

Online Table S1.

Observation years, cancers observed and calculated Annual Incidence Rate (AIR) in 5-years age cohorts s

Pathogenic ICD9 variant of	Gender	25yrs	25ca	AIR25	30yrs	30ca	AIR30	35yrs	35ca
Any cancer <i>MLH1</i>		835	3	0.0036	1158	20	0.0173	1288	20
Any cancer <i>MSH2</i>		441	2	0.0045	629	8	0.0127	672	9
Any cancer <i>MSH6</i>		67	0	0	137	0	0	215	0
Any cancer <i>PMS2</i>		7	0	0	16	0	0	42	0
151 <i>MLH1</i>		889	0	0	1328	0	0	1634	1
151 <i>MSH2</i>		464	0	0	693	0	0	851	0
151 <i>MSH6</i>		71	0	0	148	0	0	246	0
151 <i>PMS2</i>		8	0	0	16	0	0	46	0
152 <i>MLH1</i>		889	0	0	1325	1	0.0008	1630	0
152 <i>MSH2</i>		464	0	0	693	0	0	851	0
152 <i>MSH6</i>		71	0	0	148	0	0	246	0
152 <i>PMS2</i>		8	0	0	16	0	0	46	0
153 <i>MLH1</i>		855	3	0.0035	1199	18	0.015	1328	12
153 <i>MSH2</i>		449	1	0.0022	653	5	0.0077	743	6
153 <i>MSH6</i>		71	0	0	147	0	0	232	0
153 <i>PMS2</i>		7	0	0	16	0	0	44	0
154 <i>MLH1</i>		875	0	0	1301	1	0.0008	1599	4
154 <i>MSH2</i>		457	0	0	677	0	0	823	1
154 <i>MSH6</i>		68	0	0	142	0	0	235	0
154 <i>PMS2</i>		8	0	0	16	0	0	44	0
156 <i>MLH1</i>		889	0	0	1328	0	0	1635	0
156 <i>MSH2</i>		464	0	0	693	0	0	851	0
156 <i>MSH6</i>		71	0	0	148	0	0	246	0
156 <i>PMS2</i>		8	0	0	16	0	0	46	0
157 <i>MLH1</i>		889	0	0	1325	0	0	1633	1
157 <i>MSH2</i>		464	0	0	693	0	0	851	0
157 <i>MSH6</i>		71	0	0	148	0	0	246	0
157 <i>PMS2</i>		8	0	0	16	0	0	46	0
174 <i>MLH1</i>	Female	443	0	0	653	0	0	841	0
174 <i>MSH2</i>	Female	248	0	0	334	1	0.003	446	1
174 <i>MSH6</i>	Female	46	0	0	76	0	0	121	0
174 <i>PMS2</i>	Female	4	0	0	10	0	0	32	0
182 <i>MLH1</i>	Female	442	0	0	651	0	0	792	5
182 <i>MSH2</i>	Female	248	0	0	332	1	0.003	424	0
182 <i>MSH6</i>	Female	45	0	0	76	0	0	119	0
182 <i>PMS2</i>	Female	4	0	0	10	0	0	31	0

