Supporting Information legends

Figure S1. Extrapolation of the core genome sizes using the double-exponential model. The data was extrapolated by fitting a double exponential decaying function to evaluate the absolute number of genes in study isolates. The overall core genome reached a minimum of 1427 genes (95% CI 1420 to 1435; $R^2 = 99.6$) when extrapolated to infinity.

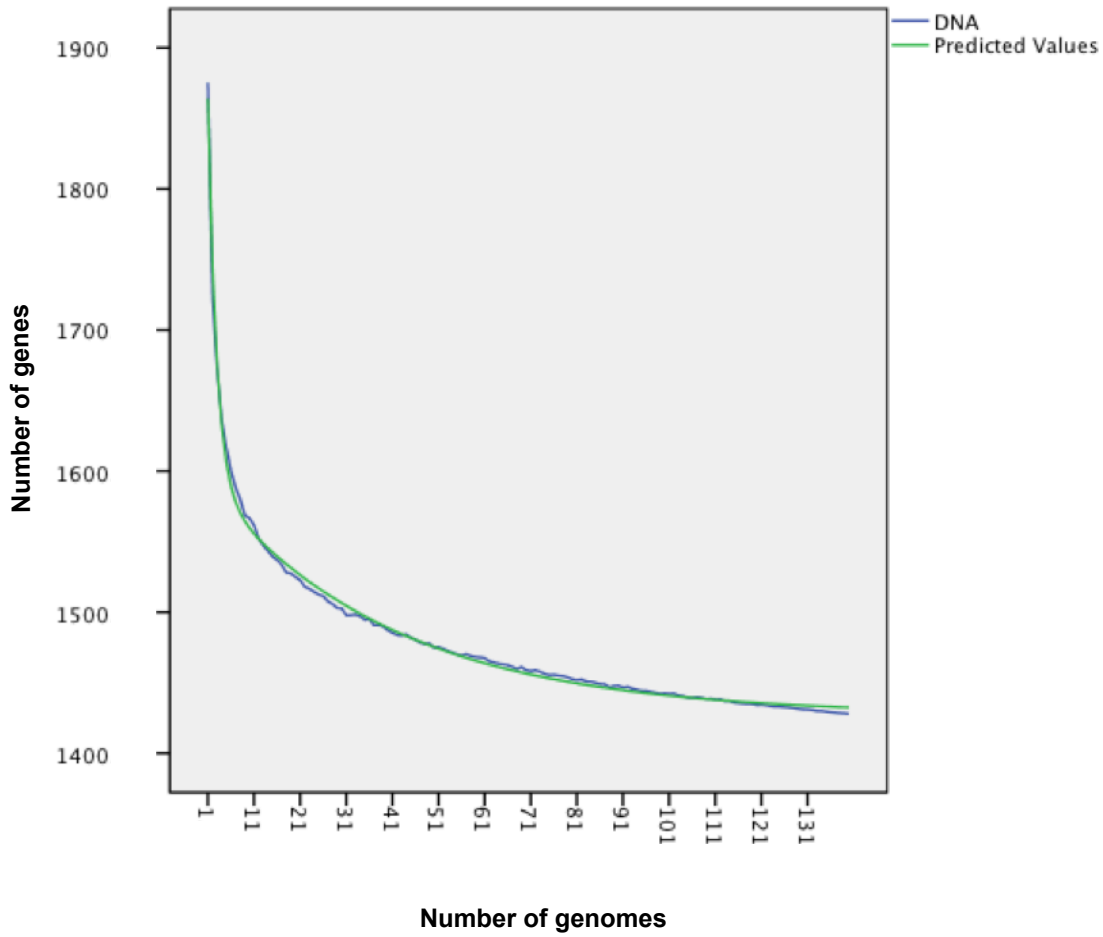
Table S1. Sequenced isolates used in this study. The sample accession and run accession are given in the first and second columns. The next five columns give the diagnostic lab sample ID followed by details of the patient age, the serotype of the isolate, and the source from which the isolate was obtained (CSF for meningitis and blood for bacteremia). The last column shows the MLST.

Table S2. The complete, fully annotated genomes used as references.

