



Koronarokotteiden teho: KRAR-esitys

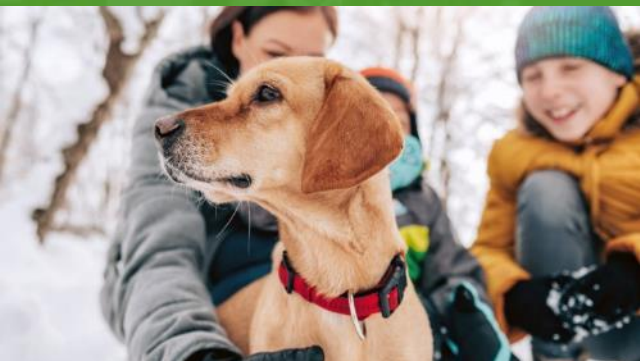
Eero Poukka

13.9.2021

Terveyden ja hyvinvoinnin laitos

Sisältö

- Lyhyt kirjallisuuskatsaus
- Koronarokotteiden teho työikäisissä
 - Aineisto
 - Rekisterit
 - Tulokset
- Koronarokotteiden teho terveydenhuollon ammattilaisilla
 - Aineisto
 - Tulokset



Kirjallisuuskatsaus

Tehokkuus Deltaa vastaan verrattuna Alpha

Pouwels et al. Impact of Delta on viral burden and vaccine effectiveness against new SARS-CoV-2 infections in the UK

Table 1 Vaccine effectiveness (95% CI) (A) and comparisons between vaccines and with previous infection (B) in those aged 18 years and older in Alpha-dominant and Delta-dominant periods

(A) Vaccine effectiveness (VE)

