

Renal outcomes

VERSION HISTORY

V1	19/04/23	Template by VW
V2	Aug 2023	SW, VW, EE
V3	Feb 2023	EE
V4	April 2025	EE

MAIN PROTOCOL

This document contains the outcome specific elements necessary to implement the protocol post_covid_events_ehrql, found in this folder.

STUDY POPULATION

All individuals must satisfy the following criteria:

- Alive at index
- Aged between 18 and 110 years inclusive at index
- Registered with a TPP GP practice for the six months prior to index
- Known sex at index
- Known deprivation at index
- Known region at index
- No evidence of end stage renal disease at index, defined as:
 - No history of kidney transplant
 - No history of dialysis
 - No history of coded end stage renal disease
 - No eGFR measurements less than 15

The study population will then be split into two cohorts according to the following specific criteria:

Cohort	Cohort specific criteria
No history of chronic kidney disease	No history of chronic kidney disease
History of chronic kidney disease	Diagnosed with chronic kidney disease (CKD) prior to index, defined as a code indicating CKD (any stage) or eGFR<60.

OUTCOMES

Outcomes will be defined as the first event post-exposure recorded in primary care, secondary care or death registry data. We will use the following codelists for each outcome:

	Population(s)	Outcome	Primary Care (SNOMED CT)	Secondary Care and Deaths (ICD10)
1	No history of CKD	Chronic kidney disease (CKD) stages 3-5	CKD 3-4 – SNOMED CKD 5/ESRD - SNOMED Dialysis – SNOMED Transplant - SNOMED	CKD 3-4 - ICD-10 CKD 5/ESRD - ICD-10 Dialysis – ICD-10 , OPCS-4 Transplant – ICD-10 , OPCS-4
2	a) No history of CKD b) History of CKD	Acute kidney injury (AKI)	AKI - SNOMED	AKI: ICD-10

3	History of CKD	End stage renal disease (CKD stage 5)	Dialysis – SNOMED Transplant - SNOMED CKD 5/ESRD - SNOMED	CKD 5/ESRD - ICD-10 Dialysis – ICD-10 Transplant – ICD-10
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POTENTIAL CONFOUNDERS

The general covariates that will be included in all analyses can be found in the protocol post_covid_events_ehrql in this folder.

The following renal related covariates will be included for particular renal outcomes:

Covariate	Type	Definition	Data sources	Include for outcomes
History of AKI	Binary	1 if diagnosis present; 0 otherwise.		1. CKD in whole population 2. AKI in whole population 3. AKI in CKD sub-population