**Supplementary Table 1:** All microbiology results of participants (n = 118) by standard microbiology (SM) procedures (culture and PCR of any respiratory sample, hemoculture, urinary antigens) and *FilmArray® Pneumonia Panel plus* in the lower respiratory tract (FA-LRT) or nasopharyngeal (FA-NP) sample.

| Pathogen                                      | SM ; n (%) | FA-LRT ; n (%) | FA-NP ; n (%) |
|-----------------------------------------------|------------|----------------|---------------|
| **No pathogen detected**                      | 52 (44)    | 14 (12)        | 21 (18)       |
| **Bacteria**                                  |            |                |               |
| Any bacteria                                  | 46 (39)    | 90 (76)        | 73 (62)       |
| Haemophilus influenzae                        | 19 (16)*   | 44 (37)        | 27 (23)       |
| Staphylococcus aureus                         | 7 (5.9)*   | 29 (25)        | 28 (24)       |
| Streptococcus pneumoniae                      | 12 (10)†   | 19 (16)        | 11 (9.3)      |
| Moraxella catarrhalis                         | 0          | 14 (12)        | 9 (7.6)       |
| Escherichia coli                              | 4 (3.4)*   | 11 (9.3)       | 2 (1.7)       |
| Streptococcus agalactiae                      | 0          | 8 (6.8)        | 0             |
| Pseudomonas aeruginosa                        | 3 (2.5)*   | 7 (5.9)        | 0             |
| Klebsiella pneumoniae                         | 1 (0.8)*   | 5 (4.2)        | 1 (0.8)       |
| Enterobacter cloacae complex                   | 0          | 4 (3.4)        | 1 (0.8)       |
| Mycoplasma pneumoniae                         | 1 (0.8)    | 4 (3.4)        | 4 (3.4)       |
| Streptococcus pyogenes                        | 2 (2.2)*   | 3 (2.5)        | 2 (1.7)       |
| Klebsiella oxytoca                            | 1 (0.8)*   | 4 (3.4)        | 1 (0.8)       |
| Klebsiella aerogenes                          | 1 (0.8)*   | 3 (2.5)        | 0             |
| Serratia marcescens                           | 1 (0.8)*   | 3 (2.5)        | 0             |
| Proteus spp                                   | 0          | 1 (0.8)        | 2 (1.7)       |
| Chlamydia pneumoniae                          | 1 (0.8)    | 1 (0.8)        | 1 (0.8)       |
| Legionella pneumophila                         | 0          | 1 (0.8)        | 0             |
| Other bacteria ‡                               | 6          | -              | -             |
| **Viruses**                                   |            |                |               |
| Any virus                                     | 28 (24)    | 67 (57)        | 57 (48)       |
| Human Rhinovirus Enterovirus                  | -          | 29 (25)        | 22 (19)       |
| Influenza A or B                              | 12 (10)    | 17 (14)        | 12 (10)       |
| Coronavirus                                    | -          | 9 (7.6)        | 7 (5.9)       |
| Respiratory Syncytial Virus                   | 9 (7.6)    | 10 (8.5)       | 10 (8.5)      |
| Parainfluenza Virus                           | -          | 6 (5.1)        | 5 (4.2)       |
| Human Metapneumovirus                         | -          | 7 (5.9)        | 5 (4.2)       |
| Adenovirus                                    | -          | 0              | 0             |
| SARS-CoV-2                                    | 2 (2.2)    | -              | -             |
| **Antibiotics Resistance Gene**               |            |                |               |
| CTXM                                          | -          | 5 (4.2)        | 1 (0.8)       |
| mecAC and MREJ                                | -          | 2 (1.7)        | 3 (2.5)       |
| MERS                                          | -          | 0              | 0             |
| IMP                                           | -          | 0              | 0             |
| BGL | 0 | 0 |
|-----|---|---|
| NDM | 0 | 0 |
| OXA 48 like | 1 (0.8) | 0 |
| VIM | 1 (0.8) | 0 |