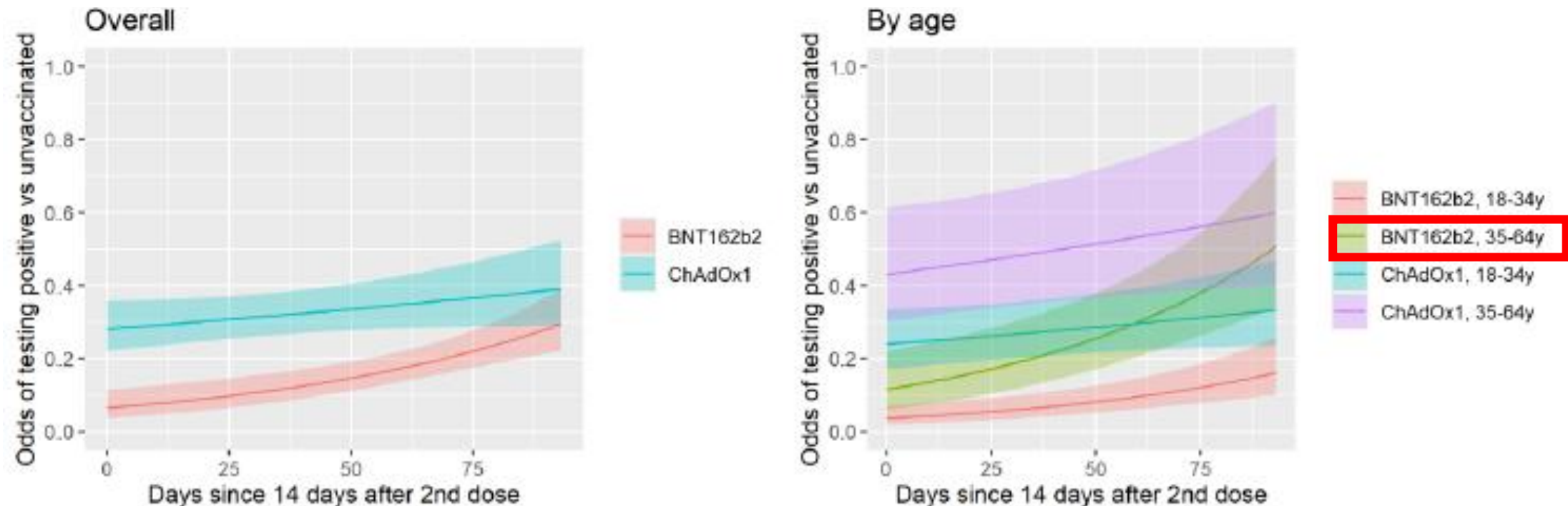
	BNT162b2: one dose ≥21 days	ChAdOx1: one dose ≥21 days	BNT162b2: second dose 0-13 days ago	ChAdOx1: second dose 0-13 days ago	BNT162b2: second dose ≥14 days	ChAdOx1: second dose ≥14 days	Not vaccinated, previously positive*
VE: All infections							
1 Dec 2020 – 16 May 2021 (Alpha)	59% (52-65%)	63% (55-69%)	77% (66-84%)	72% (50-84%)	78% (68-84%)	79% (56-90%)	60% (50-68%)
17 May 2021- (Delta)	57% (50-63%)	46% (35-55%)	82% (75-87%)	71% (64-77%)	80% (77-83%)	67% (62-71%)	72% (58-82%)
Heterogeneity p	0.60	0.004	0.29	0.99	0.50	0.23	0.12
VE: Ct<30							
1 Dec 2020 – 16 May 2021 (Alpha)	70% (65-74%)	74% (69-79%)	83% (75-89%)	79% (62-88%)	94% (91-96%)	86% (71-93%)	87% (84-90%)
17 May 2021- (Delta)	62% (56-68%)	50% (41-59%)	81% (73-86%)	69% (61-76%)	84% (82-86%)	70% (65-73%)	77% (66-85%)
Heterogeneity p	0.04	<0.0001	0.57	0.25	<0.0001	0.04	0.02
VE: Self-reported symptoms							
1 Dec 2020 – 16 May 2021 (Alpha)	73% (68-76%)	73% (67-77%)	92% (88-95%)	84% (72-91%)	97% (96-98%)	97% (93-98%)	80% (75-84%)
17 May 2021- (Delta)	58% (51-64%)	40% (28-50%)	93% (90-95%)	73% (66-79%)	84% (82-86%)	71% (66-74%)	82% (73-88%)
Heterogeneity p	<0.0001	<0.0001	0.71	0.08	<0.0001	<0.0001	0.59

(B) Heterogeneity tests

Pitkäaikaissuoja oireista infektiota vastaan

Pouwels et al. Impact of Delta on viral burden and vaccine effectiveness against new SARS-CoV-2 infections in the UK. Preprint.

Figure S4 Protection against all new PCR-positive episodes with reported symptoms over time from second dose, overall and by potential subgroups in those 18-64 years in the Delta-dominant period.



