

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to:

Glycaemic control and Excess Risk of Major Coronary Events in Persons with Type 1 Diabetes
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Table 1.1 Adjusted hazard ratios for AMI or CHD death and 95% confidence intervals for time-updated mean HbA1c categories, albuminuria categories and eGFR categories versus the reference group examined by Cox regression

	Hazard ratio (95% CI) p-value		
	Model 1	Model 2	Model 3
AMI or CHD death			
Time updated mean HbA1c categories	n events=3414 N subjects=197677 data used = 99.9%	n events=3414 N subjects=197677 data used = 99.9%	n events=3389 N subjects=195416 data used = 98.8%
Controls (reference)	1.00	1.00	1.00
<=6.9% (<=52 mmol/mol)	2.54 (2.14 - 3.01) <.0001	1.87 (1.46 - 2.41) <.0001	2.02 (1.57 - 2.60) <.0001
7.0-7.8% (53-62 mmol/mol)	3.35 (2.99 - 3.74) <.0001	2.41 (1.95 - 2.97) <.0001	2.51 (2.03 - 3.11) <.0001
7.9-8.7% (63-72 mmol/mol)	4.46 (4.04 - 4.93) <.0001	3.18 (2.60 - 3.88) <.0001	3.28 (2.68 - 4.01) <.0001
8.8-9.6% 73-82 (mmol/mol)	6.20 (5.48 - 7.02) <.0001	4.44 (3.60 - 5.47) <.0001	4.33 (3.51 - 5.34) <.0001
>=9.7% (>=83 mmol/mol)	11.98 (10.36 - 13.86) <.0001	8.86 (7.10 - 11.07) <.0001	8.70 (6.98 - 10.86) <.0001
Time updated albuminuria categories	n events=3015 N subjects=194785 data used = 98.4%	n events=3015 N subjects=194785 data used = 98.4%	n events=2992 N subjects=192583 data used = 97.3%
Controls (reference)	1.00	1.00	1.00
Normoalbuminuria	2.75 (2.49 - 3.05) <.0001	2.78 (2.24 - 3.46) <.0001	2.94 (2.36 - 3.65) <.0001
Microalbuminuria	5.04 (4.43 - 5.74) <.0001	5.03 (3.93 - 6.46) <.0001	4.95 (3.86 - 6.35) <.0001
Macroalbuminuria	9.89 (8.67 - 11.28) <.0001	9.59 (7.49 - 12.28) <.0001	9.07 (7.08 - 11.61) <.0001
CKD stage 5	24.50 (20.20 - 29.72) <.0001	22.53 (16.97 - 29.90) <.0001	20.16 (15.18 - 26.77) <.0001
Time updated eGFR categories	n events=3019 N subjects=195617 data used = 98.9%	n events=3019 N subjects=195617 data used = 98.9%	n events=2996 N subjects=193391 data used = 97.7%
Controls (reference)	1.00	1.00	1.00
CKD stage 1 (eGFR >=90)	2.52 (2.21 - 2.88) <.0001	2.84 (2.27 - 3.56) <.0001	2.95 (2.36 - 3.70) <.0001
CKD stage 2 (eGFR 60-89)	3.77 (3.38 - 4.20) <.0001	4.17 (3.31 - 5.26) <.0001	4.23 (3.36 - 5.34) <.0001
CKD stage 3 (eGFR 30-59)	6.38 (5.59 - 7.28) <.0001	7.43 (5.70 - 9.69) <.0001	6.94 (5.32 - 9.05) <.0001
CKD stage 4 (eGFR 15-29)	14.72 (11.61 - 18.65) <.0001	15.67 (11.43 - 21.47) <.0001	14.87 (10.85 - 20.38) <.0001
CKD stage 5 (eGFR <15, dialysis or transplantation)	24.35 (20.09 - 29.51) <.0001	25.07 (18.88 - 33.28) <.0001	22.00 (16.54 - 29.25) <.0001
Time updated eGFR (CKD-EPI) categories	n events=3019 N subjects=195617 data used = 98.9%	n events=3019 N subjects=195617 data used = 98.9%	n events=2996 N subjects=193391 data used = 97.7%
Controls (reference)	1.00	1.00	1.00
CKD stage 1 (eGFR >=90)	2.65 (2.32 - 3.01) <.0001	3.17 (2.58 - 3.90) <.0001	3.26 (2.65 - 4.00) <.0001
CKD stage 2 (eGFR 60-89)	3.65 (3.27 - 4.07) <.0001	4.59 (3.64 - 5.79) <.0001	4.63 (3.67 - 5.84) <.0001
CKD stage 3 (eGFR 30-59)	6.11 (5.35 - 6.98) <.0001	7.90 (6.06 - 10.30) <.0001	7.31 (5.60 - 9.54) <.0001
CKD stage 4 (eGFR 15-29)	14.13 (11.23 - 17.77) <.0001	17.87 (13.10 - 24.38) <.0001	17.27 (12.67 - 23.54) <.0001
CKD stage 5 (eGFR <15, dialysis or transplantation)	23.93 (19.81 - 28.92) <.0001	30.02 (22.76 - 39.59) <.0001	27.08 (20.52 - 35.74) <.0001
Model 1: adjusted for time-updated age and sex Model 2: additionally adjusted diabetes duration Model 3: additionally adjusted for born in Sweden, maximum education level and baseline comorbidities.			

