# **Results of COVID-19 Vaccine Effectiveness Studies: An Ongoing Systematic Review**

# **Forest Plots**

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and

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## METHODS FOR INCLUSION IN FOREST PLOTS

Vaccine Effectiveness (VE) estimates included in these plots are from an ongoing systematic review of COVID-19 vaccine effectiveness studies. Complete details on the method of the systematic review as well as a summary table of results can be found on the VIEW-hub Resources Page (https://view-hub.org/resources):

- "COVID-19 Vaccine Effectiveness and Impact Studies Review Methods"
- "COVID-19 Vaccine Effectiveness Results Summary Table"

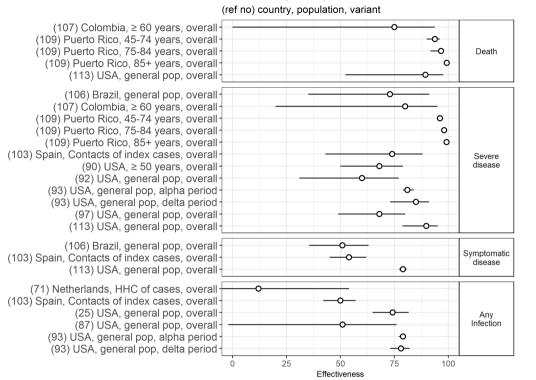
The VE estimates included in the plots are a large subset of the estimates abstracted from the systematic literature review. A single study can include many VE estimates. In an effort to not overrepresent the amount of evidence that exists for each vaccine, the following criteria are used to determine which VE estimates are displayed in the forest plots located on the VIEW-hub resources page (https://view-hub.org/resources). There are some instances when more than one estimate from a study will be displayed in the same plot (e.g. a study includes VE estimates from two distinct populations or estimates for different variants). Reference numbers are included for each VE estimate displayed so users can identify when a study is represented more than once within a plot. More information on each reference can be found in the weekly literature review summary table located on VIEW-HUB (https://view-hub.org/resources).

- Complete vaccination is defined as ≥7 days post final dose; partial vaccination is defined as ≥14 days post first dose of a 2-dose vaccine.
- If a study reports results for the same outcome for both combined and individual vaccines, only individual vaccine VE estimates are displayed. This criterion only apples to studies evaluating VE of BNT162b2 (Pfizer) and mRNA-1273 (Moderna) vaccines.
- If a study reports results from 2 different evaluation designs (e.g. test-negative design and cohort design) on the same population, VE estimates from the primary analysis only are displayed.
- If a study reports overall VE as well as variant-specific VE estimates for the same disease outcome, overall VE estimates are included in the 'By Vaccine' and 'By Disease Outcome' plots. However, if a study reports only variant-specific VE estimates, then all variant VE estimates are displayed and labeled. For the 'By Variant' plots, variant-specific estimates are included from all studies in which they are available. Note that studies may be conducted in the context of circulating variants, however, if variant-specific estimates (i.e. VE is stratified by variant) are not provided, estimates are labeled as 'overall' VE estimates, unless otherwise noted.
- If a study reports VE estimates for the same disease outcome for different populations, the general population VE estimate is displayed when available. If a general population estimate is not available, the VE from each population is displayed (exception is when there are estimates for similar age groups in which case the more stable VE estimate will be displayed).
- If a study reports VE estimates on more than one 'severe' disease outcome (e.g. 'severe disease', 'hospitalization', and 'ICU admission'), the more inclusive disease outcome including a larger population is displayed. These different types of severe outcomes are labeled as 'severe disease' in the plots, however it is important to keep in mind that the definition of severe disease varies and may explain some differences in VE estimates for severe disease outcomes.

## **ABBREVIATIONS**

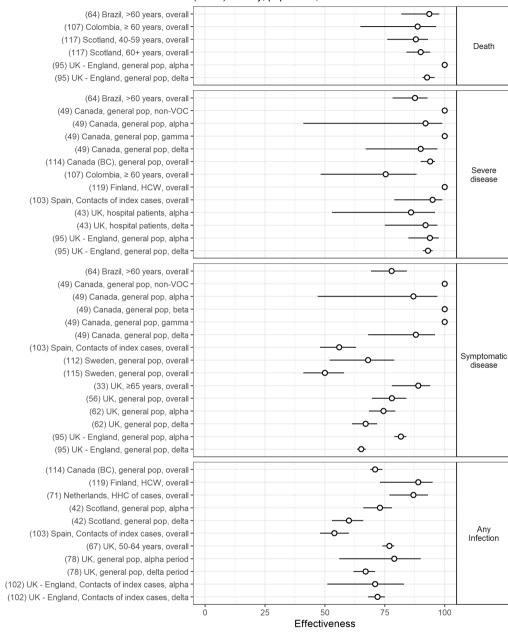
- asymp = asymptomatic
- HCW = healthcare workers
- HHC = household contacts
- LTCF = long-term care facility
- pop = population
- SNF= skilled nursing facility
- VOC = variant of concern

