

Vaccination status	Age (years)	No. of doses	PubMLST ID	ST	Clonal complex	fHbp peptide	NHBA peptide	NadA peptide	PorA VR1	PorA VR2	BAST	MenDeVAR Bexsero® reactivity
Fully vaccinated	0	2	PCR	ND	ND	95	Inadequate DNA	Inadequate DNA	21-2	28	ND	Insufficient data
Unvaccinated	0	0	47256	12053	ST-41/44 complex	14	58	0	7-2	4	2137	Exact match
Unvaccinated	0	0	PCR	ND	ND	14	Inadequate DNA	Inadequate DNA	7-2	4	ND	Exact match
Unvaccinated	2	0	44642	485	ST-41/44 complex	4	2	0	12-1	16	232	Exact match
Unvaccinated	3	0	PCR	ND	ND	4	Inadequate DNA	Inadequate DNA	12-1	16	ND	Cross-reactive
Unvaccinated	0	0	42655	41	ST-41/44 complex	4	2	0	22	14	231	Exact match
Unvaccinated	1	0	PCR	ND	ND	4	Inadequate DNA	Inadequate DNA	7-2	4	ND	Exact match
Unvaccinated	0	0	PCR	ND	ND	4	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	Cross-reactive
Unvaccinated	1	0	PCR	ND	ND	14	Inadequate DNA	Inadequate DNA	7-2	4	ND	Exact match
Unvaccinated	3	0	PCR	ND	ND	15	Inadequate DNA	Inadequate DNA	19	13	ND	Cross-reactive
Unvaccinated	1	0	44643	485	ST-41/44 complex	4	2	0	12-1	16	232	Exact match
Unvaccinated	2	0	42650	42	ST-41/44 complex	14	573	0	7-2	4	695	Exact match
Unvaccinated	3	0	44689	1159	ND	14	9	0	22	9	1816	Cross-reactive
Unvaccinated	3	0	PCR	ND	ND	4	Inadequate DNA	Inadequate DNA	7-2	4	ND	Exact match
Unvaccinated	0	0	44681	162	ST-162 complex	309	20	0	22	14	326	Insufficient data
Unvaccinated	4	0	PCR	ND	ND	13	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	Insufficient data
Unvaccinated	4	0	PCR	ND	ND	702	20	0	22	14	1818	Insufficient data
Unvaccinated	1	0	PCR	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	ND due to inadequate DNA
Unvaccinated	1	0	PCR	ND	ND	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	ND due to inadequate DNA
Unvaccinated	1	0	PCR	ND	ND	555	Inadequate DNA	Inadequate DNA	5-1	10-4	ND	Insufficient data
Unvaccinated	2	0	PCR	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	ND due to inadequate DNA
Unvaccinated	0	0	44680	1157	ST-1157 complex	13	114	0	22	14-6	373	Insufficient data
Unvaccinated	1	0	PCR	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	ND due to inadequate DNA
Unvaccinated	0	0	PCR	ND	ND	Inadequate DNA	Inadequate DNA	Inadequate DNA	22	9	ND	ND due to inadequate DNA
Unvaccinated	2	0	PCR	ND	ND	16	Inadequate DNA	Inadequate DNA	22-1	14	ND	Insufficient data

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Partially vaccinated	0	1	PCR	ND	ND	4	Inadequate DNA	Inadequate DNA	7	30-7	ND	Cross-reactive
Fully vaccinated	1	2	PCR	ND	ND	1143	Inadequate DNA	Inadequate DNA	22	14	ND	Insufficient data
Fully vaccinated	0	2	52883	275	ST-269 complex	19	31	0	22	9	2378	None
Fully vaccinated	0	2	52876	1946	ST-461 complex	47	118	0	19-2	13-1	230	Insufficient data
Fully vaccinated	0	2	47257	32	ST-32 complex	29	3	100	7-11	16-44	2138	Insufficient data
Fully vaccinated	0	2	PCR	ND	ND	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	ND due to inadequate DNA
Fully vaccinated	1	2	60849	2380	ST-35 complex	95	29	0	21-2	28	290	Insufficient data
Unvaccinated	2	0	60832	8539	ST-41/44 complex	4	675	0	7-2	4	630	Exact match
Unvaccinated	2	0	PCR	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	ND due to inadequate DNA
Unvaccinated	1	0	52870	1161	ST-269 complex	13	17	0	22	9	219	Insufficient data
Unvaccinated	0	0	PCR	ND	ND	19	Inadequate DNA	Inadequate DNA	22	9	ND	ND due to inadequate DNA
Unvaccinated	3	0	89509	2380	ST-35 complex	95	29	0	21-2	28	290	Insufficient data
Unvaccinated	3	0	PCR	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	ND due to inadequate DNA
Unvaccinated	2	0	PCR	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	ND due to inadequate DNA
Unvaccinated	4	0	PCR	ND	ND	22	Inadequate DNA	Inadequate DNA	5	2	ND	Insufficient data
Unvaccinated	2	0	PCR	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	ND due to inadequate DNA
Partially vaccinated	0	1	47258	2009	ST-41/44 complex	24	10	0	7-1	1	622	Cross-reactive
Fully vaccinated	0	2	58437	1946	ST-461 complex	47	118	0	19-2	13-1	230	Insufficient data
Fully vaccinated	0	2	PCR	ND	ND	13	Inadequate DNA	Inadequate DNA	22	9	ND	Insufficient data
Fully vaccinated	0	2	58859	1416	ST-269 complex	13	21	0	5	2	2946	Insufficient data
Fully vaccinated	0	2	58183	6607	ST-213 complex	13	117	21	22	14	1812	Insufficient data
Unvaccinated	2	0	60879	485	ST-41/44 complex	4	2	0	12-1	16	232	Exact match
Unvaccinated	3	0	PCR	ND	ND	4	Inadequate DNA	Inadequate DNA	7-2	4	ND	Exact match
Unvaccinated	0	0	58123	340	ST-41/44 complex	14	2	0	7-2	4	223	Exact match
Unvaccinated	2	0	PCR	ND	ND	Inadequate DNA	Inadequate DNA	Inadequate DNA	22	14	ND	ND due to inadequate DNA