Table 1.2 Men - Adjusted hazard ratios for AMI or CHD death and 95% confidence intervals for time-updated mean HbA1c categories, albuminuria categories and eGFR categories versus the reference group examined by Cox regression

	Hazard ratio (95% CI) p-value		
	Model 1	Model 2	Model 3
AMI or CHD death			
Time updated mean HbA1c categories	n events=2194 N subjects=108124 data used = 99.9%	n events=2194 N subjects=108124 data used = 99.9%	n events=2184 N subjects=106800 data used = 98.7%
Controls (reference)	1.00	1.00	1.00
<=6.9% (<=52 mmol/mol)	1.82 (1.45 - 2.29) <.0001	1.43 (1.03 - 1.98) 0.035	1.58 (1.14 - 2.20) 0.0067
7.0-7.8% (53-62 mmol/mol)	2.70 (2.34 - 3.12) <.0001	2.05 (1.56 - 2.69) <.0001	2.19 (1.67 - 2.89) <.0001
7.9-8.7% (63-72 mmol/mol)	3.22 (2.82 - 3.68) <.0001	2.39 (1.84 - 3.11) <.0001	2.54 (1.96 - 3.30) <.0001
8.8-9.6% 73-82 (mmol/mol)	4.53 (3.83 - 5.34) <.0001	3.36 (2.56 - 4.42) <.0001	3.45 (2.62 - 4.53) <.0001
>=9.7% (>=83 mmol/mol)	7.98 (6.45 - 9.87) <.0001	6.22 (4.59 - 8.42) <.0001	6.39 (4.73 - 8.64) <.0001
Time updated albuminuria categories	n events=1969 N subjects=106510 data used = 98.4%	n events=1969 N subjects=106510 data used = 98.4%	n events=1960 N subjects=105219 data used = 97.2%
Controls (reference)	1.00	1.00	1.00
Normoalbuminuria	1.84 (1.60 - 2.12) <.0001	1.96 (1.47 - 2.62) <.0001	2.12 (1.59 - 2.83) <.0001
Microalbuminuria	3.32 (2.78 - 3.96) <.0001	3.48 (2.50 - 4.84) <.0001	3.48 (2.50 - 4.84) <.0001
Macroalbuminuria	7.22 (6.12 - 8.51) <.0001	7.29 (5.29 - 10.06) <.0001	6.95 (5.04 - 9.59) <.0001
CKD stage 5	18.12 (14.05 - 23.37) <.0001	17.09 (11.78 - 24.80) <.0001	15.64 (10.78 - 22.68) <.0001
Time updated eGFR categories	n events=1972 N subjects=106972 data used = 98.8%	n events=1972 N subjects=106972 data used = 98.8%	n events=1963 N subjects=105665 data used = 97.6%
Controls (reference)	1.00	1.00	1.00
CKD stage 1 (eGFR >=90)	1.96 (1.67 - 2.30) <.0001	2.16 (1.61 - 2.90) <.0001	2.29 (1.71 - 3.07) <.0001
CKD stage 2 (eGFR 60-89)	2.72 (2.34 - 3.15) <.0001	2.96 (2.17 - 4.04) <.0001	3.07 (2.25 - 4.19) <.0001
CKD stage 3 (eGFR 30-59)	4.84 (3.98 - 5.88) <.0001	5.57 (3.88 - 8.00) <.0001	5.07 (3.53 - 7.30) <.0001
CKD stage 4 (eGFR 15-29)	11.04 (8.00 - 15.24) <.0001	11.24 (7.39 - 17.11) <.0001	11.06 (7.27 - 16.82) <.0001
CKD stage 5 (eGFR <15, dialysis or transplantation)	17.96 (13.93 - 23.17) <.0001	17.66 (12.15 - 25.65) <.0001	15.84 (10.90 - 23.02) <.0001
Time updated eGFR (CKD-EPI) categories	n events=1972 N subjects=106972 data used = 98.8%	n events=1972 N subjects=106972 data used = 98.8%	n events=1963 N subjects=105665 data used = 97.6%
Controls (reference)	1.00	1.00	1.00
CKD stage 1 (eGFR >=90)	2.01 (1.71 - 2.36) <.0001	2.36 (1.81 - 3.08) <.0001	2.47 (1.89 - 3.21) <.0001
CKD stage 2 (eGFR 60-89)	2.63 (2.26 - 3.06) <.0001	3.26 (2.38 - 4.46) <.0001	3.34 (2.44 - 4.56) <.0001
CKD stage 3 (eGFR 30-59)	4.48 (3.68 - 5.44) <.0001	5.66 (3.94 - 8.13) <.0001	5.18 (3.60 - 7.45) <.0001
CKD stage 4 (eGFR 15-29)	10.98 (8.05 - 14.98) <.0001	13.48 (8.96 - 20.30) <.0001	13.37 (8.89 - 20.12) <.0001
CKD stage 5 (eGFR <15, dialysis or transplantation)	17.65 (13.76 - 22.64) <.0001	21.64 (15.07 - 31.07) <.0001	19.82 (13.80 - 28.45) <.0001
Model 1: adjusted for time-updated age Model 2: additionally adjusted diabetes duration Model 3: additionally adjusted for born in Sweden, maximum education level and baseline comorbidities.			