## BY VACCINE



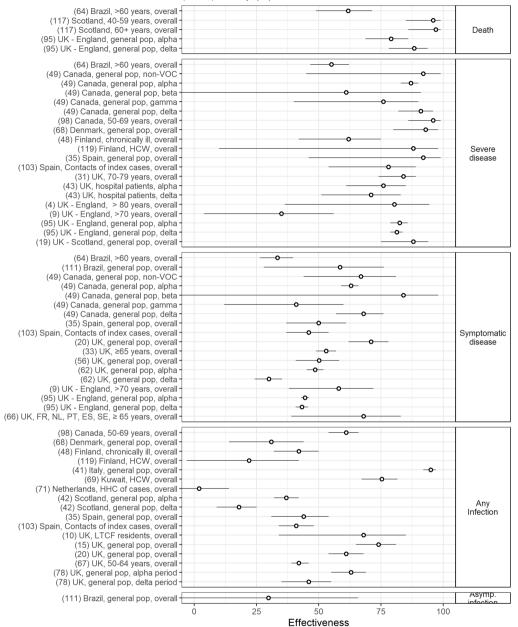
#### Ad26.COV2.S (Janssen) Vaccine Effectiveness, 1 Dose

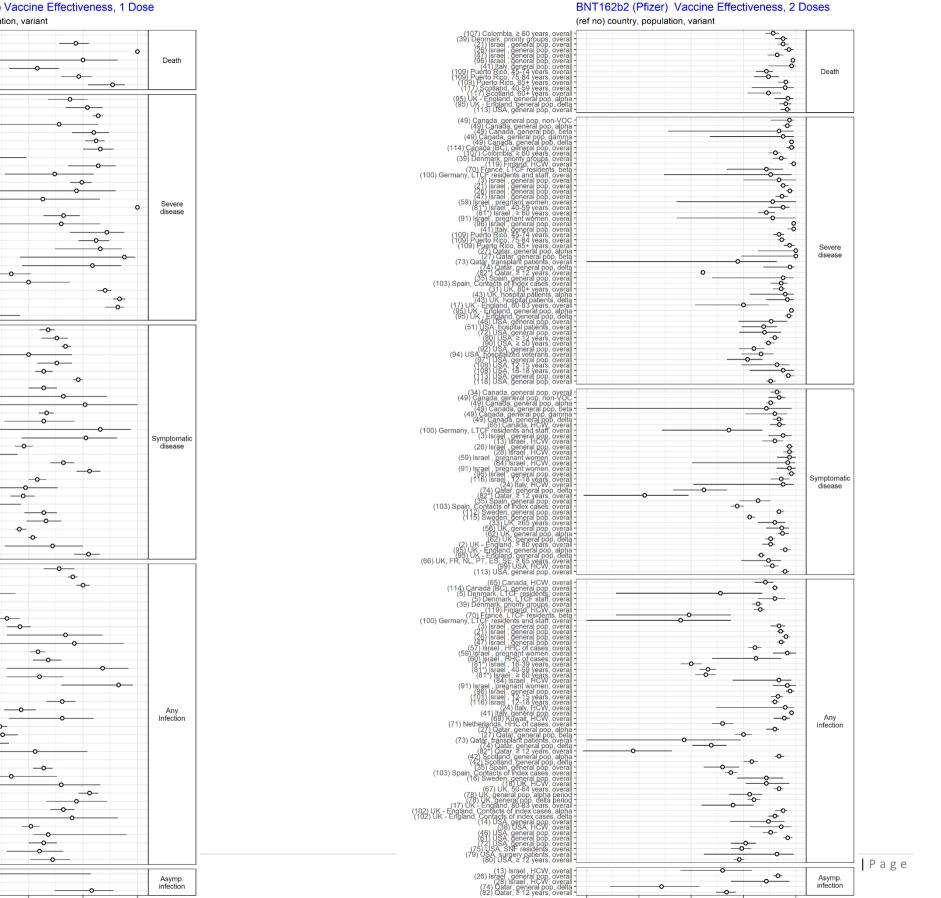
## AZD1222 (AstraZeneca) Vaccine Effectiveness, 2 Doses (ref no) country, population, variant



