Breast Cancer Risk Prediction and Mammography Biopsy Decisions
A Model-Based Study

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Appendix A

Probability of cancer according to BI-RADS category and risk prediction model

BI-RADS3

Percentile	Standard risk factors only	Standard risk factors + 7 SNPs	Standard risk factors + 12 SNPs	12 SNPs only
90	0.0081	0.0077	0.0075	0.0084
91	0.0083	0.0079	0.0077	0.0086
92	0.0085	0.0082	0.0080	0.0088
93	0.0088	0.0085	0.0083	0.0090
94	0.0091	0.0088	0.0087	0.0093
95	0.0094	0.0092	0.0091	0.0095
96	0.0098	0.0097	0.0097	0.0099
97	**0.0103**	**0.0103**	**0.0103**	**0.0103**
98	**0.0109**	**0.0111**	**0.0112**	**0.0108**
99	**0.0119**	**0.0124**	**0.0126**	**0.0116**
100	**0.0148**	**0.0162**	**0.0167**	**0.0138**

Note: Boldface indicates probability >1%.
BI-RADS, Breast Imaging-Reporting and Data System; SNP, single-nucleotide polymorphism

Appendix B

Probability of cancer according to BI-RADS category and risk prediction model

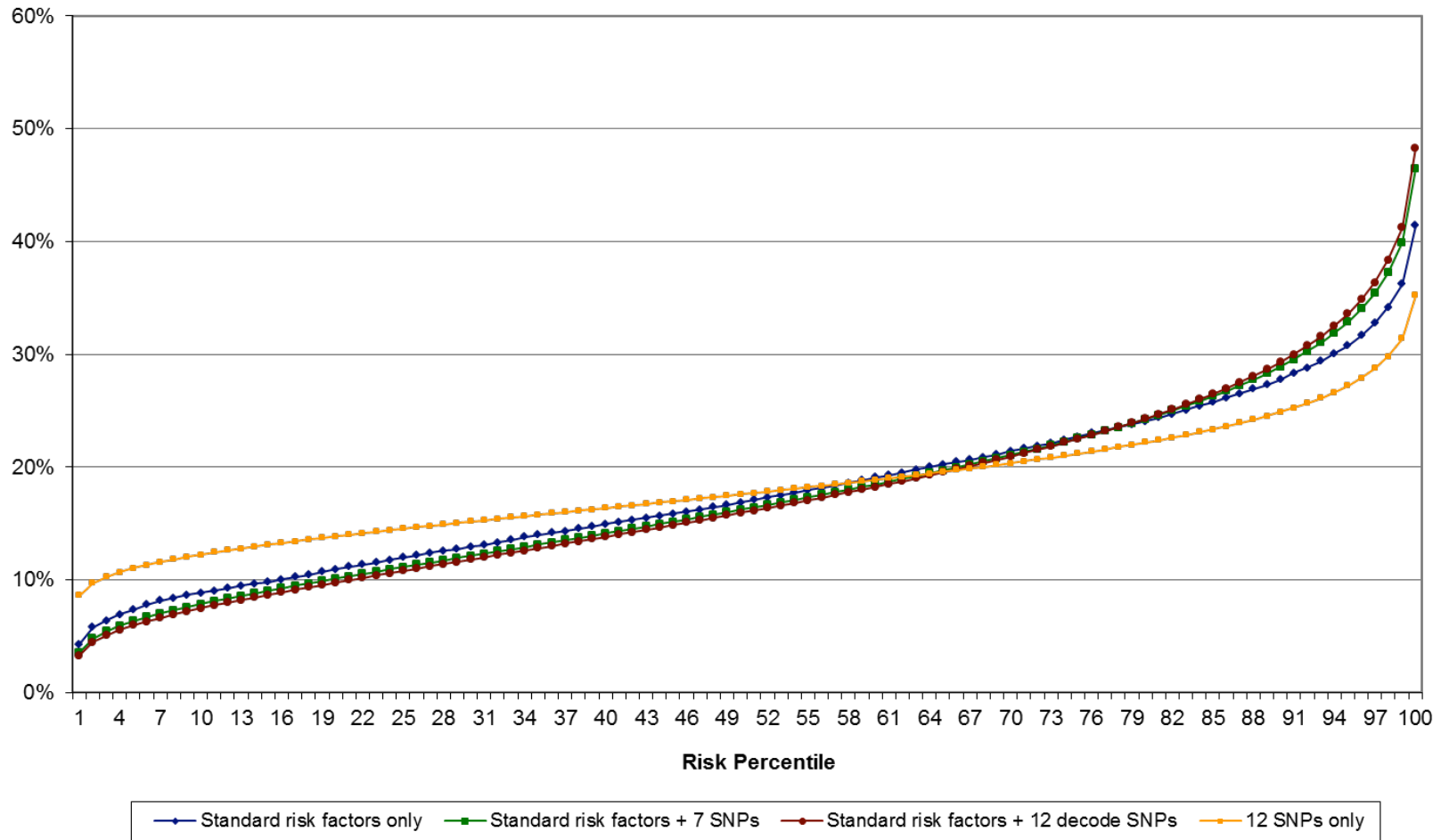BI-RADS4 subcategories, weighted average with independence assumption

