

Table S1. Definitions of variables with associated codes used in the study.

Variables	Codes	Registers	Notes
T2D	ICD-10 codes of T2D: E10-E14, O24 (except O24.4), G623, H360, N08.3, G590, H289, H334B, T383, M142 NPU codes: NPU27300, NPU03835 ATC-codes: A10	DNPR, RLRR, NPR	The Open-Source Diabetes Classifier defines diabetes by either: HbA1c measurements ≥ 48 mmol/mol (6.5%), hospital diagnosis of diabetes or prescription of glucose lowering medication. Earliest date is taken as incidence date. T1D and T2D are distinguished based on hospital diagnoses of diabetes and patterns of insulin purchases.
HbA1c	NPU codes: NPU27300, NPU03835	RLRR	% was converted to mmol/mol with formula: $\text{HbA1c(mmol/mol)} = 10.93 * \text{HbA1c(\%)} - 23.5$
LDL-cholesterol	NPU codes: NPU01568, NPU10171	RLRR	
HDL-cholesterol	NPU codes: NPU01567, NPU10157	RLRR	
eGFR	NPU codes: DNK35301, DNK35302, DNK35303, DNK35304, DNK35131, NPU28811, NPU28812	RLRR	
Blood pressure lowering medication	ATC codes: C02, C03, C07, C08, C09	NPR	
Lipid lowering medication	ATC codes: C10	NPR	
Oral glucose lowering medication	ATC codes: A10B	NPR	
Insulin glucose lowering medication	ATC codes: A10A	NPR	
IHD	ICD-8 codes: 410, 411, 412, 413, 414 ICD-10 codes: I20, I21, I22, I23, I24,	DNPR, DDR	Used to determine prevalent CVD at baseline and incident CVD-events or CVD-mortality after baseline

I25

SKS procedure codes:
KFNA-KFNG excluding
KFNG20, KFNG22

Stroke

ICD-8 codes:
431, 432, 433, 434,
436

DNPR,
DDR

Used to determine prevalent CVD at baseline and
incident CVD-events or CVD-mortality after
baseline

ICD-10 codes:
I61, I63, I64, I65, I66,
I693, I694

SKS procedure codes:
KAAL10, KAAL11,
KPAQ10,
KPAQ20,
KPAQ21

Heart failure

ICD-8 codes:
428

DNPR,
DDR

Used to determine prevalent CVD at baseline and
incident CVD-events or CVD-mortality after
baseline

ICD-10 codes:
I110, I130, I132, I50

ATC, Anatomical Therapeutic Chemical classification; DNDR, Danish National Death registers; DNPR, The Danish National Patient Registry; eGFR, estimated glomerular filtration rate; Hb1Ac, glycosylated hemoglobin; HDL, high-density lipoprotein; ICD, International Classification of Diseases; IHD, ischemic heart disease; LDL, low-density lipoprotein; NPR, The Danish National Prescription Registry; NPU, Nomenclature for Properties and Units; RLRR, Register of Laboratory Results for Research; T1D, type 1 diabetes; T2D, type 2 diabetes.

Table S2. Baseline characteristics of study sample stratified by age group (<40/40-60/>60), sex and blood pressure lowering, lipid lowering, oral glucose lowering medication, and insulin use.

Characteristic	Age			Sex		Blood pressure lowering medication		Lipid lowering medication		Oral glucose lowering medication		Insulin	
	<40	40-60	>60	Female	Male	No	Yes	No	Yes	No	Yes	No	Yes
Number	2,392	24,845	56,089	40,122	43,204	20,055	63,271	25,575	57,751	16,493	66,833	68,597	14,729
Age (years)	34 (±5)	52 (±5)	72(±8)	66 (±13)	64 (±12)	58 (±13)	67 (±11)	63 (±14)	66 (±11)	66 (±14)	65 (±12)	65 (±12)	64 (±12)
Age at T2D diagnosis (years)	29 (±7)	46 (±7)	63 (±9)	58 (±13)	57 (±12)	52 (±13)	59 (±12)	56 (±14)	58 (±12)	59 (±15)	57 (±12)	59 (±12)	51 (±12)
T2D duration (years)	3 (2-6)	5 (3-8)	6 (3-11)	6 (3-11)	6 (3-10)	4 (2-8)	6 (3-11)	5 (2-9)	6 (3-11)	4 (2-10)	6 (3-11)	5 (3-8)	13 (8-17)
Female (yes)	50%	45%	49%	100%	0%	46%	49%	48%	48%	54%	47%	49%	46%
HbA1C (mmol/mol)	50 (42-62)	50 (44-60)	48 (43-54)	48 (43-55)	49 (43-57)	48 (43-57)	48 (43-56)	47 (42-55)	49 (44-56)	45 (40-51)	49 (44-57)	47 (42-53)	60 (52-70)
Total cholesterol (mmol/L)	4.4 (3.8-5.2)	4.3 (3.7-5.0)	4.2 (3.6-4.8)	4.4 (3.8-5.1)	4.1 (3.5-4.7)	4.4 (3.8-5.2)	4.1 (3.6-4.8)	4.8 (4.2-5.5)	4.0 (3.5-4.6)	4.6 (3.9-5.4)	4.1 (3.6-4.8)	4.3 (3.7-4.9)	4.0 (3.5-4.7)
HDL-cholesterol (mmol/L)	1.1 (0.9-1.3)	1.2 (1.0-1.4)	1.3 (1.1-1.6)	1.4 (1.1-1.7)	1.2 (1.0-1.4)	1.2 (1.0-1.5)	1.3 (1.0-1.5)	1.2 (1.0-1.5)	1.3 (1.0-1.5)	1.3 (1.1-1.7)	1.2 (1.0-1.5)	1.3 (1.0-1.5)	1.2 (1.0-1.5)
LDL-cholesterol (mmol/L)	2.5 (1.9-3.1)	2.3 (1.7-2.9)	2.1 (1.6-2.7)	2.2 (1.7-2.9)	2.1 (1.6-2.7)	2.4 (1.8-3.1)	2.1 (1.6-2.7)	2.7 (2.2-3.3)	1.9 (1.5-2.4)	2.5 (1.9-3.2)	2.1 (1.6-2.7)	2.2 (1.7-2.8)	2.0 (1.5-2.5)
eGFR (mL/min/1.73m ²)	90 (90-90)	90 (81-90)	77 (62-90)	80 (64-90)	85 (71-90)	90 (79-90)	80 (64-90)	86 (70-90)	82 (67-90)	80 (64-90)	84 (69-90)	83 (69-90)	81 (62-90)
Blood pressure lowering medication use (yes)	31%	62%	84%	77%	75%	0%	100%	63%	82%	69%	78%	75%	81%
Lipid lowering medication use (yes)	40%	64%	73%	69%	69%	52%	75%	0%	100%	50%	74%	68%	75%
Oral glucose lowering medication use (yes)	74%	82%	80%	78%	83%	74%	82%	68%	86%	0%	100%	81%	76%
Insulin medication use (yes)	23%	18%	17%	17%	18%	14%	19%	14%	19%	22%	17%	0%	100%

Data are presented as mean (±SD), median (Q1-Q3), or proportion (%). Baseline measurements were defined as the most recent measurement before the baseline index date of 1st of January 2015.

