Supplementary file 2. Outcomes of logistic regression models for the sensitivity analysis (including only participants who (almost) always test when having symptoms.

Table S2A. Odds ratios for seroconversion among participants who (almost) always test, with and without reported infection.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Reported infection –** **univariable** | **Reported infection –** **multivariable** | **No reported infection –** **univariable** | **No reported infection –** **multivariable** |
|  |  | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** |
| Age group | 18-59 | ref |  |  |  | ref |  |  |  | ref |  |  |  | ref |  |  |  |
|  | 60-85 | 1.02 | 0.89 | 1.16 | 0.803 | 1.35 | 1.16 | 1.57 | <0.001 | 0.88 | 0.79 | 0.97 | 0.008 | 1.19 | 1.05 | 1.35 | 0.007 |
| Vaccination status | Unvaccinated | ref |  |  |  | ref |  |  |  | ref |  |  |  | ref |  |  |  |
| Primary series | 0.79 | 0.44 | 1.41 | 0.423 | 1.09 | 0.56 | 2.10 | 0.805 | 0.11 | 0.06 | 0.18 | <0.001 | 0.55 | 0.27 | 1.12 | 0.098 |
| First booster | 1.43 | 0.82 | 2.49 | 0.205 | 0.50 | 0.26 | 0.95 | 0.035 | 0.31 | 0.19 | 0.51 | <0.001 | 0.30 | 0.15 | 0.59 | 0.001 |
| Second booster | 0.97 | 0.56 | 1.70 | 0.929 | 0.19 | 0.10 | 0.37 | <0.001 | 0.39 | 0.23 | 0.64 | <0.001 | 0.17 | 0.09 | 0.33 | <0.001 |
| Third booster | 1.13 | 0.64 | 2.00 | 0.665 | 0.13 | 0.06 | 0.27 | <0.001 | 0.60 | 0.36 | 1.00 | 0.049 | 0.13 | 0.07 | 0.27 | <0.001 |
| Time period | 2021 Q4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2022 Q1 | 1.01 | 0.65 | 1.55 | 0.978 | 1.41 | 0.88 | 2.24 | 0.152 | 1.70 | 1.10 | 2.63 | 0.017 | 2.57 | 1.61 | 4.11 | <0.001 |
|  | 2022 Q2 | 4.23 | 2.83 | 6.31 | <0.001 | 9.90 | 5.76 | 17.02 | <0.001 | 10.65 | 7.30 | 15.52 | <0.001 | 24.38 | 15.60 | 38.09 | <0.001 |
|  | 2022 Q3 | 3.33 | 2.20 | 5.05 | <0.001 | 9.59 | 5.47 | 16.79 | <0.001 | 18.85 | 12.81 | 27.74 | <0.001 | 43.95 | 27.93 | 69.14 | <0.001 |
|  | 2022 Q4 | 4.94 | 3.29 | 7.42 | <0.001 | 25.96 | 14.37 | 46.88 | <0.001 | 18.55 | 12.68 | 27.14 | <0.001 | 59.75 | 37.60 | 94.95 | <0.001 |
|  | 2023 Q1 | 4.30 | 2.80 | 6.59 | <0.001 | 25.89 | 13.98 | 47.94 | <0.001 | 27.39 | 18.61 | 40.33 | <0.001 | 90.34 | 56.41 | 144.70 | <0.001 |
|  | 2023 Q2 | 5.45 | 1.46 | 20.33 | 0.012 | 34.67 | 6.74 | 178.35 | <0.001 | 27.71 | 13.07 | 58.71 | <0.001 | 89.90 | 39.83 | 202.93 | <0.001 |
| Severity of infection | Asymptomatic | ref |  |  |  | ref |  |  |  |  |  |  |  |  |  |  |  |