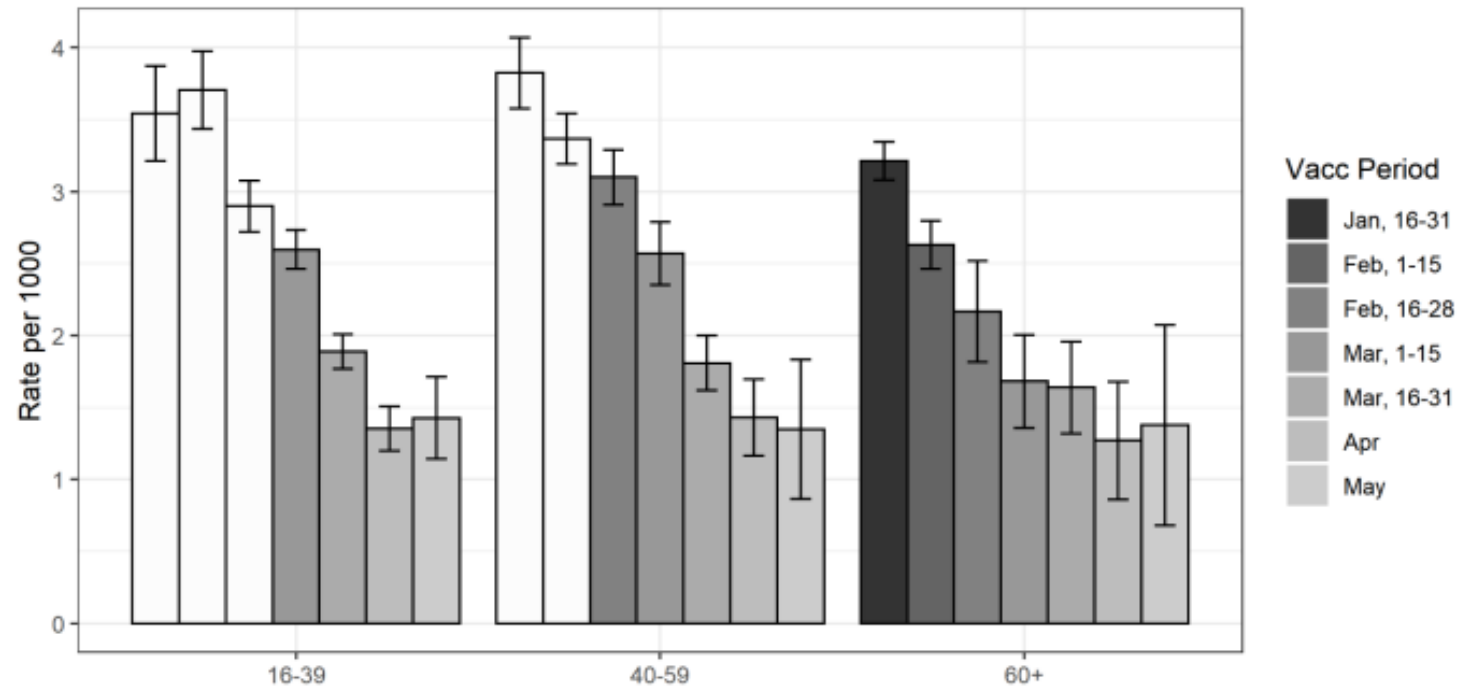
VE 18-64 vuotiailla **oireista infektiota (pcr+ ja oireita)** vastaan **kahden annoksen** jälkeen **Delta-ajalta UK:sta**.

Pfizer suoja tippuu eniten 35-64-vuotiaissa. Nuoremmissa tippuminen hitaampaa.

Rokotteen tehon heikentyminen Israelissa: Infektio

Goldberg et al. Waning immunity of the BNT162b2 vaccine: A nationwide study from Israel