Table 1.3 Women - Adjusted hazard ratios for AMI or CHD death and 95% confidence intervals for time-updated mean HbA1c categories, albuminuria categories and eGFR categories versus the reference group examined by Cox regression

	Hazard ratio (95% CI) p-value		
	Model 1	Model 2	Model 3
AMI or CHD death			
Time updated mean HbA1c categories	n events=1220 N subjects=89553 data used = 99.9%	n events=1220 N subjects=89553 data used = 99.9%	n events=1205 N subjects=88616 data used = 98.9%
Controls (reference)	1.00	1.00	1.00
<=6.9% (<=52 mmol/mol)	4.64 (3.58 - 6.01) <.0001	4.09 (2.76 - 6.07) <.0001	4.23 (2.85 - 6.29) <.0001
7.0-7.8% (53-62 mmol/mol)	5.10 (4.25 - 6.13) <.0001	4.43 (3.14 - 6.25) <.0001	4.50 (3.18 - 6.37) <.0001
7.9-8.7% (63-72 mmol/mol)	7.76 (6.64 - 9.06) <.0001	6.69 (4.84 - 9.26) <.0001	6.67 (4.82 - 9.25) <.0001
8.8-9.6% 73-82 (mmol/mol)	10.72 (8.86 - 12.96) <.0001	9.25 (6.61 - 12.96) <.0001	8.23 (5.86 - 11.55) <.0001
>=9.7% (>=83 mmol/mol)	21.20 (17.26 - 26.03) <.0001	18.62 (13.20 - 26.27) <.0001	16.80 (11.91 - 23.70) <.0001
Time updated albuminuria categories	n events=1046 N subjects=88275 data used = 98.5%	n events=1046 N subjects=88275 data used = 98.5%	n events=1032 N subjects=87364 data used = 97.5%
Controls (reference)	1.00	1.00	1.00
Normoalbuminuria	5.05 (4.34 - 5.88) <.0001	7.10 (5.02 - 10.05) <.0001	7.37 (5.21 - 10.43) <.0001
Microalbuminuria	10.67 (8.77 - 12.99) <.0001	15.47 (10.43 - 22.93) <.0001	15.21 (10.26 - 22.55) <.0001
Macroalbuminuria	20.09 (16.15 - 24.99) <.0001	28.46 (19.01 - 42.62) <.0001	26.89 (17.92 - 40.34) <.0001
CKD stage 5	43.20 (32.04 - 58.24) <.0001	59.02 (37.60 - 92.67) <.0001	53.37 (33.73 - 84.44) <.0001
Time updated eGFR categories	n events=1047 N subjects=88645 data used = 98.9%	n events=1047 N subjects=88645 data used = 98.9%	n events=1033 N subjects=87726 data used = 97.9%
Controls (reference)	1.00	1.00	1.00
CKD stage 1 (eGFR >=90)	4.81 (3.81 - 6.08) <.0001	6.94 (4.78 - 10.08) <.0001	7.15 (4.93 - 10.39) <.0001
CKD stage 2 (eGFR 60-89)	6.32 (5.38 - 7.43) <.0001	9.18 (6.41 - 13.14) <.0001	9.17 (6.39 - 13.17) <.0001
CKD stage 3 (eGFR 30-59)	9.18 (7.62 - 11.06) <.0001	14.28 (9.52 - 21.41) <.0001	13.90 (9.25 - 20.89) <.0001
CKD stage 4 (eGFR 15-29)	24.06 (16.92 - 34.21) <.0001	35.40 (21.61 - 58.00) <.0001	31.34 (19.08 - 51.48) <.0001
CKD stage 5 (eGFR <15, dialysis or transplantation)	43.32 (32.23 - 58.24) <.0001	61.87 (39.39 - 97.18) <.0001	54.56 (34.40 - 86.52) <.0001
Time updated eGFR (CKD-EPI) categories	n events=1047 N subjects=88645 data used = 98.9%	n events=1047 N subjects=88645 data used = 98.9%	n events=1033 N subjects=87726 data used = 97.9%
Controls (reference)	1.00	1.00	1.00
CKD stage 1 (eGFR >=90)	5.04 (4.03 - 6.29) <.0001	7.40 (5.23 - 10.46) <.0001	7.41 (5.25 - 10.45) <.0001
CKD stage 2 (eGFR 60-89)	6.23 (5.28 - 7.36) <.0001	9.93 (6.92 - 14.24) <.0001	9.85 (6.86 - 14.15) <.0001
CKD stage 3 (eGFR 30-59)	9.14 (7.57 - 11.03) <.0001	15.41 (10.28 - 23.12) <.0001	14.39 (9.57 - 21.62) <.0001
CKD stage 4 (eGFR 15-29)	21.63 (15.36 - 30.47) <.0001	36.22 (22.13 - 59.28) <.0001	33.39 (20.43 - 54.58) <.0001
CKD stage 5 (eGFR <15, dialysis or transplantation)	42.96 (32.04 - 57.59) <.0001	69.94 (44.78 - 109.24) <.0001	62.72 (39.87 - 98.65) <.0001
Model 1: adjusted for time-updated age Model 2: additionally adjusted diabetes duration Model 3: additionally adjusted for born in Sweden, maximum education level and baseline comorbidities.			

