TH1

National Workshop to Define Priorities in Paediatric Acute Kidney Injury in the UK

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TUESDAY - Moderated Poster Session, HALL Q, March 10, 2026, 16:00 - 17:00

Introduction:
Acute Kidney Injury (AKI) in children is a significant but under-recognised contributor to morbidity and long-term renal health. Despite national efforts in adult AKI care, paediatric services have lacked coordinated strategies, standardised follow-up, and research investment. On 4th July 2025, a national workshop sponsored by Kidney Research UK was convened at Alder Hey Children's Hospital to bring together clinicians, researchers, and families to define priorities for paediatric AKI care and research across the UK.

Methods:
The workshop included structured sessions on research priorities and service development, with presentations and case studies complemented by reflections from parents of children who have had AKI. These led into group discussions with input from stakeholders including paediatric nephrologists, intensivists, cardiologists, general paediatricians, nurses, researchers, funders, and parents. Key themes were synthesised and next steps formulated.

Results:
We walked through the patient journey and identified four priority pillars: Prevention, Diagnosis, Management, and Follow-up. Each was explored through case studies, lived experience, and group discussion:

- Prevention:

Participants emphasised proactive risk identification, especially in high-risk groups such as neonates, cardiac surgery patients, and those receiving nephrotoxic medications. Centres highlighted the importance of embedding AKI awareness into ward culture, including fluid balance monitoring, medication review, and staff education. Suggestions included pre-operative hydration protocols and integrating AKI risk into surgical consent processes.

- Diagnosis:

There was consensus that current diagnostic tools, particularly serum creatinine, are inadequate for early detection. Presentations underscored the need for novel biomarkers and improved electronic alert systems. The NURTuRE-AKI biobank was presented as a national platform to support biomarker discovery and translational research. Challenges such as alert fatigue and inconsistent interpretation of e-alerts were discussed.

- Management:

While treatment options remain limited, the workshop highlighted the importance of standardising care pathways and ensuring timely escalation. AKI huddles and structured electronic patient record protocols were cited as good practice. Participants called for

harmonised national guidelines to reduce variation and prepare for future interventional trials.

- Follow-up:

Follow-up was identified as the most variable and underdeveloped aspect of paediatric AKI care. Centres with AKI clinics shared models for identifying and monitoring high-risk patients. However, many children with AKI stage 2 or 3 are still not referred. There was strong support for national criteria, decentralised models involving general paediatricians, and a prospective study to track long-term outcomes.

Discussion:

This workshop marks the first national effort to harmonise paediatric AKI priorities across UK centres. It revealed significant variation in service provision, follow-up practices, and access to specialist care, highlighting a postcode lottery in paediatric AKI management. Barriers included inconsistent use of electronic alerts, limited staff education, and lack of dedicated resources such as AKI nurses or structured clinics.

Next steps will focus on harmonising care through national guidelines, improved education, and increased awareness across paediatric specialties. In parallel, research into long-term outcomes must be prioritised, supported by national data collection and infrastructure such as biobanks and registries. These efforts aim to reduce variation, improve early recognition and follow-up, and enhance outcomes for children affected by AKI.

TH2

Severe Intravascular Hemolysis and Acute Kidney Injury Following Ferric Carboxymaltose Administration: A Case Report

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TUESDAY - Moderated Poster Session, HALL Q, March 10, 2026, 16:00 - 17:00

