compare d to fully vaccinated</i>	<i>Omicron BA.2 households</i> Adjusted OR (95% CI): 0.80 (0.67-0.94) <i>Omicron BA.1 households</i> Adjusted OR (95% CI): 0.65 (0.58-0.73)		
		Unvaccinated <i>compare d to fully vaccinated</i>	<i>Omicron BA.2 households</i> Adjusted OR (95% CI): 1.10 (0.92-1.32) <i>Omicron BA.1 households</i> Adjusted OR (95% CI): 1.23 (1.09-1.40)		
Nguyen et al. 41	AstraZeneca vs Pfizer	2 doses + mRNA Booster		SARs-CoV-2	Adjusted HR (95% CI): 0.99 (0.88-1.11)
Accorsi et al. 20	Pfizer	3 doses	<i>vs Unvaccinated</i> Adjusted OR (95% CI): 0.35 (0.32-0.38) <i>vs 2 doses</i> Adjusted OR (95% CI):	Delta	<i>VS Unvaccinated</i> Adjusted OR (95% CI): 0.077 (0.070-0.086) <i>VS 2 doses</i> Adjusted OR (95% CI):

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			0.35 (0.32-0.37)		0.17 (0.16-0.19)
	Moderna	3 doses	<i>vs Unvaccinated</i> Adjusted OR (95% CI): 0.28 (0.26-0.31)		<i>VS Unvaccinated</i> Adjusted OR (95% CI): 0.045 (0.038-0.053)
			<i>vs 2 doses</i> Adjusted OR (95% CI): 0.31 (0.28-0.34)		<i>VS 2 doses</i> Adjusted OR (95% CI): 0.13 (0.11-0.15)
	Pfizer or Moderna	3 doses	<i>vs Unvaccinated</i> Adjusted OR (95% CI): 0.33 (0.31-0.35)		<i>VS Unvaccinated</i> Adjusted OR (95% CI): 0.065 (0.059-0.071)
			<i>vs 2 doses</i> Adjusted OR (95% CI): 0.34 (0.32-0.36)		<i>VS 2 doses</i> Adjusted OR (95% CI): 0.16 (0.14-0.17)
Chaguza et al. 53	Janssen	1 dose		Omicron VS Delta	$\geq 5$ months OR (95% CI): 1.2786 (0.8199-1.9939)
	Moderna	2 doses			$\geq 5$ months OR (95% CI): 1.9686 (1.4873-2.6058)
	Pfizer	2 doses			$< 5$ months OR (95% CI): 2.324 (1.4604-3.6981)
					$\geq 5$ months OR (95% CI): 1.8118 (1.4754-2.2249)
	NR	3 doses			OR (95% CI): 3.0177 (1.8418-4.9444)
	Vaccinated	1 dose			OR (95% CI): 1.2771 (0.819-1.9916)
	Vaccinated	2 doses			$< 5$ months OR (95% CI): 2.3237 (1.4603-3.6976)
					$\geq 5$ months OR (95% CI): 1.8591 (1.5497-2.2302)
	Vaccinated	3 doses			OR (95% CI): 3.0125 (1.8387-4.9356)
Tai et al. 40	mRNA or Janssen	Booster <i>compare d to fully vaccinated</i>	Adjusted HR (95% CI): 0.43 (0.35-0.53)		
Allen et al. 18	NR	2 doses	<i>Reference</i>	Delta	<i>Reference</i>
	NR	3 doses	<i>Contact Household</i> Adjusted RR (95% CI): 0.88 (0.79-0.97)		<i>Contact Household</i> Adjusted RR (95% CI): 0.68 (0.62-0.74)
		$> 14$ days	<i>Non-Household</i> Adjusted RR (95% CI): 0.76 (0.61-0.94)		<i>Non-Household</i> Adjusted RR (95% CI): 0.51 (0.39-0.66)
					<i>Exposer</i>

