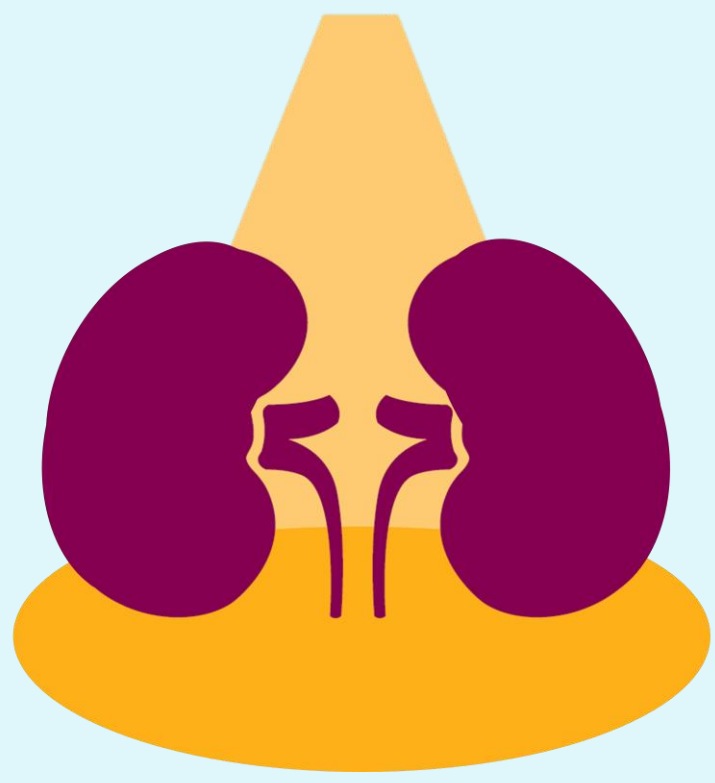# NyreSPOT: A national observational study on CKD prevalence and outcomes in patients with hypertension and cardiovascular disease

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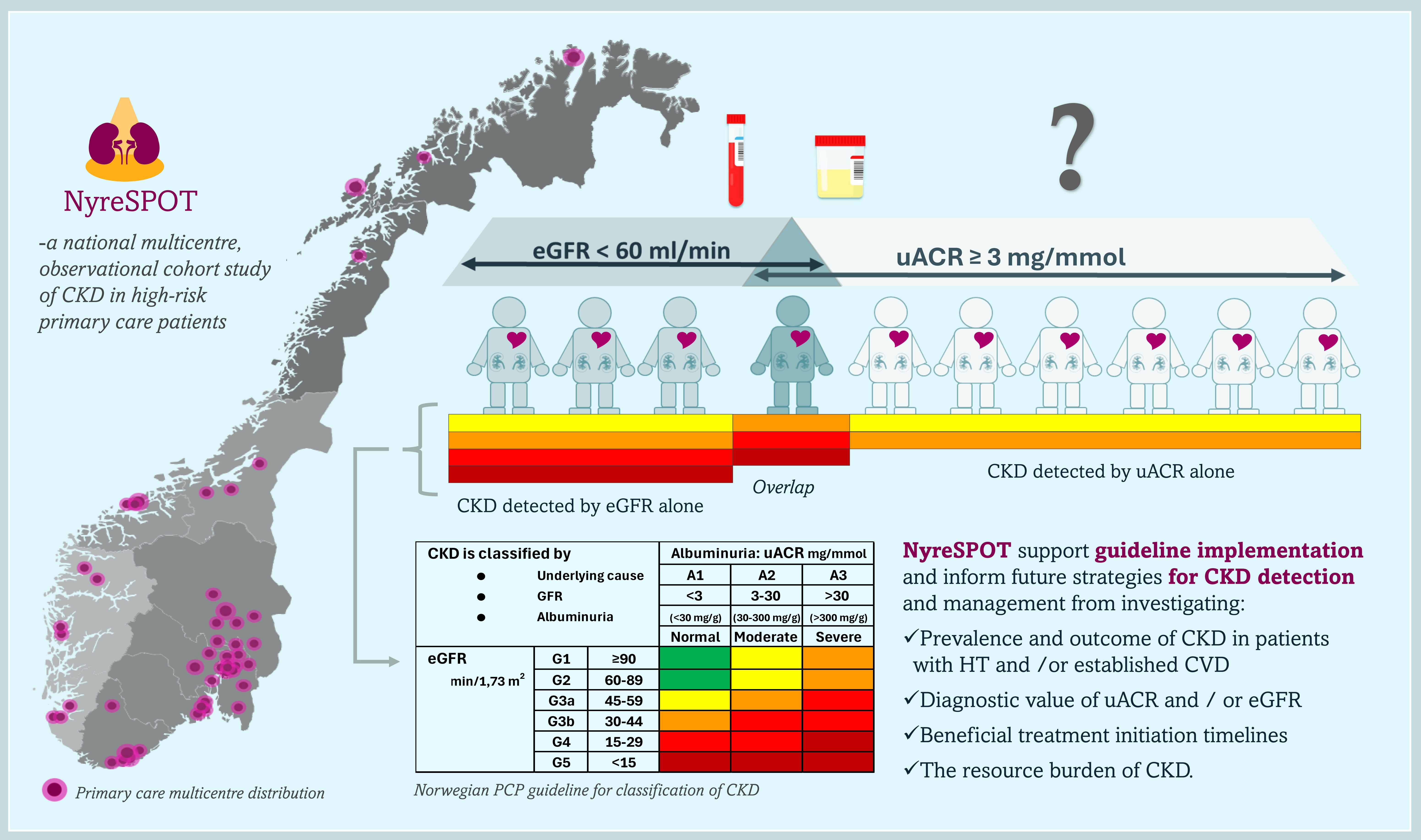
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Introduction

