ONLINE MATERIAL FOR THE CALCULATION OF DISEASE SPECIFIC SCALING PARAMETERS AND MODEL OUTPUTS.

Age standardised incidence and mortality rates for diabetes, stroke and heart disease were calculated for each income and sex group, relative to quintile 3. The incidence rate for stroke in the base model was scaled for each income group using the modified hazard ratio (HR) controlling for vascular risk factors of HR=1.31 (low income relative to high income), reported in a meta-analysis of 12 studies by Kerr, et al.[37] These were taken as end-points (quintiles 1 and 5), and the interior quintiles constructed using the Spline function in Ersatz. Hazard ratios were then standardised relative to quintile 3. Differences in IHD incidence between income quintiles were estimated using as a crude proxy of the hazard ratio for prevalence reported in a meta-analysis by Tang, et al,[38] for IHD in Asian countries (HR=1.12, with highest income as the reference population). As with stroke incidence rates, the interior quintiles were constructed using the spline function. Relative incidence rates for T2DM were derived from large prevalence studies in Indonesia conducted by Mihardja, et al,[39] and Soewondo et al,[16] comparing low income vs. high income. The study by Soewondo et al included diagnosed diabetes, undiagnosed diabetes, and impaired glucose tolerance determined by blood sampling, and was used as a proxy for relative risk of diabetes incidence. The estimates from the two studies are very similar and were averaged, with the estimates then taken to be the end points and interior quintiles constructed using the spline function (Tables S1 and S2), to be used as a scale for relative risk of incidence.

Table S1: Data from published sources used to construct estimates of differences in parameters for income quintiles for disease specific sensitivity analysis.

Variable	Measure	Low-Income	High Income	Source
T2DM Prevalence (SE)	RR	1	1.17 (0.05)	Mihardja, et al, 2014. [39]
T2DM Prevalence	Percent	12.4	16.4	Soewondo et al, 2011. [16]
IHD incidence (SE)	RR	1.12 (0.40)	1	Tang, Rashid, et al, 2016. [38]
Stroke Incidence (SE)	HR	1.31 (0.05)	1	Kerr, Slavin, et al. 2011.[37]

Table S2: Input parameters for disease specific sensitivity analysis used to vary the base model for each income quintile, from lowest (1) to highest (5). Standard error unchanged for quintiles.

Quintile	1 (lowest)	2	3	4	5 (highest)
T2DM Incidence (SE)	0.95 (0.05)	0.96	1	1.05	1.10
IHD Incidence (SE)	1.04 (0.40)	1.03	1	0.96	0.93
Stroke Incidence (SE)	1.09 (0.08)	1.07	1	0.92	0.83

Table S3: Results for disease specific sensitivity analysis, including relative differences in incidence, prevalence, and case fatality for Type-II Diabetes, Ischaemic Heart Disease and stroke between income quintiles 1 to 5.

Disease Specific Sensitivity Analysis					
Quintile	1 (95% CI) (lowest)	2 (95% CI)	3 (95% CI)	4 (95% CI)	5 (95% CI) (highest)
Change kJ/person/day	-1.9 (-2.7 to -1.01)	-5.01 (-9.4 to 0.08)	-8.8 (-16.9 to -1.5)	-15.5 (-40.1 to 9.6)	-53.5 (-66.2 to -40.6)
Change N. Overweight Female	-8,224 (-11,997 to -4,170)	-21,534 (-40,578 to 778)	-33,042 (-60,538 to -6,229)	-54,964 (-149,465 to 31,698)	-203,213 (-271,531 to -140,636)
Change N. Overweight Male	-9,901 (-14,409 to -5,641)	-26,318 (-49,467 to -364)	-47,429 (-87,894 to -8,669)	-84,211 (-211,050 to 49,169)	-269,919 (-355,951 to -186,215)
Change N. Obese Female	-6,425 (-9,501 to -3,210)	-18,597 (-36,296 to 805)	-35,844 (-64,453 to -5,541)	-63,799 (-170,169 to 39,517)	-221,641 (-282,264 to -164,854)
Change N. Obese Male	-1,855 (-2,722 to -1,056)	-6,561 (-12,341 to -82)	-15,872 (-28,704 to -2,942)	-32,084 (-78,374 to 20,321)	-146,124 (-190,145 to -103,865)
Total Lifetime HALYs	67,799 (41,157 to 89,295)	183,238 (7,492 to 357,152)	329,317 (68,945 to 606,414)	587,132 (-355,703 to 1,499,433)	2,009,794 (1,566,295 to 2,538,095)
Change T2DM incidence, 25 yr	-43,896 (-60,617 to -26,716)	-122,914 (-242,378 to 6,173)	-215,490 (-408,841 to 46,265)	-388,764 (-991,531 to 221,745)	-1,310,610 (-1,752,560 to -966,492)
Change IHD incidence, 25 yr	-1,491 (-2,045 to -973)	-4,028 (-7399 to -111)	-7,417 (-13,260 to -1,363)	-13,250 (-32,640 to 8,047)	-45,888 (-58,337 to -34,865)
Change stroke incidence, 25 yr	-1,489 (-2,023 to -908)	-3,810 (-7,447 to -92)	-6,880 (-11,820 to -1,195)	-11,707 (-30,553 to 7,545)	-38,378 (-48,673 to -30,984)
Change mortality T2DM, 25 yr	-24,412 (-33,637 to -13,914)	-69,437 (-130,417 to -3,058)	-120,918 (-231,758 to -25,000)	-216,927 (-554,361 to 118,760)	-730,578 (-957,704 to -524,960)
Change mortality IHD, 25 yr	-768 (-1,077 to -493)	-2,075 (-3,803 to -50)	-3,762 (-6,717 to -694)	-6,549 (-16,048 to 4,140)	-22,160 (-28,112)
Change mortality stroke, 25 yr	-1,224 (-1,673 to -742)	-3,136 (-6,121 to -71)	-5,637 (-9,619 to -975)	-9,529 (-24,566 to 6,144)	-30,958 (-39,214 to 25,027)
Revenue ($million) 20 yr, 3% disc.	519 (475 to 570)	1,284 (976 to 1,625)	2,732 (2,245 to 3,270)	5,121 (3,392 to 7,037)	14,409 (13,305 to 15,674)