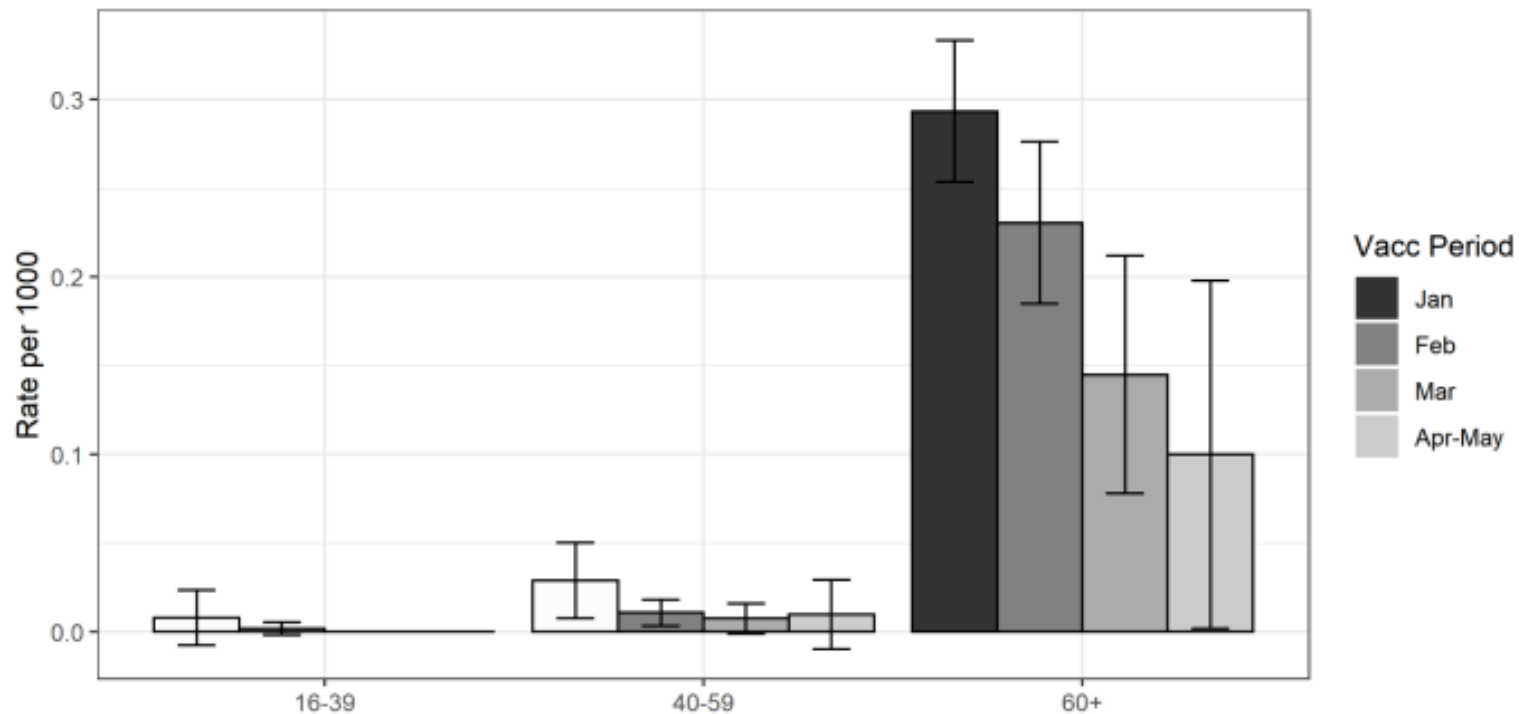
Figure 3: Rate of documented SARS-CoV-2 infection (per 1,000 persons) from July 11, 2021 to July 31, 2021, stratified by period of second dose of COVID-19 vaccine and age group. White bars represent periods at which only persons at higher risk were allowed to receive vaccination.



Rokotteen tehon heikentyminen Israelissa: Vaikea Covid-19

Goldberg et al. Waning immunity of the BNT162b2 vaccine: A nationwide study from Israel

Figure 4: Rate of severe COVID-19 (per 1,000 persons) from July 11, 2021 to July 31, 2021, stratified by period of second dose of COVID-19 vaccine and age group. White bars represent periods at which only persons at higher risk were allowed to receive vaccination.



3. Rokotuksen teho Israelissa.

Bar-On et al. BNT162b2 vaccine booster dose protection: A nationwide study from Israel

Table 2. Summary of the results of the Poisson regression analysis for different cohorts: people who received only two vaccine doses and people for whom 12 days or more have passed since their booster dose. For each group, we provide the total number of person-days at risk for each cohort, the number of confirmed infections and severe COVID-19 in each cohort, and the estimated protection of the booster against confirmed infection and severe illness, given as a fold change in relative risk.