Background: Ferric carboxymaltose (FCM) is a widely used intravenous iron preparation with an excellent safety profile for treating iron deficiency anemia. Iron deficiency itself can cause hemolytic anemia through intrinsic red blood cell defects, as demonstrated in landmark studies from 1968 showing reduced red cell survival and splenic destruction. However, iron infusion-induced hemolytic anemia represents a distinct and exceptionally rare complication, with no documented case in literature.
Case Presentation: A 40-year-old Zimbabwean female nurse presented with severe iron deficiency anemia (hemoglobin 35 g/L) secondary to menorrhagia. She had no significant family history, one miscarriage 2 years ago and no comorbidities. She was found to be profoundly iron deficient (Ferritin < 5 ug/L, Iron < 5 umol/L, Unsaturated iron binding capacity of 87 umol/L & Ret-He of 12 pg). After receiving blood transfusions, she was treated with intravenous FCM 1000mg. She developed fever, rigors, and dark urine within 12 hours of the FCM treatment. She re-presented back to us with severe intravascular hemolytic anemia (hemoglobin 56 g/L, lactate dehydrogenase 1495 IU/L, haptoglobin <0.1 g/L, unconjugated hyperbilirubinemia) and acute kidney injury stage 3 (creatinine 68 → 133 → 268 → 410 → 437 µmol/L, eGFR 10 mL/min/1.73m²).
Investigations: Comprehensive workup excluded alternative causes of hemolysis, including iron deficiency-related hemolysis: paroxysmal nocturnal hemoglobinuria screen, direct antiglobulin test, glucose-6-phosphate dehydrogenase deficiency screen, malaria testing, and autoimmune markers (ANCA, ANA, anti-GBM), all tests were negative. Urinalysis confirmed hemoglobinuria with proteinuria. Renal ultrasound showed bilaterally enlarged, hyperechoic kidneys without obstruction. The extensive negative workup distinguished this from the well-described hemolysis associated with iron deficiency itself. Hematology input was sought and the two differentials posited were either intravascular hemolysis secondary to FCM or iron deficiency related hemolysis. However, there was no evidence of hemolysis when she initially presented and the temporal relationship between FCM and symptoms suggest FCM related hemolysis being the more likely diagnosis.
Management and Outcome: Conservative management included intravenous fluid resuscitation, blood transfusions, and supportive care. Renal replacement therapy was considered but not required. Over1 week, hemolysis gradually resolved and renal function improved. This patient remains admitted with AKI now slowly resolving.
Conclusion: This appears to be the first well-documented case of FCM-induced hemolytic anemia in the literature. Despite extensive searching, no similar cases of iron infusion-induced hemolytic anemia were identified in published literature, underscoring the extraordinary rarity of this complication. The temporal relationship between iron infusion and symptom onset, combined with extensive negative investigations excluding iron deficiency-related hemolysis and other causes, strongly suggests FCM-induced hemolysis. We are in the process of reporting this complication and we will also let the manufacturer

know. This case contributes valuable data to the extremely limited literature on iron infusion-induced hemolytic anemia and emphasizes the importance of post-infusion monitoring despite the generally excellent safety profile of modern intravenous iron preparations.

TH3

Management of immune-checkpoint inhibitor-related nephritis- assessing local patterns and variation

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TUESDAY - Moderated Poster Session, HALL Q, March 10, 2026, 16:00 - 17:00

Background

Immune checkpoint inhibitors (ICI) are now regularly used in the treatment of many cancers. With increasing usage has come increasing occurrence of immune-related adverse events (IrAEs). These include renal adverse renal effects, most commonly interstitial nephritis, through glomerular diseases are also recognised. Whilst research into this field is increasing, there is currently a paucity of evidence to guide management of ICI-related interstitial nephritis; current guideline recommendations are largely based on expert consensus. This can lead to inconsistencies in management of suspected ICI-related nephritis. In our region, nephritis and other IrAEs are largely managed by the oncology team, specifically an immuno-toxicity MDT of oncologists and specialist nurses. Patients with possible with an immune-related renal AE are referred to this MDT by their treating oncologist., and some cases to the Nephrology service. Unfamiliarity with the condition amongst local nephrologists has also led to variation in management.