Table S3. Entire list of the common core genes to the meningitis and bacteremia dataset. Due to redundancy in naming orthologs several gene names and gene identities are provided. All orthologs that belong to the same cluster have the same gene cluster number

Table S4. Genome assembly statistics for the sequenced isolates used in this study.

Figure S1.



Estimate				
kc_1	tc_1	kc_2	tc_2	gamma
470.927	1.841	395.183	40.023	1427.464

Table S1.

Sample Accession	Run Accession	Sample ID	Individual	Serotype	Source	MLST
ERS005601	ERR023349	A32245	Adult	1	Blood	217
ERS005602	ERR023321	D31094	Child	1	Blood	217
ERS005613	ERR023331	D28368	Child	1	Blood	217
ERS005626	ERR045783	D28324	Child	1	Blood	217
ERS005627	ERR023345	D36913	Child	1	Blood	217
ERS005633	ERR045787	D38050	Child	1	Blood	217
ERS012093	ERR028422	A28816	Adult	1	Blood	217
ERS012120	ERR028438	A33973	Adult	1	Blood	217
ERS012121	ERR028439	A34030	Adult	1	Blood	217
ERS024510	ERR033122	D34485	Child	1	Blood	217
ERS050335	ERR068176	A31105	Adult	1	Blood	217
ERS050342	ERR068183	A31584	Adult	1	Blood	217
ERS050346	ERR068187	A32572	Adult	1	Blood	217
ERS050496	ERR086047	D35438	Child	1	Blood	217
ERS003569	ERR023977	B17099	Adult	1	CSF	217
ERS005597	ERR023358	C14599	Child	1	CSF	217
ERS005612	ERR023330	C15160	Child	1	CSF	217
ERS005614	ERR023322	C14269	Child	1	CSF	217
ERS005620	ERR023340	C13632	Child	1	CSF	217
ERS005638	ERR023337	B16942	Adult	1	CSF	217
ERS006734	ERR018021	C14099	Child	1	CSF	217
ERS006743	ERR018042	C16000	Child	1	CSF	217
ERS006745	ERR018044	C13215	Child	1	CSF	217
ERS006746	ERR018034	C13181	Child	1	CSF	217
ERS006820	ERR023389	C14249	Child	1	CSF	217
ERS012073	ERR028411	B14935	Adult	1	CSF	217
ERS012088	ERR028427	B17333	Adult	1	CSF	217
ERS026047	ERR033141	C12907	Child	1	CSF	217
ERS050414	ERR085965	B17224	Adult	1	CSF	217

ERS050415	ERR085966	B17789	Adult	1	CSF	217
ERS050416	ERR085967	B17998	Adult	1	CSF	217
ERS050417	ERR085968	B18042	Adult	1	CSF	217
ERS050453	ERR086004	C12797	Child	1	CSF	217
ERS003550	ERR023964	A33056	Adult	1	Blood	303
ERS006824	ERR023393	C11020	Child	1	CSF	303
ERS005629	ERR045786	D28572	Child	1	Blood	8158
ERS005590	ERR023352	A31470	Adult	1	Blood	Novel
ERS005618	ERR023338	D33216	Child	1	Blood	Novel
ERS012122	ERR028440	A34045	Adult	1	Blood	Novel
ERS050334	ERR068175	A30992	Adult	1	Blood	Novel
ERS050494	ERR086045	D27102	Child	1	Blood	Novel
ERS003575	ERR023983	B15567	Adult	1	CSF	Novel
ERS005594	ERR023348	C11680	Child	1	CSF	Novel
ERS005598	ERR023357	B13691	Adult	1	CSF	Novel
ERS005603	ERR023326	C12458	Child	1	CSF	Novel
ERS005611	ERR023329	B10261	Adult	1	CSF	Novel
ERS005615	ERR023323	B10454	Adult	1	CSF	Novel
ERS005624	ERR023343	C14737	Child	1	CSF	Novel
ERS008357	ERR024531	C15514	Child	1	CSF	Novel
ERS006727	ERR018025	D31621	Child	10B	Blood	705
ERS012094	ERR026611	A29037	Adult	10B	Blood	7055
ERS008345	ERR024523	B14457	Adult	10B	CSF	7055
ERS012087	ERR028426	B16827	Adult	10B	CSF	7055
ERS026044	ERR033144	C11367	Child	10B	CSF	7055
ERS050418	ERR085969	B18107	Adult	10B	CSF	7055
ERS012097	ERR026616	A29943	Adult	12B	Blood	989
ERS012099	ERR026618	A31131	Adult	12B	Blood	989
ERS003564	Novel	B15071	Adult	12B	CSF	989
ERS012076	ERR028414	B15249	Adult	12B	CSF	989
ERS026056	ERR033118	C15284	Child	12B	CSF	989
ERS003548	ERR023966	B13048	Adult	12B	CSF	Novel
ERS006804	ERR018108	B16221	Adult	12B	CSF	Novel
ERS050457	ERR086008	C14971	Child	12B	CSF	Novel
ERS050338	ERR068179	A31198	Adult	12F	Blood	989