Table 2.1 Adjusted hazard ratios for AMI or CHD death and 95% confidence intervals for time-updated mean HbA1c categories together with albuminuria and eGFR versus the reference group examined by Cox regression

AMI or CHD death	Hazard ratio (95% CI) p-value		
	Model 1	Model 2	Model 3
Time updated mean HbA1c categories and albuminuria	n events=3014 N subjects=194755 data used = 98.4%	n events=3014 N subjects=194755 data used = 98.4%	n events=2991 N subjects=192554 data used = 97.3%
Controls (reference)	1.00	1.00	1.00
<=6.9% (<=52 mmol/mol) - Normoalbuminuria	1.71 (1.31 - 2.23) <.0001	1.77 (1.36 - 2.31) <.0001	1.80 (1.38 - 2.35) <.0001
7.0-7.8% (53-62 mmol/mol) - Normoalbuminuria	2.37 (2.00 - 2.81) <.0001	2.37 (2.00 - 2.81) <.0001	2.33 (1.96 - 2.76) <.0001
7.9-8.7% (63-72 mmol/mol) - Normoalbuminuria	2.77 (2.35 - 3.28) <.0001	2.75 (2.33 - 3.25) <.0001	2.63 (2.22 - 3.11) <.0001
8.8-9.6% 73-82 (mmol/mol) - Normoalbuminuria	4.56 (3.65 - 5.69) <.0001	4.56 (3.65 - 5.69) <.0001	4.15 (3.32 - 5.18) <.0001
>=9.7% (>=83 mmol/mol) - Normoalbuminuria	7.88 (5.71 - 10.87) <.0001	8.34 (6.04 - 11.51) <.0001	7.61 (5.51 - 10.50) <.0001
<=6.9% (<=52 mmol/mol) - Not Normoalbuminuria	4.68 (3.51 - 6.26) <.0001	4.66 (3.49 - 6.23) <.0001	4.11 (3.07 - 5.50) <.0001
7.0-7.8% (53-62 mmol/mol) - Not Normoalbuminuria	5.75 (4.85 - 6.82) <.0001	5.67 (4.78 - 6.73) <.0001	4.89 (4.11 - 5.83) <.0001
7.9-8.7% (63-72 mmol/mol) - Not Normoalbuminuria	7.75 (6.72 - 8.94) <.0001	7.51 (6.51 - 8.66) <.0001	6.84 (5.92 - 7.91) <.0001
8.8-9.6% 73-82 (mmol/mol) - Not Normoalbuminuria	8.41 (7.00 - 10.10) <.0001	8.06 (6.71 - 9.69) <.0001	7.04 (5.85 - 8.47) <.0001
>=9.7% (>=83 mmol/mol) - Not Normoalbuminuria	19.81 (16.19 - 24.24) <.0001	18.98 (15.51 - 23.24) <.0001	16.28 (13.27 - 19.97) <.0001
Time updated mean HbA1c categories and eGFR	n events=3019 N subjects=195570 data used = 98.8%	n events=3019 N subjects=195570 data used = 98.8%	n events=2996 N subjects=193346 data used = 97.7%
Controls (reference)	1.00	1.00	1.00
<=6.9% (<=52 mmol/mol) - eGFR>=60	1.74 (1.35 - 2.23) <.0001	1.80 (1.40 - 2.31) <.0001	1.80 (1.40 - 2.32) <.0001
7.0-7.8% (53-62 mmol/mol) - eGFR>=60	2.52 (2.16 - 2.94) <.0001	2.51 (2.15 - 2.93) <.0001	2.44 (2.09 - 2.85) <.0001
7.9-8.7% (63-72 mmol/mol) - eGFR>=60	3.52 (3.08 - 4.03) <.0001	3.46 (3.02 - 3.97) <.0001	3.29 (2.87 - 3.78) <.0001
8.8-9.6% 73-82 (mmol/mol) - eGFR>=60	4.65 (3.87 - 5.58) <.0001	4.59 (3.82 - 5.51) <.0001	4.19 (3.49 - 5.04) <.0001
>=9.7% (>=83 mmol/mol) - eGFR>=60	7.99 (6.14 - 10.39) <.0001	8.25 (6.34 - 10.73) <.0001	7.55 (5.80 - 9.82) <.0001
<=6.9% (<=52 mmol/mol) - eGFR<60	5.56 (4.08 - 7.59) <.0001	5.58 (4.09 - 7.61) <.0001	4.95 (3.63 - 6.77) <.0001
7.0-7.8% (53-62 mmol/mol) - eGFR<60	6.96 (5.77 - 8.41) <.0001	6.98 (5.78 - 8.43) <.0001	5.91 (4.87 - 7.17) <.0001
7.9-8.7% (63-72 mmol/mol) - eGFR<60	7.91 (6.58 - 9.50) <.0001	7.84 (6.53 - 9.42) <.0001	7.06 (5.87 - 8.50) <.0001
8.8-9.6% 73-82 (mmol/mol) - eGFR<60	11.40 (9.07 - 14.32) <.0001	10.94 (8.71 - 13.75) <.0001	9.18 (7.28 - 11.56) <.0001
>=9.7% (>=83 mmol/mol) - eGFR<60	26.73 (21.34 - 33.48) <.0001	25.66 (20.48 - 32.16) <.0001	21.53 (17.13 - 27.07) <.0001
Model 1: adjusted for time-updated age and sex Model 2: additionally stratified by diabetes duration Model 3: additionally adjusted for born in Sweden, maximum education level and baseline comorbidities.			

