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Intermediate report National Reference Centre (NRC) invasive *Streptococcus pneumoniae*

Q1 and Q2 2025

While already an exceptional high number of invasive pneumococcal disease (IPD) isolates was analysed in 2024 at the NRC (report *S. pneumoniae* 2024), this trend continued early 2025 (communication January 2025), resulting in an overall number of 1631 IPD isolates characterized at UZ Leuven from January 1st until June 30th, 2025 (Q1 and Q2). This number is 38.7% higher compared to the number of IPD isolates that the NRC received during the first half of 2024 (Figure 1), being already higher than the overall number of IPD isolates that is generally received on an annual basis. The increase in IPD cases is most pronounced for the adult age groups. Among the 1631 IPD cases, 100 cases (6.1%) were reported with the clinical diagnosis of meningitis, which is an absolute increase compared to 2024 (Q1-Q2: n=70). More details on the distribution of IPD cases among age categories, can be found in Table 1.

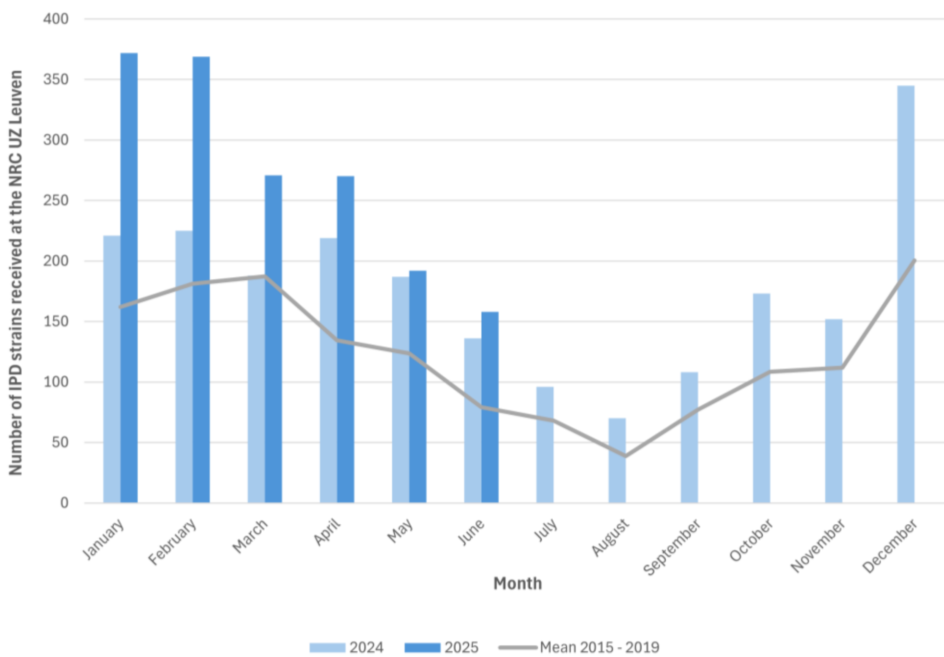

Figure 1: The number of IPD isolates received at the NRC per month for the years 2024 and 2025, compared to the mean number of IPD isolates received between pre-COVID years 2015 to 2019.

Table 1: Distribution of serotypes of IPD isolates from first half of 2025 (Q1 and Q2, n=1631) per age group.

		<2 years	2-17 years	18-49 years	50-64 years	>64 years	UNK
IPD non-meningitis	1531	77	80	271	331	771	1
IPD meningitis	100	10	7	20	23	40	0

Table 2 describes in descending order of frequency the serotypes of IPD isolates detected in the first half of 2025. The serotype distribution is determined per age group. Overall, serotype 12F is the most prevalent serotype (overall 18.9%; responsible for nearly 30% of IPD cases in children aged 2-17 years), similar to 2024, but with even higher proportion than in 2024 (14.6%). This is in contrast with the ranking of serotype 12F as only sixth most prevalent serotype in 2023. Serotypes 8, 3, 4 and 19A remain in the top 5 of most frequently detected serotypes, in line with observations of 2024, however representing all a lower overall share compared to 2024 due to the increase of >4% in serotype 12F IPD infections. Overall, the serotype distribution is quite similar for meningitis cases, with serotypes 12F (23.0%), 8 (12.0%), 3 (11.0%) and 19A (7.0%) also being part of the top 5 of most frequently detected serotypes, in contrast to serotype 23B (8.0%) which ranked fourth instead of serotype 4 for all IPD cases.

