

SUPPLEMENTARY DATA

**Supplementary Table S1.** Rates and rate ratios of fatal- and non-fatal cardiovascular disease for pre-diabetes subgroups, using the WHO/IEC criteria or the ADA criteria.

	<b>Definition</b>	<b>Rate per 1000-PY</b>	<b>RR</b>	<b>RR<sub>adj1</sub></b>	<b>RR<sub>adj2</sub></b>
<b>WHO/IEC</b>					
<u>Overall</u>					
Normal glycaemia	FPG < 6.1 mmol/L and HbA <sub>1c</sub> < 6.0%	9.6 (8.8;10.5)	ref	ref	ref
Pre-diabetes	FPG 6.1-6.9 mmol/L or HbA <sub>1c</sub> 6.0-6.4%	15.1 (12.3;18.6)	1.58 (1.26;1.98)	1.49 (1.19;1.88)	1.09 (0.86;1.37)
<u>By HbA<sub>1c</sub></u>					
Normal glycaemia	HbA <sub>1c</sub> < 6.0%	9.6 (8.8;10.5)	ref	ref	ref
Pre-diabetes	HbA <sub>1c</sub> 6.0-6.4%	19.8 (14.9;26.4)	2.06 (1.53;2.77)	1.54 (1.14;2.08)	1.02 (0.75;1.39)
<u>By FPG</u>					
Normal glycaemia	FPG < 6.1 mmol/L	9.9 (9.1;10.8)	ref	ref	ref
Pre-diabetes	FPG 6.1-6.9 mmol/L	12.6 (9.6;16.6)	1.27 (0.95;1.69)	1.13 (0.85;1.51)	0.92 (0.69;1.23)
<u>By 2hPG</u>					
Normal glycaemia	2hPG < 7.8 mmol/L	8.8 (8.0;9.8)	ref	ref	ref
Pre-diabetes	2hPG 7.8-11.0 mmol/L	12.1 (9.8;15.1)	1.37 (1.08;1.75)	1.08 (0.84;1.37)	0.88 (0.69;1.13)
<b>ADA</b>					
<u>Overall</u>					
Normal glycaemia	FPG < 5.6 mmol/L and HbA <sub>1c</sub> < 5.7%	8.9 (8.0; 9.9)	ref	ref	ref
Pre-diabetes	FPG 5.6-6.9 mmol/L or HbA <sub>1c</sub> 5.7-6.4%	12.5 (11.1;14.2)	1.41 (1.20;1.67)	1.35 (1.14;1.59)	1.07 (0.90;1.26)
<u>By HbA<sub>1c</sub></u>					
Normal glycaemia	HbA <sub>1c</sub> < 5.7%	8.8 (8.0;9.7)	ref	ref	ref
Pre-diabetes	HbA <sub>1c</sub> 5.7-6.4%	17.8 (15.1;21.0)	2.03 (1.67;2.45)	1.56 (1.29;1.90)	1.12 (0.92;1.37)
	HbA <sub>1c</sub> 5.7-5.9%	16.7 (13.7;20.5)	1.91 (1.53;2.38)	1.49 (1.19;1.87)	1.15 (0.91;1.44)
	HbA <sub>1c</sub> 6.0-6.4%	19.8 (14.9;26.4)	2.26 (1.67;3.05)	1.66 (1.22;2.25)	1.00 (0.72;1.36)
<u>By FPG</u>					
Normal glycaemia	FPG < 5.6 mmol/L	9.9 (9.0;10.9)	ref	ref	ref
Pre-diabetes	FPG 5.6-6.9 mmol/L	10.8 (9.3;12.6)	1.09 (0.91;1.31)	0.98 (0.81;1.18)	0.89 (0.74;1.08)
	FPG 5.6-6.0 mmol/L	10.1 (8.4;12.2)	1.02 (0.82;1.26)	0.93 (0.75;1.15)	0.89 (0.72;1.10)
	FPG 6.1-6.9 mmol/L	12.6 (9.6;16.6)	1.27 (0.95;1.70)	1.11 (0.83;1.49)	0.90 (0.68;1.21)
<u>By 2hPG</u>					
Normal	2hPG < 7.8 mmol/L	8.8 (8.0;9.8)	ref	ref	ref

SUPPLEMENTARY DATA

glycaemia					
Pre-diabetes	2hPG 7.8-11.0 mmol/L	12.1 (9.8;15.1)	1.37 (1.08;1.75)	1.08 (0.84;1.37)	0.88 (0.69;1.13)

IEC: International Expert Committee; FPG: fasting plasma glucose; 2hPG: 2-hour plasma glucose; RR: crude rate ratio; RR<sub>adj1</sub>: rate ratio adjusted for age, sex and ethnicity; RR<sub>adj2</sub>: rate ratio adjusted for age, sex, ethnicity, smoking, total cholesterol, HDL-cholesterol, systolic blood pressure, and use of antihypertensive treatment.

