Additional Table 1. Analysis population by country

Country	Number of sites	Patients included in analysis population, n (% total analysis population)
Belgium	10	191 (9.4)
France	35	366 (17.9)
Germany	7	50 (2.5)
Greece	9	215 (10.5)
Italy	17	300 (14.7)
The Netherlands	6	203 (10.0)
Portugal	8	121 (5.9)
Spain	17	279 (13.7)
Turkey	11	200 (9.8)
United Kingdom	8	114 (5.6)
Total	**128**	**2,039 (100)**

Additional Table 2. Microbiological diagnosis

2a) Tests performed

Test	Patients, n (%)
Any microbiological test (cultures)	2,038 (>99.9)
Sputum examination	921 (45.2)
Blood culture	1121 (55.0)
Bronchoalveolar lavage/bronchial brush examination	177 (8.7)
Pleural fluid sample examination	91 (4.5)
Legionella antigen test in urine	785 (38.5)
Pneumococcal antigen test in urine	713 (35.0)
Other	378 (18.5)
Unknown	308 (15.1)
PCR determination of H1N1 influenza performed, n (%)	351* (17.2)
Positive	76 (3.7)
Negative	276 (13.5)

* Two patients reported "No" to whether determination was performed, but had "Negative" recorded for the result; one patient reported "Yes" to whether determination was performed but the result was not given. Therefore, there is one more result than the number of patients for which the test was reported as performed.

2b) Diagnosis

Microbiological diagnosis, n (percentage of patients with a microbiological diagnosis, %)	Total population (n=582; 28.5%)	Patients with bacteraemia (n=116; 5.7%)
Gram-positive cocci	286 (49.1)	83 (71.6)
Streptococcus pneumoniae	228 (39.2)	74 (63.8)
Penicillin-resistant *Streptococcus pneumoniae**	2 (0.3)	1 (0.9)
Staphylococcus aureus[†]	42 (7.2)	9 (7.8)
Methicillin-resistant *Staphylococcus aureus**	12 (2.1)	2 (1.7)
Methicillin-sensitive *Staphylococcus aureus*	9 (1.5)	0 (0.0)
Legionella spp.	20 (3.4)	0 (0.0)
Mycoplasma pneumoniae	18 (3.1)	0 (0.0)
Chlamydophila pneumoniae	13 (2.2)	0 (0.0)
Chlamydia spp.	0 (0.0)	0 (0.0)
Haemophilus influenzae	33 (5.7)	5 (4.3)
Haemophilus parainfluenzae	6 (1.0)	1 (0.9)
Moraxella catarrhalis	9 (1.5)	0 (0.0)
Pseudomonas aeruginosa	41 (7.0)	2 (1.7)
Enterobacteriaceae	91 (15.6)	13 (11.4)
Escherichia coli	36 (6.2)	10 (8.6)
Klebsiella spp.	20 (3.4)	1 (0.9)
Other enterobacteria[‡]	35 (6.0)	2 (1.7)
Aspiration pneumonia	17 (2.9)	2 (1.7)
Other microorganisms	133 (22.9)	17 (14.7)

* Minimum inhibitory concentration data not available retrospectively.

[†] Not all *S. aureus* infections had susceptibility data recorded, so the total *S. aureus* figure exceeds the total of the resistant and sensitive figures.

[‡] Includes *Proteus mirabilis*, *Morganella morganii*, *Serratia marcescens* and *Hafnia alvei*.

