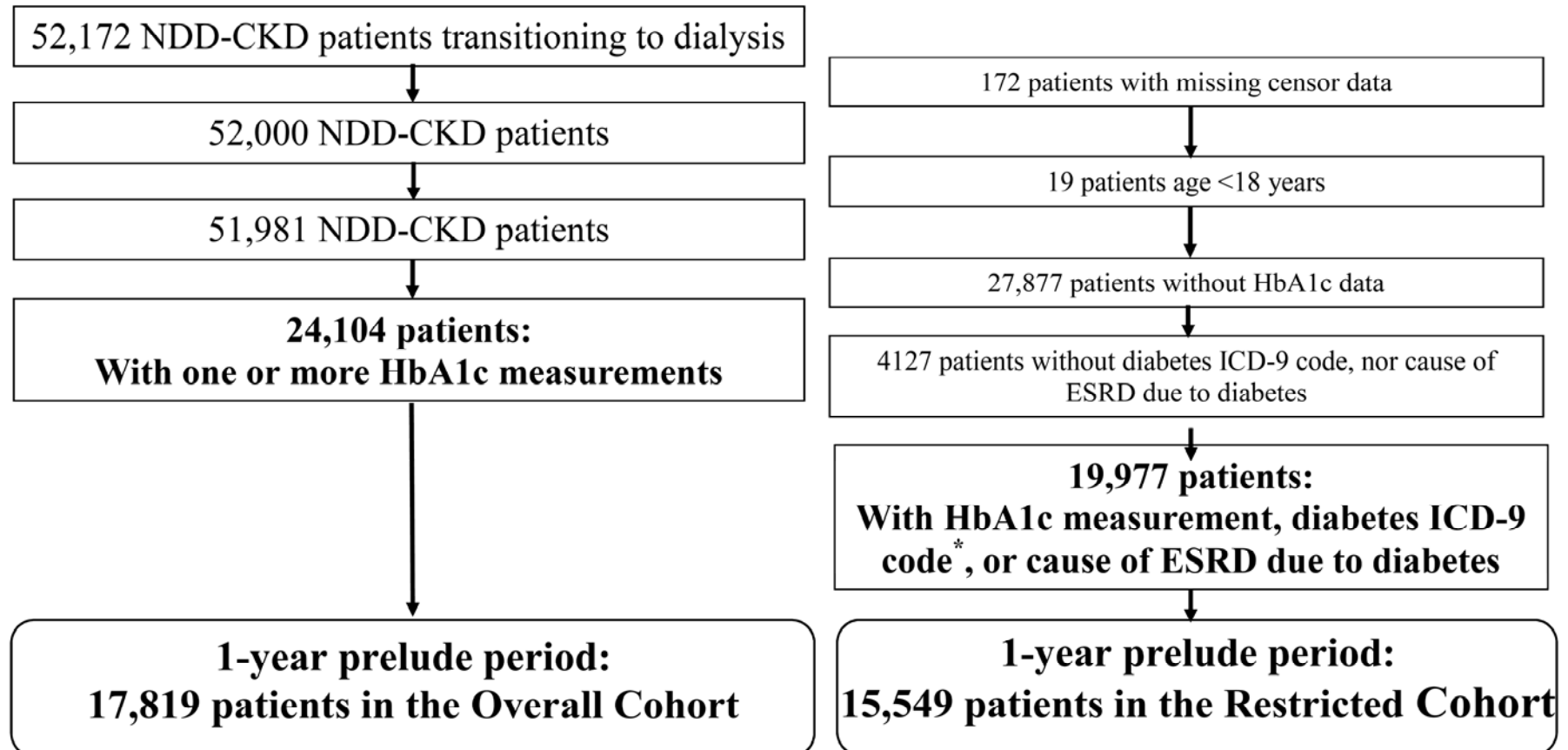


SUPPLEMENTARY DATA

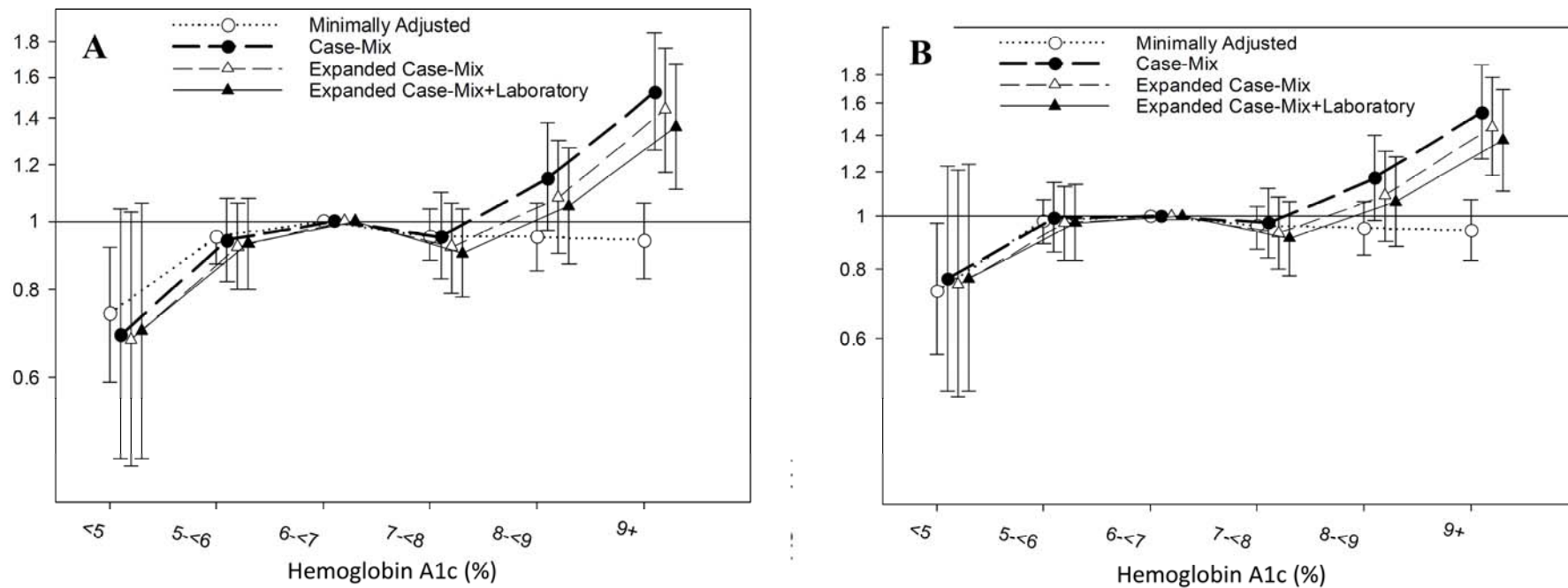
**Supplementary Figure S1. Study cohort creation for hemoglobin A1c analyses.**

\*ICD-9 codes for diabetes: 249.xx, 250.xx, 357.2, 362.0x, 366.41.