Method

As part of efforts to standardise management, we audited cases of confirmed or presumed ICI-related nephritis or other immune-related renal adverse events, in order to understand local patterns, it's management and outcomes. Patients were identified from local immuno-toxicity MDT records between April 2022 and April 2025. Each case was reviewed, and non-immune related AKI were excluded. For each patient data was collected on cancer immunotherapy, nephritis treatment including steroid dose and duration and creatinine values (baseline, peak during nephritis episode and after treatment), plus episodes of presumed nephritis relapse. Steroid dosing was compared to published guidelines (American Society of Clinical Oncology).

Results

Over a 3-year period, 48 patients were discussed at the local immune-toxicity MDT, of which 37 had a confirmed or probable nephritis. The most common causative agent was Pembrolizumab (Table 1). The median onset of first nephritis episode, from the date of first immunotherapy treatment was 112 days, though there were marked differences between ICI agent The median starting steroid dose (prednisolone equivalent) was 1 mg/kg, with wide variation (range 0.3-2.5 mg/kg; Figure 1). There was also variation in duration of steroid treatment, though this data was not available for several patients. Few patients (10) were discussed with Nephrology. Only 5 patients had a kidney biopsy. Despite the differences in steroid treatment, the recovery of renal function was similar, though those

treated with higher doses of steroids appeared to be less likely to have recurrence of nephritis (small numbers, not yet statistically analysed; see Table 2)

Conclusions

We identified considerable variation in management of cases of presumed interstitial nephritis, including involvement of nephrology and steroid dosing and duration, with doses of steroids often exceeding current recommendations. Higher doses of steroids were not associated with better renal function. Limitations to our data included gaps in data about duration of steroid treatment. Additionally, it was not possible to rule out with certainty other causes of Acute Kidney Injury due to the retrospective nature of the data collection. Our next steps are to share findings with Oncology and Nephrology colleagues, to develop a local protocol for steroid management and referral pathways to Nephrology.

TH4

Audit of patients with AKI requiring acute haemodialysis in the acute renal unit of a tertiary Hospital in the UK.

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TUESDAY - Moderated Poster Session, HALL Q, March 10, 2026, 16:00 - 17:00

Background: AKI represents a significant cause of morbidity, mortality, and a burden to healthcare cost. In the UK, AKI contributes to around 100,000 deaths annually, with outcomes varying depending on severity and setting. Previous reports suggest that up to one-third of AKI cases may be inadequately managed. We conducted this audit to evaluate the management and outcomes of patients with stage 3 AKI requiring acute haemodialysis (HD) on our Renal Ward.

Aim: To assess our service delivery and understand patterns and areas of development in the management of AKI while comparing to the UKKA AKI care standards.

Methods: We included all patients with AKI who required acute HD (including those who required filtration in ITU and later dialysed on Renal ward when stable) between 1st January and 31st December 2024. Data source included the Renal Procedure Calendar, Renal ward daily HD rota, eMeD digital renal system, ICE web, and MediViewer. Standards assessed were: (i) Time to renal review, (ii) daily monitoring of blood for the first 5 days after AKI recognition, (iii) documented medication review within 6 hours of AKI stage 2/3 diagnosis, (iv) documented fluid assessment within 6 hours, (v) renal recovery at discharge, and (vi) documented follow-up plans for patients with residual CKD or dialysis dependence at discharge. Patients with established CKD 5 were excluded.

Results: Seventy-five patients were included in this audit (mean age was 67.4 years with 68% being of male gender). The most common identified comorbidity in these patients is hypertension. Pre-renal AKI represents the most common aetiology of disease (78.7%). The majority (78.7%) of these patients had community-acquired AKI. Compliance with current UKKA standards was high: 71.6% of patients had a documented renal input within 24 hours, 80% had daily urea/electrolyte monitoring, 86.7% had medication reviewed within 6 hours, and 90.7% had fluid assessment within 6 hours. Patients required an average 5.8 HD sessions. Median length of stay was 27.3 days. Inpatient mortality was 22.7%, higher in hospital-acquired AKI (37.5%) and in patients managed under non-renal specialties (31.25%) compared to those under the renal team (16.3%). Renal recovery was achieved in 43 patients at discharge, with an additional 17 recovering post-discharge. Three were discharged through the palliative pathway. Only 58% of those who remained on HD and 86% of those with residual kidney impairment had a documented follow-up plan.

