

Pareto-Optimum Endpoint Reduction — Cross-Oracle Report

Bayesian Causal Atlas · 29 oracles in the table · 145 cells · each value the oracle's own engine output, display-field verified in source

Method. All applicable beneficial interventions at full dose (best option where mutually exclusive; for cholesterol the maximal non-redundant LDL-lowering set; for ASD the oracle's top-3 correlation-corrected composite, since its combiner has no saturation floor), composed by each oracle's **own** combiner. **Modelled best-case ceiling**, not an evidence-graded expectation.

Units. % RR = relative reduction in hazard/endpoint; % RRR = relative risk reduction; % (HR) = reduction implied by a composite hazard ratio; OA/BPH = % of maximum modelled effect.

| Oracle | Disease / subtype | Endpoint | Opt. red. | Unit | Set |
|---------------------|----------------------------------|------------------------------------|---------------|-----------------|-----|
| All-Cause Mortality | (whole-model ceiling) | ACM | 98.1% | % RR | ~40 |
| Cardiovascular | CAD - stable | MACE (CV death, MI, stroke, urgent | 98.9% | % RR | 20 |
| Cardiovascular | ACS (NSTEMI) | MACE + all-cause mortality | 94.8% | % RR | 12 |
| Cardiovascular | STEMI | All-cause mortality + reinfarction | 89.7% | % RR | 9 |
| Cardiovascular | Post-MI | Recurrent MACE | 99.6% | % RR | 25 |
| Cardiovascular | HFref NYHA II | CV death + HF hospitalization | 99.4% | % RR | 21 |
| Cardiovascular | HFref NYHA III | CV death + HF hospitalization | 99% | % RR | 17 |
| Cardiovascular | HFref NYHA IV | All-cause mortality | 93.1% | % RR | 9 |
| Cardiovascular | HFpEF | CV death + HF hospitalization | 97.1% | % RR | 14 |
| Cardiovascular | HFmrEF | CV death + HF hospitalization | 87.1% | % RR | 6 |
| Cardiovascular | AF paroxysmal | Stroke + systemic embolism + CV de | 94.8% | % RR | 12 |
| Cardiovascular | AF persistent | Stroke + systemic embolism + CV de | 95.3% | % RR | 12 |
| Cardiovascular | AF permanent | Stroke + systemic embolism + CV de | 86.7% | % RR | 6 |
| Cardiovascular | Aortic stenosis | All-cause mortality without valve | 80.9% | % RR | 2 |
| Cardiovascular | Mitral regurg (func.) | All-cause mortality + HF hospitali | 83.7% | % RR | 4 |
| Cardiovascular | HCM | SCD + HF death | 90.3% | % RR | 6 |
| Cardiovascular | DCM | CV death + transplant | 95% | % RR | 10 |
| Cardiovascular | HTN + LVH | MACE + incident HF | 95.1% | % RR | 13 |
| Cardiovascular | VT post-MI | SCD + appropriate ICD therapy | 90.1% | % RR | 6 |
| Renal | Chronic Kidney Disease (general) | per-disease | 76.71% | % RR | 20 |
| Renal | Diabetic Kidney Disease | per-disease | 70.3% | % RR | 17 |
| Renal | Hypertensive Nephrosclerosis | per-disease | 66.8% | % RR | 14 |
| Renal | IgA Nephropathy | per-disease | 72.25% | % RR | 13 |
| Renal | Focal Segmental Glomeruloscleros | per-disease | 64.05% | % RR | 12 |
| Renal | Autosomal Dominant Polycystic Ki | per-disease | 72.19% | % RR | 12 |
| Renal | Membranous Nephropathy | per-disease | 64.12% | % RR | 9 |
| Renal | Lupus Nephritis | per-disease | 70.36% | % RR | 10 |
| Renal | C3 Glomerulopathy | per-disease | 30.62% | % RR | 1 |
| Renal | Nephrolithiasis (recurrent) | per-disease | 69.23% | % RR | 4 |
| Renal | Acute Kidney Injury (in-hospital | per-disease | 34.62% | % RR | 4 |
| Renal | End-Stage Renal Disease (dialysi | per-disease | 43.11% | % RR | 2 |
| Osteoarthritis | (single condition) | symptom/endpoint | 100% | % of max effect | 23 |
| ADHD | (single condition) | symptom/endpoint | 83.25% | % RR | 20 |
| BPH | (single condition) | symptom/endpoint | 100% | % of max relief | 16 |
| Lymphoma (WM) | (single condition) | symptom/endpoint | 88% | % RR | 16 |
| Parkinson's | (single condition) | symptom/endpoint | 77.63% | % RR | 34 |
| Bipolar II | (single condition) | symptom/endpoint | 99.98% | % RR | 18 |
| Metabolic disease | (single condition) | symptom/endpoint | 99.46% | % RR | 25 |

