

Modeled disease-risk reduction by parental history

Selecting the lowest-risk embryo from five sibling embryos capable of live birth

● 1 affected parent ● 2 affected parents ○ Illustrative input pairing

Relative risk reduction

Absolute risk reduction



Draft Lencz model estimates. Five sibling embryos capable of live birth; each condition optimized separately.
One affected parent: other lifetime unaffected. For breast/prostate/testicular cancer, the other parent is unobserved.
Two-parent cancer rows: prostate/testicular scenarios inapplicable; breast cancer requires a male-breast model.
† Illustrative inputs: BCC h² proxy; glaucoma/gout phenotype or population pairing; testicular K=0.4% unreconciled with R².
‡ Alzheimer's within-family validation is unstable; type 2 diabetes attenuation is unadjusted.
Point estimates only. h² uncertainty, family-shared environment, embryo genotyping and IVF attrition are not included.
Sources: Lencz et al. (2021), Reticular whitepaper liability R²/K, and the accompanying literature h² input table.

The risks underlying the estimates

Baseline is random embryo selection within the same parental-history group.

Risk and RRR are percentages. ARR is the difference in percentage points.

Condition	1 affected parent			2 affected parents		
	Before → after (%)	RRR (%)	ARR (pp)	Before → after (%)	RRR (%)	ARR (pp)
Alzheimer's disease ‡	24.36 → 11.47	52.9	12.88	55.68 → 36.34	34.7	19.34
Type 2 diabetes ‡	30.66 → 18.03	41.2	12.62	57.21 → 41.44	27.6	15.77
Prostate cancer	24.12 → 13.91	42.3	10.22	Not applicable		
Glaucoma †	15.98 → 8.37	47.6	7.61	35.91 → 22.95	36.1	12.95
Inflammatory bowel disease	9.87 → 4.74	51.9	5.12	38.37 → 24.92	35.1	13.45
Gout †	11.87 → 6.50	45.2	5.37	20.56 → 12.50	39.2	8.06
Basal cell carcinoma †	25.87 → 16.32	36.9	9.55	39.68 → 27.75	30.1	11.93
Testicular cancer †	2.37 → 0.99	58.4	1.38	Not applicable		
Hypertension	47.95 → 35.97	25.0	11.98	67.95 → 56.65	16.6	11.31
Multiple sclerosis	3.43 → 1.60	53.5	1.84	19.66 → 11.92	39.4	7.74
Breast cancer	19.84 → 12.37	37.7	7.47	Requires male-breast model		
Psoriasis	11.18 → 6.59	41.0	4.59	34.94 → 24.88	28.8	10.06
Melanoma	9.63 → 5.93	38.4	3.69	26.93 → 19.15	28.9	7.79
Osteoporosis	39.32 → 31.40	20.1	7.91	59.84 → 51.54	13.9	8.30

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