Conclusion: Our audit highlights high mortality among patients with AKI requiring acute HD, particularly in hospital-acquired cases and those managed outside renal team. Adherence to key UKKA standards was good, but gaps remain in documentation of follow-up care.

Recommendations include incorporation of AKI alerts into the electronic patient record for early recognition and intervention, improved discharge documentation, and targeted education for acute medical teams. Consideration should also be given to establishing a dedicated AKI service to improve early recognition and management.

TH5

Assessing AKI Care: A Comparative Analysis of Protocol Adherence for Quality Improvement

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TUESDAY - Moderated Poster Session, HALL Q, March 10, 2026, 16:00 - 17:00

Background:
Acute kidney injury (AKI) is a common and serious clinical problem associated with significant morbidity, mortality, and healthcare costs. Timely diagnosis, evidence-based treatment in line with national guidelines, and clear communication with patient and transfer of information to primary care services is associated with improved clinical outcomes.
We noted multiple instances of poor compliance with local AKI management standards within our trust, and failure of up-to-date primary care and patient information transfer, highlighting the need for a quality improvement initiative.

Aims:
1. To implement a trust-wide intervention aimed at improving compliance with local AKI management protocol thereby improving clinical outcomes
2. Creation of AKI champions - these are doctors prioritising best practices, education and QIPs in the care and management of AKIs in the local trust
3. Empowering patients and GPs with information essential to improving health outcomes for these patients

Methodology:
A two-cycle audit was conducted. The first cycle was a retrospective review of 42 patients admitted with AKI in the three acute hospital sites within the University Hospital of Leicester NHS trust in June 2023. The second cycle was a prospective review of 44 patients with AKI, within these three sites, admitted in September 2024. Adherence to UHL AKI guidelines (Trust Ref B21/2009, updated September 2023) was assessed.
Between the two audit cycles, we implemented several key interventions to drive improvement and increase guideline adherence and information transfer. This included multiple teaching sessions across medical wards to elevate staff knowledge of acute and chronic kidney disease management and increasing the accessibility to our local AKI protocol by the creation of posters and QR codes, across the wards, to ensure healthcare staff could quickly and easily reference essential information. Formal teaching for AKI management was also delivered as part of the Foundation and General internal Medicine specialty training programmes.

Results:
Overall compliance with AKI guidelines improved from 10% (1st cycle) to 75% (2nd cycle). Urine dipstick performed within 24 hours of AKI detection improved from 40% to 57%. Renal team involvement in stage 2/3 AKI improved from 40% to 58%. Use of ultrasound kidney-ureter-bladder in stage 2/3 AKI improved from 50% to 72%. Documentation of AKI on discharge letters improved from 72% to 85%.

Conclusions:
This quality improvement project demonstrated a significant increase in adherence to AKI guidelines following a multimodal educational intervention. Simple measures such as ward-based teaching, posters, and QR code access to guidelines can substantially improve compliance and patient care. However, it is important to ensure that co-morbid frail patients in particular, get a personalised and pragmatic approach, with a focus on simple supportive treatment of reversible causes, and careful consideration of goals and future planning. The next step would be to recruit and train AKI champions in different sites across the local trust.

TH6

Cefazolin and benzylpenicillin cause less acute kidney injury than flucloxacillin in a global trial of Staphylococcus aureus bloodstream infection.