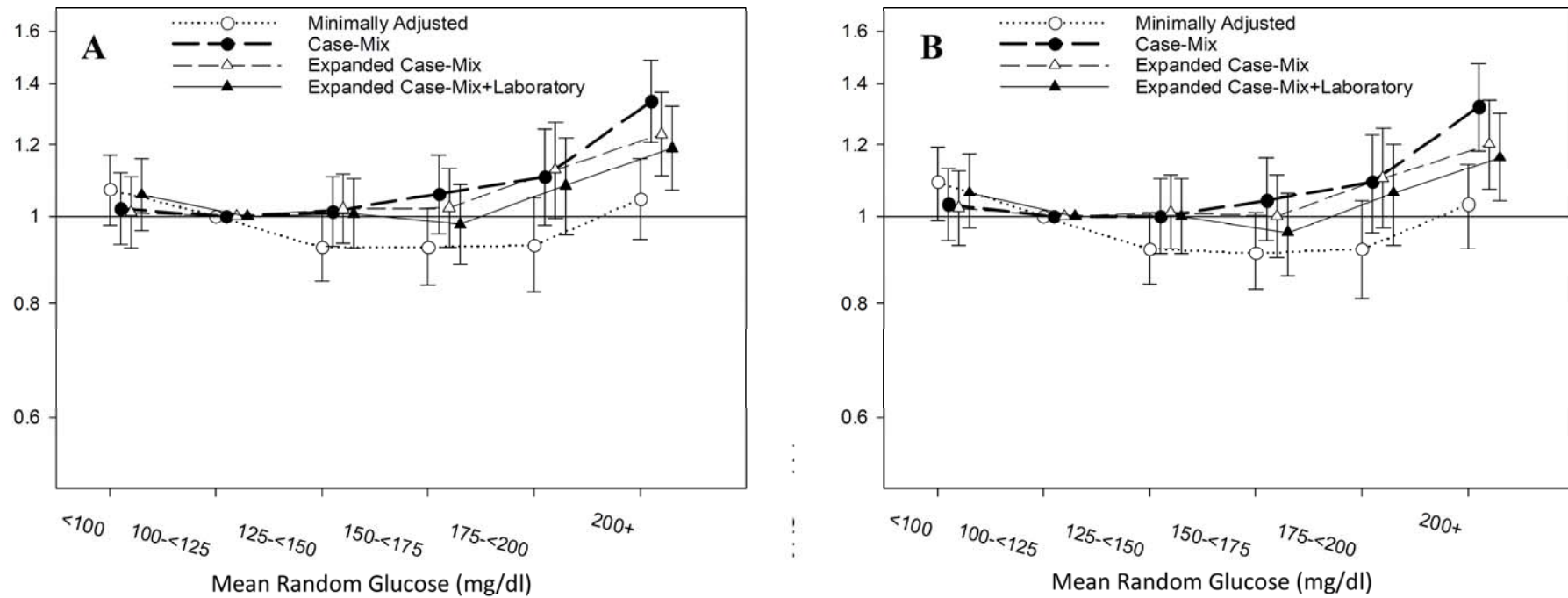
SUPPLEMENTARY DATA

**Supplementary Figure S2. Association between hemoglobin A1c over the one-year prelude period and one-year cardiovascular mortality in the Overall Cohort (Panel A) and Restricted Cohort (Panel B) using Fine and Gray competing risks regression.** Hemoglobin A1c levels of <5, 5-<6, 6-<7, 7-<8, 8-<9, and ≥9% equivalent to <31, 31-<42, 42-<53, 53-<64, 64-<75, and ≥75mmol/mol, respectively. Minimally adjusted model includes patient's calendar quarter of dialysis initiation. Case-mix model includes minimally adjusted covariates + age, sex, race, ethnicity, cause of end-stage renal disease, Charlson comorbidity index, diabetes, congestive heart failure, and cerebrovascular disease. Expanded case-mix model includes case-mix covariates as well as residential region, initial dialysis modality, and body mass index. Expanded case-mix+laboratory model includes expanded case-mix covariates + serum albumin, hemoglobin, serum bicarbonate, estimated glomerular filtration rate (eGFR) averaged over the one-year prelude period, and last eGFR level measured prior to dialysis initiation.



SUPPLEMENTARY DATA

**Supplementary Figure S3. Association between mean random glucose over the one-year prelude period and one-year all-cause (Panel A) and cardiovascular mortality using Fine and Gray competing risks regression (Panel B).** Minimally adjusted model includes patient's calendar quarter of dialysis initiation. Case-mix model includes minimally adjusted covariates + age, sex, race, ethnicity, cause of end-stage renal disease, Charlson comorbidity index, diabetes, congestive heart failure, and cerebrovascular disease. Expanded case-mix model includes case-mix covariates as well as residential region, initial dialysis modality, and body mass index. Expanded case-mix+laboratory model includes expanded case-mix covariates + serum albumin, hemoglobin, serum bicarbonate, estimated glomerular filtration rate (eGFR) averaged over the one-year prelude period, and last eGFR level measured prior to dialysis initiation.



SUPPLEMENTARY DATA

**Supplementary Table 1. Association between hemoglobin A1c over the one-year prelude period and one-year all-cause mortality.**

OVERALL COHORT (N=17,819): ALL-CAUSE MORTALITY								
HbA1c (%) [mmol/mol]	Minimally adjusted		Case-mix		Expanded case-mix		Expanded case-mix+laboratory	
	HR (95%CI)	p	HR (95%CI)	p	HR (95%CI)	p	HR (95%CI)	p
<5 [<31]	0.72 (0.58-0.89)	0.002	0.88 (0.71-1.09)	0.2	0.91 (0.74-1.14)	0.4	0.91 (0.73-1.13)	0.4
5-<6 [31-<42]	0.95 (0.88-1.03)	0.2	0.99 (0.91-1.08)	0.8	1.02 (0.94-1.10)	0.7	1.02 (0.94-1.11)	0.6
6-<7 [42-<53]	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a
7-<8 [53-<64]	0.96 (0.89-1.05)	0.4	1.05 (0.97-1.15)	0.2	1.05 (0.96-1.14)	0.3	1.04 (0.95-1.13)	0.4
8-<9 [64-<75]	0.95 (0.85-1.06)	0.3	1.19 (1.07-1.32)	0.002	1.17 (1.05-1.30)	0.006	1.11 (1.00-1.24)	0.05
≥9 [≥75]	0.97 (0.86-1.09)	0.6	1.48 (1.31-1.67)	<0.001	1.44 (1.27-1.62)	<0.001	1.32 (1.16-1.49)	<0.001
DIABETES COHORT (N=15,549): ALL-CAUSE MORTALITY								