T2D, type 2 diabetes; HbA1c, glycated hemoglobin A1c; LDL, low-density lipoprotein; HDL, high-density lipoprotein; eGFR, estimated glomerular filtration rate.

Table S3. Summary statistics for the individual trajectory measures, along with the number of repeated measurements and their time-span of study sample stratified by age group (<40/40-60/>60), sex and blood pressure lowering, lipid lowering, oral glucose lowering medication, and insulin use.

[illegible]

Number of measurements	5 (3-8)	5 (3-8)	6 (4-10)	6 (4-10)	5 (3-9)	5 (3-8)	6 (4-10)	5 (3-9)	6 (4-9)	6 (4-10)	6 (3-9)	5 (3-9)	6 (4-11)
Time-span (days)	702 (348-906)	754 (438-934)	823 (572-965)	813 (551-959)	787 (496-952)	742 (406-927)	819 (562-964)	763 (432-942)	815 (560-961)	809 (567-960)	796 (509-955)	791 (512-952)	836 (561-973)
mean	90 (90-99)	90 (83-93)	78 (65-88)	81 (67-90)	85 (73-90)	89 (80-92)	81 (67-90)	85 (72-90)	83 (69-90)	81 (65-90)	84 (71-90)	84 (71-90)	82 (65-90)
SD	6 (0-12)	6 (2-10)	6 (3-8)	6 (3-9)	5 (3-9)	5 (2-9)	6 (3-9)	6 (3-9)	6 (3-9)	6 (3-9)	6 (3-9)	6 (3-9)	6 (3-9)
median	90 (90-90)	90 (83-90)	78 (65-90)	81 (66-90)	86 (73-90)	90 (80-90)	81 (67-90)	86 (72-90)	83 (69-90)	81 (65-90)	85 (71-90)	84 (71-90)	83 (64-90)
IQR	3 (0-11)	5 (0-10)	6 (3-9)	6 (3-10)	5 (2-9)	5 (1-9)	6 (3-9)	5 (2-9)	6 (2-9)	6 (3-9)	5 (2-9)	5 (2-9)	5 (2-10)
intercept	89 (87-91)	88 (81-89)	77 (63-87)	80 (65-88)	84 (71-89)	87 (79-89)	79 (65-88)	84 (71-89)	81 (67-88)	79 (64-88)	83 (69-89)	82 (69-89)	80 (63-88)
slope	2 (±4)	1 (±3)	1 (±3)	1 (±3)	1 (±3)	1 (±3)	1 (±3)	1 (±3)	1 (±3)	1 (±3)	1 (±3)	1 (±3)	2 (±4)

Data are presented as mean (±SD), median (Q1-Q3), frequencies (n) or time (days). The trajectory measures were calculated including all recorded measurements within the 3 years prior to the baseline index date of 1st of January 2015. (2012, 2013 and 2014).

Note: the trajectory measures were paired as mean & SD, median & IQR and intercept & slope from a fitted growth model.

T2D: type 2 diabetes; HbA1c: glycated hemoglobin A1c; LDL: low-density lipoprotein; eGFR: estimated glomerular filtration rate; SD: Standard deviation, IQR: Interquartile range.

Table S4. Incidence rates per 1000 person-years of MACE endpoint for total study sample, and stratified by sex, age group and blood pressure lowering, lipid lowering, oral glucose lowering medication, and insulin use.

Characteristic	Stratum	Events	Person-years	Incidence rate (95%CI) per 1000 person-years
Total		11280	443130	25.5 (25-25.9)
Age (years)	<40	62	14096	4.4 (3.4-5.6)
	40-60	2108	140729	15 (14.3-15.6)
	>60	9110	288305	31.6 (31-32.3)
Sex	Male	6637	226992	29.2 (28.5-30)
	Female	4643	216138	21.5 (20.9-22.1)
Blood pressure lowering medication	No	1871	111240	16.8 (16.1-17.6)
	Yes	9409	331890	28.3 (27.8-28.9)
Lipid lowering medication	No	3658	133878	27.3 (26.4-28.2)
	Yes	7622	309252	24.6 (24.1-25.2)
Oral glucose lowering medication	No	2412	85331	28.3 (27.1-29.4)
	Yes	8868	357799	24.8 (24.3-25.3)
Insulin	No	8698	367861	23.6 (23.2-24.1)
	Yes	2582	75268	34.3 (33-35.7)

Data are presented as Incidence rate (95%CI) per 1000 person-years for MACE: Ischemic heart disease, stroke, heart failure or CVD-mortality. CI, Confidence Interval.

Table S5. Association of paired trajectory measures with MACE endpoint, after adjustment for baseline predictors, stratified by age group (<40/40-60/>60), sex and blood pressure lowering, lipid lowering, oral glucose lowering medication, and insulin use.