* diagnostic by LRT culture; † positive test: urine antigen (6), LRT culture (10), blood culture (2); ‖ diagnostic by positive PCR on naso-pharyngeal swab; ‡ Streptococcus gr. anginosus (4), Neisseria perflava (1), Staphylococcus epidermidis (1)
Supplementary Table 2: Performance of *In house* PCR in naso-pharyngeal (NP) swabs at different cut off (≥10² and ≥10³) and *FilmArray® Pneumonia Panel plus* (*FilmArray* PP) in NP swabs for detection of *S. pneumoniae* and *H. influenzae* in adults with community-acquired respiratory tract infections (n=118 patients) compared to different reference standard: *FilmArray® Pneumonia Panel plus* on a good quality lower respiratory tract (LRT) sample with positive cut-off value >10⁴ copy/ml, or with the standard microbiology results. Positive percent agreement (PPA), negative percent agreement (NPA), overall percent agreement (OPA), positive likelihood ratio (LR+), negative likelihood ratio (LR-), positive predictive value (PPV), negative predictive value (NPV).

| **Target organism** | **Reference standard** | **Diagnostic test** | **NP sample** | **Reference standard** | **PPA** | **NPA** | **OPA** | **LR+** | **LR-** | **PPV** | **NPV** |
|--------------------|------------------------|---------------------|--------------|------------------------|---------|---------|---------|---------|---------|---------|---------|
| **S. pneumoniae**  |                        |                     |              |                        |         |         |         |         |         |         |         |
|                    | **LRT PCR**             |                     |              |                        |         |         |         |         |         |         |         |
|                    | **FilmArray PP**        |                     |              |                        |         |         |         |         |         |         |         |
| NP PCR In-House ≥10² | NP PCR In-House         | 15                  | 19           | 0.68                   | 0.98    | 0.93    | 33.87   | 0.32    | 0.87    | 0.94    |
|                    | ≥10³                   | 12                  | 19           | 0.58                   | 0.99    | 0.92    | 57.32   | 0.43    | 0.92    | 0.92    |
|                    | **NP PCR FilmArray PP ≥10⁴** | 11                        | 19           | 0.58                   | 1       | 0.93    | Infinite | 0.42    | 1       | 0.93    |
|                    | **Standard microbiology** |                     |              |                        |         |         |         |         |         |         |         |
| NP PCR In-House ≥10² | NP PCR In-House         | 15                  | 12           | 0.67                   | 0.93    | 0.91    | 10.1    | 0.36    | 0.53    | 0.96    |
|                    | ≥10³                   | 12                  | 12           | 0.58                   | 0.95    | 0.92    | 12.37   | 0.44    | 0.58    | 0.95    |
|                    | **NP PCR FilmArray PP ≥10⁴** | 11                        | 12           | 0.58                   | 0.96    | 0.92    | 15.46   | 0.43    | 0.64    | 0.95    |
| **H. influenzae**  |                        |                     |              |                        |         |         |         |         |         |         |         |
|                    | **LRT PCR**             |                     |              |                        |         |         |         |         |         |         |         |
|                    | **FilmArray PP**        |                     |              |                        |         |         |         |         |         |         |         |
| NP PCR In-House ≥10² | NP PCR In-House         | 50                  | 44           | 0.77                   | 0.78    | 0.78    | 3.57    | 0.29    | 0.68    | 0.85    |
|                    | ≥10³                   | 35                  | 44           | 0.64                   | 0.91    | 0.81    | 6.73    | 0.4     | 0.8     | 0.81    |
|                    | **NP PCR FilmArray PP ≥10⁴** | 27                        | 44           | 0.61                   | 1       | 0.86    | Infinite | 0.39    | 1       | 0.81    |
|                    | **Standard microbiology** |                     |              |                        |         |         |         |         |         |         |         |
| NP PCR In-House ≥10² | NP PCR In-House         | 50                  | 19           | 0.89                   | 0.67    | 0.70    | 2.68    | 0.16    | 0.34    | 0.97    |
|                    | ≥10³                   | 35                  | 19           | 0.79                   | 0.8     | 0.80    | 3.91    | 0.26    | 0.43    | 0.95    |
|                    | **NP PCR FilmArray PP ≥10⁴** | 27                        | 19           | 0.74                   | 0.87    | 0.85    | 5.61    | 0.3     | 0.52    | 0.95    |