Table 2.2 Men - Adjusted hazard ratios for AMI or CHD death and 95% confidence intervals for time-updated mean HbA1c categories together with albuminuria and eGFR versus the reference group examined by Cox regression

AMI or CHD death	Hazard ratio (95% CI) p-value		
	Model 1	Model 2	Model 3
Time updated mean HbA1c categories and albuminuria	n events=1969 N subjects=106493 data used = 98.4%	n events=1969 N subjects=106493 data used = 98.4%	n events=1960 N subjects=105202 data used = 97.2%
Controls (reference)	1.00	1.00	1.00
<=6.9% (<=52 mmol/mol) - Normoalbuminuria	1.19 (0.83 - 1.72) 0.35	1.26 (0.87 - 1.82) 0.22	1.30 (0.90 - 1.88) 0.16
7.0-7.8% (53-62 mmol/mol) - Normoalbuminuria	1.78 (1.42 - 2.25) <.0001	1.80 (1.43 - 2.26) <.0001	1.81 (1.44 - 2.28) <.0001
7.9-8.7% (63-72 mmol/mol) - Normoalbuminuria	1.70 (1.32 - 2.19) <.0001	1.68 (1.31 - 2.17) <.0001	1.64 (1.27 - 2.12) 0.0001
8.8-9.6% 73-82 (mmol/mol) - Normoalbuminuria	3.13 (2.27 - 4.32) <.0001	3.11 (2.25 - 4.29) <.0001	3.04 (2.20 - 4.20) <.0001
>=9.7% (>=83 mmol/mol) - Normoalbuminuria	4.52 (2.67 - 7.66) <.0001	4.85 (2.86 - 8.22) <.0001	4.71 (2.78 - 7.99) <.0001
<=6.9% (<=52 mmol/mol) - Not Normoalbuminuria	3.24 (2.21 - 4.74) <.0001	3.23 (2.21 - 4.73) <.0001	2.97 (2.03 - 4.36) <.0001
7.0-7.8% (53-62 mmol/mol) - Not Normoalbuminuria	4.54 (3.67 - 5.61) <.0001	4.48 (3.62 - 5.54) <.0001	3.91 (3.15 - 4.87) <.0001
7.9-8.7% (63-72 mmol/mol) - Not Normoalbuminuria	5.29 (4.37 - 6.39) <.0001	5.08 (4.20 - 6.15) <.0001	4.71 (3.88 - 5.70) <.0001
8.8-9.6% 73-82 (mmol/mol) - Not Normoalbuminuria	6.06 (4.79 - 7.67) <.0001	5.74 (4.53 - 7.27) <.0001	5.08 (4.00 - 6.45) <.0001
>=9.7% (>=83 mmol/mol) - Not Normoalbuminuria	12.80 (9.62 - 17.02) <.0001	12.18 (9.15 - 16.22) <.0001	10.74 (8.04 - 14.33) <.0001
Time updated mean HbA1c categories and eGFR	n events=1972 N subjects=106947 data used = 98.8%	n events=1972 N subjects=106947 data used = 98.8%	n events=1963 N subjects=105641 data used = 97.6%
Controls (reference)	1.00	1.00	1.00
<=6.9% (<=52 mmol/mol) - eGFR>=60	1.32 (0.96 - 1.83) 0.089	1.38 (1.00 - 1.91) 0.048	1.40 (1.01 - 1.94) 0.040
7.0-7.8% (53-62 mmol/mol) - eGFR>=60	2.09 (1.73 - 2.54) <.0001	2.09 (1.72 - 2.53) <.0001	2.05 (1.69 - 2.49) <.0001
7.9-8.7% (63-72 mmol/mol) - eGFR>=60	2.42 (2.01 - 2.90) <.0001	2.36 (1.96 - 2.84) <.0001	2.30 (1.91 - 2.76) <.0001
8.8-9.6% 73-82 (mmol/mol) - eGFR>=60	3.13 (2.43 - 4.02) <.0001	3.05 (2.37 - 3.92) <.0001	2.88 (2.24 - 3.71) <.0001
>=9.7% (>=83 mmol/mol) - eGFR>=60	5.80 (4.03 - 8.34) <.0001	5.98 (4.16 - 8.60) <.0001	5.75 (4.00 - 8.27) <.0001
<=6.9% (<=52 mmol/mol) - eGFR<60	4.02 (2.52 - 6.41) <.0001	4.04 (2.54 - 6.44) <.0001	3.70 (2.32 - 5.90) <.0001
7.0-7.8% (53-62 mmol/mol) - eGFR<60	5.81 (4.48 - 7.53) <.0001	5.87 (4.52 - 7.60) <.0001	4.85 (3.71 - 6.34) <.0001
7.9-8.7% (63-72 mmol/mol) - eGFR<60	6.44 (4.94 - 8.41) <.0001	6.36 (4.88 - 8.30) <.0001	5.58 (4.26 - 7.30) <.0001
8.8-9.6% 73-82 (mmol/mol) - eGFR<60	10.28 (7.59 - 13.92) <.0001	9.62 (7.10 - 13.04) <.0001	8.33 (6.13 - 11.33) <.0001
>=9.7% (>=83 mmol/mol) - eGFR<60	17.04 (12.06 - 24.06) <.0001	16.27 (11.52 - 23.00) <.0001	13.81 (9.73 - 19.59) <.0001
Model 1: adjusted for time-updated age Model 2: additionally stratified by diabetes duration Model 3: additionally adjusted for born in Sweden, maximum education level and baseline comorbidities.			