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| Portal-vein thromb. | (single condition) | symptom/endpoint | 88% | % RR | 16 |
| McCune-Albright | (single condition) | symptom/endpoint | 81.3% | % RR | 17 |
| Immunology | Peanut allergy | flare/symptom | 90.67% | % RR | 11 |
| Immunology | Tree nut allergy | flare/symptom | 85.04% | % RR | 8 |
| Immunology | Cow milk allergy (IgE) | flare/symptom | 87.05% | % RR | 7 |
| Immunology | Hen egg allergy | flare/symptom | 86.05% | % RR | 7 |
| Immunology | Shellfish allergy | flare/symptom | 76.55% | % RR | 6 |
| Immunology | Wheat allergy (IgE) | flare/symptom | 82.79% | % RR | 6 |
| Immunology | Seasonal allergic rhinitis (poll | flare/symptom | 84.36% | % RR | 12 |
| Immunology | Dust mite allergy (perennial AR | flare/symptom | 84.37% | % RR | 10 |
| Immunology | Animal dander allergy (cat/dog) | flare/symptom | 79.63% | % RR | 8 |
| Immunology | Penicillin allergy (label) | flare/symptom | 77.87% | % RR | 4 |
| Immunology | Hymenoptera venom allergy | flare/symptom | 77.18% | % RR | 5 |
| Immunology | Asthma | flare/symptom | 92.23% | % RR | 22 |
| Immunology | Atopic dermatitis (eczema) | flare/symptom | 93.16% | % RR | 18 |
| Immunology | Allergic rhinitis (perennial) | flare/symptom | 86.1% | % RR | 14 |
| Immunology | Chronic rhinosinusitis with nasa | flare/symptom | 85.08% | % RR | 11 |
| Immunology | Eosinophilic esophagitis (EoE) | flare/symptom | 86.84% | % RR | 8 |
| Immunology | Chronic spontaneous urticaria | flare/symptom | 77.38% | % RR | 9 |
| Immunology | Lactose intolerance (primary) | flare/symptom | 78.63% | % RR | 5 |
| Immunology | Fructose malabsorption | flare/symptom | 61.93% | % RR | 4 |
| Immunology | Histamine intolerance | flare/symptom | 64.97% | % RR | 8 |
| Immunology | FODMAP-sensitive IBS | flare/symptom | 68.07% | % RR | 10 |
| Immunology | Non-celiac gluten sensitivity | flare/symptom | 67% | % RR | 5 |
| Immunology | Salicylate intolerance | flare/symptom | 63.95% | % RR | 5 |
| Immunology | Rheumatoid arthritis | flare/symptom | 87.85% | % RR | 20 |
| Immunology | Systemic lupus erythematosus | flare/symptom | 82.72% | % RR | 15 |
| Immunology | Multiple sclerosis | flare/symptom | 85.33% | % RR | 16 |
| Immunology | Crohn's disease | flare/symptom | 89.45% | % RR | 17 |
| Immunology | Ulcerative colitis | flare/symptom | 86.31% | % RR | 14 |
| Immunology | Celiac disease | flare/symptom | 73.67% | % RR | 8 |
| Immunology | Hashimoto thyroiditis | flare/symptom | 72.2% | % RR | 9 |
| Immunology | Psoriasis | flare/symptom | 91.18% | % RR | 16 |
| Immunology | Psoriatic arthritis | flare/symptom | 87.45% | % RR | 12 |
| Immunology | Ankylosing spondylitis | flare/symptom | 79.71% | % RR | 10 |
| Immunology | Type 1 diabetes mellitus | flare/symptom | 51.92% | % RR | 10 |
| Immunology | Graves disease | flare/symptom | 86.54% | % RR | 8 |
| Immunology | Sjögren syndrome | flare/symptom | 80.36% | % RR | 11 |
| Immunology | Vitiligo | flare/symptom | 86.18% | % RR | 9 |
| Immunology | Myasthenia gravis | flare/symptom | 88.9% | % RR | 12 |
| Immunology | Mast cell activation syndrome (M | flare/symptom | 69.33% | % RR | 10 |
| Immunology | Systemic mastocytosis (indolent) | flare/symptom | 86.01% | % RR | 9 |
| Immunology | Common variable immunodeficiency | flare/symptom | 72.24% | % RR | 8 |
| Immunology | Selective IgA deficiency | flare/symptom | 56.35% | % RR | 6 |
| Immunology | X-linked agammaglobulinemia (Bru | flare/symptom | 70.09% | % RR | 6 |
| Immunology | HIV-associated immunodeficiency | flare/symptom | 77.39% | % RR | 9 |
| Immunology | Iatrogenic immunosuppression (tr | flare/symptom | 73.95% | % RR | 9 |
| Pulmonary | Chronic Obstructive Pulmonary Di | 5-year all-cause mortality | 42.13% | % RR | 5 |
| Pulmonary | Non-Small Cell Lung Cancer — Ade | 5-year overall mortality | 62.89% | % RR | 5 |
| Pulmonary | Non-Small Cell Lung Cancer — Squ | 5-year overall mortality | 62.5% | % RR | 4 |
| Pulmonary | Small Cell Lung Cancer (SCLC) | 2-year overall mortality | 46.15% | % RR | 4 |
| Pulmonary | Asthma | Severe exacerbation rate (an | 59.79% | % RR | 6 |