Additional Table 3. Antibiotic therapies

Antibiotic	Initial line, n (%)	Subsequent lines, n (%)	Rate of initial antibiotic treatment modification, n (%)
Combinations			
Penicillin or penicillin–β-lactamase inhibitor + macrolide	288 (14.1)	20 (1.0)	93 (32.3)
Cephalosporin (except cefuroxime) + macrolide	211 (10.3)	10 (0.5)	55 (26.1)
Cephalosporin (except cefuroxime) + fluoroquinolone	140 (6.9)	10 (0.5)	44 (31.4)
Penicillin or penicillin–β-lactamase + fluoroquinolone	115 (5.6)	25 (1.2)	36 (31.3)
Monotherapies			
Amoxicillin–clavulanate	409 (20.1)	274 (13.4)	100 (24.4)
Levofloxacin	156 (7.7)	98 (4.8)	34 (21.8)
Moxifloxacin	116 (5.7)	57 (2.8)	20 (17.2)
Ceftriaxone	109 (5.3)	42 (2.1)	42 (38.5)
Piperacillin–tazobactam	66 (3.2)	75 (3.7)	24 (36.4)
Amoxicillin	59 (2.9)	64 (3.1)	9 (15.3)
Clarithromycin	19 (0.9)	41 (2.0)	6 (31.6)
Azithromycin	12 (0.6)	43 (2.1)	4 (33.3)
Cefuroxime	26 (1.3)	28 (1.4)	11 (42.3)
Ampicillin–sulbactam	36 (1.8)	9 (0.4)	15 (41.7)
Ciprofloxacin	9 (0.4)	37 (1.8)	5 (55.6)
Meropenem	6 (0.3)	38 (1.9)	2 (33.3)
Vancomycin	1 (<0.1)	23 (1.1)	0

Characteristics of patients with initial treatment modification

We conducted an analysis of patient characteristics in the subpopulation of patients with initial antibiotic treatment modification (589) (Supplementary Tables 4–6). No clear differences between patients with initial antibiotic treatment modification and the full population were observed in terms of demographics, medical history and characteristics of index CAP infection. Comorbidities were slightly more common in patients with initial antibiotic treatment modification than in the full population (80.3% versus 78.4%, respectively), and HCAP was present in more patients (13.2% versus 12.0%, respectively).

Additional Table 4. Patient demographics in patients with initial antibiotic treatment modification

Characteristic	Full population (N=2,039)	Patients with initial antibiotic treatment modification (n=589)
Age, years, mean (SD) [median]	64.5 (18.5) [68.0]	64.2 (18.7) [68.0]
≥65 years, n (%)	1,150 (56.4)	330 (56.0)
Female, n (%)	843 (41.3)	226 (38.4)
Ethnic origin, n (%)		
White	1,573 (77.1)	486 (82.5)
Non-white	51 (2.5)	22 (3.7)
Unknown/missing	51 (2.5)	24 (4.1)
Not applicable*	364 (17.9)	57 (9.7)
Residential/health status, n (%)		
Private house or apartment	1,720 (84.4)	495 (84.0)
Nursing home	145 (7.1)	47 (8.0)
Home care through healthcare agency	32 (1.6)	11 (1.9)
Previous admission to hospital with CAP (last 3 months)	99 (4.9)	33 (5.6)
Immunocompromised/immunosuppressed	72 (3.5)	29 (4.9)
Haemodialysis	6 (0.3)	2 (0.3)
Chemotherapy for active cancer	30 (1.5)	12 (2.0)
Other	43 (2.1)	12 (2.0)
Unknown	85 (4.2)	20 (3.4)
Smoking status, n (%)		
Non-smoker	704 (34.5)	181 (30.7)
Ex-smoker	553 (27.1)	164 (27.8)
Occasional smoker	42 (2.1)	11 (1.9)
Habitual smoker	463 (22.7)	132 (22.4)
Unknown	277 (13.6)	101 (17.1)

CAP: community-acquired pneumonia; SD: standard deviation.

* All patients in this category were from France, where this question is not permitted in clinical studies. The discrepancy from the total number of patients for France (n=366) arises because this information was actually recorded for two patients in France.