Study	Vaccine	Dose	Omicron	Other variants	
			Infection	Variant	Infection
			<i>Exposer Household</i> Adjusted RR (95% CI): 0.78 (0.69-0.88)  <i>Non-Household</i> Adjusted RR (95% CI): 0.95 (0.77-1.16)		<i>Household</i> Adjusted RR (95% CI): 0.62 (0.54-0.72)  <i>Non-Household</i> Adjusted RR (95% CI): 0.84 (0.59-1.19)
	NR	1 dose  >21 days	<i>Contact Household</i> Adjusted RR (95% CI): 0.80 (0.69-0.93)  <i>Non-Household</i> Adjusted RR (95% CI): 0.76 (0.47-1.25)  <i>Exposer Household</i> Adjusted RR (95% CI): 0.94 (0.83-1.08)  <i>Non-Household</i> Adjusted RR (95% CI): 0.9 (0.64-1.26)		<i>Contact Household</i> Adjusted RR (95% CI): 0.95 (0.86-1.04)  <i>Non-Household</i> Adjusted RR (95% CI): 1.02 (0.63-1.66)  <i>Exposer Household</i> Adjusted RR (95% CI): 0.96 (0.87-1.06)  <i>Non-Household</i> Adjusted RR (95% CI): 1.28 (0.9-1.81)
	NA	Unvaccinated	<i>Contact Household</i> Adjusted RR (95% CI): 0.87 (0.79-0.95)  <i>Non-Household</i> Adjusted RR (95% CI): 1.05 (0.8-1.36)  <i>Exposer Household</i> Adjusted RR (95% CI): 1.00 (0.92-1.09)  <i>Non-Household</i> Adjusted RR (95% CI): 1.18 (0.97-1.44)		<i>Contact Household</i> Adjusted RR (95% CI): 1.16 (1.08-1.24)  <i>Non-Household</i> Adjusted RR (95% CI): 0.86 (0.61-1.21)  <i>Exposer Household</i> Adjusted RR (95% CI): 1.19 (1.12-1.27)  <i>Non-Household</i> Adjusted RR (95% CI): 1.32 (1.06-1.65)
Bar-On et al. 57	^^Pfizer	3 doses vs 4 doses ≥12 days	RR (95% CI): 2.0 (2.0-2.1)		
		4 doses 3-7 days vs 4 doses ≥12 days	RR (95% CI): 1.9 (1.8-2.0)  * RR (95% CI): 2.1 (1.9-2.2)		

\* C1: Cohort Delta-Omicron BA.1

\*\*C2: Cohort Omicron BA.1-BA.2

\*\*\* **Primary vaccination/full vaccination:** 2 doses of Pfizer, Moderna or AstraZeneca >4 days before the symptom onset or 1 dose of Janssen vaccine more than 28 days before the symptom onset

**#Booster vaccination:** 3 doses at least 7 days before symptom onset or 2 doses after Janssen if the date of last vaccination was after 18 November 2021

**##Unvaccinated** with no prior infection was the reference for the OR analysis. OR: association between vaccination/previous infection and SGTF

###Reads as 3.6 times higher risk of infection with Omicron than with Delta compared with naïve individuals

**&Compared to** no previous infection AND unvaccinated AND IgG <300/mL

**&&Compared to** no previous infection

**^ ORs for susceptibility** by vaccination status. Fully Vaccinated: Pfizer: 7 days after second dose; AstraZeneca: 15 days after second dose; Moderna: 14 days after second dose; Janssen: 14 days after vaccination, and 14 days after the second dose for cross vaccinated individuals or 14 days after previous infection.

**^^ Study included** those that were 60 years of age or older and had received three doses of BNT162b2 at least 4 months before the start of the study period. Sensitivity analysis using ages 20-59 years old.

**Supplementary Table 3:** Effectiveness of the COVID-19 vaccines against the Omicron variant in reducing hospitalization as compared to other variants.

