



Scottish Renal Registry

Scottish National Clinical Audit Standards

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Version history

Version	Date	Summary of changes
1.0	13/05/2021	Initial publication.

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Introduction

The Scottish Renal Registry (SRR) is a national audit which was established by the Scottish Renal Association (SRA) in 1991. It provides a longitudinal record of Renal Replacement Therapy (KRT) for renal patients in Scotland from the start of KRT until death. The SRR holds complete data for everyone who has received, or who is receiving, KRT for kidney failure (KF) since these treatments started in Scotland in the early 1960s. In addition, the SRR collects data regarding patients who have chosen conservative care for treatment of KF in order to present the complete picture of management of KF in Scotland. Data are also reported regarding the provision of acute dialysis for acute kidney injury (AKI) and data collected by the Scottish Renal Biopsy Registry.

The overall aim of the SRR is to improve the future care and treatment of patients with KF treated with KRT. The data are primarily used for quality improvement including audit & peer review but additionally for research including basic demography & epidemiology, service planning and teaching.

Historically, the SRR has followed various relevant published standards such as NHS Quality Improvement Scotland (NHS QIS) but for several years has followed guidelines/standards set out by the UK Renal Association. In order to adhere to Public Health Scotland's data governance policies, the Scottish Renal Association have developed a Quality Indicators and Audit Standards document. This forms the basis for the standards described in this document which will be subject to the Scottish National Audit Projects (SNAP) Governance process.

These standards will be reviewed on an annual basis by the steering group and amended/ expanded as necessary.

1 Baseline Data

Data variables required to provide information on incidence of KF and a denominator to measure national clinical standards.

Scottish renal units should provide data regarding all patients currently receiving KRT for KF or conservative care management. Scottish renal units should provide data regarding all patients requiring KRT for AKI.

Date and cause of death data will be collected for comparative national figures for survival while receiving KRT. Demographic data will be linked to the National Records of Scotland data source to collect information on date of death. Cause of death will be submitted by renal units using the EDTA coding. Further learning and sharing excellence will be undertaken in collaboration with the Scottish Morbidity and Mortality Programme within Healthcare Improvement Scotland (Scottish Morbidity and Morbidity Programme (healthcareimprovementscotland.org).

Kidney transplantation in Scotland is a service commissioned by National Services Division (NSD) who require performance data for the two centres that undertake transplant operations and referral activity from all Scottish renal units. The SRR will continue to collect this information using data linkage to NHS Blood and Transplant (NHSBT) including number of patients active and suspended on the transplant waiting list. The SRR also provides data on transplant outcomes, presenting data regarding kidney transplant and patient survival at certain time points and data on graft function allowing for comparative audit.

Biopsy data: data on incidence of disease diagnosed on renal biopsy will be collected to allow for comparative audit between Scottish renal units.

Acute Kidney Injury data – data will be collected from all Scottish renal units to identify outliers to drive improvement and identify areas of excellence to share learning nationally.

Quality Improvement Metrics

2. Peritoneal Dialysis (PD)

QI Metric Description/Name	PD Related Infection
Why is this important?	The SRA Peritoneal Dialysis Audit standards are aligned with the UK Renal Association (UKRA) and the International Society for Peritoneal Dialysis (ISPD) recommendations and evidence base. PD-associated peritonitis is associated with increased patient morbidity, mortality and technique failure. Units vary in their practice and peritonitis incidence therefore increases in peritonitis incidence should trigger re- assessment of patient PD technique and other modifiable risk factors. Exit site infection is associated with increased patient morbidity, increased peritonitis rates and reduced PD technique survival. Modifiable risk factors and management strategies exist to reduce incidence of exit site infection. Culture negative rate should be <20% and Primary cure minimum target 80%
QI Theme	Safety
What is the standard to be met?	Peritonitis rates should be <0.5 episodes per patient year.
Numerator	Number of episodes of PD peritonitis
Denominator	Total number of PD patient years
Data collection	RedCap
Data variables	Baseline variables

3. Vascular Access for Haemodialysis

3.1 Vascular Access at First HD session

QI Metric Description/Name	Vascular Access for Haemodialysis
Why is this important?	The arterio-venous fistula (AVF) remains the gold standard access to haemodialysis, showing better survival and lower complication rates than grafts and catheters.