| Local | 1.83 | 1.24 | 2.69 | 0.002 | 1.81 | 1.23 | 2.66 | 0.003 |  |  |  |  |  |  |  |  |
| Systemic | 2.03 | 1.41 | 2.93 | <0.001 | 1.80 | 1.24 | 2.59 | 0.002 |  |  |  |  |  |  |  |  |
| Other symptoms | 2.49 | 0.80 | 7.71 | 0.113 | 2.13 | 0.63 | 7.26 | 0.225 |  |  |  |  |  |  |  |  |
| Symptoms unknown | 1.52 | 1.02 | 2.25 | 0.040 | 1.46 | 0.98 | 2.19 | 0.063 |  |  |  |  |  |  |  |  |

OR = Odds ratio; CI = 95% confidence interval

Table S2B. Odds ratios for 1.5-fold increase among participants who (almost) always test, with and without reported infection.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Reported infection –** **univariable** | **Reported infection –** **multivariable** | **No reported infection –** **univariable** | **No reported infection –** **multivariable** |
|  |  | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** |
| Age group | 18-59 | ref |  |  |  | ref |  |  |  | ref |  |  | ref | ref |  |  |  |
|  | 60-85 | 0.94 | 0.73 | 1.22 | 0.641 | 0.95 | 0.68 | 1.31 | 0.740 | 0.93 | 0.84 | 1.03 | 0.147 | 1.05 | 0.92 | 1.19 | 0.472 |
| Vaccination status | Unvaccinated | ref |  |  |  | ref |  |  |  | ref |  |  | ref | Ref |  |  |  |
| Primary series | 3.44 | 1.76 | 6.72 | <0.001 | 1.77 | 0.84 | 3.73 | 0.136 | 0.53 | 0.36 | 0.76 | 0.001 | 0.55 | 0.37 | 0.82 | 0.003 |
| First booster | 3.00 | 1.78 | 5.04 | <0.001 | 1.52 | 0.87 | 2.66 | 0.142 | 0.58 | 0.43 | 0.78 | <0.001 | 0.49 | 0.35 | 0.69 | <0.001 |
| Second booster | 2.71 | 1.57 | 4.69 | <0.001 | 1.48 | 0.81 | 2.71 | 0.197 | 0.56 | 0.41 | 0.75 | <0.001 | 0.42 | 0.30 | 0.59 | <0.001 |
| Third booster | 2.05 | 1.12 | 3.75 | 0.020 | 0.94 | 0.46 | 1.93 | 0.876 | 0.54 | 0.40 | 0.73 | <0.001 | 0.38 | 0.27 | 0.55 | <0.001 |
| Time period | 2022 Q1 | ref |  |  |  | ref |  |  |  | ref |  |  | ref | ref |  |  |  |
|  | 2022 Q2 | 2.96 | 1.52 | 5.75 | 0.001 | 4.65 | 1.74 | 12.46 | 0.002 | 7.38 | 4.48 | 12.15 | <0.001 | 7.47 | 4.52 | 12.35 | <0.001 |
|  | 2022 Q3 | 4.11 | 1.99 | 8.48 | <0.001 | 4.58 | 1.64 | 12.82 | 0.004 | 11.63 | 6.92 | 19.56 | <0.001 | 11.36 | 6.73 | 19.17 | <0.001 |
|  | 2022 Q4 | 3.75 | 1.96 | 7.18 | <0.001 | 5.25 | 1.97 | 13.96 | 0.001 | 6.50 | 3.98 | 10.60 | <0.001 | 7.61 | 4.61 | 12.58 | <0.001 |
|  | 2023 Q1 | 2.88 | 1.48 | 5.63 | 0.002 | 5.59 | 2.09 | 14.96 | 0.001 | 7.42 | 4.52 | 12.18 | <0.001 | 8.90 | 5.34 | 14.82 | <0.001 |
