

More than one third of renal patients under primary care in the UK are not receiving the recommended statin therapy for primary prevention of cardiovascular disease

Johannes Scheppach¹, Faye Cleary², Lois Kim², Sally Hull³, Dorothea Nitsch², David C. Wheeler⁴, Ben Caplin⁴



Introduction

Patients with chronic kidney disease (CKD) have an increased risk of developing cardiovascular disease (CVD)¹. In order to reduce this risk, the *UK National Institute of Health and Care Excellence (NICE)* recommends offering statin therapy to all CKD patients, except those on dialysis².

NICE clinical guideline (2014)

“ [...] People with chronic kidney disease:
Offer atorvastatin 20 mg for the primary or secondary prevention of cardiovascular disease to people with chronic kidney disease.
[...] People on renal replacement therapy are outside the scope of this guideline.”

Methods

- 99,634 patients from 949 primary care practices in England and Wales
- Database:** *Health Quality Improvement Partnership (HQIP) National CKD Audit in Primary Care (NCKDA)*
- Inclusion criteria:**
 - Age 25 – 84 years
 - CKD stages G3a – G5 (based on two eGFR values < 60 ml/min on two occasions at least three months apart)
- Exclusion criteria:**
 - Renal replacement therapy
 - Functioning renal transplant
 - Previous history of CVD
- Data collected:**
 - History of statin prescription and contraindications, if present
 - Age
 - Sex
 - Smoking status
 - Diabetes status
 - Treated hypertension
 - Blood pressure
 - Cholesterol values
 - Stage of CKD
 - Predicted CVD risk (Stroke, TIA, MI, Angina) over 10 years according to the QRISK2[®] calculator

	Patients prescribed a statin	Patients not prescribed a statin	Patients with statin contraindicated or discontinued
N = 99,634	55.4 %	36.7 %	7.9 %
Age: (median)	76	75	77
Sex:			
• Male	58.4 %	34.4 %	7.2 %
• Female	53.4 %	38.3 %	8.3 %
Smokers:	58.2 %	33.4 %	8.4 %
Diabetics:	77.6 %	10.2 %	12.1 %
Non-Diabetics:	47.3 %	46.3 %	6.4 %
Treated hypertension:	59.3 %	32.3 %	8.3 %
Blood pressure:			
• Systolic	133.6	133.5	134.6
• Diastolic (mean) [mm/Hg]	73.8	75.5	74.1
Total cholesterol:	4.57	5.25	5.33
• HDL	1.39	1.47	1.43
• LDL (mean) [mmol/l]	2.39	3.12	3.05
Stage of CKD:			
• G3a	53.2 %	39.0 %	7.8 %
• G3b	58.8 %	32.9 %	8.3 %
• G4	62.1 %	30.4 %	7.4 %
• G5	61.2 %	32.6 %	6.2 %
GFR: (median) [ml/min]	48.7	50.2	49.0
CVD risk: (median)	33.3 %	27.7 %	34.8 %

Table 1: Characteristics of patients with / without current statin prescription. Percentages shown are row percentages.

Results

- 55.4 % were prescribed statins, 36.7 % were not prescribed statins and 7.9 % were contraindicated or had statin treatment discontinued (Table 1).
- Statin prescription was especially low in non-diabetic patients with 46.3 % not recorded as receiving a statin prescription (Table 1).
- Patients not prescribed statins had a median predicted risk of cardiovascular events over 10 years of 27.7 % (Fig. 1).
- Only 10.9 % of this group had a predicted risk below 10 % resulting in 89.1 % having a predicted risk of 10 % or higher (Fig. 1).
- No significant differences in prescription were observed between different stages of CKD (Fig. 2).