Trajectory measure	Adjusted HR (95%CI) for MACE												
	Age			Sex		Blood pressure lowering medication		Lipid lowering medication		Oral glucose lowering medication		Insulin	
	<40	40-60	>60	Female	Male	No	Yes	No	Yes	No	Yes	No	Yes
HbA1c ¹													
mean	1.04 (0.90-1.21)	1.03 (1.00-1.06)	0.99 (0.97-1.02)	1.00 (0.97-1.03)	1.01 (0.99-1.04)	1.02 (0.98-1.05)	1.00 (0.98-1.02)	1.02 (0.99-1.05)	1.00 (0.98-1.02)	0.98 (0.94-1.01)	1.02 (0.99-1.04)	1.00 (0.97-1.02)	1.04 (1.00-1.07)
SD	0.93 (0.63-1.36)	1.01 (0.93-1.08)	1.12 (1.07-1.18)	1.11 (1.04-1.19)	1.06 (1.01-1.11)	1.04 (0.97-1.13)	1.09 (1.04-1.14)	1.05 (0.98-1.11)	1.10 (1.04-1.16)	1.19 (1.08-1.30)	1.06 (1.02-1.11)	1.10 (1.05-1.16)	1.06 (0.99-1.13)
median	1.05 (0.92-1.20)	1.02 (1.00-1.05)	1.01 (0.99-1.03)	1.01 (0.98-1.04)	1.02 (0.99-1.04)	1.02 (0.99-1.06)	1.01 (0.99-1.03)	1.02 (1.00-1.05)	1.01 (0.99-1.03)	0.99 (0.96-1.02)	1.02 (1.00-1.04)	1.01 (0.98-1.03)	1.04 (1.01-1.07)
IQR	0.92 (0.69-1.23)	1.03 (0.98-1.09)	1.07 (1.03-1.11)	1.06 (1.01-1.12)	1.05 (1.01-1.09)	1.03 (0.97-1.09)	1.06 (1.03-1.10)	1.03 (0.98-1.08)	1.07 (1.03-1.11)	1.10 (1.02-1.19)	1.05 (1.01-1.08)	1.07 (1.03-1.11)	1.05 (1.00-1.10)
intercept	1.04 (0.90-1.20)	1.03 (1.00-1.06)	1.02 (1.00-1.04)	1.02 (1.00-1.05)	1.03 (1.01-1.05)	1.02 (0.99-1.06)	1.02 (1.01-1.04)	1.03 (1.00-1.05)	1.02 (1.00-1.05)	1.01 (0.98-1.04)	1.03 (1.01-1.05)	1.03 (1.00-1.05)	1.05 (1.02-1.08)
slope	1.03 (0.62-1.70)	1.14 (1.03-1.26)	1.17 (1.10-1.25)	1.16 (1.06-1.27)	1.17 (1.09-1.25)	1.24 (1.11-1.38)	1.14 (1.07-1.21)	1.15 (1.05-1.26)	1.17 (1.09-1.25)	1.14 (0.99-1.31)	1.17 (1.11-1.25)	1.18 (1.10-1.27)	1.18 (1.08-1.29)
LDL-cholesterol ¹													
mean	1.07 (0.8-1.43)	1.02 (0.97-1.08)	1.01 (0.98-1.03)	1.01 (0.98-1.05)	1.01 (0.98-1.04)	1.04 (0.99-1.10)	1.01 (0.98-1.03)	1.01 (0.97-1.06)	1.01 (0.97-1.04)	1.00 (0.96-1.05)	1.01 (0.98-1.04)	1.01 (0.98-1.03)	1.03 (0.97-1.08)
SD	1.49 (1.05-2.12)	1.28 (1.14-1.44)	1.10 (1.03-1.17)	1.14 (1.05-1.24)	1.15 (1.07-1.234)	1.09 (0.96-1.24)	1.16 (1.09-1.23)	1.17 (1.04-1.30)	1.14 (1.07-1.22)	1.14 (1.01-1.28)	1.15 (1.08-1.22)	1.16 (1.09-1.23)	1.08 (0.95-1.22)
median	1.10 (0.84-1.43)	1.02 (0.97-1.08)	1.01 (0.99-1.04)	1.01 (0.98-1.05)	1.01 (0.98-1.05)	1.04 (0.99-1.09)	1.01 (0.98-1.03)	1.02 (0.98-1.06)	1.01 (0.98-1.05)	1.01 (0.96-1.06)	1.02 (0.99-1.04)	1.01 (0.99-1.04)	1.02 (0.97-1.08)
IQR	1.68 (1.14-2.49)	1.20 (1.08-1.33)	1.09 (1.03-1.15)	1.10 (1.03-1.19)	1.12 (1.05-1.20)	1.07 (0.96-1.19)	1.128 (1.069-1.190)	1.16 (1.05-1.29)	1.10 (1.04-1.17)	1.08 (0.98-1.20)	1.12 (1.06-1.19)	1.12 (1.06-1.18)	1.07 (0.96-1.20)
intercept	1.24 (0.90-)	1.07 (1.01-)	1.03 (1.00-)	1.04 (1.00-)	1.04 (1.00-)	1.05 (0.99-)	1.04 (1.01-1.07)	1.03 (0.98-)	1.05 (1.01-)	1.02 (0.97-)	1.04 (1.01-)	1.03 (1.00-)	1.06 (1.00-)

		1.72)	1.13)	1.06)	1.08)	1.08)	1.12)		1.08)	1.08)	1.08)	1.08)	1.07)	1.12)
	slope	2.39	1.83	1.37	1.54	1.42	2.02		1.16	1.58	1.35	1.52	1.44	1.69
		(0.37-	(1.27-	(1.13-	(1.19-	(1.13-	(1.35-	1.38 (1.14-	(0.82-	(1.30-	(0.94-	(1.25-	(1.19-	(1.17-
		15.4)	2.64)	1.67)	1.99)	1.79)	3.02)	1.67)	1.64)	1.92)	1.95)	1.84)	1.75)	2.44)
eGFR ¹														
	mean	0.95	0.98	1.00	0.99	0.99	0.99	0.99 (0.98-	1.00	0.99	0.99	0.99	1.00	0.99
		(0.80-	(0.95-	(0.98-	(0.98-	(0.98-	(0.96-	1.01)	(0.98-	(0.98-	(0.98-	(0.98-	(0.98-	(0.97-
		1.13)	1.01)	1.01)	1.01)	1.01)	1.03)		1.01)	1.01)	1.01)	1.01)	1.01)	1.01)
	SD	1.43	1.17	1.21	1.21	1.20	1.14		1.15	1.22	1.25	1.18	1.22	1.12
		(1.01-	(1.09-	(1.16-	(1.14-	(1.14-	(1.05-	1.21 (1.16-	(1.08-	(1.17-	(1.15-	(1.13-	(1.17-	(1.04-
		2.01)	1.26)	1.26)	1.28)	1.26)	1.25)	1.26)	1.23)	1.28)	1.36)	1.24)	1.28)	1.21)
	median	0.97	0.98	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
		(0.82-	(0.95-	(0.99-	(0.98-	(0.99-	(0.97-	1.00 (0.99-	(0.98-	(0.99-	(0.98-	(0.99-	(0.99-	(0.98-
		1.14)	1.01)	1.01)	1.01)	1.01)	1.03)	1.01)	1.02)	1.01)	1.02)	1.01)	1.01)	1.01)
	IQR	1.13	1.10	1.13	1.12	1.12	1.09		1.08	1.15	1.17	1.11	1.13	1.08
		(0.89-	(1.04-	(1.10-	(1.08-	(1.09-	(1.02-	1.13 (1.09-	(1.03-	(1.11-	(1.11-	(1.07-	(1.10-	(1.03-
		1.44)	1.15)	1.17)	1.17)	1.16)	1.16)	1.16)	1.13)	1.18)	1.23)	1.14)	1.17)	1.14)
	intercept	1.02	0.99	1.00	1.00	1.00	1.01		1.00	1.00	1.00	1.00	1.01	1.00
		(0.84-	(0.96-	(0.99-	(0.99-	(0.99-	(0.97-	1.00 (0.99-	(0.98-	(0.99-	(0.98-	(0.99-	(0.99-	(0.98-
		1.23)	1.02)	1.02)	1.02)	1.02)	1.04)	1.01)	1.02)	1.02)	1.02)	1.02)	1.02)	1.02)
	slope	1.30	1.09	1.09	1.12	1.08	1.19		1.05	1.12	1.17	1.07	1.11	1.08
		(0.66-	(0.95-	(1.01-	(1.01-	(0.99-	(1.02-	1.08 (1.01-	(0.94-	(1.03-	(1.03-	(1.00-	(1.03-	(0.96-
		2.54)	1.25)	1.17)	1.23)	1.18)	1.40)	1.16)	1.17)	1.21)	1.34)	1.16)	1.20)	1.21)

¹HbA1c: per 10 mmol/mol, LDL-cholesterol: per 1 mmol/l, eGFR: per 10 ml/min/1,73m².