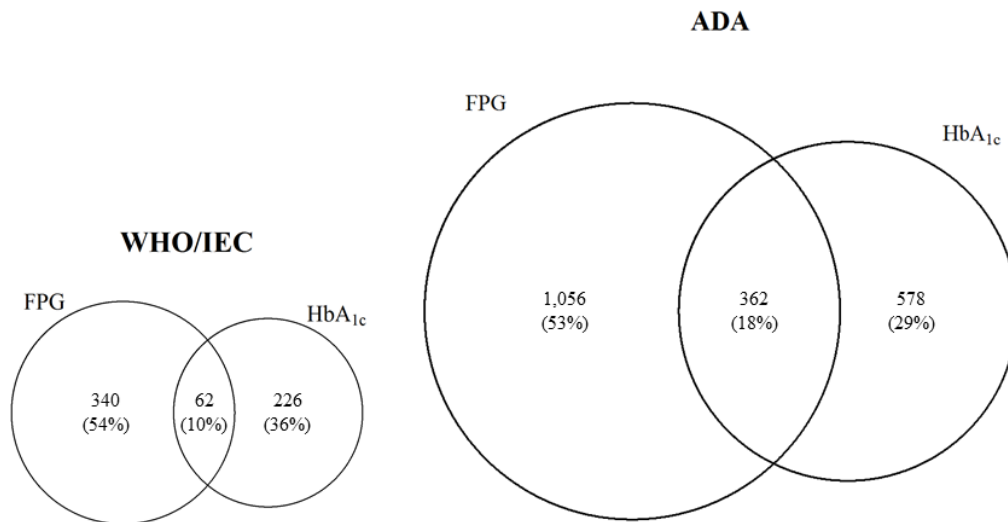
**Supplementary Table S2** Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) for 10-year incidence of an event (cardiovascular disease or mortality) for pre-diabetes subgroups, using the WHO/IEC criteria or the ADA criteria.

	Definition	Sensitivity	Specificity	PPV	NPV
<b>Overall</b>					
WHO/IEC:	FPG 6.1-6.9 mmol/L or HbA <sub>1c</sub> 6.0-6.4 %	0.17 (0.14;0.20)	0.89 (0.88;0.90)	0.17 (0.14;0.20)	0.89 (0.88;0.89)
ADA	FPG 5.6-6.9 mmol/L or HbA <sub>1c</sub> 5.7-6.4 %	0.45 (0.41;0.49)	0.64 (0.63;0.66)	0.15 (0.13;0.16)	0.89 (0.88;0.90)
<b>By FPG</b>					
WHO:	FPG 6.1-6.9 mmol/L	0.10 (0.07;0.12)	0.93 (0.92;0.94)	0.15 (0.12;0.19)	0.88 (0.87;0.89)
ADA:	FPG 5.6-6.9 mmol/L	0.29 (0.26;0.33)	0.74 (0.73;0.75)	0.13 (0.12;0.15)	0.88 (0.87;0.89)
<b>By HbA<sub>1c</sub></b>					
IEC:	HbA <sub>1c</sub> 6.0-6.4 %	0.10 (0.07;0.12)	0.95 (0.95;0.96)	0.22 (0.17;0.27)	0.89 (0.88;0.89)
ADA:	HbA <sub>1c</sub> 5.7-6.4 %	0.27 (0.23;0.30)	0.84 (0.83;0.85)	0.18 (0.16;0.21)	0.89 (0.88;0.90)
<b>By 2hPG</b>					
ADA & WHO	2hPG 7.8-11.0 mmol/L	0.20 (0.16;0.23)	0.86 (0.85;0.87)	0.15 (0.12;0.18)	0.90 (0.89;0.91)

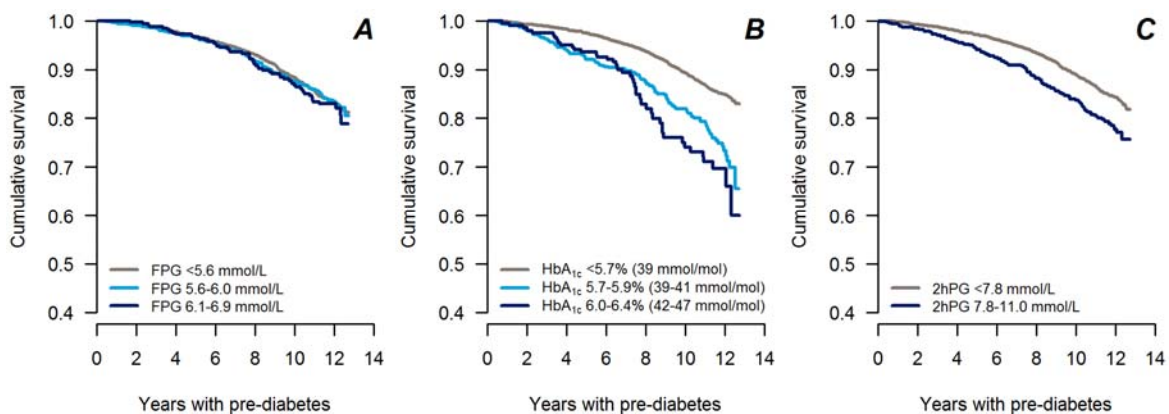
IEC: International Expert Committee; FPG: fasting plasma glucose; 2hPG: 2-hour plasma glucose

SUPPLEMENTARY DATA

**Supplementary Figure S1.** Venn diagrams for pre-diabetes by FPG and HbA<sub>1c</sub> defined by WHO/IEC and ADA. Circle sizes reflect the number of people with pre-diabetes for each criterion. Percentages show the relative distribution of pre-diabetes individuals within a criterion. ADA: American Diabetes Association; FPG: fasting plasma glucose; IEC: International Expert Committee; WHO: World Health Organization.



**Supplementary Figure S2.** Kaplan-Meier survival curves for an event (cardiovascular disease or mortality) for individuals with pre-diabetes (light blue and dark blue) versus normal glycaemia (grey), using fasting plasma glucose (A), HbA<sub>1c</sub> (B) or 2-hour glucose (C). Only the 4,730 participants with complete data on FPG, 2hPG and HbA<sub>1c</sub> are included. FPG: Fasting plasma glucose; 2hPG: 2-hour plasma glucose.



SUPPLEMENTARY DATA

**Supplementary Figure S3.** Incidence rates (95% CI) per 1000-PY by subgroups of pre-diabetes by the ADA criteria or WHO/IEC criteria for fasting plasma glucose and HbA<sub>1c</sub>. IEC: international expert committee; FPG: Fasting plasma glucose.

