

**Supplementary Table 1: Clinical characteristics of included and excluded participants**

Characteristics	Men		Women	
	Excluded (n= 179,886)	Included (n= 90,710)	Excluded (n= 259,171)	Included (n= 136,935)
Serum uric acid, mg/dl	5.9 (1.3)	6.0 (1.3)	4.6 (1.1)	4.7 (1.1)
Age, years	63.5 (8.6)	63.8 (8.6)	63.6 (8.0)	63.7 (8.0)
BMI, kg/m <sup>2</sup>	23.7 (3.1)	23.7 (3.0)	22.8 (3.4)	22.8 (3.4)
History of stroke, %	6.0	4.8	3.5	2.5
History of heart disease, %	8.5	7.9	5.6	5.0
History of renal failure, %	1.4	0.7	1.4	0.5
Current smoker, %	28.3	25.8	6.3	6.5
Daily drinker, %	47.0	43.8	9.2	7.4
Hypertension, %	52.6	50.3	44.4	42.2
Diabetes, %	17.0	13.7	8.6	7.7
Hypercholesterolemia, %	32.9	34.2	49.0	50.7
Antihypertensive drugs	33.4	31.3	29.3	26.8
Cholesterol-lowering drugs	11.0	10.8	19.8	19.5
Antidiabetic medication	7.9	6.3	4.2	3.6
Systolic BP, mm Hg	132 (18)	131 (17)	129 (18)	128 (18)
Diastolic BP, mm Hg	79 (11)	78 (11)	75 (11)	75 (10)
LDL cholesterol, mg/dl	119 (30)	121 (30)	128 (30)	130 (30)
HDL cholesterol, mg/dl	57 (15)	57 (15)	65 (16)	66 (16)
Triglycerides, mg/dl	113 [80, 165]	107 [76, 153]	97 [71, 136]	92 [69, 127]
Glucose, mg/dl	104 (28)	100 (19)	96 (19)	94 (16)
Hemoglobin A <sub>1c</sub> , %	5.8 (0.8)	5.7 (0.6)	5.7 (0.6)	5.7 (0.5)
AST, IU/l	23 [20, 28]	23 [19, 28]	22 [19, 26]	22 [19, 25]
ALT, IU/l	21 [16, 29]	21 [16, 28]	17 [14, 22]	17 [14, 22]
γ-GTP, IU/l	33 [22, 55]	33 [22, 54]	19 [15, 28]	19 [15, 28]
S Cr, mg/dl	0.84 (0.30)	0.86 (0.22)	0.62 (0.18)	0.63 (0.15)
Proteinuria, %	7.0	7.6	3.3	3.9
eGFR, ml/min/1.73 m <sup>2</sup>	75.9 (17.1)	73.3 (15.5)	76.8 (17.0)	74.9 (15.6)
Reduced kidney function, %	16.0	19.1	11.8	12.5

Data are shown as % for categorical variables, and mean (standard deviation) or median [interquartile range] for continuous variables.

BMI = body mass index; BP = blood pressure; S Cr = serum creatinine; LDL = low-density lipoprotein; HDL = high-density lipoprotein; AST = aspartate transaminase; ALT = alanine transaminase; γ-GTP = gamma glutamyl transpeptidase; eGFR = estimated glomerular filtration rate.

<sup>a</sup> Indicates statistical significance ( $P < 0.05$ ) compared to the reference category (i.e., serum uric acid levels of 4.1 - 5.0 mg/dl).

