Appendix Table 1: Cohort Characteristics

Required values	All patients		Age <65		Age ≥65		Units/Range	References /Notes
PATIENT DEMOGRAPHICS	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
Start age	59.20	10.30	53.20	7.70	69.50	4.10	Years	REPLACE trial[1]
Duration of diabetes	17.00	8.00	15.30	6.70	20.10	8.50	Years	
Prop. male	0.67		0.676		0.659		[0-1]	
	All patients		**Age <65**		**Age ≥65**			
BASELINE RISK FACTORS	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
HbA1c	8.68	1.00	8.80	1.10	8.40	0.80	%-points	REPLACE trial[1]
SBP	137.00	16.00	133.80	15.30	142.50	16.40	mmHg	
TCHOL	186.00	45.00	188.50	42.80	181.70	49.10	mg/dL	
HDL	49.00	14.00	47.50	13.30	51.40	15.90	mg/dL	
LDL	99.00	38.00	101.40	35.10	95.00	41.60	mg/dL	
TRIG	208.00	199.00	207.00	148.30	211.20	267.60	mg/dL	
BMI	33.20	5.90	33.80	6.30	32.10	5.00	kg/m^2	
eGFR	77.50	15.00	77.50	15.00	77.50	15.00	$ml/min/1.73 m^2$	Hayes et al., 2013[2]
HAEM	14.50	1.30	14.50	1.30	14.50	1.30	gr/dl	
WBC	6.80	1.80	6.80	1.80	6.80	1.80	$10^6/ml$	
Heart rate	72.00	12.00	72.00	12.00	72.00	12.00	bpm	
Prop. smoker	0.14		0.18		0.09		[0-1]	REPLACE trial[1]
Cigarettes/day	3		4		1			
Alcohol consumption	0.87		0.7866		1.0300		oz/week	
	All patients		**Age <65**		**Age ≥65**			
RACIAL CHARACTERISTICS	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
Prop. White	0.964		0.942		0.992		[0-1]	REPLACE trial[1]
Prop. Black	0.013		0.022		0.004		[0-1]	
Prop. Hispanic	0.00		0.000		0		[0-1]	
Prop. Native American	0.00		0.000		0		[0-1]	
Prop. Asian/Pacific Islander	0.023		0.036		0.004		[0-1]	
	All patients		**Age <65**		**Age ≥65**			
BASELINE CVD COMPLICATIONS	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
Prop. MI	0.058		0.049		0.073		[0-1]	REPLACE trial Data on File
Prop. Angina	0.049		0.049		0.049		[0-1]	
Prop. PVD	0.071		0.049		0.110		[0-1]	
Prop. stroke	0.045		0.021		0.085		[0-1]	
Prop. HF	0.036		0.035		0.037		[0-1]	

Prop. Atrial fibrillation	0.027		0.028		0.024		[0-1]	
Prop. LVH	0.000		0.000		0.000		[0-1]	
	All patients		**Age <65**		**Age ≥65**			
BASELINE RENAL COMPLICATIONS	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
Prop. MA	0.152		0.085		0.268		[0-1]	REPLACE trial Data on File
Prop. GRP	0.018		0.014		0.024		[0-1]	
Prop. ESRD	0.004		0.007		0.000		[0-1]	
	All patients		**Age <65**		**Age ≥65**			
BASELINE RETINOPATHY COMPLICATIONS	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
Prop. BDR	0.241		0.225		0.268		[0-1]	REPLACE trial Data on File
Prop. PDR	0.045		0.035		0.061		[0-1]	
Prop. SVL	0.013		0.007		0.024		[0-1]	
	All patients		**Age <65**		**Age ≥65**			
BASELINE MACULAR EDEMA	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
Prop. ME	0.058		0.035		0.098		[0-1]	REPLACE trial Data on File
	All patients		**Age <65**		**Age ≥65**			
BASELINE CATARACT	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
Prop. cataract	0.134		0.049		0.280		[0-1]	REPLACE trial Data on File
	All patients		**Age <65**		**Age ≥65**			
BASELINE FOOT ULCER COMPLICATIONS	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
Prop. uninfected ulcer	0.004		0.007		0.000		[0-1]	REPLACE trial Data on File
Prop. infected ulcer	0.018		0.021		0.012		[0-1]	
Prop. healed ulcer	0.009		0.007		0.012		[0-1]	
Prop. history of amputation	0.022		0.028		0.012		[0-1]	
	All patients		**Age <65**		**Age ≥65**			
BASELINE NEUROPATHY	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		

Prop. neuropathy	0.344		0.310		0.402		[0-1]	REPLACE trial Data on File
	All patients		**Age <65**		**Age ≥65**			
BASELINE DEPRESSION	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
Prop. depression	0.192		0.246		0.098		[0-1]	REPLACE trial Data on File

BDR = background diabetic retinopathy; BMI = body mass index; bpm = beats per minute; CVD = cardiovascular disease; eGFR = estimated glomerular filtration rate; ESRD = end-stage renal disease; HAEM = haemoglobin; HbA1c = glycated haemoglobin; HDL = high-density lipoprotein; HF = heart failure; GRP = gastrin-releasing peptide; LDL = low-density lipoprotein; LVH = left ventricular hypertrophy; MA = microalbuminuria; ME = macular edema (oedema); MI = myocardial infarction; PDR = proliferative diabetic retinopathy; Prop. = proportion; PVD = peripheral vascular disease; REPLACE = An Evaluation of a Novel Glucose Sensing Technology in Type 2 Diabetes; SBP = systolic blood pressure; SD = standard deviation; SVL = severe visual loss; TCHOL = total cholesterol; TRIG = triglycerides; WBC = white blood cell.