Cohort	Person-days at risk	Confirmed infections	Severe COVID-19	Estimated booster protection (95% CI)	
				Against confirmed infection	Against severe illness
2 doses only ("no-booster" cohort)	4,018,929	3,473	330	1	1
12+ days from 3 rd dose ("booster" cohort)	3,351,598	313	32	11.4 [10, 12.9]	15.5 [10.5, 22.8]

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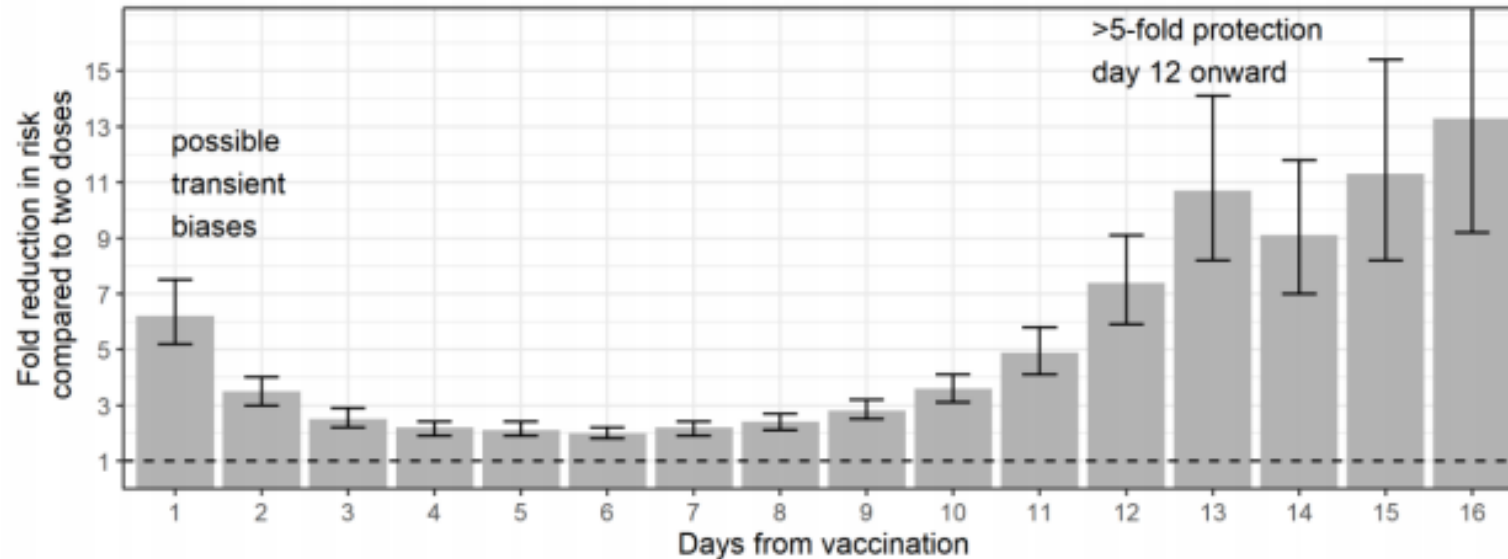


Figure 2. Booster protection against confirmed infection as a function of the number of days following the booster dose. Because of wide confidence intervals, only days 1-16 are shown. Protection is given as a fold reduction in risk relative to people who received only two vaccine doses. Data is based on about 1 million individuals aged 60 or older, who received the 3rd dose boost. The dashed line represents no added protection by the booster dose.

3. Rokotuksen teho Israelissa.

Bar-On et al. BNT162b2 vaccine booster dose protection: A nationwide study from Israel