Study	Vaccine	Dose	Omicron	Other variants	
			Hospitalization	Variant	Hospitalization
Ferdinands et al. <sup>34</sup>	Pfizer or Moderna	2 doses	<i>Overall</i> Adjusted VE (95% CI): 55 (50–60)  <i>&lt;2 months</i> Adjusted VE (95% CI): 71 (51–83)  <i>2-3 months</i> Adjusted VE (95% CI): 65 (53–74)  <i>4 months</i> Adjusted VE (95% CI): 58 (38–71)  <i>≥5 months</i> Adjusted VE (95% CI): 54 (48–59)	Delta	<i>Overall</i> Adjusted VE (95% CI): 85 (84–85)  <i>&lt;2 months</i> Adjusted VE (95% CI): 94 (92-96)  <i>2-3 months</i> Adjusted VE (95% CI): 91 (89-92)  <i>4 months</i> Adjusted VE (95% CI): 90 (89-92)  <i>≥5 months</i> Adjusted VE (95% CI): 82 (82-83)
	Pfizer or Moderna	3 doses	<i>Overall</i> Adjusted VE (95% CI): 88 (86–90)  <i>&lt;2 months</i> Adjusted VE (95% CI): 91 (88–93)  <i>2-3 months</i> Adjusted VE (95% CI): 88 (85–90)  <i>≥4 months</i> Adjusted VE (95% CI): 78 (67–85)		<i>Overall</i> Adjusted VE (95% CI): 95 (95–96)  <i>&lt;2 months</i> Adjusted VE (95% CI): 96 (95–97)  <i>2-3 months</i> Adjusted VE (95% CI): 93 (91–95)  <i>≥4 months</i> Adjusted VE (95% CI): 76 (14–93)
Gray et al. <sup>64</sup>	Janssen	2 doses Booster	<i>0-13 days</i> Adjusted VE (95% CI): 63 (31-81)  <i>14-27 days</i> Adjusted VE (95% CI): 84 (67-92)  <i>27-87 days</i> Adjusted VE (95% CI): 85 (54-95)		
Lauring et al. <sup>22</sup>	Pfizer or Moderna	2 doses	<i>Overall</i> VE (95% CI): 65 (51-75)  <i>Immunocompetent Only</i>	Alpha	<i>Overall</i> VE (95% CI): 85 (82-88)  <i>Immunocompetent Only</i> VE (95% CI): 90 (87-93)

Study	Vaccine	Dose	Omicron	Other variants	
			Hospitalization	Variant	Hospitalization
			VE (95% CI): 66 (49-77)		<i>Immunocompromised Only</i> VE (95% CI): 58 (33-73)
	Pfizer or Moderna	2 doses		Delta	<i>Overall</i> VE (95% CI): 85 (83-87)  <i>Immunocompetent Only</i> VE (95% CI): 88 (86-90)  <i>Immunocompromised Only</i> VE (95% CI): 63 (52-71)  <i>18-64 years old</i> VE (95% CI): 88 (86-90)  <i>≥65 years old</i> VE (95% CI): 81 (77-84)
	Pfizer or Moderna	3 doses	<i>Overall</i> VE (95% CI): 86 (77-91)  <i>Immunocompetent Only</i> VE (95% CI): 86 (75-92)		<i>Overall</i> VE (95% CI): 94 (92-95)  <i>Immunocompetent Only</i> VE (95% CI): 97 (95-98)  <i>Immunocompromised Only</i> VE (95% CI): 87 (78-92)
Lee et al. <sup>25</sup>	Pfizer, Moderna or Janssen	Fully vaccinated or Booster  <i>Cancer Cohort</i>	OR (95% CI): 2.01 (1.10–3.67) (compared to unvaccinated)		
Dorabawila et al. <sup>45</sup>	Pfizer	2 doses  10µg for 5-11 year olds	VE (95% CI):  <i>Dec 13-19</i> 100 (-189-100)  <i>Dec 20-26</i> 73 (-7-97)  <i>Dec 27-Jan 2</i> 82 (45-96)  <i>Jan 3-9</i> 74 (36-96)  <i>Jan 10-16</i> 68 (28, 91)  <i>Jan 17-23</i> 46 (-15,77)  <i>Jan 24-30</i> 48 (-12-75)		
	Pfizer	2 doses	VE (95% CI):  <i>Nov 29- Dec 5</i>		

