

## eGFR Variability in Primary Care: Normal Variation or Portending Increased Risk? Work in Progress

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**INTRODUCTION:** Biological and analytical variability of serum creatinine (SCr) is ~5%, but in the real world may be greater as sampling is not standardised, leading to variation in reported eGFR and uncertainty in clinical decision making.

**OBJECTIVE:** To describe the variability in a large primary care cohort with stable renal function over time.

**METHODS:** Patients with  $\geq 4$  SCr tests and a rate of decline of eGFR  $< 2$  mL/min/1.73m<sup>2</sup>/y over at least 2 y were identified from a primary care population of 279,000. Demographic, co-morbidity and prescription data were recorded. Patients were stratified by baseline eGFR. The number of excursions of SCr  $> 26.4$   $\mu$ mol/L from baseline was the outcome of interest.

**RESULTS:** 47,191 of 128,370 pts with SCr tests fulfilled the entry criteria, 20% had DM and 68% hypertension, total number of SCr tests was 465,346 (mean 10/pt). 3111 (6.6%) of pts had significant excursions during follow up. DM, hypertension and medication were predictors of excursions (Table).

GFR	Patients	Mean age	SCr excursions $> 26.4$ $\mu$ mol/L	OR for excursions ( 95%CI)		
				Diabetes	Hypertension	Drugs*
(mL/min/1.73m <sup>2</sup> )	(n)	(y)	Patients (number )			
All	47971	59	3111 (6652)	1.37 (1.29-1.45)	1.15 (1.08-1.22)	1.21 (1.14-1.30)
>90	9963	51	354 (534)	1.08 (0.91-1.28)	1.14 (0.97-1.33)	1.13 (0.95-1.33)
60-89	28276	58	1194 (2031)	1.61 (1.47-1.77)	1.14 (1.03-1.25)	1.21 (1.10-1.34).
45-59	6787	68	806 (1736)	1.44 (1.27-1.62)	1.02 (0.90-1.15)	1.13 (0.98-1.30)
30-44	1827	73	582 (1621)	1.20 (1.01-1.41)	1.03 0.86-1.22)	1.07 (0.89-1.29)
<30	338	72	175 (730)	1.02 (0.72-1.45)	0.97 (0.70-1.33)	1.02 (0.73-1.40)

\*Patients on one or more of ACE/ARB, Diuretic, NSAID

**CONCLUSION:** Significant eGFR variability in patients with stable renal function over time is uncommon and predicted by comorbidity and prescription data.