#### AZD1222 (AstraZeneca) Vaccine Effectiveness, 1 Dose

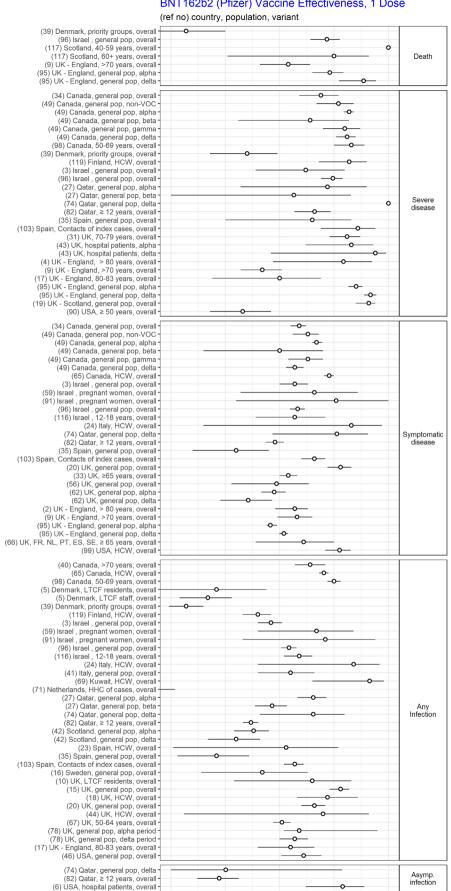
(ref no) country, population, variant





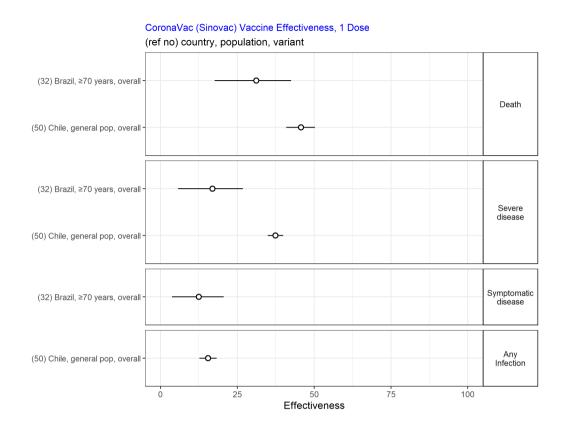
Effectiveness

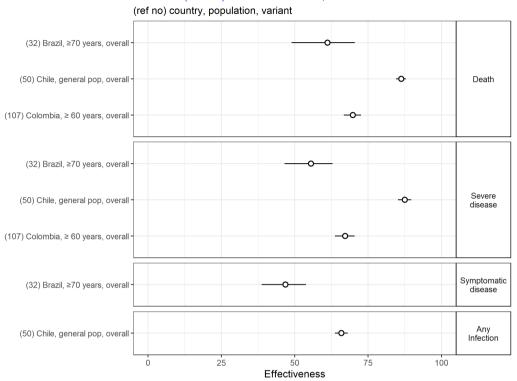
### BNT162b2 (Pfizer) Vaccine Effectiveness, 1 Dose



Effectiveness

\* Indicates estimates evaluating vaccine effectiveness at ≥ 4 months from final dose





### CoronaVac (Sinovac) Vaccine Effectiveness, 2 Doses

#### mRNA-1273 (Moderna) Vaccine Effectiveness, 2 Doses

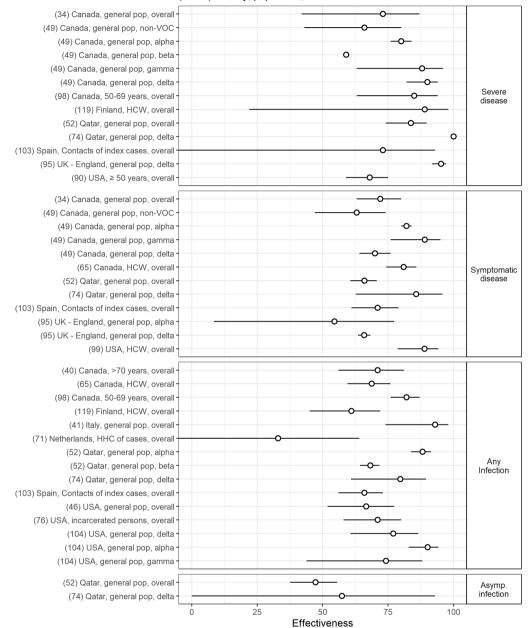
(ref no) country, population, variant

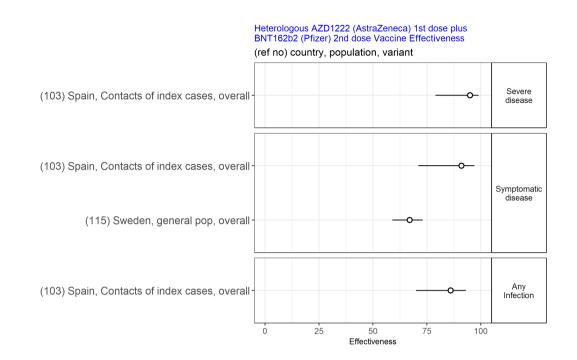
	(ret no) country, population, variant		
(109) Puerto Rico, 45-74 years, overall (109) Puerto Rico, 75-84 years, overall (109) Puerto Rico, 85+ years, overall (86) USA, general pop, overall (113) USA, general pop, overall		->	Death
<ul> <li>(49) Canada, general pop, non-VOC (49) Canada, general pop, alpha=(49) Canada, general pop, beta (49) Canada, general pop, detta (49) Canada, general pop, detta (114) Canada (BC), general pop, detta (119) Finland, HCW, overall (109) Puerto Rico, 45-74 years, overall (109) Puerto Rico, 85-4 years, overall (52) Qatar, general pop, detta (53) UK - England, general pop, detta (46) USA, general pop, overall (51) USA, hospital patients, overall (92) USA, general pop, overall (104) USA, general pop, overall (113) USA, general pop, overall (114) USA, general pop, overall (114) USA, general pop, overall (114) USA, general pop, overall (113) USA, general pop, overall (118) USA, general pop, overall (118) USA, general pop, overall (118) USA, general pop, overall (113) USA, general pop, overall (</li></ul>	Image: state	۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰	Severe disease
<ul> <li>(34) Canada, general pop, overall-</li> <li>(49) Canada, general pop, non-VOC -</li> <li>(49) Canada, general pop, alpha</li> <li>(49) Canada, general pop, genta</li> <li>(49) Canada, general pop, delta</li> <li>(52) Qatar, general pop, overall-</li> <li>(74) Qatar, general pop, delta</li> <li>(103) Spain, Contacts of index cases, overall</li> <li>(115) Sweden, general pop, overall</li> <li>(15) UK - England, general pop, overall</li> <li>(86) USA, general pop, overall</li> <li>(99) USA, HCW, overall</li> <li>(113) USA, general pop, overall</li> </ul>			Symptomatic disease
(65) Canada, HCW, overall (114) Canada (BC), general pop, overall (119) Finland, HCW, overall (52) Qatar, general pop, alpha (52) Qatar, general pop, deta (52) Qatar, general pop, deta (103) Spain, Contacts of index cases, overall (14) USA, general pop, overall (14) USA, general pop, overall (61) USA, general pop, overall (72) USA, general pop, overall (75) USA, SNF residents, overall (86) USA, Sincresidents, overall (80) USA, general pop, overall (104) USA, general pop, overall (104) USA, general pop, overall (104) USA, general pop, deta (104) USA, general pop, alpha (104) USA, general pop, gamma			Any Infection
(52) Qatar, general pop, overall (74) Qatar, general pop, delta (86) USA, general pop, overall		O	Asymp. infection
	0 25 50 Effectiveness	75 100	