Data are presented as HR (95%CI) for MACE: Ischemic heart disease, stroke, heart failure or CVD-mortality.

Note: The trajectory measures were calculated including all recorded measurements within the 3 years prior to the baseline index date of 1st of January 2015. (2012, 2013 and 2014) and paired as mean & SD, median & IQR, and intercept & slope from a fitted growth model. The trajectory measure models were fitted using an offset procedure, sequentially adding one of the three types of paired trajectory measures to the respective (sub)sample reference model: mean & SD, median & IQR, and intercept & slope. All reference models (Cox-regression) included baseline measurements for age, age at T2D diagnosis, sex, HbA1c, LDL-cholesterol, HDL-cholesterol, eGFR, blood pressure lowering, lipid lowering, oral glucose lowering medication and insulin use.

HbA1c: Hemoglobulin A1c, LDL: low density lipoprotein, eGFR: estimated glomerular filtration rate, HR: Hazard ratio, CI: Confidence Interval, SD: Standard deviation, IQR: Interquartile range.

Table S6. The baseline reference models' coefficients and HRs for total study sample, and stratified by sex, age group and blood pressure lowering, lipid lowering, oral glucose lowering medication, and insulin use.

Stratum & Predictor	Coefficient (95%CI)	HR (95%CI)
Total Sample		
Age	0.057 (0.054, 0.061)	1.059 (1.055-1.063)
Age at T2D diagnosis	-0.017 (-0.021, -0.014)	0.983 (0.979-0.986)
Female	0.403 (0.363, 0.442)	1.496 (1.438-1.556)
HbA1c	0.076 (0.061, 0.092)	1.079 (1.062-1.097)
LDL-cholesterol	0.125 (0.102, 0.148)	1.133 (1.107-1.159)
HDL-cholesterol	-0.187 (-0.237, -0.137)	0.830 (0.789-0.872)
eGFR	-0.053 (-0.064, -0.043)	0.948 (0.938-0.958)
Blood pressure lowering medication use	0.214 (0.162, 0.267)	1.239 (1.176-1.306)
lipid lowering medication use	-0.147 (-0.192, -0.103)	0.863 (0.826-0.902)
oral glucose lowering medication use	-0.061 (-0.109, -0.014)	0.940 (0.897-0.986)
insulin medication use	0.165 (0.110, 0.221)	1.180 (1.116-1.247)
Age <40		
Age	0.118 (0.044, 0.191)	1.125 (1.045-1.211)
Age at T2D diagnosis	-0.073 (-0.119, -0.027)	0.930 (0.888-0.974)
Female	0.177 (-0.347, 0.701)	1.194 (0.707-2.016)
HbA1c	0.099 (-0.038, 0.236)	1.105 (0.963-1.267)
LDL-cholesterol	0.228 (-0.016, 0.472)	1.256 (0.984-1.604)
HDL-cholesterol	-0.070 (-0.859, 0.719)	0.932 (0.423-2.053)
eGFR	-0.017 (-0.184, 0.151)	0.983 (0.832-1.163)
Blood pressure lowering medication use	0.453 (-0.075, 0.982)	1.574 (0.928-2.669)
lipid lowering medication use	0.230 (-0.310, 0.770)	1.258 (0.733-2.159)
oral glucose lowering medication use	0.265 (-0.416, 0.946)	1.304 (0.660-2.576)
insulin medication use	-0.626 (-1.361, 0.109)	0.535 (0.256-1.116)
Age 40-60		
Age	0.056 (0.044, 0.068)	1.057 (1.045-1.070)
Age at T2D diagnosis	-0.022 (-0.031, -0.014)	0.978 (0.970-0.986)
Female	0.449 (0.356, 0.542)	1.566 (1.427-1.719)
HbA1c	0.095 (0.066, 0.124)	1.100 (1.069-1.132)
LDL-cholesterol	0.208 (0.160, 0.256)	1.231 (1.173-1.291)
HDL-cholesterol	-0.345 (-0.481, -0.210)	0.708 (0.618-0.810)
eGFR	-0.073 (-0.100, -0.045)	0.930 (0.905-0.956)
Blood pressure lowering medication use	0.216 (0.119, 0.313)	1.241 (1.127-1.367)
lipid lowering medication use	-0.076 (-0.173, 0.021)	0.927 (0.841-1.021)
oral glucose lowering medication use	-0.195 (-0.308, -0.081)	0.823 (0.735-0.922)
insulin medication use	0.222 (0.102, 0.342)	1.249 (1.107-1.408)
Age >60		
Age	0.058 (0.054, 0.063)	1.060 (1.055-1.065)
Age at T2D diagnosis	-0.016 (-0.020, -0.012)	0.984 (0.980-0.988)
Female	0.390 (0.346, 0.434)	1.477 (1.413-1.543)
HbA1c	0.063 (0.044, 0.082)	1.065 (1.045-1.086)
LDL-cholesterol	0.097 (0.071, 0.124)	1.102 (1.074-1.132)
HDL-cholesterol	-0.170 (-0.224, -0.116)	0.844 (0.799-0.891)
eGFR	-0.051 (-0.062, -0.039)	0.950 (0.940-0.961)

Blood pressure lowering medication use	0.212 (0.149, 0.276)	1.236 (1.160-1.317)
lipid lowering medication use	-0.173 (-0.224, -0.123)	0.841 (0.799-0.885)
oral glucose lowering medication use	-0.030 (-0.083, 0.023)	0.970 (0.920-1.023)
insulin medication use	0.168 (0.106, 0.231)	1.183 (1.111-1.260)