Chronic kidney disease (CKD) is prevalent yet underdiagnosed[1], especially in patients with hypertension and cardiovascular disease (CVD). Without systematic screening using both estimated glomerular filtration rate (eGFR) and urinary albumin-to-creatinine ratio (uACR), up to two-thirds of CKD cases go undetected[2].

NyreSPOT aims to evaluate CKD prevalence, patient characteristics, diagnostic utility of uACR, treatment patterns, and clinical outcomes, while assessing the impact of Norway's updated CKD guidelines on healthcare delivery.

Results

Data collection is ongoing, with completion of preliminary analyses by Q3 2025 and secondary data collection by Q1 2026.

The study is expected to provide vital insights into CKD prevalence, the combined diagnostic utility of uACR and eGFR, treatment initiation timelines, and the resource burden of CKD.

These findings aim to shape future CKD detection and management strategies in high-risk populations.

NyreSPOT

-a national multicentre, observational cohort study of CKD in high-risk primary care patients

eGFR < 60 ml/min   uACR ≥ 3 mg/mmol

CKD detected by eGFR alone   *Overlap*   CKD detected by uACR alone

CKD is classified by		Albuminuria: uACR mg/mmol		
• Underlying cause		A1	A2	A3
• GFR		<3	3-30	>30
• Albuminuria		(<30 mg/g)	(30-300 mg/g)	(>300 mg/g)
		Normal	Moderate	Severe
eGFR min/1,73 m²	G1 ≥90			
	G2 60-89			
	G3a 45-59			
	G3b 30-44			
	G4 15-29			
	G5 <15			

Norwegian PCP guideline for classification of CKD

● *Primary care multicentre distribution*

NyreSPOT support **guideline implementation** and inform future strategies **for CKD detection** and management from investigating:

✓ Prevalence and outcome of CKD in patients with HT and /or established CVD

✓ Diagnostic value of uACR and / or eGFR

✓ Beneficial treatment initiation timelines

✓ The resource burden of CKD.

Methods

NyreSPOT is a nationwide, multicentre, non-interventional cohort study recruiting 3,000 Norwegian primary care patients aged 18–85 with hypertension and/or CVD, from Q1 2024 to Q1 2025.

Exclusions include diabetes, recent hospitalizations, or pregnancy. Data sources encompass baseline medical history, clinical measures (blood pressure, height, weight) and primary collection of kidney function biomarkers (eGFR, uACR), combined with retrospective data from medical records, national health registries, and the Fürst laboratory database, for the 2013-26 period.

Outcomes assessed include CKD prevalence (diagnosed and measured), comorbidities, mortality, drug use patterns, eGFR decline, and healthcare resource utilization. Statistical analyses employ descriptive methods, regression models, and Kaplan-Meier survival analyses.

Conclusion

NyreSPOT is a collaborative effort between primary care physicians and nephrologists to address underdiagnosed CKD in patients with hypertension and CVD.

By integrating primary and registry data, the study intends to provide actionable insights into CKD, support guideline implementation, and increase the understanding of kidney-cardiovascular comorbidities in Norwegian primary care.

References
1. Global, regional, and national burden of chronic kidney disease, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. Bikbov B, et al., The Lancet. 2020
2. Prevalence, outcomes, and cost of chronic kidney disease in a contemporary population of 2·4 million patients from 11 countries: The CaReMe CKD study, Sundström J. et al., The Lancet Regional Health – Europe, 2022