

Supplemental Digital Content 3, Table. Co-Detection of Organisms in NP/OP PCR Specimens Collected from both Cases and Controls, by CXR status

| | All Cases N=525 | CXR-positive Cases N=219 | All Controls N=771 | All Cases vs All Controls | CXR-positive Cases vs All Controls |
|--|--------------------|--------------------------------|--------------------------|------------------------------|--|
| Mean (SD) number of organisms, any positivity | 3.95 (1.51) | 3.99 (1.53) | 4.06 (1.42) | | |
| Median (IQR) | 4.0 (3.0, 5.0) | 4.0 (3.0, 5.0) | 4.0 (3.0, 5.0) | | |
| 0 | 3 (0.6) | 1 (0.5) | 1 (0.1) | 0.0757 | 0.1403 |
| 1 | 23 (4.4) | 9 (4.1) | 24 (3.1) | | |
| 2 | 71 (13.5) | 33 (15.1) | 77 (10.0) | | |
| 3 | 100 (19.0) | 39 (17.8) | 166 (21.5) | | |
| 4 | 328 (62.5) | 137 (62.6) | 503 (65.2) | | |
| Mean (SD) number of organisms, above threshold | 2.74 (1.38) | 2.72 (1.41) | 2.62 (1.39) | | |
| Median (IQR) | 3.0 (2.0, 4.0) | 3.0 (2.0, 4.0) | 2.0 (2.0, 3.0) | | |
| 0 | 13 (2.5) | 7 (3.2) | 34 (4.4) | 0.6150 | 0.7788 |
| 1 | 85 (16.2) | 35 (16.0) | 129 (16.7) | | |
| 2 | 150 (28.6) | 66 (30.1) | 226 (29.3) | | |
| 3 | 135 (25.7) | 50 (22.8) | 195 (25.3) | | |
| 4 | 142 (27.0) | 61 (27.9) | 187 (24.3) | | |
| Pathogen patterns, any positivity | | | | | |
| Single bacteria | 8 (1.5) | 6 (2.7) | 15 (1.9) | <.0001 | <.0001 |
| 2 or more bacteria | 13 (2.5) | 7 (3.2) | 72 (9.3) | | |
| Single virus | 16 (3.0) | 3 (1.4) | 11 (1.4) | | |
| 2 or more viruses | 29 (5.5) | 18 (8.2) | 7 (0.9) | | |
| Bacterial-Viral | 456 (86.9) | 184 (84.0) | 665 (86.3) | | |
| Pathogen patterns, above threshold | | | | | |
| Single bacteria | 19 (3.6) | 11 (5.0) | 76 (9.9) | <.0001 | <.0001 |
| 2 or more bacteria | 9 (1.7) | 4 (1.8) | 51 (6.6) | | |
| Single virus | 68 (13.0) | 26 (11.9) | 56 (7.3) | | |
| 2 or more viruses | 80 (15.2) | 40 (18.3) | 37 (4.8) | | |
| Bacterial-Viral | 336 (64.0) | 131 (59.8) | 517 (67.1) | | |

Analysis population was restricted to cases and controls with available NPPCR data. P-values are from logistic regression adjusted for site and age (m).

NP/OP PCR thresholds: *P. jirovecii*, 4.0 log₁₀ copies/mL; *H. influenzae*, 5.9 log₁₀ copies/mL; CMV, 4.9 log₁₀ copies/mL; *S. pneumoniae*, 6.9 log₁₀ copies/mL).