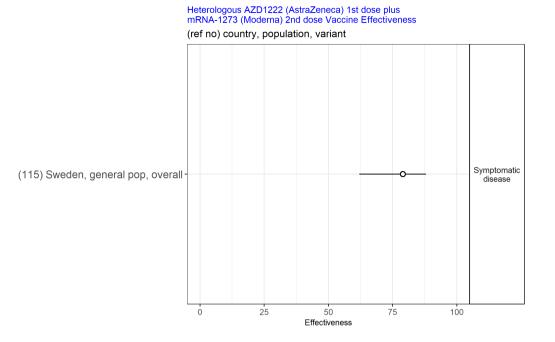
#### mRNA-1273 (Moderna) Vaccine Effectiveness, 1 Dose

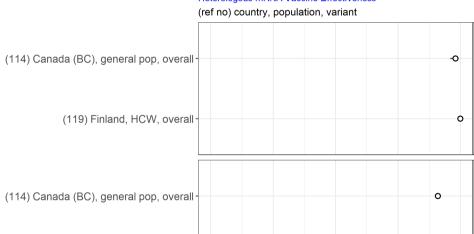
(ref no) country, population, variant

=









25

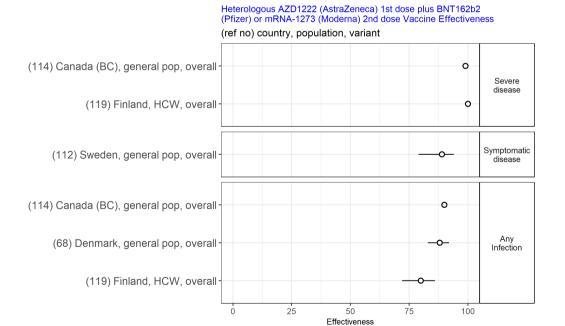
0

50

Effectiveness

75

(119) Finland, HCW, overall-





Severe

disease

Any

Infectior

o

100

### Vaccine Effectiveness against COVID-19 Severe Disease, Complete Vaccination

(ref no) country, population, variant

	(ref no) country, population, variant	
(106) Brazil, general pop, overall (107) Colombia, ≥ 60 years, overall (109) Puerto Rico, 45-74 years, overall (109) Puerto Rico, 75-84 years, overall (109) Puerto Rico, 85+ years, overall (103) Spain, Contacts of index cases, overall (90) USA, 25 0years, overall (92) USA, general pop, alpha period (93) USA, general pop, alpha period (93) USA, general pop, delta period (13) USA, general pop, overall (13) USA, general pop, overall		Ad26.COV2.S (Janssen)
(113) USA, general pop, overall (64) Brazil, >60 years, overall (49) Canada, general pop, alpha (49) Canada, general pop, delta (107) Colombia, 2 60 years, overall (119) Finland, HCW, overall (13) Spain, Contacts of index cases, overall (43) UK, hospital patients, delta (43) UK, hospital patients, delta (95) UK - England, general pop, alpha (95) UK - England, general pop, delta	— <u> </u>	AZD1222 (AstraZeneca)
(32) Brazil, ≥70 years, overall - (50) Chile, general pop, overall - (107) Colombia, ≥ 60 years, overall -	- <u>o</u> - o	CoronaVac (Sinovac)
<ul> <li>(19) Canada, general pop, otens, rotveci (49) Canada, general pop, beta (49) Canada, general pop, beta (49) Canada, general pop, deta (49) Canada, general pop, deta (49) Canada, general pop, otens (49) Canada, general pop, otens (111) Canada (BC), general pop, overal (102) Denmark, prority groups, overal (112) Canada (BC), general pop, overal (113) France, LTCF residents, beta (100) Germany, LTCF residents, beta (21) Israel, general pop, overal (21) Op Puerto Rico, 75-84 years, overal (109) Puerto Rico, 75-84 years, overal (27) Qatar, general pop, beta (27) Qatar, general pop, beta (27) Qatar, general pop, beta (31) UK, hospital patients, delta (31) UK, hospital patients, delta (31) UK, hospital patients, delta (71) UK - England, general pop, overal (43) UK, hospital patients, delta (72) USA, general pop, overal (60) USA, 2 12 years, overal (72) USA, general pop, overal (72) USA, general pop, overal (71) USA, hospital patients, overal (72) USA, general pop, overal (73) USA, general pop, overal (74) USA, hospital patients, overal (74) USA, hospital patients, overal (75) USA, general pop, overal (71) USA, general pop, overal (71) USA, general pop, ove</li></ul>	مې م	BNT162b2 (Pfizer)
<ul> <li>(48) Finland, ≥ 70 years, overall (48) Finland, chronically ill, overall (91) Israel, pregnant women, overall (83) Portugal, 65-79 years, overall (83) Portugal, 52-79 years, overall (73) Qatar, transplant patients, overall (14) USA, general pop, overall (14) USA, general pop, overall (22) USA, hospital patients ≥ 65 years, overall (45) USA, general pop, overall (45) USA, general pop, overall (55) USA, general pop, overall (77) USA, general pop, overal</li></ul>		BNT162b2 (Pfizer) OR mRNA-1273 (Moderna)
<ul> <li>(49) Canada, general pop, non-VOC - (49) Canada, general pop, beta (49) Canada, general pop, beta (49) Canada, general pop, detta (49) Canada, general pop, detta (114) Canada (BC), general pop, detta (119) Finland, HCW, overall (199) Puerto Rico, 75-74 years, overall (199) Puerto Rico, 75-84 years, overall (109) Puerto Rico, 75-84 years, overall (20) Catar, general pop, detta (103) Spain. Contacts of index cases, overall (74) Qatar, general pop, detta (46) USA, general pop, overall (51) USA, nespital patients, overall (86) USA, general pop, overall (90) USA, 250 years, overall (91) USA, general pop, overall (94) USA, hospitalized veterans, overall (104) USA, general pop, overall (104) USA, general pop, overall (118) USA, general pop, overall</li> </ul>		mRNA-1273 (Moderna)
(114) Canada (BC), general pop, overall (119) Finland, HCW, overall (103) Spain, Contacts of index cases, overall	°	Heterologous: AZD1222 (AstraZeneca) & mRNA
(114) Canada (BC), general pop, overall - (119) Finland, HCW, overall -	00	Heterologous mRNA
onths from final dose	0 25 50 75 100 Effectiveness	