**Supplementary Table 2: Logistic regression models for predicting reduced kidney function**

Serum Uric Acid Category	Unadjusted	Model 1 <sup>b</sup>	Model 2 <sup>c</sup>	Model 3 <sup>d</sup>
Men (n = 90,710)				
≤2	1.71 (1.16 - 2.53) <sup>a</sup>	1.86 (1.25 - 2.78) <sup>a</sup>	1.85 (1.24 - 2.76) <sup>a</sup>	1.83 (1.23 - 2.74) <sup>a</sup>
2.1 – 3.0	0.67 (0.51 - 0.89) <sup>a</sup>	0.65 (0.49 - 0.87) <sup>a</sup>	0.65 (0.49 - 0.87) <sup>a</sup>	0.65 (0.49 - 0.87) <sup>a</sup>
3.1 – 4.0	0.89 (0.79 - 0.99) <sup>a</sup>	0.85 (0.76 - 0.96) <sup>a</sup>	0.85 (0.76 - 0.96) <sup>a</sup>	0.85 (0.75 - 0.95) <sup>a</sup>
4.1 – 5.0	1 (reference)	1 (reference)	1 (reference)	1 (reference)
5.1 – 6.0	1.49 (1.40 - 1.59) <sup>a</sup>	1.57 (1.47 - 1.67) <sup>a</sup>	1.56 (1.46 - 1.67) <sup>a</sup>	1.56 (1.46 - 1.66) <sup>a</sup>
6.1 – 7.0	2.45 (2.30 - 2.61) <sup>a</sup>	2.74 (2.57 - 2.93) <sup>a</sup>	2.72 (2.55 - 2.90) <sup>a</sup>	2.71 (2.54 - 2.89) <sup>a</sup>
>7	4.43 (4.17 - 4.72) <sup>a</sup>	5.63 (5.28 - 6.01) <sup>a</sup>	5.54 (5.19 - 5.92) <sup>a</sup>	5.50 (5.15 - 5.87) <sup>a</sup>
Women (n = 136,935)				
≤2	0.60 (0.42 - 0.85) <sup>a</sup>	0.61 (0.43 - 0.88) <sup>a</sup>	0.61 (0.43 - 0.87) <sup>a</sup>	0.61 (0.43 - 0.86) <sup>a</sup>
2.1 – 3.0	0.37 (0.32 - 0.42) <sup>a</sup>	0.38 (0.33 - 0.43) <sup>a</sup>	0.37 (0.33 - 0.42) <sup>a</sup>	0.37 (0.33 - 0.42) <sup>a</sup>
3.1 – 4.0	0.52 (0.49 - 0.55) <sup>a</sup>	0.53 (0.50 - 0.56) <sup>a</sup>	0.53 (0.50 - 0.56) <sup>a</sup>	0.53 (0.50 - 0.56) <sup>a</sup>
4.1 – 5.0	1 (reference)	1 (reference)	1 (reference)	1 (reference)
5.1 – 6.0	2.00 (1.92 - 2.08) <sup>a</sup>	1.96 (1.88 - 2.04) <sup>a</sup>	1.99 (1.91 - 2.07) <sup>a</sup>	1.98 (1.90 - 2.07) <sup>a</sup>
6.1 – 7.0	3.68 (3.50 - 3.88) <sup>a</sup>	3.59 (3.41 - 3.78) <sup>a</sup>	3.72 (3.54 - 3.92) <sup>a</sup>	3.70 (3.51 - 3.90) <sup>a</sup>
>7	7.14 (6.61 - 7.71) <sup>a</sup>	7.16 (6.62 - 7.76) <sup>a</sup>	7.51 (6.93 - 8.13) <sup>a</sup>	7.37 (6.80 - 7.99) <sup>a</sup>

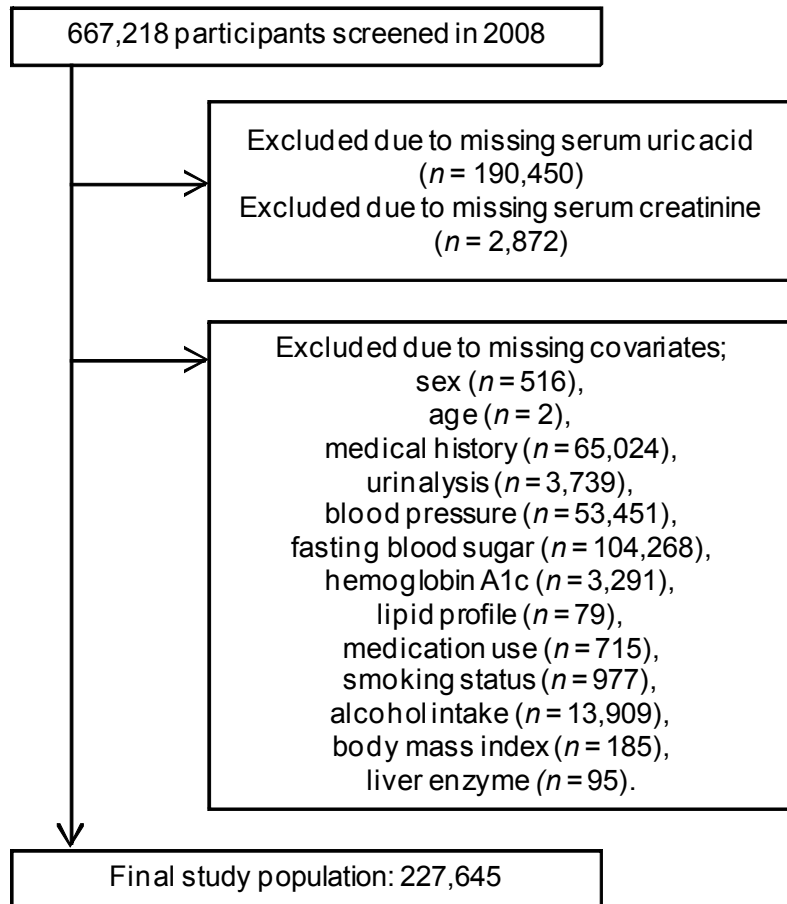
Values are given as odds ratio (95% confidence interval).

<sup>a</sup> Indicates statistical significance ( $P < 0.05$ ) compared to the reference category.

<sup>b</sup> Adjusted for age (per 10-year increase), daily drinker, current smoker, hypertension, diabetes mellitus, and hypercholesterolemia.

<sup>c</sup> Model 1 + obesity.

<sup>d</sup> Model 2 + history of renal failure.

**Supplementary Figure 1: Flowchart of the selection of study participants**

Supplementary Figure 2: Distribution of eGFR levels by serum uric acid levels among men (A) and women (B)