Female		
Age	0.058 (0.052, 0.063)	1.059 (1.053-1.066)
Age at T2D diagnosis	-0.014 (-0.020, -0.009)	0.986 (0.980-0.991)
Female	n.a.	0.000 ()
HbA1c	0.088 (0.062, 0.113)	1.092 (1.064-1.120)
LDL-cholesterol	0.101 (0.066, 0.135)	1.106 (1.069-1.144)
HDL-cholesterol	-0.227 (-0.299, -0.154)	0.797 (0.741-0.858)
eGFR	-0.054 (-0.070, -0.039)	0.947 (0.932-0.962)
Blood pressure lowering medication use	0.299 (0.209, 0.389)	1.349 (1.233-1.475)
lipid lowering medication use	-0.189 (-0.259, -0.118)	0.828 (0.772-0.889)
oral glucose lowering medication use	0.011 (-0.061, 0.083)	1.011 (0.941-1.086)
insulin medication use	0.145 (0.056, 0.234)	1.156 (1.057-1.263)

Male		
Age	0.058 (0.052, 0.063)	1.059 (1.054-1.065)
Age at T2D diagnosis	-0.020 (-0.025, -0.015)	0.981 (0.976-0.985)
Female	n.a.	n.a.
HbA1c	0.067 (0.047, 0.087)	1.070 (1.048-1.091)
LDL-cholesterol	0.142 (0.111, 0.173)	1.152 (1.117-1.189)
HDL-cholesterol	-0.152 (-0.221, -0.083)	0.859 (0.801-0.921)
eGFR	-0.051 (-0.066, -0.037)	0.950 (0.936-0.963)
Blood pressure lowering medication use	0.169 (0.104, 0.234)	1.184 (1.109-1.264)
lipid lowering medication use	-0.121 (-0.178, -0.064)	0.886 (0.837-0.938)
oral glucose lowering medication use	-0.117 (-0.181, -0.053)	0.890 (0.835-0.948)
insulin medication use	0.176 (0.106, 0.247)	1.193 (1.111-1.280)

Blood pressure lowering medication = No		
Age	0.060 (0.051, 0.070)	1.062 (1.052-1.072)
Age at T2D diagnosis	-0.015 (-0.024, -0.005)	0.985 (0.976-0.995)
Female	0.499 (0.398, 0.600)	1.647 (1.489-1.822)
HbA1c	0.118 (0.086, 0.151)	1.126 (1.090-1.163)
LDL-cholesterol	0.151 (0.099, 0.202)	1.162 (1.104-1.224)
HDL-cholesterol	-0.327 (-0.456, -0.198)	0.721 (0.634-0.820)
eGFR	0.002 (-0.030, 0.033)	1.002 (0.971-1.033)
Blood pressure lowering medication use	n.a.	n.a.
lipid lowering medication use	-0.126 (-0.225, -0.026)	0.882 (0.798-0.974)
oral glucose lowering medication use	-0.077 (-0.186, 0.032)	0.926 (0.830-1.033)
insulin medication use	0.124 (-0.020, 0.268)	1.132 (0.980-1.308)

Blood pressure lowering medication = Yes		
Age	0.057 (0.052, 0.061)	1.058 (1.054-1.063)
Age at T2D diagnosis	-0.018 (-0.022, -0.014)	0.982 (0.978-0.986)
Female	0.383 (0.339, 0.426)	1.466 (1.404-1.531)
HbA1c	0.062 (0.044, 0.080)	1.064 (1.045-1.084)
LDL-cholesterol	0.117 (0.091, 0.143)	1.124 (1.096-1.153)
HDL-cholesterol	-0.158 (-0.212, -0.103)	0.854 (0.809-0.902)
eGFR	-0.061 (-0.072, -0.050)	0.941 (0.930-0.951)

Blood pressure lowering medication use	n.a.	n.a.
lipid lowering medication use	-0.155 (-0.205, -0.105)	0.856 (0.815-0.900)
oral glucose lowering medication use	-0.057 (-0.111, -0.004)	0.944 (0.895-0.996)
insulin medication use	0.180 (0.120, 0.240)	1.197 (1.127-1.271)

Lipid lowering medication = No		
Age	0.060 (0.054, 0.067)	1.062 (1.055-1.069)
Age at T2D diagnosis	-0.018 (-0.025, -0.012)	0.982 (0.976-0.988)
Female	0.398 (0.328, 0.467)	1.488 (1.388-1.596)
HbA1c	0.106 (0.081, 0.132)	1.112 (1.084-1.141)
LDL-cholesterol	0.126 (0.087, 0.165)	1.134 (1.091-1.179)
HDL-cholesterol	-0.205 (-0.292, -0.118)	0.815 (0.747-0.889)
eGFR	-0.036 (-0.055, -0.017)	0.965 (0.947-0.983)
Blood pressure lowering medication use	0.227 (0.148, 0.305)	1.254 (1.159-1.357)
lipid lowering medication use	n.a.	n.a.
oral glucose lowering medication use	-0.113 (-0.185, -0.040)	0.894 (0.831-0.961)
insulin medication use	0.111 (0.009, 0.214)	1.118 (1.009-1.238)

Lipid lowering medication = Yes		
Age	0.056 (0.051, 0.061)	1.058 (1.052-1.063)
Age at T2D diagnosis	-0.017 (-0.022, -0.012)	0.983 (0.979-0.988)
Female	0.406 (0.358, 0.454)	1.501 (1.431-1.575)
HbA1c	0.059 (0.039, 0.079)	1.061 (1.039-1.082)
LDL-cholesterol	0.124 (0.095, 0.153)	1.132 (1.100-1.165)
HDL-cholesterol	-0.177 (-0.239, -0.116)	0.837 (0.787-0.891)
eGFR	-0.062 (-0.075, -0.049)	0.940 (0.928-0.952)
Blood pressure lowering medication use	0.211 (0.140, 0.282)	1.235 (1.150-1.326)
lipid lowering medication use	n.a.	n.a.
oral glucose lowering medication use	-0.027 (-0.090, 0.037)	0.974 (0.913-1.038)
insulin medication use	0.192 (0.126, 0.258)	1.211 (1.134-1.294)

Oral glucose lowering medication = No		
Age	0.059 (0.050, 0.067)	1.060 (1.052-1.069)
Age at T2D diagnosis	-0.023 (-0.030, -0.015)	0.977 (0.970-0.985)
Female	0.521 (0.437, 0.606)	1.684 (1.548-1.833)
HbA1c	0.139 (0.102, 0.175)	1.149 (1.108-1.192)
LDL-cholesterol	0.076 (0.030, 0.123)	1.079 (1.030-1.131)
HDL-cholesterol	-0.136 (-0.232, -0.041)	0.873 (0.793-0.960)
eGFR	-0.079 (-0.100, -0.059)	0.924 (0.905-0.943)
Blood pressure lowering medication use	0.284 (0.176, 0.391)	1.328 (1.193-1.478)
lipid lowering medication use	-0.224 (-0.314, -0.134)	0.799 (0.731-0.874)
oral glucose lowering medication use	n.a.	n.a.
insulin medication use	-0.149 (-0.289, -0.008)	0.862 (0.749-0.992)

