Supplemental Material

Supplementary Table 1. The numbers/proportions of type 2 diabetes diagnosed by fasting plasma glucose, treatment with hypoglycemic drugs, and self-reported previous diagnosis.

Supplementary Table 2. Number of missed visits of the participants.

Supplementary Table 3. Average hazard ratios (95% confidence interval) for incident cardiovascular disease and all-cause mortality among patients with new-onset type 2 diabetes versus controls, across age groups: **Sensitivity analysis excluding outcome events within the first year of follow-up (N = 21,276).**

Supplementary Table 4. Average hazard ratios (95% confidence interval) for incident cardiovascular disease and all-cause mortality among patients with new-onset type 2 diabetes versus controls, across age groups: **Sensitivity analysis excluding participants who were diagnosed with diabetes via treatment with hypoglycemic drugs. (N=16,086).**

Supplementary Table 5. Competing risk analyses of cardiovascular disease among patients with non-onset type 2 diabetes versus controls, across age groups.

Supplementary Fig. 1. The cumulative incidence of CVD, stroke and all-cause mortality among participants with new-onset type 2 diabetes versus controls across onset age groups.

Supplementary Fig. 2. Cause-specific mortality among new-onset type 2 diabetes and corresponding matched controls across age groups

Supplementary Table 1. The numbers/proportions of type 2 diabetes diagnosed by fasting plasma glucose, treatment with hypoglycemic drugs, and self-reported previous diagnosis.

Diagnostic criteria for type 2 diabetes	N (%)
Fasting plasma glucose ≥ 7.0 mmol/L	9864 (91.5)
Treatment with hypoglycemic drugs	1145 (10.6)
self-reported previous diagnosis	1346 (12.5)
Fasting plasma glucose ≥ 7.0 mmol/L or/and treatment with hypoglycemic drugs	10459 (97.1)
Total type 2 diabetes	10777 (100.0)

Supplementary Table 2. Number of missed visits of the participants.

Number of missed visits	N (%)
1	3547(11.09)
2	922(2.89)
3	284(0.89)

Supplementary Table 3. Average hazard ratios (95% confidence interval) for incident cardiovascular disease and all-cause mortality among patients with new-onset type 2 diabetes versus controls, across age groups: **Sensitivity analysis excluding outcome events within the first year of follow-up (N = 21,276).**

Type 2 diabetes onset age	CVD		All-cause mortality		Stroke	
	Event/Total	AHR (95%CI)	Event/Total	AHR (95%CI)	Event/Total	AHR (95%CI)
< 45 Y	34/3052	2.56 (1.06-6.14)	28/3052	5.65 (1.99-16.04)	28/3052	2.34 (1.00-6.13)
45-54 Y	230/6926	1.82 (1.26-2.63)	141/6926	2.94 (1.94-4.46)	173/6926	1.81 (1.18-2.80)
55-64 Y	292/7572	1.22 (0.86-1.60)	176/7572	1.81 (1.18-2.72)	233/7572	1.13 (0.80-1.62)
≥ 65 Y	220/3726	1.17 (0.76-1.96)	388/3726	1.79 (1.42-2.31)	190/3726	1.20 (0.72-2.01)

Data are presented as average hazard ratio (95% confidence interval). All models were adjusted for smoke status, drink status, hypertension, LDL-C, HDL-C, obesity, eGFR, and physical exercise.

Supplementary Table 4. Average hazard ratios (95% confidence interval) for incident cardiovascular disease and all-cause mortality among patients with new-onset type 2 diabetes versus controls, across age groups: **Sensitivity analysis excluding participants who were diagnosed with diabetes via treatment with hypoglycemic drugs.　(N=16,086).**
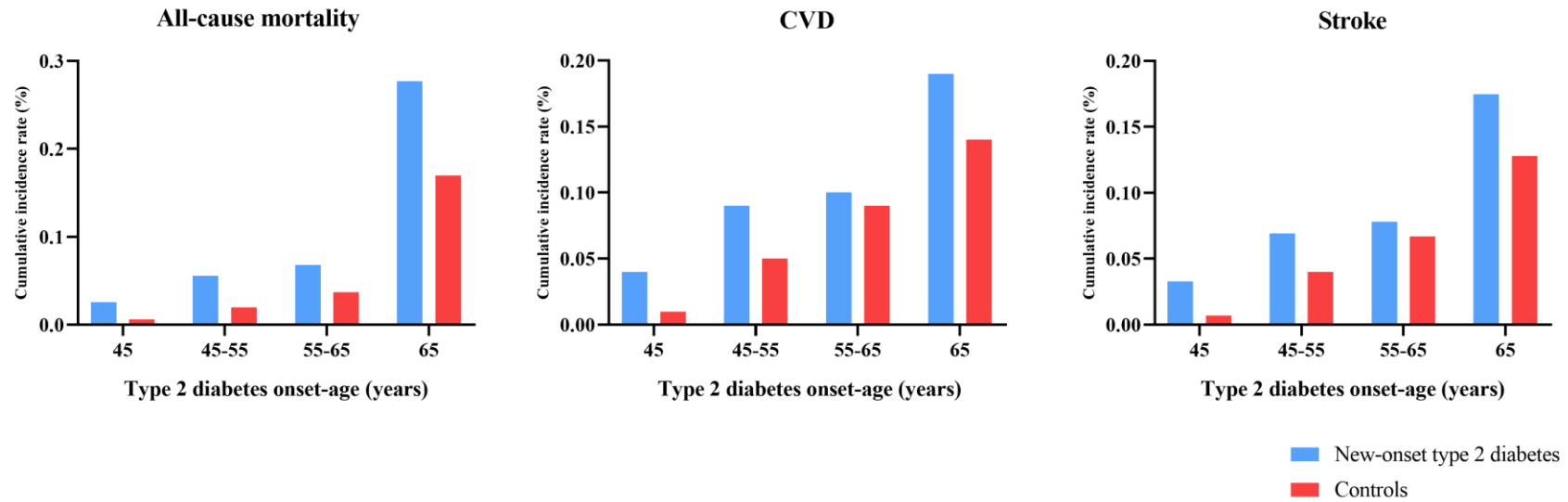
Type 2 diabetes onset age	CVD		All-cause mortality		Stroke	
	Event/Total	AHR (95%CI)	Event/Total	AHR (95%CI)	Event/Total	AHR (95%CI)
< 45 Y	22/2438	3.33 (1.02-11.61)	28/2438	7.22 (2.68-25.23)	19/2438	3.75 (0.91-15.38)
45-54 Y	189/5360	1.51 (1.01-2.27)	132/5360	3.78 (2.38-6.01)	142/5360	1.43 (0.90-2.28)
55-64 Y	216/5446	1.10 (0.75-1.62)	155/5446	1.65 (1.08-2.54)	174/5446	1.03 (0.67-1.57)
≥ 65 Y	193/2842	1.00 (0.63-1.58)	359/2842	1.61 (1.26-2.06)	165/2842	0.90 (0.54-1.48)