## By Disease Outcome

# Vaccine Effectiveness against Death due to COVID-19, Complete Vaccination

(ref no) country, population, variant

		◦ <u> </u>	Ad26.COV2.S (Janssen)
			AZD1222 (AstraZeneca)
	 0-	0	CoronaVac (Sinovac)
		۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵ ۵	BNT162b2 (Pfizer)
			BNT162b2 (Pfizer) OR mRNA-1273 (Moderna)
	o_	 	mRNA-1273 (Moderna)

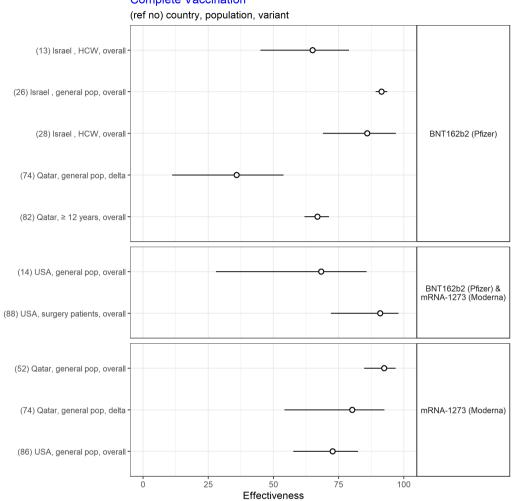
### Vaccine Effectiveness against COVID-19 Infection (Any), Complete Vaccination

