

Supplementary Table 1: Estimation of coverage depth in Hib isolates among children under 5 years with different vaccine status. Blue cells denote strains with ratio of coverage depth ≥ 1.5 ; Pink cells denote those with ratio of coverage depth < 1.5 .

Vaccine status	Isolate ID	Sequence type (ST)	Clonal complex (CC)	Genome Coverage Depth	<i>cap</i> locus coverage depth	Ratio of coverage depth
Unvaccinated	3592	117	6	109	101	0.93
	3627	6	6	310	251	0.81
	4581	53	6	349	930	2.66
	4595	6	6	309	250	0.81
	4631	6	6	370	318	0.86
	4726	190	6	264	692	2.62
	4735	2155	6	265	232	0.87
	4782	6	6	224	603	2.69
	5615	53	6	254	205	0.81
	5777	2423	6	108	89	0.82
	5806	6	6	345	259	0.75
	14062	6	6	249	640	2.57
	14593	6	6	224	598	2.67
	14602	6	6	263	695	2.64
	15255	6	6	272	722	2.65
	15256	95	6	221	568	2.57
	15263	6	6	171	138	0.81
	15284	6	6	386	322	0.83
	15294	6	6	333	269	0.81
	15309	6	6	134	111	0.83
	15316	6	6	213	556	2.61

	15322	6	6	224	179	0.80
	16776	6	6	193	502	2.60
	17984	6	6	193	494	2.56
	19706	6	6	248	655	2.64
	19780	6	6	191	492	2.58
	20109	95	6	112	91	0.82
	28733	6	6	263	714	2.71
	28729	6	6	156	129	0.83
	31391	6	6	184	486	2.64
PVF	3346	6	6	366	992	2.71
	3387	6	6	352	936	2.66
	3396	6	6	369	353	0.96
	3514	724	6	343	927	2.70
	3639	282	6	409	314	0.77
	4573	6	6	334	908	2.72
	4576	6	6	310	250	0.81
	4579	6	6	311	252	0.81
	4580	6	6	316	836	2.65
	4591	6	6	374	298	0.80
	4741	6	6	209	566	2.71
	4745	6	6	269	217	0.81
	4808	6	6	258	210	0.81
	5611	6	6	237	273	1.15
	5754	95	6	302	810	2.68
	5812	1345	6	219	587	2.68

	5817	6	6	294	235	0.80
	14049	6	6	413	331	0.80
	14056	6	6	372	314	0.84
	14063	6	6	302	801	2.65
	14070	6	6	275	733	2.67
	14596	6	6	276	748	2.71
	14598	6	6	194	527	2.72
	14599	6	6	452	363	0.80
	15248	6	6	232	290	1.25
	15265	6	6	194	164	0.85
	15271	190	6	132	99	0.75
	15279	6	6	180	145	0.80
	15299	6	6	135	112	0.83
	15300	6	6	232	192	0.83
	15304	6	6	281	219	0.78
	15313	190	6	391	315	0.81
	15320	6	6	217	271	1.25
	15324	2423	6	138	113	0.82
	15863	6	6	225	596	2.65
	15864	6	6	212	561	2.65
	15866	190	6	425	334	0.79
	15867	6	6	238	193	0.81
	15874	6	6	238	192	0.81
	15877	6	6	174	144	0.83
	15985	6	6	399	322	0.81