Appendix 2: Intervention-relevant inputs

	Required values		Units/Range	Reference/Notes
Physiological parameters				
Conventional approach	**Mean**	**SD**		
Specific treatment efficacy on HbA1c:				
Change in baseline HbA1c				
For entire cohort	-0.29	0.78	%	REPLACE trial[1]
For age <65 subgroup	-0.53	0.79	%	REPLACE trial[1]
For age ≥65 subgroup	-0.05	0.68	%	REPLACE trial[1]
HbA1c progression approach	Table values from clinical database		%-points	Clarke et al., 2004[3]
Change from baseline in SBP	0.00	0.00	mmHg	REPLACE trial[1]
SBP progression approach	UKPDS progression			Assumption
Change from baseline in TCHOL	0.00	0.00	mg/dL	REPLACE trial[1]
TCHOL progression approach	Framingham progression			Assumption
Change from baseline in LDL	0.00	0.00	mg/dL	REPLACE trial[1]
LDL progression approach	Framingham progression			Assumption
Change from baseline in HDL	0.00	0.00	mg/dL	REPLACE trial[1]
HDL progression approach	Framingham progression			Assumption
Change from baseline in TRIG	0.00	0.00	mg/dL	REPLACE trial[1]
TRIG progression approach	Framingham progression			Assumption
Change from baseline in BMI	0.00	0.00	kg/m^2	REPLACE trial[1]
BMI progression approach	Table values from clinical database			Assumption
Change in eGFR	0.00	0.00	$ml/min/1.73m^2$	REPLACE trial[1]
eGFR progression approach	Table values from clinical database			Assumption
Switch treatment conditional on treatment duration (years)				
Ann. prob. of treatment failure year 1	0.00		[0-1]	Assumption (No data)
Ann. prob. of treatment failure year 2	0.00		[0-1]	Assumption (No data)
Ann. prob. of treatment failure year 3	0.00		[0-1]	Assumption (No data)
Ann. prob. of treatment failure year 4	0.00		[0-1]	Assumption (No data)
Ann. prob. of treatment failure year 5	0.00		[0-1]	Assumption (No data)

Adverse events			
Major hypoglycaemic event rate			
For entire cohort	105.00	/100 pt. yrs	Calculated based on REPLACE trial[1] and Edridge et al., 2015[4]
For age <65 subgroup	105.00	/100 pt. yrs	Assumption
For age ≥65 subgroup	105.00	/100 pt. yrs	Assumption
Minor hypoglyacemic event rate			
For entire cohort	1685.00	/100 pt. yrs	Calculated based on REPLACE trial[1] and Edridge et al., 2015[4]
For age <65 subgroup	1816.00	/100 pt. yrs	Calculated based on REPLACE trial[1] and Edridge et al., 2015[4]
For age ≥65 subgroup	1476.00	/100 pt. yrs	Calculated based on REPLACE trial[1] and Edridge et al., 2015[4]
Ann. prob. lactic acidosis	0.00	[0-1]	Assumption (No data)
Oedema (adv.ev.) event rate year 1	0.00	/100 pt. yrs	Assumption (No data)
Oedema (adv.ev.) event rate year 2+	0.00	/100 pt. yrs	Assumption (No data)
Treatment related relative risk values			
RR for 1st MI	1.00	Multiplier	Assumption (No data)
RR for 1st stroke	1.00	Multiplier	Assumption (No data)
RR for HF	1.00	Multiplier	Assumption (No data)
RR for Angina	1.00	Multiplier	Assumption (No data)
RR for PVD	1.00	Multiplier	Assumption (No data)
Other			
Apply risk adjustment for statins?	yes		-

Apply risk adjustment for ACE?	yes		-
Annual utility score associated with treatment	0.03	[-1-1]	Matza et al., 2015[5]

ACE = angiotensin-converting enzyme; adv.ev. = adverse event; Ann. = annual; BMI = body mass index; eGFR = estimated glomerular filtration rate; HbA1c = glycated haemoglobin; HDL = high-density lipoprotein; HF = heart failure; LDL = low-density lipoprotein; MI = myocardial infarction; Prob. = probability; pt. yrs = patient years; PVD = peripheral vascular disease; REPLACE = An Evaluation of a Novel Glucose Sensing Technology in Type 2 Diabetes; RR = relative risk; SBP = systolic blood pressure; SD = standard deviation; TCHOL = total cholesterol; TRIG = triglycerides.

