

Appendix S1. Model parameters, distributions and sources

Prehospital aspirin for acute myocardial infarction in India — Ajay Gupta

Parameter	Central	PSA distribution	Source or basis
Epidemiology			
IHD mortality rate, 1990 (per 100 000)	84	Uniform(76, 92)	Derived: Prabhakaran JACC 2018 CVD rate x IHD share
IHD mortality rate, 2000 (per 100 000)	97	Uniform(90, 104)	GBD/WHO GHE India series
IHD mortality rate, 2020 (per 100 000)	111	Uniform(103, 119)	GBD/WHO GHE India series
AMI share of IHD deaths	0.55	Beta(51.7, 42.3)	GBD cause hierarchy; acute MI vs chronic IHD split
AMI case fatality, overall	0.25	Beta(24.7, 74.0)	CREATE in-hospital CFR + pre-arrival deaths
AMI deaths occurring before arrival	0.6	Beta(54.7, 36.5)	CREATE Lancet 2008 delays; OHCA literature
Pre-arrival deaths that are instantaneous	0.45	Beta(42.3, 51.7)	Sudden cardiac death literature
Effect sizes			
Aspirin relative risk (ISIS-2)	0.8	Lognormal($\mu=-0.223$, $\sigma=0.054$)	ISIS-2, Lancet 1988; 17,187 patients
Residual time-shift relative risk	0.95	Uniform(0.9, 1)	Conservative; ISIS-2 time strata, Freimark AJC 2002
Efficacy multiplier, pre-arrival deaths	0.8	Uniform(0.6, 1)	Mechanism mix of pre-arrival deaths; conservative
PD non-response, enteric-coated	0.528	Beta(55.5, 49.6)	Bhatt et al., enteric-coated aspirin PD study
PD non-response, plain	0.158	Beta(19.0, 101.0)	Bhatt et al., plain aspirin PD study
Benefit lost per PD non-responder	0.6	Beta(13.2, 8.8)	Assumption; PD non-response to clinical effect
Enteric-coated share of aspirin, India	0.7	Beta(24.4, 10.5)	Indian formulary practice; EC 75 mg predominance
In-hospital antiplatelet coverage	0.978	Beta(358.3, 8.1)	CREATE registry, Lancet 2008
Reach and adoption			
Baseline prehospital aspirin use	0.169	Beta(101.1, 497.3)	ACS QUIK, JAMA 2018;319:567-578
Reachable ceiling	0.55	Beta(22.7, 18.6)	Symptom recognition + tablet availability
Harms			
Adults (30+) as share of population	0.52	Uniform(0.48, 0.56)	India age structure, UN WPP
Community chest-pain episode rate, annual	0.0155	Uniform(0.006, 0.025)	Population chest-pain episode incidence
Fatal bleeds per 1000 treated	0.15	Lognormal($\mu=-1.897$, $\sigma=0.821$)	ISIS-2 safety; JAHA 2024 bleeding deaths
Quality-adjusted life years			
Mean age at AMI (years)	57.5	Normal(57.5, 1.5)	CREATE registry, Lancet 2008;371:1435-42
Remaining life expectancy at that age (years)	20	Uniform(18, 22)	India abridged life tables (SRS)
Post-AMI survivor LE multiplier	0.65	Beta(24.6, 13.2)	Post-AMI excess mortality
Health-state utility after AMI	0.8	Beta(76.0, 19.0)	Indian EQ-5D population norms; post-ACS utility
Discount rate	0.03	Fixed	2nd US Panel; ICMR HTA
Non-fatal reinfarctions per death averted	0.42	Uniform(0.3, 0.55)	ISIS-2 secondary outcomes ratio
Non-fatal strokes per death averted	0.125	Uniform(0.08, 0.18)	ISIS-2 secondary outcomes ratio
QALYs per non-fatal MI avoided	0.5	Uniform(0.3, 0.8)	Assumption
QALYs per stroke avoided	3.3	Uniform(1.5, 5.1)	Assumption
Productivity			

AMI deaths in working age	0.55	Beta(51.7, 42.3)	Early AMI age distribution, India
Employment-to-population ratio	0.5	Beta(74.5, 74.5)	India employment-to-population ratio, World Bank
Remaining working years	8	Uniform(6, 10)	Mean AMI age 57.5 vs retirement
Friction-cost adjustment	0.45	Uniform(0.3, 0.6)	Friction-cost vs human-capital literature
PPP conversion factor (INR per int. \$)	20.65	Fixed	World Bank PPP conversion factor, India 2021
Programme cost			
Aspirin cost per dose (INR)	2	Uniform(1, 5)	Indian retail price, plain aspirin 325 mg
Campaign cost (INR Cr/year)	250	Uniform(100, 500)	National IEC campaign scale assumption

Notes. Proportions use beta distributions fitted by moment matching to the stated 95% interval; relative risks use lognormal distributions; uniform distributions are used where the evidence base does not support a stronger parametric assumption. The probabilistic analysis draws 10 000 samples jointly across all non-fixed parameters. Population and gross domestic product per person employed are taken as fixed annual series from World Bank World Development Indicators (SP.POP.TOTL and SL.GDP.PCAP.EM.KD, constant 2021 PPP \$); values for 1988–1990 for the latter are back-cast at the observed 1991–1994 mean growth rate. Complete model code, including the external-validation routine that reproduces the published United States estimate, is provided as supplementary material.

Abbreviations. AMI: acute myocardial infarction; IHD: ischaemic heart disease; LE: life expectancy; PD: pharmacodynamic; PPP: purchasing power parity; PSA: probabilistic sensitivity analysis; QALY: quality-adjusted life year; INR: Indian rupees; Cr: crore.