SUPPLEMENTARY DATA

<b>HbA1c</b>  (%)  [mmol/mol]	<b>Minimally adjusted</b>		<b>Case-mix</b>		<b>Expanded case-mix</b>		<b>Expanded case-mix+laboratory</b>	
	<b>HR (95%CI)</b>	<b>p</b>	<b>HR (95%CI)</b>	<b>p</b>	<b>HR (95%CI)</b>	<b>p</b>	<b>HR (95%CI)</b>	<b>p</b>
<b>&lt;5</b>  [<31]	0.71 (0.54-0.93)	0.01	0.82 (0.62-1.08)	0.2	0.87 (0.66-1.15)	0.3	0.89 (0.68-1.18)	0.4
<b>5-&lt;6</b>  [31-<42]	0.97 (0.89-1.06)	0.5	1.01 (0.92-1.10)	0.9	1.02 (0.94-1.12)	0.6	1.03 (0.94-1.13)	0.5
<b>6-&lt;7</b>  [42-<53]	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a
<b>7-&lt;8</b>  [53-<64]	0.96 (0.88-1.05)	0.4	1.06 (0.97-1.15)	0.2	1.05 (0.96-1.14)	0.3	1.03 (0.94-1.12)	0.5
<b>8-&lt;9</b>  [64-<75]	0.95 (0.85-1.06)	0.3	1.20 (1.07-1.34)	0.001	1.17 (1.05-1.30)	0.006	1.11 (0.99-1.24)	0.06
<b>≥9</b>  [≥75]	0.97 (0.86-1.09)	0.6	1.50 (1.32-1.69)	<0.001	1.44 (1.27-1.63)	<0.001	1.32 (1.17-1.50)	<0.001

SUPPLEMENTARY DATA

**Supplementary Table S2. Association between hemoglobin A1c over the one-year prelude period and one-year cardiovascular mortality using Fine and Gray competing risks regression.**

OVERALL COHORT (N=17,819): CARDIOVASCULAR MORTALITY								
HbA1c (%) [mmol/mol]	Minimally adjusted		Case-mix		Expanded case-mix		Expanded case-mix+laboratory	
	HR (95%CI)	p	HR (95%CI)	p	HR (95%CI)	p	HR (95%CI)	p
<5 [<31]	0.74 (0.59-0.92)	0.007	0.69 (0.46-1.04)	0.07	0.68 (0.45-1.03)	0.07	0.70 (0.46-1.06)	0.09
5-<6 [31-<42]	0.95 (0.87-1.03)	0.2	0.94 (0.82-1.08)	0.4	0.92 (0.80-1.06)	0.3	0.93 (0.80-1.08)	0.3
6-<7 [42-<53]	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a
7-<8 [53-<64]	0.95 (0.88-1.04)	0.3	0.95 (0.83-1.10)	0.5	0.92 (0.79-1.06)	0.2	0.90 (0.78-1.04)	0.2
8-<9 [64-<75]	0.95 (0.85-1.06)	0.3	1.15 (0.97-1.38)	0.1	1.08 (0.90-1.30)	0.4	1.05 (0.87-1.27)	0.6
≥9 [≥75]	0.94 (0.83-1.06)	0.3	1.52 (1.26-1.85)	<0.001	1.44 (1.17-1.76)	<0.001	1.36 (1.11-1.67)	0.004

SUPPLEMENTARY DATA

DIABETES COHORT (N=15,549): CARDIOVASCULAR MORTALITY								
HbA1c (%) [mmol/mol]	Minimally adjusted		Case-mix		Expanded case-mix		Expanded case-mix+laboratory	
	HR (95%CI)	p	HR (95%CI)	p	HR (95%CI)	p	HR (95%CI)	p
<5 [<31]	0.73 (0.56-0.97)	0.03	0.77 (0.48-1.23)	0.3	0.75 (0.47-1.21)	0.2	0.77 (0.48-1.24)	0.3
5-<6 [31-<42]	0.98 (0.89-1.07)	0.7	0.99 (0.86-1.15)	>0.9	0.97 (0.83-1.13)	0.7	0.97 (0.83-1.14)	0.7
6-<7 [42-<53]	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a
7-<8 [53-<64]	0.96 (0.87-1.04)	0.3	0.97 (0.84-1.12)	0.7	0.93 (0.80-1.08)	0.3	0.91 (0.78-1.06)	0.2
8-<9 [64-<75]	0.95 (0.85-1.06)	0.4	1.17 (0.98-1.40)	0.08	1.09 (0.90-1.31)	0.4	1.06 (0.88-1.28)	0.6
≥9 [≥75]	0.94 (0.83-1.07)	0.4	1.54 (1.27-1.88)	<0.001	1.45 (1.18-1.78)	<0.001	1.37 (1.11-1.69)	0.003

SUPPLEMENTARY DATA

**Supplementary Table S3. Subgroup analyses of the association between hemoglobin A1c over the one-year prelude period and one-year all-cause mortality.**

AGE	HbA1c (%)	AGE <65 YEARS (N=7382)				AGE ≥65 YEARS (N=10,437)			
	[mmol/mol]	Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory	Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory
	<5 [<31]	0.94 (0.66-1.35)	0.81 (0.56-1.17)	0.81 (0.56-1.18)	0.70 (0.48-1.02)	0.77 (0.59-1.01)	0.86 (0.65-1.12)	0.97 (0.74-1.28)	1.02 (0.78-1.34)
5-<6 [31-<42]	1.06 (0.89-1.25)	1.05 (0.88-1.26)	0.99 (0.83-1.19)	0.97 (0.81-1.16)	0.96 (0.88-1.05)	0.98 (0.89-1.07)	1.03 (0.94-1.13)	1.05 (0.95-1.15)	
6-<7 [42-<53]	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	
7-<8 [53-<64]	1.02 (0.86-1.23)	1.02 (0.85-1.23)	0.95 (0.79-1.14)	0.94 (0.78-1.13)	1.02 (0.93-1.12)	1.07 (0.97-1.18)	1.06 (0.96-1.16)	1.05 (0.95-1.15)	
8-<9 [64-<75]	1.21 (0.99-1.47)	1.19 (0.98-1.46)	1.09 (0.89-1.33)	1.02 (0.83-1.25)	1.04 (0.92-1.18)	1.19 (1.04-1.35)	1.14 (1.00-1.30)	1.11 (0.97-1.27)	
≥9	1.37	1.48	1.32	1.24	1.21	1.50	1.40	1.28	