Appendix 3: Comparator-relevant inputs

	Required values		Units/ Range	References/Notes
Physiological parameters				
Conventional approach	**Mean**	**SD**		
specific treatment efficacy on HbA1c:				
Change in baseline HbA1c				
For entire cohort	-0.31	0.78	%-points	REPLACE trial[1]
For age <65 subgroup	-0.20	0.79	%-points	REPLACE trial[1]
For age ≥65 subgroup	-0.49	0.68	%-points	REPLACE trial[1]
HbA1c progression approach	Table values from clinical database			Clarke et al., 2004[3]
Change from baseline in SBP	0.00	0.00	mmHg	REPLACE trial[1]
SBP progression approach	CDM default progression (UKPDS)			Assumption
Change from baseline in TCHOL	0.00	0.00	mg/dL	REPLACE trial[1]
TCHOL progression approach	Framingham progression			Assumption
Change from baseline in LDL	0.00	0.00	mg/dL	REPLACE trial[1]
LDL progression approach	Framingham progression			Assumption
Change from baseline in HDL	0.00	0.00	mg/dL	REPLACE trial[1]
HDL progression approach	Framingham progression			Assumption
Change from baseline in TRIG	0.00	0.00	mg/dL	REPLACE trial[1]
TRIG progression approach	Framingham progression			Assumption
Change from baseline in BMI	0.00	0.00	kg/m^2	REPLACE trial[1]
BMI progression approach	Table values from clinical database			Assumption
Change in eGFR	0.00	0.00	$ml/min/1.73m^2$	REPLACE trial[1]
eGFR progression approach	Table values from clinical database			Assumption
Switch treatment conditional on treatment duration (years)				
Ann. prob. of treatment failure year 1	0.00		[0-1]	Assumption (No data)
Ann. prob. of treatment failure year 2	0.00		[0-1]	Assumption (No data)

Ann. prob. of treatment failure year 3	0.00	[0-1]	Assumption (No data)
Ann. prob. of treatment failure year 4	0.00	[0-1]	Assumption (No data)
Ann. prob. of treatment failure year 5	0.00	[0-1]	Assumption (No data)
Adverse events			
Major hypoglycaemic event rate (same for entire cohort, age <65 subgroup, age ≥65 subgroup)	105.00	/100 pt. yrs	Edridge et al., 2015[4]
Minor hypoglycaemic event rate (same for entire cohort, age <65 subgroup, age ≥65 subgroup)	2331.00	/100 pt. yrs	Edridge et al., 2015[4]
Ann. prob. lactic acidosis	0.00	[0-1]	Assumption (No data)
Oedema (adv.ev.) event rate year 1	0.00	/100 pt. yrs	Assumption
Oedema (adv.ev.) event rate year 2+	0.00	/100 pt. yrs	Assumption (No data)
Treatment related relative risk values			
RR for 1st MI	1.00	Multiplier	Assumption (No data)
RR for 1st stroke	1.00	Multiplier	Assumption (No data)
RR for HF	1.00	Multiplier	Assumption (No data)
RR for Angina	1.00	Multiplier	Assumption (No data)
RR for PVD	1.00	Multiplier	Assumption (No data)
Other			
Apply risk adjustment for statins?	yes		
Apply risk adjustment for ACE?	yes		
Annual utility score associated with treatment	0	[-1-1]	Assumption

ACE = angiotensin-converting enzyme; adv.ev. = adverse event; Ann. prob. = probability; BMI = body mass index; CDM = Core Diabetes Model; eGFR = estimated glomerular filtration rate; HbA1c = glycated haemoglobin; HDL = high-density lipoprotein; HF = heart failure; LDL = low-density lipoprotein; MI = myocardial infarction; pt. yrs = patient years; PVD = peripheral vascular disease; REPLACE = An Evaluation of a Novel Glucose Sensing Technology in Type 2 Diabetes; RR = relative risk; SBP = systolic blood pressure; SD = standard deviation; TCHOL = total cholesterol; TRIG = triglycerides.

Appendix 4: Clinical inputs (non-treatment specific)

	Required values	Units/ Range	References/Notes
HbA1c adjustments - Type 2 diabetes			
Risk reduct. for 1%-point lower HbA1c MI T2	14	[0-100]	Stratton et al., 2000[6]
Risk reduct. for 1%-point lower HbA1c micro T2	37	[0-100]	Stratton et al., 2000[6]
Risk reduct. for 1%-point lower HbA1c PVD T2	22	[0-100]	Adler et al., 2002[7]
Risk reduct. for 1%-point lower HbA1c Cataract T2	19	[0-100]	Stratton et al., 2000[6]
Risk reduct. for 1%-point lower HbA1c HF T2	16	[0-100]	Stratton et al., 2000[6]
Risk reduct. for 1%-point lower HbA1c stroke type 2	12	[0-100]	Stratton et al., 2000[6]
Risk reduct. for 1%-point lower HbA1c angina type 2	12	[0-100]	Clarke et al., 2004[3]
HbA1c adjustments - Type 1 and 2 diabetes			
Risk reduct.for 1%-point lower HbA1c HD mort.	12	[0-100]	Morioka et al., 2001[8]
Risk reduct.for 1%-point lower HbA1c PD mort.	12	[0-100]	Morioka et al., 2001[8]
Risk reduct.for 1%-point lower HbA1c RT mort.	0	[0-100]	Wiesbauer et al., 2010[4]
Risk reduct.for 1%-point lower HbA1c 1st ulcer	17	[0-100]	Monami et al., 2009[9]
SBP adjustments			
Risk reduct.for 10mmHg lower SBP all micro T2	13	[0-100]	Adler et al., 2000[10]
Risk reduct.for 10mmHg lower SBP SVL T2	0	[0-100]	Assumption (No data)
MI			
Prop. init. CHD event MI female	0.361	[0-1]	D'Agostino et al., 2000[11]
Prop. init. CHD event MI male	0.522	[0-1]	D'Agostino et al., 2000[11]
Prop. subseq. CHD event MI female	0.474	[0-1]	D'Agostino et al., 2000[11]
Prop. subseq. CHD event MI male	0.451	[0-1]	D'Agostino et al., 2000[11]
Increased risk MI if MA	1.00	Multiplier	Assumption (No data)
Increased risk MI if GPR	1.00	Multiplier	Assumption (No data)
Increased risk MI if ESRD	1.00	Multiplier	Assumption (No data)
Multiplier for risk rec. MI if DIGAMI intensive control	1.00	Multiplier	Assumption (No data)
Multiplier for risk pot. MI mort. if DIGAMI intensive control	1.00	Multiplier	Assumption (No data)
Multiplier Aspirin 1° MI	0.82	Multiplier	ATT Collaboration, 2009[12]
Multiplier Aspirin 2° MI	0.80	Multiplier	ATT Collaboration, 2009[12]
Multiplier Statins 1° MI	0.70	Multiplier	Brugts et al 2009[13]
Multiplier Statins 2° MI	0.81	Multiplier	Shepherd et al 2002[14]
Risk reduct. with ACE 1st MI	0.78	[0-1]	HOPE Study Investigators, 2000[15]
Risk reduct. with ACE rect. MI	0.78	[0-1]	HOPE Study Investigators 2000[15]
MI mortality			
p sudden death 1st MI male	0.393	[0-1]	Sonke et al., 1996[16]
p sudden death 1st MI female	0.364	[0-1]	Sonke et al., 1996[16]
p sudden death rec. MI male	0.393	[0-1]	Sonke et al., 1996[16]
p sudden death rec. MI female	0.364	[0-1]	Sonke et al., 1996[16]
Multiplier 12-month mort. MI conventional treatment	1.45	Multiplier	Malmberg et al., 1995[17]