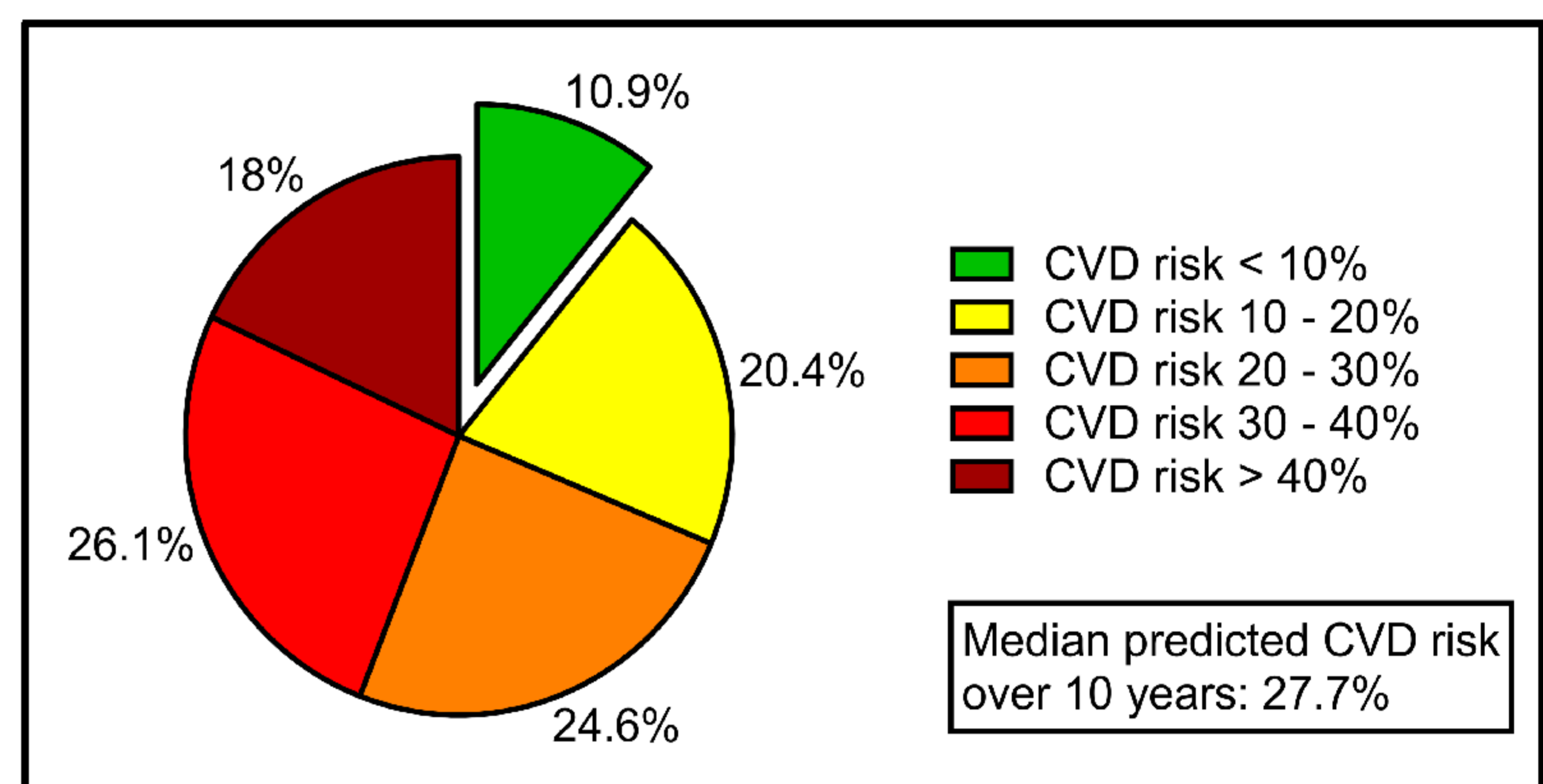


Fig. 1: Distribution of predicted CVD risk according to the QRISK2[®] calculator in patients not prescribed statins.