Table 2.3 Adjusted hazard ratios for AMI or CHD death and 95% confidence intervals for time-updated mean HbA1c categories together with albuminuria and eGFR versus the reference group examined by Cox regression - Women

AMI or CHD death	Hazard ratio (95% CI) p-value		
	Model 1	Model 2	Model 3
Time updated mean HbA1c categories and albuminuria	n events=1045 N subjects=88262 data used = 98.5%	n events=1045 N subjects=88262 data used = 98.5%	n events=1031 N subjects=87352 data used = 97.4%
Controls (reference)	1.00	1.00	1.00
<=6.9% (<=52 mmol/mol) - Normoalbuminuria	3.17 (2.15 - 4.66) <.0001	3.20 (2.17 - 4.71) <.0001	3.16 (2.14 - 4.65) <.0001
7.0-7.8% (53-62 mmol/mol) - Normoalbuminuria	3.88 (3.01 - 5.00) <.0001	3.84 (2.98 - 4.96) <.0001	3.61 (2.79 - 4.67) <.0001
7.9-8.7% (63-72 mmol/mol) - Normoalbuminuria	5.40 (4.29 - 6.79) <.0001	5.38 (4.27 - 6.77) <.0001	4.99 (3.95 - 6.30) <.0001
8.8-9.6% 73-82 (mmol/mol) - Normoalbuminuria	7.91 (5.81 - 10.76) <.0001	7.95 (5.84 - 10.83) <.0001	6.36 (4.65 - 8.71) <.0001
>=9.7% (>=83 mmol/mol) - Normoalbuminuria	15.00 (9.95 - 22.61) <.0001	15.66 (10.38 - 23.61) <.0001	13.12 (8.68 - 19.84) <.0001
<=6.9% (<=52 mmol/mol) - Not Normoalbuminuria	10.14 (6.49 - 15.85) <.0001	9.96 (6.37 - 15.57) <.0001	7.83 (4.98 - 12.33) <.0001
7.0-7.8% (53-62 mmol/mol) - Not Normoalbuminuria	9.71 (7.28 - 12.95) <.0001	9.53 (7.14 - 12.71) <.0001	8.04 (6.00 - 10.77) <.0001
7.9-8.7% (63-72 mmol/mol) - Not Normoalbuminuria	16.07 (12.90 - 20.02) <.0001	15.72 (12.62 - 19.58) <.0001	14.01 (11.19 - 17.53) <.0001
8.8-9.6% 73-82 (mmol/mol) - Not Normoalbuminuria	16.50 (12.30 - 22.12) <.0001	16.09 (12.00 - 21.58) <.0001	13.65 (10.14 - 18.38) <.0001
>=9.7% (>=83 mmol/mol) - Not Normoalbuminuria	40.90 (30.59 - 54.70) <.0001	39.85 (29.77 - 53.34) <.0001	31.82 (23.63 - 42.84) <.0001
Time updated mean HbA1c categories and eGFR	n events=1047 N subjects=88623 data used = 98.9%	n events=1047 N subjects=88623 data used = 98.9%	n events=1033 N subjects=87705 data used = 97.8%
Controls (reference)	1.00	1.00	1.00
<=6.9% (<=52 mmol/mol) - eGFR>=60	3.13 (2.09 - 4.67) <.0001	3.17 (2.12 - 4.74) <.0001	3.11 (2.08 - 4.64) <.0001
7.0-7.8% (53-62 mmol/mol) - eGFR>=60	3.79 (2.93 - 4.91) <.0001	3.76 (2.90 - 4.87) <.0001	3.54 (2.73 - 4.59) <.0001
7.9-8.7% (63-72 mmol/mol) - eGFR>=60	6.90 (5.62 - 8.48) <.0001	6.87 (5.59 - 8.44) <.0001	6.30 (5.11 - 7.77) <.0001
8.8-9.6% 73-82 (mmol/mol) - eGFR>=60	9.37 (7.15 - 12.27) <.0001	9.41 (7.18 - 12.34) <.0001	7.96 (6.05 - 10.47) <.0001
>=9.7% (>=83 mmol/mol) - eGFR>=60	13.66 (9.31 - 20.02) <.0001	14.14 (9.64 - 20.73) <.0001	11.85 (8.06 - 17.42) <.0001
<=6.9% (<=52 mmol/mol) - eGFR<60	8.55 (5.62 - 12.99) <.0001	8.47 (5.57 - 12.87) <.0001	7.15 (4.68 - 10.94) <.0001
7.0-7.8% (53-62 mmol/mol) - eGFR<60	9.42 (7.14 - 12.42) <.0001	9.28 (7.04 - 12.24) <.0001	8.03 (6.05 - 10.66) <.0001
7.9-8.7% (63-72 mmol/mol) - eGFR<60	10.69 (8.26 - 13.82) <.0001	10.60 (8.19 - 13.70) <.0001	9.74 (7.51 - 12.63) <.0001
8.8-9.6% 73-82 (mmol/mol) - eGFR<60	14.01 (9.90 - 19.83) <.0001	13.82 (9.77 - 19.56) <.0001	10.57 (7.41 - 15.07) <.0001
>=9.7% (>=83 mmol/mol) - eGFR<60	48.25 (35.68 - 65.26) <.0001	47.61 (35.16 - 64.47) <.0001	37.86 (27.76 - 51.62) <.0001
Model 1: adjusted for time-updated age Model 2: additionally stratified by diabetes duration Model 3: additionally adjusted for born in Sweden, maximum education level and baseline comorbidities.			

Table 3. Risk factors of coronary events in males and females with type 1 diabetes Male vs Female with respect to patient characteristics and medical data during study before AMI/CHD death.