SUPPLEMENTARY DATA

	≥75	(1.13-1.66)	(1.22-1.80)	(1.08-1.60)	(1.02-1.52)	(1.04-1.42)	(1.28-1.77)	(1.19-1.64)	(1.09-1.52)
<b>RACE</b>	<b>HbA1c (%)</b>	<b>WHITE (N=12,149)</b>				<b>NON-WHITE (N=5385)</b>			
	[mmol/mol]								
		<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>	<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>
	<b>&lt;5</b>	0.82	0.98	1.06	1.04	0.61	0.64	0.72	0.66
	[<31]	(0.65-1.05)	(0.76-1.25)	(0.83-1.36)	(0.82-1.34)	(0.39-0.96)	(0.40-1.01)	(0.45-1.14)	(0.41-1.05)
	<b>5-&lt;6</b>	0.93	0.96	0.99	1.00	1.09	1.13	1.22	1.17
	[31-<42]	(0.86-1.02)	(0.88-1.06)	(0.91-1.09)	(0.91-1.09)	(0.91-1.29)	(0.94-1.36)	(1.02-1.46)	(0.97-1.40)
	<b>6-&lt;7</b>	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
	[42-<53]								
	<b>7-&lt;8</b>	0.96	1.07	1.03	1.02	0.95	0.99	1.06	0.97
[53-<64]	(0.87-1.05)	(0.97-1.17)	(0.93-1.13)	(0.93-1.12)	(0.78-1.16)	(0.80-1.21)	(0.86-1.30)	(0.79-1.19)	
<b>8-&lt;9</b>	0.94	1.17	1.11	1.08	1.06	1.27	1.27	1.19	
[64-<75]	(0.83-1.06)	(1.03-1.32)	(0.98-1.25)	(0.95-1.22)	(0.84-1.35)	(1.00-1.62)	(1.00-1.62)	(0.94-1.53)	
<b>≥9</b>	0.95	1.43	1.32	1.25	1.21	1.63	1.62	1.38	
[≥75]	(0.83-1.09)	(1.24-1.65)	(1.15-1.53)	(1.09-1.45)	(0.96-1.53)	(1.28-2.08)	(1.27-2.07)	(1.08-1.78)	

SUPPLEMENTARY DATA

CHF	HbA1c (%)	CHF (N=11,034)				NO CHF (N=6783)			
	[mmol/mol]								
		Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory	Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory
	<5	0.70	0.77	0.89	0.93	0.96	1.11	1.05	0.89
	[<31]	(0.53-0.92)	(0.58-1.02)	(0.67-1.18)	(0.69-1.23)	(0.69-1.33)	(0.79-1.56)	(0.75-1.48)	(0.63-1.26)
	5-<6	0.99	0.98	1.03	1.04	1.02	1.04	1.05	1.00
	[31-<42]	(0.90-1.08)	(0.89-1.08)	(0.93-1.13)	(0.94-1.14)	(0.88-1.18)	(0.89-1.21)	(0.89-1.23)	(0.85-1.18)
	6-<7	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
	[42-<53]								
7-<8	0.96	1.06	1.08	1.06	0.93	1.03	0.93	0.94	
[53-<64]	(0.87-1.06)	(0.97-1.17)	(0.98-1.18)	(0.96-1.17)	(0.78-1.11)	(0.86-1.24)	(0.78-1.12)	(0.78-1.12)	
8-<9	0.95	1.19	1.16	1.12	0.95	1.19	1.10	1.06	
[64-<75]	(0.84-1.07)	(1.05-1.34)	(1.02-1.31)	(0.99-1.27)	(0.76-1.18)	(0.95-1.49)	(0.88-1.38)	(0.84-1.33)	
≥9	0.96	1.45	1.36	1.28	1.05	1.62	1.49	1.30	
[≥75]	(0.84-1.10)	(1.26-1.67)	(1.18-1.57)	(1.11-1.47)	(0.83-1.32)	(1.28-2.06)	(1.17-1.89)	(1.02-1.67)	
C V D	HbA1c (%)	CVD (N=4181)				NO CVD (N=13,636)			

SUPPLEMENTARY DATA

	[mmol/mol]								
		<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>	<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>
<b>&lt;5</b>	0.61	0.71	0.87	0.93	0.77	0.93	0.95	0.89	
[<31]	(0.38-0.91)	(0.44-1.14)	(0.54-1.41)	(0.57-1.51)	(0.61-0.98)	(0.73-1.19)	(0.74-1.21)	(0.69-1.14)	
<b>5-&lt;6</b>	1.00	1.00	1.02	1.04	0.94	0.99	1.03	1.01	
[31-<42]	(0.87-1.15)	(0.86-1.16)	(0.88-1.18)	(0.90-1.21)	(0.85-1.03)	(0.90-1.09)	(0.93-1.13)	(0.91-1.11)	
<b>6-&lt;7</b>	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	
[42-<53]									
<b>7-&lt;8</b>	1.00	1.10	1.13	1.11	0.95	1.03	0.99	0.98	
[53-<64]	(0.86-1.16)	(0.95-1.28)	(0.97-1.32)	(0.96-1.30)	(0.86-1.05)	(0.93-1.14)	(0.89-1.10)	(0.88-1.09)	
<b>8-&lt;9</b>	0.94	1.15	1.12	1.07	0.96	1.20	1.14	1.10	
[64-<75]	(0.77-1.15)	(0.94-1.41)	(0.91-1.37)	(0.87-1.31)	(0.85-1.09)	(1.05-1.36)	(1.00-1.30)	(0.96-1.25)	
<b>≥9</b>	1.03	1.55	1.55	1.42	0.95	1.45	1.33	1.24	
[≥75]	(0.83-1.27)	(1.24-1.94)	(1.24-1.94)	(1.13-1.78)	(0.82-1.09)	(1.25-1.67)	(1.14-1.53)	(1.07-1.44)	
<b>ALBU MIN (G/DL)</b>	<b>HbA1c (%)</b>	<b>SERUM ALBUMIN &lt;3.5 (N=9467)</b>				<b>SERUM ALBUMIN ≥3.5 (N=8352)</b>			
	[mmol/mol]								