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TUESDAY - Moderated Poster Session, HALL Q, March 10, 2026, 16:00 - 17:00

Introduction

Staphylococcus aureus (S. aureus) in the bloodstream (SAB) has an associated mortality of 15-30% by 90 days, despite effective antibiotics. Acute kidney injury (AKI) may occur from the disease or treatments. For methicillin-susceptible S. aureus bloodstream infection (MSSA) intravenous (IV) flucloxacillin is first-line treatment but in some regions, such as Canada, cloxacillin (which is similar to flucloxacillin so the term (flu)cloxacillin is used) is used and in others, IV cefazolin is preferred. For penicillin-susceptible S. aureus bloodstream infection (PSSA) benzylpenicillin can be used but flucloxacillin use is more common.

Cefazolin administered after dialysis has particular advantages which we will discuss in this session. Data from the global S. aureus network adaptive platform (SNAP) trial has been presented at infection conferences but not yet to renal physicians. We aim to explain and discuss the importance of these results in renal medicine.

Methods

SNAP is an ongoing global platform multi-arm open label randomised clinical trial. One part (MSSA) sought to establish if cefazolin is non-inferior to (flu)cloxacillin and another part (PSSA) if (benzl)penicillin is non-inferior to (flu)cloxacillin. The primary outcome of all-cause mortality at 90 days is analysed using a Bayesian logistic regression model with review after every 500 participants. The non-inferiority ratio is prespecified as an adjusted odds ratio [aOR] <1.2. We collected data on key secondary endpoints including AKI to day 14. The MSSA and PSSA parts recruited from Feb 2022 to June 2024. The trial was supported by the UK Sepsis Trust and we have communicated our findings with kidney research UK.

Results

MSSA: 1341 patients were randomised, 671 to cefazolin and 670 to (flu)cloxacillin. The primary outcome, death at 90 days, was seen in 97/645 (15%) randomised to cefazolin and 109/642 (17%) randomised to (flu)cloxacillin (aOR 0.81, 95% credible interval [CI] 0.59-1.12, posterior probability of non-inferiority >0.99 & of superiority 0.898). Less AKI occurred in the cefazolin arm (90/660,13.9%) than the (flu)cloxacillin arm (127/648, 19.6%), (aOR 0.67; 95% CrI 0.50-0.89; probability of superiority >0.99). A reduced risk of requiring new renal replacement therapy within 90 days occurred with cefazolin (17/668, 2.5% cefazolin vs 27/657, 4.1% (flu)cloxacillin), (aOR 0.61, 95% CrI 0.33-1.11, probability of superiority 0.956).

There was no statistical difference in need for ongoing renal replacement therapy at 90 days.

PSSA: 281 patients were randomised, 156 to benzylpenicillin and 125 to (flu)cloxacillin. 90-day all-cause mortality was 21/152 (13.8%) with benzylpenicillin and 26/121 (21.5%) with (flu)cloxacillin (aOR 0.67, 95% CrI 0.35–1.28, posterior probability of non-inferiority of 0.961 and of superiority 0.889). AKI occurred in 17/153 (11.1%) 480 with benzylpenicillin and 27/124 (21.8%) with (flu)cloxacillin (aOR 0.50; 95% CrI 0.26–0.94; superiority probability 0.986). Renal replacement therapy was required in 3/156 (1.9%) in the benzylpenicillin group and 5/125 (4.0%) in the (flu)cloxacillin group; No PSSA participants required ongoing renal replacement therapy if alive at day 90.

Discussion

Rates of AKI were found to be higher with (flu)cloxacillin than cefazolin or (benzyl)penicillin. These finding suggest that cefazolin and (benzyl) penicillin have clinical benefits over (flu)cloxacillin, with equivalent efficacy.

TH7

Beyond the pandemic: emerging trends indicate a persistently increasing acute kidney injury incidence in England

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TUESDAY - Moderated Poster Session, HALL Q, March 10, 2026, 16:00 - 17:00

Introduction

Understanding long-term trends in Acute Kidney Injury (AKI) is important for public health surveillance and service planning. AKI is common, associated with poor outcomes, and sensitive to changes in healthcare delivery, making it a useful indicator of system-wide disruption. Variation in laboratory reporting, however, can obscure underlying patterns and limit interpretation. The COVID-19 pandemic created a unique context in which healthcare use, testing practices, and disease incidence may all have shifted. To provide a clear picture, this study examined AKI episode trends across the pandemic and the subsequent period, focusing on data from laboratories with uninterrupted reporting.

