

**SUPPLEMENTAL MATERIAL**

Catalogue

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**Table S1. The specific formulas of prediction equations**

Prediction equation	
<b>The Nelson equation<sup>1</sup></b>	
<b>With diabetes</b>	$1 - \exp(-5^{0.9766551} \times \exp[-2.647004 + 0.1351572 \times (\text{age}/5 - 11) + 0.1381975 \times (\text{if female}) + 0.0920208 \times (\text{if black}) + 0.3546697 \times (15 - \min(\text{eGFR}, 90)/5) - 0.1525133 \times \max(0, \text{eGFR} - 90)/5 + 0.1870637 \times (\text{if has history of CVD}^*) + 0.0619679 \times (\text{HbA1c} - 7) + 0.1078296 \times (\text{if insulin use}) - 0.150944 \times (\text{if no DM medication use}) + 0.023959 \times (\text{HbA1c} - 7) \times (\text{if insulin use}) + 0.0398424 \times (\text{HbA1c} - 7) \times (\text{if no DM medication use}) - 0.00084 \times (\text{if ever smoking}) + 0.3653268 \times (\text{if hypertensive}) + 0.050306 \times (\text{BMI}/5 - 5.4) + 0.3737905 \times (\log_{10}\text{ACR} - 1)])$
<b>Without diabetes</b>	$1 - \exp(-5^{1.055408} \times \exp[-3.609661 + 0.2582196 \times (\text{age}/5 - 11) + 0.1821665 \times (\text{if female}) + 0.1808945 \times (\text{if black}) + 0.4581006 \times (15 - \min(\text{eGFR}, 90)/5) - 0.3159218 \times \max(0, \text{eGFR} - 90)/5 + 0.1953927 \times (\text{if has history of CVD}^*) + 0.1213741 \times (\text{if ever smoking}) + 0.3543645 \times (\text{if hypertensive}) + 0.0630538 \times (\text{BMI}/5 - 5.4) + 0.3519087 \times (\log_{10}\text{ACR} - \text{expected } \log_{10}\text{ACR})])$
<b>The O'Seaghda equation<sup>2</sup></b>	$1 - (1 - 0.092)^{0.5} / ((1 - 0.092)^{0.5} + (1 - (1 - 0.092)^{0.5}) \times \exp(-6.235 + 0.095 \times \text{age} + 0.476 \times (\text{if diabetics}) + 0.761 \times (\text{if hypertensive}) + 0.779 \times (\text{if } 75 \leq \text{eGFR} < 90) + 1.558 \times (\text{if } 60 \leq \text{eGFR} < 75) + 0.300 \times (\text{if ACR} \geq 30 \text{ or dipstick} \geq \text{trace})))$
<b>The Chien equation<sup>3</sup></b>	$1 - 0.9632 \times \exp(-6.8 + 0.077 \times \text{age} + 0.366 \times (\text{if diabetics}) + 1.24 \times (\text{if history of stroke}) + 0.059 \times \text{BMI} + 0.018 \times \text{SBP})$

Abbreviations: ACR, urine albumin-creatinine ratio; BMI, body mass index; CVD, cardiovascular disease; DM, diabetes mellitus; eGFR, estimated glomerular filtration rate; HbA1c, hemoglobin A1c; SBP, systolic blood pressure.

\* CVD included ischemic stroke, ICH, TIA, coronary heart disease, and heart failure

**Table S2. Baseline characteristics of the patients included and excluded**

<b>Characteristic</b>	<b>Included (n=3169)</b>	<b>Excluded (n=11997)</b>	<b>p-value</b>
<b>Age, mean±SD, y</b>	61.7±11.0	62.4±11.4	0.0006
<b>Women, n (%)</b>	989(31.2)	3813(31.8)	0.54
<b>BMI, mean±SD, kg/m<sup>2</sup></b>	24.8±3.4	24.7±3.3	0.04
<b>SBP, mean±SD, mmHg</b>	151.1±21.6	149.8±22.2	0.0008
<b>Medical history, n(%)</b>			
<b>ischemic stroke</b>	663(20.9)	2486(20.7)	0.81
<b>ICH</b>	64(2.0)	198(1.7)	0.16
<b>TIA</b>	93(2.9)	323(2.7)	0.46
<b>Coronary heart disease</b>	341(10.8)	1267(10.6)	0.75
<b>Congestive heart failure</b>	80(0.7)	14(0.4)	0.15
<b>Known atrial fibrillation or flutter</b>	163(5.1)	856(7.1)	<0.0001
<b>Hypertension</b>	1973(62.3)	7521(62.7)	0.66
<b>Diabetes mellitus</b>	824(26.0)	2733(22.8)	0.0001
<b>Hypercholesterolemia</b>	252(8.0)	939(7.8)	0.82
<b>Ever smoking, n (%)</b>	1589(50.1)	5731(47.8)	0.02
<b>Index event, n(%)</b>			
<b>Stroke</b>	2878(90.8)	11104(92.6)	0.001
<b>TIA</b>	291(9.2)	893(7.4)	
<b>NIHSS score on admission, mean±SD</b>	3.9±3.6	4.3±4.3	0.005
<b>Laboratory tests</b>			
<b>eGFR, median (IQR), mL/min/1.73 m<sup>2</sup></b>	103.9(93.4-112.8)	101.0(92.5-109.5)	<0.0001
<b>HbA1c, median (IQR), %</b>	5.9(5.4-6.9)	5.9(5.5-7.0)	<0.0001
<b>ACR, median (IQR), mg/mmol</b>	0.7(0.3-2.7)	0.8(0.2-3.4)	0.02

Abbreviations: ACR, urine albumin-creatinine ratio; BMI, body mass index; eGFR, estimated glomerular filtration rate; HbA1c, hemoglobin A1c; ICH, intracranial hemorrhage; IQR, interquartile ranges; NIHSS, National Institute; SBP, systolic blood pressure; SD, standard deviation; TIA, transient ischaemic attack.

**eReferences**

1. Nelson RG, Grams ME, Ballew SH, et al. Development of Risk Prediction Equations for Incident Chronic Kidney Disease. *Jama* 2019;322:2104-2114.
2. O'Seaghdha CM, Lyass A, Massaro JM, et al. A risk score for chronic kidney disease in the general population. *Am J Med* 2012;125:270-277.
3. Chien KL, Lin HJ, Lee BC, et al. A prediction model for the risk of incident chronic kidney disease. *Am J Med* 2010;123:836-846.e832.