	Men (n=18178)	Women (n=14992)	p-value
Age at event/censoring	42.3 (15.3) 41.0 (18.0; 93.0) n=18178	43.0 (15.6) 42.0 (18.0; 94.0) n=14992	0.0001
Diabetes duration at baseline	19.3 (14.3) 17.0 (0.0; 88.0) n=18178	20.7 (14.6) 18.0 (0.0; 85.0) n=14992	<.0001
Time to AMI/CHD death or censoring (years)	7.81 (4.29) 8.20 (0.01; 14.01) n=18178	7.98 (4.28) 8.50 (0.01; 14.01) n=14992	0.0002
Born in Sweden	17166 (94.4%)	13964 (93.1%)	<.0001
Education category			
Low	3563 (19.8%)	2659 (17.9%)	
Mid	9423 (52.3%)	7134 (48.0%)	
High	5044 (28.0%)	5079 (34.2%)	<.0001
AF (I48)	136 (0.7%)	59 (0.4%)	<.0001
CHD (I20-I25)	393 (2.2%)	321 (2.1%)	0.93
HF (I50)	173 (1.0%)	135 (0.9%)	0.67
Valve disease (I05-I09,I34-I36)	57 (0.3%)	46 (0.3%)	0.99
Stroke (I61-I64)	259 (1.4%)	176 (1.2%)	0.051
Cancer (C00-C97)	246 (1.4%)	305 (2.0%)	<.0001
HbA1c (mmol/mol, IFCC) at baseline	65.4 (15.5) 65.0 (27.0; 145.0) n=17316	66.2 (16.2) 65.0 (26.0; 145.0) n=14263	0.0006
Mean HbA1c (mmol/mol, IFCC)	64.9 (12.8) 64.0 (27.0; 137.0) n=18079	65.6 (13.4) 64.5 (27.0; 142.0) n=14900	0.0002
HbA1c category at baseline			
<=6.9% (<=52 mmol/mol)	3386 (19.6%)	2678 (18.8%)	
7.0-7.8% (53-62 mmol/mol)	4175 (24.1%)	3403 (23.9%)	
7.9-8.7% (63-72 mmol/mol)	4829 (27.9%)	3901 (27.4%)	
8.8-9.6% 73-82 (mmol/mol)	2919 (16.9%)	2383 (16.7%)	
>=9.7% (>=83 mmol/mol)	2007 (11.6%)	1898 (13.3%)	0.0004
Mean HbA1c category			
<=6.9% (<=52 mmol/mol)	2875 (15.9%)	2261 (15.2%)	
7.0-7.8% (53-62 mmol/mol)	5505 (30.4%)	4408 (29.6%)	
7.9-8.7% (63-72 mmol/mol)	5450 (30.1%)	4537 (30.4%)	
8.8-9.6% 73-82 (mmol/mol)	2751 (15.2%)	2276 (15.3%)	
>=9.7% (>=83 mmol/mol)	1498 (8.3%)	1418 (9.5%)	0.0002
SBP (mmHg) at baseline	128.6 (16.2) 125.0 (80.0; 240.0) n=16963	124.5 (17.4) 120.0 (80.0; 222.0) n=13869	<.0001
Mean SBP (mmHg)	128.4 (13.0) 126.8 (81.3; 220.0) n=17993	124.2 (14.1) 122.0 (82.5; 220.0) n=14793	<.0001
BMI at baseline (kg/m2)	25.0 (3.7) 24.5 (15.6; 55.7) n=15971	25.1 (4.4) 24.3 (14.0; 69.9) n=12973	0.0043
Mean BMI (kg/m2)	25.5 (3.7) 25.1 (15.6; 55.7) n=17623	25.5 (4.6) 24.6 (13.6; 74.5) n=14450	<.0001