Multiplier Aspirin mortality 1st year MI	0.88	Multiplier	Antiplatelet Trialists' Collaboration, 1994[18]
Multiplier Aspirin mortality 2nd+ years MI	0.88	Multiplier	Antiplatelet Trialists' Collaboration, 1994[18]
Multiplier Statins mortality 1st year MI	0.75	Multiplier	Stenestrand et al., 2001[19]
Multiplier Statins mortality 2nd+ years MI	1.00	Multiplier	Assumption (No data)
Multiplier Aspirin sudden death MI	1.00	Multiplier	Assumption (No data)
Multiplier Statin sudden death MI	1.00	Multiplier	Briel et al., 2006[20]
Multiplier ACE sudden death MI	1.00	Multiplier	Assumption (No data)
Risk reduct. with ACE MI long-term mort.	0.64	[0-1]	Gustafsson et al., 1999[21]
Risk reduct. with ACE MI 12-month mort.	0.64	[0-1]	Gustafsson et al., 1999[21]
Stroke			
Multiplier Stroke MA	1.00	Multiplier	Assumption (no data)
Multiplier Stroke GRP	1.00	Multiplier	Assumption (no data)
Multiplier Stroke ESRD	1.00	Multiplier	Assumption (no data)
Multiplier Aspirin 1° stroke	0.86	Multiplier	ATT Collaboration, 2009[12]
Multiplier Aspirin 2° stroke	0.78	Multiplier	ATT Collaboration, 2009[12]
Multiplier Statins 1° stroke	0.81	Multiplier	Brugts et al., 2009[13]
Multiplier Statins 2° stroke	0.84	Multiplier	SPARCL Investigators, 2006[22]
Risk reduct. with ACE 1st stroke	0.67	[0-1]	HOPE Study Investigators, 2000[15]
Risk reduct. with ACE rec. stroke	0.72	[0-1]	PROGRESS Collaborative Group, 2001[23]
Stroke mortality			
p 30-day death 1st stroke male	0.124	[0-1]	Eriksson et al., 2001[24]
p 30-day death 1st stroke female	0.124	[0-1]	Eriksson et al., 2001[24]
p 30-day death rec. stroke male	0.422	[0-1]	Eriksson et al., 2001[24]
p 30-day death rec. stroke female	0.422	[0-1]	Eriksson et al., 2001[24]
Multiplier Aspirin mortality 1st year stroke	0.84	Multiplier	Antiplatelet Trialists' Collaboration, 1994[18]
Multiplier Aspirin mortality 2nd+ years stroke	0.84	Multiplier	Antiplatelet Trialists' Collaboration, 1994[18]
Multiplier Statins mortality 1st year stroke	1.00	Multiplier	Manktelow et al., 2009[25]
Multiplier Statins mortality 2nd+ years stroke	1.00	Multiplier	Manktelow et al., 2009[25]
Multiplier Aspirin sudden death stroke	0.95	Multiplier	Sandercock et al., 2008[26]
Multiplier Statin sudden death stroke	1.00	Multiplier	Briel et al., 2006[20]
Multiplier ACE sudden death stroke	0.49	Multiplier	Chitravas et al., 2007[27]
Risk reduct.with ACE stroke long-term mort.	1.000	[0-1]	Asberg et al., 2010[28]
Risk reduct.with ACE stroke 12-month mort.	1.000	[0-1]	Asberg et al., 2010[28]
Angina			
Prop. init. CHD event angina Female	0.621	[0-1]	D'Agostino et al., 2000[11]
Prop. init. CHD event angina Male	0.420	[0-1]	D'Agostino et al., 2000[11]
Prop. subseq. CHD event angina Female	0.359	[0-1]	D'Agostino et al., 2000[11]
Prop. subseq. CHD event angina Male	0.301	[0-1]	D'Agostino et al., 2000[11]
Multiplier Angina MA	1.00	Multiplier	Assumption (No data)