Methods

We analysed monthly AKI episode data (as defined in the UKKA AKI annual report[1]) from 83 of 141 laboratories in England, selected because they submitted complete data for April 2018–March 2024 (5,976 observations). Segmented Poisson regression was used to estimate changes in AKI incidence, with episode counts as the outcome, catchment population as an offset, and random intercepts for laboratories. Models adjusted for pre-existing trends, age group, sex, and seasonality. Time was divided into three periods: pre-COVID (Apr 2018–Mar 2020), COVID (Apr 2020–Mar 2022), and post-COVID (Apr 2022–Mar 2024). Incidence trends were expressed as rate ratios (RRs), which quantify the relative change in AKI incidence per month (e.g., RR = 1.001 corresponds to a 0.1% increase per month).

Results

AKI incidence before, during and after the COVID-19 pandemic is shown in Figure 1, Table 1. Pre-pandemic incidence rose modestly (RR /month = 1.001; 95% CI: 1.000–1.001). At the pandemic onset (April 2020), incidence showed an immediate 11.3% decrease relative to the counterfactual pre-COVID trend (RR = 0.887; 95% CI: 0.881–0.893), followed by a 0.7% monthly increase during the COVID period (RR = 1.007; 95% CI: 1.006–1.008). At the start of the post-COVID period (April 2022), incidence rose 2.1% compared with continuation of the COVID trend (RR = 1.021; 95% CI: 1.015–1.028), with a subsequent 0.2% monthly increase (RR = 1.002; 95% CI: 1.001–1.003), indicating partial but not full reversal of pandemic effects. Seasonal adjustment terms behaved as expected, with lower incidence in spring and summer relative to January (e.g., April RR = 0.859; 95% CI: 0.853–0.864). Between-laboratory heterogeneity remained substantial (random intercept variance = 0.216, SE = 0.034), with baseline AKI rates differing up to 2.6-fold across hospitals despite adjustment.

Conclusion

The COVID-19 pandemic marked a structural break in AKI incidence in England. The initial drop likely reflects reduced testing and disrupted care rather than a true decline [2]. During the pandemic, AKI incidence accelerated, and by the post-COVID period, rates remained

persistently elevated above pre-pandemic trajectories, with a net monthly increase of 0.2% after adjustment for age, sex, and seasonality. These findings suggest that AKI incidence has not fully returned to pre-pandemic levels and may be stabilising at a higher rate, though longer-term follow-up is needed. Between-hospital heterogeneity persisted, underscoring the need for institution-specific risk assessment and prevention strategies. Age-specific patterns are difficult to interpret due to mortality bias from excess COVID deaths, reporting differences, or residual confounding from unmeasured patient or hospital-level factors. Future work should examine AKI across clinical settings (hospital or community-acquired AKI), stratified by severity, to determine whether post-pandemic trends reflect true increases in disease burden or changes in detection practices.

TH8

From result to patient: an audit of compliance on the communication of time-critical AKI results.

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TUESDAY - Moderated Poster Session, HALL Q, March 10, 2026, 16:00 - 17:00

Background: Timely communication of critical laboratory results, such as acute kidney injury (AKI), is essential for prompt clinical intervention. Although national guidelines advocate for rapid notification, methods vary significantly across NHS trusts. In 2023, a verbal communication pathway was introduced at XXX where laboratory staff phoned clinical areas to convey AKI results. This study evaluates the effectiveness of this intervention on the timeliness of clinical review.