	ef no) country, population, variant	
(71) Netherlands, HHC of cases, overall + (103) Spain, Contacts of index cases, overall - (25) USA concord and a concord a con		
(105) Spair, contacts, oracles, oracles, (25) USA, general pop, overall – (87) USA, general pop, alpha period – (93) USA, general pop, delta period – (93) USA, general pop, delta period –	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Ad26.COV2.S (Janssen)
(93) USA, general pop, delta period	-ŏ-	
(119) Finland, HCW, overall - (71) Netherlands, HHC of cases, overall -		
<ul> <li>(1) Netherlands, HHC of cases, overall - (42) Scotland, general pop, alpha - (42) Scotland, general pop, delta - (67) UK, 50-64 years, overall - (78) UK, general pop, alpha period - (78) UK, general pop, delta period - (78) UK, entacts of index cases, alpha - (102) UK - England, Contacts of index cases, delta - (114) Canada (BC), general pop, overall - (114) Canada (BC), general pop, general pop, overall - (114) Canada (BC), general pop, ge</li></ul>	~	
(103) Spain, Contacts of index cases, overall -	-o-	AZD1222 (AstroZonoso)
(78) UK, general pop, alpha period		AZD1222 (AstraZeneca)
02) UK - England, Contacts of index cases, alpha -	<u>~</u>	
(112) UK - England, Contacts of Index cases, delta - (114) Canada (BC), general pop, overall -	-0 -0	
(50) Chile, general pop, overall <del>-</del>	0	CoronaVac (Sinovac)
(65) Canada, HCW, overall (114) Canada (BC), general pop, overall (5) Denmark, LTCF residents, overall (5) Denmark, Dirotty groups, overall (39) Denmark, priority groups, overall (119) Finland, HCW, overall (70) Franco LTCE residents beta	-0-	
(5) Denmark, LTCF residents, overall -	oo	
(39) Denmark, priority groups, overall	သို	
(10) France, LTCF residents, beta -	O	
(119) Finland, HCW, overall - (70) France, LTCF residents, beta - (100) Germany, LTCF residents, beta - (1) Israel, general pop, overall - (21) Israel, general pop, overall - (26) Israel, general pop, overall - (47) Israel, general pop, overall - (57) Israel, HHC of cases, overall - (59) Israel, pregnant women overall -	o	
(21) Israel , general pop, overall - (26) Israel , general pop, overall -	poo	
(47) Israel , ğeneral pop, overall - (57) Israel , HHC of cases, overall -	~ °	
(59) Israel , pregnant women, overall - (60) Israel HHC of cases, overall -		
(81*) Israel , 16-39 years, overall - (81*) Israel , 40-59 years, overall -	-~	
<ul> <li>(57) Israel, HHC of cases, overall -</li> <li>(59) Israel, pregnant women, overall -</li> <li>(60) Israel, HHC of cases, overall -</li> <li>(81*) Israel, 16-39 years, overall -</li> <li>(81*) Israel, 260 years, overall -</li> <li>(81) Israel, 21-15 years, overall -</li> <li>(101) Israel, 12-15 years, overall -</li> <li>(116) Israel, 12-15 years, overall -</li> <li>(116) Israel, 12-15 years, overall -</li> <li>(116) Israel, 12-18 years, overall -</li> <li>(124) Italy, General pop, overall -</li> <li>(24) Italy, General pop, overall -</li> <li>(69) Kuwait, HCW, overall -</li> <li>(61) Nuwait, HCW, overall -</li> <li>(71) Netherlands, HHC of cases, overall -</li> </ul>	-ŏ-	
(96) Israel , general pop, overall -	Š O	
(101) Israel, 12-15 years, overall - (116) Israel, 12-18 years, overall -	Ő	
(24) Italy, HCW, overall (41) Italy, general pop, overall	O	
(69) Kuwait, HCW, overall (71) Netherlands, HHC of cases, overall		BNT162b2 (Pfizer)
(27) Qatar, general pop, alpha (27) Qatar, general pop, beta (74) Qatar, general pop, delta (74) Qatar, general pop, delta	<sup>-0</sup>	
(74) Qatar, general pop, delta - (74) Qatar, general pop, beta -	- <del>-</del>	
(74) Qatar, general pop, beta (82') Qatar, ≥ 12 years, overall - (42) Scotland, general pop, alpha (42) Scotland, general pop, delta (42) Scotland, general pop, delta	o o	
(42) Scotland, general pop, delta - (35) Spain, general pop, overall -	~~~ ~	
(35) Spain, general pop, overall - (103) Spain, Contacts of index cases, overall - (103) Spain, Contacts of index cases, overall -	~	
(16) Sweden, general pop, overall – (18) UK, HCW, overall – (67) UK, 50-64 years, overall –		
(78) UK, general pop, alpha period	V	
(78) UK, general pop, delta period - (17) UK - England, 80-83 years, overall -		
(67) UK, 50-64 years, overall - (78) UK, general pop, alpha period - (78) UK, general pop, delta period - (17) UK - England, 80-83 years, overall - 02) UK - England, Contacts of index cases, alpha - 102) UK - England, Contacts of index cases, delta - (14) USA, general pop, overall -	- <sup>-0</sup>	
102) OK - Erigialid, Contacts of index cases, deta (38) USA, HCW, overall – (46) USA, general pop, overall – (61) USA, general pop, overall – (72) USA, general pop, overall – (75) USA, SNF residents, overall – (75) USA, SNF residents, overall –		
(46) USA, general pop, overall - (61) USA, general pop, overall -	- <del>-</del> 0	
(72) USA, ğeneral pop, overall - (75) USA, SNF residents, overall -		
	0	
(48) Finland, ≥ 70 years, overall - (48) Finland, chronically ill, overall -		
(91) Israel , pregnant women, overall - (85) Italy, HCW, overall - (54) Qatar, general pop, overall -		
(73) Qatar, transplant patients, overall - (11) USA_HCW_overall -	o	BNT162b2 (Pfizer) OR
(73) Qatar, transplant patients, overall (73) Qatar, transplant patients, overall (36) USA, hospital patients, overall (45) USA, general pop, overall (55) USA overall	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	mRNA-1273 (Moderna)
(55) USA, patients with cirrhosis, overall -	<u>_</u>	
(55) USA, patients with cirrhosis, overall – (79) USA, surgery patients, overall – (87) USA, general pop, overall – (89) USA, HCW, overall – (105) USA, general pop, overall – (105) USA, general pop, overall –		
(89) USA, HCW, overall - (105) USA, general pop, overall - (105) USA, immunocompromised, overall -		
(105) 05A, inimunocompromised, overall 2		
(65) Canada, HCW, overall - (114) Canada (BC), general pop, overall - (119) Finland, HCW, overall -		
(71) Netherlands, HHC of cases, overall		
(52) Qatar, general pop, alpha (52) Qatar, general pop, beta	-00	
(119) Finland, HCW, overall - (71) Netherlands, HHC of cases, overall - (52) Qatar, general pop, alpha - (72) Qatar, general pop, beta - (74) Qatar, general pop, overall - (74) Qatar, general pop, overall - (103) Spain, Contacts of index cases, overall (103) Spain, Contacts of alpha, HCW, overall - (38) USA, HCW, overall - (46) USA, general pop, overall - (61) USA, general pop, overall -	<u> </u>	
- Spain, Contacts of Index cases, overall (درار) - (14) USA, general pop, overall		
- 38) USA, HCW, overall - 46) USA, general pop, overall	<u></u>	mRNA-1273 (Moderna)
(61) USA, general pop, overall - (72) USA, general pop, overall - (75) USA, SNF residents, overall -	0	
(10) USA, general pop, overall (104) USA, general pop, overall (104) USA, general pop, non-deta (104) USA, general pop, non-deta (104) USA, general pop, alpha	0 0	
(104*) USA, general pop, non-delta - (104) USA, general pop, alpha -	~	
(104) USA, general pop, gamma - (104) USA, general pop, gamma - (110) USA, incarcerated men, overall -	ŏĭ	
_		
(114) Canada (BC), general pop, overall - (68) Denmark, general pop, overall - (119) Finland, HCW, overall -	0-	Heterologous:
(119) Finland, HCW, overall - (103) Spain, Contacts of index cases, overall -		AZD1222 (AstraZeneca) & mRNA
	•	
(114) Canada (BC), general pop, overall - (119) Finland, HCW, overall -	° 。	Heterologous mRNA