Multiplier Angina GRP	1.00	Multiplier	Assumption (No data)
Multiplier Angina ESRD	1.00	Multiplier	Assumption (No data)
Congestive heart failure			
Increased risk HF if MA	1.00	Multiplier	Assumption (No data)
Increased risk HF if GPR	1.00	Multiplier	Assumption (No data)
Increased risk HF if ESRD	1.00	Multiplier	Assumption (No data)
Risk reduct. HF if Aspirin	1.00	[0-1]	Assumption (No data)
Risk reduct. HF if Statin	1.00	[0-1]	Assumption (No data)
Risk reduct. HF if ACE	0.80	[0-1]	HOPE Study Investigators 2000[15]
Risk reduct. HF death if ACE	0.80	[0-1]	Ascencao et al., 2008[29]
Multiplier HF death diabetic male	1.00	Multiplier	Ho et al., 1993[30]
Multiplier HF death diabetic female	1.70	Multiplier	Ho et al., 1993[30]
ACE inhibitor adjustments for microvascular complications			
Risk reduct. with ACE BDR T2	0.75	[0-1]	Chaturvedi et al., 1998[31]
Risk reduct. with ACE PDR T2	0.19	[0-1]	Chaturvedi et al., 1998[31]
Risk reduct. with ACE ME T2	1.00	[0-1]	Assumption (No data)
Risk reduct. with ACE SVL T2	1.00	[0-1]	Assumption (No data)
Risk reduct. with ACE Neuropathy T2	1.00	[0-1]	Assumption (No data)
Probabilities for ACE side effects			
p SEs stopping ACE 1st year	0.000	[0-1]	Assumption (No data)
p SEs stopping ACE 2nd+ years	0.000	[0-1]	Assumption (No data)
Adjustments for race			
Multiplier race Hispanic no->BDR T2	1.44	Multiplier	Wong et al., 2006[32]
Multiplier race Black no->BDR T2	1.57	Multiplier	Wong et al., 2006[32]
Multiplier race Native American no->BDR T2	1.20	Multiplier	Varma et al., 2007[33]
Multiplier race Hispanic BDR->PDR T2	1.44	Multiplier	Wong et al., 2006[32]
Multiplier race Black BDR->PDR T2	1.57	Multiplier	Wong et al., 2006[32]
Multiplier race Native American BDR->PDR T2	1.20	Multiplier	Varma et al., 2007[33]
Multiplier race Hispanic PDR->SVL T2	1.00	Multiplier	Assumption (No data)
Multiplier race Black PDR->SVL T2	1.00	Multiplier	Assumption (No data)
Multiplier race Native American PDR->SVL T2	1.00	Multiplier	Assumption (No data)
Multiplier race Hispanic ME->SVL T2	1.00	Multiplier	Assumption (No data)
Multiplier race Black ME->SVL T2	1.00	Multiplier	Assumption (No data)
Multiplier race Native American ME->SVL T2	1.00	Multiplier	Assumption (No data)
Multiplier race Hispanic no->neuro T2	1.00	Multiplier	Franklin et al 1994[34]
Multiplier race Black no->neuro T2	1.00	Multiplier	Assumption (No data)
Multiplier race Native American no->neuro T2	0.67	Multiplier	Sosenko et al., 1999[35]
Multiplier race no to MA type2 Hispanic	1.93	Multiplier	Young et al., 2005[36]
Multiplier race no to MA type2 Black	1.32	Multiplier	Young et al., 2005[36]
Adverse events			
p die major hypo T2	0.000	[0-1]	Ben-Ami et al., 1999[37]

p die ketoacidosis	0.027	[0-1]	MacIsaac et al., 2002[38]
p die after lactic acidosis	0.430	[0-1]	Campbell, 1985[39]
Increased risk hypo with ACE T2	1.00	Multiplier	Assumption (No data)
Foot ulcer and amputation			
p gangrene to amp. with gangrene	0.181800	[0-1] monthly based	Persson et al., 2000[40]
p gangrene to healed amp.	0.308200	[0-1] monthly based	Persson et al., 2000[40]
p death following onset gangrene	0.009800	[0-1] monthly based	Persson et al., 2000[40]
p death with history amputation	0.004000	[0-1] monthly based	Persson et al., 2000[40]
p death following healed ulcer	0.004000	[0-1] monthly based	Persson et al., 2000[40]
p developing recurrent uninfected ulcer	0.039300	[0-1] monthly based	Persson et al., 2000[40]
p amputation following infected ulcer	0.003700	[0-1] monthly based	Persson et al., 2000[40]
p infected ulcer->amp healed	0.044500	[0-1] monthly based	Persson et al., 2000[40]
p infected ulcer->death	0.009800	[0-1] monthly based	Persson et al., 2000[40]
p infected ulcer->gangrene	0.007500	[0-1] monthly based	Persson et al., 2000[40]
p infected ulcer->uninfected ulcer	0.139700	[0-1] monthly based	Persson et al., 2000[40]
p recurrent amp.	0.008451	[0-1] monthly based	Borkosky et al., 2012[41]
p uninfected ulcer->death	0.004000	[0-1] monthly based	Persson et al., 2000[40]
p uninfected ulcer->infect ulcer	0.047300	[0-1] monthly based	Persson et al., 2000[40]

p uninfected ulcer->healed ulcer	0.078700	[0-1] monthly based	Persson et al., 2000[40]
p developing ulcer with neither neur. or PVD	0.000250	[0-1] monthly based	Ragnarson Tennvall et al., 2001[42]
p developing ulcer with either neur. or PVD	0.006092	[0-1] monthly based	Ragnarson Tennvall et al., 2001[42]
p developing ulcer with both neuropathy or PVD	0.006092	[0-1] monthly based	Ragnarson Tennvall et al., 2001[42]
Depression			
Multiplier for all cause death if depression	1.33	Multiplier	Egede et al., 2005[43]
Multiplier for CHF if depression	1.00	Multiplier	Assumption (No data)
Multiplier for MI if depression	1.00	Multiplier	Assumption (No data)
Multiplier for depression if neuropathy	3.10	Multiplier	Yoshida et al., 2009[44]
Multiplier for depression if stroke	6.30	Multiplier	Whyte et al., 2004[45]
Multiplier for depression if amp.	1.00	Multiplier	Assumption (No data)
Other			
p BDR->SVL	0.0148	[0-1]	Javitt et al., 1994[46]
p reversal of neuropathy	0.000	[0-1]	Assumption (No data)