183	<i>MLH1</i>	Female	442	0	0	651	1 0.0015	786	3	
183	<i>MSH2</i>	Female	248	0	0	329	1 0.003	430	2	
183	<i>MSH6</i>	Female	45	0	0	76	0	0	117	1
183	<i>PMS2</i>	Female	4	0	0	10	0	0	31	0
185	<i>MLH1</i>	Male	446	0	0	675	0	0	794	0
185	<i>MSH2</i>	Male	216	0	0	357	0	0	396	0
185	<i>MSH6</i>	Male	25	0	0	72	0	0	125	0
185	<i>PMS2</i>	Male	4	0	0	6	0	0	14	0
188	<i>MLH1</i>		889	0	0	1328	0	0	1635	0
188	<i>MSH2</i>		464	0	0	693	0	0	848	0
188	<i>MSH6</i>		71	0	0	148	0	0	246	0
188	<i>PMS2</i>		8	0	0	16	0	0	46	0
189	<i>MLH1</i>		889	0	0	1328	0	0	1634	1
189	<i>MSH2</i>		464	0	0	693	0	0	851	0
189	<i>MSH6</i>		71	0	0	148	0	0	246	0
189	<i>PMS2</i>		8	0	0	16	0	0	46	0
191	<i>MLH1</i>		889	0	0	1328	0	0	1634	1
191	<i>MSH2</i>		464	0	0	693	0	0	851	0
191	<i>MSH6</i>		71	0	0	148	0	0	246	0
191	<i>PMS2</i>		8	0	0	16	0	0	46	0
153	<i>MLH1</i>	Female	428	0	0	594	8 0.0135	711	6	
153	<i>MLH1</i>	Male	427	3 0.007		605	10 0.0165	617	6	
153	<i>MSH2</i>	Female	244	1 0.0041		324	4 0.0123	416	2	
153	<i>MSH2</i>	Male	205	0	0	329	1 0.003	327	4	
153	<i>MSH6</i>	Female	46	0	0	76	0	0	119	0
153	<i>MSH6</i>	Male	25	0	0	71	0	0	113	0
154	<i>MLH1</i>	Female	433	0	0	634	1 0.0016	820	1	
154	<i>MLH1</i>	Male	442	0	0	667	0	0	779	3
154	<i>MSH2</i>	Female	246	0	0	330	0	0	434	0
154	<i>MSH2</i>	Male	211	0	0	347	0	0	389	1
154	<i>MSH6</i>	Female	46	0	0	71	0	0	112	0
154	<i>MSH6</i>	Male	22	0	0	71	0	0	123	0
151, 152, 156 or 157	<i>MLH1</i>		889	0	0	1322	1 0.0008	1627	2	
151, 152, 156 or 157	<i>MSH2</i>		464	0	0	693	0	0	851	0
151, 152, 156 or 157	<i>MSH6</i>		71	0	0	148	0	0	246	0
151, 152, 156 or 157	<i>PMS2</i>		8	0	0	16	0	0	46	0
188 or 189	<i>MLH1</i>		889	0	0	1328	0	0	1634	1
188 or 189	<i>MSH2</i>		464	0	0	693	0	0	848	0
188 or 189	<i>MSH6</i>		71	0	0	148	0	0	246	0
188 or 189	<i>PMS2</i>		8	0	0	16	0	0	46	0

182 or 183 <i>MLH1</i>	Female	443	0	0	656	1	0.0015	792	8
182 or 183 <i>MSH2</i>	Female	248	0	0	331	2	0.006	430	2
182 or 183 <i>MSH6</i>	Female	45	0	0	76	0	0	117	1
182 or 183 <i>PMS2</i>	Female	4	0	0	10	0	0	31	0

stratified on pathogenic gene variants and gender when appropriate. 25yrs= age 25-29 years; 25Ca=Cancer at a