Table S4: Results from sensitivity analyses modelling no trend in BMI or beverage consumption, equal elasticity estimates for quintiles, halved change in energy intake, equal mortality for quintiles, and weighted prices. Output expressed as proportion of base-case results.

Outcome	Sensitivity	Q1	Q2	Q3	Q4	Q5

		(lowest)				(highest)
Change in kJ/person/ day	Elasticity	0.74	0.88	1.02	1.03	0.98
	Pricing	1.01	1.06	1.00	1.06	0.97
Change Total Overweight	No Trend	0.85	0.92	0.86	0.82	0.87
	Elasticity	0.80	0.89	1.04	1.04	0.99
	Half Δ Energy	0.50	0.50	0.49	0.49	0.50
	Same Mortality	1.00	1.04	1.02	1.04	1.02
	Pricing	1.01	1.08	1.00	1.06	0.96
Change Total Obesity	No Trend	0.85	0.92	0.86	0.83	0.88
	Elasticity	0.80	0.88	1.05	1.05	0.99
	Half Δ Energy	0.51	0.50	0.49	0.50	0.52
	Same Mortality	1.00	1.04	1.02	1.03	1.01
	Pricing	1.00	1.08	1.00	1.07	0.96
Change DM Incidence	No Trend	0.34	0.38	0.36	0.37	0.39
	Elasticity	0.85	0.91	1.05	1.07	0.99
	Half Δ Energy	0.64	0.63	0.59	0.62	0.65
	Same Mortality	1.02	1.02	1.00	1.04	0.99
	Pricing	1.03	1.06	1.00	1.05	0.96
Change IHD Incidence	No Trend	0.29	0.37	0.36	0.37	0.40
	Elasticity	0.83	0.90	1.03	1.04	0.99
	Half Δ Energy	0.51	0.50	0.49	0.49	0.51
	Same Mortality	1.01	1.04	1.01	1.01	0.99
	Pricing	1.02	1.07	1.00	1.06	0.97
Change Stroke Incidence	No Trend	0.31	0.36	0.35	0.37	0.39
	Elasticity	0.82	0.90	1.03	1.05	0.97
	Half Δ Energy	0.50	0.50	0.49	0.49	0.51
	Same Mortality	1.01	1.05	1.00	1.02	0.99
	Pricing	1.02	1.07	1.00	1.07	0.98
Change HALYs	No Trend	0.28	0.33	0.31	0.33	0.35
	Elasticity	0.84	0.91	1.05	1.07	0.99
	Half Δ Energy	0.57	0.57	0.54	0.56	0.58
	Same Mortality	1.03	1.04	1.01	1.02	0.96
	Pricing	1.03	1.06	1.00	1.06	0.97
Revenue 20 yrs, 3%	No Trend	0.53	0.52	0.53	0.53	0.53
	Elasticity	1.02	1.02	0.99	0.98	1.00
	Half Δ Energy	0.99	1.00	1.01	1.01	1.00
	Same	1.00	0.99	1.00	0.99	0.86

	Mortality					
	Pricing	1.02	1.00	1.00	0.98	0.97