Data are presented as average hazard ratio (95% confidence interval). All models were adjusted for smoke status, drink status, hypertension, LDL-C, HDL-C, obesity, eGFR, and physical exercise.
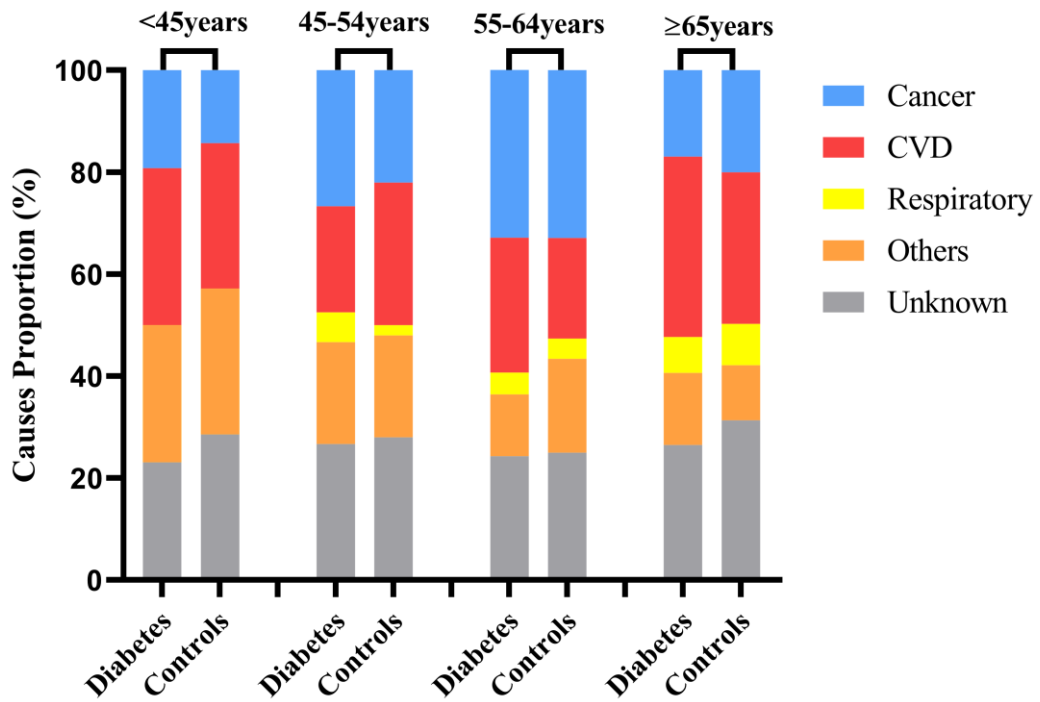
Supplementary Table 5. Competing risk analyses of cardiovascular disease among patients with new-onset type 2 diabetes versus controls, across age groups.

Type 2 diabetes onset age	Event/Total	Sub-distribution Hazard Ratio (95%CI)
CVD		
< 45 Y	33/3060	3.22 (1.33-7.82)
45-54Y	266/6994	1.60 (1.23-2.08)
55-64Y	356/7680	1.26 (1.00-1.64)
≥ 65Y	252/3820	1.17 (0.94-1.45)
Stroke		
< 45Y	27/3060	3.11 (1.19-8.17)
45-54Y	201/6994	1.70 (1.25-2.31)
55-64Y	278/7680	1.19 (0.97-1.52)
≥ 65Y	219/3820	1.16 (0.88-1.54)

Data are presented as hazard ratio (95% confidence interval). All models were adjusted for smoke status, drink status, hypertension, LDL-C, HDL-C, obesity, eGFR, and physical exercise.

Supplementary Figure 1. The cumulative incidence of CVD, stroke and all-cause mortality among participants with new-onset type 2 diabetes versus controls across onset age groups.

Supplementary Figure 2. Cause-specific mortality among new-onset type 2 diabetes mellitus and corresponding matched controls across age groups