Methods: All AKI alerts (stages 1–3) generated over two months, June and July 2023, were extracted from the Laboratory Information Management System (LIMS). Inclusion criteria were adult inpatients with AKI, excluding ICU, renal unit, palliative care patients, and repeat AKI episodes. Key variables included AKI stage, timing of result availability, communication attempt success, and time to clinical review. Comparative analyses were performed between phoned and non-phoned results.

Results: Of 88 eligible AKI cases, 60 met criteria for phone communication. 80% (48/60) were successfully phoned, with a median time of 36 minutes from result availability. Of these, 75% were communicated within the two-hour target set by the Royal College of Pathology. Results not phoned (due to failed contact or omission) had a mixed impact: in some cases, results were viewed faster than those successfully phoned.

Median viewing times varied by AKI stage. Stage 1 results (not routinely phoned) were viewed at a median of 138 minutes. Combined stage 2 and 3 results had a median viewing time of 68 minutes. Surprisingly, results that were phoned were often viewed later (median 87 minutes) than those not phoned (median 26 minutes).

Time from result availability to clinical review also varied. For stage 2 AKI, results not phoned were reviewed faster (median 20 minutes) than phoned ones (128 minutes). For stage 3 AKI, phoned results were reviewed at 318 minutes vs. 295 minutes for non-phoned cases. Across all AKI stages, phoning did not consistently expedite clinical review.

Discussion: Despite timely result communication, phoned AKI results were not associated with faster clinical response. In fact, delays were frequently longer. Possible explanations include misdirection of communication, reliance on on-call staff, and breakdowns in verbal handover. Limitations include sample size, electronic health record timestamp constraints, and variability in clinical environments.

Conclusion: This study questions the utility of routine verbal communication of AKI results. While phone calls met communication targets, they did not consistently shorten the time to patient review. Given the resource burden, a re-evaluation of current procedures is warranted. Improving EHR timestamp accuracy and developing clearer SOPs for critical result handling may enhance efficiency, patient safety and auditability.

TH9

Exploring the dynamics of acute kidney injury in acute heart failure hospital admissions

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TUESDAY - Moderated Poster Session, HALL Q, March 10, 2026, 16:00 - 17:00

Introduction

The association between impaired renal function and adverse outcomes in acute heart failure (HF) hospital admissions has been documented.
Multistate modelling is a statistical technique which allows exploration of several states of a dynamic clinical outcome (e.g., acute kidney injury [AKI] stages, hospital discharge, re-admission, death), deriving daily probabilities of navigating from one state to another. It can accommodate for repeated hospital admissions in individuals.
No previous analysis has utilised multi-state modelling techniques to investigate the dynamics between AKI, chronic kidney disease (CKD), re-admissions and mortality during an acute HF hospital admission.

Methods

Data were that submitted from our tertiary centre to the National Heart Failure Audit (NHFA) between 01/01/2022 and 31/03/2023. Baseline renal function was collected from electronic health records and was used to determine the presence of AKI and/or CKD according to KDIGO guidelines. Peak AKI during admission was used for analysis. All-cause mortality data up to 01/09/23 was obtained from NHS Spine.
We fitted a multi-state model to our data. Figure 1 demonstrates the five possible states: (1) Admission, (2) AKI 1/2, (3) AKI 3, (4) Discharge, and an absorbing state (5) Death. There were ten possible transitions. We derived daily probabilities of being in each state up to 60 days following admission. We stratified these probabilities by variables including age, sex, ethnicity, the presence of comorbidities, baseline renal function, and ejection fraction.
This retrospective analysis used routinely collected hospital data. Analyses were performed in accordance with the Declaration of Helsinki and information governance standards.