|  | 2023 Q2 | 3.63 | 1.24 | 10.66 | 0.019 | 4.94 | 1.34 | 18.27 | 0.017 | 9.54 | 5.03 | 18.10 | <0.001 | 10.26 | 5.28 | 19.94 | <0.001 |
| Symptom status | No symptoms | ref |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Symptoms reported | 1.48 | 1.09 | 2.01 | 0.013 |  |  |  |  |  |  |  |  |  |  |  |  |
| Severity of infection | Asymptomatic | ref |  |  |  | ref |  |  |  |  |  |  |  |  |  |  |  |
| Local | 1.58 | 0.78 | 3.20 | 0.199 | 2.00 | 0.70 | 5.76 | 0.198 |  |  |  |  |  |  |  |  |
| Systemic | 1.46 | 0.75 | 2.85 | 0.264 | 1.91 | 0.68 | 5.34 | 0.218 |  |  |  |  |  |  |  |  |
| Other symptoms | 0.71 | 0.06 | 8.48 | 0.784 | 1.38 | 0.08 | 23.84 | 0.825 |  |  |  |  |  |  |  |  |
| Symptoms unknown | 1.01 | 0.49 | 2.08 | 0.973 | 1.33 | 0.45 | 3.96 | 0.605 |  |  |  |  |  |  |  |  |
| Log Antibody concentration (BAU/mL) |  | 0.26 | 0.21 | 0.32 | <0.001 | 0.26 | 0.21 | 0.32 | <0.001 | 0.71 | 0.68 | 0.74 | <0.001 | 0.71 | 0.68 | 0.74 | <0.001 |

OR = Odds ratio; CI = 95% confidence interval

Table S2C. Odds ratios for 2-fold increase among participants who (almost) always test, with and without reported infection.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Reported infection –** **univariable** | **Reported infection –** **multivariable** | **No reported infection –** **univariable** | **No reported infection –** **multivariable** |
|  |  | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** |
| Age group | 18-59 | ref |  |  |  | ref |  |  |  | ref |  |  |  | ref |  |  |  |
|  | 60-85 | 0.94 | 0.74 | 1.20 | 0.632 | 0.97 | 0.70 | 1.33 | 0.834 | 0.89 | 0.80 | 1.00 | 0.047 | 1.01 | 0.87 | 1.16 | 0.923 |
| Vaccination status | Unvaccinated | ref |  |  |  | Ref |  |  |  | ref |  |  |  | ref |  |  |  |
| Primary series | 3.03 | 1.59 | 5.77 | 0.001 | 1.66 | 0.79 | 3.48 | 0.184 | 0.61 | 0.40 | 0.92 | 0.018 | 0.60 | 0.38 | 0.94 | 0.027 |
| First booster | 2.61 | 1.56 | 4.36 | <0.001 | 1.26 | 0.71 | 2.24 | 0.431 | 0.65 | 0.46 | 0.92 | 0.016 | 0.51 | 0.35 | 0.76 | 0.001 |
| Second booster | 2.32 | 1.36 | 3.98 | 0.002 | 1.18 | 0.64 | 2.18 | 0.601 | 0.61 | 0.43 | 0.87 | 0.006 | 0.44 | 0.30 | 0.65 | <0.001 |
| Third booster | 1.79 | 0.99 | 3.23 | 0.053 | 0.74 | 0.36 | 1.53 | 0.413 | 0.60 | 0.42 | 0.85 | 0.004 | 0.41 | 0.27 | 0.62 | <0.001 |
| Time period | 2022 Q1 | ref |  |  |  | ref |  |  |  | ref |  |  |  | Ref |  |  |  |
|  | 2022 Q2 | 2.40 | 1.28 | 4.51 | 0.006 | 3.31 | 1.18 | 9.32 | 0.023 | 10.19 | 5.33 | 19.49 | <0.001 | 10.07 | 5.31 | 19.11 | <0.001 |