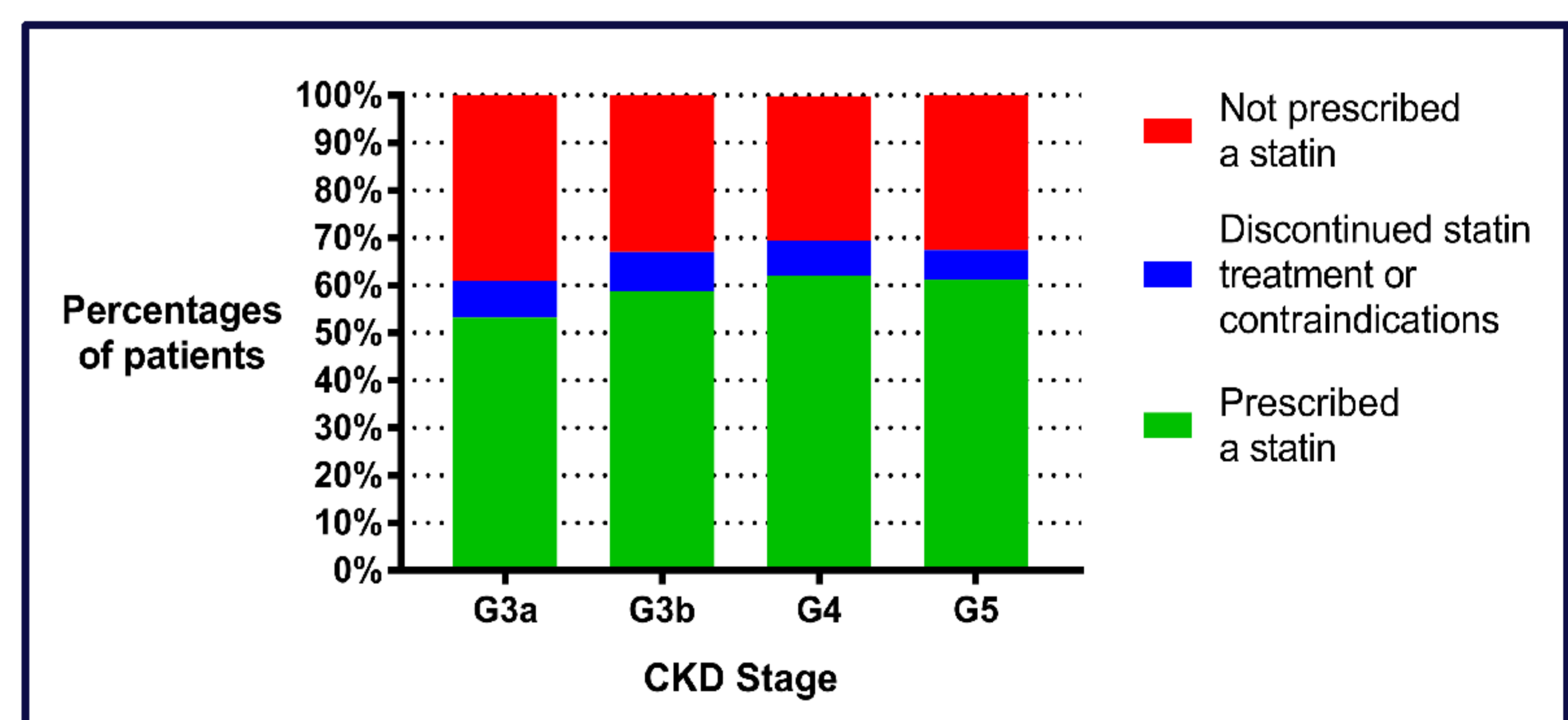


Fig. 2: Percentages of patients prescribed statins stratified by stage of CKD.

Conclusion

- According to current guidelines, there is substantial under prescription of lipid lowering therapy in CKD patients.
- More than one third of the patients, who are recommended being treated with atorvastatin by NICE guidelines, are not prescribed a statin of any type.
- The severity of CKD did not influence statin prescription.
- Among patients not prescribed statins, almost 9 out of 10 had a 10 % or higher risk of developing CVD within 10 years.
- Given the high CVD risk in those CKD patients not treated with statins, improved prescription is likely to prevent a large number of cardiovascular events in this group.

- References:
- Matsushita, K., et al., Association of estimated glomerular filtration rate and albuminuria with all-cause and cardiovascular mortality in general population cohorts: a collaborative meta-analysis. *Lancet*, 2010. 375(9731): p. 2073-81.
 - National Institute for Health and Care Excellence (2014) Cardiovascular disease: risk assessment and reduction, including lipid modification. NICE guideline (CG181).

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¹ Department of Nephrology and Hypertension, University of Erlangen-Nürnberg, Erlangen, Germany
² Department of Non-communicable Disease Epidemiology, London School of Hygiene and Tropical Medicine, London, United Kingdom
³ Centre for Primary Care and Public Health, Queen Mary University of London, London, United Kingdom
⁴ Department of Nephrology, University College London, London, United Kingdom