AIR35	40yrs	40ca	AIR40	45yrs	45ca	AIR45	50yrs	50ca	AIR50	55yrs	55ca	AIR55	60yrs	60ca
0.0155	1387	43	0.031	1058	36	0.034	788	30	0.0381	492	17	0.0346	277	9
0.0134	647	17	0.0263	514	18	0.035	367	16	0.0436	300	10	0.0333	166	5
0	259	4	0.0154	248	6	0.0242	233	6	0.0258	155	5	0.0323	98	4
0	26	0	0	30	0	0	47	1	0.0213	54	1	0.0185	47	0
0.0006	1959	2	0.001	1913	0	0	1732	3	0.0017	1364	2	0.0015	1056	3
0	1038	0	0	1022	1	0.001	962	1	0.001	850	1	0.0012	654	2
0	320	0	0	337	0	0	348	1	0.0029	346	0	0	316	0
0	37	0	0	40	0	0	75	0	0	99	0	0	98	0
0	1958	3	0.0015	1909	0	0	1727	1	0.0006	1372	2	0.0015	1062	0
0	1035	1	0.001	1012	1	0.001	952	2	0.0021	848	0	0	642	0
0	320	0	0	337	0	0	348	0	0	350	0	0	318	0
0	37	0	0	40	0	0	73	0	0	99	0	0	98	0
0.009	1486	21	0.0141	1279	22	0.0172	1055	20	0.019	747	8	0.0107	519	6
0.0081	790	10	0.0127	705	10	0.0142	626	5	0.008	558	6	0.0108	379	7
0	282	1	0.0035	295	0	0	290	0	0	271	2	0.0074	224	1
0	31	0	0	33	0	0	60	0	0	65	0	0	72	0
0.0025	1906	4	0.0021	1836	2	0.0011	1623	3	0.0018	1294	6	0.0046	971	2
0.0012	977	4	0.0041	936	4	0.0043	864	4	0.0046	781	5	0.0064	591	2
0	309	0	0	317	0	0	333	1	0.003	327	1	0.0031	299	1
0	35	0	0	40	0	0	68	0	0	98	0	0	96	0
0	1965	1	0.0005	1925	0	0	1738	1	0.0006	1380	2	0.0014	1069	4
0	1038	0	0	1019	0	0	966	0	0	860	0	0	658	0
0	320	0	0	337	0	0	348	0	0	350	0	0	318	0
0	37	0	0	40	0	0	75	0	0	99	0	0	98	0
0.0006	1965	1	0.0005	1916	2	0.001	1735	1	0.0006	1380	1	0.0007	1077	2
0	1038	0	0	1023	0	0	968	1	0.001	859	0	0	658	0
0	320	0	0	337	0	0	348	0	0	350	1	0.0029	318	0
0	37	0	0	40	0	0	75	0	0	99	0	0	98	0
0	1016	4	0.0039	997	2	0.002	921	4	0.0043	715	5	0.007	582	2
0.0022	559	1	0.0018	535	2	0.0037	525	1	0.0019	505	0	0	375	3
0	185	0	0	224	0	0	216	1	0.0046	205	1	0.0049	183	2
0	22	0	0	25	0	0	53	0	0	56	1	0.0179	51	0
0.0063	829	15	0.0181	719	12	0.0167	547	19	0.0347	344	3	0.0087	268	2
0	453	6	0.0132	333	6	0.018	241	14	0.0581	188	2	0.0106	107	2
0	178	2	0.0112	182	4	0.022	144	2	0.0139	92	3	0.0326	71	3
0	21	0	0	22	0	0	46	1	0.0217	52	2	0.0385	38	0