ACE = angiotensin-converting enzyme; amp. = amputation; ATT = Antithrombotic Trialists; BDR = background diabetic retinopathy; CHD = coronary heart disease; DIGAMI = Diabetes Mellitus, Insulin Glucose Infusion in Acute Myocardial Infarction; ESRD = end-stage renal disease; GBR = guided bone regeneration; GRP = gastrin-releasing peptide; HbA1c = glycated haemoglobin; HD mort. = haemodialysis mortality; HF = heart failure; HOPE study = Heart Outcomes Prevention Evaluation; hypo = hypoglycaemic event; init. = initial; MA = microalbuminuria; ME = macular edema (oedema); MI = myocardial infarction; mort. = mortality; neur = neuropathy; p = probability; PD = peritoneal dialysis; PDR = proliferative diabetic retinopathy; PROGRESS = The Perindopril Protection Against Recurrent Stroke Study; Prop. = proportion; PVD = peripheral vascular disease; rec. = recurrent; reduct. = reduction; RT = renal transplant; SBP = systolic blood pressure; SE = side effect; SPARCL = Stroke Prevention by Aggressive Reduction in Cholesterol Levels; subseq. = subsequent; SVL = severe visual loss; T2 = type 2.

Appendix 5: Other management relevant inputs

	Required values	Units/ Range	References/Notes
Concomitant medication	**Mean**		
Prop. 1° prevention ASP	0.360	[0-1]	Eliasson et al., 2005[47]
Prop. 2° prevention ASP	0.881	[0-1]	Gudbjörnsdottir et al., 2009[48]
Prop. 1° prevention Statins	0.616	[0-1]	Socialstyrelsen, 2011[49]
Prop. 2° prevention Statins	0.868	[0-1]	Gudbjörnsdottir et al., 2009[48]
Prop. 1° prevention ACE-I	0.644	[0-1]	Socialstyrelsen, 2011[49]
Prop. 2° prevention ACE-I	0.644	[0-1]	Socialstyrelsen, 2011[49]
Screening and patient management proportions			
Prop. on foot ulcer prevention program	0.892	[0-1]	Socialstyrelsen, 2011[49]
Prop. screened eye disease	0.937	[0-1]	Socialstyrelsen, 2011[49]
Prop. screened for renal disease	0.726	[0-1]	Socialstyrelsen, 2011[49]
Prop. receiving intensive insulin after MI	0.877	[0-1]	McMullin et al., 2004[50]
Prop. treated with extra ulcer treatment	0.570	[0-1]	Lyon, 2008[51]
Prop. screened for depression - no complications	0.000	[0-1]	Not used in this analysis
Prop. screened for depression - complications	0.000	[0-1]	Not used in this analysis
Other			
Reduction in incidence FU with preventive program	0.310	[0-1]	O'Meara et al., 2000[52]
Improvement in ulcer healing rate with extra ulcer treatment	1.390	Multiplier	Kantor et al., 2001[53]
Reduction in amputation rate with footcare	0.340	[0-1]	O'Meara et al., 2000[52]
Sensitivity eye screening	0.920	[0-1]	Lopez-Bastida et al., 2007[54]
Specificity eye screening	0.960	[0-1]	Lopez-Bastida et al., 2007[54]
Sensitivity GRP screening	0.830	[0-1]	Cortes-Sanabria et al., 2006[55]
Sensitivity MA screening	0.830	[0-1]	Cortes-Sanabria et al., 2006[55]
Specificity MA screening	0.96	[0-1]	Cortes-Sanabria et al., 2006[55]

ASP = aspirin; ACE-I = angiotensin-converting enzyme inhibitor; FU = foot ulcer; GRP = gross renal proteinuria; MA = microalbuminuria; MI = myocardial infarction; Prop. = proportion.