Oral glucose lowering medication = Yes		
Age	0.058 (0.054, 0.063)	1.060 (1.055-1.065)
Age at T2D diagnosis	-0.017 (-0.021, -0.012)	0.984 (0.979-0.988)
Female	0.371 (0.326, 0.416)	1.449 (1.386-1.515)
HbA1c	0.066 (0.049, 0.084)	1.069 (1.050-1.088)
LDL-cholesterol	0.139 (0.113, 0.166)	1.149 (1.120-1.180)
HDL-cholesterol	-0.203 (-0.262, -0.144)	0.816 (0.769-0.866)
eGFR	-0.045 (-0.057, -0.033)	0.956 (0.944-0.968)

Blood pressure lowering medication use	0.198 (0.138, 0.259)	1.219 (1.148-1.295)
lipid lowering medication use	-0.122 (-0.173, -0.070)	0.886 (0.841-0.932)
oral glucose lowering medication use	n.a.	n.a.
insulin medication use	0.219 (0.158, 0.279)	1.244 (1.171-1.322)

Insulin = No		
Age	0.059 (0.054, 0.064)	1.061 (1.056-1.066)
Age at T2D diagnosis	-0.017 (-0.021, -0.012)	0.984 (0.979-0.988)
Female	0.402 (0.357, 0.447)	1.495 (1.429-1.564)
HbA1c	0.075 (0.055, 0.095)	1.078 (1.056-1.100)
LDL-cholesterol	0.114 (0.088, 0.140)	1.121 (1.092-1.151)
HDL-cholesterol	-0.145 (-0.202, -0.087)	0.865 (0.817-0.916)
eGFR	-0.038 (-0.050, -0.026)	0.963 (0.951-0.975)
Blood pressure lowering medication use	0.209 (0.151, 0.266)	1.232 (1.163-1.305)
lipid lowering medication use	-0.151 (-0.201, -0.101)	0.860 (0.818-0.904)
oral glucose lowering medication use	-0.089 (-0.146, -0.033)	0.915 (0.865-0.968)
insulin medication use	n.a.	n.a.

Insulin = Yes		
Age	0.053 (0.046, 0.060)	1.055 (1.047-1.062)
Age at T2D diagnosis	-0.021 (-0.028, -0.015)	0.979 (0.972-0.985)
Female	0.417 (0.334, 0.500)	1.518 (1.397-1.649)
HbA1c	0.082 (0.056, 0.108)	1.086 (1.058-1.114)
LDL-cholesterol	0.151 (0.104, 0.198)	1.162 (1.109-1.218)
HDL-cholesterol	-0.325 (-0.431, -0.219)	0.722 (0.650-0.803)
eGFR	-0.095 (-0.116, -0.075)	0.909 (0.891-0.928)
Blood pressure lowering medication use	0.219 (0.092, 0.346)	1.244 (1.096-1.413)
lipid lowering medication use	-0.150 (-0.247, -0.054)	0.860 (0.781-0.948)
oral glucose lowering medication use	0.041 (-0.053, 0.135)	1.042 (0.948-1.145)
insulin medication use	n.a.	n.a.

¹ HbA1c: per 10 mmol/mol, LDL-cholesterol: per 1 mmol/l, eGFR: per 10 ml/min/1,73m².

Data are presented as coefficient(i.e. log(HR)) (95%CI) or HR (95%CI) for MACE: Ischemic heart disease, stroke, heart failure or CVD-mortality.

HbA1c: Hemoglobulin A1c, LDL: low density lipoprotein, eGFR: estimated glomerular filtration rate, HR: Hazard ratio, CI: Confidence Interval.

Table S7. Performance statistics of reference and trajectory measure updated prediction models.

Metric & Prediction model	Total sample	Age			Sex		Blood pressure lowering medication		Lipid lowering medication		Oral glucose lowering medication		Insulin	
		<40	40-60	>60	Female	Male	No	Yes	No	Yes	No	Yes	No	Yes
C-index (95%CI)														
Reference	0.665 (0.660-0.670)	0.648 (0.582-0.715)	0.634 (0.622-0.646)	0.632 (0.626-0.638)	0.675 (0.667-0.683)	0.648 (0.642-0.655)	0.681 (0.669-0.693)	0.650 (0.645-0.656)	0.688 (0.680-0.696)	0.653 (0.647-0.659)	0.678 (0.668-0.689)	0.662 (0.657-0.668)	0.660 (0.654-0.665)	0.663 (0.653-0.673)
HbA1c														
Mean & SD	0.666 (0.661-0.671)	0.649 (0.583-0.715)	0.635 (0.623-0.647)	0.633 (0.627-0.639)	0.676 (0.668-0.683)	0.649 (0.643-0.656)	0.681 (0.669-0.693)	0.651 (0.646-0.656)	0.689 (0.680-0.697)	0.654 (0.648-0.660)	0.680 (0.670-0.690)	0.663 (0.657-0.668)	0.661 (0.655-0.666)	0.665 (0.655-0.675)
Median & IQR	0.666 (0.661-0.671)	0.648 (0.583-0.714)	0.635 (0.623-0.647)	0.633 (0.627-0.638)	0.675 (0.668-0.683)	0.649 (0.643-0.656)	0.681 (0.669-0.693)	0.651 (0.646-0.657)	0.689 (0.680-0.697)	0.654 (0.648-0.660)	0.679 (0.669-0.690)	0.663 (0.657-0.668)	0.660 (0.655-0.666)	0.665 (0.655-0.675)
Intercept & slope	0.666 (0.661-0.671)	0.649 (0.583-0.714)	0.635 (0.623-0.647)	0.633 (0.627-0.638)	0.675 (0.668-0.683)	0.649 (0.643-0.656)	0.682 (0.670-0.694)	0.651 (0.645-0.656)	0.689 (0.680-0.697)	0.654 (0.647-0.660)	0.678 (0.668-0.689)	0.663 (0.657-0.668)	0.661 (0.655-0.666)	0.664 (0.654-0.674)
LDL-cholesterol														
Mean & SD	0.666 (0.661-0.671)	0.670 (0.603-0.737)	0.637 (0.625-0.649)	0.632 (0.627-0.638)	0.676 (0.668-0.683)	0.649 (0.643-0.656)	0.681 (0.670-0.693)	0.651 (0.646-0.657)	0.689 (0.680-0.697)	0.654 (0.648-0.660)	0.679 (0.669-0.689)	0.663 (0.657-0.668)	0.661 (0.655-0.666)	0.664 (0.654-0.674)
Median & IQR	0.666 (0.661-0.671)	0.686 (0.617-0.755)	0.636 (0.624-0.648)	0.632 (0.627-0.638)	0.675 (0.668-0.683)	0.649 (0.643-0.655)	0.681 (0.669-0.693)	0.651 (0.645-0.656)	0.689 (0.680-0.697)	0.653 (0.647-0.659)	0.679 (0.668-0.689)	0.663 (0.657-0.668)	0.661 (0.655-0.666)	0.664 (0.654-0.674)
Intercept & slope	0.666 (0.661-0.671)	0.665 (0.598-0.733)	0.636 (0.624-0.648)	0.632 (0.627-0.638)	0.676 (0.668-0.683)	0.649 (0.642-0.655)	0.683 (0.671-0.695)	0.651 (0.645-0.656)	0.688 (0.680-0.696)	0.654 (0.648-0.660)	0.679 (0.668-0.689)	0.663 (0.657-0.668)	0.660 (0.655-0.666)	0.664 (0.654-0.674)
eGFR														
Mean & SD	0.667 (0.662-0.672)	0.653 (0.584-0.722)	0.636 (0.624-0.648)	0.635 (0.629-0.640)	0.677 (0.669-0.684)	0.651 (0.645-0.658)	0.682 (0.670-0.694)	0.653 (0.647-0.658)	0.689 (0.681-0.698)	0.655 (0.649-0.661)	0.681 (0.671-0.692)	0.664 (0.658-0.669)	0.662 (0.657-0.668)	0.665 (0.655-0.675)
Median & IQR	0.667 (0.662-0.672)	0.645 (0.577-0.713)	0.635 (0.623-0.647)	0.634 (0.629-0.640)	0.676 (0.669-0.684)	0.651 (0.644-0.657)	0.682 (0.670-0.694)	0.652 (0.647-0.658)	0.689 (0.681-0.697)	0.655 (0.649-0.661)	0.681 (0.671-0.692)	0.664 (0.658-0.669)	0.662 (0.656-0.667)	0.665 (0.655-0.675)
Intercept & slope	0.665 (0.660-0.670)	0.653 (0.587-0.718)	0.634 (0.622-0.646)	0.632 (0.626-0.638)	0.675 (0.668-0.683)	0.648 (0.642-0.655)	0.682 (0.670-0.694)	0.650 (0.645-0.656)	0.688 (0.680-0.696)	0.653 (0.647-0.659)	0.679 (0.668-0.689)	0.662 (0.657-0.668)	0.660 (0.655-0.666)	0.663 (0.653-0.673)

