NZHEB+TPO – Methodology for Cost Savings Estimates

This appendix explains how cost savings in the Equity Graphs Evidence Report were calculated. All prevalence data is from official Ministry of Health / Te Whatu Ora datasets published on the GovHack Hackerspace. Cost multipliers come from publicly available New Zealand health economics references (Treasury, MoH, BERL, Productivity Commission). No synthetic baseline values were used.

Emergency Department (ED) visits

Formula: Avoidable visits × Average ED cost per visit

Example: 200,000 avoidable visits × $500 ≈ $100M

Data Source: NZHS 2023/24 time series (GovHack dataset #1856)

Cost Reference: Average ED attendance cost ≈ $500 – NZ Treasury & MoH health costing collection

Reference link: https://www.health.govt.nz/publication/nz-health-costing-collection

Unfilled prescriptions

Formula: (Missed prescriptions × Hospitalisation rate) × Average cost per admission

Example: 200,000 missed prescriptions × 5% × $3,000 ≈ $30M

Data Source: HIR 2023 indicator tables – UnfilledPresc (GovHack dataset #1789)

Cost Reference: Avoidable hospital admission ≈ $3,000–$5,000 per stay (NZ Treasury DHB costings)

Daily smokers

Formula: (Annual smoking cost burden ÷ % prevalence) × Δ% reduction

Example: National smoking cost ≈ $1.9B; 2% reduction ≈ $200M savings

Data Source: HIR 2023 indicator tables – DailySmoker (GovHack dataset #1789)

Cost Reference: Treasury & ASH NZ reports estimate smoking costs ≈ $1.9B annually

Reference link: https://www.ash.org.nz/resources/view/factsheet-tobacco-taxation-and-prices

Hazardous drinking

Formula: (Annual alcohol harm cost ÷ prevalence) × Δ% reduction

Example: Alcohol harm ≈ $7.8B; 5% reduction ≈ $40M (healthcare component)

Data Source: HIR 2023 indicator tables – HazDrinker (GovHack dataset #1882)

Cost Reference: BERL 2009 study for MoH estimates total social cost of alcohol at $7.8B

Reference link: https://www.health.govt.nz/publication/alcohol-use-and-its-harms-new-zealand

Psychological distress

Formula: (GDP productivity loss × Δ% prevalence)

Example: Productivity Commission estimates mental distress costs 2–4% of GDP; 3% reduction ≈ $150M productivity gains

Data Source: HIR 2023 indicator tables – PsycDistress (GovHack dataset #1882)

Cost Reference: NZ Productivity Commission, OECD reports on mental health and productivity

Reference link: https://www.productivity.govt.nz/inquiries/mental-health/

Unmet need for GP due to cost

Formula: (Prevented delayed consultations × Cost per ED admission avoided)

Example: 150,000 prevented delays × $300 average cost avoided ≈ $45M

Data Source: HIR 2023 indicator tables – UnmetGP (GovHack dataset #1789)

Cost Reference: Avoided ED/hospital cost per patient estimated at $300 (Treasury health expenditure models)

Summary

All prevalence values in the equity graphs are taken directly from Ministry of Health / Te Whatu Ora datasets provided on GovHack Hackerspace (#1789, #1856, #1882). Cost savings estimates are calculated by applying published NZ Treasury, MoH, BERL, and Productivity Commission multipliers to those real prevalence values. This ensures credibility: the data is real, and the formulas are transparent and referenceable.