Percentile	Standard risk factors only			Standard risk factors + 7 SNPs			Standard risk factors + 12 SNPs			12 SNPs only		
	4A	4B	4C	4A	4B	4C	4A	4B	4C	4A	4B	4C
Lowest 1	**0.0124**	0.0336	0.1816	**0.0103**	0.0279	0.1551	**0.0095**	0.0258	0.1448	0.0257	0.0681	0.3183
2	**0.0170**	0.0455	0.2335	**0.0139**	0.0376	0.1997	**0.0129**	0.0349	0.1877	0.0292	0.0768	0.3471
3	**0.0187**	0.0502	0.2523	**0.0159**	0.0427	0.2217	**0.0148**	0.0398	0.2095	0.0310	0.0813	0.3612
4	0.0204	0.0545	0.2693	**0.0173**	0.0465	0.2376	**0.0162**	0.0436	0.2255	0.0323	0.0846	0.3713
5	0.0217	0.0577	0.2813	**0.0186**	0.0497	0.2505	**0.0174**	0.0467	0.2385	0.0335	0.0874	0.3796
6	0.0231	0.0613	0.2943	**0.0196**	0.0525	0.2615	**0.0185**	0.0495	0.2499	0.0344	0.0897	0.3865
7	0.0243	0.0644	0.3054	0.0206	0.0551	0.2713	**0.0195**	0.0521	0.2599	0.0353	0.0919	0.3926
8	0.0251	0.0663	0.3122	0.0216	0.0574	0.2802	0.0204	0.0545	0.2690	0.0361	0.0938	0.3980
9	0.0258	0.0682	0.3186	0.0224	0.0596	0.2884	0.0213	0.0567	0.2775	0.0368	0.0956	0.4031
10	0.0264	0.0698	0.3243	0.0233	0.0618	0.2961	0.0221	0.0588	0.2854	0.0375	0.0972	0.4077