|  | 2022 Q3 | 3.58 | 1.81 | 7.09 | <0.001 | 3.59 | 1.21 | 10.64 | 0.021 | 14.92 | 7.67 | 29.03 | <0.001 | 14.17 | 7.31 | 27.46 | <0.001 |
|  | 2022 Q4 | 3.49 | 1.89 | 6.46 | <0.001 | 4.61 | 1.65 | 12.91 | 0.004 | 8.47 | 4.47 | 16.06 | <0.001 | 9.82 | 5.16 | 18.68 | <0.001 |
|  | 2023 Q1 | 2.61 | 1.38 | 4.93 | 0.003 | 4.85 | 1.72 | 13.63 | 0.003 | 10.00 | 5.25 | 19.05 | <0.001 | 12.00 | 6.26 | 23.00 | <0.001 |
|  | 2023 Q2 | 4.03 | 1.39 | 11.62 | 0.010 | 5.54 | 1.44 | 21.28 | 0.013 | 15.66 | 7.29 | 33.63 | <0.001 | 17.15 | 7.84 | 37.54 | <0.001 |
| Symptom status | No symptoms | ref |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Symptoms reported | 1.50 | 1.13 | 2.00 | 0.005 |  |  |  |  |  |  |  |  |  |  |  |  |
| Severity of infection | Asymptomatic | ref |  |  |  | ref |  |  |  |  |  |  |  |  |  |  |  |
| Local | 1.76 | 0.93 | 3.31 | 0.080 | 2.77 | 1.04 | 7.39 | 0.042 |  |  |  |  |  |  |  |  |
| Systemic | 1.68 | 0.92 | 3.06 | 0.092 | 2.81 | 1.07 | 7.35 | 0.035 |  |  |  |  |  |  |  |  |
| Other symptoms | 0.98 | 0.08 | 11.56 | 0.986 | 2.30 | 0.18 | 29.82 | 0.524 |  |  |  |  |  |  |  |  |
| Symptoms unknown | 1.16 | 0.60 | 2.24 | 0.653 | 2.14 | 0.77 | 5.90 | 0.143 |  |  |  |  |  |  |  |  |
| Log Antibody concentration (BAU/mL) |  | 0.23 | 0.19 | 0.29 | <0.001 | 0.23 | 0.18 | 0.28 | <0.001 | 0.64 | 0.61 | 0.67 | <0.001 | 0.64 | 0.61 | 0.67 | <0.001 |

OR = Odds ratio; CI = 95% confidence interval

Table S2D. Odds ratios for 3-fold increase among participants who (almost) always test, with and without reported infection.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Reported infection –** **univariable** | **Reported infection –** **multivariable** | **No reported infection –** **univariable** | **No reported infection –** **multivariable** |
|  |  | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** |
| Age group | 18-59 | ref |  |  |  | ref |  |  |  | ref |  |  |  | ref |  |  |  |
|  | 60-85 | 0.93 | 0.75 | 1.15 | 0.509 | 1.12 | 0.83 | 1.53 | 0.459 | 0.87 | 0.76 | 0.98 | 0.027 | 0.98 | 0.84 | 1.16 | 0.838 |
| Vaccination status | Unvaccinated | ref |  |  |  | ref |  |  |  | ref |  |  |  | ref |  |  |  |
| Primary series | 2.83 | 1.54 | 5.20 | 0.001 | 1.73 | 0.81 | 3.73 | 0.159 | 0.68 | 0.43 | 1.08 | 0.103 | 0.63 | 0.37 | 1.06 | 0.081 |
| First booster | 3.02 | 1.83 | 5.00 | <0.001 | 1.50 | 0.83 | 2.72 | 0.182 | 0.74 | 0.51 | 1.09 | 0.133 | 0.53 | 0.34 | 0.84 | 0.007 |