Table 2: Distribution of serotypes of IPD isolates from the first half of 2025 per age group. (orange/red: highest proportion, yellow: intermediate, dark green: lowest proportion; PCV7 serotypes: 4, 6B, 9V, 14, 18C, 19F and 23F; PCV10: PCV10 non-PCV7 serotypes: 1, 5 and 7F; PCV13 (Prevenar 13®): PCV13 non-PCV10 serotypes: 3, 6A and 19A; PCV15 (Vaxneuvance®): PCV15 non-PCV13 serotypes: 22F and 33F; PCV20 (Prevenar 20®): PCV20 non-PCV15 serotypes: 8, 10A, 11A, 12F and 15B; PPV23 only: 2; PPV23/PCV21 only: 9N, 17F and 20; PCV21 (Capvaxive®) only: 15A, 15C, 16F, 23A, 23B, 24F, 31 and 35B; NVT: non-PCV20/PCV21/PPV23 serotypes).

serotype		<2 years (n=87)	2-17 years (n=87)	18-49 years (n=291)	50-64 years (n=354)	65-85 years (n=580)	>85 years (n=231)	all ages (n=1631)
12F	PCV20	24,1%	29,9%	21,0%	20,6%	16,7%	13,4%	18,9%
8	PCV20	1,1%	5,7%	21,3%	16,4%	15,2%	7,8%	14,2%
3	PCV13	2,3%	6,9%	9,3%	12,7%	11,9%	7,8%	10,4%
4	PCV7	0,0%	0,0%	12,7%	10,5%	5,5%	2,2%	6,8%
19A	PCV13	3,4%	6,9%	4,5%	5,6%	6,9%	8,7%	6,3%
14	PCV7	2,3%	10,3%	9,3%	3,7%	3,6%	3,9%	5,0%
9N	PPV23/PCV21	1,1%	2,3%	3,1%	5,1%	4,8%	7,4%	4,6%
24F	PCV21	12,6%	6,9%	1,4%	1,4%	2,2%	6,5%	3,3%
33F	PCV15	14,9%	2,3%	2,1%	0,8%	1,9%	6,1%	3,0%
22F	PCV15	2,3%	2,3%	2,1%	2,3%	3,3%	2,6%	2,6%
23B	PCV21	3,4%	5,7%	1,0%	2,0%	2,4%	0,9%	2,1%
35B	PCV21	2,3%	4,6%	0,7%	1,1%	2,9%	2,2%	2,1%
6C	NVT	1,1%	0,0%	0,3%	2,0%	2,2%	4,8%	2,0%
23A	PCV21	0,0%	0,0%	0,3%	1,1%	2,1%	4,3%	1,7%
10A	PCV20	4,6%	1,1%	0,7%	1,4%	2,1%	0,9%	1,6%
11A	PCV20	1,1%	2,3%	0,7%	0,8%	2,6%	1,3%	1,6%

31	PCV21	1,1%	0,0%	1,0%	1,1%	1,6%	3,5%	1,5%
15A	PCV21	2,3%	0,0%	0,7%	1,7%	1,4%	3,0%	1,5%
16F	PCV21	3,4%	2,3%	0,7%	1,4%	1,2%	2,6%	1,5%
19F	PCV7	0,0%	2,3%	2,1%	1,7%	1,2%	1,7%	1,5%
35F	NVT	0,0%	2,3%	0,3%	0,8%	2,2%	1,3%	1,3%
15B	PCV20	1,1%	3,4%	0,0%	0,8%	1,0%	0,4%	0,9%
7B	NVT	1,1%	0,0%	0,3%	0,6%	1,4%	0,9%	0,9%
20	PPV23/PCV21	0,0%	0,0%	0,3%	0,8%	0,7%	1,7%	0,7%
15C	PCV21	2,3%	0,0%	0,3%	0,6%	0,3%	0,9%	0,6%
24C	NVT	2,3%	0,0%	0,0%	0,0%	0,7%	0,4%	0,4%
7C	NVT	0,0%	0,0%	0,0%	0,6%	0,3%	1,3%	0,4%
38	NVT	1,1%	0,0%	0,0%	0,3%	0,3%	0,9%	0,4%
17F	PPV23/PCV21	0,0%	1,1%	1,0%	0,3%	0,2%	0,0%	0,4%
9V	PCV7	0,0%	1,1%	1,0%	0,3%	0,0%	0,4%	0,4%
7F	PCV10	0,0%	0,0%	0,0%	0,6%	0,0%	0,4%	0,2%
non-typable	NVT	1,1%	0,0%	0,0%	0,0%	0,3%	0,0%	0,2%
1	PCV10	0,0%	0,0%	0,7%	0,0%	0,0%	0,0%	0,1%
10B	NVT	2,3%	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%
13	NVT	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,1%
24	NVT	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,1%
29	NVT	1,1%	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%
34	NVT	0,0%	0,0%	0,3%	0,0%	0,0%	0,0%	0,1%
37	NVT	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,1%
46	NVT	1,1%	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%
48	PCV13	0,0%	0,0%	0,3%	0,0%	0,0%	0,0%	0,1%
18A	NVT	0,0%	0,0%	0,0%	0,5%	0,0%	0,0%	0,1%
23F	PCV7	0,0%	0,0%	0,0%	0,0%	0,0%	0,6%	0,1%
24A	NVT	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%
24B	NVT	0,0%	0,0%	0,0%	0,5%	0,0%	0,0%	0,1%
6A	PCV13	0,0%	0,0%	0,0%	0,0%	0,0%	0,6%	0,1%
9L	NVT	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,1%
9A	NVT	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%