Note: Boldface indicates probability <2%.
BI-RADS, Breast Imaging-Reporting and Data System; SNP, single-nucleotide polymorphism
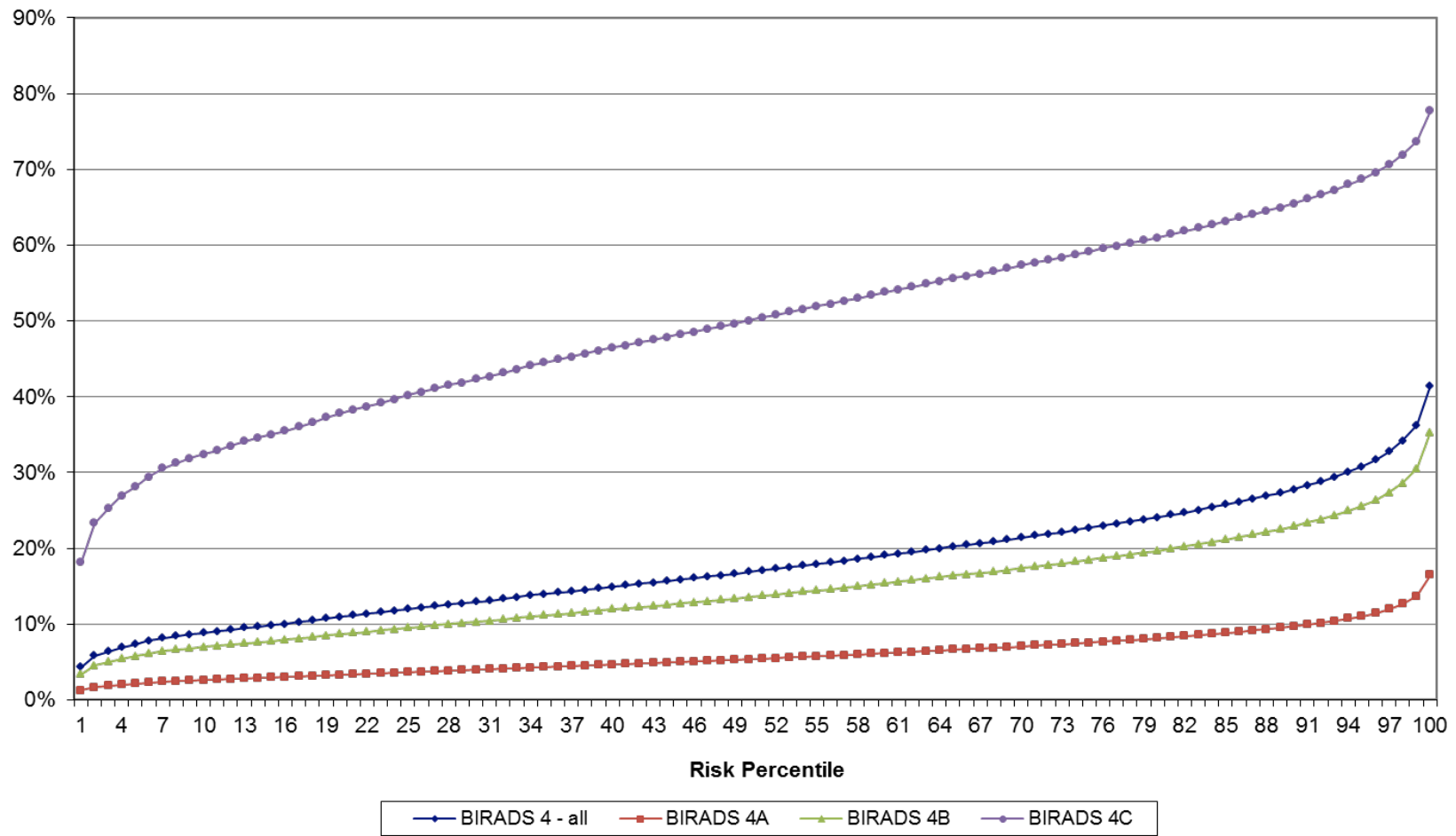
Appendix C

Post-test probability of malignancy for BI-RADS4

Legend: Standard risk factors only — Standard risk factors + 7 SNPs — Standard risk factors + 12 decode SNPs — 12 SNPs only

BI-RADS, Breast Imaging-Reporting and Data System; SNP, single-nucleotide polymorphism

Appendix D

Post-test probability malignancy, standard risk factors only

BI-RADS, Breast Imaging-Reporting and Data System