Smoking status at baseline	2038 (12.1%)	2154 (15.5%)	<.0001
Last information about smoking status	2017 (11.3%)	2021 (13.7%)	<.0001
Use of blood pressure lowering medication at baseline	3788 (21.9%)	2847 (20.1%)	<.0001
Last use of blood pressure lowering medication	7184 (40.0%)	5326 (36.0%)	<.0001

	Men (n=18178)	Women (n=14992)	p-value
HDL (mmol/l) at baseline	1.42 (0.41) 1.40 (0.30; 3.80) n=6465	1.66 (0.47) 1.60 (0.40; 4.00) n=5310	<.0001
Mean HDL (mmol/l)	1.46 (0.38) 1.42 (0.37; 4.00) n=16109	1.71 (0.44) 1.67 (0.43; 3.90) n=13351	<.0001
LDL (mmol/l) at baseline	2.66 (0.84) 2.57 (0.29; 8.59) n=6126	2.67 (0.82) 2.58 (0.33; 8.62) n=5043	0.51
Mean LDL (mmol/l)	2.69 (0.70) 2.63 (0.29; 8.58) n=15743	2.65 (0.67) 2.59 (0.21; 8.44) n=13067	<.0001
Use of lipid lowering medication at baseline	1831 (10.9%)	1425 (10.4%)	0.12
Last use of lipid lowering medication	6489 (36.1%)	4713 (31.8%)	<.0001
Insulin method at baseline			
MDI	6711 (86.2%)	5066 (82.1%)	
Pump	1071 (13.8%)	1106 (17.9%)	<.0001
Last insulin method			
MDI	14364 (84.2%)	10892 (77.3%)	
Pump	2689 (15.8%)	3206 (22.7%)	<.0001
Albuminuria value at baseline			
Normoalbuminuria	5460 (80.6%)	4513 (82.4%)	
Microalbuminuria	684 (10.1%)	556 (10.1%)	
Macroalbuminuria	494 (7.3%)	298 (5.4%)	
CKD stage 5	133 (2.0%)	112 (2.0%)	0.0052
Last Albuminuria category value			
Normoalbuminuria	12827 (77.9%)	11193 (82.2%)	
Microalbuminuria	2040 (12.4%)	1449 (10.6%)	
Macroalbuminuria	1239 (7.5%)	723 (5.3%)	
CKD stage 5	359 (2.2%)	257 (1.9%)	<.0001

For categorical variables n (%) is presented.
For continuous variables Mean (SD) / Median (Min; Max) / n= is presented.
For comparison between groups Fisher's Exact test (lowest 1-sided
p-value multiplied by 2) was used for dichotomous variables and the
Mantel-Haenszel Chi Square test was used for ordered categorical variables
and the Mann-Whitney U-test was used for continuous variables.

Figure 1. Hazard ratios and CIs for male and female diabetic patients (Model 3) - effect of various HbA1c categories vs 48-52 mmol/mol on time to first AMI or CHD death