Additional Table 5. Medical history and disease characteristics

Characteristic	Full population (N=2,039)	Patients with initial antibiotic treatment modification (n=589)
Relevant medical conditions at hospitalization (index visit) (≥5% of analysis population), n (%)		
Any relevant condition	1,598 (78.4)	473 (80.3)
Respiratory disease	689 (33.8)	192 (32.6)
Diabetes	369 (18.1)	103 (17.5)
Congestive heart disease	336 (16.5)	102 (17.3)
Cancer/malignancy	237 (11.6)	80 (13.6)
Peripheral vascular disease	183 (9.0)	51 (8.7)
Renal disease	147 (7.2)	46 (7.8)
Other relevant conditions*	684 (33.5)	210 (35.7)
Medication history in the 3 months prior to hospitalization, n (%)		
Any prior medication	1,143 (56.1)	351 (59.6)
Antibiotics/antivirals	395 (19.4)	138 (23.4)
Anticoagulants	301 (14.8)	82 (13.9)
Immunosuppressants/immunomodulators	151 (7.4)	49 (8.3)
NSAIDs	137 (6.7)	41 (7.0)
Any other relevant therapies*	379 (18.6)	123 (20.9)
Unknown	146 (7.2)	40 (6.8)

NSAIDs: non-steroidal anti-inflammatory drugs.

* As defined by the investigator.

Additional Table 6. Characteristics of index CAP infection

Characteristic	Full population (N=2,039)	Patients with initial antibiotic treatment modification (n=589)
Type of CAP, n (%)		
CAP*	1,607 (78.8)	456 (77.4)
HCAP†	245 (12.0)	78 (13.2)
Immunocompromised/immunosuppressed	72 (3.5)	29 (4.9)
Other	43 (2.1)	12 (2.0)
Unknown	85 (4.2)	20 (3.4)
Radiographic findings suggestive of bacterial pneumonia, n (%)		
Infiltrate	1,168 (57.3)	334 (56.7)
Consolidation	947 (46.4)	277 (47.0)
Pleural effusion	319 (15.6)	111 (18.8)
Other	100 (4.9)	32 (5.4)
Unknown	16 (0.8)	2 (0.3)
Signs of acute illness at diagnosis, n (%)		
New or increased cough	1,575 (77.2)	436 (74.0)
Purulent sputum or change in sputum character	1,053 (51.6)	271 (46.0)
Auscultatory findings consistent with pneumonia	1,492 (73.2)	423 (71.8)
Dyspnoea, tachypnoea or hypoxaemia	1,491 (73.1)	447 (75.9)
Fever or hypothermia	1,317 (64.6)	381 (64.7)
White blood cell count >10,000 cells/mm^3 or <4,500 cells/mm^3	1,352 (66.3)	391 (66.4)
Prognosis based on severity indices		
PORT/PSI		
Number of patients (%)	354 (17.4)	101 (17.1)
Score, mean (SD) [median; range]	3.5 (1.1) [4.0; 1–5]	3.5 (1.1) [4.0; 1–5]
CURB-65		
Number of patients (%)	527 (25.8)	147 (25.0)
Score, mean (SD) [median; range]	2.2 (1.1) [2.0; 1–5]	2.3 (1.1) [2.0; 1–5]

CAP: community-acquired pneumonia; HCAP: healthcare-associated pneumonia; PORT/PSI: Pneumonia Outcomes Research Team/Pneumonia Severity Index; SD: standard deviation.

* Residence in private house or apartment only.

† Responses considered HCAP were all other residential statuses with the exception of immunocompromised/immunosuppressed.

APPENDIX 1. Pneumonias – ICD-10 coding

A48.1	Legionnaires' disease
J13	Pneumonia due to *Streptococcus pneumoniae*
J14	Pneumonia due to *Haemophilus influenzae*
J15.0	Pneumonia due to *Klebsiella pneumoniae*
J15.1	Pneumonia due to *Pseudomonas* sp.
J15.20	Pneumonia due to *Staphylococcus* sp., unspecified
J15.21	Pneumonia due to *Staphylococcus aureus*
J15.3	Pneumonia due to *Streptococcus* sp., group B
J15.4	Pneumonia due to other streptococci
J15.5	Pneumonia due to *Escherichia coli*
J15.6	Pneumonia due to other aerobic Gram-negative bacteria
J15.7	Pneumonia due to *Mycoplasma pneumoniae*
J15.8	Pneumonia due to other specified bacteria
J15.9	Unspecified bacterial pneumonia
J16.0	Chlamydial pneumonia
J16.8	Pneumonia due to other specified infectious organisms
J18.0	Bronchopneumonia, unspecified organism
Z16	Infection with drug-resistant microorganisms

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