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| Pulmonary | Idiopathic Pulmonary Fibrosis (I | 5-year all-cause mortality | 51.31% | % RR | 8 |
| Pulmonary | Pulmonary Arterial Hypertension | 5-year all-cause mortality | 45.57% | % RR | 4 |
| Pulmonary | Pneumonia | 30-day mortality (CAP) / 90- | 57.58% | % RR | 4 |
| Pulmonary | Tuberculosis | 2-year all-cause mortality / | 73.91% | % RR | 3 |
| Pulmonary | Cystic Fibrosis | 5-year all-cause mortality / | 67.36% | % RR | 8 |
| Pulmonary | Non-CF Bronchiectasis | 5-year all-cause mortality + | 42.22% | % RR | 7 |
| Pulmonary | Pulmonary Embolism | 90-day all-cause mortality | 79.64% | % RR | 4 |
| Pulmonary | Acute Respiratory Distress Syndr | 60-day all-cause mortality | 41.11% | % RR | 4 |
| Pulmonary | Malignant Pleural Mesothelioma | 2-year overall mortality | 38.49% | % RR | 8 |
| Pulmonary | Obstructive Sleep Apnea | 10-year cardiovascular + all | 42.62% | % RR | 7 |
| Brain/Neuro | gbm | All-cause mortality at 24 mo | 97.03% | % RR | 16 |
| Transplant | Post-kidney transplant | all-cause mortality | 92.48% | % RR | 25 |
| Transplant | Post-heart transplant | all-cause mortality | 91.81% | % RR | 24 |
| Transplant | Post-combined transplant | all-cause mortality | 92.34% | % RR | 24 |
| Transplant | Post-liver transplant | all-cause mortality | 92.01% | % RR | 25 |
| Transplant | Post-lung transplant | all-cause mortality | 91.28% | % RR | 25 |
| Transplant | Post-pancreas transplant | all-cause mortality | 91.35% | % RR | 25 |
| Brain/Neuro | gbm | All-cause mortality at 24 mo | 97.03% | % RR | 16 |
| Brain/Neuro | astro_idh | 10-year mortality | 90.93% | % RR | 9 |
| Brain/Neuro | mening | 10-year recurrence/death com | 91.3% | % RR | 6 |
| Brain/Neuro | medullo | 5-year mortality | 88.44% | % RR | 5 |
| Brain/Neuro | mets | 12-month mortality | 98.72% | % RR | 8 |
| Brain/Neuro | pcnsl | 5-year mortality | 93.02% | % RR | 5 |
| Cancer | Breast Cancer (C50) | mortality (Pearl-adj) | 68% | % RR | |
| Cancer | Prostate Cancer (C61) | mortality (Pearl-adj) | 44% | % RR | |
| Cancer | Lung Cancer (NSCLC) (C34) | mortality (Pearl-adj) | 70% | % RR | |
| Cancer | Colorectal Cancer (C18-C20) | mortality (Pearl-adj) | 70% | % RR | |
| Cancer | Pancreatic Cancer (PDAC) (C25) | mortality (Pearl-adj) | 60% | % RR | |
| Cancer | Melanoma (cutaneous) (C43) | mortality (Pearl-adj) | 70% | % RR | |
| Cancer | Ovarian Cancer (C56) | mortality (Pearl-adj) | 58% | % RR | |
| Cancer | Gastric Cancer (C16) | mortality (Pearl-adj) | 55% | % RR | |
| Cancer | Liver Cancer (HCC) (C22) | mortality (Pearl-adj) | 55% | % RR | |
| Cancer | Bladder Cancer (urothelial) (C6 | mortality (Pearl-adj) | 55% | % RR | |
| Cancer | Endometrial Cancer (C54) | mortality (Pearl-adj) | 65% | % RR | |
| Cancer | Cervical Cancer (C53) | mortality (Pearl-adj) | 60% | % RR | |
| Cancer | Head & Neck (HNSCC) (C00-C14, C | mortality (Pearl-adj) | 45% | % RR | |
| Cancer | Renal Cell Carcinoma (C64) | mortality (Pearl-adj) | 60% | % RR | |
| Cancer | Glioma / Glioblastoma (C71) | mortality (Pearl-adj) | 45% | % RR | |
| Cancer | Acute Myeloid Leukemia (C92.0) | mortality (Pearl-adj) | 34% | % RR | |
| Cancer | Multiple Myeloma (C90.0) | mortality (Pearl-adj) | 29% | % RR | |
| Cancer | DLBCL (Lymphoma) (C83.3) | mortality (Pearl-adj) | 55% | % RR | |
| Hypertension | (single condition) | symptom/endpoint | 57% | % RR | |
| Tuberculosis | (single condition) | symptom/endpoint | 95% | % RRR | |
| Schizophrenia | (single condition) | symptom/endpoint | 37% | % RRR | |
| US Mortality | (single condition) | mortality/endpoint | 75.2% | % RR | |
| HIV | (single condition) | mortality/endpoint | 80% | % RRR | 3 |
| Cachexia | (single condition) | mortality/endpoint | 74% | % RRR | 16 |
| Multiple Sclerosis | (best DMT + adjuncts) | disability/relapse (combined HR) | 21% | % RR | |
| Self-caused harm | Overdose | cause-specific mortality | 67.3% | % RR | |
| Self-caused harm | Suicide | cause-specific mortality | 76.4% | % RR | |
| Self-caused harm | Accident | cause-specific mortality | 77.1% | % RR | |

