

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Hsu HE, Shutt KA, Moore MR, et al. Effect of pneumococcal conjugate vaccine on pneumococcal meningitis. *N Engl J Med* 2009;360:244-56.

SUPPLEMENTAL APPENDIX

I. Minimal Inhibitory Concentration (MIC) Breakpoints

II. List of Underlying Conditions

III. Appendix Table 1. Proportion of pneumococcal isolates nonsusceptible to antibiotics, by serotype, 1998-2005 (n=1,239).

IV. Appendix Figure 1. Percentage of pneumococcal isolates that were nonsusceptible to various antibiotics by serotype groups and time period (n=1,239).

I. Minimal Inhibitory Concentration (MIC) Breakpoints

Susceptible, intermediate, and resistant MIC breakpoints were, respectively, ≤ 0.06 , 0.12-1, and ≥ 2 $\mu\text{g/mL}$ for penicillin, ≤ 0.25 , 0.50, and ≥ 1 $\mu\text{g/mL}$ for meropenem, ≤ 1 , 2 and ≥ 4 $\mu\text{g/mL}$ for rifampin, ≤ 2 , 4 and ≥ 8 $\mu\text{g/mL}$ for levofloxacin, and ≤ 0.50 , 1, and ≥ 2 $\mu\text{g/mL}$ for cefotaxime. Breakpoints for chloramphenicol were ≤ 4 $\mu\text{g/mL}$ for susceptible and ≥ 8 $\mu\text{g/mL}$ for resistant. For vancomycin, isolates were classified as susceptible at ≤ 1 $\mu\text{g/mL}$.

II. List of Underlying Conditions

For analyses of trends in the proportion of patients with underlying conditions, the following conditions were included: alcoholism, atherosclerotic cardiovascular disease, asplenia, cirrhosis, chronic obstructive pulmonary disease, cerebrospinal fluid leak, diabetes mellitus, renal failure/dialysis, immunoglobulin deficiency, heart failure, human immunodeficiency virus, systemic lupus erythematosus, nephrotic syndrome, organ transplantation, sickle cell disease, immunosuppressive therapy, Hodgkin's disease, multiple myeloma, leukemia, and other malignancy. The following conditions were excluded from these analyses because they were not collected by ABCs during the baseline period of 1998-1999: smoker, complement deficiency, cochlear implant, and cerebrovascular accident.

III. Appendix Table 1. Proportion of pneumococcal isolates nonsusceptible to antibiotics, by serotype, 1998-2005 (n=1,239).

Serotype	Number isolates†	% Nonsusceptible*			
		Penicillin	Chloramphenicol	Meropenem	Cefotaxime
All serotypes	1239	28	6	17	12
All PCV7 serotypes	547	41	8	28	20
4	79	1	1	0	0
6B	81	48	20	20	17
9V	42	64	0	57	40
14	91	65	2	49	26
18C	64	3	0	0	0
19F	93	46	10	34	25
23F	97	54	19	37	34
All PCV7-related serotypes	175	33	2	15	9
6A	101	41	1	19	10
9A	7	71	0	71	71
9N	21	5	0	0	0
18B	6	0	0	0	0
18F	5	0	0	0	0
19C	1	100	100	100	100
23A	24	42	4	4	0

Appendix Table 1, continued.

Serotype	Number isolates†	% Nonsusceptible*			
		Penicillin	Chloramphenicol	Meropenem	Cefotaxime
All non-PCV7 serotypes	517	12	4	5	4
3	70	0	7	0	1
10A	22	0	0	0	0
11A	34	0	0	0	0
12F	37	0	8	0	0
15A	16	63	44	0	0
15B/C	56	4	2	0	0
19A	56	61	7	21	20
21	2	50	0	0	0
22F	59	2	2	0	0
33F	17	0	0	0	0
35B	23	70	0	65	30
35F	16	0	0	0	0

Note: PCV7, heptavalent pneumococcal conjugate vaccine

*Additionally there was one isolate each of serotypes 4, 9V and 23F non-susceptible to levofloxacin and one isolate each of serotypes 6A, 9V, 14, 15B/C, 22F, 7F and 18F non-susceptible to rifampin. All tested isolates were susceptible to vancomycin.

†136 isolates missing antibiotic susceptibility data for penicillin, meropenem, and cefotaxime and 137 isolates missing chloramphenicol susceptibility data and 4 isolates with unknown serotype were excluded.

IV. Appendix Figure 1. Percentage of pneumococcal isolates that were nonsusceptible to various antibiotics by serotype groups and time period (n=1,239).