Study	Vaccine	Dose	Omicron	Other variants	
			Hospitalization	Variant	Hospitalization
		30µg for 12-17-year olds	94 (76,99)  <i>Dec 6 -Dec 12</i> 95 (64, 100)  <i>Dec 13-19</i> 85 (63-95)  <i>Dec 20-26</i> 78 (63, 88)  <i>Dec 27- Jan 2</i> 74 (63, 82)  <i>Jan 3-9</i> 74 (63-82)  <i>Jan 10-16</i> 75 (64, 86)  <i>Jan 17-23</i> 75 (61, 83)  <i>Jan 24-30</i> 73 (53-87)		
Young-Xu et al. <sup>16</sup>	*mRNA	2 doses ≥14 days	Adjusted VE (95% CI): 44 (26-58)  24 (-1-43)	Delta	Adjusted VE (95% CI): 75 (70-80)  57 (45-66)
	mRNA	3 doses ≥14 days	Adjusted VE (95% CI): 87 (80-91)  69 (54-79)		Adjusted VE (95% CI): 95 (91-97)  45 (-5-71)
Tseng et al. <sup>15</sup>	Moderna	1 dose	N/A	Delta	Adjusted VE (95% CI): 71.2 (-68.7-97.4)
	Moderna	2 doses	Adjusted VE (95% CI): 84.5 (23.0-96.9)		Adjusted VE (95% CI): 99.0 (93.9-99.9)
	Moderna	3 doses	Adjusted VE (95% CI): 99.2 (76.3-100.0)		Adjusted VE (95% CI): 99.7 (96.5-100.0)
Šmíd et al. <sup>37</sup>	Pfizer, Moderna, AstraZeneca or Janssen	2 doses	<2 months Adjusted VE (95% CI): 45 (29-57)  >2 months Adjusted VE (95% CI): 29 (21-37)	Delta	<2 months Adjusted VE (95% CI): 75 (68-80)  >2 months Adjusted VE (95% CI): 79 (78-81)
	Pfizer, Moderna, AstraZeneca or Janssen	Booster	<2 months Adjusted VE (95% CI): 87 (84-88)  >2 months Adjusted VE (95% CI): 79 (75-83)		<2 months Adjusted VE (95% CI): 98 (97-98)  >2 months Adjusted VE (95% CI): 97 (95-98)
Thompson et al. <sup>60</sup>	mRNA	2 doses	<180 days Adjusted VE (95% CI): 81 (65-90)	Delta	<180 days Adjusted VE (95% CI): 90 (89-90)

Study	Vaccine	Dose	Omicron	Other variants	
			Hospitalization	Variant	Hospitalization
			<i>180+ days</i> Adjusted VE (95% CI): 57 (39-70)		<i>180+ days</i> Adjusted VE (95% CI): 81 (80-82)
	mRNA	3 doses	Adjusted VE (95% CI): 90 (80-94)		Adjusted VE (95% CI): 94 (93-95)
Collie et al. <sup>47</sup>	Pfizer	2 doses	Adjusted VE (95% CI): 70 (62-76)  <i>SGTF Sensitivity Analysis</i> 69 (48-81)	Delta	Adjusted VE (95% CI): 93 (90-94)
Marks et al. <sup>52</sup>	NR	&&Fully Vaccinated		Omicron/D elta	RR (95% CI): 6.3 (4.4- 8.6)  <i>unvaccinated to fully vaccinated</i>
Spensley et al. <sup>43</sup>	Pfizer or AstraZeneca	2 doses		SARS- CoV-2 general	Adjusted HR (95% CI): 0.23 (0.03-1.91)
	Pfizer or AstraZeneca	Booster			Adjusted HR (95% CI): 0.40 (0.10-2.63)
Powell et al. <sup>39</sup>	Pfizer	1 dose		Delta	<i>0-27 days</i> <i>12-15 year olds</i> Adjusted VE (95% CI): 14.2 (-25.6-41.4)  <i>16-17 year olds</i> Adjusted VE (95% CI): 64.6 (40.7-78.9)  <i>day 28+</i> <i>12-15 year olds</i> Adjusted VE (95% CI): 83.4 (54.0-94.0)  <i>16-17 year olds</i> Adjusted VE (95% CI): 76.3 (61.1-85.6)
Veneti et al. <sup>27</sup>	Pfizer or Moderna	1 dose <21 days	Adjusted HR (95% CI): 2.03 (0.24–17.4)	Delta	Adjusted HR (95% CI): 1.18 (0.56–2.5)
	Pfizer or Moderna	1 dose ≥21 days <i>AND</i> 2 doses <7 days	Adjusted HR (95% CI): 0.71 (0.20–2.51)		Adjusted HR (95% CI): 0.19 (0.09–0.38)
	Pfizer or Moderna	2 doses	<i>7-179 days</i> Adjusted HR (95% CI): 0.34 (0.17-0.68)  <i>&gt;180 days</i> Adjusted HR (95% CI): 0.59 (0.28-1.22)  <i>Overall</i> Adjusted HR (95% CI): 0.50 (0.26-0.96)		<i>7-179 days</i> Adjusted HR (95% CI): 0.07 (0.05-0.10)  <i>&gt;180 days</i> Adjusted HR (95% CI): 0.16 (0.12-0.21)  <i>Overall</i> Adjusted HR (95% CI): 0.12 (0.09–0.14)