Appendix 6: Economic inputs

	Required values	Units / Range	References/notes
DISCOUNT RATES			
Discount clinical	3.0	%	Läkemedelsförmånsnämnden. Läkemedelsförmånsnämndens allmänna råd om ekonomiska utvärderingar, 2003[56]
Discount costs	3.0	%	Läkemedelsförmånsnämnden. Läkemedelsförmånsnämndens allmänna råd om ekonomiska utvärderingar, 2003[56]
SAMPLING FOR PROBABILISTIC SENSITIVITY ANALYSIS			
Percent variation direct costs	20.0	%	Assumed
Percent variation indirect costs	20.0	%	Assumed
MANAGEMENT COSTS			
c statins	936.10	SEK	TLV, 2013[57]
c aspirin	230.37	SEK	TLV, 2013[57]
c ACE	204.77	SEK	TLV, 2013[57]
c screening for MA	323.59	SEK	Sodra Regionvardsnamnden, 2014[58]
c screening for GRP	323.59	SEK	Sodra Regionvardsnamnden, 2014[58]
c stopping ACEs due to SE's	1,426.59	SEK	Sodra Regionvardsnamnden, 2014[58]
c eye screening	824.50	SEK	Sodra Regionvardsnamnden, 2014[58]
c foot screening program	3,108.64	SEK	Sodra Regionvardsnamnden, 2014[58]
c non-standard ulcer treatment (e.g. Regranex)	0.00	SEK	Assumption (no data)
c anti-depression treatment	0.00	SEK	Assumption (no data)
c screening for depression	0.00	SEK	Assumption (no data)
DIRECT COSTS CVD COMPLICATIONS			
c MI 1st year	141,066.01	SEK	Sigvant et al., 2011[59]
c MI 2nd+ years	37,591.44	SEK	Sigvant et al., 2011[59]
c angina 1st year	128,371.25	SEK	Sigvant et al., 2011[59]
c angina 2nd+ years	38,330.67	SEK	Sigvant et al., 2011[59]
c CHF 1st year	70,717.03	SEK	Gerdtham et al., 2009[60]
c CHF 2nd+ years	6,689.73	SEK	Gerdtham et al., 2009[60]
c stroke 1st year	116,926.81	SEK	Sigvant et al., 2011[59]
c stroke 2nd+ years	31,595.43	SEK	Sigvant et al., 2011[59]
c stroke death within 30 days	78,872.72	SEK	Gerdtham et al., 2009[60]
c PVD 1st year	176,029.06	SEK	Sigvant et al., 2011[59]
c PVD 2nd+ years	52,604.29	SEK	Sigvant et al., 2011[59]
DIRECT COSTS RENAL COMPLICATIONS			
HD costs 1st year	1,081,640.17	SEK	Sennfält et al., 2002[61]
annual costs HD 2+ years	1,081,640.17	SEK	Sennfält et al., 2002[61]
PD costs 1st year	883,213.24	SEK	Sennfält et al., 2002[61]

annual costs PD 2+ years	883,213.24	SEK	Sennfält et al., 2002[61]
RT costs 1st year	288,364.65	SEK	Henriksson, 2002[62]
annual costs RT 2+ years	48,761.11	SEK	Henriksson, 2002[62]
DIRECT COSTS ACUTE EVENTS			
c major hypo	5,036.14	SEK	Jonsson et al., 2006[63]; Anderson et al., 2002[64]; DCCT Research Group, 1991[65]
c minor hypo	0.00	SEK	Assumption
c keto event	24,734.07	SEK	Henriksson et al., 2002[62]
c lactic acid event	24,734.07	SEK	Henriksson et al., 2002[62]
c oedema onset (adv.ev.)	1,492.71	SEK	Sodra Regionvardsnamnden, 2014[58]
c oedema follow up (adv.ev.)	1,492.71	SEK	Sodra Regionvardsnamnden, 2014[58]
DIRECT COSTS EYE DISEASE			
c laser treatment	6,240.33	SEK	Sodra Regionvardsnamnden, 2014[58]
c cataract operation	28,284.33	SEK	Sodra Regionvardsnamnden, 2014[58]
c following cataract operation	0.00	SEK	Goodall et al., 2008[66]
c blindness - year of onset	6,250.35	SEK	Palmer et al., 2008[67]
c blindness - following years	6,251.42	SEK	Palmer et al., 2008[67]
DIRECT COSTS NEUROP/FOOT ULCER/AMP			
c neuropathy 1st year	41,876.64	SEK	Goodall et al., 2008[66]
c neuropathy 2nd+ years	0.00	SEK	Assumption
c amputation (event based)	68,418.34	SEK	Ghatnekar et al., 2001[68]
c amputation prosthesis (event based)	18,351.72	SEK	Ghatnekar et al., 2001[68]
c gangrene treatment	23,672.81	SEK	Ghatnekar et al., 2001[68]
c after healed ulcer	59,960.91	SEK	Apelqvist et al., 1995[69]
c infected ulcer	15,832.26	SEK	Ghatnekar et al., 2001[68]
c standard uninfected ulcer	13,776.38	SEK	Ghatnekar et al., 2001[68]
c healed ulcer history of amputation	236,949.97	SEK	Apelqvist et al., 1995[69]
QUALITY OF LIFE UTILITIES	**Mean**		
QoL T2 no complications	0.7850	[0-1]	Clarke et al., 2002[70]
QoL MI event	-0.0550	[-1-0]	Clarke et al., 2002[70]
QoL post-MI	0.7300	[0-1]	Clarke et al., 2002[70]
QoL angina	0.6950	[0-1]	Clarke et al., 2002[70]
QoL CHF	0.6770	[0-1]	Clarke et al., 2002[70]
QoL stroke event	-0.1640	[-1-0]	Clarke et al., 2002[70]
QoL post stroke	0.6210	[0-1]	Clarke et al., 2002[70]
QoL PVD	0.7240	[0-1]	Bagust et al., 2005[71]
QoL MA	0.7850	[0-1]	Assumed to be asymptomatic
QoL GRP	0.7370	[0-1]	Bagust et al., 2005[71]
QoL HD	0.6210	[0-1]	Wasserfallen et al., 2004[72]
QoL PD	0.5810	[0-1]	Wasserfallen et al., 2004[72]

