## **Supplement**

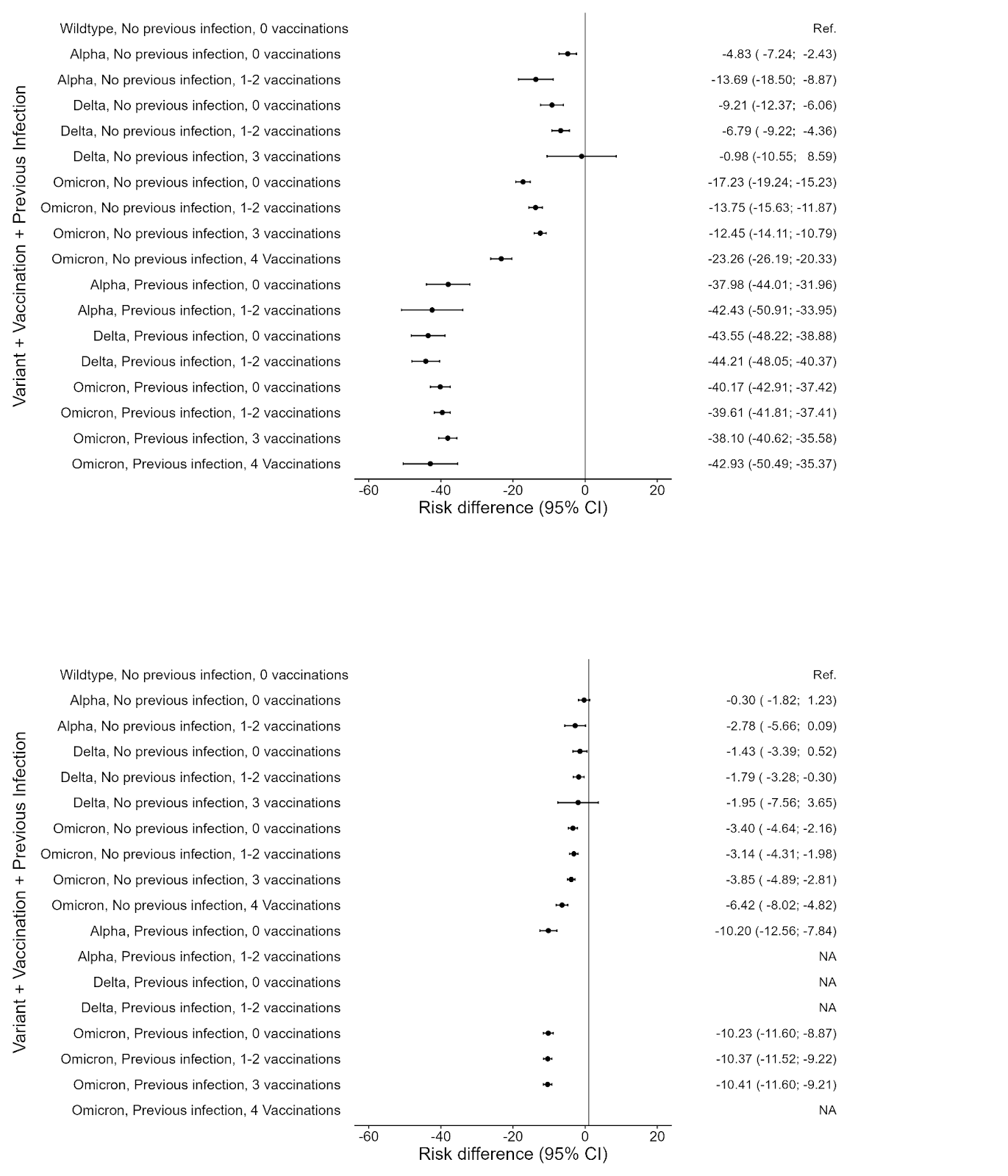


Figure S1. Risk difference for developing PCC after an infection with a specific variant, by preceding infections and vaccinations in comparison to Wildtype variant (without preceding exposures) Upper panel: any PCC, lower panel: high symptom burden PCC