#### Vaccine Effectiveness against COVID-19 Symptomatic Disease, Complete Vaccination

(ref no) country, population, variant

	(rei no) country, population, valiant	
(106) Brazil, general pop, overall - (103) Spain, Contacts of index cases, overall) (113) USA, general pop, overall -	o	Ad26.COV2.S (Janssen)
(64) Brazil, >60 years, overall (49) Canada, general pop, alpha (49) Canada, general pop, beta (49) Canada, general pop, detta (49) Canada, general pop, detta (115) Svain, Contacts of index cases, overall (145) Sweden, general pop, overall (49) Canada, general pop, overall (33) UK, 265 years, overall (56) UK, general pop, overall (62) UK, general pop, detta (62) UK, general pop, detta (62) UK, general pop, detta (95) UK - England, general pop, detta		AZD1222 (AstraZeneca)
(32) Brazil, ≥70 years, overall •	-0	CoronaVac (Sinovac)
(34) Canada, general pop, overall (49) Canada, general pop, nor-VCC (49) Canada, general pop, alpha (49) Canada, general pop, beta (49) Canada, general pop, deta (55) Canada, HCW, overall (100) Germany, LTCF residents and staff, overall (26) Israel, general pop, overall (28) Israel, Jeneral pop, overall (28) Israel, Jeneral pop, overall (116) Israel, general pop, overall (116) Israel, 12-18 years, overall (24) Israel, HCW, overall (24) Israel, HCW, overall (24) Israel, HCW, overall (24) Israel, HCW, overall (24) Israel, general pop, overall (12) Spain, Contacts of index cases, overall (112) Sweden, general pop, overall (33) UK, esfor years, overall (50) UK, general pop, overall (25) UK, general pop, overall (20) UK, England, general pop, deta (20) UK - England, general pop, deta		BNT162b2 (Pfizer)
(91) Israel , pregnant women, overall (85) Italy, HCW, overall (14) USA, general pop, overall (30) USA, HCW, overall (63) USA, general pop, overall		BNT162b2 (Pfizer) OR mRNA-1273 (Moderna)
<ul> <li>(34) Canada, general pop, overall</li> <li>(49) Canada, general pop, non-VCO-</li> <li>(49) Canada, general pop, alpha</li> <li>(49) Canada, general pop, deta</li> <li>(49) Canada, general pop, deta</li> <li>(52) Qatar, general pop, overall</li> <li>(74) Qatar, general pop, overall</li> <li>(103) Spain, Contacts of index cases, overall</li> <li>(112) Sweden, general pop, overall</li> <li>(115) Sweden, general pop, overall</li> <li>(95) UK - England, general pop, overall</li> <li>(95) UK - England, general pop, overall</li> <li>(95) UK - England, general pop, overall</li> <li>(95) UK, Strate, general pop, overall</li> <li>(110) USA, general pop, overall</li> <li>(111) Succerated men, overall</li> <li>(112) USA, general pop, overall</li> <li>(113) USA, general pop, overall</li> <li>(114) USA, general pop, overall</li> </ul>	oo	mRNA-1273 (Moderna)
(103) Spain, Contacts of index cases, overall - (112) Sweden, general pop, overall (115) Sweden, general pop, overall -		Heterologous: AZD1222 (AstraZeneca) & mRNA
	Effectiveness	



## Vaccine Effectiveness against COVID-19 Asymptomatic Infection, Complete Vaccination

## By VARIANT OF CONCERN

(102) UK - England, Contacts of index cases, alpha-(114) Canada (BC), general pop, alpha-(114) Canada (BC), general pop, alpha-

Vaccine

(104) USA, general pop, alpha -(27) Qatar, general pop, alpha -

AZD1222 (AstraZeneca)

BNT162b2 (Pfizer)

ó

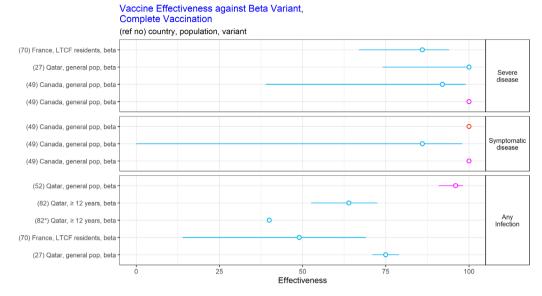
25

mRNA-1273 (Moderna) O Heterologous: AZD1222 (AstraZeneca) & mRNA

50

Effectiveness
BNT162b2 (Pfizer) & 
mRNA-1273 (Moderna) 
CoronaVac (Sinovac) 
Heterologous: AZD1222 (AstraZeneca) & mRNA