QoL RT	0.7620	[0-1]	Kiberd 1995[73]
QoL BDR	0.7450	[0-1]	Fenwick et al., 2012[74]
QoL BDR wrongly treated	0.7450	[0-1]	Fenwick et al., 2012[74]
QoL PDR laser treated	0.7150	[0-1]	Fenwick et al., 2012[74]
QoL PDR no Laser	0.7150	[0-1]	Fenwick et al., 2012[74]
QoL ME	0.7450	[0-1]	Fenwick et al., 2012[74]
QoL SVL	0.7110	[0-1]	Clarke et al., 2002[70]
QoL cataract	0.7690	[0-1]	Lee et al., 2012[75]
QoL neuropathy	0.7010	[0-1]	Bagust et al., 2005[71]
QoL healed ulcer	0.7850	[0-1]	Assumed not to have impact on QoL
QoL active ulcer	0.6150	[0-1]	Bagust et al., 2005[71]
QoL amputation event	-0.2800	[-1-0]	Clarke et al., 2002[70]
QoL post-amputation	0.5050	[0-1]	Clarke et al., 2002[70]
QoL for major hypo events	-0.012	[-1-0]	Currie et al., 2006[76]
QoL for minor hypo events for flash monitoring arm	-0.00407999	[-1-0]	Lauridsen et al., 2014[77] (based on the minor hypo rate of 1685 per 100 pt yr)
QoL for minor hypo events for SMBG arm	-0.00328622	[-1-0]	Lauridsen et al., 2014[77] (based on the minor hypo rate of 2331 per 100 pt yr)
QoL keto event	0.0000	[-1-0]	Assumption (No data)
QoL LA event	0.0000	[-1-0]	Assumption (No data)
QoL fear of hypoglycaemic event	0.0000	[-1-1]	Assumption (No data)
QoL oedema event (adv.ev.)	0.0000	[-1-0]	Assumption (No data)
QoL post-oedema (adv.ev.)	0.0000	[0-1]	Assumption (No data)
QoL depression not treated	0.0000	[0-1]	Assumption (No data)
QoL depression treated	0.0000	[0-1]	Assumption (No data)
Indirect Costs			
Retirement age	65	years	OECD, 2013[78]
Age at first income	18	years	Assumption
Mean salary male	385,028.36	SEK	Statistics Sweden, 2014[79]
Mean salary female	331,052.43	SEK	Statistics Sweden, 2014[79]
No. work days/year	210	days	Ekonomifakta, 2014[80]
Days off work, CVD complications			
MI event	93	days	Beaudet et al., 2011[81]
Annual days off work, MI	0	days	Assumption (no data)
Onset angina	159	days	Beaudet et al., 2011[81]
Annual days off work, angina	0	days	Assumption (no data)
Onset CHF	296	days	Beaudet et al., 2011[81]
Annual days off work, CHF	0	days	Assumption (no data)
Stroke event	403	days	Beaudet et al., 2011[81]
Annual days off work, stroke	618	days	Beaudet et al., 2011[81]
Onset PVD	125	days	Beaudet et al., 2011[81]
Annual days off work, PVD	0	days	Assumption (no data)
Days off work, renal complications			
Onset HD	564	days	Beaudet et al., 2011[81]
Onset PD	564	days	Beaudet et al., 2011[81]

Onset RT	461	days	Beaudet et al., 2011[81]
Annual days off work, HD	0	days	Assumption (no data)
Annual days off work, PD	0	days	Assumption (no data)
Annual days off work, RT	0	days	Assumption (no data)
Days off work, eye disease			
Onset SVL	281	days	Beaudet et al., 2011[81]
Annual days off work, SVL	0	days	Assumption (no data)
Onset cataract	5	days	Beaudet et al., 2011[81]
Annual days off work, cataract	0	days	Assumption (no data)
Days off work, neuropathy/foot ulcer/amputation			
Onset, neuropathy	61	days	Beaudet et al., 2011[81]
Annual days off work, neuropathy	0	days	Assumption (no data)
Onset ulcer	183	days	Beaudet et al., 2011[81]
Annual days off work, ulcer	0	days	Assumption (no data)
Onset infected ulcer	183	days	Beaudet et al., 2011[81]
Annual days off work, infected ulcer	0	days	Assumption (no data)
Onset healed ulcer	0	days	Assumption (no data)
Annual days off work, healed ulcer	0	days	Assumption (no data)
Onset gangrene	182	days	Beaudet et al., 2011[81]
Annual days off work, gangrene	0	days	Assumption (no data)
Amputation event based	260	days	Beaudet et al., 2011[81]
Annual days off work, amputation	0	days	Assumption (no data)
Days off work, acute events			
Major hypo	37	days	Beaudet et al., 2011[81]
Minor hypo	75	days	Beaudet et al., 2011[81]
Lactic acid event	75	days	Beaudet et al., 2011[81]
Days off work, depression			
Depression	0	days	Assumption (no data)

ACE = angiotensin-converting enzyme; adv.ev. = adverse event; BDR = background diabetic retinopathy; c = cost; CHF = congestive heart failure; CVD = cardiovascular disease; GRP = gross renal proteinuria; HD = haemodialysis; hypo = hypoglycaemicevent; keto = ketoacidosis; MA = microalbuminuria; ME = macular edema (oedema); MI = myocardial infarction; OECD = Organisation for Economic Co-operation and Development; LA = lactic acidosis; PD = peritoneal dialysis; PDR = proliferative diabetic retinopathy; PVD = peripheral vascular disease; pt yr = patient year; QoL = quality of life; RT = renal transplant; SE = side effect; SEK = Swedish kroner; SMBG = self-monitoring of blood glucose; SVL = severe visual loss; T2 = Type 2.

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