## **Tables**

Table S1. Variables associated with the risk of developing PCC (multivariable analysis adjusted for all variables in the table) (excluding individuals infected during periods of change in variant dominance) (N=38,498)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | any PCC | | high burden PCC | |
|  |  | aOR | 95% CI | aOR | 95% CI |
| Variant | Omicron | Ref. |  | Ref. |  |
|  | Delta | 1.40 | 1.25; 1.56 | 1.17 | 0.96; 1.42 |
|  | Alpha | 0.76 | 0.58; 1.00 | 0.96 | 0.61; 1.52 |
| Months since last vaccination | 4-6 | Ref. |  | Ref. |  |
|  | 0-3 | 1.61 | 1.53; 1.69 | 1.60 | 1.46; 1.74 |
|  | 7-9 | 0.85 | 0.77; 0.93 | 0.99 | 0.84; 1.17 |
|  | 10-12 | 1.08 | 0.93; 1.27 | 1.04 | 0.77; 1.40 |
|  | 13 or more | 0.75 | 0.60; 0.95 | 0.83 | 0.53; 1.28 |
| Months since last infection | No previous infection | Ref. |  | Ref. |  |
|  | 4-6 | 0.35 | 0.25; 0.49 | 0.59 | 0.28; 1.21 |
|  | 7-9 | 0.56 | 0.32; 0.99 | 0.19 | 0.03; 1.43 |
|  | 10-12 | 0.37 | 0.20; 0.72 | 0.60 | 0.14; 2.52 |
|  | 13-18 | 0.51 | 0.37; 0.69 | 0.45 | 0.20; 1.03 |
|  | 19-24 | 0.43 | 0.27; 0.67 | 0.40 | 0.12; 1.27 |
|  | 25 or more | 0.52 | 0.34; 0.80 | 0.50 | 0.18; 1.38 |
| Number of symptoms at acute infection | 0-2 | Ref. |  | Ref. |  |
|  | 3-5 | 1.71 | 1.56; 1.88 | 1.20 | 0.85; 1.69 |
|  | 6-8 | 2.66 | 2.44; 2.93 | 2.70 | 2.00; 3.63 |
|  | 9 or more | 5.92 | 5.44; 6.44 | 19.22 | 14.59; 25.32 |

PCC = Post-COVID condition. aOR = adjusted odds ratio (additionally adjusted for sex, age, and study centre)

Table S2. Variables associated with the risk of developing PCC (multivariable analysis adjusted for all variables in the table) (only vaccinated persons, only first infection) (N=40,682)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | any PCC | | high symptom burden PCC | |
|  |  | aOR\* | 95% CI | aOR\* | 95% CI |
| Variant | Omicron | Ref. |  | Ref. |  |
|  | Delta | 1.41 | 1.29; 1.55 | 1.22 | 1.04; 1.42 |
|  | Alpha | 0.78 | 0.61; 0.99 | 1.11 | 0.75; 1.65 |
| Months since last vaccination | 4-6 | Ref. |  | Ref. |  |
|  | 0-3 | 1.57 | 1.50; 1.65 | 1.55 | 1.43; 1.69 |
|  | 7-9 | 0.90 | 0.82; 0.98 | 1.06 | 0.91; 1.24 |
|  | 10-12 | 1.08 | 0.93; 1.26 | 1.04 | 0.78; 1.39 |
|  | 13+ | 0.74 | 0.58; 0.93 | 0.81 | 0.52; 1.25 |
| Number of symptoms at acute infection | 0-2 | Ref. |  | Ref. |  |
|  | 3-5 | 1.64 | 1.50; 1.81 | 1.15 | 0.84; 1.58 |
|  | 6-8 | 2.58 | 2.37; 2.83 | 2.50 | 1.90; 3.30 |
|  | 9+ | 5.74 | 5.30; 6.27 | 18.05 | 13.99; 23.30 |

PCC = Post-COVID condition. aOR = adjusted odds ratio (additionally adjusted for sex, age, and study centre)

Table S3. Variables associated with the risk of developing PCC (multivariable analysis adjusted for all variables in the table) (only vaccinated persons, without symptoms of acute infection) (N=42,036)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Self-reported PCC | | high symptom burden PCC | |
|  |  | aOR | 95% CI | aOR | 95% CI |
| Variant | Omicron | Ref. |  | Ref. |  |
|  | Delta | 1.44 | 1.32; 1.57 | 1.35 | 1.17; 1.56 |
|  | Alpha | 0.83 | 0.66; 1.04 | 1.19 | 0.82; 1.73 |
| Months since last vaccination | 4-6 | Ref. |  | Ref. |  |
|  | 0-3 | 1.40 | 1.34; 1.47 | 1.35 | 1.24; 1.46 |
|  | 7-9 | 0.91 | 0.84; 0.99 | 1.09 | 0.94; 1.26 |
|  | 10-12 | 1.07 | 0.92; 1.23 | 1.05 | 0.80; 1.38 |
|  | 13+ | 0.74 | 0.59; 0.92 | 0.81 | 0.53; 1.24 |
| Months since last infection | No previous infection | Ref. |  | Ref. |  |
|  | 4-6 | 0.22 | 0.16; 0.31 | 0.26 | 0.13; 0.53 |
|  | 7-9 | 0.44 | 0.26; 0.74 | 0.28 | 0.07; 1.15 |
|  | 10-12 | 0.26 | 0.14; 0.47 | 0.27 | 0.07; 1.08 |
|  | 13-18 | 0.35 | 0.26; 0.46 | 0.25 | 0.12; 0.54 |
|  | 19-24 | 0.32 | 0.21; 0.49 | 0.21 | 0.07; 0.66 |
|  | 25 or more | 0.43 | 0.28; 0.65 | 0.34 | 0.13; 0.92 |