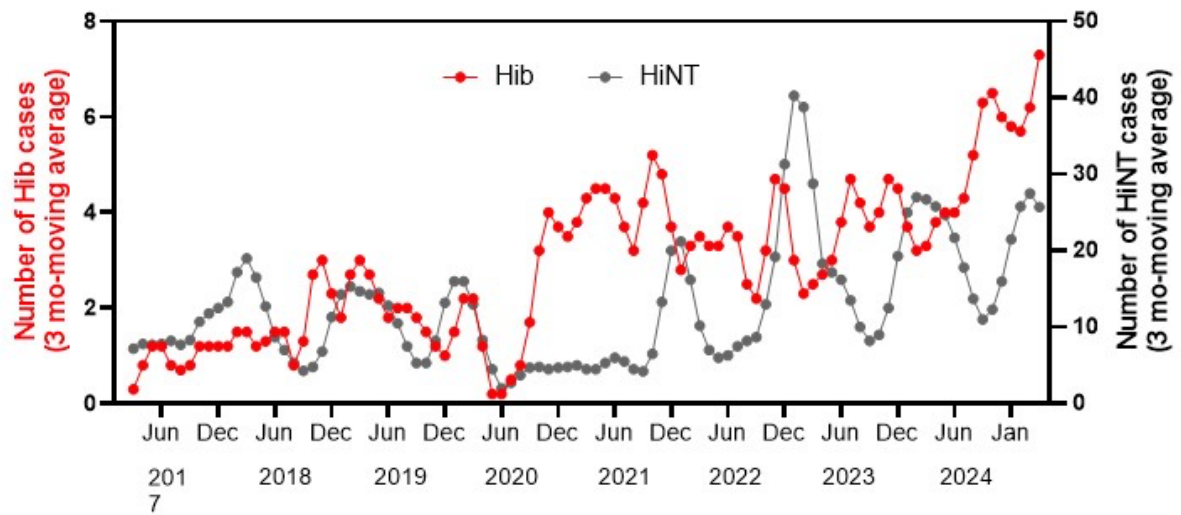
	16022	6	6	324	276	0.85
	16333	6	6	297	805	2.71
	17241	95	6	241	643	2.67
	17985	206	6	220	177	0.81
	18011	6	6	298	240	0.81
	19310	301	6	237	626	2.64
	19783	6	6	334	270	0.81
	19788	6	6	104	82	0.78
	20108	2570	6	335	876	2.61
	20163	95	6	378	308	0.81
	20175	6	6	295	238	0.81
	20179	6	6	341	275	0.81
	20420	6	6	406	336	0.83
	22096	190	6	465	369	0.79
	22416	190	6	565	452	0.80
	24362	6	6	264	714	2.70
	25026	95	6	298	781	2.62
	25068	95	6	373	304	0.82
	25403	6	6	345	280	0.81
	25410	95	6	179	474	2.65
	25412	95	6	382	319	0.84
	25478	282	6	279	745	2.67
	25487	190	6	148	390	2.64
	26648	6	6	277	730	2.64
	27256	6	6	283	233	0.82

	27263	190	6	215	567	2.64
	27748	6	6	196	530	2.70
	27777	6	6	358	289	0.81
	27803	6	6	236	286	1.21
	27812	6	6	369	305	0.83
	27825	6	6	262	692	2.64
	28298	6	6	401	323	0.81
	28732	190	6	172	453	2.64
	28736	95	6	249	203	0.81
	28767	6	6	352	952	2.71
	30797	190	6	274	221	0.80
	30820	6	6	437	361	0.83
	31392	206	6	193	155	0.80
	31412	6	6	176	145	0.83
	31447	6	6	198	159	0.81
	31506	6	6	352	287	0.81
	33702	6	6	209	172	0.83
	33703	6	6	141	372	2.64
	33701	6	6	109	295	2.70
	33828	6	6	241	636	2.64
	33840	6	6	337	263	0.78
TVF	3352	6	6	274	294	1.07
	3429	6	6	181	164	0.91
	3520	190	6	257	315	1.23
	3526	190	6	298	352	1.18