Data are presented as C-index (95%CI), C-index change (95%CI) or NRI (95%CI) for MACE: Ischemic heart disease, stroke, heart failure or CVD-mortality.

Note: The trajectory measures were calculated including all recorded measurements within the 3 years prior to the baseline index date of 1st of January 2015. (2012, 2013 and 2014) and paired as mean & SD, median & IQR, and intercept & slope from a fitted growth model. The trajectory measure models were fitted using an offset procedure, sequentially adding one of the three types of paired trajectory measures to the respective (sub)sample reference model: mean & SD, median & IQR, and intercept & slope. All reference models (Cox-regression) included baseline measurements for age, age at T2D diagnosis, sex, HbA1c, LDL-cholesterol, HDL-cholesterol, eGFR, blood pressure lowering, lipid lowering, oral glucose lowering medication and insulin use.

HbA1c: Hemoglobulin A1c, LDL: low density lipoprotein, eGFR: estimated glomerular filtration rate, NRI: Net Reclassification Index, CI: Confidence Interval, SD: Standard deviation, IQR: Interquartile range.

Table S8. Performance improvement and reclassification statistics of trajectory measure updated prediction models, stratified by age group (<40/40-60/>60), sex and blood pressure lowering, lipid lowering, oral glucose lowering medication, and insulin use.

Metric & Prediction model	Age			Sex		Blood pressure lowering medication		Lipid lowering medication		Oral glucose lowering medication		Insulin	
	<40	40-60	>60	Female	Male	No	Yes	No	Yes	No	Yes	No	Yes
C-index change (95%CI)													
HbA1c													
Mean & SD	0.001 (-0.004-0.006)	0.000 (-0.001-0.001)	0.001 (0.000-0.002)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.000 (-0.001-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.002 (0.001-0.003)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.002 (0.000-0.003)
Median & IQR	0.000 (-0.007-0.008)	0.001 (-0.000-0.002)	0.001 (0.000-0.001)	0.000 (-0.000-0.001)	0.001 (0.000-0.002)	0.000 (-0.001-0.001)	0.001 (0.000-0.001)	0.001 (-0.000-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.002)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.002 (0.000-0.003)
Intercept & slope	0.000 (-0.005-0.007)	0.001 (-0.001-0.002)	0.001 (0.000-0.001)	0.001 (-0.000-0.001)	0.001 (0.000-0.002)	0.001 (-0.000-0.003)	0.001 (0.000-0.001)	0.001 (-0.000-0.002)	0.001 (0.000-0.001)	0.000 (-0.000-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.001 (-0.000-0.003)
LDL-cholesterol													
Mean & SD	0.022 (0.002-0.042)	0.002 (-0.000-0.004)	0.000 (0.000-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.002)	0.000 (-0.000-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.002)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.001 (-0.000-0.001)
Median & IQR	0.038 (0.003-0.073)	0.002 (-0.001-0.003)	0.000 (-0.000-0.001)	0.001 (-0.000-0.001)	0.001 (0.000-0.001)	0.000 (-0.000-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.000 (-0.000-0.001)	0.001 (-0.000-0.001)	0.001 (0.000-0.001)	0.001 (-0.000-0.001)
Intercept & slope	0.017 (0.000-0.033)	0.001 (-0.000-0.003)	0.000 (-0.000-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.002 (-0.000-0.003)	0.000 (0.000-0.001)	0.000 (-0.000-0.000)	0.001 (0.000-0.002)	0.000 (-0.000-0.001)	0.001 (0.000-0.001)	0.001 (0.000-0.001)	0.001 (-0.000-0.002)
eGFR													
Mean & SD	0.005 (-0.019-0.037)	0.001 (-0.001-0.004)	0.003 (0.002-0.004)	0.002 (0.001-0.003)	0.003 (0.004-0.004)	0.001 (-0.000-0.002)	0.002 (0.002-0.003)	0.001 (0.001-0.002)	0.003 (0.004-0.004)	0.003 (0.005-0.005)	0.002 (0.003-0.003)	0.002 (0.003-0.003)	0.002 (0.000-0.003)
Median & IQR	-0.003 (-0.015-0.011)	0.001 (-0.001-0.002)	0.002 (0.001-0.004)	0.001 (0.000-0.002)	0.003 (0.004-0.004)	0.001 (-0.000-0.002)	0.002 (0.003-0.003)	0.001 (0.001-0.001)	0.003 (0.004-0.004)	0.003 (0.005-0.005)	0.002 (0.002-0.002)	0.002 (0.003-0.003)	0.001 (0.000-0.003)
Intercept & slope	0.004 (-0.007-0.015)	0.000 (-0.001-0.001)	0.000 (-0.000-0.001)	0.000 (-0.000-0.001)	0.000 (-0.000-0.001)	0.001 (-0.000-0.002)	0.000 (-0.000-0.000)	0.000 (-0.000-0.000)	0.000 (-0.001-0.001)	0.001 (-0.000-0.002)	0.000 (-0.000-0.000)	0.000 (-0.000-0.001)	0.000 (-0.000-0.001)
Continuous NRI (95%CI)													
HbA1c													
Mean & SD	13.7 (-	3.9 (-	8.0 (4.7-	5.7 (-0.7-	4.3 (0.6-	6.2 (-	5.8 (2.9-	3.2 (-2.2-	5.9 (2.2-	10.2	4.4 (0.9-	5.8 (1.8-	5.8 (-4.9-