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|---------------------|-----------------------------|-----------------------------------------|-----------|--------|-----|
| Sepsis | (single condition) | in-hospital mortality (risk multiplier) | 11% | % RR | |
| Rare disease | 25 diseases (weighted mean) | disease-specific endpoint | 72.4% | % RR | 32 |
| Cholesterol / ASCVD | (max LDL-lowering set) | MACE, 10-yr | 73% | % RRR | 5 |
| ASD behaviours | (top-3 composite) | negative-behaviour freq. | 69% | % (HR) | 3 |

Native-metric oracles (non-HR units)

Dementia — PAF model: up to ~52.7% of dementia risk is modifiable (PAF ceiling). **Hearing loss** — severity hazard 3.00→2.71 (~10%) + hearing-aid HR 0.91. **Depression** — own min-set search hits a 90% relief target with a 3-intervention set.

Efficiency-frontier tools (no single combined endpoint)

Anxiety/sleep (42 interventions) and **peripheral-neuropathy** (13 interventions) are efficiency-frontier tools: anxiety ranks interventions by effect magnitude on a demographic baseline (it computes no single combined probability), and peripheral-neuropathy spans heterogeneous endpoints and populations. Neither reduces to one combined hazard ratio, so no single % is reported.

N/A — calculators / data-harnesses: fiscal-impact, life-expectancy-shift, atlas-coverage-count, MIMIC-mortality-harness.