Vaccine efficacy of 2nd and 3rd dose compared to unvaccinated **age 60+**

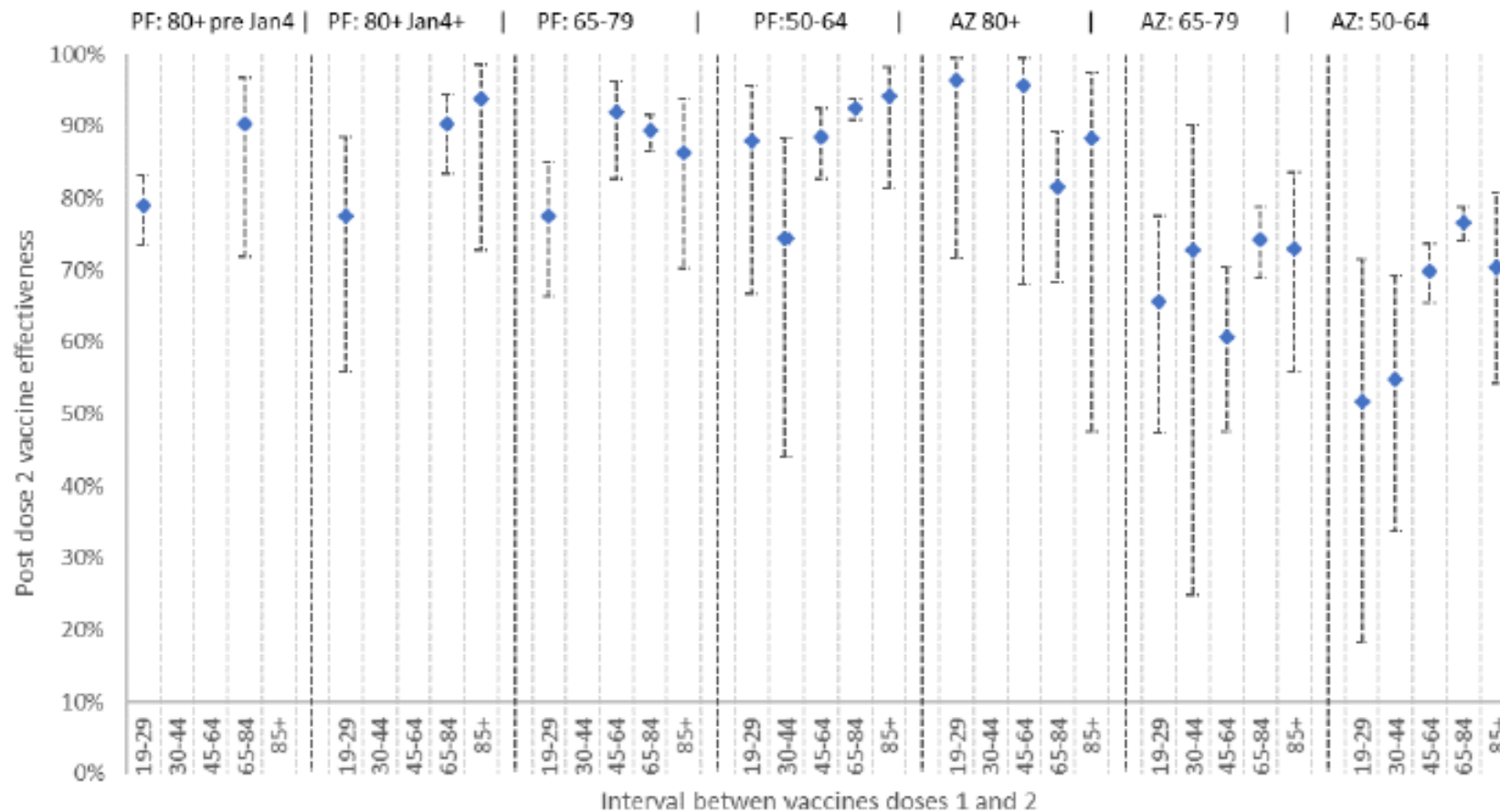
Poisson regression adjusted for age, gender, sector, 2nd dose period and calendar day.
Based on data from August 10 to August 22 to avoid biases.

Cohort	Confirmed infection	Severe
2nd dose only	40% [36, 44]	79% [75, 82]
12+ days from 3rd dose	93% [92, 94]	97% [96, 98]

Annosvälin vaikutus mRNA-rokotteilla

Amirthalingam et al. Higher serological responses and increased vaccine effectiveness demonstrate the value of extended vaccine schedules in combatting COVID19 in England

Figure 4: Two dose vaccine effectiveness by age group, vaccine type and interval between doses



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