0.0038	853	2	0.0023	786	5	0.0064	627	1	0.0016	420	1	0.0024	318	1
0.0047	462	3	0.0065	356	3	0.0084	286	1	0.0035	235	0	0	147	0
0.0085	174	0	0	193	0	0	160	0	0	111	0	0	77	0
0	21	0	0	22	0	0	49	0	0	59	0	0	50	0
0	941	0	0	897	1	0.0011	784	0	0	619	6	0.0097	428	3
0	468	0	0	480	0	0	420	1	0.0024	326	2	0.0061	250	2
0	130	0	0	107	0	0	123	0	0	127	0	0	111	1
0	15	0	0	11	1	0.0909	17	0	0	35	0	0	36	0
0	1963	0	0	1919	2	0.001	1726	1	0.0006	1376	3	0.0022	1061	2
0	1034	0	0	1015	2	0.002	957	4	0.0042	823	1	0.0012	617	2
0	320	0	0	335	2	0.006	348	0	0	348	1	0.0029	316	0
0	37	0	0	40	0	0	75	0	0	95	0	0	93	0
0.0006	1965	0	0	1911	2	0.001	1723	1	0.0006	1379	0	0	1070	3
0	1034	2	0.0019	1007	3	0.003	936	2	0.0021	838	6	0.0072	602	6
0	320	0	0	337	0	0	348	0	0	350	1	0.0029	315	1
0	37	0	0	40	0	0	75	0	0	99	0	0	98	0
0.0006	1962	0	0	1912	0	0	1726	0	0	1377	0	0	1074	0
0	1038	0	0	1024	0	0	968	1	0.001	854	1	0.0012	652	1
0	320	0	0	337	0	0	348	0	0	348	1	0.0029	318	0
0	37	0	0	40	0	0	75	0	0	99	0	0	98	0
0.0084	797	8	0.01	743	7	0.0094	657	9	0.0137	480	5	0.0104	351	6
0.0097	689	13	0.0189	536	15	0.028	398	11	0.0276	267	3	0.0112	168	0
0.0048	457	7	0.0153	402	7	0.0174	391	3	0.0077	375	5	0.0133	255	5
0.0122	333	3	0.009	303	3	0.0099	235	2	0.0085	183	1	0.0055	124	2
0	167	1	0.006	203	0	0	194	0	0	176	1	0.0057	145	0
0	115	0	0	92	0	0	96	0	0	95	1	0.0105	79	1
0.0012	989	3	0.003	984	0	0	902	1	0.0011	705	4	0.0057	559	1
0.0039	917	1	0.0011	852	2	0.0023	721	2	0.0028	589	2	0.0034	412	1
0	535	0	0	498	1	0.002	492	3	0.0061	503	0	0	384	2
0.0026	442	4	0.009	438	3	0.0068	372	1	0.0027	278	5	0.018	207	0
0	179	0	0	215	0	0	220	1	0.0045	210	1	0.0048	197	1
0	130	0	0	102	0	0	113	0	0	117	0	0	102	0
0.0012	1956	7	0.0036	1908	2	0.001	1732	6	0.0035	1355	6	0.0044	1029	9
0	1035	1	0.001	1005	2	0.002	944	4	0.0042	837	1	0.0012	638	2
0	320	0	0	337	0	0	348	1	0.0029	346	1	0.0029	316	0
0	37	0	0	40	0	0	73	0	0	99	0	0	98	0
0.0006	1963	0	0	1912	4	0.0021	1719	2	0.0012	1378	3	0.0022	1056	5
0	1036	2	0.0019	1009	5	0.005	941	6	0.0064	829	6	0.0072	593	8
0	320	0	0	335	2	0.006	348	0	0	348	2	0.0057	313	1
0	37	0	0	40	0	0	75	0	0	95	0	0	93	0

0.0101	832	17	0.0204	715	17	0.0238	531	20	0.0377	332	4	0.012	255	3
0.0047	450	9	0.02	332	9	0.0271	235	15	0.0638	183	2	0.0109	107	2
0.0085	173	2	0.0116	181	4	0.0221	144	2	0.0139	92	3	0.0326	71	3
0	21	0	0	22	0	0	46	1	0.0217	52	2	0.0385	38	0

age 25-29 years; AIR25= Ca25/25yrs; etc.

AIR60	65yrs	65ca	AIR65	70yrs	70ca	AIR70	75yrs	75ca	AIR75
0.0325	143	6	0.042	78		3	0.0385	32	0
0.0301	83	4	0.0482	34		3	0.0882	5	1
0.0408	78	1	0.0128	24		1	0.0417	11	1
0	31	0	0	8		1	0.125	4	0
0.0028	739	4	0.0054	477		1	0.0021	254	0
0.0031	457	1	0.0022	210		2	0.0095	73	0
0	218	0	0	101		1	0.0099	73	0
0	54	0	0	23		0	0	20	0
0	751	3	0.004	476		3	0.0063	245	0
0	457	0	0	225		0	0	82	0
0	223	0	0	102		0	0	73	0
0	50	0	0	23		0	0	20	0
0.0116	298	2	0.0067	176		4	0.0227	96	2
0.0185	248	5	0.0202	110		1	0.0091	45	1
0.0045	132	2	0.0152	69		0	0	54	1
0	46	0	0	14		0	0	4	0
0.0021	695	3	0.0043	418		3	0.0072	213	1
0.0034	404	2	0.005	214		3	0.014	73	1
0.0033	212	0	0	99		0	0	68	0
0	54	0	0	23		0	0	20	0
0.0037	750	1	0.0013	486		0	0	245	3
0	469	0	0	230		1	0.0043	82	0
0	223	0	0	102		0	0	73	0
0	54	0	0	23		0	0	20	0
0.0019	758	2	0.0026	488		3	0.0061	254	1
0	467	0	0	229		0	0	82	1
0	223	0	0	102		0	0	73	0
0	54	0	0	23		0	0	20	0
0.0034	422	2	0.0047	257		0	0	159	1
0.008	269	1	0.0037	147		0	0	63	0
0.0109	125	1	0.008	67		0	0	50	0
0	28	0	0	6		1	0.1667	1	0
0.0075	196	2	0.0102	99		1	0.0101	71	0
0.0187	78	2	0.0256	46		1	0.0217	26	0
0.0423	46	0	0	11		0	0	11	0
0	14	0	0	6		0	0	0	0