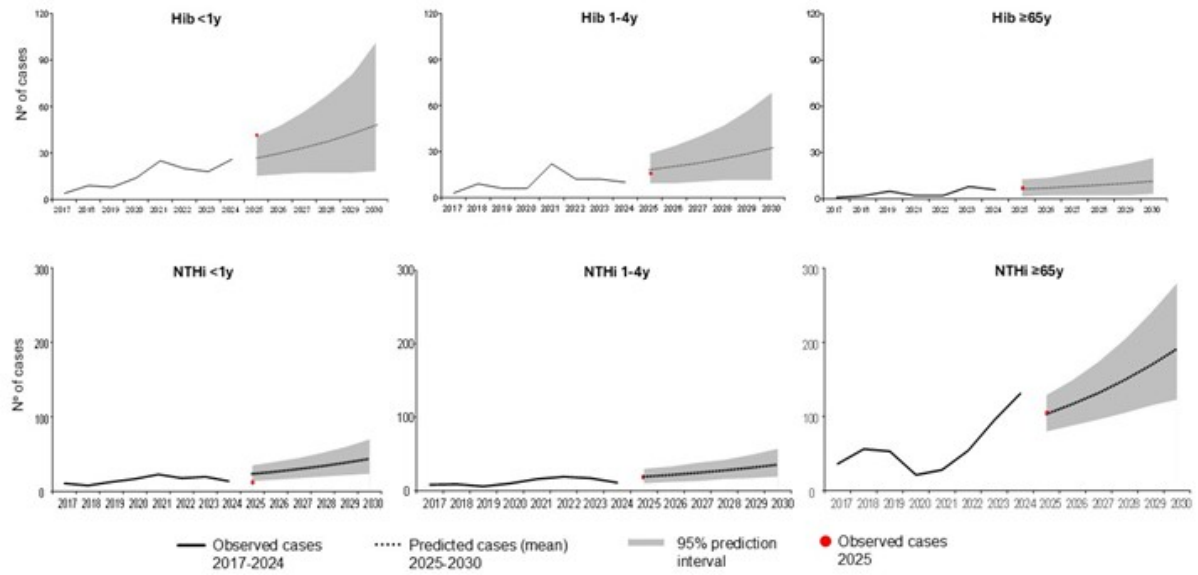
	3574	190	6	171	153	0.89
	3585	6	6	348	920	2.64
	4571	95	6	341	286	0.84
	4601	6	6	289	223	0.77
	4630	190	6	248	200	0.81
	4729	6	6	294	261	0.89
	4776	6	6	297	253	0.85
	5621	190	6	261	663	2.54
	14025	6	6	223	572	2.56
	14039	2408	6	232	590	2.54
	14592	6	6	506	397	0.78
	14597	6	6	275	732	2.66
	14096	6	6	439	356	0.81
	15246	95	6	376	309	0.82
	15251	190	6	201	162	0.81
	15254	6	6	215	182	0.85
	15257	6	6	256	693	2.71
	15268	6	6	100	82	0.82
	15276	6	6	211	545	2.58
	15293	6	6	170	141	0.83
	15297	6	6	204	553	2.71
	15298	190	6	192	155	0.81
	15869	6	6	392	316	0.81
	15871	190	6	219	177	0.81
	15878	6	6	325	880	2.71

	15891	6	6	392	308	0.79
	18336	6	6	169	457	2.71
	19341	190	6	276	222	0.80
	19347	2570	6	246	197	0.80
	19348	95	6	200	537	2.68
	19699	6	6	372	300	0.81
	20333	95	6	358	300	0.84
	22421	6	6	361	298	0.82
	24576	6	6	529	437	0.83
	25768	6	6	299	247	0.83
	27198	6	6	331	267	0.81
	27264	190	6	375	301	0.80
	27266	190	6	429	345	0.80
	27267	6	6	264	678	2.57
	27811	190	6	193	509	2.64
	30875	6	6	270	218	0.81
	31367	665	6	230	598	2.60
	31451	New	6	140	369	2.63
	31479	95	6	232	186	0.80
	31668	6	6	313	252	0.81
	31675	95	6	428	348	0.81
	31691	6	6	334	269	0.81
	31706	95	6	181	483	2.67
Unknown	3637	190	6	360	917	2.55
	4578	6	6	401	324	0.81

	15278	206	6	238	192	0.81
	15286	6	6	228	619	2.71
	15292	6	6	270	223	0.83
	16830	6	6	161	133	0.83
	17986	95	6	241	644	2.67
	18348	95	6	183	149	0.81
	18484	6	6	209	552	2.64
	19231	6	6	225	181	0.80
	19781	6	6	317	256	0.81
	20162	190	6	302	765	2.53
	20171	6	6	245	637	2.60
	20334	2783	6	294	756	2.57
	20346	6	6	353	291	0.83
	22209	282	6	565	459	0.81
	31008	190	6	138	111	0.80
	31013	6	6	415	334	0.80
	31450	6	6	349	288	0.83
	31666	6	6	244	640	2.62
	31696	6	6	325	262	0.81
	33704	New	6	239	288	1.21