| Second booster | 2.22 | 1.32 | 3.73 | 0.003 | 1.09 | 0.58 | 2.07 | 0.789 | 0.68 | 0.46 | 1.00 | 0.051 | 0.45 | 0.29 | 0.72 | 0.001 |
| Third booster | 1.95 | 1.10 | 3.46 | 0.022 | 0.80 | 0.38 | 1.69 | 0.562 | 0.67 | 0.45 | 0.99 | 0.042 | 0.43 | 0.27 | 0.69 | <0.001 |
| Time period | 2022 Q1 | ref |  |  |  | ref |  |  |  | ref |  |  |  | ref |  |  |  |
|  | 2022 Q2 | 3.10 | 1.60 | 6.00 | 0.001 | 4.47 | 1.43 | 13.92 | 0.010 | 13.39 | 5.66 | 31.67 | <0.001 | 12.39 | 5.42 | 28.28 | <0.001 |
|  | 2022 Q3 | 3.41 | 1.71 | 6.78 | <0.001 | 4.50 | 1.40 | 14.51 | 0.012 | 18.94 | 7.91 | 45.39 | <0.001 | 16.94 | 7.29 | 39.36 | <0.001 |
|  | 2022 Q4 | 3.57 | 1.87 | 6.80 | <0.001 | 6.03 | 1.96 | 18.53 | 0.002 | 10.23 | 4.36 | 24.01 | <0.001 | 11.45 | 5.00 | 26.21 | <0.001 |
|  | 2023 Q1 | 2.71 | 1.39 | 5.27 | 0.003 | 6.81 | 2.18 | 21.27 | 0.001 | 12.69 | 5.38 | 29.89 | <0.001 | 14.96 | 6.49 | 34.49 | <0.001 |
|  | 2023 Q2 | 5.31 | 1.89 | 14.90 | 0.002 | 11.82 | 2.84 | 49.19 | 0.001 | 22.27 | 8.51 | 58.30 | <0.001 | 23.86 | 9.13 | 62.40 | <0.001 |
| Symptom status | No symptoms | ref |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Symptoms reported | 1.33 | 1.01 | 1.74 | 0.039 |  |  |  |  |  |  |  |  |  |  |  |  |
| Severity of infection | Asymptomatic | ref |  |  |  | ref |  |  |  |  |  |  |  |  |  |  |  |
| Local | 1.64 | 0.90 | 3.01 | 0.108 | 3.48 | 1.31 | 9.25 | 0.013 |  |  |  |  |  |  |  |  |
| Systemic | 1.39 | 0.78 | 2.49 | 0.263 | 2.87 | 1.10 | 7.46 | 0.031 |  |  |  |  |  |  |  |  |
| Other symptoms | 1.24 | 0.11 | 14.58 | 0.865 | 4.53 | 0.39 | 53.07 | 0.229 |  |  |  |  |  |  |  |  |
| Symptoms unknown | 1.12 | 0.59 | 2.12 | 0.720 | 2.77 | 1.01 | 7.63 | 0.048 |  |  |  |  |  |  |  |  |
| Log Antibody concentration (BAU/mL) |  | 0.20 | 0.16 | 0.24 | <0.001 | 0.19 | 0.15 | 0.24 | <0.001 | 0.54 | 0.51 | 0.56 | <0.001 | 0.54 | 0.51 | 0.56 | <0.001 |

OR = Odds ratio; CI = 95% confidence interval

Table S2E. Odds ratios for 4-fold increase among participants who (almost) always test, with and without reported infection.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Reported infection –** **univariable** | **Reported infection –** **multivariable** | **No reported infection –** **univariable** | **No reported infection –** **multivariable** |
|  |  | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** | **OR** | **CI.low** | **CI.high** | **p.value** |
| Age group | 18-59 | ref |  |  |  | ref |  |  |  | ref |  |  |  | ref |  |  |  |