Results

Data was analysed from 830 HF hospital admissions in 718 individual patients. 256 (35.7%) patients experienced AKI during admission; 26.2% stage 1, 4.5% stage 2, and 5% stage 3.
HF patients with CKD were more than six times as likely to experience AKI during admission, than be discharged with no AKI, compared to those without CKD (HR 6.44, $p<0.005$.)
11.4% of patients died during admission. There was no evidence of a difference in inpatient mortality between those with or without CKD. However, inpatient mortality was greater in patients with CKD who developed an AKI stage 1/2 (21.9% [95% CI 14.4 – 29.3%]) and AKI3 (41.7% [95% CI 21.9 – 61.4%]), compared to those with CKD with no AKI (9.8% [95% CI 5.4 – 14.2 %.]). The difference between AKI stage 1/2 and stage 3 was not statistically significant.

All-cause mortality (inpatient and outpatient) over the follow-up period was 33.7% (95% CI 30.2 – 30.7%). 43.5% of patients with CKD died within the follow-up period, compared to 26.1% of those without CKD.

Discussion

CKD was significantly associated with inpatient AKI and all-cause mortality. Developing AKI was associated with increased mortality, but only in those with underlying CKD.

TH10

Dip smart, protect your kidneys: a regional quality improvement initiative aimed at improving management of acute kidney injury

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TUESDAY - Moderated Poster Session, HALL Q, March 10, 2026, 16:00 - 17:00

Introduction
Acute Kidney Injury (AKI) is a serious healthcare concern, affecting over 20% of hospitalised patients with an associated fourfold increased mortality – a trend that has remained consistent over the past decade. Notably, up to 30% of cases are considered preventable with timely management. Urinalysis stands out as a simple and inexpensive investigation that can provide early diagnostic insight of potential glomerular damage. Despite its value, it is frequently underperformed in clinical practice, representing a clear area of improvement in AKI care.

We undertook a quality improvement initiative with two objectives: promote optimal management of AKI in keeping with KDIGO guidance and ensure that all patients with AKI undergo urinalysis. To achieve these aims, we developed infographic posters designed to guide clinicians towards essential investigations such as urinalysis and support care decisions.

Methods
We conducted a retrospective data collection over a 12-month period (January–December 2024). We shortlisted 116 patients with AKI referred to the renal team from the assessment unit. We reviewed their clinical notes to extract relevant data points such as AKI stage, pre-existing kidney disease, withholding nephrotoxic medication, use of imaging and urinalysis documentation. The intervention comprised the development of infographic posters to raise awareness on AKI management.

Results
First Cycle:
28% had community-acquired AKI, while the remainder developed AKI during hospital admission. 57% had pre-existing chronic kidney disease. 38% were classified as stage 1 AKI, and 62% as stage 2 or 3.

Nephrotoxic medications were withheld in 90% of cases and 41% had imaging of renal tracts. However, urinalysis was performed in only 33%, representing both a missed diagnostic opportunity and a target for intervention.

Clinician feedback revealed confusion on performing urinalysis in the elderly. This led us to design a poster titled “To Dip or Skip” to raise awareness on the indications of a urinalysis. To promote recognition of AKI as a heterogenous condition, a second infographic poster

was designed to depict KDIGO guidelines, allowing easier adherence. There was targeted teaching sessions to doctors to reinforce the message.

Second Cycle:
The second cycle is currently underway with 50 patients shortlisted so far, and early results show a major improvement in the performance of urinalysis, which has increased to 68%.

Discussion:
The baseline cycle revealed there was scope for improving urinalysis, a simple but underused test. Admission units frequently omit urinalysis, which in turn delays recognition of intrinsic renal pathologies such as glomerulonephritis and acute interstitial nephritis. Case series of rapidly progressive glomerulonephritis have demonstrated diagnostic delays of 2–3 months, which could likely have been avoided by routine urine dipstick testing.

Clinician feedback prompted the development of a poster emphasising indications of urine dips rather than merely promoting urinalysis for AKI. The interventions proved valuable, with early results from the second cycle showing improved urinalysis documentation. Sustainability will require ongoing reinforcement of the message and extending educational sessions to other staff, including nurses and healthcare assistants. This was a single-center study with a small sample size and future cycles aim to include a larger cohort .