SUPPLEMENTARY DATA

		Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory	Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory
	<b>&lt;5</b> [<31]	0.77 (0.58-1.01)	0.89 (0.67-1.18)	1.00 (0.75-1.32)	0.93 (0.70-1.24)	0.65 (0.47-0.91)	0.85 (0.61-1.20)	0.90 (0.64-1.26)	0.93 (0.66-1.31)
	<b>5-&lt;6</b> [31-<42]	1.07 (0.96-1.19)	1.06 (0.95-1.19)	1.07 (0.96-1.20)	1.08 (0.97-1.22)	0.83 (0.74-0.93)	0.90 (0.80-1.02)	0.96 (0.85-1.09)	0.99 (0.87-1.11)
	<b>6-&lt;7</b> [42-<53]	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
	<b>7-&lt;8</b> [53-<64]	0.93 (0.83-1.04)	1.05 (0.94-1.18)	1.11 (0.98-1.24)	1.13 (1.01-1.27)	1.00 (0.89-1.13)	1.06 (0.94-1.20)	1.00 (0.88-1.13)	0.97 (0.86-1.10)
	<b>8-&lt;9</b> [64-<75]	0.97 (0.84-1.11)	1.20 (1.04-1.38)	1.17 (1.02-1.35)	1.14 (0.98-1.31)	0.91 (0.77-1.08)	1.16 (0.98-1.37)	1.09 (0.92-1.29)	1.05 (0.89-1.25)
	<b>≥9</b> [≥75]	0.98 (0.84-1.13)	1.49 (1.28-1.73)	1.47 (1.26-1.71)	1.44 (1.24-1.68)	0.93 (0.76-1.14)	1.41 (1.14-1.73)	1.24 (1.01-1.53)	1.15 (0.93-1.42)
<b>HEMOGLOBIN (G/DL)</b>	<b>HbA1c (%)</b> [mmol/mol]	<b>HEMOGLOBIN &lt;11 (N=955)</b>				<b>HEMOGLOBIN ≥11 (N=8264)</b>			
		<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix +</b>	<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix +</b>

SUPPLEMENTARY DATA

					<b>Laboratory</b>				<b>Laboratory</b>
	<b>&lt;5</b>	0.71	0.85	0.85	0.87	0.81	0.98	1.11	1.12
	[<31]	(0.54-0.92)	(0.65-1.12)	(0.64-1.12)	(0.66-1.14)	(0.57-1.15)	(0.69-1.39)	(0.78-1.59)	(0.79-1.61)
	<b>5-&lt;6</b>	1.00	1.04	1.04	1.03	0.91	0.96	1.01	1.04
	[31-<42]	(0.90-1.11)	(0.93-1.16)	(0.93-1.16)	(0.92-1.15)	(0.81-1.02)	(0.85-1.08)	(0.89-1.14)	(0.92-1.17)
	<b>6-&lt;7</b>	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
	[42-<53]								
	<b>7-&lt;8</b>	1.01	1.15	1.11	1.08	0.91	0.98	0.97	0.96
	[53-<64]	(0.90-1.14)	(1.02-1.29)	(0.98-1.25)	(0.96-1.22)	(0.81-1.03)	(0.87-1.10)	(0.86-1.09)	(0.85-1.08)
	<b>8-&lt;9</b>	1.02	1.26	1.20	1.15	0.88	1.13	1.08	1.04
	[64-<75]	(0.88-1.19)	(1.08-1.47)	(1.03-1.40)	(0.98-1.34)	(0.76-1.02)	(0.96-1.31)	(0.93-1.26)	(0.89-1.21)
	<b>≥9</b>	1.11	1.81	1.63	1.49	0.84	1.24	1.20	1.11
	[≥75]	(0.94-1.31)	(1.52-2.15)	(1.37-1.94)	(1.25-1.78)	(0.72-1.00)	(1.05-1.47)	(1.01-1.43)	(0.93-1.32)
<b>OADs</b>	<b>HbA1c (%)</b>	<b>OAD USER<sup>b</sup> (N=6012)</b>				<b>OAD NON-USER<sup>b</sup> (N=11,398)</b>			
	[mmol/mol]								
		<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>	<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>

SUPPLEMENTARY DATA

	<b>&lt;5</b> [<31]	0.56 (0.33-0.98)	0.72 (0.41-1.25)	0.76 (0.44-1.32)	0.77 (0.44-1.35)	0.78 (0.62-0.99)	0.93 (0.73-1.18)	0.99 (0.78-1.27)	0.98 (0.77-1.26)	
	<b>5-&lt;6</b> [31-<42]	0.88 (0.77-1.02)	0.96 (0.83-1.11)	1.04 (0.90-1.20)	1.05 (0.91-1.21)	1.02 (0.92-1.12)	1.03 (0.93-1.14)	1.01 (0.91-1.12)	1.00 (0.90-1.10)	
	<b>6-&lt;7</b> [42-<53]	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	
	<b>7-&lt;8</b> [53-<64]	0.90 (0.79-1.03)	0.97 (0.85-1.11)	0.94 (0.82-1.07)	0.93 (0.81-1.06)	1.00 (0.90-1.12)	1.12 (0.99-1.25)	1.14 (1.02-1.28)	1.12 (1.00-1.26)	
	<b>8-&lt;9</b> [64-<75]	0.99 (0.84-1.17)	1.19 (1.00-1.40)	1.15 (0.97-1.37)	1.10 (0.92-1.31)	0.92 (0.80-1.06)	1.18 (1.02-1.37)	1.12 (0.97-1.29)	1.08 (0.93-1.25)	
	<b>≥9</b> [≥75]	0.90 (0.74-1.10)	1.35 (1.10-1.66)	1.20 (0.98-1.48)	1.14 (0.92-1.40)	1.04 (0.90-1.20)	1.60 (1.37-1.87)	1.57 (1.35-1.83)	1.43 (1.22-1.67)	
<b>INSULIN</b>	<b>HbA1c (%)</b> [mmol/mol]	<b>INSULIN USER<sup>c</sup> (N=9838)</b>					<b>INSULIN NON-USER<sup>c</sup> (N=7572)</b>			
		<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>	<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>	
	<b>&lt;5</b>	0.62	0.74	0.77	0.73	0.69	0.92	1.06	1.05	