#### Vaccine Effectiveness against Alpha Variant, Complete Vaccination (ref no) country, population, variant (114) Canada (BC), general pop, alpha --0-(114) Canada (BC), general pop, alpha--0-(27) Qatar, general pop, alpha (49) Canada, general pop, alpha -0 Severe disease (49) Canada, general pop, alpha \_\_\_\_ (49) Canada, general pop, alpha-0 (43) UK, hospital patients, alpha -(43) UK, hospital patients, alpha -(51) USA, hospital patients, alpha -\_\_\_\_\_ (34) Canada, general pop, alpha -0-(49) Canada, general pop, alpha --0-(49) Canada, general pop, alpha -\_\_\_\_\_ Symptomatic disease (49) Canada, general pop, alpha -(62) UK, general pop, alpha--0-(62) UK, general pop, alpha -(65) Canada, HCW, alpha -\_\_\_\_\_ (114) Canada (BC), general pop, alpha -(114) Canada (BC), general pop, alpha -(114) Canada (BC), general pop, alpha-(52) Qatar, general pop, alpha -(82) Qatar, ≥ 12 years, alpha -(82\*) Qatar, ≥ 12 years, alpha -0 (42) Scotland, general pop, alpha --0 (42) Scotland, general pop, alpha -Any Infection (103) Spain, Contacts of index cases, alpha -(103) Spain, Contacts of index cases, alpha (103) Spain, Contacts of index cases, alpha 0 (103) Spain, Contacts of index cases, alpha-(102) UK - England, Contacts of index cases, alpha -



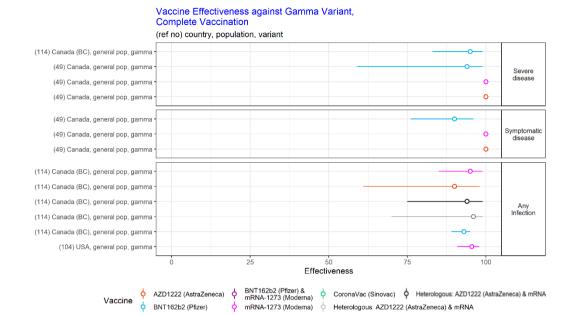
Vaccine o AZD1222 (AstraZeneca) O BNT162b2 (Pfizer) BNT162b2 (Pfizer) mRNA-1273 (Moderna) mRNA-1273 (Moderna)

-0-

100

-

75



#### Vaccine Effectiveness against Delta Variant, **Complete Vaccination** (ref no) country, population, variant (117) Scotland, general pop, delta Death (117) Scotland, general pop, delta -0-(114) Canada (BC), general pop, delta -(114) Canada (BC), general pop, delta -0 (114) Canada (BC), general pop, delta o -(74) Qatar, general pop, delta -(74) Qatar, general pop, delta -(114) Canada (BC), general pop, delta -(114) Canada (BC), general pop, delta -0 -0 Severe disease (49) Canada, general pop, delta -• (49) Canada, general pop, delta -(49) Canada, general pop, delta -(80) USA, ≥ 12 years, delta --0-(104) USA, general pop, delta -(43) UK, hospital patients, delta -(43) UK, hospital patients, delta -\_\_\_\_ (74) Qatar, general pop, delta -(74) Qatar, general pop, delta (62) UK, general pop, delta -0ymptomatio disease (62) UK, general pop, delta -(49) Canada, general pop, delta --0-(49) Canada, general pop, delta -\_\_\_\_ (49) Canada, general pop, delta -(82) Qatar, ≥ 12 years, delta (82\*) Qatar, ≥ 12 years, delta -0 (42) Scotland, general pop, delta -(42) Scotland, general pop, delta-(103) Spain, Contacts of index cases, delta-

0

0 -0

100

<u>-0</u>-

75

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Any Infection

Asymp. infection

BNT162b2 (Pfizer) & mRNA-1273 (Moderna) Heterologous: AZD1222 (AstraZeneca) & mRNA AZD1222 (AstraZeneca) CoronaVac (Sinovac) Vaccine BNT162b2 (Pfizer) mRNA-1273 (Moderna) O Heterologous: AZD1222 (AstraZeneca) & mRNA

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Effectiveness

(103) Spain, Contacts of index cases, delta -(103) Spain, Contacts of index cases, delta -(103) Spain, Contacts of index cases, delta -(103) Spain, Contacts of index cases, delta (102) UK - England, Contacts of index cases, delta -

> (114) Canada (BC), general pop, delta -(114) Canada (BC), general pop, delta -(114) Canada (BC), general pop, delta -

> (74) Qatar, general pop, delta-(74) Qatar, general pop, delta -(114) Canada (BC), general pop, delta -(114) Canada (BC), general pop, delta -

(80) USA, ≥ 12 years, delta -(104) USA, general pop, delta (74) Qatar, general pop, delta

(74) Qatar, general pop, delta

(102) UK - England, Contacts of index cases, delta -