Study	Vaccine	Dose	Omicron	Other variants	
			Hospitalization	Variant	Hospitalization
	Pfizer or Moderna	3 doses ≥ 7 days	Adjusted HR (95% CI): 0.14 (0.06-0.31)		Adjusted HR (95% CI): 0.12 (0.09-0.17)
Davies et al. <sup>33</sup>	Pfizer or Janssen	#Fully Vaccinated	Adjusted HR (95% CI): 0.45 (0.36-0.56)	Delta	Adjusted HR (95% CI): 0.53 (0.44-0.64)
Paredes et al. <sup>24</sup>	Pfizer, Moderna or Janssen	Unvaccinated or 1 dose <21 days	Adjusted HR (95% CI): 0.79 (0.37-1.67)	Delta	Adjusted HR (95% CI): 2.39 (1.32-4.32)
	Pfizer, Moderna or Janssen	1 dose ≥21 days to Booster <21 days	Adjusted HR (95% CI): 0.49 (0.29-0.83)		Adjusted HR (95% CI): 0.93 (0.71-1.22)
	Pfizer, Moderna or Janssen	Booster ≥21 days	Adjusted HR (95% CI): 0.44 (0.21-0.93)		Adjusted HR (95% CI): 0.75 (0.41-1.34)
	Pfizer, Moderna or Janssen	Unvaccinated or 1 dose <21 days		Any	reference
	Pfizer, Moderna or Janssen	1 dose ≥21 days to Booster <21 days			Adjusted HR (95% CI): 0.40 (0.35-0.45)
	Pfizer, Moderna or Janssen	Booster ≥21 days			Adjusted HR (95% CI): 0.31 (0.19-0.51)
Ulloa et al. <sup>38</sup>	**NR	2 doses		Omicron vs Delta	Adjusted HR (95% CI): 0.44 (0.29-0.65)  ** Adjusted HR (95% CI): 0.40 (0.20-0.80)
Patalon et al. <sup>29</sup>	Pfizer	Booster	5 months reference  4 months Adjusted OR (95% CI): 0.876 (0.477-1.607)  3 months Adjusted OR (95% CI): 0.812 (0.345-1.911)  2 months Adjusted OR (95% CI): 0.672 (0.075-6.052)  1 months Adjusted OR (95% CI): 2.681 (0.321-22.383)		
Peralta-Santos et al. <sup>59</sup>	Pfizer, Moderna, AstraZeneca, Janssen	<sup>s</sup> Incomplete Vaccination	Adjusted HR (95% CI): 0.388 (0.122-1.24)		

Study	Vaccine	Dose	Omicron	Other variants	
			Hospitalization	Variant	Hospitalization
		<sup>\$\$</sup> Complete Vaccination	Adjusted HR (95% CI): 0.162 (0.116-0.23)		
		<sup>\$\$\$</sup> Booster	Adjusted HR (95% CI): 0.073 (0.035-0.15)		
Auvigne et al. <sup>56</sup>	Pfizer, Moderna, AstraZeneca , Janssen	Booster  <i>Compared to primary vaccination</i>		Omicron OR Delta	HR (95% CI): 1.49 (1.08–2.07)
		Unvaccinated  <i>Compared to primary vaccination</i>			HR (95% CI): 6.53 (5.48–7.79)

\*Sub-analysis restricted to those with a positive COVID-19 test in the study period; VE was evaluated against progression to hospitalization/death among the infected only

\*\*Hospitalization or death

#Fullyvaccinated: 2 doses ( $\geq 14$  days) of Pfizer or 1 dose ( $\geq 28$  days) of Janssen

&&Fully vaccinated: received the final dose in their primary series  $\geq 14$  days before

<sup>§</sup>Incomplete vaccination: anytime between the uptake of the first dose of a COVID-19 vaccine (ChAdOx1, BNT162b2 or mRNA1273) and up to 14 days after the second dose uptake

<sup>\$\$</sup>Complete vaccination: 14 or more days following second dose vaccine uptake or first dose of Ad26.COV2.S or up to 14 days after the booster dose uptake

<sup>\$\$\$</sup>Booster: 14 or more days following booster dose vaccine uptake