SUPPLEMENTARY DATA

	[<31]	(0.38-1.02)	(0.45-1.22)	(0.47-1.28)	(0.44-1.21)	(0.54-0.88)	(0.72-1.18)	(0.83-1.36)	(0.81-1.35)
	<b>5-&lt;6</b>	0.99	1.05	0.99	0.95	0.88	0.98	1.07	1.09
	[31-<42]	(0.86-1.14)	(0.91-1.21)	(0.86-1.14)	(0.82-1.10)	(0.80-0.97)	(0.89-1.09)	(0.97-1.19)	(0.98-1.21)
	<b>6-&lt;7</b>	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
	[42-<53]								
	<b>7-&lt;8</b>	1.02	1.07	1.01	1.01	1.02	1.05	1.03	1.03
	[53-<64]	(0.92-1.14)	(0.96-1.19)	(0.91-1.13)	(0.90-1.12)	(0.88-1.19)	(0.91-1.22)	(0.88-1.19)	(0.88-1.19)
	<b>8-&lt;9</b>	1.01	1.19	1.07	1.02	1.12	1.24	1.16	1.15
	[64-<75]	(0.89-1.15)	(1.05-1.35)	(0.94-1.22)	(0.89-1.16)	(0.88-1.43)	(0.97-1.58)	(0.91-1.48)	(0.90-1.47)
	<b>≥9</b>	1.09	1.54	1.38	1.28	0.91	1.35	0.98	0.94
	[≥75]	(0.95-1.25)	(1.34-1.77)	(1.20-1.58)	(1.11-1.47)	(0.62-1.34)	(0.92-2.00)	(0.66-1.45)	(0.63-1.40)

\*Abbreviations: CHF, congestive heart failure; CVD, cerebrovascular disease; OADs, oral anti-diabetic drugs.

†OAD user indicates receipt of an OAD prescription anytime during the prelude period, whereas OAD non-user indicates no receipt of an OAD prescription during the prelude period.

Insulin user indicates receipt of an insulin prescription anytime during the prelude period, whereas insulin non-user indicates no receipt of an insulin prescription during the prelude period.

SUPPLEMENTARY DATA

**Supplementary Table S4. Association between mean random glucose over the one-year prelude period and one-year all-cause and cardiovascular mortality using Fine and Gray competing risks regression.**

DIABETES COHORT (N=17,121): ALL-CAUSE MORTALITY								
Mean Random Glucose (mg/dl)	Minimally adjusted		Case-mix		Expanded case-mix		Expanded case-mix+laboratory	
	HR (95%CI)	p	HR (95%CI)	p	HR (95%CI)	p	HR (95%CI)	p
<100	1.07 (0.98-1.17)	0.1	1.02 (0.93-1.11)	0.7	1.01 (0.92-1.11)	0.8	1.05 (0.96-1.16)	0.3
100-<125	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a
125-<150	0.92 (0.85-1.01)	0.07	1.01 (0.93-1.10)	0.8	1.02 (0.93-1.11)	0.7	1.01 (0.92-1.10)	0.9
150-<175	0.93 (0.84-1.02)	0.1	1.06 (0.96-1.17)	0.3	1.02 (0.92-1.13)	0.7	0.98 (0.89-1.08)	0.7
175-<200	0.93 (0.83-1.05)	0.2	1.10 (0.98-1.25)	0.1	1.12 (0.99-1.27)	0.06	1.08 (0.95-1.22)	0.2
≥200	1.04 (0.94-1.16)	0.4	1.34 (1.20-1.49)	<0.001	1.23 (1.11-1.37)	<0.001	1.19 (1.07-1.32)	0.002
DIABETES COHORT (N=17,121): CARDIOVASCULAR MORTALITY								
Mean Random Glucose (mg/dl)	Minimally adjusted		Case-mix		Expanded case-mix		Expanded case-mix+laboratory	
	HR (95%CI)	p	HR (95%CI)	p	HR (95%CI)	p	HR (95%CI)	p



SUPPLEMENTARY DATA

<b>&lt;100</b>	1.09 (0.99-1.19)	0.08	1.03 (0.94-1.13)	0.5	1.09 (0.99-1.19)	0.08	1.03 (0.94-1.13)	0.5
<b>100-&lt;125</b>	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a	1 (ref)	n/a
<b>125-&lt;150</b>	0.92 (0.84-1.01)	0.07	1.00 (0.91-1.10)	>0.9	0.92 (0.84-1.01)	0.07	1.00 (0.91-1.10)	>0.9
<b>150-&lt;175</b>	0.91 (0.83-1.01)	0.09	1.04 (0.94-1.16)	0.4	0.91 (0.83-1.01)	0.09	1.04 (0.94-1.16)	0.4
<b>175-&lt;200</b>	0.92 (0.81-1.04)	0.2	1.09 (0.96-1.23)	0.2	0.92 (0.81-1.04)	0.2	1.09 (0.96-1.23)	0.2
<b>≥200</b>	1.03 (0.92-1.14)	0.6	1.32 (1.18-1.47)	<0.001	1.03 (0.92-1.14)	0.6	1.32 (1.18-1.47)	<0.001

SUPPLEMENTARY DATA

**Supplementary Table S5. Subgroup analyses of the association between mean random glucose over the one-year prelude period and one-year all-cause mortality.**

AGE	Mean Random Glucose	AGE <65 YEARS (N=6791)				AGE ≥65 YEARS (N=10,330)			
		Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory	Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory
<100	0.81 (0.65-1.03)	0.88 (0.70-1.11)	0.87 (0.69-1.11)	0.89 (0.70-1.13)	1.08 (0.98-1.19)	1.04 (0.95-1.15)	1.03 (0.93-1.14)	1.08 (0.98-1.19)	
100-<125	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	
125-<150	0.90 (0.75-1.09)	0.92 (0.76-1.11)	0.86 (0.71-1.04)	0.85 (0.70-1.03)	0.99 (0.89-1.09)	1.04 (0.94-1.15)	1.06 (0.96-1.17)	1.05 (0.95-1.16)	
150-<175	1.11 (0.92-1.34)	1.09 (0.90-1.32)	1.10 (0.90-1.33)	1.03 (0.85-1.26)	0.99 (0.88-1.11)	1.03 (0.92-1.16)	0.97 (0.86-1.09)	0.94 (0.83-1.05)	
175-<200	1.05 (0.83-1.31)	1.03 (0.82-1.30)	0.94 (0.74-1.19)	0.86 (0.68-1.09)	1.05 (0.91-1.21)	1.13 (0.98-1.30)	1.20 (1.04-1.38)	1.17 (1.01-1.35)	
≥200	1.27	1.25	1.13	1.06	1.24	1.35	1.25	1.22	