ERS006802	ERR018106	B17731	Adult	12F	CSF	989
ERS012086	ERR028425	B16392	Adult	13	CSF	2053
ERS050456	ERR086007	C14277	Child	13	CSF	2053
ERS005609	ERR023327	D28370	Child	13	Blood	5647
ERS026043	ERR033145	D32344	Child	13	Blood	Novel
ERS006736	ERR018037	D25696	Child	14	Blood	63
ERS012092	ERR028421	A28640	Adult	14	Blood	63
ERS050495	ERR086046	D27950	Child	15A	Blood	Novel
ERS012102	ERR026621	B10622	Adult	15C	CSF	Novel
ERS012142	ERR028461	D30716	Child	16F	Blood	705
ERS026050	ERR033138	D37909	Child	16F	Blood	705
ERS006818	ERR023387	D28531	Child	18A	Blood	Novel
ERS012113	ERR026633	D28166	Child	18B	Blood	102
ERS024520	ERR033126	C10281	Child	18B	CSF	102
ERS026048	ERR033140	C13260	Child	18B	CSF	Novel
ERS008361	ERR024535	D33733	Child	18F	Blood	Novel
ERS050452	ERR086003	C12675	Child	18F	CSF	Novel
ERS050341	ERR068182	A31361	Adult	19A	Blood	2062
ERS050340	ERR068181	A31349	Adult	19A	Blood	Novel
ERS026040	ERR033137	D32289	Child	19F	Blood	Novel
ERS006738	ERR018036	D26316	Child	23F	Blood	802
ERS012116	ERR028432	A33308	Adult	23F	Blood	802
ERS012141	ERR028460	D30625	Child	23F	Blood	802
ERS012075	ERR028413	B15188	Adult	23F	CSF	802
ERS026058	ERR033116	C15291	Child	23F	CSF	802
ERS050420	ERR085971	B18340	Adult	23F	CSF	802
ERS008320	ERR024496	A32273	Adult	23F	Blood	Novel
ERS050343	ERR068184	A31918	Adult	23F	Blood	Novel
ERS008335	ERR024512	B10366	Adult	23F	CSF	Novel
ERS050345	ERR068186	A32497	Adult	24F	Blood	5077
ERS050454	ERR086005	C12879	Child	24F	CSF	5077
ERS050333	ERR068174	A29265	Adult	24F	Blood	Novel
ERS006733	ERR018031	D38094	Child	25F	Blood	2902
ERS012112	ERR026632	D24847	Child	25F	Blood	2987
ERS006732	ERR018030	C14376	Child	25F/A	CSF	Novel