PCC = Post-COVID condition. aOR = adjusted odds ratio (additionally adjusted for sex, age, and study centre)

Table S4. Variables associated with the risk of developing PCC (only vaccinated persons adjusted for all variables in the table), stratified by sex and age group

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 20-59 | | 60+ | |
| **Women** | |  | aOR | 95 % CI | aOR | 95 % CI |
|  | Variant | Omicron |  |  |  |  |
|  |  | Delta | 1.46 | 1.27; 1.69 | 1.72 | 1.33; 2.23 |
|  |  | Alpha | 1.01 | 0.66; 1.55 | 1.06 | 0.54; 2.09 |
|  | Months since last vaccination | 4-6 |  |  |  |  |
|  |  | 0-3 | 1.70 | 1.58; 1.83 | 1.28 | 1.12; 1.45 |
|  |  | 7-9 | 0.83 | 0.73; 0.94 | 0.85 | 0.67; 1.08 |
|  |  | 10-12 | 1.27 | 1.00; 1.61 | 1.13 | 0.77; 1.66 |
|  |  | 13+ | 0.71 | 0.50; 1.02 | 0.76 | 0.46; 1.26 |
|  | Months since last infection | No previous infection |  |  |  |  |
|  |  | 4-6 | 0.39 | 0.26; 0.60 | 0.11 | 0.01; 0.86 |
|  |  | 7-9 | 0.51 | 0.21; 1.21 | 0.24 | 0.03; 2.15 |
|  |  | 10-12 | 0.29 | 0.10; 0.84 | 0.00 | 0.00; Inf |
|  |  | 13-18 | 0.48 | 0.30; 0.76 | 0.74 | 0.28; 1.96 |
|  |  | 19-24 | 0.43 | 0.22; 0.85 | 0.20 | 0.02; 1.64 |
|  |  | 25+ | 0.72 | 0.38; 1.37 | 0.56 | 0.20; 1.55 |
|  | Number of symptoms at acute infection | 0-2 |  |  |  |  |
|  |  | 3-5 | 1.51 | 1.29; 1.75 | 1.74 | 1.35; 2.25 |
|  |  | 6-8 | 2.41 | 2.09; 2.77 | 3.24 | 2.55; 4.12 |
|  |  | 9+ | 5.19 | 4.54; 5.93 | 8.13 | 6.46; 10.23 |
| **Men** | |  |  |  |  |  |
|  | Variant | Omicron |  |  |  |  |
|  |  | Delta | 0.65 | 0.45; 0.94 | 0.60 | 0.29; 1.22 |
|  |  | Alpha | 1.29 | 1.11; 1.50 | 1.28 | 1.00; 1.66 |
|  | Months since last vaccination | 4-6 |  |  |  |  |
|  |  | 0-3 | 1.54 | 1.42; 1.67 | 1.59 | 1.39; 1.82 |
|  |  | 7-9 | 0.97 | 0.83; 1.12 | 0.97 | 0.75; 1.25 |
|  |  | 10-12 | 0.85 | 0.64; 1.13 | 1.19 | 0.79; 1.79 |
|  |  | 13+ | 0.63 | 0.40; 1.02 | 0.88 | 0.47; 1.64 |
|  | Months since last infection | No previous infection |  |  |  |  |
|  |  | 4-6 | 0.19 | 0.09; 0.40 | 0.88 | 0.33; 2.38 |
|  |  | 7-9 | 0.72 | 0.35; 1.51 | 0.00 | 0.00; Inf |
|  |  | 10-12 | 0.44 | 0.2; 0.98 | 0.31 | 0.04; 2.50 |
|  |  | 13-18 | 0.46 | 0.29; 0.72 | 0.42 | 0.12; 1.41 |
|  |  | 19-24 | 0.51 | 0.28; 0.93 | 0.20 | 0.05; 0.89 |
|  |  | 25+ | 0.38 | 0.17; 0.84 | 0.28 | 0.06; 1.28 |
|  | Number of symptoms at acute infection | 0-2 |  |  |  |  |
|  |  | 3-5 | 1.58 | 1.37; 1.82 | 2.24 | 1.79; 2.79 |
|  |  | 6-8 | 2.12 | 1.86; 2.43 | 3.92 | 3.16; 4.85 |
|  |  | 9+ | 4.57 | 4.02; 5.20 | 9.54 | 7.73; 11.77 |