SUPPLEMENTARY DATA

		(1.05-1.53)	(1.03-1.51)	(0.94-1.37)	(0.87-1.28)	(1.09-1.40)	(1.19-1.53)	(1.10-1.42)	(1.07-1.39)
<b>RACE</b>	<b>Mean</b>	<b>WHITE (N=11,977)</b>				<b>NON-WHITE (N=5133)</b>			
	<b>Random Glucose</b>								
		<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>	<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>
	<b>&lt;100</b>	1.14 (1.03-1.26)	1.07 (0.97-1.18)	1.05 (0.95-1.16)	1.09 (0.99-1.21)	0.83 (0.67-1.02)	0.83 (0.67-1.02)	0.87 (0.71-1.08)	0.91 (0.74-1.13)
	<b>100-&lt;125</b>	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
	<b>125-&lt;150</b>	0.96 (0.87-1.06)	1.05 (0.95-1.16)	1.06 (0.96-1.17)	1.05 (0.95-1.15)	0.80 (0.66-0.97)	0.87 (0.72-1.06)	0.84 (0.69-1.02)	0.86 (0.70-1.05)
	<b>150-&lt;175</b>	0.90 (0.81-1.01)	1.04 (0.93-1.16)	0.99 (0.89-1.11)	0.96 (0.86-1.08)	0.98 (0.79-1.21)	1.14 (0.92-1.41)	1.09 (0.88-1.35)	0.99 (0.80-1.24)
	<b>175-&lt;200</b>	0.93 (0.81-1.06)	1.11 (0.97-1.27)	1.15 (1.00-1.31)	1.11 (0.97-1.27)	0.85 (0.65-1.12)	1.06 (0.80-1.40)	0.94 (0.71-1.26)	0.90 (0.68-1.19)
	<b>≥200</b>	1.05 (0.94-1.18)	1.36 (1.21-1.53)	1.24 (1.10-1.40)	1.21 (1.08-1.37)	0.99 (0.79-1.24)	1.20 (0.96-1.51)	1.15 (0.91-1.44)	1.03 (0.82-1.30)

SUPPLEMENTARY DATA

	Mean	CHF (N=11,083)				NO CHF (N=6038)				
	Random Glucose									
CHF		Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory	Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory	
	<100	1.14 (1.03-1.26)	1.05 (0.95-1.17)	1.02 (0.92-1.12)	1.06 (0.96-1.18)	0.85 (0.70-1.04)	0.89 (0.72-1.08)	0.91 (0.75-1.12)	0.95 (0.78-1.17)	
	100-<125	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	
	125-<150	0.89 (0.80-0.98)	0.98 (0.89-1.09)	0.97 (0.87-1.07)	0.97 (0.88-1.07)	1.04 (0.88-1.24)	1.10 (0.92-1.31)	1.15 (0.97-1.38)	1.13 (0.94-1.35)	
	150-<175	0.93 (0.83-1.04)	1.06 (0.94-1.18)	1.00 (0.90-1.13)	0.97 (0.87-1.09)	0.91 (0.74-1.11)	1.06 (0.85-1.30)	1.05 (0.85-1.30)	0.99 (0.80-1.23)	
	175-<200	0.93 (0.81-1.06)	1.11 (0.97-1.27)	1.14 (0.99-1.30)	1.12 (0.98-1.29)	0.87 (0.67-1.13)	1.06 (0.81-1.39)	1.06 (0.81-1.39)	0.97 (0.74-1.27)	
	≥200	1.01 (0.90-1.14)	1.28 (1.14-1.45)	1.15 (1.02-1.30)	1.12 (0.99-1.27)	1.18 (0.96-1.44)	1.50 (1.22-1.85)	1.43 (1.16-1.77)	1.33 (1.07-1.65)	
	CVD	Mean	CVD (N=4212)				NO CVD (N=12,909)			
		Random								

SUPPLEMENTARY DATA

	Glucose								
		Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory	Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory
	<100	1.10 (0.94-1.28)	1.00 (0.86-1.17)	1.02 (0.87-1.20)	1.05 (0.90-1.24)	1.06 (0.95-1.18)	1.02 (0.91-1.14)	1.00 (0.89-1.12)	1.05 (0.94-1.17)
	100-<125	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
	125-<150	0.91 (0.78-1.07)	1.00 (0.85-1.17)	1.02 (0.87-1.20)	1.03 (0.87-1.21)	0.94 (0.85-1.04)	1.02 (0.92-1.13)	1.02 (0.91-1.13)	1.00 (0.89-1.11)
	150-<175	0.90 (0.75-1.08)	0.98 (0.82-1.18)	1.00 (0.83-1.20)	0.96 (0.80-1.16)	0.95 (0.84-1.07)	1.08 (0.96-1.22)	1.02 (0.90-1.15)	0.97 (0.86-1.10)
	175-<200	0.85 (0.69-1.06)	0.98 (0.78-1.22)	1.04 (0.83-1.30)	1.02 (0.82-1.28)	0.97 (0.84-1.12)	1.17 (1.01-1.35)	1.16 (1.00-1.34)	1.09 (0.94-1.26)
	≥200	1.04 (0.87-1.24)	1.31 (1.08-1.58)	1.35 (1.12-1.63)	1.31 (1.08-1.59)	1.05 (0.83-1.19)	1.35 (1.19-1.53)	1.18 (1.04-1.34)	1.13 (0.99-1.28)
<b>ALBUMIN (G/DL)</b>	<b>Mean</b>	<b>SERUM ALBUMIN &lt;3.5 (N=9234)</b>				<b>SERUM ALBUMIN ≥3.5 (N=7887)</b>			
	<b>Random Glucose</b>								

SUPPLEMENTARY DATA

		Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory	Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory
	<100	1.01 (0.89-1.14)	0.99 (0.87-1.13)	0.99 (0.87-1.12)	1.03 (0.90-1.17)	1.15 (1.01-1.30)	1.06 (0.94-1.21)	1.06 (0.93-1.20)	1.09 (0.96-1.24)
	100-<125	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
	125-<150	0.91 (0.81-1.02)	1.00 (0.89-1.13)	1.00 (0.89-1.13)	1.01 (0.90-1.14)	0.93 (0.82-1.06)	1.02 (0.89-1.16)	1.03 (0.91-1.18)	1.03 (0.90-1.17)
	150-<175	0.92 (0.81-1.05)	1.09 (0.95-1.24)	1.08 (0.94-1.23)	1.03 (0.90-1.17)	0.91 (0.79-1.06)	1.00 (0.86-1.17)	0.94 (0.81-1.10)	0.92 (0.79-1.08)
	175-<200	0.94 (0.81-1.10)	1.17 (1.00-1.38)	1.20 (1.02-1.41)	1.18 (1.01-1.39)	0.89 (0.74-1.08)	1.00 (0.82-1.21)	1.02 (0.84-1.24)	0.96 (0.79-1.17)
	≥200	1.02 (0.89-1.16)	1.34 (1.17-1.54)	1.26 (1.10-1.45)	1.22 (1.06-1.40)	1.06 (0.90-1.25)	1.30 (1.10-1.54)	1.18 (0.99-1.39)	1.15 (0.97-1.36)
HEMOGLOBIN (G/DL)	Mean Random Glucose	HEMOGLOBIN <11 (N=9300)				HEMOGLOBIN ≥11 (N=7821)			
		Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory	Minimally Adjusted	Case-Mix	Expanded Case-Mix	Expanded Case-Mix + Laboratory