0.0031	215	0	0	117	0	0	79	0	0	
	0	93	1 0.0108	48	0	0	29	0	0	
	0	52	1 0.0192	11	0	0	11	0	0	
	0	20	0	0	6	0	0	0	0	
0.007	285	3	0.0105	188	2	0.0106	79	1	0.0127	
0.008	170	2	0.0118	52	3	0.0577	4	0	0	
0.009	87	0	0	26	1	0.0385	15	0	0	
	0	24	0	0	15	0	0	19	0	0
0.0019	751	2	0.0027	484	0	0	243	1	0.0041	
0.0032	440	1	0.0023	205	1	0.0049	71	0	0	
	0	218	0	0	98	1	0.0102	73	0	0
	0	50	0	0	23	0	0	20	0	0
0.0028	736	2	0.0027	478	1	0.0021	238	2	0.0084	
0.01	377	4	0.0106	185	1	0.0054	66	2	0.0303	
0.0032	222	0	0	101	0	0	66	0	0	
	0	54	0	0	23	0	0	20	0	0
	0	757	1	0.0013	491	0	0	254	0	0
0.0015	463	0	0	228	2	0.0088	78	0	0	
	0	219	0	0	97	0	0	73	0	0
	0	54	0	0	23	0	0	20	0	0
0.0171	195	2	0.0103	101	2	0.0198	69	1	0.0145	
	0	103	0	0	75	2	0.0267	27	1	0.037
0.0196	175	4	0.0229	85	0	0	44	1	0.0227	
0.0161	73	1	0.0137	25	1	0.04	1	0	0	
	0	80	2	0.025	50	0	0	44	1	0.0227
0.0127	52	0	0	19	0	0	10	0	0	
0.0018	420	3	0.0071	240	1	0.0042	143	1	0.007	
0.0024	275	0	0	178	2	0.0112	70	0	0	
0.0052	260	1	0.0038	156	2	0.0128	61	1	0.0164	
	0	144	1	0.0069	58	1	0.0172	12	0	0
0.0051	131	0	0	69	0	0	52	0	0	
	0	81	0	0	30	0	0	16	0	0
0.0087	714	10	0.014	454	6	0.0132	236	4	0.0169	
0.0031	449	1	0.0022	209	2	0.0096	73	1	0.0137	
	0	218	0	0	101	1	0.0099	73	0	0
	0	50	0	0	23	0	0	20	0	0
0.0047	729	3	0.0041	471	1	0.0021	227	3	0.0132	
0.0135	369	5	0.0136	170	2	0.0118	61	2	0.0328	
0.0032	217	0	0	97	1	0.0103	66	0	0	
	0	50	0	0	23	0	0	20	0	0



0.0118	188	2	0.0106	98	1	0.0102	71	0	0
0.0187	77	3	0.039	41	1	0.0244	24	0	0
0.0423	45	1	0.0222	11	0	0	11	0	0
0	14	0	0	6	0	0	0	0	0