	The presence of a vascular access catheter and/or its complications may affect the longevity of a native fistula through its earlier utilisation or less favourable maturation.
QI Theme	Safety, Effectiveness
What is the standard to be met?	UKRA audit standard states that 60% of all incident patients with KF commencing planned haemodialysis should receive dialysis via a functioning arteriovenous fistula (AVF) or arteriovenous graft (AVG). We will also examine this as a proportion of all patients commencing KRT including pre-emptive transplant and PD.
Numerator	All patients starting KRT on HD via AV access
Denominator	All patients commencing KRT on HD
Data collection	RedCap/EPR Extract - Quarterly
Data variables	Baseline variables

3.2 Long Term Dialysis Vascular Access

QI Metric Description/Name	Vascular Access for Haemodialysis
Why is this important?	AVF have better patency rates, access survival, lower number of interventions during the entire life span of access type, lower rates of
	access related sepsis and the overall morbidity and mortality is much lower compared to central venous haemodialysis catheters.
	Hospitalisation frequency and costs are the lowest with AVF access
QI Theme	Safety
What is the standard to be	UKRA audit standard of 80% of all prevalent long-term dialysis
met?	patients should receive dialysis treatment via definitive access: AVF
	or AVG or PD catheter.
Numerator	All patients receiving KRT via AVF or AVG or PD catheter
Denominator	Total number of patients receiving KRT via HD or PD
Data collection	RedCap/ EPR Extract - Quarterly
Data variables	Demographic data/ incidence data variables

3.3 Bacteraemia Rates in patients receiving KRT

QI Metric Description/Name	Haemodialysis Vascular Access Infection
Why is this important?	To identify and reduce infection by implementing improvement processes. Share excellence where infection
	is reduced/lower than national standard
QI Theme	Safety, effectiveness
What is the standard to be met?	The annual Staphylococcus aureus bacteraemia rate in the prevalent haemodialysis population should be less than 2.5 episodes per 100 HD patients and less than 1.0 for MRSA over 2 years
Numerator	Specified infection recorded
Denominator	Number of patients on KRT within given time frame
Data collection	Linkage with Health Protection Scotland (HPS) - Quarterly
Data variables	Bacteraemia rates

4. Dialysis Adequacy Parameters

4.1 URR

QI Metric Description/Name	Adequacy of Haemodialysis
Why is this important?	Measure of HD adequacy. Clinicians recommend that URR should be greater than 65% when patients are on HD and dialysing three times a week, because this will help patients live longer and stay well (UKRA)
QI Theme	Effectiveness
What is the standard to be met?	Patients receiving haemodialysis three times weekly should achieve a minimum URR of 65%. Mean URR for those on KRT for a minimum of 3 months
Numerator	Number of patients meeting standard
Denominator	Total number of patients on haemodialysis during audit period
Data collection	Unit Extract - Quarterly
Data variables	Pre & post dialysis urea

4.2 Anaemia

QI Metric Description/Name	Anaemia
Why is this important?	To identify proportion of patients on renal replacement therapy (on haemodialysis or peritoneal dialysis for more than 3 months) with Hb level < 100 g/L who are prescribed an ESA
QI Theme	Effectiveness
What is the standard to be met?	85% of the patients treated with an ESA should have Hb between 100-120g/L
Numerator	Number of patients with Hb between 100-120g/L
Denominator	Total number of patients on dialysis on ESA during specific time frame
Data collection	Unit Extract - Quarterly
Data variables	Haemoglobin, ESA use (Y/N)

5. Renal Biopsy

5.1 Access to kidney and biopsy procedure

QI Metric Description/Name	Safety and Adequacy
Why is this important?	Indication for kidney biopsy, biopsy operator and markers of biopsy urgency can be used to investigate differences
	sufficient to reach a diagnosis
QI Theme	Effectiveness
What is the standard to be met?	Inadequate biopsies should be fewer than 5%.
Numerator	Number of inadequate biopsies
Denominator	Number of biopsies per unit per year (native or transplant)
Data collection	RedCAP/ EPR Extract Quarterly
Data variables	Date of birth, gender, ethnicity, postcode Date of biopsy, location of biopsy, postcode, native or transplant biopsy, biopsy diagnosis, indication for biopsy, who pKForms the biopsy, pre-procedure serum Creatinine, biopsy urgency and adequacy.