SUPPLEMENTARY DATA

	<b>&lt;100</b>	1.01 (0.90-1.15)	0.99 (0.88-1.13)	0.97 (0.86-1.10)	1.03 (0.90-1.16)	1.15 (1.01-1.30)	1.05 (0.92-1.20)	1.04 (0.91-1.19)	1.08 (0.94-1.23)
	<b>100-&lt;125</b>	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
	<b>125-&lt;150</b>	0.90 (0.80-1.01)	1.00 (0.89-1.13)	0.96 (0.85-1.08)	0.95 (0.84-1.07)	0.96 (0.84-1.09)	1.02 (0.90-1.17)	1.07 (0.94-1.22)	1.07 (0.94-1.21)
	<b>150-&lt;175</b>	0.92 (0.80-1.05)	1.07 (0.93-1.23)	1.05 (0.92-1.21)	0.99 (0.86-1.14)	0.93 (0.81-1.07)	1.04 (0.90-1.20)	0.99 (0.86-1.15)	0.96 (0.83-1.11)
	<b>175-&lt;200</b>	0.93 (0.79-1.09)	1.13 (0.95-1.33)	1.12 (0.94-1.32)	1.07 (0.90-1.27)	0.94 (0.79-1.12)	1.08 (0.91-1.29)	1.13 (0.95-1.36)	1.11 (0.93-1.32)
	<b>≥200</b>	1.14 (0.99-1.31)	1.47 (1.27-1.70)	1.30 (1.13-1.51)	1.28 (1.11-1.48)	0.95 (0.82-1.10)	1.20 (1.03-1.41)	1.15 (0.98-1.34)	1.09 (0.93-1.27)
<b>OADs</b>	<b>Mean</b>	<b>OAD USER<sup>b</sup> (N=6152)</b>				<b>OAD NON-USER<sup>b</sup> (N=10,514)</b>			
	<b>Random Glucose</b>								
		<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>	<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>
	<b>&lt;100</b>	1.05	0.95	1.00	1.06	1.08	1.03	0.98	1.00

SUPPLEMENTARY DATA

		(0.90-1.23)	(0.81-1.12)	(0.85-1.17)	(0.90-1.25)	(0.97-1.21)	(0.92-1.16)	(0.87-1.09)	(0.89-1.12)	
	<b>100-&lt;125</b>	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	
	<b>125-&lt;150</b>	0.94 (0.81-1.08)	0.95 (0.82-1.09)	0.97 (0.84-1.12)	0.96 (0.83-1.11)	0.91 (0.82-1.02)	1.04 (0.92-1.16)	1.04 (0.92-1.16)	1.02 (0.91-1.15)	
	<b>150-&lt;175</b>	1.03 (0.89-1.20)	1.03 (0.88-1.20)	0.99 (0.84-1.15)	0.95 (0.82-1.12)	0.85 (0.74-0.97)	1.05 (0.92-1.20)	1.08 (0.94-1.24)	1.03 (0.90-1.18)	
	<b>175-&lt;200</b>	1.04 (0.86-1.25)	1.08 (0.89-1.30)	1.12 (0.93-1.36)	1.09 (0.90-1.32)	0.87 (0.74-1.02)	1.10 (0.94-1.30)	1.12 (0.95-1.32)	1.07 (0.91-1.26)	
	<b>≥200</b>	1.16 (0.98-1.38)	1.27 (1.07-1.52)	1.14 (0.96-1.36)	1.10 (0.92-1.31)	0.99 (0.87-1.12)	1.35 (1.17-1.55)	1.26 (1.11-1.46)	1.21 (1.05-1.39)	
<b>INSULIN</b>	<b>Mean</b>	<b>INSULIN USER<sup>c</sup> (N=9938)</b>					<b>INSULIN NON-USER<sup>c</sup> (N=6728)</b>			
	<b>Random Glucose</b>									
		<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>	<b>Minimally Adjusted</b>	<b>Case-Mix</b>	<b>Expanded Case-Mix</b>	<b>Expanded Case-Mix + Laboratory</b>	
	<b>&lt;100</b>	0.98 (0.84-1.14)	0.90 (0.77-1.05)	0.96 (0.82-1.13)	1.00 (0.85-1.17)	1.11 (0.99-1.25)	1.07 (0.96-1.20)	1.03 (0.92-1.15)	1.07 (0.95-1.20)	



SUPPLEMENTARY DATA

	<b>100-&lt;125</b>	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
	<b>125-&lt;150</b>	0.93 (0.82-1.06)	0.93 (0.82-1.06)	0.97 (0.85-1.10)	0.96 (0.85-1.09)	1.02 (0.90-1.15)	1.06 (0.93-1.20)	1.03 (0.91-1.17)	1.03 (0.91-1.18)
	<b>150-&lt;175</b>	0.99 (0.87-1.13)	1.02 (0.89-1.16)	1.02 (0.89-1.17)	0.96 (0.84-1.10)	1.00 (0.85-1.19)	1.04 (0.87-1.24)	0.97 (0.82-1.16)	0.99 (0.83-1.19)
	<b>175-&lt;200</b>	1.01 (0.86-1.17)	1.07 (0.92-1.25)	1.10 (0.95-1.29)	1.06 (0.91-1.24)	1.03 (0.82-1.30)	1.08 (0.86-1.37)	1.03 (0.81-1.30)	0.99 (0.78-1.25)
	<b>≥200</b>	1.15 (1.01-1.32)	1.31 (1.15-1.50)	1.20 (1.04-1.37)	1.12 (0.98-1.28)	1.12 (0.89-1.41)	1.23 (0.97-1.55)	1.07 (0.85-1.35)	1.08 (0.85-1.36)

\*Abbreviations: CHF, congestive heart failure; CVD, cerebrovascular disease; OADs, oral anti-diabetic drugs.

†OAD user indicates receipt of an OAD prescription anytime during the prelude period, whereas OAD non-user indicates no receipt of an OAD prescription during the prelude period.

Insulin user indicates receipt of an insulin prescription anytime during the prelude period, whereas insulin non-user indicates no receipt of an insulin prescription during the prelude period.