PCC = Post-COVID condition. aOR = adjusted odds ratio (additionally adjusted for study centre)

Table S5. Variables associated with the risk of developing PCC (multivariable analysis adjusted for all variables in the table) (only vaccinated persons, only 1-3 vaccinations) (N=40893)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | any PCC | | high symptom burden PCC | |
|  |  | aOR | 95% CI | aOR | 95% CI |
| Variant | Omicron | Ref. |  | Ref. |  |
|  | Delta | 1.39 | 1.27; 1.52 | 1.20 | 1.03; 1.40 |
|  | Alpha | 0.75 | 0.59; 0.95 | 1.07 | 0.72; 1.59 |
| Months since last vaccination | 4-6 | Ref. |  | Ref. |  |
|  | 0-3 | 1.60 | 1.53; 1.68 | 1.58 | 1.45; 1.72 |
|  | 7-9 | 0.89 | 0.81; 0.97 | 1.06 | 0.91; 1.24 |
|  | 10-12 | 1.09 | 0.93; 1.26 | 1.06 | 0.80; 1.40 |
|  | 13+ | 0.72 | 0.57; 0.90 | 0.78 | 0.51; 1.22 |
| Months since last infection | No previous infection | Ref. |  | Ref. |  |
|  | 4-6 | 0.33 | 0.23; 0.46 | 0.43 | 0.19; 0.98 |
|  | 7-9 | 0.52 | 0.29; 0.91 | 0.37 | 0.09; 1.57 |
|  | 10-12 | 0.36 | 0.19; 0.67 | 0.53 | 0.13; 2.21 |
|  | 13-18 | 0.49 | 0.36; 0.66 | 0.47 | 0.22; 1.02 |
|  | 19-24 | 0.41 | 0.27; 0.62 | 0.33 | 0.10; 1.06 |
|  | 25 or more | 0.52 | 0.34; 0.80 | 0.48 | 0.17; 1.33 |
| Number of symptoms at acute infection | 0-2 | Ref. |  |  |  |
|  | 3-5 | 1.689 | 1.53; 1.83 | 1.19 | 0.87; 1.64 |
|  | 6-8 | 2.61 | 2.40; 2.87 | 2.50 | 1.96; 3.43 |
|  | 9+ | 5.862 | 5.37; 6.31 | 18.56 | 14.35; 24.00 |

PCC = Post-COVID condition. aOR = adjusted odds ratio (additionally adjusted for sex, age, and study centre)

Table S6. Comparison of protection offered by 4 vs. 3 vaccinations (multivariable analysis, adjusted for all variables in the table) (only vaccinated persons, only Omicron, only 3 and 4 vaccinations) (N=30,753)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | any PCC | | high symptom burden PCC | |
|  |  | aOR | 95% CI | aOR | 95% CI |
| Vaccination preceding infection | 3 | Ref. |  |  |  |
|  | 4 | 0.52 | 0.45; 0.61 | 0.61 | 0.46; 0.82 |
| Months since last vaccination | 4-6 | Ref. |  |  |  |
|  | 0-3 | 1.79 | 1.69; 1.88 | 1.77 | 1.60; 1.95 |
|  | 7-9 | 0.56 | 0.49; 0.65 | 0.77 | 0.59; 0.99 |
|  | 10-12 | 1.83 | 0.48; 6.98 | 0.00 | 0.00; Inf |
| Months since last infection | No previous infection | Ref. |  |  |  |
|  | 4-6 | 0.43 | 0.29; 0.64 | 0.80 | 0.37; 1.76 |
|  | 7-9 | 0.47 | 0.21; 1.04 | 0.00 | 0.00; Inf |
|  | 10-12 | 0.14 | 0.03; 0.62 | 0.00 | 0.00; Inf |
|  | 13-18 | 0.52 | 0.29; 0.93 | 0.68 | 0.16; 2.90 |
|  | 19-24 | 0.45 | 0.26; 0.79 | 0.43 | 0.10; 1.81 |
|  | 25 or more | 0.68 | 0.41; 1.13 | 0.58 | 0.18; 1.89 |
| Number of symptoms at acute infection | 0-2 | Ref. |  |  |  |
|  | 3-5 | 1.62 | 1.48; 1.82 | 1.32 | 0.90; 1.93 |
|  | 6-8 | 2.65 | 2.41; 2.92 | 2.95 | 2.11; 4.13 |
|  | 9+ | 5.83 | 5.31; 6.39 | 20.55 | 15.02; 28.11 |

PCC = Post-COVID condition. aOR = adjusted odds ratio (additionally adjusted for sex, age, and study centre)