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Unvaccinated	3	0	PCR	ND	ND	260	Inadequate DNA	Inadequate DNA	18-37	25	ND	Insufficient data
Unvaccinated	0	0	58884	278	ST-35 complex	24	313	0	7-2	13-1	2064	Insufficient data
Unvaccinated	2	0	PCR	ND	ND	Inadequate DNA	Inadequate DNA	Inadequate DNA	19	15-1	ND	ND due to inadequate DNA
Unvaccinated	0	0	PCR	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	ND due to inadequate DNA
Unvaccinated	2	0	PCR	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	Inadequate DNA	ND	ND due to inadequate DNA
Unvaccinated	4	0	58828	749	ST-32 complex	1	120	1	19	15	10	Exact match
Partially vaccinated	4	2	58185	2380	ST-35 complex	95	29	0	21-2	28	290	Insufficient data
Partially vaccinated	1	2	PCR	ND	ND	13	Inadequate DNA	Inadequate DNA	22	9-5	ND	Insufficient data
Partially vaccinated	0	1	58182	485	ST-41/44 complex	605	21	0	19-1	15-11	2941	Insufficient data
Fully vaccinated	3	3	86487	32	ST-32 complex	174	3	0	7	16	3180	Insufficient data
Fully vaccinated	0	2	84670	213	ST-213 complex	499	115	122	18-1	25	3079	Insufficient data
Unvaccinated	2	0	85306	3050	ST-41/44 complex	4	2	0	7-2	4	220	Exact match
Unvaccinated	0	0	PCR	ND	ND	Inadequate DNA	Inadequate DNA	Inadequate DNA	7-2	13-1	ND	ND due to inadequate DNA
Partially vaccinated	0	1	85114	1161	ST-269 complex	160	17	0	22	9	3083	Insufficient data
Partially vaccinated	0	1	89120	485	ST-41/44 complex	4	2	0	12-1	16	232	Exact match
Partially vaccinated	0	1	83667	485	ST-41/44 complex	4	2	0	12-1	16	232	Exact match
Fully vaccinated	4	3	PCR	ND	ND	Inadequate DNA	Inadequate DNA	Inadequate DNA	ISC	Inadequate DNA	ND	ND due to inadequate DNA
Fully vaccinated	0	2	92597	9193	ST-213 complex	45	18	0	22	14	224	None
Partially vaccinated	0	2	70756	33	ST-32 complex	555	20	0	22	14	3443	Insufficient data
Partially vaccinated	0	1	72334	577	ST-41/44 complex	19	10	0	7-2	4	1121	Exact match
Partially vaccinated	0	1	PCR	ND	ND	16	Inadequate DNA	Inadequate DNA	7-72	4	ND	Exact match
Fully vaccinated	1	2	PCR	ND	ND	321	Inadequate DNA	Inadequate DNA	5-2	10-1	ND	Insufficient data
Fully vaccinated	1	2	97803	15683	ST-461 complex	47	118	0	19-2	13-1	230	Insufficient data
Unvaccinated	3	0	PCR	ND	ND	341	Inadequate DNA	Inadequate DNA	7-2	4	ND	Exact match
Partially vaccinated	0	1	105715	15843	ST-213 complex	45	18	0	5-1	10-1	4237	None

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Fully vaccinated	1	2	PCR	1414	ST-41/44 complex	19	Inadequate DNA	Inadequate DNA	18-1	1	ND	Insufficient data
Fully vaccinated	0	2	PCR	9193	ST-213 complex	45	Inadequate DNA	Inadequate DNA	22	14	ND	Insufficient data
Unvaccinated	0	0	110599	278	ST-35 complex	24	21	0	7-2	13-1	750	Insufficient data
Unvaccinated	0	0	PCR	ND	ST-269 complex	13	Inadequate DNA	Inadequate DNA	22	9	ND	Insufficient data
Partially vaccinated	3	2	PCR	1194	ST-41/44 complex	4	2		18-1	14	ND	Exact match
Partially vaccinated	0	1	115098	213	ST-213 complex	45	18	0	22	14	224	None
Partially vaccinated	0	1	108091	32	ST-32 complex	224	3	159	7	16-26	1881	Insufficient data

Supplementary Table 1: All 82 IMD cases from 1st September 2015 to 30th June 2022 reported in Scotland, UK. Molecular typing data for each isolate is provided for Multilocus Sequence Typing (MLST), Bexsero Antigen Sequence Typing (BAST) and Meningococcal deduced antigen reactivity (MenDeVAR) Index. ST = sequence type, fHbp = factor H binding protein, NHBA = Neisserial heparin binding antigen, NadA *Neisseria* adhesin A, PorA = Porin A