|  | 60-85 | 0.84 | 0.69 | 1.03 | 0.099 | 1.02 | 0.75 | 1.38 | 0.923 | 0.82 | 0.72 | 0.94 | 0.005 | 0.94 | 0.79 | 1.11 | 0.453 |
| Vaccination status | Unvaccinated | ref |  |  |  | ref |  |  |  | ref |  |  |  | ref |  |  |  |
| Primary series | 1.94 | 1.07 | 3.54 | 0.030 | 0.76 | 0.35 | 1.65 | 0.493 | 0.74 | 0.45 | 1.21 | 0.233 | 0.66 | 0.38 | 1.16 | 0.151 |
| First booster | 2.48 | 1.51 | 4.10 | <0.001 | 0.92 | 0.49 | 1.74 | 0.798 | 0.78 | 0.51 | 1.18 | 0.235 | 0.54 | 0.33 | 0.88 | 0.013 |
| Second booster | 1.71 | 1.02 | 2.88 | 0.041 | 0.68 | 0.35 | 1.33 | 0.261 | 0.75 | 0.49 | 1.13 | 0.167 | 0.50 | 0.31 | 0.81 | 0.005 |
| Third booster | 1.56 | 0.88 | 2.74 | 0.126 | 0.56 | 0.26 | 1.22 | 0.145 | 0.67 | 0.44 | 1.03 | 0.067 | 0.43 | 0.26 | 0.72 | 0.001 |
| Time period | 2022 Q1 | ref |  |  |  | ref |  |  |  | ref |  |  |  | ref |  |  |  |
|  | 2022 Q2 | 2.71 | 1.37 | 5.35 | 0.004 | 4.27 | 1.31 | 13.90 | 0.016 | 11.10 | 4.68 | 26.33 | <0.001 | 10.03 | 4.32 | 23.33 | <0.001 |
|  | 2022 Q3 | 2.88 | 1.42 | 5.85 | 0.003 | 4.90 | 1.45 | 16.54 | 0.010 | 15.09 | 6.29 | 36.21 | <0.001 | 13.10 | 5.53 | 31.02 | <0.001 |
|  | 2022 Q4 | 2.74 | 1.41 | 5.34 | 0.003 | 5.86 | 1.82 | 18.88 | 0.003 | 8.02 | 3.41 | 18.86 | <0.001 | 8.85 | 3.80 | 20.63 | <0.001 |
|  | 2023 Q1 | 2.12 | 1.07 | 4.18 | 0.031 | 6.56 | 2.01 | 21.41 | 0.002 | 10.65 | 4.51 | 25.13 | <0.001 | 12.67 | 5.39 | 29.75 | <0.001 |
|  | 2023 Q2 | 4.55 | 1.64 | 12.61 | 0.004 | 13.26 | 2.99 | 58.79 | 0.001 | 18.65 | 7.03 | 49.47 | <0.001 | 19.83 | 7.34 | 53.57 | <0.001 |
| Symptom status | No symptoms | ref |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Symptoms reported | 1.47 | 1.12 | 1.93 | 0.005 |  |  |  |  |  |  |  |  |  |  |  |  |
| Severity of infection | Asymptomatic | ref |  |  |  | ref |  |  |  |  |  |  |  |  |  |  |  |
| Local | 1.60 | 0.86 | 2.98 | 0.134 | 3.91 | 1.50 | 10.22 | 0.005 |  |  |  |  |  |  |  |  |
| Systemic | 1.30 | 0.72 | 2.36 | 0.386 | 3.02 | 1.18 | 7.70 | 0.021 |  |  |  |  |  |  |  |  |
| Other symptoms | 1.43 | 0.12 | 16.94 | 0.775 | 7.92 | 0.93 | 67.20 | 0.058 |  |  |  |  |  |  |  |  |
| Symptoms unknown | 0.93 | 0.48 | 1.78 | 0.825 | 2.36 | 0.88 | 6.32 | 0.086 |  |  |  |  |  |  |  |  |
| Log Antibody concentration (BAU/mL) |  | 0.16 | 0.13 | 0.21 | <0.001 | 0.16 | 0.12 | 0.20 | <0.001 | 0.49 | 0.46 | 0.51 | <0.001 | 0.48 | 0.46 | 0.51 | <0.001 |

OR = Odds ratio; CI = 95% confidence interval