ERS026041	ERR033136	D36881	Child	3	Blood	700
ERS050433	ERR085984	B20605	Adult	3	CSF	700
ERS008359	ERR024533	D31827	Child	34	Blood	Novel
ERS050339	ERR068180	A31265	Adult	35B	Blood	5396
ERS012071	ERR028398	B14721	Adult	35B	CSF	5396
ERS012119	ERR028437	A33922	Adult	4	Blood	2213
ERS050344	ERR068185	A32279	Adult	4	Blood	2213
ERS006737	ERR018035	C14560	Child	4	CSF	5483
ERS003574	ERR023982	B15467	Adult	45	CSF	Novel
ERS050419	ERR085970	B18210	Adult	45	CSF	Novel
ERS012095	ERR026614	A29101	Adult	5	Blood	289
ERS050641	ERR085862	D48490	Child	5	Blood	289
ERS003576	ERR023984	B16728	Adult	5	CSF	289
ERS006744	ERR018043	C15085	Child	5	CSF	289
ERS050646	ERR085867	D55377	Child	5	Blood	Novel
ERS008360	ERR024534	D33293	Child	6A	Blood	2987
ERS008351	ERR024529	C11950	Child	6A	CSF	2987
ERS008352	ERR024519	C12495	Child	6A	CSF	2987
ERS012078	ERR028416	C14215	Child	6A	CSF	2987
ERS008347	ERR024525	B16242	Adult	6A	CSF	5412
ERS012145	ERR028464	D36051	Child	6A	Blood	Novel
ERS026049	ERR033139	D36355	Child	6B	Blood	2285
ERS003549	ERR023967	A33096	Adult	6B	Blood	Novel
ERS012143	ERR028462	D33275	Child	6B	Blood	Novel
ERS050336	ERR068177	A31122	Adult	6B	Blood	Novel
ERS050451	ERR086002	C12480	Child	6B	CSF	Novel
ERS012083	ERR028420	B15901	Adult	6C	CSF	2902
ERS050441	ERR085992	B21980	Adult	6D	CSF	2902
ERS012079	ERR028417	D38023	Child	6D	Blood	Novel
ERS050428	ERR085979	B19805	Adult	7F	CSF	Novel
ERS050347	ERR068188	A32849	Adult	7f	Blood	Novel
ERS012124	ERR028442	A34562	Adult	9A	Blood	1871
ERS024518	ERR033128	C10300	Child	9A	CSF	1871
ERS012123	ERR028441	A34292	Adult	9A	Blood	5778
ERS012096	ERR026615	A29167	Adult	9A	Blood	5902

ERS012098	ERR026617	A30277	Adult	9A	Blood	5902
ERS012100	ERR026619	B10027	Adult	9A	CSF	5902
ERS012117	ERR028435	A33813	Adult	9A	Blood	Novel
ERS024513	ERR033133	D30974	Child	9A	Blood	Novel
ERS050409	ERR085960	B10199	Adult	9L	CSF	Novel
ERS050455	ERR086006	C14257	Child	9L	CSF	Novel

Table S2.

Genome no.	GenBank accession number	Other name	Serotype	Sequencing centre	Year	Reference
1	AE005672	TIGR4	4	TIGR	2001	Tettelin H et al. Science 293 (5529):498-506 (2001)
2	AE007317	R6	NT	Eli Lilly and Company	2001	Hoskins J et al. J Bacteriol 183(19), 5709-5717, 2001
3	CP000410	D39	2	TIGR	2004	Lanie J.A et al. J Bacteriol 189(1), 38-51, 2007
4	CP000936	Hungary 19A-6	19A	J. Craig Venter Institute	2008	Hotopp,J.D. et al. Direct submission. J. Craig Venter Institute
5	CP001015	G54	19F	Institute for Genome Sciences	2008	Dopazo J et al. Microb Drug Resist 7(2), 99-125, 2001
6	CP001033	CGSP14	14	Beijing institute of Genomics	2008	Ding F et al. BMC Genomics 10, 158, 2009
7	CP000918	70585	5	J. Craig Venter Institute	2009	Hotopp,J.D. et al. Direct submission. J. Craig Venter Institute
8	CP000919	JJA	14	J. Craig Venter Institute	2009	Hotopp,J.D. et al. Direct submission. J. Craig Venter Institute
9	CP000920	P1031	1	J. Craig Venter Institute	2009	Hotopp,J.D. et al. Direct submission. J. Craig Venter Institute
10	CP000921	Taiwan 19F-14	19F	J. Craig Venter Institute	2009	Hotopp,J.D. et al. Direct submission. J. Craig Venter Institute
11	FM211187	ATCC700 669	23F	Wellcome Trust Sanger Institute	2009	Croucher N.J. et al. J Bacteriol 191(5), 1480-1489, 2009
12	CP001993	670	6B	Baylor College of Medicine	2010	Muzny,D.M. et al. Direct submission. Baylor College of Medicine