		30.9-40.6)	6.4-10.4)	12.9)	10.8)	8.2)	2.6-14.1)	10.4)	8.6)	9.6)	(1.7-18.0)	9.3)	10.3)	11.4)
	Median & IQR	-1.3 (-40.6-42.5)	6.5 (-2.5-15.0)	7.0 (3.4-10.9)	3.8 (-2.6-8.7)	5.0 (1.7-8.6)	5.6 (-4.0-13.1)	5.4 (1.3-9.7)	2.7 (-3.7-10.4)	6.1 (2.2-10.6)	6.6 (-5.8-15.0)	5.0 (0.5-9.8)	5.1 (1.6-8.7)	9.6 (-1.5-15.1)
	Intercept & slope	7.5 (-27.5-40.1)	7.5 (0.3-15.0)	8.6 (4.0-13.4)	6.2 (-0.8-11.1)	7.5 (2.5-11.1)	9.8 (-1.1-17.1)	7.0 (4.0-10.9)	7.7 (-1.7-13.6)	8.3 (2.7-12.5)	6.7 (-2.8-15.4)	7.2 (3.3-10.8)	8.9 (4.9-12.6)	8.8 (-0.9-14.9)
LDL-cholesterol														
	Mean & SD	23.6 (-36.7-73.7)	9.7 (2.2-17.4)	4.3 (0.5-7.5)	3.2 (-3.2-8.7)	4.3 (-0.5-8.3)	5.9 (-3.0-14.9)	4.5 (1.8-8.3)	1.8 (-5.3-7.7)	2.8 (-0.7-7.5)	4.8 (-3.6-11.2)	3.5 (-0.6-7.4)	4.5 (0.7-7.9)	1.5 (-5.9-7.8)
	Median & IQR	23.9 (-20.2-57.5)	8.1 (1.9-17.3)	3.5 (-0.1-7.0)	2.6 (-4.8-8.3)	3.8 (-1.1-6.8)	7.0 (-1.2-14.5)	3.9 (0.3-8.5)	1.9 (-6.2-10.0)	1.6 (-2.4-6.7)	3.9 (-4.8-9.6)	3.0 (-0.6-6.5)	4.6 (-0.1-8.3)	-1.6 (-10.2-7.2)
	Intercept & slope	34.1 (-2.3-64.9)	6.7 (-2.6-18.3)	6.3 (1.9-10.8)	6.7 (-0.9-13.4)	5.9 (0.8-9.4)	12.9 (4.6-20.6)	4.5 (1.3-9.0)	3.9 (-4.6-10.4)	6.5 (1.9-10.9)	6.0 (-1.6-14.3)	5.6 (1.6-9.9)	5.4 (1.6-10.3)	6.8 (-5.0-15.3)
eGFR														
	Mean & SD	13.7 (-25.2-45.5)	8.4 (-1.7-14.7)	7.3 (2.5-11.3)	8.5 (3.1-14.4)	7.2 (2.3-11.7)	6.2 (-2.3-15.2)	7.3 (3.5-11.1)	4.7 (-0.4-11.9)	8.0 (4.0-12.0)	7.7 (-0.2-15.2)	6.9 (3.0-11.5)	8.4 (5.4-12.2)	5.3 (-2.2-14.4)
	Median & IQR	-2.2 (-35.2-47.2)	2.9 (-5.6-10.8)	7.1 (2.8-11.9)	8.2 (2.6-13.8)	8.0 (3.8-12.6)	7.5 (-2.2-16.3)	7.2 (3.2-11.8)	4.0 (-1.8-11.5)	8.9 (4.9-13.5)	8.9 (-0.7-19.5)	6.9 (3.3-10.3)	7.9 (5.0-11.8)	8.3 (0.8-16.7)
	Intercept & slope	12.2 (-40.0-47.8)	-7.2 (-17.1-0.4)	3.0 (-2.6-8.3)	3.6 (-6.4-10.7)	4.6 (-3.7-10.3)	9.5 (-3.8-20.5)	2.8 (-2.3-7.5)	8.5 (-2.6-18.1)	2.2 (-3.2-9.4)	3.7 (-6.6-13.3)	2.8 (-3.0-7.8)	6.6 (0.3-11.9)	1.8 (-5.6-12.4)

Data are presented as C-index (95%CI), C-index change (95%CI) or NRI (95%CI) for MACE: Ischemic heart disease, stroke, heart failure or CVD-mortality.

Note: The trajectory measures were calculated including all recorded measurements within the 3 years prior to the baseline index date of 1st of January 2015. (2012, 2013 and 2014) and paired as mean & SD, median & IQR, and intercept & slope from a fitted growth model. The trajectory measure models were fitted using an offset procedure, sequentially adding one of the three types of paired trajectory measures to the respective (sub)sample reference model: mean & SD, median & IQR, and intercept & slope. All reference models (Cox-regression) included baseline measurements for age, age at T2D diagnosis, sex, HbA1c, LDL-cholesterol, HDL-cholesterol, eGFR, blood pressure lowering, lipid lowering, oral glucose lowering medication and insulin use.

HbA1c: Hemoglobulin A1c, LDL: low density lipoprotein, eGFR: estimated glomerular filtration rate, NRI: Net Reclassification Index, CI: Confidence Interval, SD: Standard deviation, IQR: Interquartile range.

Figure S1. Cumulative incidence curves of MACE endpoint for total study sample, and stratified by sex, age group and blood pressure lowering, lipid lowering, oral glucose lowering medication, and insulin use.