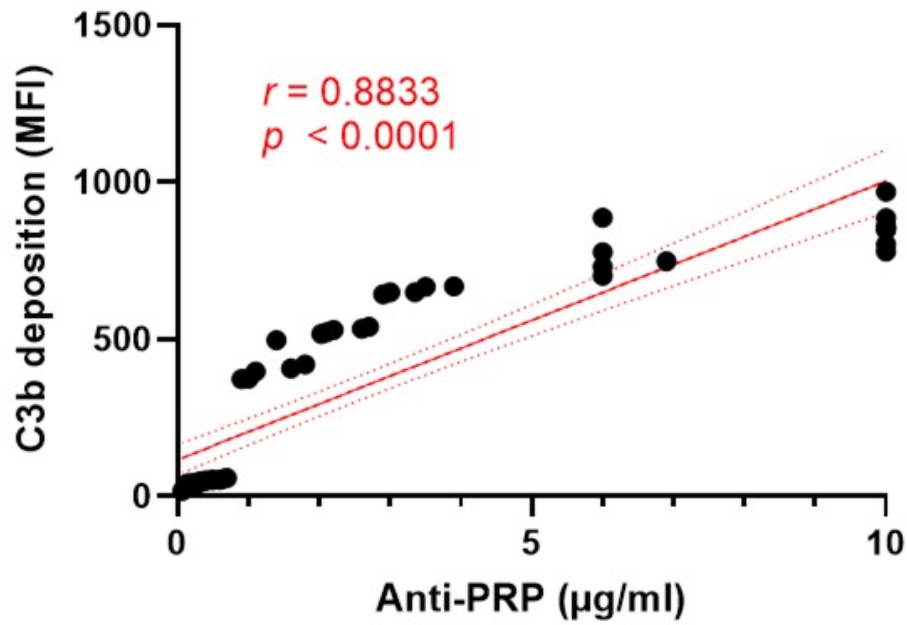


Supplemental Figure 1. Three-month centered moving average of invasive *H. influenzae* non-typeable (HiNT) and type b (Hib) cases, France 2017–2024. Data are expressed as the centred 3-month moving means of the number of confirmed cases. Serotype b (left axis) and NT-related cases (right axis) are indicated in red and blue curves, respectively.

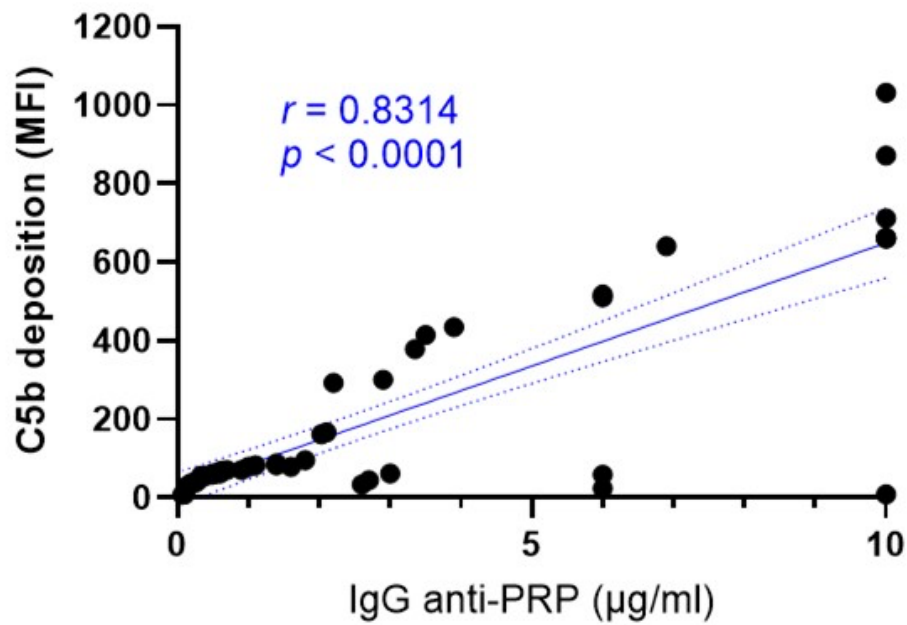


Supplemental Figure 2. Number of subjects with invasive *H. influenzae* (serotype b and nontypable) disease in each age group. The solid black lines indicate the observed cases during the period 2017-2024 per type (serotype b, Hib and nontypable NTHi) and per age group (<1year, 1-4years and ≥ 65 years). The dotted black lines correspond to the predicted numbers of cases for the period 2025-2030 and its 95% prediction interval (gray region). The red circle corresponds to the observed number of cases in 2025 for each group of age and each type of Hi isolate.

A.



B.



Supplemental Figure 3. Correlation between C3b (A) and C5b-C9 (B) binding to the bacterial surface with anti-PRP antibody concentration. Linear regression was used to determine relationships between conditions. Dashed lines indicate the 95%CI. The correlation coefficient r and P values are shown.